

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Praana Two Washoe, Battery Energy Storage System/Photovoltaic Solar Energy System Project (Praana Two Washoe)			
Project Description: The proposed Praana Two Washoe project would include an up to 65 MW photovoltaic solar electric production system, up to 125 MWs of battery energy storage, a 345 kV project substation, and a 345kV generation tie (gen-tie) line to connect Praana Two Washoe to the NV Energy Ft. Sage Substation			
Project Address: Rainbow Way			
Project Area (acres or square feet): +/- 278.92 acres			
Project Location (with point of reference to major cross streets AND area locator): Approximately 4 miles north of Fish Springs Road between the Nevada/California state line and Rainbow Way. 40° 9'16.84"N/119°59'16.12"W			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
074-470-02	26.05	074-470-03	116.22
074-470-04	17.632	074-470-05	119.02
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Hooper Family Trust		Name: Sierra Geotech	
Address: 11242 Clinton Bar Road		Address: 4470 Yankee Hill Rd #110	
Pine Grove, CA	Zip: 95665	Rocklin, CA	Zip: 95677
Phone: (530) 514-0135	Fax:	Phone: (916)712-9707	Fax:
Email: Chooper714@aol.com		Email: brent@sierrageotech.com	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person: Brent Moore	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Praana Renewables Energy, LLC		Name:	
Address: 5150 Mae Anne Ave, Suite 405, #5130		Address:	
Reno, NV	Zip: 89523		Zip:
Phone: (916) 917-6673	Fax:	Phone:	Fax:
Email: shaun@praana.energy		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: Shaun Vemuri		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

**Special Use Permit Application
Supplemental Information**
(All required information may be separately attached)

1. What is the project being requested?

The proposed Praana Two Washoe solar project would include a 65 MW photovoltaic solar electric production system with up to 125 MWs of battery energy storage. These facilities are to be connected to the grid via an on-site 345 kV project substation, and a 345kV generation tie (gen-tie) line to the NV Energy Ft. Sage Substation (located approximately 5 miles south of the project site along Rainbow Way.) For a detailed description of all project components, please see Attachment A: PUCN Authority to Construct Permit Application.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

See Attachment F: Site Plan

3. What is the intended phasing schedule for the construction and completion of the project?

Project construction will consist of four phases: 1. Site Preparation, 2. Generating Facility and Access Roads, 3. Project Substation and BESS, and 4. Gen-Tie. These phases may be constructed either simultaneously or independent of one another with some overlap in time. For further detail, please see Attachment A: PUCN Authority to Construct Permit Application.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The subject property is undeveloped except for the Union Pacific Railroad which bisects the property, rural roads, agricultural uses, and a subterranean gas pipeline which runs along the eastern edge of the property. The proposed solar facility would connect to existing high voltage transmission lines via the proposed Generation Tie Line to NV Energy's Fort Sage Substation, which is located approximately 5 miles south of the project site.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The Project will provide up to 165,604 megawatt-hours ("MWh") of zero emissions power each year, reducing approximately 125,000 tons of CO2 emissions annually. Additionally, the Project is expected to generate up to \$270,000.00 in annual property taxes to Washoe County during the first 20 years of operation and approximately \$500,000.00 annually thereafter along with approximately \$4 million in sales and use tax receipts payable to the State of Nevada. Finally, the Project would generate up to 200 jobs at peak construction, with an average workforce of approximately 150 construction workers and approximately 5 permanent employees during operations.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

The proposed project is located in the high desert planning area with the entire vicinity being designated "General Rural". Solar generation facilities are considered to be consistent with the existing land use and zoning, and not anticipated to have any adverse impacts or effects on neighboring properties. The project will implement a spill prevention and control program and a construction traffic haul route to minimize potential impacts.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

As stated in the Washoe County Development code section 110.412.10 "Uses classified under the ~~None~~ **None** category – Renewable use type [are] exempt" from landscaping provisions. It is requested that all parking design requirements (section 110.410.25) be waived. See Attachment F: Site Plans.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
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9. Utilities:

a. Sewer Service	No Service
b. Electrical Service	No Service
c. Telephone Service	No Service
d. LPG or Natural Gas Service	No Service
e. Solid Waste Disposal Service	Washoe County Solid Waste Management
f. Cable Television Service	No Service
g. Water Service	No Service

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

Due to the proposed use, zoning, and existing terrain, no visual mitigation has been proposed.
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10. Community Services (provided and nearest facility):

a. Fire Station	Doyle Volunteer Fire Department; 747-150 Main Street, Doyle, CA 96109
b. Health Care Facility	Eastern Plumas Medical Care; 500 1st Ave, Portola, CA 96122
c. Elementary School	Long Valley Elementary School; 436-965 Susan Dr, Doyle, CA 96109
d. Middle School	Fort Sage Middle School; Doyle, CA 96109
e. High School	Herlong High School; 100 Tamarack St, Doyle, CA 96109
f. Parks	Rancho San Rafael Regional Park; 1595 N Sierra St, Reno, NV 89503
g. Library	North Valleys Library; 1075 N Hills Blvd, Reno, NV 89506
h. Citifare Bus Stop	Milford Store Bus Stop; Milford, CA 96121

**Special Use Permit Application
for Grading
Supplemental Information**
(All required information may be separately attached)

1. What is the purpose of the grading?

Due to relatively flat topography on the project site, grading is expected to be minor in most instances. However, grading would occur throughout the site, primarily for the clearing of vegetation, construction of roads and inverter pads. This would be accomplished with scrapers, motor graders, water trucks, dozers, and compaction equipment.

2. How many cubic yards of material are you proposing to excavate on site?

None

3. How many square feet of surface of the property are you disturbing?

+/- 12,349,260 square feet (283.5 acres)

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

No export or import of material is anticipated with the proposed project.

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

A Special Use Permit is required for the following: Grading projects excavating over 1,000 cubic yards; Importing more than 5,000 cubic yards of fill; Disturbing more than 25,000 square feet; Placing more than 1,000 cubic yards of fill in a flood hazard area; Constructing a permanent earthen structure over 4.5 feet high. Grading required for the project would exceed 25,000 square feet and would require excavation in excess of 1,000 cubic yards of material. The project could not be modified to remain under these thresholds for a grading special use permit.

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

Some portions of the site have been historically disturbed by agricultural and grazing operations including roads, ditches, berms, and cleared areas. Previous owners have conducted agricultural operations on the project site over many years.

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

Yes

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

Yes, the property can be seen from most of the surrounding area due to the limited topographical relief in the vicinity and the lack of vegetation or structures which would otherwise obstruct the viewshed. However, the surrounding area is sparsely populated; the closest town to the project site is Doyle, California, which would not have views of the project site due to the distance from the property and intervening topography.

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

Access to the project site is readily available from a number of roads around the proposed development area. No new access driveways are proposed that would result in new access to additional neighboring properties.

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

The project does not call for cut and fill. A stormwater pollution prevention plan (SWPPP) will be prepared to address stormwater quality during construction-related activities, and a design-level Stormwater Quality Management Plan will be submitted to Washoe County at a later date as part of final grading permit approvals, in compliance with Article 421 of the Washoe County Development Code (Storm Water Discharge Program).

11. Are you planning any berms?

Yes	No <input checked="" type="checkbox"/>	If yes, how tall is the berm at its highest?
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12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

No retaining walls are proposed for the project.

13. What are you proposing for visual mitigation of the work?

Due to the proposed use, zoning, and existing terrain, no visual mitigation has been proposed.

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

No.

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

Please see Attachment E: Vegetation Management Plan

16. How are you providing temporary irrigation to the disturbed area?

No landscaping is proposed. Water for dust control and revegetation would be transported to the site by truck and applied as necessary. Storage tanks may also be used to temporarily store water on-site during construction or provide water for revegetation purposes.

17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

Specific time and site dependent reclamation measures will be implemented after construction in coordination with the District.

18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

Yes	No <input checked="" type="checkbox"/>	If yes, please attach a copy.
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Special Use Permit Application for Stables Supplemental Information

(All required information may be separately attached)

1. What is the maximum number of horses to be boarded, both within stables and pastured?

None

2. What is the maximum number of horses owned/maintained by the owner/operator of the project, both within stables and pastured?

3. List any ancillary or additional uses proposed (e.g., tack and saddle sales, feed sales, veterinary services, etc.). Only those items that are requested may be permitted.

4. If additional activities are proposed, including training, events, competition, trail rides, fox hunts, breaking, roping, etc., only those items that are requested may be permitted. Clearly describe the number of each of the above activities which may occur, how many times per year and the number of expected participants for each activity.

5. What currently developed portions of the property or existing structures are going to be used with this permit?

6. To what uses (e.g., restrooms, offices, managers living quarters, stable area, feed storage, etc.) will the barn be put and will the entire structure be allocated to those uses? (Provide floor plans with dimensions).

7. Where are the living quarters for the operators of the stables and where will employees reside?

8. How many improved parking spaces, both on-site and off-site, are available or will be provided? (Please indicate on site plan.) Have you provided for horse trailer turnarounds?

9. What are the planned hours of operation?

10. What improvements (e.g. new structures including the square footage, roadway/driveway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.) will have to be constructed or installed and what is the projected time frame for the completion of each?

11. What is the intended phasing schedule for the construction and completion of the project?

Due to the proposed use, zoning, and existing terrain, no visual mitigation has been proposed.

12. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The subject property is undeveloped except for the Union Pacific Railroad which bisects the property, rural roads, agricultural uses, and a subterranean gas pipeline which runs along the eastern edge of the property. The proposed solar facility would connect to existing high voltage transmission lines via the proposed Generation Tie Line to NV Energy's Fort Sage Substation, which is located approximately 5 miles south of the project site.

13. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

14. What are the adverse impacts upon the surrounding community (including traffic, noise, odors, dust, groundwater contamination, flies, rats, mice, etc.) and what will you do to minimize the anticipated negative impacts or effects your project will have on adjacent properties?

No.

15. Please describe operational parameters and/or voluntary conditions of approval to be imposed on the administrative permit to address community impacts.

Please see Attachment E: Vegetation Management Plan

16. What types of landscaping (e.g. shrubs, trees, fencing, painting scheme, etc.) are proposed? (Please indicate location on site plan.)

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17. What type of signs and lighting will be provided? On a separate sheet, show a depiction (height, width, construction materials, colors, illumination methods, lighting intensity, base landscaping, etc.) of each sign and the typical lighting standards. (Please indicate location of signs and lights on site plan.)

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18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the administrative permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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19. Community Sewer

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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20. Community Water

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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Sierra Geotech DBE, Inc
4470 Yankee Hill Drive, Suite 110
Rocklin, CA 95677

MEMORANDUM

To: Roger Pelham, Washoe County Planning and Development

From: Sierra Geotech, on behalf of Praana Renewables Energy, LLC

Subject: Special Use Permit (SUP) Application Package for the Praana Two Washoe, Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project

Date: December 8, 2022

Dear Mr. Pelham,

Enclosed is the Special Use Permit (SUP) Application Package for the Praana Two Washoe, Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project in Washoe County, Nevada. Table 1, Development Application Submittal Requirements, has been provided to demonstrate applicability of SUP submittal requirements and current submittal status.

#	Submittal Requirements	Applicable (Y/N)	Status
1	Fees: See Master Fee Schedule. Bring payment with your application to Community Service Department (CSD). Make check payable to Washoe County.	Y	A check in the amount of \$4,116.52 made payable to Washoe County is enclosed per the Master Fee Schedule
2	Development Application: A completed Washoe County Development Application form.	Y	Enclosed
3	Owner Affidavit: The Owner Affidavit must be signed and notarized by all owners of the property subject to the application request.	Y	Enclosed: Attachment B
4	Proof of Property Tax Payment: The applicant must provide a written statement from the Washoe County Treasurer's Office indicating all property taxes for the current quarter of the fiscal year on the land have been paid.	Y	Enclosed: Attachment C
5	Application Materials: The completed Special Use Permit Application materials.	Y	Enclosed
6	Proposed Site Plan Specifications (Special Use Permit and Stables): a. Lot size with dimensions drawn using standard engineering scales (e.g. scale 1" = 100', 1" = 200', or 1" = 500') showing all streets and ingress/egress to the property.	Y	Enclosed: Attachment F Preliminary site plan enclosed. Final site plan will be prepared

<p>b. Show the location and configuration of all existing and proposed buildings (with distances from the property lines and from each other), all existing buildings that will remain (with distances from the property lines and from each other), all existing buildings that will be removed, and site improvements on a base map with existing and proposed topography expressed in intervals of no more than five (5) feet.</p> <p>c. Show the location and configuration of wells and well houses, septic systems and leach fields, overhead utilities, water and sewer lines, and all existing and proposed easements.</p> <p>d. Show locations of parking, landscaping, signage and lighting.</p> <p>e. The cross sections of all rights-of-way, streets, alleys or private access ways within the proposed development, proposed name and approximate grade of each, and approximate radius of all curves and diameter of each cul-de-sac.</p> <p>f. Property boundary lines, distances and bearings.</p> <p>g. Contours at five (5) foot intervals or two (2) foot intervals where, in the opinion of the County Engineer, topography is a major factor in the development.</p> <p>h. Indication of prominent landmarks, rock outcroppings, and natural foliage which will be deciding considerations in the design of the development.</p> <p>i. If any portion of the land within the boundary of the development is subject to inundation or stormwater overflow, as shown on the adopted Federal Emergency Management Agency's Flood Boundary and Floodway Maps, that fact and the land so affected shall be clearly shown on the map by a prominent note on each sheet, as well as width and direction of flow of each watercourse within the boundaries of the development.</p> <p>j. Existing and proposed roads, trails or rights-of-way within the development shall be designated on the map. Topography and existing developments within three hundred (300) feet must also be shown on the map.</p> <p>k. Vicinity map showing the proposed development in relation to Interstate 80, Highway 395, I-580, or a</p>		<p>at a future date when an EPC contractor is selected to design/build the proposed project.</p>
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	<p>major arterial. The vicinity map shall also include a north arrow.</p> <p>l. Date, scale, and number of each sheet in relation to the total number of sheets, and the name of the person preparing the plans.</p> <p>m. Location of snow storage areas sufficient to handle snow removed from public and private street, if above 5,500 feet.</p> <p>n. All known areas of potential hazard (and the basis for delineation) shall be clearly designated on the map. Additionally, active fault lines (post-Holocene) shall be delineated on the map.</p> <p>o. Location of areas with slopes greater than fifteen percent (15%) and thirty percent (30%).</p> <p>p. Boundary of any wetland areas and/or floodplains within the project site.</p> <p>q. Note by the project engineer or design professional indicating compliance with all applicable provisions of the Washoe County Development Code.</p> <p>r. Significant Hydrological Resources. Indicate the critical and sensitive buffer zones according to Article 418 of the Washoe County Development Code.</p>		
7	<p>Site Plan Specifications for Grading:</p> <p>a. Location and limits of all work to be done.</p> <p>b. Existing contours and proposed contours.</p> <p>c. Location of any structures on adjacent parcels that are within fifteen (15) feet of the work site's parcel boundary.</p> <p>d. Existing draining (natural and man-made) and proposed drainage patterns.</p> <p>e. Sufficient elevation data to show the drainage will work as proposed.</p> <p>f. Quantities of excavation fill and disturbed surface area shall be calculated and shown on the site plan. Areas under buildings and pavement need not be included in these calculations.</p> <p>g. Quantities of material proposed to be removed from the site must be shown. The proposed disposal area and the disposition of fill must be noted on the plan.</p> <p>h. Limiting dimensions of cut and fill.</p> <p>i. Proposed BMPs (Best Management Practices) for controlling water and wind erosion if a disturbed</p>	Y	Enclosed: Attachment H

	<p>area is left undeveloped for more than thirty (30) days.</p> <p>j. Cut and fill slopes setback from the property boundary.</p> <p>k. Structure setbacks from a slope.</p>		
8	<p>Grading: In accordance with the grading provisions of Washoe County Code, Article 438, if the thresholds for a grading permit are met or exceeded, the grading plans shall indicate the existing and proposed grades, slope treatments (i.e. rip rap, erosion control, etc.) and drainage channels and the direction of flow. Cross sections must be provided at a minimum of two key locations.</p>	Y	Enclosed: Attachment H
9	<p>Traffic Impact Report (Special Use Permit and Stables): Traffic impact reports are required whenever the proposed development project will generate 80 or more weekday peak hour trips as determined using the latest edition Institute of Transportation Engineers (ITE) trip generation rates or other such sources as may be accepted by Washoe County Engineering. Projects with less than 200peak hour trips may not need to perform an impact analysis for future years. Traffic consultants are encouraged to contact Washoe County Engineering and Capital Projects staff prior to preparing a traffic impact report.</p>	N	Not applicable. A Traffic Impact Report is not required for a solar facility.
10	<p>Landscaping: Landscape plans may be required, for stables. Landscape plans may include: a soils evaluation; color and type of building material, such as fencing material; type of plant material; location of plant material and proposed maintenance schedule; size of plant material at planting and size of plant material at full maturation; type and amount of mulch material; and an irrigation plan.</p> <p>a. Planting Plan Specifications: The planting plan must include all necessary information to satisfy Washoe County Code Section 110.412.60, Planting Standards. <input checked="" type="checkbox"/> Proposed Tree Locations. Individual trees shall be graphically depicted in the proposed locations; trees shall be identified as either evergreen or deciduous; trees shall be individually labeled or coded and cross referenced to the proposed plant species in the plant legend.</p>	N	Not Applicable. Landscaping not required for a solar facility.

	<ul style="list-style-type: none"> • Proposed Plant Material. The preliminary plan must identify where, and a square footage amount for, one or all of the following items: trees, mulch (rock, DG or bark), seeded areas, etc. • Existing On-Site Vegetation. In the case of large strands of trees and shrubs, individual locations may be identified with a revision cloud symbol. Smaller numbers or strands of trees (six (6) inch caliper and greater) shall be identified individually. Shrub areas and other forms of vegetation such as grasses shall be identified with a revision cloud symbol. • Plant Legend. Legend shall include all proposed plant material, including the following: common name, botanical name, size at planting, spacing and quantity (of trees only). • Landscape Area Legend. A summary of proposed areas and their square footages shall include: lawn, existing and or proposed paving, existing trees to be preserved, existing trees to be removed and the amount of proposed shrubs. <p>b. Irrigation Plan Specifications: The irrigation plan must include all necessary information to satisfy Washoe County Code Section 110.412.65, Irrigation Standards.</p> <ul style="list-style-type: none"> • Location, size, and specifications of water source(s), water mains, meter(s), valves, and the controller. • Temporary or permanent water irrigation systems. • Specifications of irrigation equipment identified by manufacturer’s name and equipment identification number. • An approved backflow prevention device is required on all landscape irrigation systems. 		
11	<p>Signage Plan: The signage plans shall include sign elevations and delineate location, height, style, dimensions, intensity of sign lighting and finish of any proposed signage:</p>	N	<p>A signage plan will be prepared at a future date when an EPC contractor is selected to design/build the proposed project.</p>

12	Lighting Plan: Show the location and configuration of all proposed exterior lighting including a detail of the parking lot light fixtures, pole heights, security lighting, and wall mounted illumination fixtures. Parking lot areas shall be depicted showing lumen isolines demonstrating compliance with the provisions of the Washoe County Development Code.	N	A lighting plan will be prepared at a future date when an EPC contractor is selected to design/build the proposed project.
13	Building Elevations: All buildings and structures including fences, walls, poles and monument signs proposed for construction within the project shall be clearly depicted in vertical architectural drawings provided in accurate architectural scale. All architectural elevations from all building faces shall be presented.	N	Per County Staff instructions, we request to waive Table 11.406.05.1 part 1-5 for structures under 30 ft.
14	Packets: Six (6) packets and a flash drive or DVD - any digital documents need to have a resolution of 300 dpi. One (1) packet must be labeled "Original" and contain a signed and notarized Owner Affidavit. Each packet shall include an 8.5" x 11" reduction of any applicable site plan, development plan, and/or application map. These materials must be readable. Labeling on these reproductions should be no smaller than 8 point on the 8½ x 11" display. Four (4) of the application packets shall include large format maps; the rest of the packets shall include either 8.5" x 11" or 11" x 17" maps. Large format sheets should be included in a slide pocket(s). Any specialized reports identified above shall be included as attachments or appendices and be annotated as such.	Y	Enclosed

Notes:

- (i) Application and map submittals must comply with all specific criteria as established in the Washoe County Development Code and/or the Nevada Revised Statutes.
- (ii) Appropriate map engineering and building architectural scales are subject to the approval of Planning and Building and/or Engineering and Capital Projects.
- (iii) All oversized maps and plans must be folded to a 9" x 12" size.
- (iv) Labels: The applicant is required to submit three (3) sets of mailing labels for every tenant residing in a mobile home park that is within five hundred (500) feet of the proposed project (or within seven hundred fifty (750) feet of the proposed project if the proposed project is a project of regional significance).
- (v) Based on the specific nature of the development request, Washoe County reserves the right to specify additional submittal packets, additional information and/or specialized studies to clarify the potential impacts and potential conditions of development to minimize or mitigate impacts resulting from the project. No application shall be processed until the information necessary to review and evaluate the proposed project is deemed complete by the Director of Planning and Building.
- (vi) Please be advised that the Washoe County Director of Planning and Building or their designee, Washoe County Board of Adjustment, and/or Washoe County Planning Commission have the ability to determine

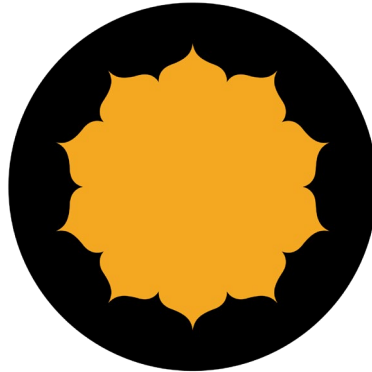
Memorandum

Subject: Praana Two Washoe BESS/PSES Project Special Use Permit Application

an application incomplete if they cannot ascertain what the applicant is requesting, or if there is insufficient information to determine a favorable outcome.

Please contact Brent Moore at (916) 712-9707 with questions related to this submittal.

Attachment A: PUCN Authority to Construct Permit Application



Praana Energy

August 31, 2022

Ms. Trisha Osborne
Assistant Commission Secretary
Public Utilities Commission of Nevada
1150 E. William Street
Carson City, Nevada 89701-3109

Re: Docket No. 22-_____ : Application of Praana Renewables Energy, LLC for a permit to construct a 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including a solar energy generating facility and an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act

Dear Ms. Osborne:

Please accept for filing with the Public Utilities Commission of Nevada the attached Application of Praana Renewables Energy, LLC for a permit to construct a 345 kV project substation, 345 kV generation-tie line, and associated facilities, including a solar energy generating facility and an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act.

An ACH payment in the amount of \$200.00 has been submitted electronically for payment of the filing fee.

Should you have any questions, or require additional information, please advise.

Best Regards,

/s/ Bryce C. Alstead

Bryce C. Alstead, Esq.

Erica K. Nannini, Esq.

Holland & Hart LLP

Attorneys for Praana Renewables Energy, LLC

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**BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
IN THE MATTER OF:**

Application of Praana Renewables Energy, LLC for a permit to construct a 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including a solar energy generating facility and an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act

Docket No. 22- _____

APPLICATION OF PRAANA RENEWABLES ENERGY, LLC FOR A PERMIT TO CONSTRUCT A 345 KV PROJECT SUBSTATION, 345 KV GENERATION-TIE LINE, AND ASSOCIATED FACILITIES, INCLUDING A SOLAR ENERGY GENERATING FACILITY AND AN ENERGY STORAGE SYSTEM, TO BE LOCATED IN WASHOE COUNTY, NEVADA, PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT

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4 **LIST OF EXHIBITS**

5 Exhibit A Project Location Map
6 Exhibit B Legal Description of the Project
7 Exhibit C Detailed Description of the Location of the Gen-Tie
8 Exhibit D Site Plan Drawings, Vicinity Maps, & Routing Maps
9 Exhibit E Layout Diagrams
10 Exhibit F Scaled Diagrams of Utility Structures
11 Exhibit G Environmental Statement
12 Exhibit H Public Notice
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1 **I. INTRODUCTION**

2 Pursuant to NRS 704.870(1) and NAC 703.423, PRAANA RENEWABLES ENERGY,
3 LLC (“Praana” or the “Applicant”) hereby files with the Public Utilities Commission of Nevada
4 (the “Commission”) an Application (“Application”) for a Permit to Construct (“PTC”) a
5 photovoltaic (“PV”) solar energy system, which will consist of the following: a 345 kilovolt
6 (“kV”) substation (“Project Substation”); an approximately 5-mile-long, 345 kV overhead
7 generation-tie line (“Gen-Tie”); and associated facilities, including a 65 megawatt (“MW”)
8 solar PV generating facility (“Generating Facility”) and a battery energy storage system
9 (“BESS”) with a capacity of up to 125 MW, in Washoe County, Nevada (the “Project”)
10 pursuant to the requirements of the Utility Environmental Protection Act, NRS 704.820 *et seq.*
11 (“UEPA”). The Project will provide renewable energy to the electrical transmission grid via the
12 existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company
13 d/b/a NV Energy (“SPPCo”). Project construction is expected to take place over the course of
14 approximately 10 months, with construction to proceed in four phases as described in Section
15 IV of this Application. The Project will be located on approximately 291 acres¹ of private land
16 in Washoe County, Nevada, about 45 miles north of the City of Reno.

17 The Project falls within the definition of a “utility facility” as set forth in NRS 704.860
18 for two reasons. First, pursuant to NRS 704.860(2), the Project’s Gen-Tie will be an electric
19 transmission line designed to operate at more than 200 kV, is not required by local ordinance to
20 be placed underground, and will be constructed outside of an incorporated city. Second,
21 pursuant to NRS 704.860(2), the Project Substation will be designed to operate at 200 kV or
22 more, is not required by local ordinance to be placed underground, and will be constructed
23 outside of an incorporated city. Conversely, the proposed Generating Facility does not fall
24 within the definition of a “utility facility” as set forth in NRS 704.860(1), as it will have a
25

26 _____
27 ¹ As further described in this Application, the total Project acreage is comprised of an
28 approximately 279-acre Project lease area which will house the Generating Facility, Project
 Substation, and BESS; and approximately 12 acres of an existing utility easement for installation
 of the Gen-Tie.

1 nameplate production capacity of less than 70 MW and will use renewable energy as its primary
2 source of energy to generate electricity.

3 This Application provides the information required under NRS Chapter 704 and NAC
4 Chapter 703, including a discussion of the Environmental Statement (“ES”) prepared by Sierra
5 Geotech for the Project and the exhibits to the Application. The Applicant respectfully requests
6 the Commission’s approval of the Application and, following the subsequent filing of all
7 requisite permits and approvals, the issuance of four PTCs for the Project which correspond to
8 the four phases of construction proposed in this Application.

9 **II. INFORMATION REGARDING THE APPLICANT**

10 1. Praana develops, constructs, owns, and operates utility-scale renewable and
11 energy assets.

12 2. Praana is a Delaware limited liability company authorized to conduct business in
13 the State of Nevada.

14 3. Praana’s principal place of business, mailing address, and telephone number are
15 as follows:

16 Praana Renewables Energy, LLC
17 5150 Mae Anne Ave
18 Suite 405, #5130
19 Reno, NV 89523
20 Phone: (916) 917-6673

21 4. Communications concerning this application should be directed to:

22 Bryce C. Alstead
23 Erica K. Nannini
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25 5441 Kietzke Lane, Second Floor
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With copies to the following persons:

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Board Certified Family Practice
11242 Clinton Bar Road
Pine Grove, CA 95665
(530) 514-0135
Chooper714@aol.com

III. RESPONSES TO REQUIRED DISCLOSURES

The information required by NRS 704.870 and NAC 703.423 is provided in the following sections, to the extent that such information is currently available.

DESCRIPTION OF LOCATION

1. A description of the location of the proposed utility facility as required by NRS 704.870(1)(A), including:

(a) A general description of the location of the proposed utility facility, including a regional map that identifies the location of the proposed utility facility. (NAC 703.423(1)(a)).

The approximately 291-acre Project site is located in Washoe County, within the sparsely populated Honey Lake Valley near the Nevada/California state line, approximately 45 miles north of the City of Reno and 8 miles east of Herlong, California. The Project site consists of the following: (1) a lease area (the "Project Lease Area"), which is a series of four adjoining parcels totaling approximately 279 acres – known as Washoe County Assessor's Parcel Numbers 074-470-02, 074-470-03, 074-470-04, and 074-470-05 – and (2) 5.5 linear miles (approximately 12 acres) of private access and utility easement extending south from the Project Lease Area along Rainbow Way to the Fort Sage Substation (the "Gen-Tie Corridor").² Praana has executed a private lease agreement with Dr. Charles Hooper, DO, CDR (RET) MC USN, the owner of the Project Lease Area, and holds a non-exclusive easement for the remaining land used by the Project, as further described in the ES. See ES, at 2-1.

² While Section 3.5.1 of the ES (attached hereto as Exhibit "G") describes an "archaeological inventory" area of approximately 453 acres, this figure represents a broader study area than that which the Project will actually disturb (as described in this Application, total Project disturbance is expected to be approximately 291 acres).

1 The Project Substation, Generating Facility, and BESS will be constructed within the
2 Project Lease Area, and the Project will require additional disturbance for the installation of
3 utility poles for the Gen-Tie running along Rainbow Way within the Gen-Tie Corridor – for a
4 total estimated Project disturbance of approximately 291 acres of private land. The Project
5 Substation and BESS will be housed in an approximately 8-acre (approximately 590 ft x 590 ft)
6 area to be located on the southeast corner of the Project Lease Area. The Gen-Tie will be
7 installed along the Gen-Tie Corridor extending from the Project Substation along Rainbow Way
8 to the Fort Sage Substation. The Project site is comprised entirely of vacant rangeland.

9 Access to the Project would be from Rainbow Way and Fish Springs Road, both of
10 which are public roads, with Rainbow Way running along the entire length of the Project and
11 forming the eastern boundary of Project Lease Area. Access to main highways would be via
12 Fish Springs Road, which becomes Fort Sage Road (Lassen County Road 32) as it enters
13 California, which connects to Hackstaff Road and eventually US Highway 395 near Doyle, CA.

14 A map depicting the location of the Project is attached hereto as **Exhibit “A.”**

15 **(b) A legal description of the site of the proposed utility facility, with the**
16 **exception of electric lines, gas transmission lines, and water and wastewater lines,**
17 **for which only a detailed description of the site is required. (NAC 703.423(1)(b)).**

18 A legal description of the Project Lease Area is attached hereto as **Exhibit “B.”** The
19 Project Substation and BESS are to be located on an 8-acre area located in the southeast corner
20 of said property described in Exhibit “B.” The Gen-Tie will start at the Project Substation and
21 will be routed approximately 5 miles south to the Fort Sage Substation along a non-exclusive
22 easement. A map depicting a detailed description of the location of the Gen-Tie is attached
23 hereto as **Exhibit “C.”**

24 **(c) Appropriately scaled site plan drawings of the proposed utility**
25 **facility, vicinity maps, and routing maps. (NAC 703.423(1)(c)).**

26 Appropriately scaled site plan drawings, vicinity maps, and routing maps are attached
27 hereto as **Exhibit “D.”**

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- 34.5 kV bus and associated switching devices;
- 345 kV bus and associated switching devices;
- 34.5/345 kV transformers;
- 34.5 kV circuit breakers;
- 345 kV circuit breakers;
- 34.5 kV capacitors (as required);
- Grounding grid;
- Prefabricated modular control building (unoccupied except during inspection and maintenance); and
- Perimeter security fence.

Gen-Tie

The Project includes a 345 kV Gen-Tie, which will be located within the Gen-Tie Corridor and travel roughly 5 miles south from the Project Substation to the existing SPPCo Fort Sage Substation. The Gen-Tie structures consist of towers up to 95 feet high, with the span between supporting structures ranging between 200 and 700 feet. Access for construction and maintenance of the Gen-Tie will be via Rainbow Way on the eastern edge of the Project Lease Area. The design characteristics of the Gen-Tie are listed in Table 1, below.

Table 1. Typical Design Characteristics for a 345 kV Gen-Tie

Feature	345 kV Characteristics
Type of structure	Per SPPCo Design Specifications
Structure Height	Up to 95 feet
Span Length	Between 200-700 feet
Anticipated number of structures	50 to 70
Voltage	345 kV
Conductor size	2 per Phase Bundle up to 795 kcmil ACSR-1.06" dia
Ground clearance of conductor	Minimum 30 feet
Pole foundation depth	19 to 24 feet

ADSS fiber optic cable	None
OPGW	Strung above the 345 kV conductors

Gen-Tie Interconnection/Point of Change of Ownership Structure

The Project point of change of ownership pole will be located at the existing Fort Sage Substation and will be designed consistent with SPPCo specifications. The size and color of the new steel structure will match existing structures in and around the Fort Sage Substation. The Gen-Tie will also provide a communication path via OPGW strung above the 345 kV conductor. The Project may require network upgrades at the Fort Sage Substation, depending on the results of SPPCo’s System Impact Study process. Potential upgrades may include a new 345 kV terminal, two breakers, three switches, five CCVTs, three lighting arresters, and structures and associated bus work. The Applicant understands that SPPCo will construct, operate, and maintain the relays, protection, and communications equipment at the Fort Sage Substation as necessary, and will perform any required upgrades.

Generating Facility

The Project includes a 65 MW AC Generating Facility, which will capture solar energy through an array of PV panels, and convert the sun’s light energy directly into direct current (“DC”) electrical energy. The key components of the Generating Facility include commercially-proven PV modules, a single-axis tracking module racking system, DC combiner boxes, inverters, and medium-voltage transformers combined into units that are repeated to reach the required capacity. Inverter and transformer manufacturers and capacities would be selected based on cost, efficiency, reliability, and market availability.

An array of high-efficiency PV panels mounted to a single-axis tracking system will convert incoming sunlight to DC electrical energy. The tracking system will rotate throughout the day to optimize production, and will be supported, when practical, by driven piers (piles) directly embedded into the ground. The PV panels will be up to 15 feet high and arranged in series to increase the DC system voltage to approximately 1,500 volts. These series of panels

1 are called “strings” in industry terms and provide the basic building block of power conversion
2 in the solar array. The strings are combined in the solar field through an above- or below-
3 ground DC collection system and then further grouped together at the inverter stations, where
4 the energy is converted to AC and then stepped up to an intermediate voltage, typically 34.5 kV.
5 The chosen PV panel will be either crystalline silicon or thin film and would be well-suited for
6 the desert environment due to their durability and reliability.

7 **BESS**

8 The Project includes construction of a BESS consisting of either large format lithium-ion
9 batteries or alternative battery technologies (such as flow batteries) with a capacity of 125 MW,
10 which will be connected using either an AC- or DC-coupled system, depending on off-taker
11 preference and contract terms. A battery supplier will be selected prior to Project construction,
12 subject to an industry standard pre-qualification process. Regardless of the technology and
13 supplier selected, the BESS will be enclosed in structures that conform with applicable fire
14 standards and will include a temperature control system. The BESS will be un-staffed and will
15 have remote operational control along with periodic inspections or maintenance performed, as
16 necessary.

17 If selected, an AC-coupled system would be connected to a bi-directional inverter to
18 convert DC energy to AC energy, allowing for energy to flow in or out of the batteries to
19 provide charge and discharge. An AC-coupled system would be located adjacent to the Project
20 Substation and coupled to the PV array at the inverter, AC collection system, or 34.5 kV
21 substation bus. Power switches and relays would protect the system. The system would consist
22 of several housing units similar to shipping containers or buildings. The containers or buildings
23 would occupy approximately up to 5 acres of the 8-acre Project Substation area, depending on
24 the size of the system contracted and technology selected.

25 If a DC-coupled system is selected, battery units would be stored in containers adjacent
26 to the solar inverters distributed throughout the solar arrays. The containers would be similar in
27 size (between 20 and 40 feet long) to the solar inverter skids. The charge and discharge of the
28 DC-coupled batteries would be controlled by the battery management system. DC-DC

1 converters would be installed between the inverter and the batteries to control the DC voltage at
2 the battery terminal. Battery protection would be internal to the battery management systems
3 and control boxes located within the containers and inverters.

4 **Access Roads and Fencing**

5 Access to the Project Lease Area will be via Fish Springs Road and Rainbow Way, both
6 of which are either hard-packed gravel or hard-packed dirt roads that also provide access to the
7 Fort Sage Substation. Unpaved access roads will be constructed within the solar facility and
8 around the perimeter of the Project Lease Area. The perimeter of the Project Lease Area will be
9 enclosed by a 7-foot-high chain link fence that may be topped with a one-foot barbed wire
10 section. Access to the Project Lease Area will be controlled (authorized personnel only) by
11 employing swinging or rolling chain link gates. Select gates will be automated to facilitate
12 emergency access for fire department vehicles.

13 **Plant Auxiliary Systems**

14 The Project will include plant auxiliary systems – including lighting and fire protection
15 systems – designed to control, protect, and support the Project during its operational phase. The
16 Project will provide lighting at the Project Substation and Project Lease Area entrances to
17 provide personnel with illumination for Project Substation O&M under normal conditions and
18 means of ingress/egress under emergency conditions. Lighting will be designed to provide the
19 minimum illumination needed to achieve safety and security objectives and would be
20 downward-facing and shielded to focus illumination on the desired areas only. There will be no
21 lighting in the solar field (with the option to bring in portable lighting as needed), thereby
22 minimizing light trespass on the surrounding properties.

23 The Project will include a microprocessor-based PCS, which would provide control,
24 monitoring, alarm, and data storage functions for plant systems from an off-site regional
25 operations center (no permanent O&M building is to be constructed on site) as well as
26 communication with the SCADA system. Redundant capability would be provided for critical
27 PCS components so that no single component failure would cause a plant outage. Underground
28

1 metal structures installed as part of the Project would have cathodic protection, as necessary,
2 based on soil conditions, to avoid corrosion of metal surfaces.

3 All project components, including the Generating Facility, Project Substation, Gen-Tie,
4 and BESS, are subject to local fire prevention and suppression standards and are subject to
5 review and approval by the Washoe County Fire Marshal. Accordingly, the following measures
6 have been incorporated into the Project design:

- 7 • Compliance with all current building and fire code requirements based on occupancy
8 classification.
- 9 • A 30-foot defensible space will be maintained around the perimeter of the Project, in
10 which non-fire-resistive vegetation will be removed.
- 11 • Undergrounding of cable runs between modules.
- 12 • A 26-foot-wide fire access road to reach Project facilities.
- 13 • Roads will consist of native material and gravel, compacted to a minimum of 85
14 percent.
- 15 • Address sign on the main gate along Rainbow Way, provide a Knoxbox™ or switch
16 at the main access gates, and provide a secondary emergency egress gate with
17 Knoxbox™.
- 18 • Fire response access to the Project Site would be available via Rainbow Way.
- 19 • All battery, electrical, and instrumentation enclosures and structures would be
20 provided with an integral (built-in) fire suppression system appropriate for the type
21 of equipment.

22 Finally, the Project's electrical generation would provide power for plant auxiliaries
23 during daylight hours. During non-daylight hours, the BESS would provide power to energize
24 transformers, and for plant lighting and security.

25 **(b) The natural resources that will be used during the construction and**
26 **operation of the proposed utility facilities. (NAC 703.423(2)(b)).**

27 No significant impacts to natural resources are anticipated from the construction or
28 operation of the proposed utility facilities. Natural resources anticipated for construction and

1 operation include typical materials used for the construction of utility-scale solar PV generating
2 facilities, such as steel for supports, structures, reinforcing rod, and fencing; silicon, copper, and
3 other metals used in the manufacturing of the PV modules; cable and electronic equipment;
4 cement and aggregate for concrete for foundations; gravel and aggregate for roadways; and
5 mineral oil for transformers. In addition, the primary natural resources anticipated for
6 construction and operation are summarized below.

7 **Water**

8 Water necessary for construction and operation of the Project will be supplied from an
9 artesian spring located at a nearby Praana facility and will be brought on-site by truck. During
10 construction, the primary use of water will be for compaction and dust control. Water
11 consumption during construction is anticipated to be approximately 100 acre-feet annually
12 (“AFA”) for dust suppression and earthwork over the ten-month construction period.

13 During Project operations, water use will be limited to panel washing and the potential
14 for periodic dust control and maintenance applications. Panel rinsing is expected to be
15 conducted up to two times annually, but may be conducted less frequently depending on site
16 events and conditions. The Applicant estimates that the amount of water required for panel
17 washing twice a year will be less than 1 AFA. Existing Praana water rights and existing water
18 supply facilities will likely be sufficient for all construction and operations activities.

19 **Petroleum**

20 Heavy-duty construction equipment associated with construction activities will rely on
21 diesel fuel, as will haul trucks involved in removing the materials from demolition and
22 excavation. Construction workers will travel to and from the Project Lease Area throughout the
23 duration of construction. The Applicant assumes that most construction workers will travel to
24 and from the site in gasoline-powered passenger vehicles. Heavy-duty construction equipment
25 of various types will be used during construction. Once operational, the Project will not use
26 petroleum except as necessary for backup generators and maintenance vehicles.

27 **(c) Layout diagrams of the structures at the proposed utility facility and**
28 **its associated equipment. (NAC 703.423(2)(c)).**

1 Layout diagrams are provided in **Exhibit “E.”**

2 (d) Scaled diagrams of the structures of the proposed utility facility.
3 (NAC 703.423(2)(d)).

4 Scaled diagrams are provided in **Exhibit “F.”**

5 (e) A statement concerning whether the proposed utility facility is an
6 electric generating plant or the associated facilities of an electric generating plant
7 that uses renewable energy as its primary source of energy to generate electricity.
8 (NAC 703.423(2)(e)).

9 The proposed utility facilities are the associated facilities of an electric generating plant
10 that uses renewable energy (solar) as its primary source of energy to generate electricity.

11 SUMMARY OF ENVIRONMENTAL IMPACT STUDIES

12 3. A copy and summary of any studies which have been made of the
13 environmental impact of the proposed utility facility as required by Subsection 1 of NRS
14 704.870. (NAC 703.423(3)).

15 Sierra Geotech prepared an ES for the Project in July 2022. The ES is attached hereto as
16 **Exhibit “G.”**³ The ES describes the existing environment of the Project site and analyzes both
17 the environmental impacts of the Project and proposed mitigation measures for particular
18 resources. *See* ES (Exhibit “G”), at Section 3. The ES identified minimal environmental
19 impacts that would occur during construction, operation, and maintenance of the Project, and
20 any material impacts identified will be mitigated as described in the ES. *Id.*

21 The following is a summary of the analyses described in the ES, including impacts and
22 mitigation measures:

- 23 • Geology, Soils, and Paleontology

24 The ES describes the existing geological setting of the Project site in the Honey Lake
25 Basin, including soil texture and potential for both wind and soil erosion. *Id.* at Section 3.1.1.
26 The ES concludes that the erosion susceptibility of the soil at the Project site is low, though

27 _____
28 ³ The appendices to the ES are voluminous and have been omitted from Exhibit G due to space
constraints, though the Applicant can provide them upon request.

1 some potential for soil erosion exists due to the planned soil disturbance and removal of
2 vegetation. *Id.* at Section 3.1.2. However, the Project would adhere to best management
3 practices (“BMPs”) for soil protection, thereby minimizing the contribution to cumulative
4 impacts. *Id.* In addition, a fugitive dust plan would be developed with mitigation measures to
5 reduce the potential for fugitive dust. *Id.*

6 Potential impacts related to fault lines near the Project are minor. *Id.* Geologic units in
7 the area have been known to yield an extensive catalog of Blacan and Rancho Labrean-aged
8 vertebrate remains. *Id.* However, Project construction plans do not call for excavation or
9 grading to depths that would disturb these units. *Id.* Adherence to BMPs would minimize
10 potential impacts from erosion and grading. *Id.* at Section 3.1.3. The Project would be
11 constructed to meet the safety standards listed in the Uniform Building code. *Id.* Further, a
12 detailed geotechnical survey will be completed, and grading, soil compaction, and structural
13 design would be implemented in accordance with the recommendations of the geotechnical
14 report during the final design phase of the Project. *Id.*

15 • Water Resources

16 The ES describes the existing groundwater and surface water at the Project site,
17 concluding that “Waters of the United States” as defined in 33 C.F.R. 328.3(a) are not present
18 and that the Project site is not a potential wetland habitat. *Id.* at Section 3.2.1. The ES
19 concludes that activities associated with construction and operation of the Project will not
20 impact or intercept groundwater. *Id.* at Section 3.2.2. As described above, water for
21 construction activities and for operation of the Project would be provided by an artesian spring
22 located at a nearby Praana facility.

23 With regard to surface water, sheet flows are expected to be negligibly altered from
24 existing conditions during operations and are expected to percolate into the ground as they have
25 historically. *Id.* While increased soil disturbance during construction could result in increased
26 levels of erosion and sedimentation to the dry lake north of the Project Lease Area, potential
27 impacts would be minimized using BMPs and mitigation measures. *Id.* For example, the
28 Project will implement standard stormwater BMPs during construction – including erosion

1 controls, soil barriers, sedimentation basins, and site contouring – to minimize runoff of soils
2 and associated contaminants; will adhere to a Stormwater Pollution Prevention Plan; and will
3 implement measures designed to prevent spills or other discharges. *Id.* at Section 3.2.3.

4 Overall, the ES concludes that the Project will have “less than significant” impacts on water
5 quality. *Id.*

6 • Air Quality and Climate

7 Air emissions associated with the Project would occur primarily during construction and
8 would be chiefly associated with fugitive dust during construction from ground-disturbing
9 activities, include grading, pad construction, and installation of the Gen-Tie, as well as
10 proportionally smaller amounts of emissions associated with engine exhaust. *Id.* at Section
11 3.3.2. Once operational, the Project would generate relatively small contributions to air
12 emissions from on-road travel of vehicles associated with worker commutes for maintenance
13 activities. *Id.* Accordingly, the ES concludes that air quality impacts associated with both
14 construction and operations would be de minimis with no potential to significantly impact
15 regional air quality. *Id.* Nonetheless, the Project would adhere to mitigation measures,
16 including BMPs for fugitive dust and wind control erosion. *Id.* at Section 3.3.3.

17 • Biological Resources

18 The ES outlines the general biological resources (vegetation and wildlife, including
19 special status species) observed or anticipated to occur at and near the Project site. *Id.* at
20 Section 3.4.1. As for vegetation, the Project will result in temporary disturbance to install
21 pilings, conduct road surface improvements/maintenance, and install utility poles for the Gen-
22 Tie. *Id.* at Section 3.4.2. Potential impacts to wildlife could include loss of foraging and/or
23 nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation –
24 the majority of which would be temporary and restored after construction. *Id.* Permanent
25 impacts that may result from Project construction are only anticipated where Project
26 improvements (PV panels, Project Substation, BESS, access/maintenance roads, and fencing)
27 will permanently alter existing habitat. *Id.*

28

1 However, Project impacts to vegetation and wildlife would be minimized through
2 adherence to BMPs and mitigation measures which include restricting vehicle movement at the
3 Project site; ensuring proper storage of hazardous materials; and minimizing soil compaction,
4 erosion, and vegetation loss to preserve habitat. *Id.* at Section 3.4.3.

5 Regarding special status wildlife species, migratory birds represent the category of
6 special status species to be directly impacted by the Project. *Id.* at Section 3.4.2. Specifically,
7 Prairie Falcons and Loggerhead Shrikes have been observed in the vicinity. *Id.* However, the
8 Alkali Desert Scrub and Alkali Flats/Playas habitats which comprise the vast majority of the
9 Project site are not considered prime habitat for these species. *Id.* The Project will adhere to
10 mitigation measures adopted to ensure that the Project will not adversely impact other migratory
11 birds, including scheduling habitat-altering portions of the Project outside of bird breeding
12 season whenever possible, requiring a biologist to survey for nests prior to grading and
13 vegetation removal, and establishing construction buffer zones to accommodate active nest
14 activity as needed. *Id.* at Section 3.4.3.

15 • Cultural Resources

16 Extensive analysis, records searches, and an archeological survey were conducted to
17 assess the cultural resources in the Project vicinity and analyze the Project’s impacts. *Id.* at
18 Section 3.5.1. While fourteen new archaeological sites were identified in the Project vicinity
19 during the archeological survey, none are eligible for listing on the National Register of Historic
20 Places, meaning that Project impacts to these resources will be considered acceptable and “less
21 than significant.” *Id.* at Section 3.5.1-3.5.2. Likewise, a previously-recorded large prehistoric
22 artifact scatter is located within the vicinity of the Gen-Tie will not be affected. *Id.*

23 The ES outlines mitigation measures, including appropriate spacing of Gen-Tie poles
24 and confining construction activities to established roadways and staging areas, to further
25 ensure that the Project does not negatively impact cultural resources. *Id.* at Section 3.5.3. If
26 potential resources are discovered during Project construction, work would halt immediately
27 and Praana would take appropriate steps to evaluate the resource and determine further
28 mitigation measures as needed. *Id.*

1 • Land Use

2 The Project site is located in the High Desert Planning Area in Washoe County, a
3 sparsely populated area which consists primarily of vacant rangeland that has been dedicated to
4 agricultural uses for nearly a century and is therefore considered previously disturbed. *Id.* at
5 Section 3.6.1. Land use consequences as a result of the Project would be minimal and
6 consistent with the existing and planned future development for the vicinity. *Id.* at Section
7 3.6.2. Namely, similar solar energy generation facilities currently exist in the area surrounding
8 the Project site, and development of the Project will not conflict with any current or known
9 authorized land uses. *Id.* Because the Project would have no adverse effect on current or
10 known future land use activities in the area, mitigation measures are not warranted. *Id.* at
11 Section 3.6.3.

12 • Transportation and Traffic

13 During construction, the Project will temporarily increase traffic in the area, though no
14 impacts to level of service are anticipated. *Id.* at Section 3.7.2. Traffic is also expected to
15 increase minimally as a result of maintenance operations. *Id.* Overall, the ES concludes that
16 the Project would not result in substantive impacts to traffic conditions, and therefore mitigation
17 measures are not warranted. *Id.* at Section 3.7.3.

18 • Visual Resources

19 Project construction would impact the existing local landscape. *Id.* at Section 3.8.2.
20 However, due to the remote nature of the Project site and the presence of existing development
21 in the vicinity – including military installations, the Union Pacific Railroad, the Alturas
22 Interconnection Transmission line, the Tuscarora gas line, and existing nearby solar facilities –
23 the Project will minimally impact the viewshed. *Id.* at Section 3.8.1-3.8.2. Nor will the Project
24 be visible to the nearest residential, industrial, institutional, or commercial properties due to
25 either distance or terrain. *Id.* at Section 3.8.2. Because potential impacts to visual character are
26 consistent with the existing setting, the ES concludes that mitigation is not warranted. *Id.* at
27 Section 3.8.3.

28 • Noise

1 The Project is located in a rural area with the Union Pacific Railroad, which runs
2 through the middle of the Project Lease Area, contributing to the noise environment. *Id.* at
3 Section 3.9.1. Project construction would result in temporary and intermittent increases in
4 ambient noise levels for approximately 10 months, with timeframes for heavy equipment
5 activities to occur at small intervals over the Project construction timeframe, primarily during
6 the first few weeks of site preparation and earthwork. *Id.* at Section 3.9.2. However, because
7 the nearest residential area is over five miles from the Project site, noise levels would remain
8 within an acceptable range to the nearest sensitive receptors, and visual obstruction would
9 provide additional noise-reducing barriers. *Id.* Therefore, construction noise impacts would be
10 temporary and less than significant. *Id.* Noise impacts associated with air conditioning units
11 for the BESS would similarly be limited due to the distance to the closest sensitive noise
12 receptors and visual obstruction efforts. *Id.* The adherence to a typical construction schedule
13 would serve to mitigate the minimal impacts associated with the construction phase. *Id.* at
14 Section 3.9.3.

15 • Waste Management and Hazardous Materials

16 During construction, the Project would generate solid waste in the form of soil and brush
17 from clearing and grubbing, as well as materials from installation of the PV panels, Gen-Tie,
18 BESS, Project Substation components, access roads, etc. *Id.* at Section 3.10.2. Likewise,
19 Project operations would generate limited amounts of solid waste associated with maintenance
20 activities. *Id.* All waste generated during both construction and operations would be disposed
21 of at a licensed waste management facility. *Id.*

22 During construction, the Project may require minimal volumes of vehicle fuels,
23 lubricating oils, paints, adhesives, and sealants, though the ordinary use of these materials
24 would not generate hazardous wastes. *Id.* Further, as construction contractors would be
25 required to comply with environmental and workplace safety laws and procedures, no
26 substantive risks to public health and safety are expected. *Id.* Thus, the construction and
27 operation of the Project is not expected to require the transportation, use, or generation of
28 hazardous materials or hazardous wastes that could create a potential hazard to the public or

1 environment. *Id.* Finally, the implementation of BMPs and mitigation measures as outlined in
2 the ES would prevent and reduce potential impacts associated with hazardous wastes. *Id.* at
3 Section 3.10.3.

4 • Socioeconomics

5 During the 10 months of construction, the Project would generate temporary
6 employment primarily for local residents, with approximately 200 workers anticipated during
7 peak activity. *Id.* at Section 3.11.2. Additionally, a small amount of the workforce is expected
8 to require specialty skills and would either relocate to the region temporarily or permanently,
9 thereby contributing to the local economy and supporting other businesses in the area. *Id.* This
10 is expected to have a very minor impact on population and temporary housing in the region. *Id.*
11 Sales and property taxes associated with the successful construction and operation of the Project
12 will benefit both the state of Nevada and Washoe County. *Id.*

13 Due to the limited number of nearby residents, no environmental justice populations
14 would be unduly affected by the Project. *Id.* Because Project construction and operations will
15 not result in long-term or adverse health or environmental impacts, there will be no
16 disproportionate or adverse effects to these residents. *Id.* Finally, because potential impacts to
17 socioeconomic conditions will likely be beneficial, no mitigation measures are required. *Id.* at
18 Section 3.11.3.

19 **DESCRIPTION OF ALTERNATE LOCATIONS**

20 **4. Description of reasonable alternate locations for the proposed utility facility,**
21 **a description of the comparative merits of the detriments of each location submitted, and a**
22 **statement of the reasons why the location is best suited for the proposed facility, as**
23 **required by Subsection 1 of NRS 704.870. (NAC 703.423(4)).**

24 The selected location is best suited for the Project. *See id.* at Section 2.5. The
25 Applicant's primary objectives were to locate the Project in an area of Northern Nevada such
26 that: (1) the length of the Gen-Tie interconnection to the electrical grid would not exceed 5
27 miles to minimize Gen-Tie losses and costs; and (2) necessary land rights for the Gen-Tie route
28

1 are in place. The Applicant considered the following additional criteria in evaluating appropriate
2 sites for the Project:

- 3 • Adequate solar irradiation;
- 4 • Close proximity to a high-capacity substation with access to the SPPCo grid;
- 5 • Adequate transmission capacity to convey the electrical output of the Project;
- 6 • Minimal environmental concerns;
- 7 • Relatively flat site to minimize the need for site grading;
- 8 • Existing access to accommodate construction workforce needs; and
- 9 • Access to nearby workforce to support Project construction.

10 *Id.* at Section 2.5.1.

11 The Applicant performed a regional evaluation of available sites and found that the
12 proposed Project site best fits all the criteria necessary for the Project and meets all of the
13 Project’s siting objectives. The Project is located in Northern Nevada and poses minimal
14 environmental concerns, as described in Section III(3) of this Application. The Project Lease
15 Area is located approximately five miles north of the existing Fort Sage Substation, minimizing
16 the length of the Gen-Tie to be constructed. *Id.* at Section 2.5.3.1. Additionally, the remote
17 location of the Project with respect to population centers minimizes the potential for impacts
18 affecting the local population. *Id.* at Section 2.5.1. Noise, visual, and traffic impacts are all
19 minimized by the Project’s remote location. *Id.* Therefore, no reasonable cost-effective
20 alternate locations for the Project exist outside of proposed Project site.

21 **PROOF OF PUBLIC NOTICE**

22 **5. A copy of the public notice of the application or amended application and**
23 **proof of the publication of the public notice, as required by Subsection 4 of NRS 704.870.**
24 **(NAC 703.423(5)).**

25 A copy of the public notice of this Application is attached as **Exhibit “H,”** and an
26 affidavit demonstrating proof of publication of the public notice of this Application in the Reno
27 Gazette Journal is attached as **Exhibit “I.”**

1 **PROOF OF SUBMITTAL TO THE NEVADA STATE CLEARINGHOUSE**

2 **6. Proof that a copy of the application or amended application has been**
3 **submitted to the Nevada State Clearinghouse within the Department of Administration to**
4 **enable energy review and comment. (NAC 703.423(6)).**

5 Proof of submission of this Application to the Nevada State Clearinghouse to enable
6 agency review and comment, and proof of service on local governments in the area in which the
7 facilities are to be located, is attached as **Exhibit “J.”**

8 **PROBABLE EFFECT ON ENVIRONMENT**

9 **7. An explanation of the nature of the probable effect on the environment**
10 **including:**

11 **(a) A reference to any studies described in Subsection 3, if applicable;**
12 **(NAC 703.423(7)(a)) and**

13 Sierra Geotech’s analysis of the proposed Project is contained in the ES (Exhibit “G”).

14 **(b) An environmental statement that includes:**

15 **(1) The name, qualifications, professions and contact information**
16 **of each person with primary responsibility for the preparation of the**
17 **environmental statement; (NAC 703.423(7)(b)(1))**

18 A list of preparers and reviewers of the ES, and their respective qualifications,
19 professions, and contact information is available at Section 4 of the ES (Exhibit “G”).

20 **(2) The name, qualifications, professions and contact information**
21 **of each person who has provided comments or input in the preparation of**
22 **the environmental statement; (NAC 703.423(7)(b)(2))**

23 A list of each person who provided comments or input on the preparation of the
24 ES, and their respective qualifications, professions, and contact information is available at
25 Section 4 of the ES (Exhibit “G”).

26 **(3) A bibliography of materials used in the preparation of the**
27 **environmental statement; (NAC 703.423(7)(b)(3)) and**

28

1 A list of references used in preparation of the ES is available at Section 5 of the ES
2 (Exhibit “G”).

3 **(4) A description of: (NAC 703.423(7)(b)(4))**

4 **(I) The environmental characteristics of the project area**
5 **existing at the time the application or amended application is filed**
6 **with the Commission;**

7 The Project site (comprised of both the Project Lease Area and the Gen-Tie Corridor)
8 are located within the sparsely populated Honey Lake Valley, approximately 45 miles north of
9 the City of Reno. The Project is located adjacent to the Nevada/California state line,
10 approximately 8 miles east of the community of Herlong, CA. The site is currently vacant
11 rangeland. The site is bordered on the west by the Nevada/California state line, on the east by
12 Rainbow Way, and on the north and south by vacant land. A Union Pacific railway bisects the
13 Project Lease Area. Access to the Project Lease Area would be from Rainbow Way and Fish
14 Springs Road.

15 The Project site lies within the High Desert Planning Area in Washoe County and is
16 zoned as “General Rural.” See ES (Exhibit “G”), at Section 3.6.1. The Project will be located
17 on vacant land that has been at least partially previously disturbed by agricultural resources and
18 construction of existing infrastructure including a rail line, an electric transmission line, and gas
19 pipelines. *Id.* As described above, the Fort Sage Substation is located approximately five miles
20 south of the southeast corner of the Project Lease Area. Section 3 of the ES (Exhibit “G”)
21 further describes the existing setting and environmental characteristics with respect to each of
22 the resources studied.

23 **(II) The environmental impacts that the construction and**
24 **operation of the proposed utility facility will have on the project area**
25 **before mitigation; and**

26 The Project will result in the disturbance of approximately 291 acres of land in total, and
27 construction will last up to approximately 10 months. The ES analyzed potential impacts on a
28 variety of resources, and it identified minimal environmental impacts that will occur during

1 Project construction and operations. *Id.* at Section 3. As more thoroughly described in Section
2 III(3) of this Application, the ES concludes that the impacts of the Project will not substantively
3 impact the environment, and that Project-specific mitigation measures will otherwise serve to
4 mitigate any material adverse impacts on the environment. *See id.*

5 **(III) The environmental impacts that the construction and**
6 **operation of the proposed utility facility will have on the project area**
7 **after mitigation.**

8 Analyses of the environmental impacts of the Project are included in Section 3 of the ES
9 (Exhibit “G”).

10 **NEED TO ENSURE RELIABLE SERVICE**

11 **8. An explanation of the extent to which the proposed utility facility is needed**
12 **to ensure reliable utility service to customers in this State. (NAC 703.423(8)).**

13 The Project is exempt from this requirement pursuant to NRS 704.890(1)(b). NRS
14 704.890(1)(b) provides that the Commission must find that a utility facility is needed to ensure
15 reliable utility service to customers in Nevada *only* if (i) the utility facility emits greenhouse
16 gases and (ii) does not use renewable energy as its primary source of energy to generate
17 electricity. Here, because the Project uses renewable energy as its primary source of energy,
18 NRS 704.890(1)(b)’s finding does not need to be made, and thus the Project is exempt from
19 NAC 703.423(8)’s requirement to explain why the Project is needed to ensure reliable utility
20 service to customers in Nevada. With that said, the Applicant provides responses to the
21 following subsections of NAC 703.423(8)(b) as background information.

22 **(a) A description of the extent to which the proposed utility facility will**
23 **provide utility service to customers in this state. (NAC 703.423(8)(b)(1)).**

24 The Project will provide renewable energy to the electrical transmission grid via the Fort
25 Sage Substation. Praana has solicited an LGIA to connect the Project to the Fort Sage
26 Substation. Additionally, the Project will generate electrical energy and store energy to reduce
27 emissions of CO₂, a greenhouse gas, by displacing the use of electrical energy from natural gas,
28 coal-burning, and thermal power plants.

1 **(b) A description of the extent to which the proposed utility facility will**
2 **enhance the reliability of the utility service in this state. (NAC 703.423(8)(b)(2)).**

3 The Project will assist the State of Nevada in developing reliable renewable resources of
4 energy and displacing conventional thermal power generation by supporting the construction of
5 a solar electric generating facility. The Project will provide a reliable local and regional source
6 of power, producing up to approximately 165,604 megawatt-hours (“MWh”) of clean,
7 emissions-free power each year. In doing so, the Project will fulfill a need for reliable and
8 affordable clean energy in Nevada pursuant to Nevada’s Renewable Portfolio Standard (NRS
9 704.7801-.7828, *inclusive*, collectively, the “RPS”). The Project also includes an energy
10 storage component that will facilitate grid reliability in providing energy delivery during peak
11 demand periods.

12 **(c) A description of the extent to which the proposed utility facility will**
13 **achieve interstate benefits by the proposed construction or modification of**
14 **transmission facility in the state, if applicable. (NAC 703.423(8)(b)(3)).**

15 NAC 703.423(8)(b)(3) is not applicable. All transmission infrastructure associated with
16 the Project is located within the State of Nevada.

17 **NEED VERSUS ENVIRONMENTAL EFFECT**

18 **9. An explanation of how the need for the proposed utility facility as described**
19 **in Subsection 8 balances any adverse effects on the environment as described in**
20 **Subsection 7. (NAC 703.423(9)).**

21 The need for the Project outweighs the minor environmental impacts of the Project. The
22 Project will provide a reliable local and regional source of power, producing approximately
23 165,604 MWh of clean, emissions-free power each year, which is helpful to fulfill an
24 environmental need for reliable and affordable clean energy in Nevada. In the last several
25 years, the Nevada Legislature has adopted increased RPS requirements to be phased in through
26 2030, ultimately requiring that 50 percent of the electricity sold by an electric utility to retail
27 customers in Nevada must come from renewable sources by 2030. If the Applicant enters into a
28 power purchase agreement with an entity subject to the RPS, the Project will help Nevada

1 achieve its renewable energy goals. The Project includes an energy storage component that will
2 fulfill a need for renewable energy storage and facilitate grid reliability by providing energy
3 delivery during peak demand periods. The Project will also allow for the reduction of
4 approximately 125,000 tons of CO₂ annually.

5 Additionally, the Project will generate up to approximately \$270,000.00 in annual
6 property taxes to Washoe County during the first 20 years of operation assuming the Project
7 receives a Nevada Governor’s Office of Energy Renewable Energy Tax Abatement (“RETA”),
8 and approximately \$500,000.00 annually thereafter (subject to changes in the assessed value of
9 the Project over its operational life), along with approximately \$4 million in sales and use tax
10 receipts payable to the State of Nevada. Finally, the Project would further benefit the economy
11 by generating up to approximately 200 jobs at peak construction, with an average workforce of
12 approximately 150 construction workers. The Project will also employ approximately 5
13 permanent employees during operations.

14 In contrast, with the implementation of the recommended mitigation measures, the
15 Project will result in only minor impacts to the natural environment. *See* ES (Exhibit “G”), at
16 Section 3. Thus, by reducing annual carbon emissions in the State of Nevada and providing a
17 reliable energy source for the power grid, the Project’s benefits outweigh its minimal
18 environmental effects.

19 **MINIMUM ADVERSE IMPACT ON THE ENVIRONMENT**

20 **10. An Explanation of how the proposed utility facility represents the minimum**
21 **adverse effect on the environment, including (NAC 703.423(10))**

22 **(a) The state of available technology; (NAC 703.423(10)(a))**

23 The Project will use the latest and best commercially available materials for the
24 generation of electricity from a renewable resource. Through implementation of identified
25 mitigation measures and BMPs, the Project will represent the minimum adverse effect on the
26 environment.

27 **(b) The nature of various alternatives; and (NAC 703.423(10)(b))**

28

1 No reasonable alternative locations meeting the Applicant’s criteria for the Project were
2 identified outside of the Project site. *See* Section III(4), *supra*. The proposed Project site
3 allows for minimal environmental impacts as described in the ES (Exhibit “G”), and existing
4 facilities adjacent to the Project lease area provide interconnection with a relatively short Gen-
5 Tie, minimizing construction and surface disturbance needs as compared with other potential
6 sites.

7 Further, the Project is designed to utilize crystalline silicon or thin-film PV technology,
8 which was selected as the preferred technology given its low water requirements and reliable,
9 proven technology. *Id.* at Section 2.5.3. Other solar technologies that the Applicant considered
10 for the Project included concentrating PV and solar thermal technologies, both of which were
11 determined to have a greater potential for adverse environmental impact due to long-term water
12 requirements, and concentrating solar would also have greater impacts on visual and biological
13 resources. *Id.* Therefore, these options were eliminated from further consideration. For the
14 foregoing reasons, the Project design proposed herein represents the minimum adverse effect on
15 the environment.

16 **(c) The economics of various alternatives. (NAC 703.423(10)(c))**

17 The proposed Project site is the most cost-effective option for the Project because it will
18 allow the Project to utilize existing transmission infrastructure to minimize the length of the
19 Gen-Tie to the electrical grid, which minimizes line losses and costs. *See* Section III(4), *supra*.

20 **AGENCY APPROVAL LIST AND DESCRIPTION OF REQUIRED PERMITS**

21 **11. An explanation of how the location of the proposed utility facility conforms**
22 **to applicable state and local laws and regulations, including a list of all permits, licenses,**
23 **and approvals required by federal, state and local statutes, regulations and ordinances.**

24 **The explanation must include a list that indicates: (NAC 703.423(11))**

25 **(a) All permits, licenses, and approvals the applicant has obtained,**
26 **including copies thereof; (NAC 703.423(11)(a)) and**
27

28

1 A list of all permits, licenses, and approvals the Applicant or its contractors either have
2 obtained or are in the process of obtaining in order to commence construction, and an estimated
3 timeline for obtaining these permits, is provided in **Exhibit “K.”**

4 **(b) All permits, licenses and approvals the applicant is in the process of**
5 **obtaining to commence construction of the proposed utility facility. The applicant**
6 **must provide an estimated timeline for obtaining these permits, licenses and**
7 **approvals. (NAC 703.423(11)(b)).**

8 A list of all permits, licenses, and approvals the Applicant or its contractors either have
9 obtained or are in the process of obtaining in order to commence construction, and an estimated
10 timeline for obtaining these permits, is provided in Exhibit “K.”

11 **SERVING THE PUBLIC INTEREST**

12 12. **An explanation of how the proposed utility facility will serve the public**
13 **interest, including: (NAC 703.423(12))**

14 **(a) The economic benefits that the proposed utility facility will bring to**
15 **the applicant and this State; (NAC 703.423(12)(a))**

16 The Project will have a direct beneficial impact on the local and regional economy
17 during the construction period, which is expected to last approximately 10 months in total. The
18 Project will provide an opportunity for construction jobs because at peak construction,
19 approximately 200 workers are anticipated, with an average anticipated workforce of
20 approximately 150 construction workers. The Project will also provide up to 5 full-time jobs
21 once operational. In addition, the Project will contribute approximately \$270,000.00 in annual
22 property taxes to Washoe County during the first 20 years of operation assuming the Nevada
23 RETA applies and approximately \$500,000.00 annually thereafter (subject to changes in the
24 assessed value of the Project over its operational life). The Project will also generate
25 approximately \$4 million in sales and use tax receipts payable to the State of Nevada.

26 Further, the Project will provide a reliable source of electricity for the grid, which will
27 benefit the economy in the long term by ensuring that electricity is continuously provided by
28 sources within the state. By providing a diverse source of electricity, the Project will help bring

1 stability to the markets that serve consumers. For these reasons, solar energy projects are
2 beneficial to the Nevada economy as a whole.

3 **(b) The nature of the probable effect on the environment in this State if**
4 **the proposed utility facility is constructed; (NAC 703.423(12)(b))**

5 The ES contains a full analysis of the minimal probable environmental effects of the
6 Project. *See* ES (Exhibit “G”), at Section 3. Moreover, once operational, the Project will have a
7 positive effect on the environment. The Project will provide a reliable and consistent source of
8 electricity, while reducing CO₂ emissions in the state by approximately 125,000 tons annually.

9 **(c) The nature of the probable effect on the public health, safety, and**
10 **welfare of the residents of this State if the proposed utility facility is constructed;**
11 **(NAC 703.423(12)(c)) and**

12 The Project will provide a clean, renewable source of energy and will not emit material
13 quantities of pollutants or greenhouse gases that could have an adverse impact on the public
14 health, safety, and welfare of Nevada residents. In fact, the Project’s production of solar energy
15 will displace energy production using fossil fuels such as coal and natural gas. As stated
16 previously, the State of Nevada will benefit from the creation of jobs during construction and
17 operation, income from the Project, and the reduction of CO₂ emissions by approximately
18 125,000 tons annually. Diversification of electricity sources is known to bring stability to the
19 markets that serve consumers; thus, the 165,604 MWh of clean, emissions-free power generated
20 by the Project each year will benefit the residents of Nevada. In addition, construction and
21 operation procedures will adhere to mitigation measures and design features intended to reduce
22 the risk of exposure to hazardous materials, excessive noise, and other harmful conditions.

23 **(d) The interstate benefits expected to be achieved by the proposed**
24 **electric transmission facility in this State, if applicable. (NAC 703.423(12)(d)).**

25 Construction of the Gen-Tie will likely not increase interstate deliverability options for
26 renewable energy generated at the Project, as the Project will interconnect to SPPCo’s Fort Sage
27 Substation.

28

1 **IV. CONSTRUCTION IN MULTIPLE PHASES**

2 Should the Commission grant this Application subject to the Applicant’s submission of
3 outstanding compliance items, the Applicant requests that the Commission’s compliance order
4 allow for the issuance of four permits to construct for four phases of construction. The
5 Applicant proposes that the phases may be constructed either simultaneously or independent of
6 one another with some overlap in time, but no construction of any utility facility necessary to
7 the Project will occur until the Applicant has satisfied the Commission that all necessary
8 permits have been obtained for construction of that particular facility, consistent with the intent
9 of UEPA. The phases of construction, along with information about the outstanding state and
10 local permits that must be obtained for each phase prior to issuance of a PTC, are outlined
11 below.

12 **Phase 1:** This phase of construction would include grading of the site for the Generating
13 Facility and Project Substation. During this phase, temporary construction facilities such as
14 laydown areas and installation of construction trailers would be established. Phase 1 permits
15 that would be acquired prior to commencing construction of this phase are listed below.

16

17 PHASE 1: SITE GRADING & TEMPORARY CONSTRUCTION FACILITIES		
18 REQUIRED PERMIT	18 ISSUING AGENCY	18 ESTIMATED APPROVAL
19 Special Use Permit and Major 20 Grading approvals	20 Washoe County	20 Q1 2023
21 Dust Permit	21 Washoe County	21 Q1 2023
22 Fugitive Dust Permit	22 Nevada Department of 22 Environmental Protection	22 Q2 2023
23 Water Discharge Permit 24 (Temporary Construction Water 24 Tank)	23 Nevada Department of 23 Environmental Protection	23 Q2 2023

25

26 **Phase 2:** This phase would include construction of the Generating Facility (which will
27 consist of activities including installing structural poles and trackers, panels, electrical system,
28

and inverters) and access roads. Phase 2 permits that would be acquired prior to commencing construction of this phase are listed below.

PHASE 2: GENERATING FACILITY & ACCESS ROADS		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit and Major Grading approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit	Nevada Department of Environmental Protection	Q2 2023
Building and Grading Permit	Washoe County	Q1 2023

Phase 3: This phase would include construction of the Project Substation and BESS. Activities would include installation of the Project Substation grounding facilities, the main transformer, metering equipment, and other Project Substation electrical equipment. Phase 3 permits that would be acquired prior to commencing construction of this phase are listed below.

PHASE 3: PROJECT SUBSTATION & BESS		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit and Major Grading approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit	Nevada Department of Environmental Protection	Q2 2023
Building and Grading Permit	Washoe County	Q1 2023

Phase 4: This phase would include construction of the Gen-Tie, which will connect the Project Substation to SPPCo’s existing Fort Sage Substation. Additionally, SPPCo would

1 conduct any necessary improvements to the Fort Sage Substation, such as installation of relays
2 and transmission protection equipment, as part of this phase. The Applicant anticipates that the
3 construction schedule may be independent of Phases 1 through 3 depending on Praana’s EPC
4 contractor scheduling needs. Phase 4 permits that would be acquired prior to commencing
5 construction of this phase are listed below.

PHASE 4: 345 kV Gen-Tie		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023

13 **V. CONCLUSION AND REQUEST FOR RELIEF**

14 The Applicant respectfully requests that the Commission:

- 15 1. approve this Application and issue a UEPA Permit to Construct for the Project,
16 subject to the Applicant’s submission of the permits described herein to the Commission; and
- 17 2. issue a compliance order authorizing the construction of the utility facilities in
18 four phases as described herein by authorizing four Permits to Construct, with each Permit to
19 Construct specifying the utility facility or facilities in that phase.

20 The Applicant reserves the right to amend and supplement this Application as permitted
21 and contemplated pursuant to NRS 704.820 to 704.900 and NAC 703.415 to 703.427.

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Dated and respectfully submitted this 31st day of August, 2022.

HOLLAND & HART LLP

/s/ Bryce C. Alstead

Bryce C. Alstead (NBN 9954)
Erica K. Nannini (NBN 13922)
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Attorneys for Praana Renewables Energy, LLC

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5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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EXHIBIT A
Project Location Map



Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
 Rocklin, CA 95677

Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**

Scale: As Shown

EXHIBIT A
 Project
 Location Map

EXHIBIT B

Legal Description of the Project

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**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

EXHIBIT B

LEGAL DESCRIPTION OF THE SITE

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Numbers (APNs) 074-470-02 (26.05 acres); 074-470-03 (116.22 acres); 074-470-04 (17.632 acres) and 074-470-05 (119.02 acres). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

All that certain real property situated in the County of Washoe, State of Nevada, described as follows:

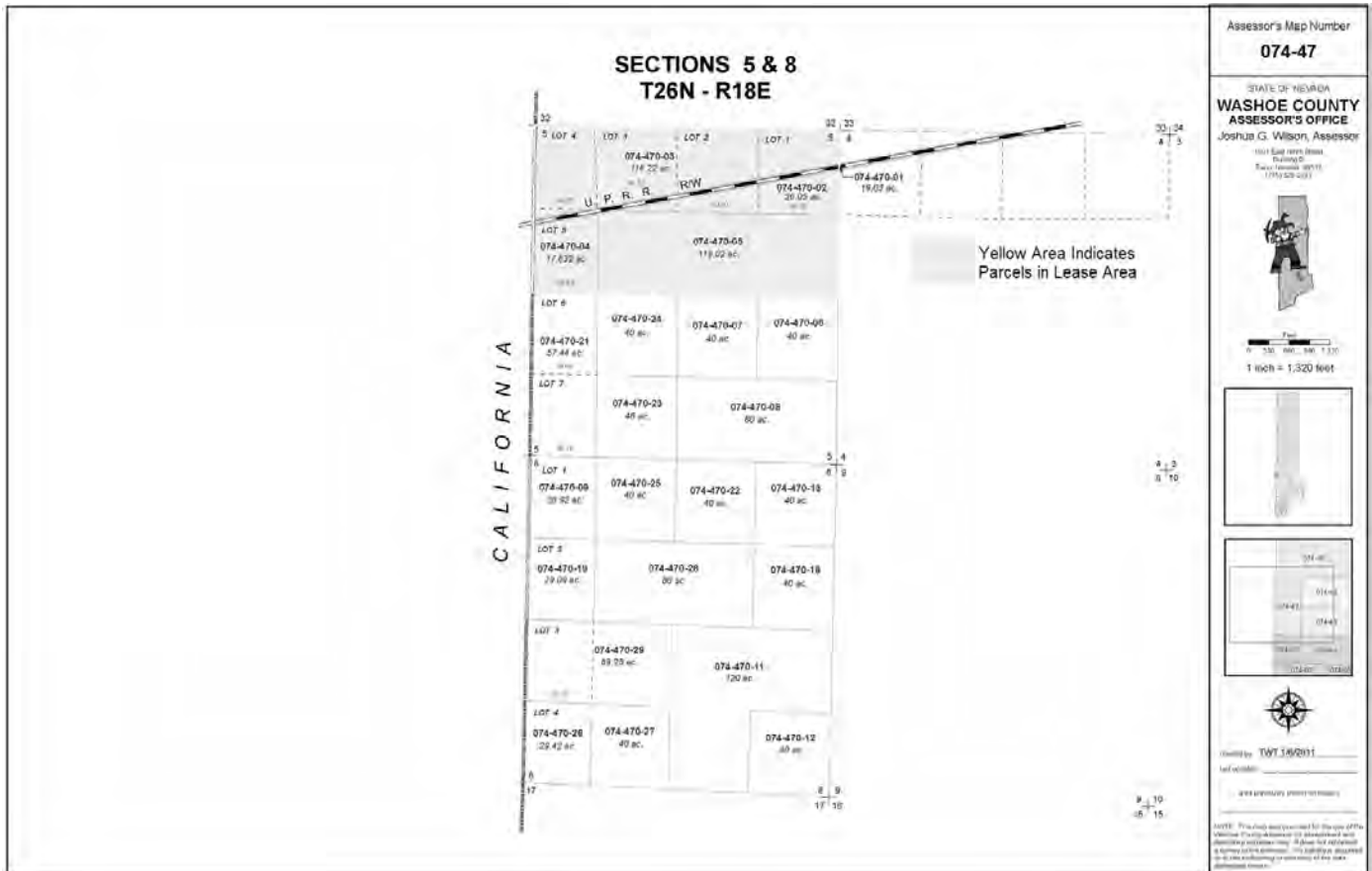
Lots 1, 2, 3, 4 and 5, and Southeast 1/4 of Nodhw6st 1/4 lying North of Western Pacific Railroad right-of-way, Section 5, Township 26 North, Range 18 East,

South 1/2 of Northeast 1/4; the portion of Southeast 1/4 of Northwest 1/4, lying South of Western Pacific Railroad right-of-way, Section 5, Township 26 North, Range 18 East,

The portion of Lot 5 lying South of Western Pacific Railroad right-of way, Section 5, Township 26 North, Range 18 East,

The portion of Lots 1 & 2 lying South of Western Pacific Railroad right-of-way, Section 5, Township 26 North, Range 18 East, M.D.B. & M.

The property is generally described in the figure below.



Latitude: 40.09'17" North
Longitude: 119.59'19" West

EXHIBIT C

Detailed Description of the Location of the Gen-Tie

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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Google Earth

PROJECT: PRAANA TWO: WASHOE PSES/BESS

Washoe County,
Nevada

Rainbow Way
Utility/Access Easement

REV.	ISSUED AS FINAL	SCV	BLM	DESCRIPTION	BY	APP.	CHKD.
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Detail of Gen-tie line location

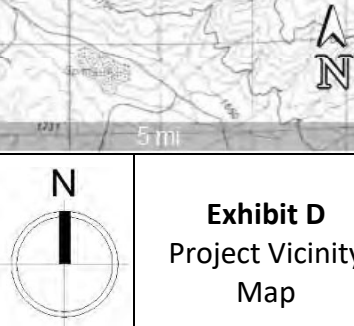
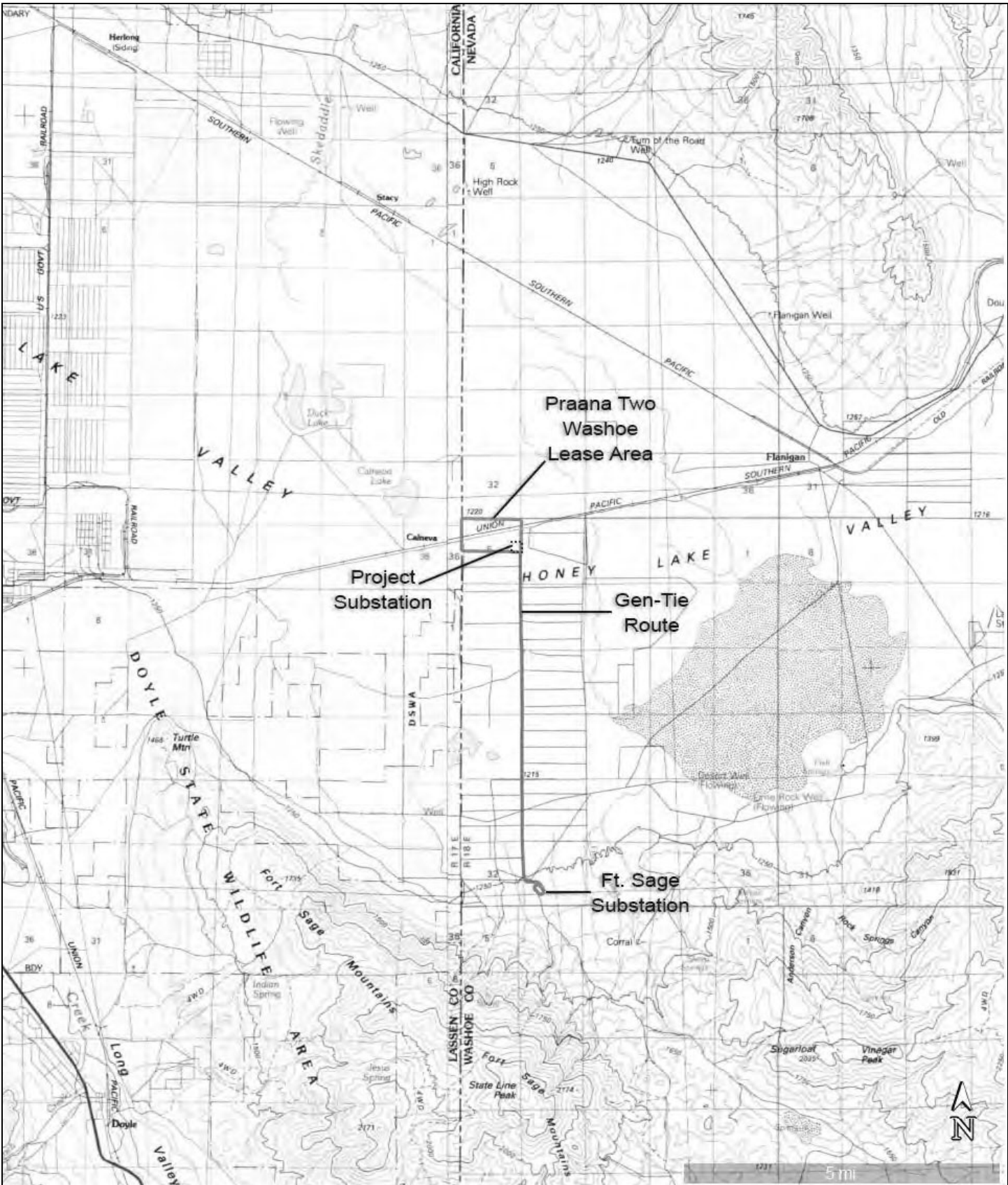
DATE:	07-14-2022	SCALE:	As Shown
BY:	AKM	FIGURE:	Exhibit C



HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094

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EXHIBIT D
Site Plan Drawings, Vicinity Maps,
& Routing Maps



Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
 Rocklin, CA 95677

Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**

Scale: As Shown

Exhibit D
 Project Vicinity
 Map



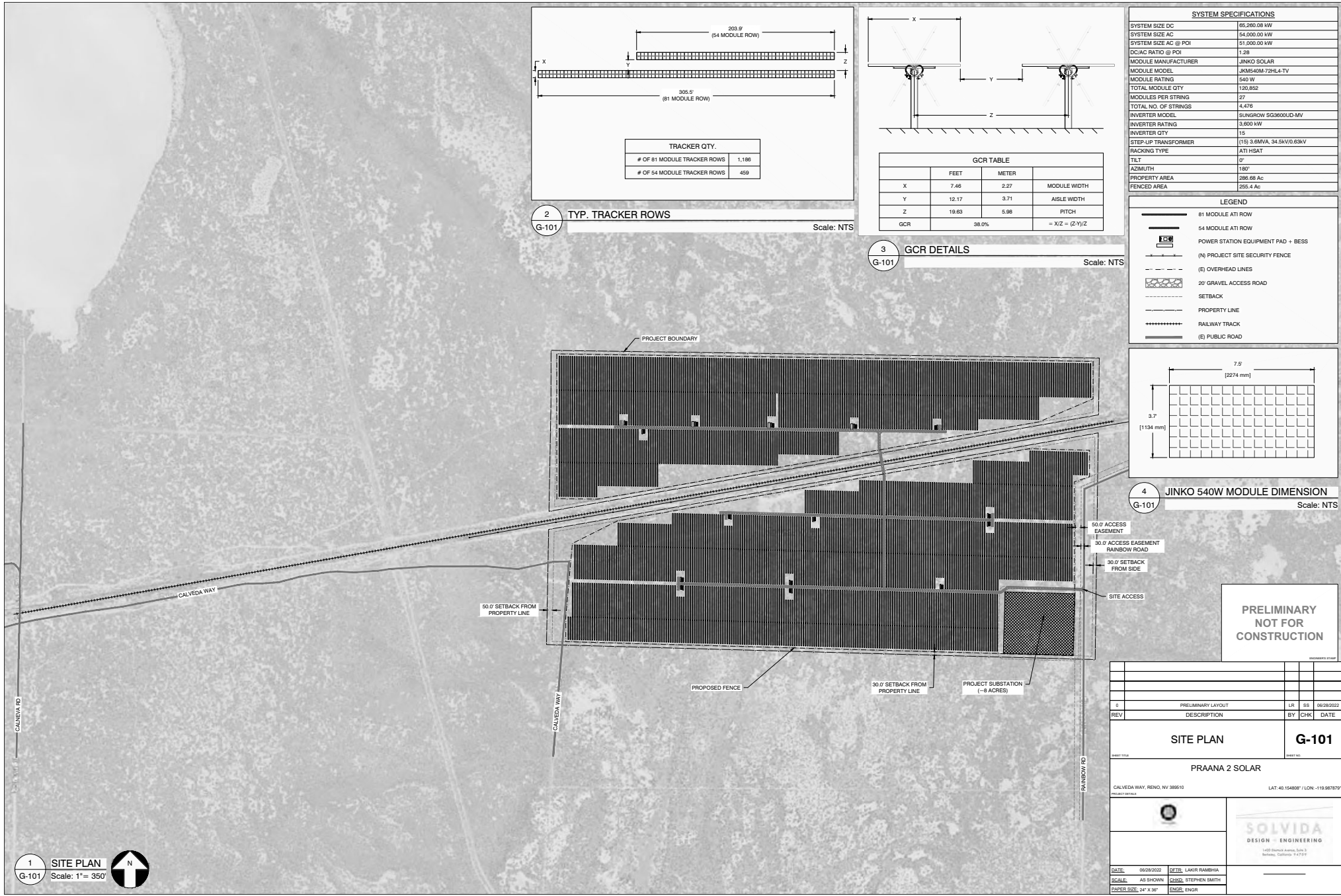
Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
 Rocklin, CA 95677

Published:
 July 14, 2022

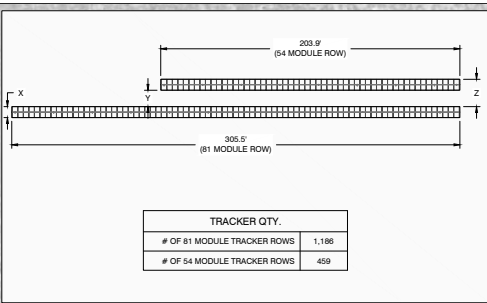
**Praana Two:
 Washoe PSES/BESS**
 Environmental
 Statement

Scale: As Shown

Exhibit D
 Routing Map

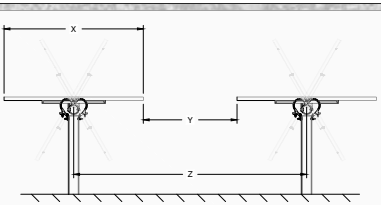


1 SITE PLAN
 G-101 Scale: 1" = 350'



TRACKER QTY.	
# OF 81 MODULE TRACKER ROWS	1,198
# OF 54 MODULE TRACKER ROWS	459

2 TYP. TRACKER ROWS
 G-101 Scale: NTS

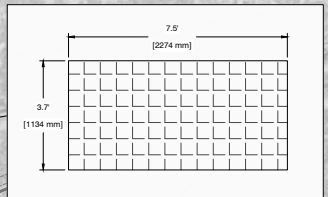


GCR TABLE			
	FEET	METER	MODULE WIDTH
X	7.46	2.27	
Y	12.17	3.71	aisle width
Z	19.63	5.98	PITCH
GCR	38.0%		$= X/Z = (Z-Y)/Z$

3 GCR DETAILS
 G-101 Scale: NTS

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	65,260.98 kW
SYSTEM SIZE AC	54,000.00 kW
SYSTEM SIZE AC @ POI	51,000.00 kW
DC/AC RATIO @ POI	1.28
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	120,652
MODULES PER STRING	27
TOTAL NO. OF STRINGS	4,476
INVERTER MODEL	SUNGROW SG3600UD-MV
INVERTER RATING	3,600 kW
INVERTER QTY	15
STEP-UP TRANSFORMER	(15) 3.6MVA, 34.5kV/0.69kV
RACKING TYPE	ATI HSAT
TILT	0°
AZIMUTH	180°
PROPERTY AREA	286.68 Ac
FENCED AREA	255.4 Ac

LEGEND	
	81 MODULE ATI ROW
	54 MODULE ATI ROW
	POWER STATION EQUIPMENT PAD + BESS
	(N) PROJECT SITE SECURITY FENCE
	(E) OVERHEAD LINES
	20' GRAVEL ACCESS ROAD
	SETBACK
	PROPERTY LINE
	RAILWAY TRACK
	(E) PUBLIC ROAD



4 JINKO 540W MODULE DIMENSION
 G-101 Scale: NTS

PRELIMINARY NOT FOR CONSTRUCTION

REV	DESCRIPTION	BY	CHK	DATE
0	PRELIMINARY LAYOUT	LR	SS	06/28/2022

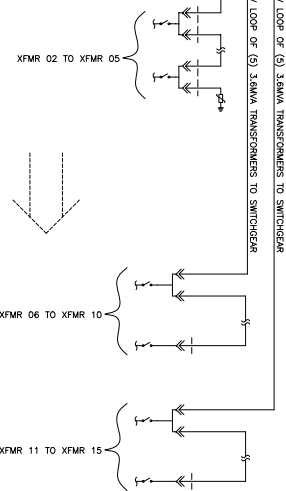
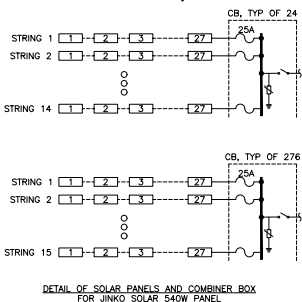
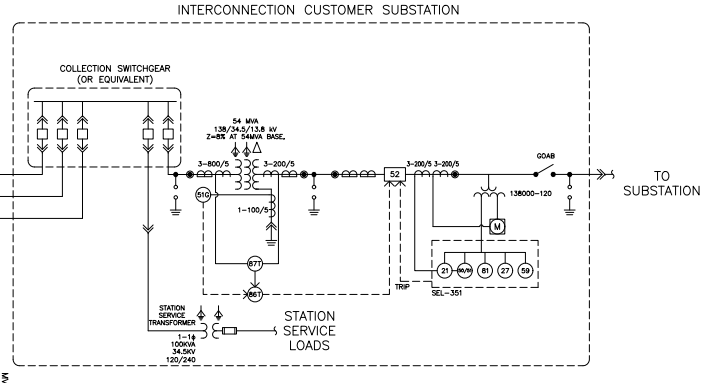
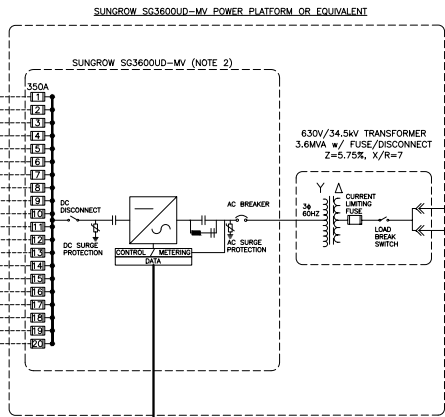
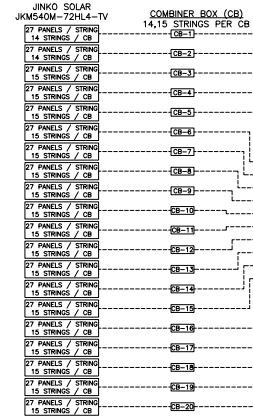
SITE PLAN **G-101**

PRAANA 2 SOLAR
 CALVEDA WAY, RENO, NV 89510 LAT: 40.154808° / LONG: -119.96797°

SOLVIDA
 DESIGN + ENGINEERING
 1000 North Lake Blvd
 Berkeley, California 94710

DATE: 06/28/2022	DATE: LAMR RAMBHA
SCALE: AS SHOWN	CHKD: STEPHEN SMITH
PAPER SIZE: 24" X 36"	ENGR: ENGR

SOLAR PANEL MODULES



SYSTEM SPECIFICATIONS

SYSTEM SIZE DC	65,260.08 kW
SYSTEM SIZE AC	54,000.00 kW
SYSTEM SIZE AC @ POI	51,000.00 kW
DC/AC RATIO @ POI	1.28
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	120,862
MODULES PER STRING	27
TOTAL NO. OF STRINGS	4,476
INVERTER MODEL	SUNGROW SG3600UD-MV
INVERTER RATING	3,600 kW
INVERTER QTY	15
STEP-UP TRANSFORMER	(15) 3.6MVA, 34.5kV/0.63 kV

- NOTES:**
- 1) BASED ON FINAL LAYOUT, NUMBER AND SIZE OF INVERTERS AND TRANSFORMERS MAY CHANGE TO OPTIMIZE ENERGY PRODUCTION.
 - 2) FULL PROTECTION INCLUDING GROUND FAULT INTERRUPTION IS ALSO PROVIDED BY THE INVERTERS ON THE LV SIDE.

PRELIMINARY NOT FOR CONSTRUCTION

REV	DESCRIPTION	BY	CHK	DATE
0	PRELIMINARY LAYOUT	LR	SS	06/28/2022

SINGLE LINE DIAGRAM E-101

PRAANA 2 SOLAR

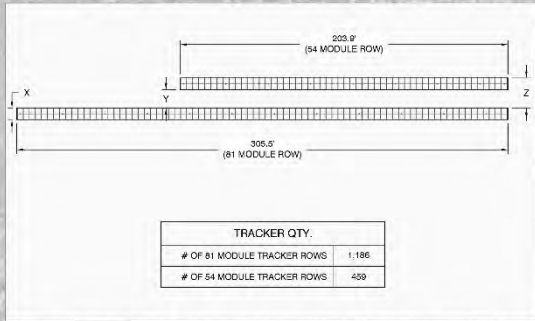
CALVEDA WAY, RENO, NV 89510
LAWR RAMBHA
STEPH SMITH

SOLVIDA DESIGN + ENGINEERING
100 Ramon Avenue, Suite 3
Beverly Hills, California 90729

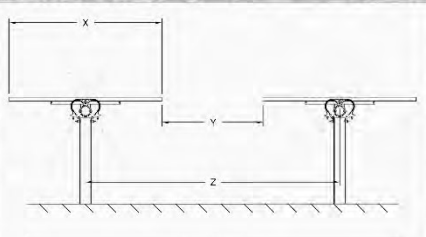
DATE: 06/28/2022
SCALE: AS SHOWN
PAPER SIZE: 24" X 36"

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EXHIBIT E
Layout Diagrams



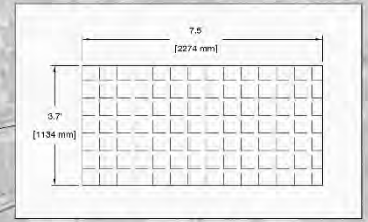
2 TYP. TRACKER ROWS
G-101 Scale: NTS



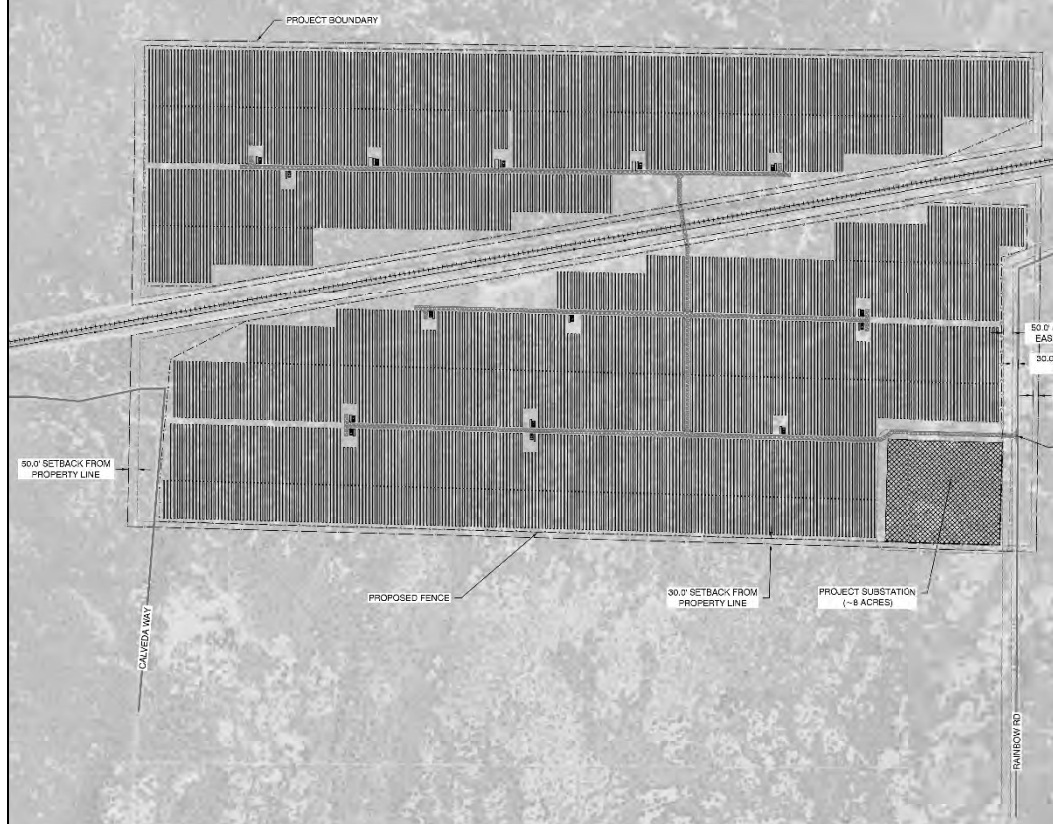
3 GCR DETAILS
G-101 Scale: NTS

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	65,260.08 kW
SYSTEM SIZE AC	54,000.00 kW
SYSTEM SIZE AC @ POI	51,000.00 kW
DC/AC RATIO @ POI	1.28
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	120,852
MODULES PER STRING	27
TOTAL NO. OF STRINGS	4,476
INVERTER MODEL	SUNRGWV SG3800UD-MV
INVERTER RATING	3,900 kW
INVERTER QTY	15
STEP-UP TRANSFORMER	(15) 3.6MVA, 34.5KV/0.69KV
RACKING TYPE	ATT HSAT
TILT	0°
AZIMUTH	180°
PROPERTY AREA	268.88 Ac
FENCED AREA	265.4 Ac

LEGEND	
	81 MODULE ATT ROW
	54 MODULE ATT ROW
	POWER STATION EQUIPMENT PAD 1 BESS
	(N) PROJECT SITE SECURITY FENCE
	(E) OVERHEAD LINES
	20' GRAVEL ACCESS ROAD
	SETBACK
	PROPERTY LINE
	RAILWAY TRACK
	(E) PUBLIC ROAD



4 JINKO 540W MODULE DIMENSION
G-101 Scale: NTS



1 SITE PLAN
G-101 Scale: NTS

PRELIMINARY NOT FOR CONSTRUCTION

REV	DESCRIPTION	BY	CHK	DATE
0	PRELIMINARY LAYOUT	LR	GS	05/26/2022

SITE PLAN G-101

PRAANA 2 SOLAR

CALVEDA WAY, REINO NV 889012 (AT: 40 1548067 N; CY: -119 067879)

--	--

DATE: 06/28/2022	DCTR: LAKE RAMBHA	<small>DISBURSEMENTS EXEMPT</small> <small>THIS DOCUMENT IS THE PROPERTY OF SIERRA GEOTECH, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE EXPRESS WRITTEN PERMISSION OF SIERRA GEOTECH, INC.</small>
SCALE: AS SHOWN	CHKD: STEPHEN SMITH	
DRAWN BY: 94' X 30'	ENGR: PRAA 2	

Sierra Geotech, Inc.
4470 Yankee Hill Road, #110
Rocklin, CA 95677

Published:
July 14, 2022

**Praana Two:
Washoe PSES/BESS**

Scale: As Shown

EXHIBIT E
Layout Diagram

EXHIBIT F

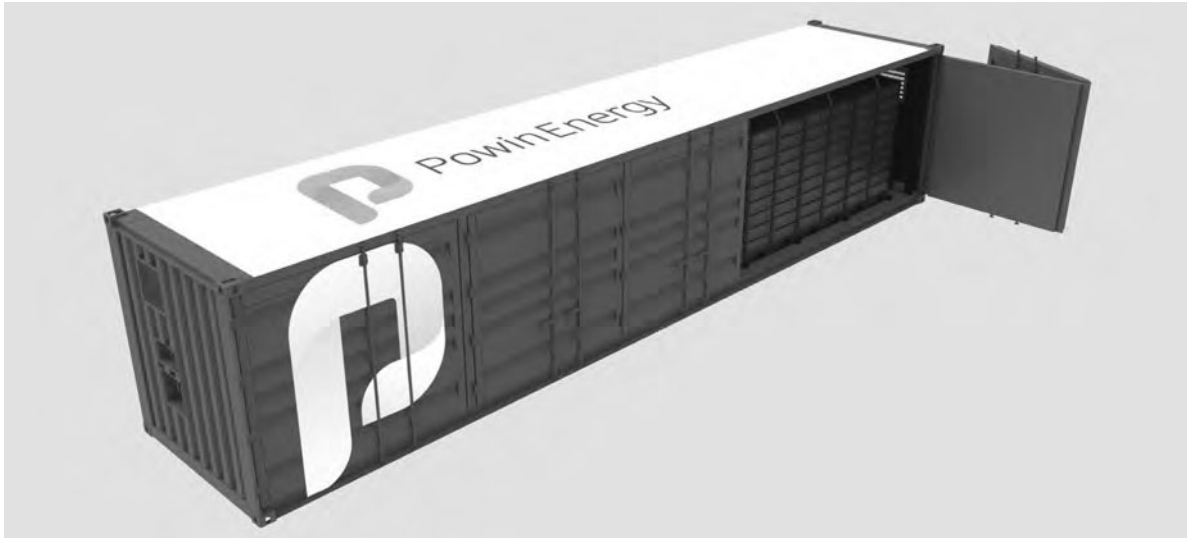
Scaled Diagrams of Utility Structures

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**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**



BATTERY ENERGY STORAGE SYSTEM



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

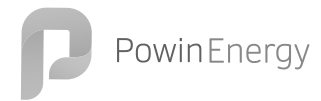
- + AC breaker panel for coms and aux loads
- + Fire suppression system that also provides detection and monitoring
- + DC Collection, cable and tray
- + IP 54 rated
- + Insulation options for hot and cold climates
- + Isolation, and over current and fault protection
- + Minimal on site installation 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



POWIN ENERGY 40^{FT} TECHNICAL SPECIFICATIONS



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 / ft²) **	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.

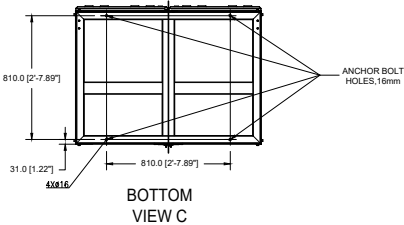
CONTACT US

powinenergy.com

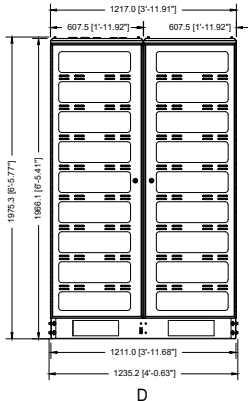
sales@powinenergy.com

GENERAL NOTES

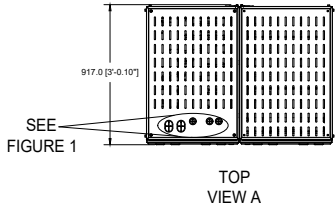
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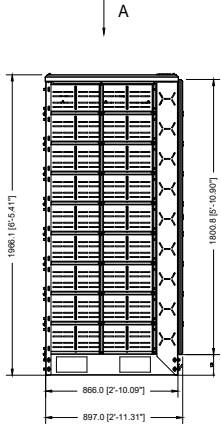
BOTTOM VIEW C



FRONT VIEW B

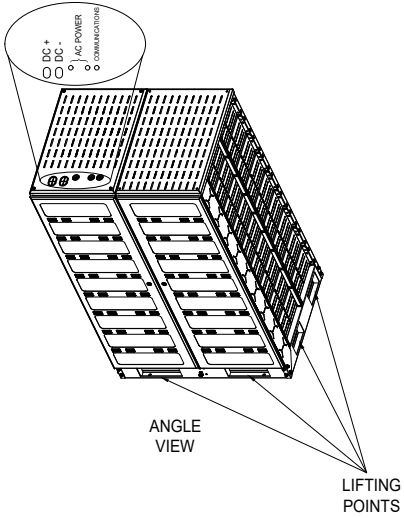


TOP VIEW A



SIDE VIEW D

FIGURE 1 - CABLE ENTRY



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.



DESIGNED BY:	DATE: 03/15/19				
REVIEWED BY:	DRAWING NO.:				
APPROVED BY:	PROJECT NO.:				
NO.	DATE	REVISION	DR	BY	APVD

REVISION NO.: A

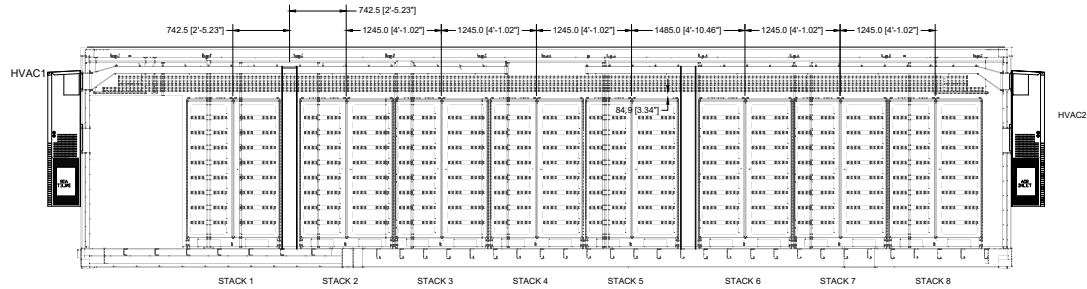
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
 POWIN STACK140 LAYOUT

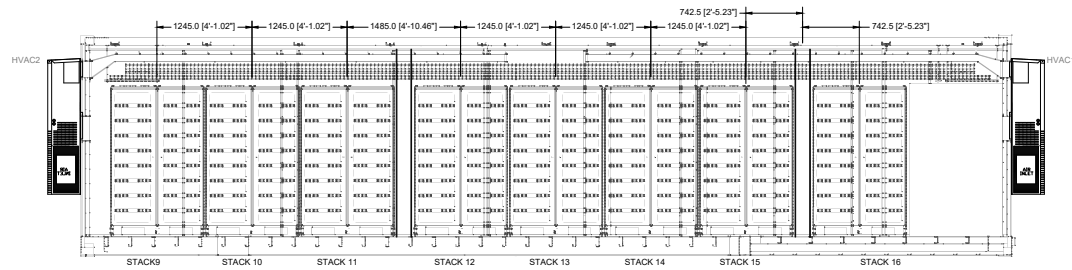
SHEET NO.
 E.21

A B C D E F G H

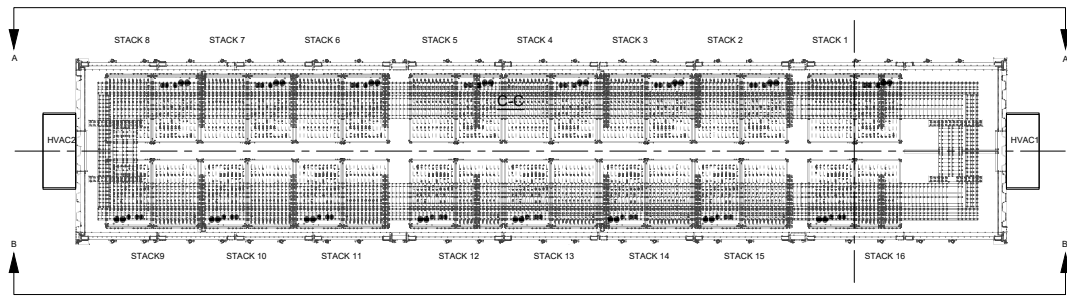
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A-A FRONT VIEW WITH DOOR OPEN



B-B FRONT VIEW WITH DOOR OPEN



TOP VIEW INTERIOR

GENERAL NOTES

1. REFER TO DWG S2, S3, ENCLOSURE LAYOUT FOR SPECIFIC BATTERY STACK PLACEMENT IN THE INDIVIDUAL ENCLOSURES.
2. REFER TO DWG E25,E26,E28,E28, FOR DC COMBINER CABINET, AC PANEL BOARD FIRE SUPPRESSION AND COMMUNICATION PANEL DETAILS.

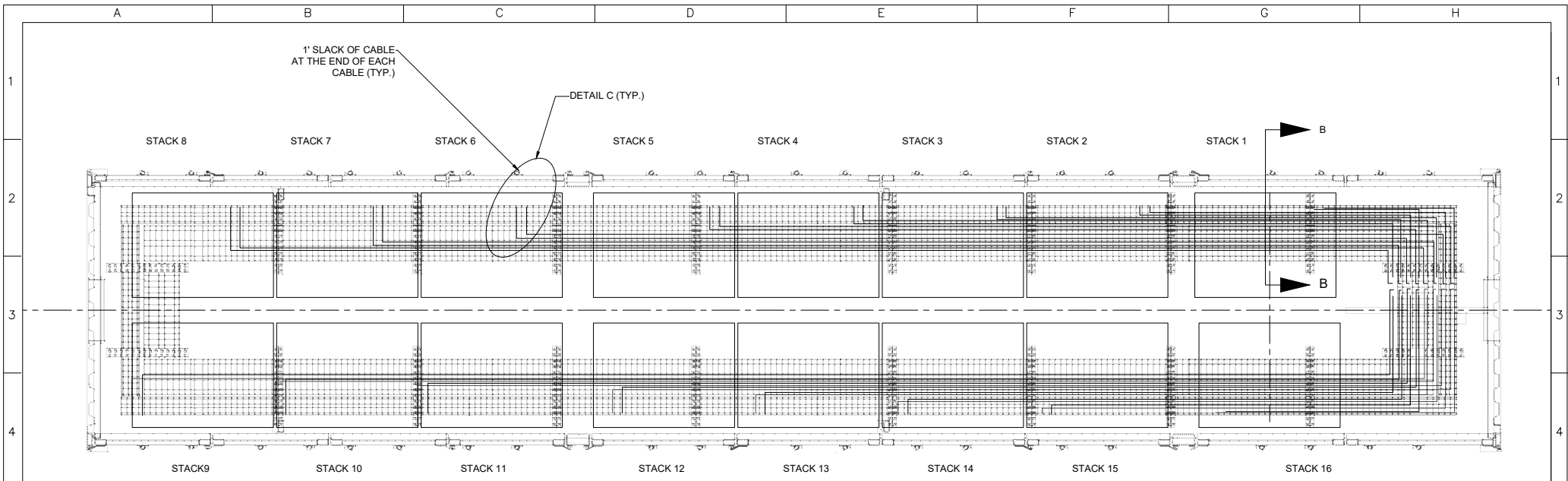


DESIGNED BY:	DATE: 03/15/19					
REVIEWED BY:	DRAWING NO.:					
APPROVED BY:	PROJECT NO.:					
REVISION NO.	DATE	REVISION	DR	BY	APVD	REVISION NO.: A

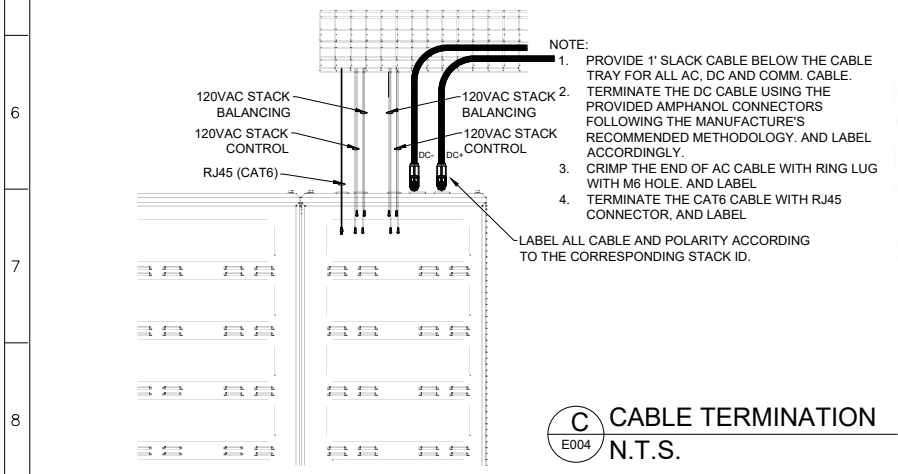
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
STACK PLACEMENT LAYOUT – IN ENCLOSURE

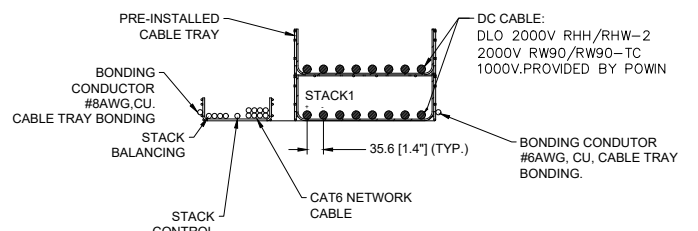
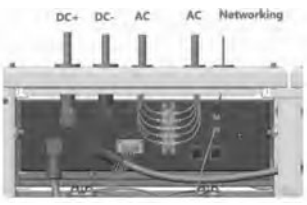
SHEET NO.
E22



A-A TOP VIEW INTERIOR

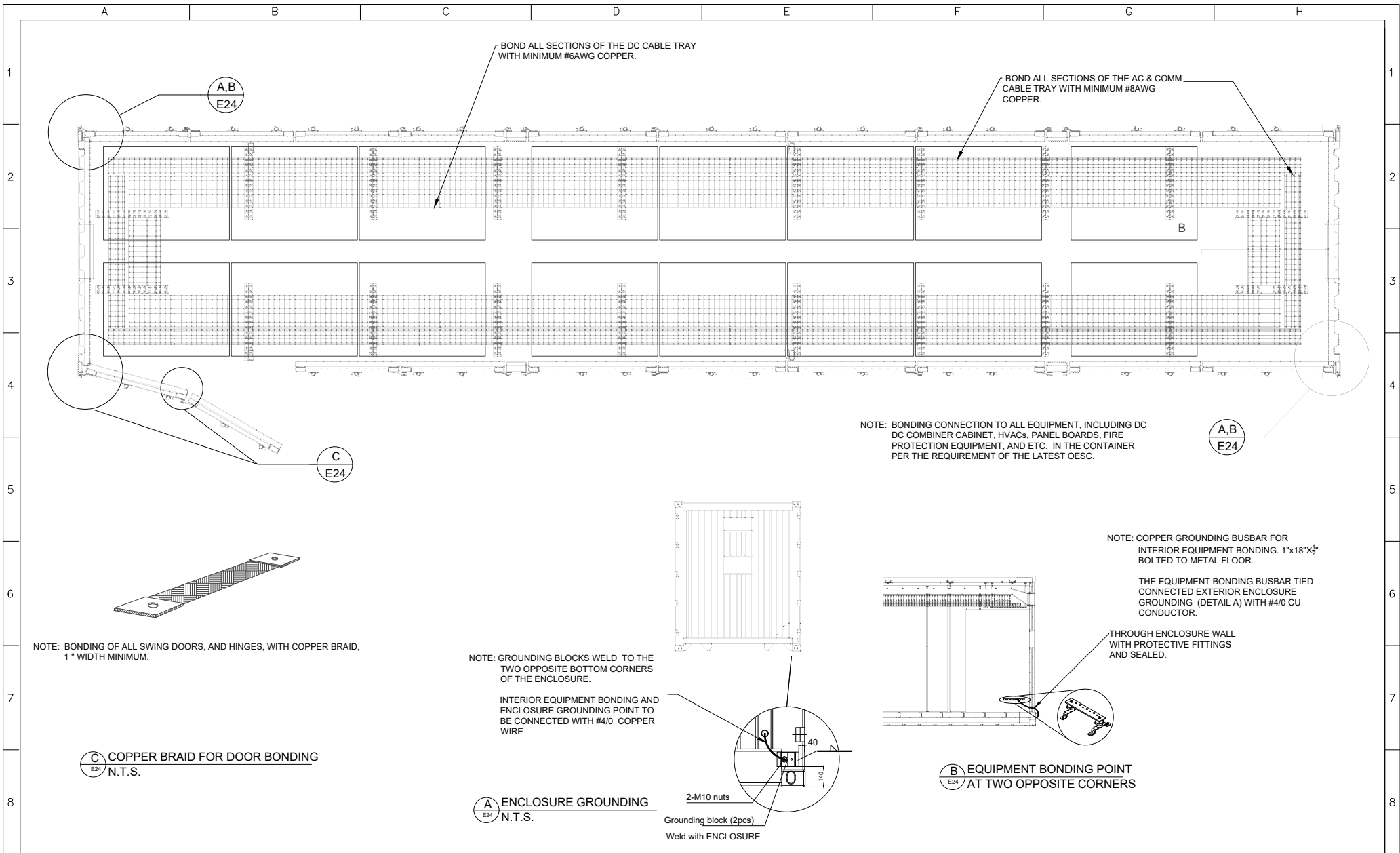


C CABLE TERMINATION N.T.S.



B-B: CABLE TRAY CROSS SECTION VIEW

	DESIGNED BY:	DATE: 03/15/19	NOT FOR CONSTRUCTION	POWIN BESS ENCLOSURE ELECTRICAL CABLE ARRANGEMENT	SHEET NO. E.23
	REVIEWED BY:	DRAWING NO.:			
	APPROVED BY:	PROJECT NO.:			
	REVISION NO.: A				
NO.	DATE	REVISION	DR	BY	APVD



A,B
E24

C
E24

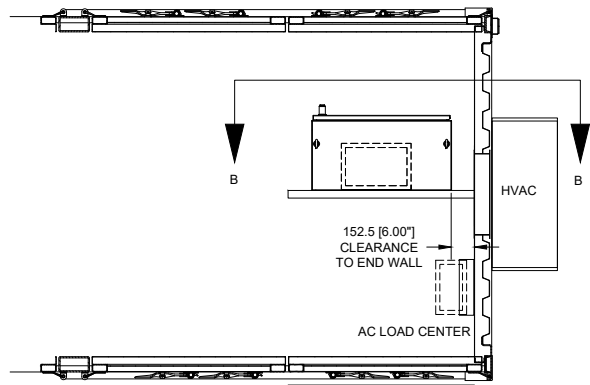
A,B
E24

C COPPER BRAID FOR DOOR BONDING
E24 N.T.S.

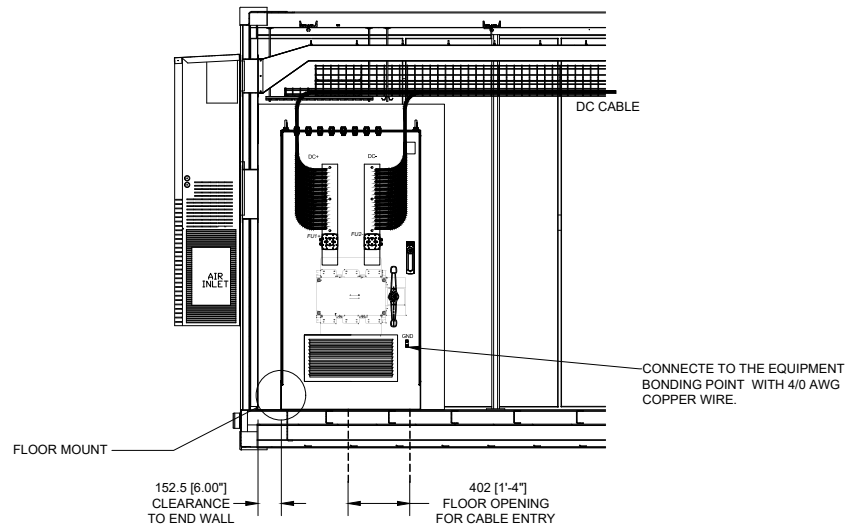
A ENCLOSURE GROUNDING
E24 N.T.S.

B EQUIPMENT BONDING POINT
E24 AT TWO OPPOSITE CORNERS

	DESIGNED BY:	DATE: 03/15/19	NOT FOR CONSTRUCTION	POWIN BESS ENCLOSURE ELECTRICAL BONDING AND GROUNDING	SHEET NO. E.24
	REVIEWED BY:	DRAWING NO.:			
	APPROVED BY:	PROJECT NO.:			
NO.	DATE	REVISION	DR	BY	APVD



**A-A TOP VIEW INTERIOR
TYPE 1 ENCLOSURE**



**B-B FRONT VIEW DC COMBINER CABINET
TYPE 1 ENCLOSURE**

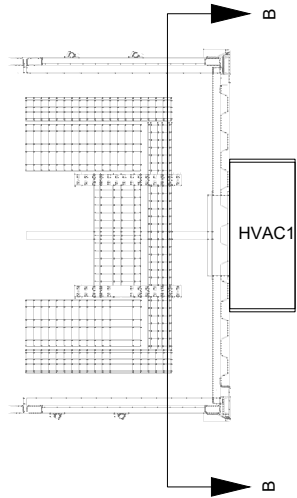


DESIGNED BY:	DATE: 03/15/19					
REVIEWED BY:	DRAWING NO.:					
APPROVED BY:	PROJECT NO.:					
NO.	DATE	REVISION	DR	BY	APVD	REVISION NO.: A

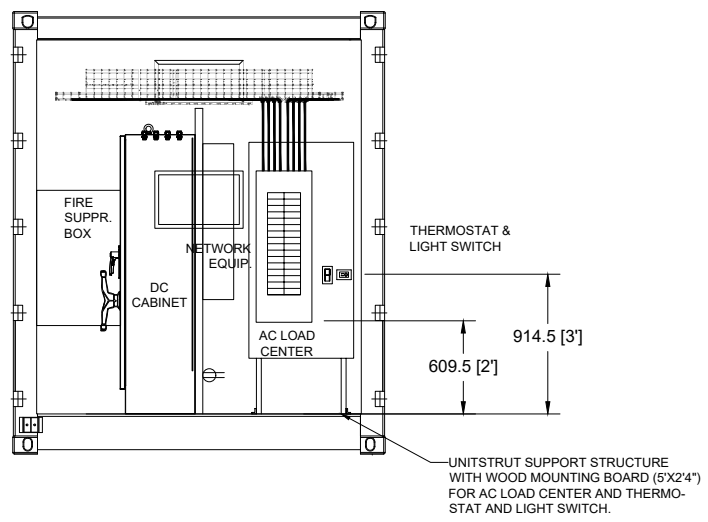
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
TYPE 1 ENCLOSURE
1500A DC COMBINER CABINET DETAILS

SHEET NO.
E.25



**A-A TOP VIEW INTERIOR
END WALL**

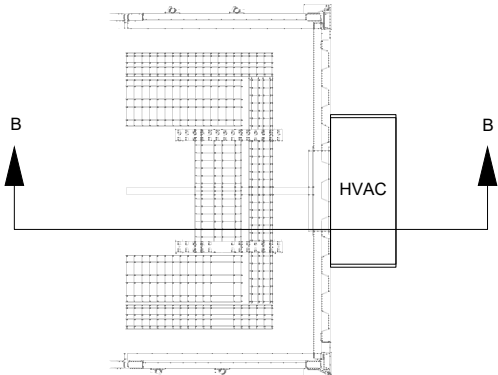


**B-B FRONT VIEW INTERIOR
END WALL DETAILS**

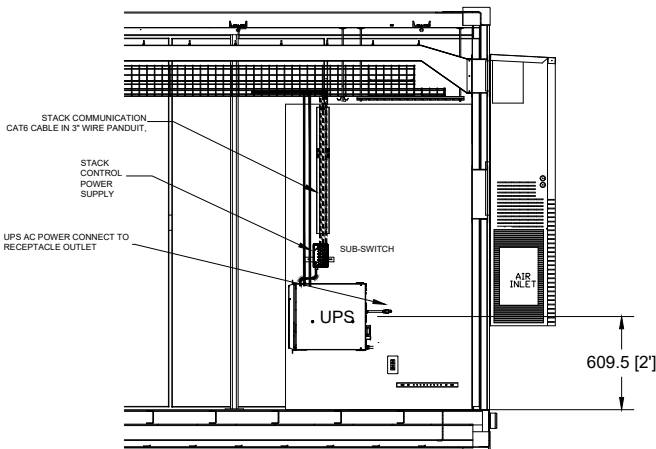


DESIGNED BY:	DATE: 03/15/19					
REVIEWED BY:	DRAWING NO.:					
APPROVED BY:	PROJECT NO.: C					
NO.	DATE	REVISION	DR	BY	APVD	REVISION NO.: A

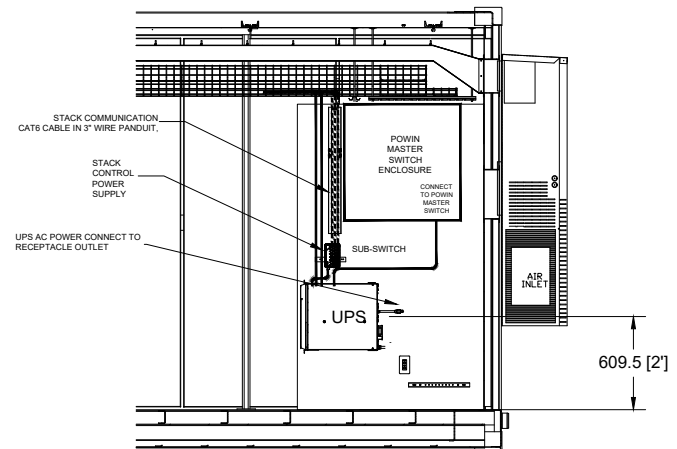
NOT FOR CONSTRUCTION	POWIN BESS ENCLOSURE ELECTRICAL END WALL DETAIL	SHEET NO. E.27



A-A TOP VIEW INTERIOR



**B.1-B.1 FRONT VIEW - SLAVE
COMMUNICATION WALL DETAILS
ENCLOSURE A,B,D,E**



**B.2-B.2 FRONT VIEW - MASTER (ENCLOSURE C)
COMMUNICATION WALL DETAILS**

	DESIGNED BY:	DATE: 03/15/19	<p>NOT FOR CONSTRUCTION</p>	<p>POWIN BESS ENCLOSURE ELECTRICAL COMMUNICATION WALL DETAILS</p>	<p>SHEET NO. E.28</p>
	REVIEWED BY:	DRAWING NO.:			
	APPROVED BY:	PROJECT NO.:			
	REVISION NO.:	REVISION NO.: A			
NO.	DATE	REVISION	DR	BY	APVD

GENERAL NOTES:

- IMPORTANT: THIS DESIGN IS NOT SITE SPECIFIC AND IS ONLY INTENDED TO PROVIDE GUIDANCE FOR A FOUNDATION DESIGN FOR THE PROPOSED SHIPPING CONTAINERS. A LICENSED ENGINEER AND/OR GEOTECHNICAL ENGINEER SHALL PROVIDE SITE SPECIFIC DESIGN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK AND SHALL NOTIFY AOstructures, INC - STRUCTURAL ENGINEERS, (AOstructures, INC) OF ANY DISCREPANCIES.
- ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/ OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF POWERIN BEFORE PROCEEDING WITH WORK SO INVOLVED.
- RESOLVE ANY CONFLICTS ON THE DRAWINGS WITH POWERIN BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL MATERIAL AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 IBC.
- NEITHER THE OWNER NOR POWERIN WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE METHODS, PROCEDURES OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. IF A LAWSUIT IS FILED BY ONE OF THE CONTRACTOR'S OR SUBCONTRACTOR'S EMPLOYEES, OR ANY ONE ELSE, THE CONTRACTOR WILL INDEMNIFY, DEFEND AND HOLD THE OWNER AND POWERIN HARMLESS OF ANY AND ALL SUCH CLAIMS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL STRUCTURAL ELEMENTS AND MEMBERS (I.E. ROOF, SLABS, COLUMNS ETC.) ARE ADEQUATELY BRACED DURING CONSTRUCTION. BRACING OF SUCH ELEMENTS AND MEMBERS SHALL REMAIN IN PLACE UNTIL THEY ARE PROPERLY SECURED.
- CONSTRUCTION MATERIAL SHALL BE EVENLY DISTRIBUTED IF PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED THE ALLOWABLE LOADING FOR THE SUPPORTING MEMBERS AND THEIR CONNECTIONS.
- SPECIFIC DETAILS OR NOTES ON OTHER SHEETS SHALL PREVAIL OVER STANDARD NOTES ON THIS SHEET. WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL DETERMINE THE LOCATION OF THE UTILITY SERVICE IN THE AREA TO BE EXCAVATED PRIOR TO BEGINNING EXCAVATION.
- NO PIPES, DUCTS, SLEEVES, CHASE ETC., SHALL BE PLACED IN SLABS, BEAMS, COLUMNS, WALLS, ETC., UNLESS SPECIFICALLY SHOWN OR NOTED. NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY SHOWN. OBTAIN PRIOR WRITTEN APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.

REINFORCED CONCRETE NOTES:

- CEMENT SHALL CONFORM TO ASTM C-150, TYPE II.
- AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE AND ASTM C-330 FOR LIGHT WEIGHT CONCRETE.
- ANCHOR BOLTS SHALL CONFORM TO ASTM ASTM F 1554 GRADE 36.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND OTHER INSERTS SHALL BE SECURED IN POSITION AND INSPECTED BY THE LOCAL BUILDING DEPARTMENT INSPECTOR PRIOR TO THE POURING OF ANY CONCRETE.
- FINISHED SURFACES OF FLOOR SLABS SHALL NOT DEVIATE MORE THAN 1/8" FROM THE LOWER EDGE OF A 10 FOOT STRAIGHT EDGE.
- CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	MIN 28 DAY COMP STRENGTH	MIN CEMENT	MAX AGGREGATE	MAX SLUMP
FOUNDATION	2500 psi	5.5 SACKS/ YD	1"	4"
NONSTRUCTURAL SLAB ON GRADE	2500 psi	5.0 SACKS/ YD SLAB ON GRADE	1"	4"

- CONCRETE MIX TESTING AND DESIGN SHALL MEET THE REQUIREMENTS OF CHAPTER 3 OF ACI 318-11 AND SECTION 1904 OF THE 2013 CBC RESPECTIVELY, AND THESE SPECIFICATIONS.
- ADMIXTURES SHALL BE REVIEWED BY AOstructure, INC. CALCIUM CHLORIDE OR ADDED CHLORIDES ARE NOT PERMITTED.
- DRY PACK SHALL BE 1 PART CEMENT AND 2 PARTS SAND BY VOLUME.
- PROVIDE A 3/4 INCH CHAMFER ON EXPOSED CORNERS.
- CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM OR KEYED JOINTS PER PLAN. WAIT 48 HOURS BETWEEN POURS.
- THE LOCATION OF ALL SLAB ON GRADE CONSTRUCTION, CONTROL, AND WEAKENED PLANE JOINTS NOT SPECIFICALLY INDICATED ON THE DRAWINGS SHALL BE REVIEWED AND APPROVED BY AOstructure, INC PRIOR TO THE PLACING OF REINFORCEMENT.
- CONCRETE CURING SHALL BE PER THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE.
- ALL CONCRETE SHALL BE CONSOLIDATED WITH MECHANICAL VIBRATORS.

REINFORCING STEEL NOTES:

- BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 40.
- REINFORCING DETAILING, FABRICATION AND PLACING SHALL CONFORM TO THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE.
- ALL REINFORCING STEEL, ANCHOR BOLTS, HOLD DOWN ANCHORS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE OR GROUT.
- REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING AMOUNTS OF CONCRETE COVER UNLESS OTHERWISE NOTED:
 CONCRETE CAST AGAINST EARTH.....3"
 FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
 NO. 5 OR SMALL BARS.....1-1/2"
- SPLICES:
 SPLICES IN NO. 8 OR SMALLER BARS SHALL BE 45 DIAMETERS. SPLICES IN ADJACENT BARS SHALL BE STAGGERED 5'-0".

DESIGN CRITERIA:

- 40'-0" LONG CONTAINER DESIGN WEIGHT: 72.8k
- 53'-6" LONG CONTAINER DESIGN WEIGHT: 115k
- ROOF LIVE LOAD: 20 PSF
- ASSUMED SOIL BRG: 1,500 PSF
- ASSUMED SKIN FRICTION: 150 PSF
- ASSUMED LATERAL PASSIVE PRES: 150 PSF/FT
- MAX DESIGN SDS: 1.0g

SCOPE OF WORK:

PROVIDE DESIGN GUIDANCE FOR FOUNDATION SYSTEM TO SUPPORT PRE-MANUFACTURED SHIPPING CONTAINERS.

REVISIONS

STAMP

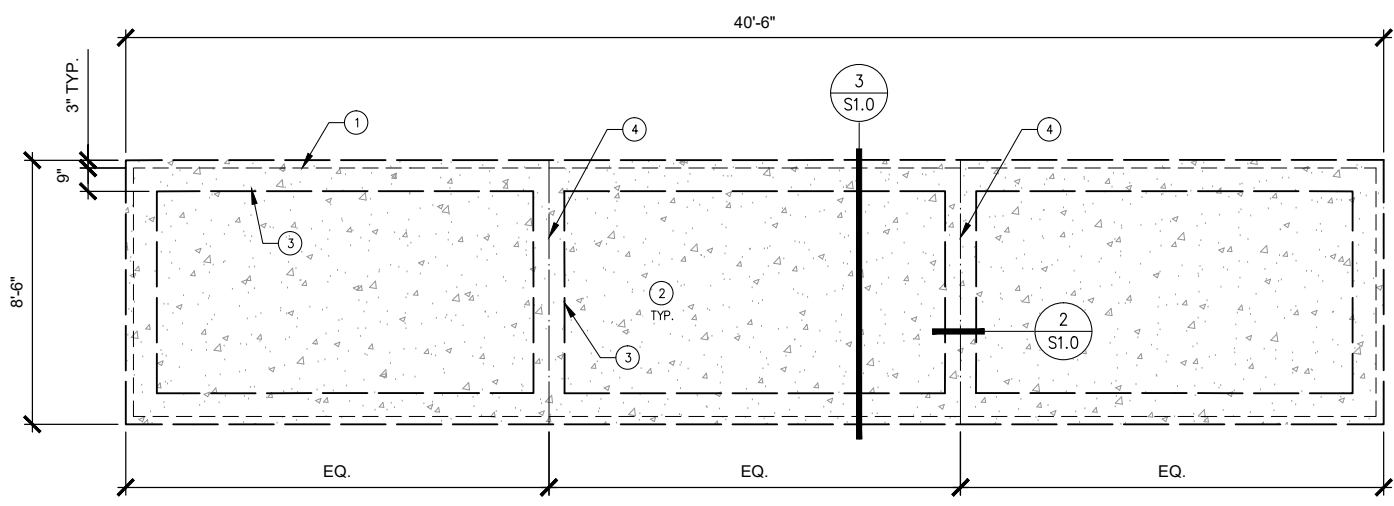
DATE: 12/14/18

PROJECT:

FOUNDATION DESIGN
SHIPPING CONTAINER
SUPPORT SYSTEM

SHEET TITLE:
**GENERAL
NOTES**

SHEET NUMBER:
SO



- FOUNDATION NOTES:**
1. OUTLINE OF SHIPPING CONTAINER STRUCTURE ABOVE, BY OTHERS.
 2. 6" THICK CONCRETE SLAB w/ #4 BARS AT 18" O.C. BOTH WAY.
 3. EDGE OF THICKENED SLAB EDGE, 12" FROM PERIMETER.
 4. CONTROL JOINT, SEE DETAIL 2/S1.0

1 8'-0" x 40'-0" CONTAINER FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

REVISIONS

STAMP

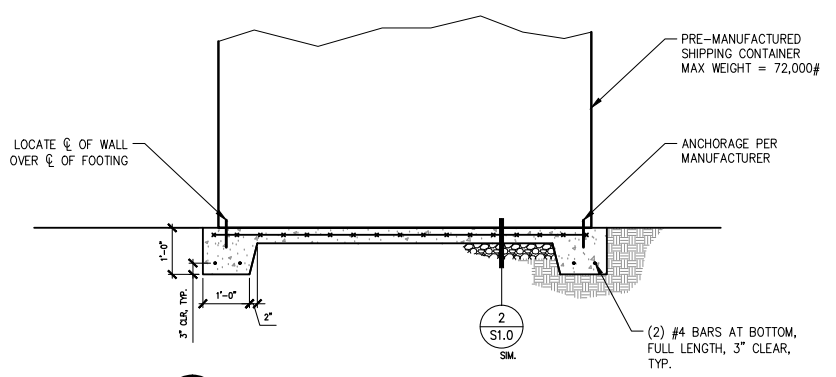
DATE: 12/14/18

PROJECT:

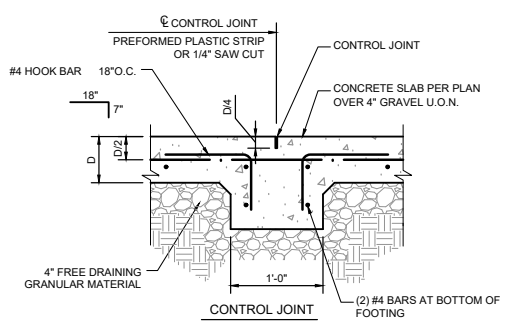
FOUNDATION DESIGN
SHIPPING CONTAINER
SUPPORT SYSTEM

SHEET TITLE:
8' x 40'
SLAB PLAN

SHEET NUMBER:
S1.0



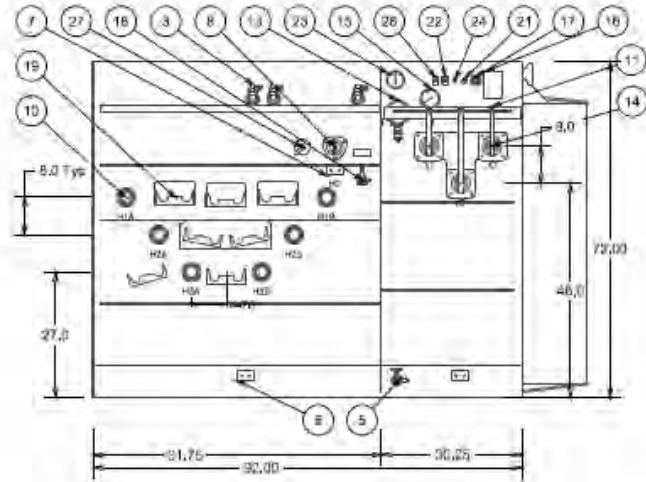
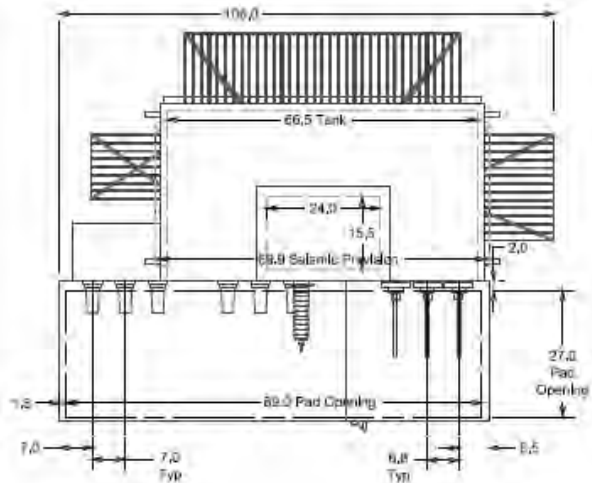
3 FOOTING SECTION
SCALE: 3/8" = 1'-0"



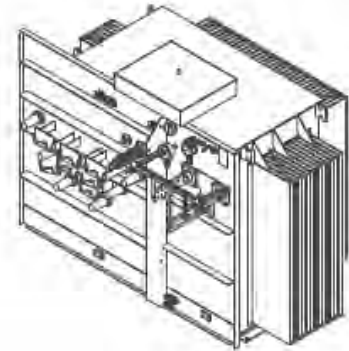
- NOTES:**
1. CONTROL JOINTS SHALL BE PROVIDED IN A CHECKERBOARD PATTERN AT NO MORE THAN 12'-0" ON CENTER EACH WAY, U.O.N

2 CONTROL JOINT
SCALE: NTS

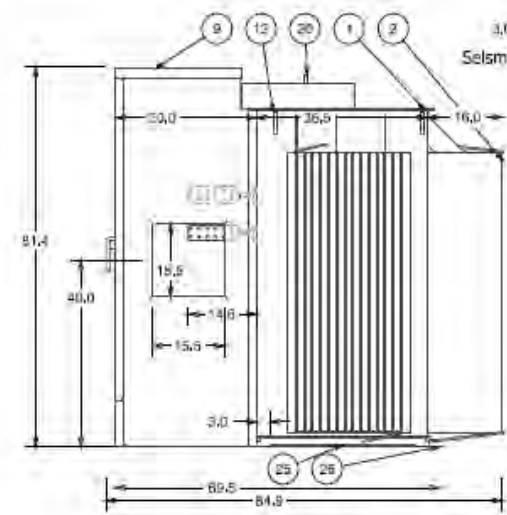
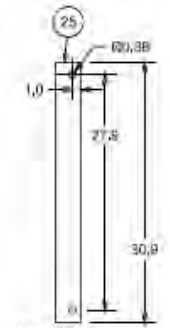
ITE	DESCRIPTION
1	Welded Cover w/ Handhole
2	Coiling Corrugate
3	Cooper Bayonet Fusing w/ Drainside
4	Current Limiting Backup Fuses (Internal)
5	Drain Valve with Sampler
6	Ground Pad, 50-13 Tap
7	Ground Pad, 50-13 Tap
8	H0 Bushing
9	High Security Cabinet w/ Perforated Door Bolts
10	35kV 200 Amp Loadbreak HV Bushing
11	LV Bushing Support
12	Lifting Lug
13	Liquid Temperature Gauge w/ Alarm Contacts
14	1.2kV 1/4 Bushing w/13 Hole Spade Supported
15	Magnetic Oil Level Gauge w/ Alarm Contacts
16	Nameplate
17	One Inch Upper Press, Down, and Fill Plug
18	Four Position T-Blade Loadbreak Switch
19	Parking Stand
20	Pressure Relief Device w/ Alarm Contacts
21	Pressure Relief Valve
22	Pressure Switch w/ Alarm Contacts
23	Pressure Vacuum Gauge
24	Schrader Valve
25	Seismic Anchor Provisions
26	Tank Base w/ Jacking and Rolling Facilities
27	5-Position Tap Changer
28	Vacuum Switch w/ Alarm Contacts
29	27.0kV (22.8kV MCOV) Arrester (Internal)



Cabinet Removed



0002BA66KMAA
REVISIONS



3PH Padmount Transformer 60Hz
2237.5 kVA GNAN 65 AWR Mineral Oil
HV 34500V/19520 150 kV BL
LV 4800 30 kV BL
5.75 %Z

ANSI 70 Gray Topcoat
Wild Steel Construction

Customer: DYNAPOWER CORPORATION
Project: DYNAPOWER

MATERIAL:		 Power Quality. Better Value.	
ALL DIMENSIONS ARE IN INCHES (MM)			
THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.		Title: Distribution Transformer Outline Drawing	
THIS DRAWING HAS BEEN GENERATED FROM A 3D MODEL.		DESC: COOPER POWER SERIES THREE-PHASE PAD-MOUNTED COMPARTMENTAL TYPE	
DWG: PTP	DATE: 3/19/2016	REP: P20 V08R00M00	SHEET # 1 OF 1
SCALE:	REV: 00	0002BA66KMAA	



COOPER POWER SERIES

3 φ DISTRIBUTION TRANSFORMER ASSEMBLED IN WAUKESHA, WI U.S.A

2232 65°C 60Hz

0002BA66KMAA

34500Y/19920 ONAN

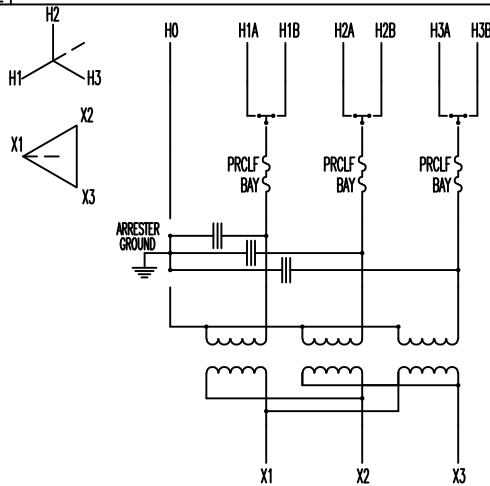
480 5.75 %IZ @85°C MFG DATE

HV KV BIL 150
HV NEUTRAL KV BIL 150
LV KV BIL 30
HV/LV CONDUCTOR AL / AL

PCB CONTENT LESS THAN 1 PPM AT TIME OF MANUFACTURE
CAUTION - READ INSTRUCTION MANUAL MN202001EN

Table with 2 columns: Component, Weight (LBS). Rows include CORE & COIL UNTANKING (5359), TANK & FIT (4437), FLUID: OIL GALLONS: 620 (4619), and TOTAL (14415).

Table with 3 columns: TAP, VOLTAGE, MAX AMPS. Rows include TAP A (36230, 35.6), B (35360, 36.4), C (34500, 37.4), D (33640, 38.3), and E (32780, 39.3).



MAX AMPS AT 2232 KVA
%IZ AT BASE KVA AND RATED VOLTAGE
STEP-UP DISTRIBUTION TRANSFORMER

PRCLF = CBUC38140D100
BAY = 4000380C14CB

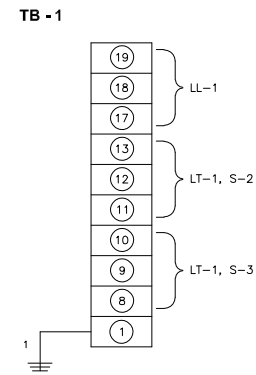
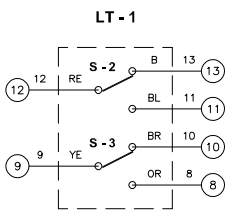
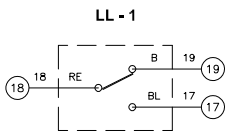
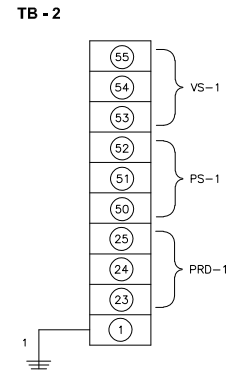
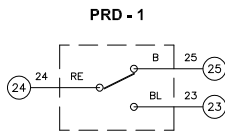
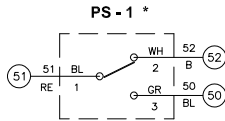
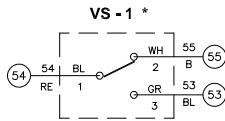
- NOTES: 1) ACTUAL PLATE IS A NEGATIVE OF THE ABOVE DRAWING. 2) ACTUAL %IZ TO BE STAMPED IN AFTER TESTING.

NAMEPLATE MATERIAL: ALUMINUM

213223568,60

1189610A8156 REVISIONS

Material specification and title block containing Eaton logo, title 'LASER NAMEPLATE', description 'COOPER POWER SERIES 0002BA66KMAA', drawing date '3/19/2018', and part number '1189610A8156'.



GAGE SWITCH SETTINGS						
DEVICE	LT 55°C AWR	LT 65°C, 55/65 AWR	LT 75°C, 55/75, 65/75 AWR	WTI 55°C AWR	WTI 65°C, 55/65 AWR	WTI 75°C, 55/75, 65/75 AWR
S-1 (FANS)	60°C	70°C	80°C	70°C	80°C	90°C
S-2 (ALARM)	80°C	90°C	100°C	110°C	120°C	130°C
S-3 (TRIP)	105°C FIXED	105°C FIXED	120°C FIXED	120°C FIXED	130°C FIXED	140°C FIXED

PS-1 PRESSURE SWITCH, GEMS PS-E (63PV)
ACTIVATES AT +6.0±0.5 PSIG (+41±3 kPa) RISING
VS-1 VACUUM SWITCH, GEMS PS-EV (63PV)
ACTIVATES AT -2.5±0.5 PSIG (-17±3 kPa) FALLING
PRD-1 PRESSURE RELIEF DEVICE (63PR)
ACTIVATES AT 10±1 PSIG (68±7 kPa) RISING
LL-1 LIQUID LEVEL GAGE (71Q)
S-1 ACTIVATES LOW LEVEL ALARM CIRCUIT
LT-1 LIQUID TEMPERATURE GAGE (26Q)
TB-(1-2) TERMINAL BLOCK, 600V, 35A

WH - WHITE
GR - GREEN
BL - BLACK
B - BLUE
OR - ORANGE
RE - RED
BR - BROWN
YE - YELLOW

GAGE SWITCH RATINGS (AMPS)				
DEVICE	120/240VAC	48VDC	125VDC	250VDC
LT/LL/ PRD/RRR	15	1.3	.50	.25
SPC	10	2.0	.50	.25
PS/VS	5	1.0	.40	.20
WTI	15	1.3	.50	.25
TPG	1	--	--	--
LCP	3	--	--	--
U	5	2.0	2.0	N/A

NOTE: AC LOADS = INDUCTIVE P.F. 75%
DC LOADS = NON-INDUCTIVE

- USE COOPER CONDUCTORS ONLY, #22 - 10 AWG
- TB-(1-2) SCREW TIGHTENING TORQUE 18-20.0 IN.LB

LEGEND

- INDICATES PREWIRED DEVICE
- INDICATES REMOTE DEVICE
- INDICATES WIRE HEAT SHRINK NUMBER LABEL
- INDICATES TERMINAL BLOCK CONNECTION
- INDICATES INTRINSICALLY SAFE TERM BLOCK CONN
- INDICATES RELAY TERM AND #

- INDICATES SPLICE
- INDICATES NORMALLY CLOSED CONTACT (NC)
- INDICATES NORMALLY OPEN CONTACT (NO)
- INDICATES CUSTOMER CONNECTION
- POLARITY MARK
- INDICATES CT SHORTING PINS - TO BE REMOVED WHEN LOAD IS CONNECTED TO CT
- WIRE COLORS APPLICABLE ONLY WHEN USING CORD CONNECTORS TO SWITCHES

MATERIAL:		 Powering Business Worldwide	
ALL DIMENSIONS ARE IN INCHES [MM]			
TITLE: SCHEMATIC LT,LL,PRD,PV DESC: COOPER POWER SERIES 3PH PAD			
DWG: PTP	DATE: 04/13/15	REF:	SHEET #: 1 of 1 SCALE: 1=1 REV: 00
<h2>4257572C0018</h2>			

SUNNY CENTRAL

2200 / 2475 / 2500-EV / 2750-EV / 3000-EV



SC-2200-10 / SC-2475-10 / SC-2500-EV-10 / SC-2750-EV-10 / SC-3000-EV-10



**Battery
'DC coupling ready'**

**Full power
up to 35°C**

Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 225% is possible
- Full power at ambient temperatures of up to 35°C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- Conforms to all known grid requirements worldwide
- Q on demand
- Available as a single device or turnkey solution, including medium-voltage block

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

SUNNY CENTRAL 2200 / 2475 / 2500-EV / 2750-EV / 3000-EV

The new Sunny Central: more power per cubic meter

With an output of up to 3000 kVA and system voltages of 1100 V DC or 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

SUNNY CENTRAL 1000 V

Technical Data	Sunny Central 2200	Sunny Central 2475*
Input (DC)		
MPP voltage range V_{DC} (at 25 °C / at 35 °C / at 50 °C)	570 to 950 V / 800 V / 800 V	638 V to 950 V / 800 V / 800 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	545 V / 645 V	614 V / 714 V
Max. input voltage $V_{DC, max}$	1100 V	1100 V
Max. input current $I_{DC, max}$ (at 35 °C / at 50 °C)	3960 A / 3600 A	3960 A / 3600 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm ²	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC)		
Nominal AC power at $\cos \varphi = 1$ (at 35 °C / at 50 °C)	2200 kVA / 2000 kVA	2475 kVA / 2250 kVA
Nominal AC power at $\cos \varphi = 0.8$ (at 35 °C / at 50 °C)	1760 kW / 1600 kW	1980 kW / 1800 kW
Nominal AC current $I_{AC, nom} = \text{Max. output current } I_{AC, max}$	3300 A	3300 A
Max. total harmonic distortion	< 3% at nominal power	
Nominal AC voltage / nominal AC voltage range ^{1) 8)}	385 V / 308 V to 462 V	434 V / 347 V to 521 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz > 2	
Min. short-circuit ratio at the AC terminals ⁹⁾	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited	
Power factor at rated power / displacement power factor adjustable ¹⁰⁾	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited	
Efficiency		
Max. efficiency ²⁾ / European efficiency ²⁾ / CEC efficiency ³⁾	98.6% / 98.4% / 98.0%	98.6% / 98.4% / 98.0%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	< 3400 kg / < 7496 lb	
Self-consumption (max. ⁴⁾ / partial load ⁵⁾ / average ⁶⁾	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 300 W	
Internal auxiliary power supply	Integrated 8.4 kVA transformer	
Operating temperature range ⁸⁾	-25 °C to 60 °C / -13 °F to 140 °F	
Noise emission ⁷⁾	67.0 dB(A)	
Temperature range (standby)	-40 °C to 60 °C / -40 °F to 140 °F	
Temperature range (storage)	-40 °C to 70 °C / -40 °F to 158 °F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL ⁸⁾ 1000 m / 2000 m / 3000 m / 4000 m	● / ○ / ○ / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m ³ /h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEEE1547, UL 840 Cat. IV, Arrêté du 23/04/08	
EMC standards	IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, IEC 62920, FCC Part 15 Class A, Cisp 11, DIN EN55011:2017	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features ○ Optional * preliminary		
Type designation	SC-2200-10	SC-2475-10

1) At nominal AC voltage, nominal AC power decreases in the same proportion

2) Efficiency measured without internal power supply

3) Efficiency measured with internal power supply

4) Self-consumption at rated operation

5) Self-consumption at < 75% Pn at 25 °C

6) Self-consumption averaged out from 5% to 100% Pn at 25 °C

7) Sound pressure level at a distance of 10 m

8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.

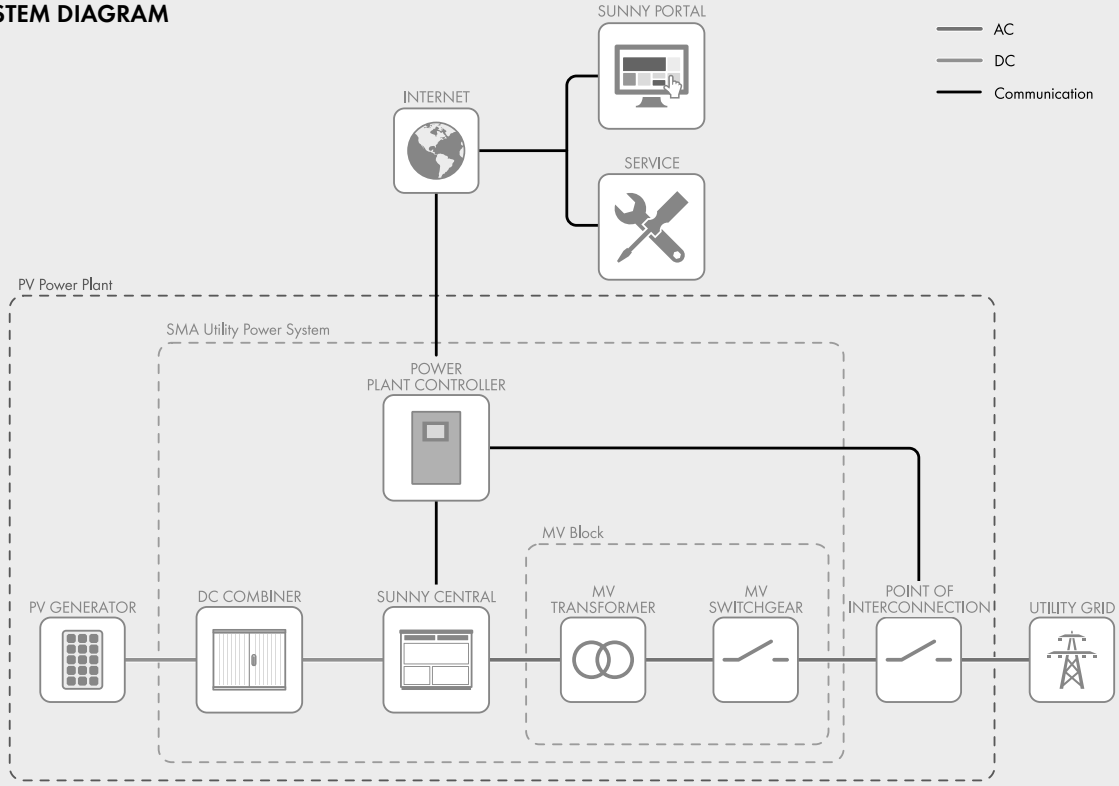
9) A short-circuit ratio of < 2 requires a special approval from SMA

10) Depending on the DC voltage

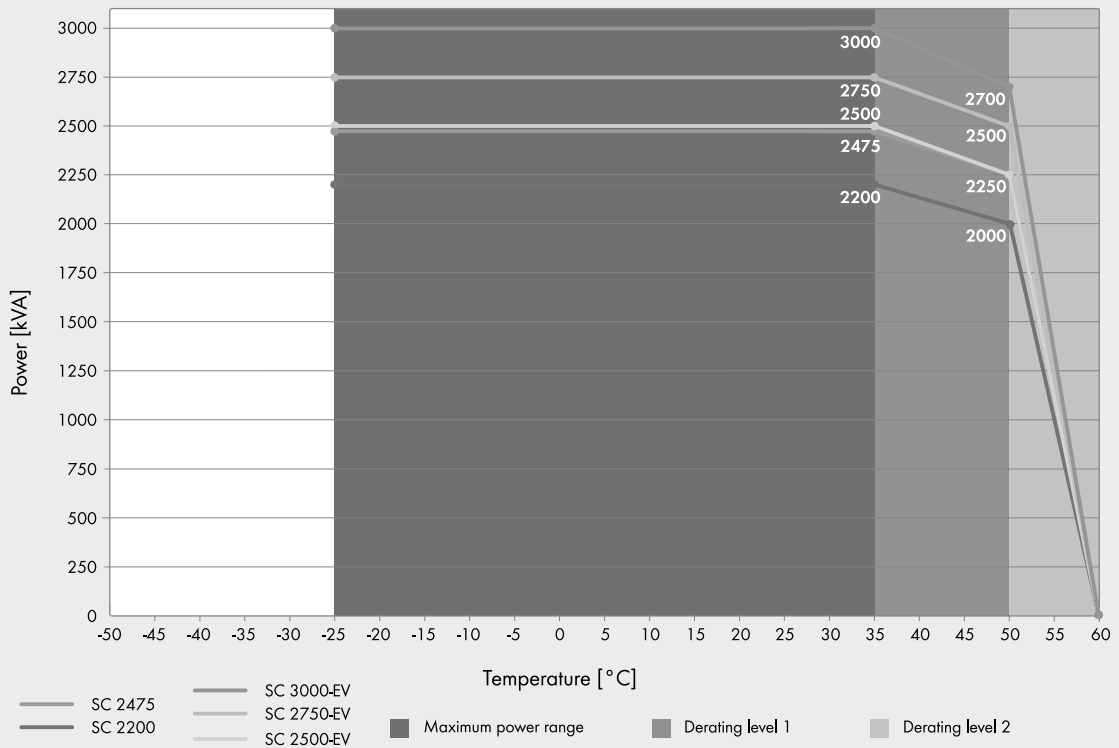
SUNNY CENTRAL 1500 V

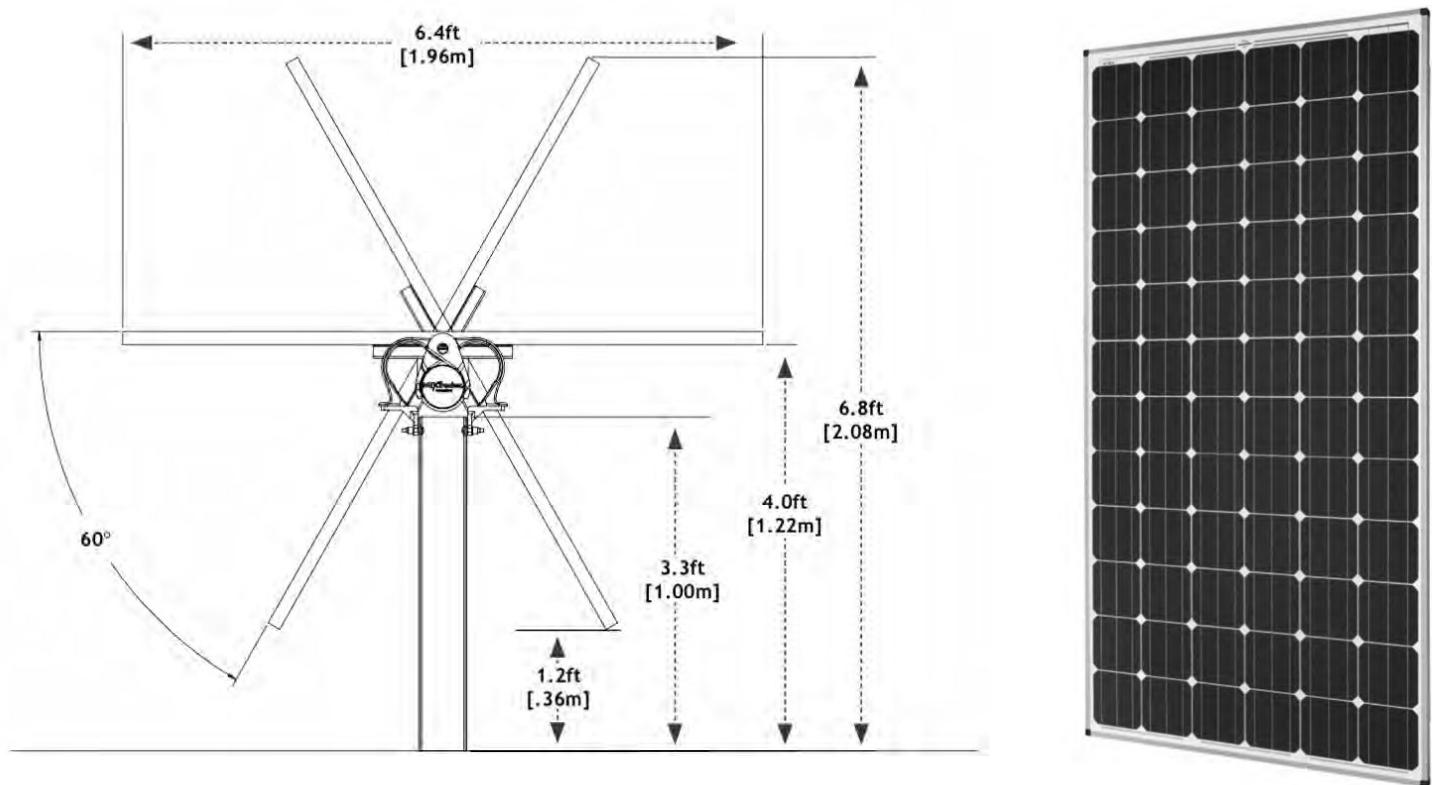
Technical Data	Sunny Central 2500-EV	Sunny Central 2750-EV	Sunny Central 3000-EV
Input (DC)			
MPP voltage range V_{DC} (at 25 °C / at 35 °C / at 50 °C)	850 V to 1425 V / 1200 V / 1200 V	875 V to 1425 V / 1200 V / 1200 V	956 V to 1425 V / 1200 V / 1200 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	778 V / 928 V	849 V / 999 V	927 V / 1077 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V	1500 V
Max. input current $I_{DC, max}$ (at 35 °C / at 50 °C)	3200 A / 2956 A	3200 A / 2956 A	3200 A / 2970 A
Max. short-circuit current rating	6400 A	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused) for PV		
Number of DC inputs with optional DC battery coupling	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries		
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm ²		
Integrated zone monitoring	○		
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A		
Output (AC)			
Nominal AC power at $\cos \varphi = 1$ (at 35 °C / at 50 °C)	2500 kVA / 2250 kVA	2750 kVA / 2500 kVA	3000 kVA / 2700 kVA
Nominal AC power at $\cos \varphi = 0.8$ (at 35 °C / at 50 °C)	2000 kW / 1800 kW	2200 kW / 2000 kW	2400 kW / 2160 kW
Nominal AC current $I_{AC, nom}$ = Max. output current $I_{AC, max}$	2624 A	2646 A	2646 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range ^{1) 8)}	550 V / 440 V to 660 V	600 V / 480 V to 690 V	655 V / 524 V to 721 V ⁹⁾
AC power frequency	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz		
Min. short-circuit ratio at the AC terminals ¹⁰⁾	> 2		
Power factor at rated power / displacement power factor adjustable ^{8) 11)}	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited		
Efficiency			
Max. efficiency ²⁾ / European efficiency ²⁾ / CEC efficiency ³⁾	98.6% / 98.3% / 98.0%	98.7% / 98.5% / 98.5%	98.8% / 98.6% / 98.5%
Protective Devices			
Input-side disconnection point	DC load-break switch		
Output-side disconnection point	AC circuit breaker		
DC overvoltage protection	Surge arrester, type I		
AC overvoltage protection (optional)	Surge arrester, class I		
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III		
Ground-fault monitoring / remote ground-fault monitoring	○ / ○		
Insulation monitoring	○		
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34		
General Data			
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)		
Weight	< 3400 kg / < 7496 lb		
Self-consumption (max. ⁴⁾ / partial load ⁵⁾ / average ⁶⁾	< 8100 W / < 1800 W / < 2000 W		
Self-consumption (standby)	< 370 W		
Internal auxiliary power supply	Integrated 8.4 kVA transformer		
Operating temperature range ⁶⁾	-25 to 60 °C / -13 to 140 °F		
Noise emission ⁷⁾	67.8 dB(A)		
Temperature range (standby)	-40 to 60 °C / -40 to 140 °F		
Temperature range (storage)	-40 to 70 °C / -40 to 158 °F		
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month / year) / 0% to 95%		
Maximum operating altitude above MSL ⁸⁾ 1000 m / 2000 m / 3000 m	● / ○ / ○ (earlier temperature-dependent derating)		
Fresh air consumption	6500 m ³ /h		
Features			
DC connection	Terminal lug on each input (without fuse)		
AC connection	With busbar system (three busbars, one per line conductor)		
Communication	Ethernet, Modbus Master, Modbus Slave		
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)		
Enclosure / roof color	RAL 9016 / RAL 7004		
Supply transformer for external loads	○ (2.5 kVA)		
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEE1547, Arrêté du 23/04/08		
EMC standards	CISPR 11, CISPR 22, EN55011:2017, EN 55022, IEC/EN 61000-6-4, IEC/EN 61000-6-2, IEC 62920, FCC Part 15 Class A	CISPR 11, CISPR 22, EN55011:2017, EN 55022, IEC 62920, FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001		
● Standard features ○ Optional			
Type designation	SC-2500-EV-10	SC-2750-EV-10	SC-3000-EV-10
<p>1) At nominal AC voltage, nominal AC power decreases in the same proportion</p> <p>2) Efficiency measured without internal power supply</p> <p>3) Efficiency measured with internal power supply</p> <p>4) Self-consumption at rated operation</p> <p>5) Self-consumption at < 75% Pn at 25 °C</p> <p>6) Self-consumption averaged out from 5% to 100% Pn at 35 °C</p> <p>7) Sound pressure level at a distance of 10 m</p> <p>8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.</p> <p>9) AC voltage range can be extended to 753V for 50Hz grids only (option „Aux power supply: external“ must be selected, option “housekeeping“ not combinable).</p> <p>10) A short-circuit ratio of < 2 requires a special approval from SMA</p> <p>11) Depending on the DC voltage</p>			

SYSTEM DIAGRAM

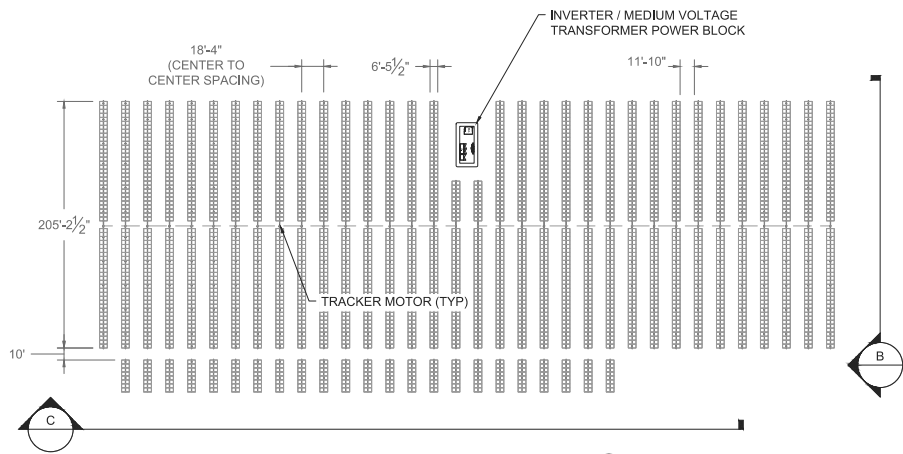


TEMPERATURE BEHAVIOR (at 1000 m)

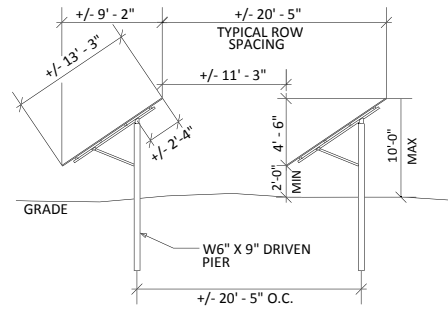




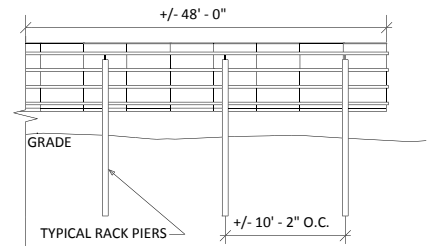
Calneva Photovoltaic Solar Energy Systems
Trackers and Panels with Dimensions



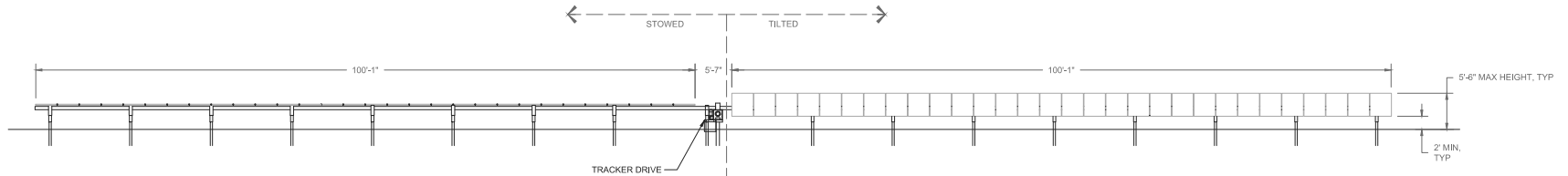
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NTS



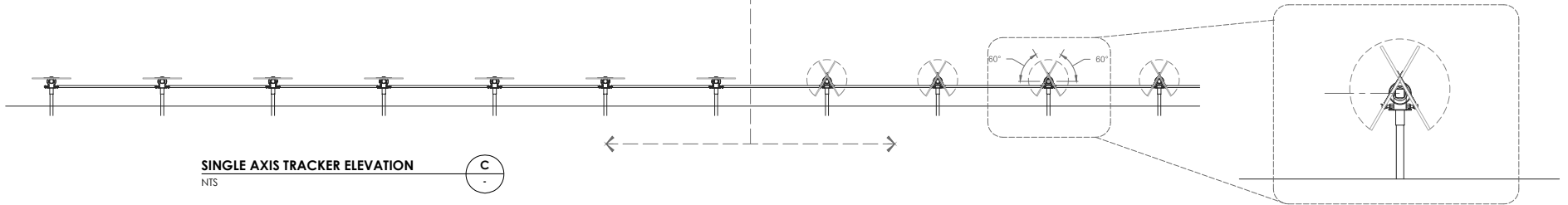
TYPICAL SOLAR ARRAY RACK DETAIL AND END ELEVATION
NTS



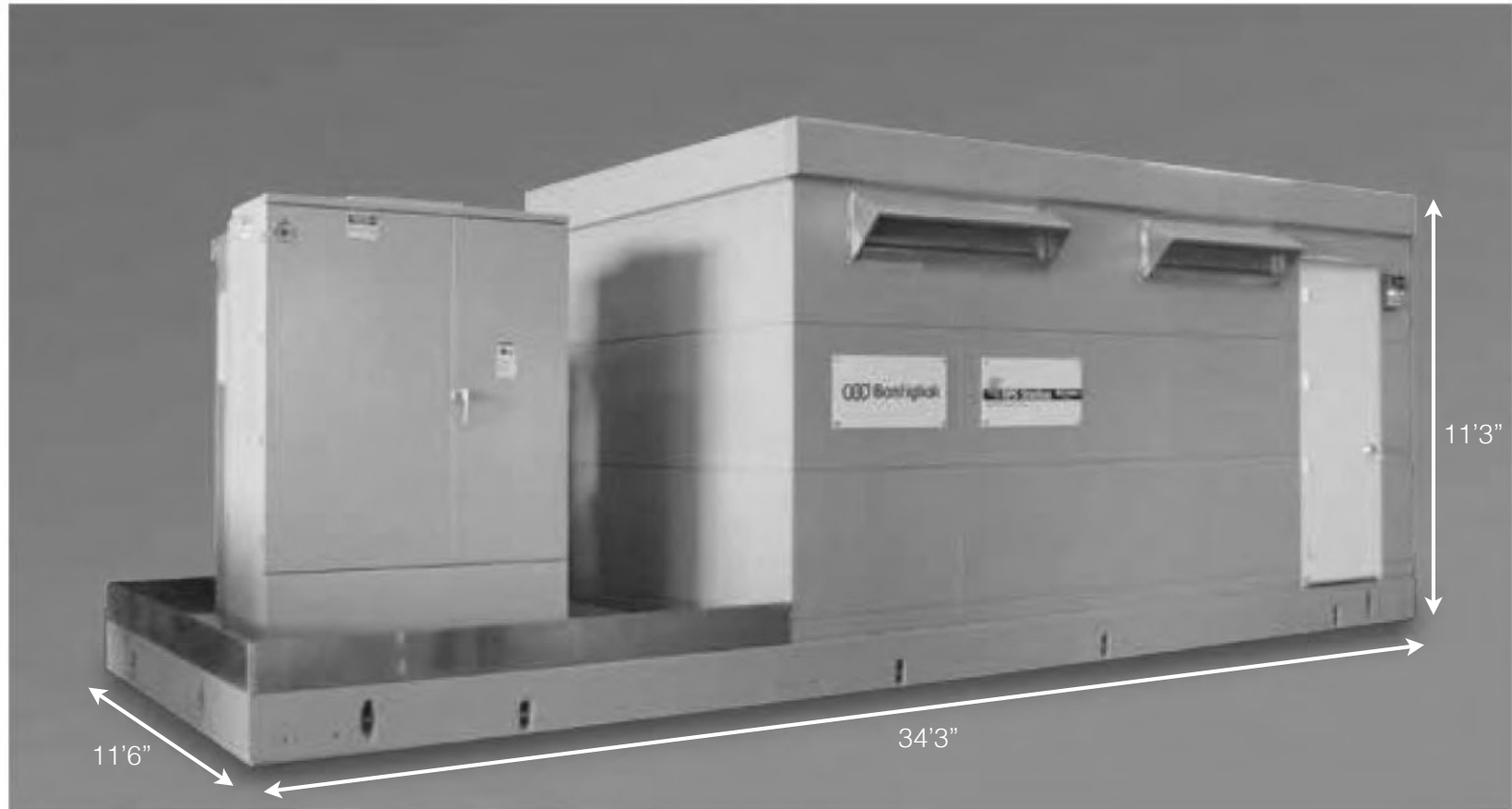
SOLAR ARRAY RACK DETAIL ELEVATION
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SINGLE AXIS TRACKER ELEVATION
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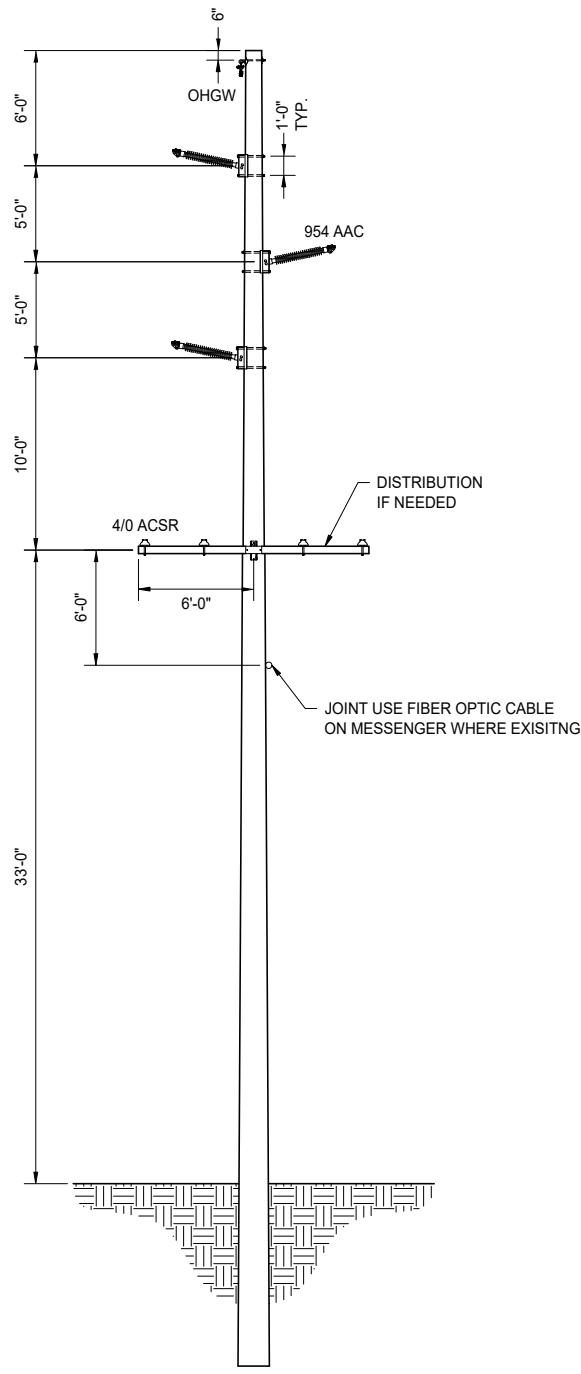


SINGLE AXIS TRACKER ELEVATION
NTS

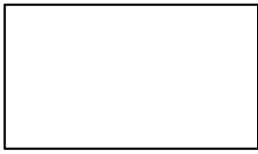


Calneva Photovoltaic Solar Energy Systems
Inverter Station with Dimensions

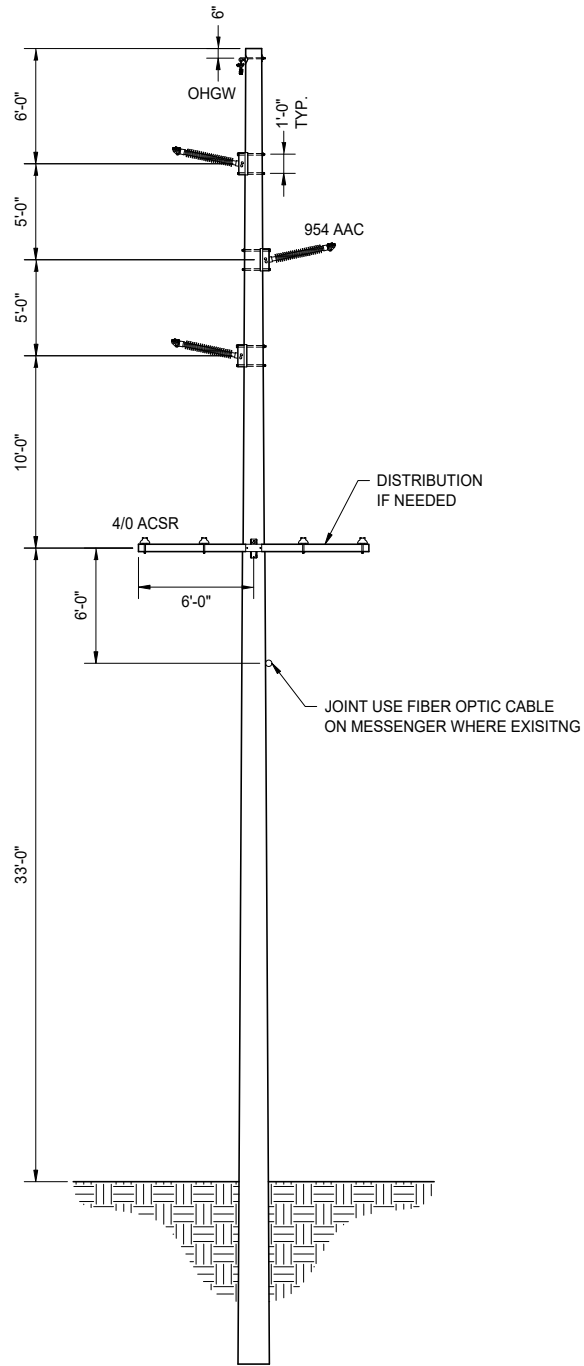
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REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD



		DSGN	SH	03/05/18	Calvea BESS/PSES Interconnect Poles	JOB NUMBER	REV	
		DRN	DO	03/05/18		PRELIMINARY STRUCTURE CONFIGURATIONS		△
		CKD	JT	03/05/18			DRAWING NUMBER	
		SCALE: 1"=10'			TYPICAL TANGENT STRUCTURE WITH DISTRIBUTION UNDERBUILD			
REFERENCE DRAWINGS		FOR 8.5x11 DWG ONLY						

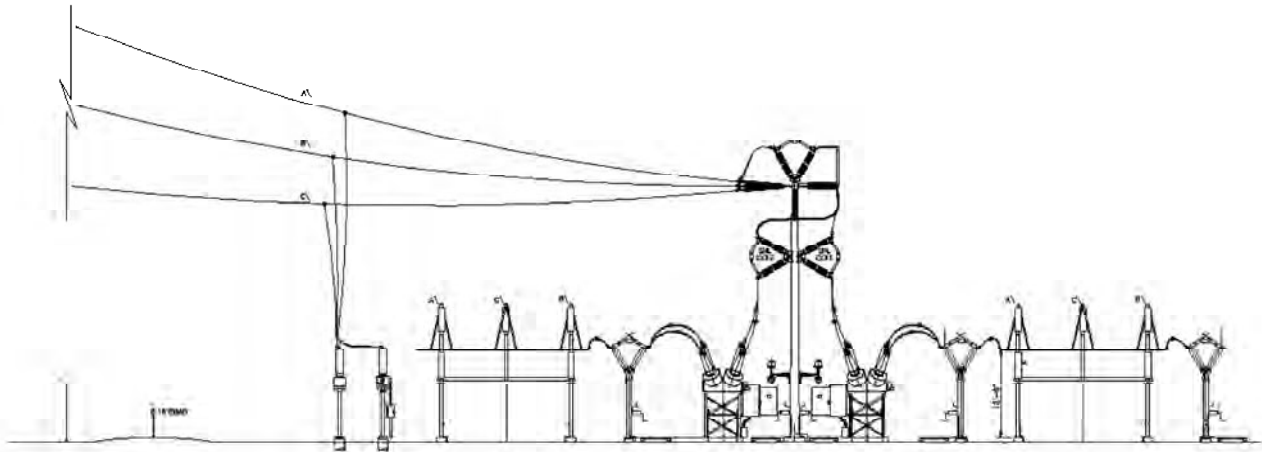


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REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD



	DSGN	SH	03/05/18
	DRN	DO	03/05/18
	CKD	JT	03/05/18
	SCALE:		1"=10'
REFERENCE DRAWINGS	FOR 8.5x11 DWG ONLY		

Washoe BESS/PSES Interconnect Poles	JOB NUMBER	REV
PRELIMINARY STRUCTURE CONFIGURATIONS		
TYPICAL TANGENT STRUCTURE WITH DISTRIBUTION UNDERBUILD	DRAWING NUMBER	



Typical Three-Bank Substation Profile
Substation Project

NOT TO SCALE

Preliminary and subject to change based on
Praana requirements, final engineering, and
other factors.

EXHIBIT G

Environmental Statement

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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Environmental Statement

**Praana Two Washoe Battery Energy Storage System (BESS)
and Photovoltaic Solar Energy System (PSES)**

Project
Washoe County, Nevada

August 2022



Praana Energy

Prepared For:
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LIST OF ATTACHMENTS

Appendix A – Geotechnical Report

Appendix B – Biological Assessment Report

Appendix C – Class III Cultural Inventory

Appendix D – El Centro BESS Project Noise Study

Appendix E – Phase 1 Environmental Site Assessment

LIST OF ACRONYMS

AC—Alternating Current
ADSS—All-Dielectric Self-Supporting
APE—Area of potential effect
APN—Assessor’s Parcel Number
ASTM—American Society for Testing and Materials
BESS—Battery Energy Storage System
BLM—Bureau of Land Management
BMP— Best Management Practices
BOR—Bureau of Reclamation
BP—Before Present
BPS— Best Performance Standards
CAA—Clean Air Act
CCAP— Climate Change Action Plan
CDR— Commander, Senior Grade Military Rank
CEP—Certified Environmental Planner
CFR—Code of Federal Regulations
CNEL— Community Noise Equivalent Level
CO₂—Carbon Dioxide
CO₂-e—CO₂ equivalent
CO—Carbon Monoxide
Commission—Public Utilities Commission of Nevada
Corps— United States Army Corps of Engineers
County—Washoe County
dBA—A-Weighted Decibel
dB—Decibel
DBE—Disadvantaged Business Enterprise
DC—Direct Current
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
EA—Environmental Assessment
EDR— Environmental Database Report
EHS Plan—Environmental Health & Safety Plan



EIS—Environmental Impact Statement
EPA—United States Environmental Protection Agency
EPC—Engineering, Procurement & Construction
ES—Environmental Statement
ESA—Environmental Site Assessment
Fed/ OSHA— Occupational Safety Health Administration
FEMA— Federal Emergency Management Agency
FERC—Federal Energy Regulatory Commission
FESA— Federal Endangered Species Act
FIRM— Flood Insurance Rate Map
GHG—Greenhouse Gas Emissions
GPM—Gallons Per Minute
HR—Hour
Hz— Hertz
IEEE— Institute of Electrical and Electronic Engineers
kV— Kilovolt
KW—Kilo Watt
LB—Pound
Ldn—Day/Night Equivalent (sound measurement)
Leq— Equivalent Continuous Sound Pressure Level
LGIA—Large generator interconnection agreement
LLC—Limited Liability Corporation
LOS—Level of Service
MBTA—Migratory Bird Treaty Act
MC— United States Marine Corps
Mph —Miles per Hour
MSDS—Material Safety Data Sheet
MSL—Mean Sea Level
MW—Mega Watt
N02—Nitrogen dioxide
Na. RC— National Research Council
NAAQS—National Ambient Air Quality Standards
NAC—Nevada Administrative Code
NAHC— Native American Heritage Commission
NCR—Natural and Cultural Resources
NDEP—Nevada Division of Environmental Protection
NDR—Nevada Division of Industrial Relations



NDOA—Nevada Department of Agriculture
NDOF—Nevada Division of Forestry
NDOM—Nevada Division of Minerals
NDOT—Nevada Department of Transportation
NDOW—Nevada Department of Wildlife
NDWR—Nevada Division of Water Resources
NEC— National Electrical Code
NEPA—National Environmental Protection Act
NFPA—National Fire Protection Association
NHD—Nevada Health Division
NHPA—National Historic Preservation Act
NIH— National Institute of Health
NO₂—Nitrogen Dioxide
NOAA— National Oceanic and Atmospheric Administration
NO_x—Nitrogen Oxides
NPDES— National Pollutant Discharge Elimination System
NPS— Non-Point Source
NRC— National Response Center
NRCS—Natural Resource Conservation Service
NRHP—National Register of Historic Places
NRS—Nevada Revised Statutes
O&M—Operations and Maintenance
O₃—Ozone
OPGW— Optical ground wire
OSBL—Outside Battery Limits
OSHA—Occupational Safety Health Administration
Pb—Lead
PCS—Plant control system
PM₁₀—Respirable Particulate Matter
PM_{2.5}—Fine Particulate Matter
POCO—Point of Change of Ownership
PPA—Power Purchase Agreement
PPM—Parts Per Million
PSES— Photovoltaic Solar Energy System
PSI—Pounds Per Square Inch
PUCN—Public Utilities Commission of Nevada
PUE— private utility easement



PV—Photovoltaic
RACT—Reasonably Available Control Technology
RET— Retired
ROC—Remote Operations Center
ROG—Reactive Organic Gasses
ROW—Right of Way
RPS—Renewable Portfolio Standard
SCADA—Supervisory Control and Data Acquisition
SFM—State Fire Marshal
SHPO—State Historic Preservation Office
SO₂—Sulfur Dioxide
SO_x—Sulfur Oxide
SPCC—Spill Prevention, Control, and Countermeasures Plans
Staff—Regulatory Operations Staff of the PUCN
SWPPP—Storm Water Pollution Prevention Plan
UBC—Uniform Building Code
UEPA—Utility Environmental Protection Act
UFC— Uniform Fire Code
UL— Underwriters Laboratories
UNS—Unified Numbering System
USACE—United States Army Corps of Engineers
USC—United States Code
USDA—United States Department of Agriculture
USDOD—United States Department of Defense
USEPA—United States Environmental Protection Agency
USFS—United States Forest Service
USFWS—United States Fish and Wildlife Service
USGS—United States Geological Survey
USN— United States Navy
VDE—Visible Dust Emissions
VOC—Volatile Organic Compounds
V—Volt

1.0 INTRODUCTION

Praana Renewables Energy, LLC (“Praana”), plans to construct 65 MW of photovoltaic solar energy system (PSES) power generation with the installation of Approximately 153,000 to 173,000 solar PV modules and on a single axis track system and a battery electrical storage system (BESS) (the “Project” or “Project Lease Area” or the “Praana Two Washoe BESS/PSES Project”) on 278.92 acres of land (the “Property” or “Project Lease Area”) owned by Dr. Charles Hooper, DO, CDR (RET) MC USN, comprised of four parcels known as Washoe County Assessor’s Parcel Numbers (APNs) (APNs 074-470-02, 074-470-03, 074-470-04, 074-470-05) of undeveloped, vacant rangeland located in Washoe County, Nevada, approximately 45 miles north of Reno in the Honey Lake Valley.

Energy produced and/or stored at the project lease area would be dispatched to the local grid via a proposed 345 kV generation-tie line to be placed in an existing private utility easement and access easement along the Rainbow Way corridor stretching from the project lease area to the NV Energy Fort Sage substation (approximately 5 miles south of the project lease area). The Praana Two Washoe BESS/PSES project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
 - Approximately 150 battery storage enclosures to store up to 125 megawatts (MW) or 500 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 NV Energy Fort Sage substation south of the solar generation site and

- Gen-Tie Laydown Area

This Environmental Statement(ES) evaluates potential environmental impacts of the proposed Praana Two Washoe PSES/BESS Project to be reviewed by the Public Utility Commission of Nevada (PUCN) in compliance with the Utilities Environmental Protection Act (UEPA).

The project lease area is zoned by Washoe County as General Rural (GR) which allows for the development of energy and electric transmission facilities via a special use permit. Based on discussion with Washoe County Community Services Department staff (*Roger Pelham, MPA, Senior Planner*), it is anticipated that the Project will meet the definition of "*Projects of Regional Significance*". Approval by the Washoe County Planning Commission and the Washoe County Board of Supervisors is required.

1.1 PROJECT PURPOSE AND NEED

Praana Energy and Dr. Charles Hooper are seeking to build the Project in response to the Nevada's Portfolio Standard (*NRS 704.7801 through 7828, NAC 704.8831*) which was adopted to "*Encourage and accelerate the development of new renewable energy projects for the economic, health and environmental benefits provided to the people of this State*". The proposed Praana Two Washoe BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance Nevada's renewable energy goals, climate policies, and to enhance electrical grid reliability. Advancements in solar energy production technology and modern large scale module production have made a solar an attractive alternative to traditional energy production from both an environmental and economic perspective. Solar energy allows the State of Nevada to decrease dependence on fossil fuels which are subject to the fluctuations of the global energy market. Solar energy also benefits the economy by generating jobs, business income, and tax revenue for Washoe County and Nevada.

1.2 AUTHORIZING ACTIONS

The primary approval required for this Praana Two Washoe BESS/PSES Project would be issued by PUCN. The PUCN will review the ES in accordance with UEPA guidelines. Should

the Project be approved, the PUCN will issue an Order assessing compliance with UEPA guidelines and would subsequently issue a Permit to Construct after all necessary development approvals have been obtained from federal, state, and local agencies.

The PUCN list of potential federal, state, and local permits was reviewed. Table 1 lists those permits that may be necessary for the Project for the PUCN to issue a Notice to Construct. These permits and requirements are typical and well understood for projects of this nature in the Honey Lake Valley. Table 1 also lists the issuing agency for each permit and the anticipated completion date.

Table 1.2-1. Regulatory Permits and Approvals

Permit	Issuing Agency	Projected Completion Date
UEPA Order	PUCN	Q4 2022
UEPA Permit to Construct	PUCN	Q4 2022
Special Use and Major Grading Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit	Nevada Department of Environmental Protection	Q2 2023
Dust Control	Washoe County	Q1 2023
Building and Grading Permit	Washoe County	Q1 2023

1.3 ENVIRONMENTAL STATEMENT ORGANIZATION

To aid the reviewers and decision-makers, this section outlines the following sections of the ES:

- **1.0 Introduction.** This chapter provides a brief general description of the Project and its purpose and need. The section also summarizes the Project location, the state and local reviews, regulatory approvals, and permits likely to be required.
- **2.0 Description of Proposed Action and Alternatives.** This chapter describes the Project as well as the alternatives that were considered but eliminated from detailed consideration along with the rationale for their elimination.
- **3.0 Existing Setting, Environmental Consequences, and Mitigation Measures.** This chapter describes the existing environment at and near the site. It also details the potential environmental consequences of the Project and mitigation measures designed to reduce, minimize, or avoid impacts so they are reduced to an acceptable level. In addition, a table summarizing the potential effects, the recommended mitigation measures, along with the timing of those measures and identification of entities responsible for implementation and monitoring, has been included.
- **4.0 List of Preparers and Reviewers.** Lists persons who contributed to the preparation and review of this ES.
- **5.0 References.** Lists references used in this ES.
- **Appendices.** Supplemental information on permitting and mitigation measures and Environmental Technical Reports.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes the project location, proposed action, and alternatives considered for this Project.

2.1 PROJECT LOCATION AND ACCESS

The Praana Two: Washoe BESS/PSES Project lease area consists of approximately 279 of land owned by the Dr. Charles Hooper, DO, CDR (RET) MC USN located in Washoe County, Nevada, approximately 45 miles north of the City of Reno in the Honey Lake Valley, immediately adjacent to the Nevada/California state line (see *Figure 2-1: Project Location Map*). The entire vicinity of project lease area for the proposed Project, including the Property itself, the adjoining parcels, private utility easement, private access road (Rainbow Way), is privately owned land. The project lease area is bisected by a Union Pacific railroad corridor which runs in a predominately east/west direction. An access and utility easement corresponding to the Rainbow Way private right of way straddles the section line which forms the eastern limit of the project lease area, extending 30 feet from either side of said section line and running north/south from the Union Pacific railroad corridor to Anaho Lane and the NV Energy Fort Sage Substation. Said easement is documented in Record of Survey Pyramid Lake Ranches Unit 1, January 18, 1961 - Washoe County Recorder's Office File No. 331360; Record of Survey Pyramid Lake Ranches Unit 2, February 20, 1961- Washoe County Recorder's Office File No. 332860; and 55 Grant, Bargain, and Sale Deeds recorded at the Washoe County Recorder's Office along the existing Rainbow Way and Section Line, granting an non-exclusive easement around property and over existing roads to be used for ingress, egress, and utilities.



See
Vicinity
Map

Project Location

PYRAMID LAKE PAIUTE RESERVATION

Pyramid Lake

WALKER RIVER RES
N

50 mi

Sierra Geotech, Inc.
4470 Yankee Hill Road, #110
Rocklin, CA 95677



Published:
July 14, 2022

Praana Two:
Washoe PSES/BESS
Environmental
Statement

Scale: As Shown

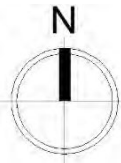
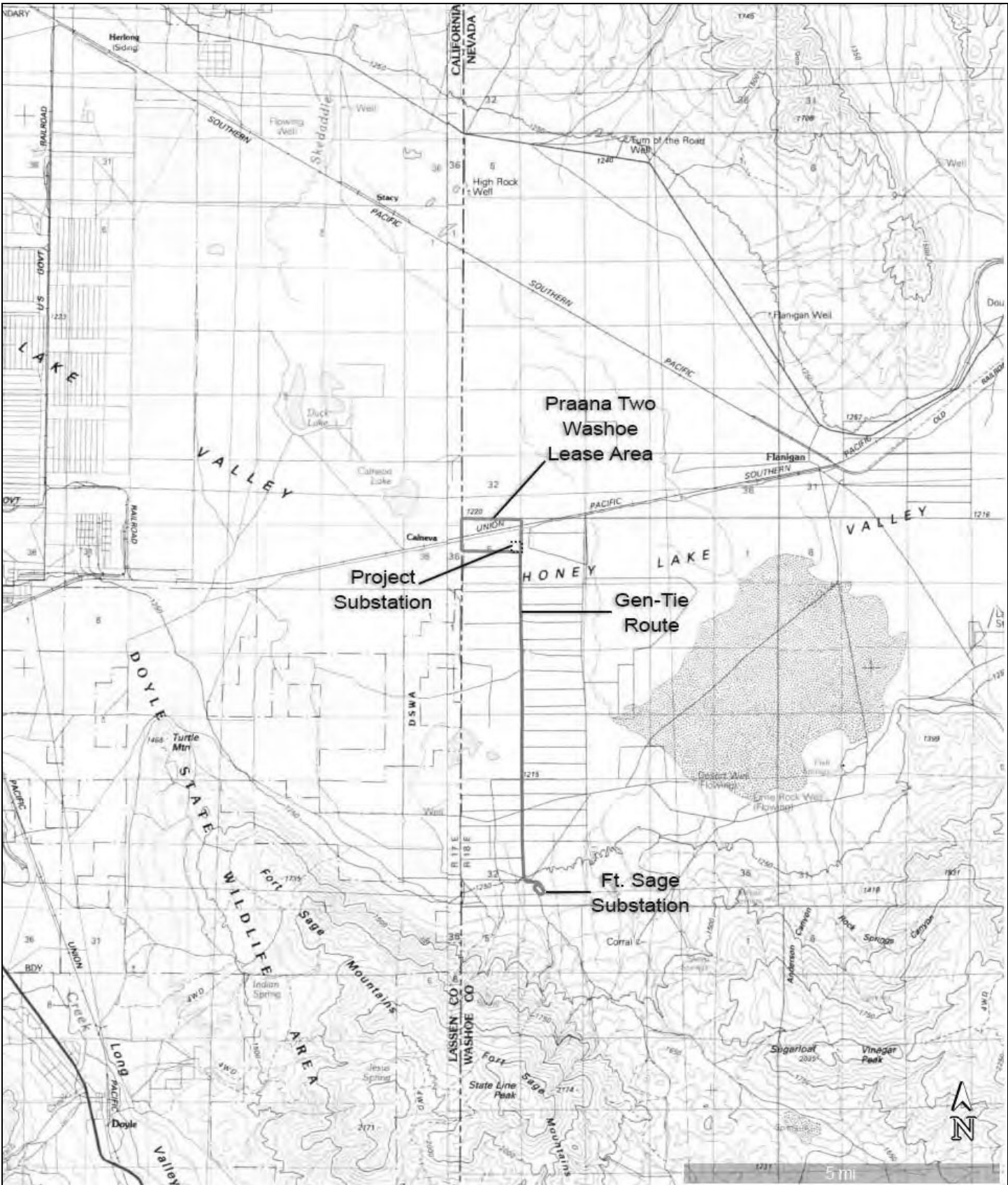


FIGURE 2-1
Project Location
Map



Sierra Geotech, Inc.
4470 Yankee Hill Road, #110
Rocklin, CA 95677



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July 14, 2022

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Scale: As Shown



FIGURE 2-2
Project Vicinity
Map



Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
 Rocklin, CA 95677



SIERRA GEOTECH

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 July 14, 2022

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 Environmental
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Scale: As Shown

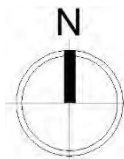


FIGURE 2-3
 Project Boundary
 Map

2.2 PROJECT FACILITIES

This section discusses the Project layout and design for the solar facility, ancillary facilities, and associated structures. The site layout is shown in *Figure 2-4: Site Layout*.

2.2.1 Major Equipment and Site Arrangement

The Photovoltaic Solar Energy System (PSES) utilizes photovoltaic (PV) panels/modules to absorb solar radiation/sunlight and convert it to electricity. The PSES is to consist of: (1) a solar field featuring PV array comprised of up to 173,000 PV modules mounted on single axis tracking steel structures; (2) an electrical collection system that aggregates the output from the PV panels and converts the electricity from direct current (DC) to alternating current (AC); (3) a project substation where all of the facility output is combined and transformed to a voltage of 345 kilovolts (kV); (4) a Battery Energy Storage System (BESS); (5) a generation tie line used to transmit the electrical power to the electrical grid; (6) communications infrastructure including a microwave or fiber optic cable; and (7) civil infrastructure including driveways, waterlines, drainage channels, and fencing.

The Solar PV facility's major equipment includes:

- PV modules
- AC or DC Coupled BESS
- Single-Axis Tracking Module Racking System
- DC combiner boxes
- Inverter Skid Assemblies, including:
 - DC to AC inverters
 - Medium voltage (MV) transformers
- Project substation including one 34.5-345 kV step-up transformer
 - 34.5 kV Capacitor Banks as required
- Plant control system

The design would include PV modules, inverters, and MV transformers combined into units that are repeated to reach the required capacity. The proposed PV facility would use commercially proven PV modules, BESS, inverters, and transformers. Inverter and

transformer manufacturers and capacities would be selected based on cost, efficiency, reliability, and market availability.

Photovoltaic Modules

Solar energy would be captured by an array of PV panels mounted to a single axis tracking system. The high-efficiency, commercially available PV 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 called "strings" in industry terms and provide the basic building block 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 PV 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 system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. The system would rotate slowly throughout the day at a range of +/- 60 degrees facing east to west to stay perpendicular to the incoming solar rays so that production can be optimized.

Each tracker would hold approximately 50 to 90 panels (depending on final configuration) and, at its highest rotated edge, would 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 approximately 12 to 24 inches, pending final design.

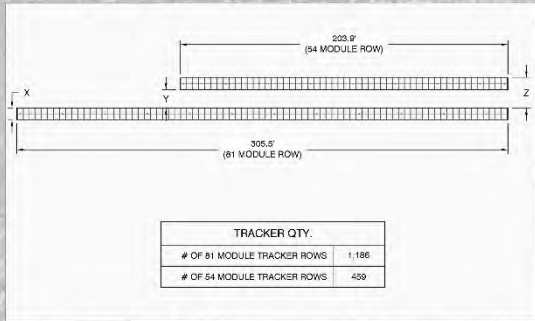
The panel connection electrical system would be suspended under the PV panels and at main junctions would be placed under ground and routed to the inverter stations.

Inverter Stations

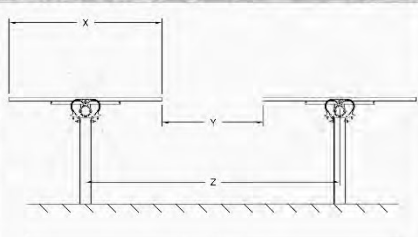
The inverters convert the DC power to AC power and AC output voltage is boosted to 34.5 kV through a MV Step-up Transformer. The inverter/MV transformer together are referred to as an Inverter Skid Assembly. From each such transformer, electricity would be conveyed via an underground collector circuit to the project substation. The inverter stations



would 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 MV 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 would be fed to the AC collection system through an above or below ground collection system. This AC collection system substation would deliver the electricity to the onsite substation, where the voltage would be stepped up to the interconnection voltage.



2 TYP. TRACKER ROWS
G-101 Scale: NTS

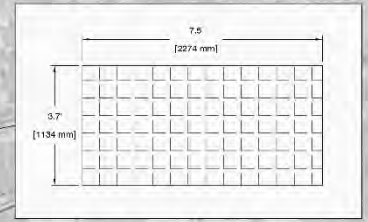


GCR TABLE			
	FEET	METER	
X	7.46	2.27	MODULE WIDTH
Y	12.17	3.71	AISLE WIDTH
Z	19.63	5.98	FITCH
GCR	38.0%		= X/Z = (2 Y)/Z

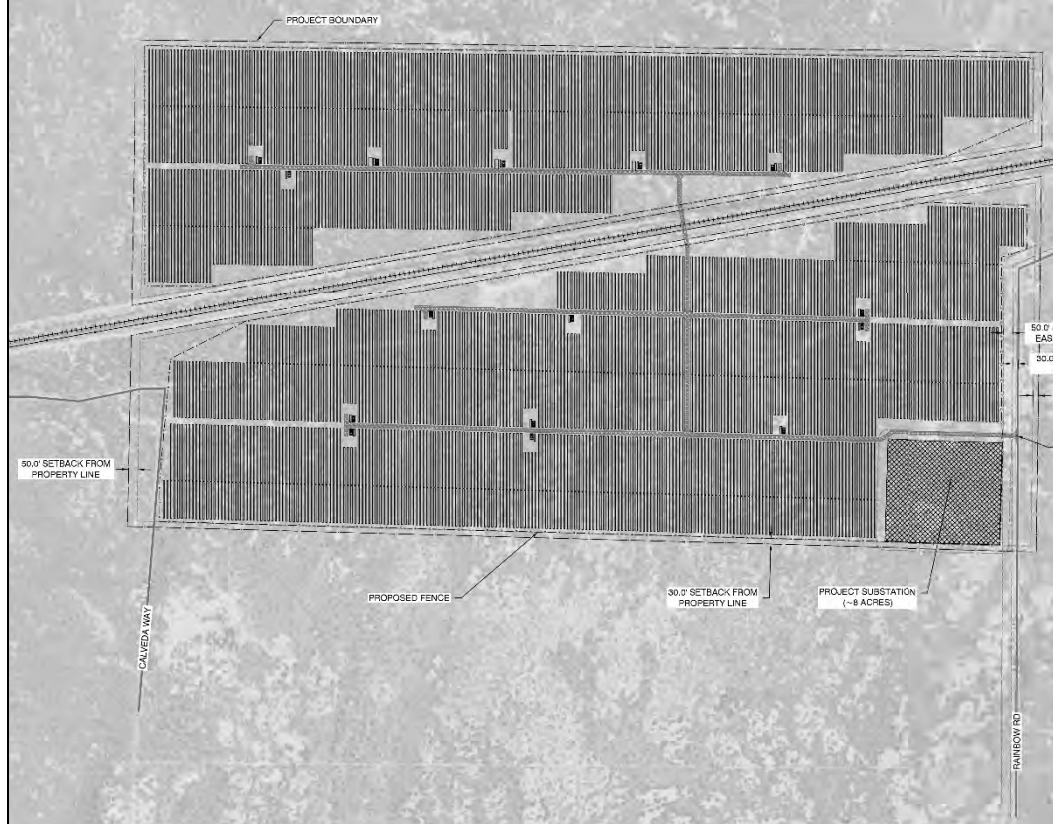
3 GCR DETAILS
G-101 Scale: NTS

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	65,260.08 kW
SYSTEM SIZE AC	54,000.00 kW
SYSTEM SIZE AC @ POI	51,000.00 kW
DC/AC RATIO @ POI	1.28
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	120,852
MODULES PER STRING	27
TOTAL NO. OF STRINGS	4,476
INVERTER MODEL	SUNRGWV SG3800UD-MV
INVERTER RATING	3,900 kW
INVERTER QTY	15
STEP-UP TRANSFORMER	(15) 3.6MVA, 34.5KV/0.69KV
RACKING TYPE	ATT HSAT
TILT	0°
AZIMUTH	180°
PROPERTY AREA	268.88 Ac
FENCED AREA	265.4 Ac

LEGEND	
	81 MODULE ATT ROW
	54 MODULE ATT ROW
	POWER STATION EQUIPMENT PAD 1 BESS
	(N) PROJECT SITE SECURITY FENCE
	(E) OVERHEAD LINES
	20' GRAVEL ACCESS ROAD
	SETBACK
	PROPERTY LINE
	RAILWAY TRACK
	(E) PUBLIC ROAD



4 JINKO 540W MODULE DIMENSION
G-101 Scale: NTS



1 SITE PLAN
G-101 Scale: NTS

**PRELIMINARY
NOT FOR
CONSTRUCTION**

REV	DESCRIPTION	BY	CHK	DATE
0	PRELIMINARY LAYOUT	LR	GS	05/26/2022

SITE PLAN **G-101**

PRAANA 2 SOLAR

CALVEDA WAY, REINO NV 388912 (AT: 40 1548057 N; CV: -119 067879)

SOLVIDA DESIGN ENGINEERING

4400 Glenview Avenue, Suite 200
San Jose, California 95129

DATE	UN/2022	DATE	LAKE RAMBHA	DESIGN/REVISIONS/REVISIONS
SCALE	AS SHOWN	CHKD	STEPHEN SMITH	AS SHOWN
PAPER SIZE	24" x 36"	ENGR	PNR/S	AS SHOWN

Sierra Geotech, Inc.
4470 Yankee Hill Road, #110
Rocklin, CA 95677

SIERRA GEOTECH

Published:
July 14, 2022

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Statement

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FIGURE 2-4
Site Layout

2.2.2 Project Substation

The project substation would be located southeast corner of the project lease area (as shown on Figure 2-3: Project Boundary Map). The substation is a central hub for the 34.5 kV collector circuits and increases the electricity voltage from 34.5 kV to 345 kV. The substation includes, but is not limited to the following major components:

- 34.5 kV bus and associated switching devices
- 345 kV bus and associated switching devices
- 34.5/345 kV transformers
- 34.5 kV circuit breakers
- 345 kV circuit breakers
- 34.5 kV capacitors (as required)
- Grounding grid
- Perimeter security fence

The footprint of the onsite substation (including the BESS) would be approximately 8 acres. The proposed Project onsite substation would consist of components up to 100 feet in height, and overhead lines constructed with up to 95-foot-tall poles. The communications microwave at the substation would be placed on a pole up to 150 feet in height.

2.2.3 Gen-tie Lines and Associated Structures

The gen-tie power line route from this facility would run approximately five miles south along Rainbow Way to the Fort Sage Substation. The gen-tie structures would be towers up to 95 feet high. The span between supporting structures ranges between 200 and 700 feet. Praana Energy will construct the gen-tie to NV Energy's specifications.

Access for construction and maintenance of the gen-tie would be via the existing Rainbow Way private right of way and utility/access easement which stretch the entire length of the proposed Gen-tie route from the project lease area to the NV Energy Fort Sage Substation.

The design characteristics of the existing 345 kV gen-tie line are listed in Table 2.

Table 2-1: Typical Design Characteristics for a 345 kV Gen-Tie Line

Feature	345 kV Characteristics
Type of structure	Per NV Energy Design Specifications
Structure height	Up to 95 feet
Span length	Between 200-700 feet
Anticipated Number of structures	50 to 70
Voltage	345 kV NV Energy Design Specifications
Conductor size	2 per Phase Bundle up to 795 kcmil ACSR-1.06" dia
Ground clearance of conductor	Minimum 30 feet
Pole foundation depth	19 to 24 feet
All-Dielectric Self-Supporting (ADSS) fiber optic cable	None
Optical ground wire (OPGW)	Strung above the 345 kV conductors

2.2.4 Gen-tie Interconnection/Point of Change of Ownership Pole

The Project's substation would connect to NV Energy's Fort Sage Substation approximately five miles south of the proposed Project Substation via a 345 kV gen-tie line. The project Point of Change of Ownership pole (POCO) will be at the NV Energy Fort Sage substation. The gen-tie would also provide a communication path via OPGW fiber optic cable. A redundant communication path is also required, typically ADSS fiber optic cable. The +/- 5-mile gen-tie and POCO would be constructed and operated by Praana Energy according to NV Energy specifications.

2.2.5 Battery Energy Storage System

The proposed Project would use a BESS consisting of either large format lithium-ion batteries or alternative battery technologies (such as flow batteries) that would have a capacity no larger than the solar facility and would be connected using either an AC-coupled or DC-coupled system. Selection of an AC or DC coupled system is ultimately determined through off-taker preference and contract terms.

An AC-coupled system would be connected to a bi-directional inverter to convert DC energy to AC energy, allowing for energy to flow in or out of the batteries to provide charge and discharge. This AC system would be coupled to the PV array at the inverter, AC collection

system, or 34.5 kV substation bus. Power switches and relays would protect the system. The system would consist of several housing units similar to shipping containers or buildings. The containers or buildings would occupy approximately up to 5 acres (within the project substation footprint), depending on the size of the system contracted and technology selected. The equipment enclosures and buildings would be located next to the on-site substation.

A DC-coupled system would consist of battery units located in containers adjacent to the solar inverters distributed throughout the solar arrays. The solar DC collection and the DC battery connection would connect on a common DC bus at the inverter. The containers would be similar in size (20-40 feet long) to the solar inverter skids. In some cases, depending upon the battery capacity, multiple containers may be located adjacent to a single inverter. The charge and discharge of the DC-coupled batteries would be controlled by the battery management system. DC-DC converters would be installed between the inverter and the batteries to control the DC voltage at the battery terminal. As is typical for the industry, inverters would be controlled by a central control system. The protections to the batteries would be internal to the battery management systems and control boxes located within the containers and inverters.

A battery supplier has not been selected at this time due to changing markets. The final battery supplier(s) would be selected prior to Project construction and would be subject to an industry- standard pre- qualification process.

The energy storage equipment would be enclosed in a structure that would conform with Washoe County standards in addition to National Fire Protection Agency Standard 855. Energy storage equipment will comply with UL-9540 and will account for the results of UL-9540A. The enclosures would have temperature control system consisting of fan, liquid, or equivalent. The energy storage system would be un-staffed and would have remote operational control and period inspections/maintenance performed, as necessary.

2.2.6 Electrical System for Plant Auxiliaries

During daylight hours, power for plant auxiliaries would be provided by the Project's electrical generation. During non-daylight hours, the Project would require small amounts

of power to keep transformers energized, and for plant lighting and security. This auxiliary power would be provided by the onsite BESS.

2.2.7 Plant Auxiliaries Process Description

The following subsections describe the various power plant auxiliary systems associated with the Project.

Water

Water for construction and operations activities at the Project will be trucked to the project lease area from an offsite Praana Energy facility supplied by an artesian well within the Honey Lake Valley. Existing water rights are more than sufficient to supply the estimated 100-acre feet required for construction and 1-acre foot per year estimated for operations.

Plant Control System

The microprocessor-based plant control system (PCS) would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the Solar Field supervisory control and data acquisition (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 hard-wired to local electrical panels. Local panels would be hard-wired to the plant PCS system.

The Praana Two: Washoe plant will be monitored and controlled from a remote operations center (ROC) located offsite. Communications between the Praana Two: Washoe BESS/PSES facility and the ROC would be by either microwave or fiber optic connection.

Lighting System

The Project's lighting system would provide O&M personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be downward facing and shielded to focus illumination on the desired areas only. There would be no lighting in the solar field, so light trespass on the surrounding properties would be minimal. If lighting at individual solar panels or other equipment is needed for night maintenance, portable lighting would be used. There would be lighting at the substation and project lease area

entrances to provide personnel with illumination for substation O&M under normal conditions and means of ingress/egress under emergency conditions.

Cathodic Protection Systems

Underground metal structures would have cathodic protection, as necessary, based on soil conditions, to avoid corrosion of metal surfaces.

Site Access, Roads, Fencing, and Security

As depicted in *Figure 2-4: Site Layout*, access to the site would be via Rainbow Way which also provides access to the Fort Sage Substation. Unpaved access roads would be constructed within the solar facility and around the perimeter of the project lease area.

The perimeter of the solar site would be enclosed by a 7-foot-high chain link fence that may be topped with a 1-foot barbed wire section. Access into the site would be controlled (*authorized personnel only*) by employing swinging or rolling chain link gates. Select gates would be automated to facilitate emergency access for fire department vehicles.

2.3 FABRICATION AND CONSTRUCTION

This section summarizes the fabrication and construction for the Project.

2.3.1 Preconstruction Site Drainage Characteristics

Most of the project lease area would be drained by sheet flow to perpetuate the existing flow patterns through the project lease area. Appropriate drainage features will be incorporated into the design of the facility. The Project site is classified as an "area of minimal flood hazard" and is not within the 100-year flood event zone. Onsite and offsite drainage would be coordinated with Washoe County Engineering and Capital Projects Division.

2.3.2 Clearing, Grubbing, and Grading

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. Mowing and management of existing vegetation will take place prior to construction and during operations. The Praana Two Washoe project lease area has been historically plowed and all vegetation removed in the past.

Interconnection Facilities will be placed within an area of permanent disturbance associated with the Rainbow Way easements which will include the placement of Gen-Tie pole structure foundations, and minor road grading to maintain Rainbow Way 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 Rainbow Way easement.

2.3.3 Assembly and Construction

Substation Construction

The substation would be constructed by an engineering, procurement, and construction (EPC) contractor selected by the Praana Energy in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. The substation would occupy an area of approximately 8 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.

Foundations 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 Praana Energy 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 (Rainbow Way) maintenance and site preparation

- Foundation construction and anchor installation
 - The Gen-Tie Line 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 (BESS) Construction

The BESS would be constructed by a contractor selected by Praana Energy in accordance with its EPC contract specifications. The BESS would occupy an area of approximately 5 acres within the Project Substation footprint and would be graded flat and level and gravel placed and compacted. 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 Rainbow Way 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 temporary mobile generators. Potable water for drinking and sanitation would be trucked in as needed from Praana Energy's Honey Lake Valley artesian spring well. 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.

2.3.4 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 Rainbow Way easement restoration plan.

2.3.5 Design and Construction Schedule

Construction of the Praana Two Washoe BESS/PSES Project will begin in Winter of 2022 and may continue through Fall of 2023 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 lease area or Gen-Tie Line corridor on Rainbow Way 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.

Typical construction work schedules are expected to be from 7:00 a.m. to 5:00 p.m., Monday through Saturday, which is within allowed hours of exemption from local noise ordinance restrictions (Washoe County) for construction activity between 7:00 a.m. and 7:00 p.m., except Sundays and federal holidays.

2.3.6 Construction Sequencing

Praana Energy expects to commence onsite construction as early as Winter 2022. The construction period is expected to last approximately 10 months. The engineering process would commence before starting construction and is divided between the basic design phase and detail design phase. During the basic design phase, key information drawings and technical specifications would be developed. The RFP for the Engineering, Procurement and Construction (EPC) Contractor would be developed and issued at this stage as well. At the detail design phase, the EPC contract would be executed and the detail drawings and specifications for all equipment would be completed. Procurement of long-lead equipment would be conducted before starting construction.

Four phases of construction are planned:

1. **Grading/Temporary Construction Facilities.** Grading of the pad for the project substation and establishing temporary construction facilities associated with the project substation. Site preparation for the solar photovoltaic facility and establishment of temporary construction facilities associated with the solar photovoltaic facility.
2. **Solar Field Construction.** Installing structural poles and trackers, mounting of panels, electrical system, inverters, and access driveways.
3. **Project Substation.** Installing 34.5-345 kV step-up transformer, 34.5 kV Capacitor Banks, and BESS as required.
4. **Gen-Tie, and Fort Sage Substation.** Constructing the 345 kV Gen-Tie Line and improvements to the NV Energy Fort Sage Substation.

The construction stage would commence with site mobilization. Site clearing and grading work would last for approximately 3 months or as required to support Project schedule. Piling work would then commence. Following normal installation processes for

similar PV plants, the mounting structure would first be installed. Next, the modules would be installed and connected to each other in series as a string. The solar generation facility would be installed as a unit block concept. The construction of the project substation is expected to last for approximately 6 months including its commissioning and expected to commence between 2023 Q3 and 2023 Q4. Construction of the BESS would proceed concurrent with the PV system. All components of the plant would be commissioned separately. Upon completion of conventional commissioning, a "*Performance and Acceptance*" test would be performed.

The following temporary construction facilities would be needed:

- Full-length trailer offices or equivalent
- Parking for construction worker vehicles
- Construction equipment parking
- Fueling area (diesel and gas)
- Chemical toilets
- Holding tanks and/or temporary septic system
- Tool sheds/containers
- Covered assembly area
- Solar field equipment laydown area
- Diesel power generator(s)

Construction materials, such as concrete, pipe, wire and cable, fuels, reinforcing steel, and small tools and consumables, would be delivered to the site by truck. Initial grading work would include the use of excavators, graders, dump trucks, and end loaders, in addition to support pickups, water trucks, and cranes. It is anticipated that the following equipment would be required:

- Scraper(s)
- Concrete truck(s)
- Motor grader(s)
- Backhoe/loader(s)
- Excavator(s)
- Truck-mounted crane(s)
- Dozer(s)
- Grader-all(s)
- Dump truck(s)
- Flatbed truck(s) for pre-cast foundations
- Pad drum vibrato roller(s)

- Trencher(s)
- Water truck(s)
- Pile driver(s)
- Lightweight truck(s).

2.3.7 Construction Staff

The workforce needed for the Project would vary during construction. The peak personnel during construction are expected to be around 200 people, with average manpower of approximately 150 per month. *Table 2-2: Estimated Personnel During Construction*, depicts the anticipated construction workforce for the duration of construction.

Table 2-2: Estimated Personnel During Construction

Task	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023
Engineering/Management	3	4	5	5	5	5	5	5	5	5
Electrical	20	40	60	60	70	70	70	70	60	40
Racking	25	60	60	60	60	60	60	60	50	50
Civil	30	30	25	25	25	10	10	10	15	15
Post Installation	30	40	40	40	40	40	40	40	20	20
Fencing	25	20	15	10	10					
Total	133	194	205	200	210	185	185	185	150	130

2.3.8 Construction Waste Management

During construction, the primary waste generated would be solid non-hazardous waste. However, some non-hazardous liquid waste and hazardous waste (solid and liquid) would also be generated. All the waste generated by the Project would be at the project lease area. The types of waste potentially generated during construction are described in the following discussion.

Non-Hazardous Solid Waste/Wastewater

Project construction could potentially generate the following non-hazardous waste streams:

- Paper, Wood, Glass, and Plastics. These wastes are typically generated from packing materials, waste lumber, insulation, and empty non-hazardous chemical containers. These wastes would be recycled to the extent practical. Waste that cannot be recycled would be disposed of weekly at an appropriately licensed landfill. Onsite, the waste would be placed in dumpsters.
- Metal. Metal wastes that include steel (from welding and cutting operations, packing materials, and empty non-hazardous chemical containers) and aluminum waste (from packing materials and electrical wiring) would be generated during construction. Metal waste would be recycled where practical and non-recyclable waste would be deposited in an appropriately licensed landfill.

Wastewater

During construction, wastewater would be collected in self-contained systems that would be pumped and disposed of in accordance with Washoe County requirements. Wastewater generated during construction would include sanitary waste and equipment wash-down water. These waters may be classified as hazardous or non-hazardous depending on their chemical quality and would be handled and disposed of in accordance with applicable laws.

Hazardous Waste

Most of the hazardous waste generated during construction would consist of lubricants, oily rags, and solvents. Some hazardous solid waste, such as welding materials and dried paint, may also be generated during construction. In the event there are spills at the project lease area, they will be cleaned-up and contaminated soil waste may be generated. Spill cleanup kits would be available on construction vehicles so that spills or leaks of vehicle fluids could be quickly cleaned up for proper disposal.

The quantity of hazardous waste is expected to be minimal. Wastewater generated during construction could also be identified as hazardous, based on sampling and testing results.

2.3.9 Erosion and Sediment Control Measures

Due to the removal or disturbance of soil and vegetation during construction, appropriate water erosion and dust-control measures would be required to minimize dust and sediment load to water bodies.

Water Erosion Control Measures

The Project would implement best management practices (BMPs) erosion-control measures to control stormwater runoff. Site-specific BMPs would be implemented by the contractor in compliance with regulations and permit conditions. As appropriate, the Project would implement the following practices for temporary and final erosion control:

- Monitor the weather using National Weather Service reports during construction to track conditions and alert crews to the onset of rainfall events.
- Preserve existing vegetation where feasible. Conduct clearing and grading only in areas necessary for Project activities and equipment traffic. Install temporary fencing or signage prior to construction along the boundaries of the construction zone to clearly mark this zone, preventing vehicles or personnel from straying onto adjacent offsite habitat.
- Sequence construction activities with the installation of erosion control and sediment control measures. Arrange the construction schedule as much as practicable to leave existing vegetation undisturbed until grading begins.
- Stabilize non-active areas as soon as feasible on those portions of the Project site where construction has temporarily or permanently ceased.
- Place covers over stockpiles prior to forecasted storm events and during windy conditions as necessary to prevent erosion of stockpiles. Place sediment controls (such as fiber rolls, straw bales, silt fencing) around the perimeter of stockpiled materials to control sediment runoff.
- Maintain sufficient erosion control materials onsite to allow implementation of BMPs. This includes implementation requirements for active areas and non-active areas that require deployment before the onset of rain.

- Promptly repair and reapply controls according to BMPs in areas where erosion is evident.

Wind Erosion Control Measures

The Project would implement the following practices for wind erosion control:

- Minimize vegetation removal and grading to the extent practicable.
- Apply water or dust palliative to disturbed soil areas of the Project site to control dust and maintain optimum moisture levels for compaction as needed. Apply the water using water trucks. Minimize water application rates as necessary to prevent runoff and ponding.
- During windy conditions forecast or actual wind conditions of approximately 25 miles per hour or greater, apply dust control to haul roads to adequately control wind erosion. Cover exposed stockpiled material areas.
- Temporarily suspend excavation and grading during periods of high winds when dust cannot be reasonably controlled.
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard.

2.4 OPERATION AND MAINTENANCE

This section summarizes the O&M for the Praana Two Washoe BESS/PSES Project.

2.4.1 Facility Operation

O&M activities would be managed and performed by a team of highly qualified technicians. Five new solar technicians are expected to be hired to help manage the Praana Energy facility. The Praana Two: Washoe plant would be monitored and controlled from regional operations center off site.

Daily operation of the plant would begin when there is sufficient sunlight to begin operation of the single axis tracking solar arrays. Operators work rotating 10-hour shifts. Operators will be on site to complete maintenance requirements.

2.4.2 Maintenance

Long-term maintenance schedules would be developed to include periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Solar panels may be warranted for 20 to 25 years and are expected to have a life of 30 to 35 years. Moving parts, such as tracker motors, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted, as necessary.

Due to the efficiencies gained by adopting solar panel technology, the cost and time for O&M is expected to be minimal compared to that of conventional power plants.

2.4.3 Waste Management

The primary waste generated at the project lease area during operations would be non-hazardous solid waste. However, varying quantities of liquid non-hazardous waste and solid and liquid hazardous waste would also be generated. The types of wastes and their estimated quantities are discussed in the following subsections.

Non-Hazardous Solid Waste

The Project would produce non-hazardous waste, including rags, broken metal, and machine parts, defective or broken electrical materials, empty containers, typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. Large metal parts would be recycled. Other non-hazardous wastes would be disposed of in an appropriately licensed landfill.

Only limited hazardous materials are associated with the operation of the Project; however, during maintenance activities, there is potential for a vehicle petroleum spill. Spill cleanup kits would be available on equipment so that spills or leaks of vehicle fluids could be quickly cleaned up for proper disposal. Material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash would be removed from the sites and disposed of in an approved manner. Oils or chemicals would be hauled to an approved site for disposal.

Non-Hazardous Wastewater

During operation, routine annual panel cleaning may be required depending upon local conditions and occasional rainfall. If the panels become soiled over time, water would be used to wash dust and dirt off each solar panel for a cleaning. This water would be non-hazardous and would be allowed to flow onto the ground.

Hazardous Waste

Limited quantities of hazardous materials would be used onsite for O&M that may require disposal as hazardous waste. These materials would include oils, diesel fuel, lubricants, solvents, janitorial supplies, office supplies, laboratory supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids, gasoline, hydraulic fluid, propane, and welding rods. These materials would generally be used in small quantities.

Any hazardous materials would be stored offsite. Due to the small quantities involved, spills could be cleaned up without resulting in any considerable environmental consequences.

The PV panels and inverters produce no waste during operation; however, the PV panels may include solid materials that are considered hazardous. As such materials are in a solid and non-leachable state, broken PV panels would not be a source of pollution to stormwater.

2.4.4 Decommissioning

Praana Energy would operate the Praana Two Washoe BESS/PSES Project for the foreseeable future. However, the facilities and equipment to be located on the project lease area are subject to finite lifecycle. When the Project ultimately is decommissioned, the PV panels, support structures, and electrical equipment would be removed in accordance with a decommissioning plan prepared at that time and agreements with the property owner Dr. Charles Hooper. The PV panels and inverters produce no waste during operation, and the panels and related equipment are solid and in a non-leachable state. Thus, no ground decontamination or remediation would be required. All panels removed from the site would be returned to the manufacturer or trucked offsite to an appropriate disposal or recycling facility.

2.4.5 Health and Safety

The health and safety of employees and contractors is a high priority. All employees and contractors would be required to adhere to the appropriate health and safety plans and emergency response plans adopted by Praana Energy. All construction and operation contractors would be required to operate under a health and safety program that meets industry standards.

An operational Environmental Health and Safety Plan (EHS Plan) would be prepared for the proposed solar facility and gen-tie line. The EHS Plan would outline all Project activities, identify all hazardous substances and chemicals used at the site, and ensure compliance with Occupational Safety and Health Administration (OSHA) Standards, the Nevada Division of Industrial Relations requirements, and all other local, state, and federal environmental and regulatory requirements. The EHS Plan would identify site-specific safety control measures, site health and safety roles and responsibilities, speed limits, and site safety hazards and controls.

2.4.6 Site Security and Lighting

The project lease area would be secured with 7-foot chain-link fencing that may be topped with 1-foot of barbed wire. Lighting would be provided within the project substation, and at the main plant entrance. A perimeter security system may also be installed, as necessary.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED CONSIDERATION

Potential alternatives for the proposed Praana Two Washoe BESS/PSES Project were evaluated to determine whether they could substantially achieve the Project goals and objectives to be considered feasible and appropriate for further consideration. This section describes the evaluation criteria, interconnection options, and technologies eliminated because they did not meet the Project objectives and/or did not reduce environmental consequences compared to the proposed action.

2.5.1 Facility Location Criteria

The primary objective of Praana Energy was to locate the solar facility in northern Nevada. Several criteria were developed and used in evaluating appropriate sites:

- Adequate solar irradiation
- Proximity to a high-capacity substation with access to the NV Energy grid
- Adequate transmission capacity to convey the electrical output of the Project
- Minimal environmental concerns
- Relatively flat site to minimize the need for site grading
- Existing access to accommodate construction workforce needs
- Land parcel large enough to accommodate a utility scale solar facility
- Access to nearby workforce sufficient to support Project construction

The remote location of the project lease area with respect to population centers minimizes the potential for impacts affecting the local population. Noise, visual, and traffic impacts are all minimized by the Project's remote location.

2.5.2 Gen-Tie Power Line Criteria

Another key objective was to locate the PV facility and the gen-tie line in an area with established utility easements/ROWs, allowing interconnection to the electrical grid in a direct path to minimize gen-tie line losses and costs and avoiding a protracted right-of-way acquisition process. The Project site meets these criteria.

2.5.3 Alternatives Considered and Eliminated

Alternative gen-tie route options and technologies were considered and eliminated are summarized in this section.

Alternative Gen-Tie Routes

The Project site is located approximately five miles north of NV Energy's Fort Sage Substation. Location of the solar facility substation and gen-tie line are constrained by, distances required to use alternative easements/ROWs, avoiding conflicts with existing transmission infrastructure in the vicinity, and by the ability to obtain a right-of-way for the gen-tie line.



Alternative Technologies

The Praana Two: Washoe BESS/PSES Project is designed to use crystalline silicon or thin-film PV technology mounted on single-axis tracker racking. Other solar technologies considered by Praana Energy for the Project included concentrating PV and solar thermal technologies. The water demand is significantly greater for solar thermal technology and therefore presents greater environmental concerns. Crystalline silicon and thin film are commercially proven technologies which have already been shown to be viable by other solar projects in the Honey Lake Valley.

Praana Energy determined that using crystalline silicon or thin film PV solar panels is the preferred technology for this Project given the comparatively low water requirements, and reliable, proven technology. Additionally, the alternative technologies mentioned would result in an increased potential for environmental impacts. Concentrating solar would have greater impacts on visual and biological resources and solar thermal would increase water use. Therefore, other alternative solar technologies were eliminated from further consideration.

3.0 EXISTING SETTING, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

The proposed Praana Two Washoe BESS/PSES Project site would be in the Honey Lake Valley approximately 15 miles west of Pyramid Lake and 45 miles north of Reno in Washoe County, Nevada.

The following resources are analyzed in this ES:

- Geology, Soils and Paleontology, Section 3.1
- Water Resources, Section 3.2
- Air Quality and Climate, Section 3.3
- Biological Resources, Section 3.4
- Cultural Resources, Section 3.5
- Land Use Section, 3.6
- Transportation, Section 3.7
- Visual Resources, Section 3.8
- Noise, Section 3.9
- Waste Management and Hazardous Materials, Section 3.10
- Socioeconomics, Section 3.11

3.1 GEOLOGY, SOILS, AND PALEONTOLOGY

This section describes the geological, soils, and paleontological resources in the area, the impacts of the proposed Project on these resources, and the BMPs/mitigation measures designed to reduce these impacts.

3.1.1 Existing Setting

The Praana Two: Washoe BESS/PSES project area is in the northwestern 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) indicates 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.

A paleontological records search identified two locations in the vicinity of the Project site, Calneva Lake I and Calneva Lake II, less than one mile northwest of the proposed Praana

Two: Washoe 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 were identified associated with Lake Lahontan sediments similar to those underlying the proposed Praana Two Washoe BESS/PSES project lease area, all of which have yielded vertebrate remains. These include the Amedee, Honey Lake Deer, Long Valley, and multiple Alturas Interconnection Project Localities. The Long Valley locality is found south of Herlong approximately 6.5 miles west of the proposed BESS/PSES project 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 project 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 project 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 Interconnection 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 project 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 project 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 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. The fossil record for Lake Lahontan sediments 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).

3.1.2 Environmental Consequences

This section summarizes potential geologic and soil hazards or constraints on the proposed solar facility, gen-tie line, and access road.

Soils

The erosion susceptibility of the soils in Honey Lake Valley is low. Soils disturbed by site preparation, excavation, and construction would have a higher potential for erosion by wind and water. Grading of the solar field would be limited and not expected to exceed 24 inches. Due to the technology chosen; minimum site preparation would be necessary for the installation of equipment. Some potential for soil erosion exists from the proposed solar field site, due to soil disturbance and removal of vegetation. The Project would use BMPs for soil protection thereby minimizing the contribution to cumulative impacts. In addition, a fugitive dust plan would be developed with mitigation measures to reduce the potential for fugitive dust.

Faulting

The Warm Springs Fault Zone is located to the south of the project lease area along the northern edge of the Fort Sage Mountains. Several potentially active faults are located approximately 7 miles south of the project lease area (USGS 2017). This project lease area, as well as most of the Nevada region, may experience ground shaking from possible future earthquakes in the region. Tremors of more than 6.0 in magnitude have been felt in the project lease area and surrounding vicinity as a result of earthquakes in west Nevada and Northern California, including a 6.2 magnitude quake in 1875 approximately 30 miles west of the project lease area (UNR 2014). Earthquake activity in the region has been relatively minor in the past century, and therefore potential impacts to the Project from earthquakes are minor.

Paleontological Resources

Background research indicates that the project lease 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. However, current Praana Two: Washoe BESS/PSES project construction plans do not call for excavation or grading to depths that would disturb these units.

3.1.3 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 Washoe 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 A – Geotechnical Report*) No significant impacts are anticipated.

3.2 WATER RESOURCES

This section analyzes the potential impacts on water quality and hydrologic resources that may result from the proposed Praana Two: Washoe BESS/PSES project. Hydrologic resources include groundwater, surface water, and wetlands (where present). Groundwater quality and the issuance of permits for the use of both groundwater and surface water are overseen by the State Engineer under authority granted by the Nevada Revised Statutes 533 and 534. Wetlands are under jurisdiction of the U.S. Army Corps of Engineers (USACE). This section describes the water resources in the area, the impacts of the proposed Project on these resources, and the BMPs/mitigation measures designed to reduce potential impacts to a level of non-significance.

3.2.1 Existing Setting

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.” The Nevada Division of Environmental Protection (NDEP) has primary authority under this Act as granted by the U.S. Environmental Protection Agency (USEPA), which has delegated responsibility to the owners, managers, and operators of public water systems (NDEP 2013).

Groundwater

Holocene sedimentary deposits, Pleistocene Lake and near-shore deposits, and Pleistocene and Plio-Pleistocene volcanic rocks comprise the Honey Lake Valley Groundwater Basin aquifer system. The major sources of groundwater recharge in the region are direct infiltration of precipitation in upland areas and infiltration of streamflow in alluvial-fan areas accounting for approximately 80 percent of total recharge. The remaining 20 percent consists of infiltration of surface water and irrigation flow on the valley floor. The upland recharge areas consist of Plio-Pleistocene and Pleistocene basalt flows. Wells in the Honey Lake Basin produce between 20 and 2,500 gallons per minute (gpm), and range between 20 and 1,005 feet deep (California Department of Water Resources [DWR] 2004).

In the Project area, groundwater is generally about 134 feet below the surface (U.S. Geological Survey [USGS] 2020).

Surface Water

The presence of surface water resources in the Honey Lake Valley is very limited. Honey Lake Valley is part of the Basin Range Geomorphic Province that extends into California. The valley is bounded to the north and northeast by Plio-Pleistocene basalt of Antelope Mountain, Shaffer Mountain, and Amedee and Skedaddle Mountains, and the Modoc plateau. The valley is bounded on the southwest by Mesozoic granitic rocks of the Diamond Mountains of the Sierra Nevada Geomorphic Province. More than 40 streams flow from the Diamond, Fort Sage, and the Virginia mountains and the northern volcanic uplands. Most streams are intermittent.

Honey Lake is the most prominent surface feature in the basin with an average surface area of 47,000 acres. The lake fluctuates greatly in area and volume. It is likely that the flooding characteristic of the Honey Lake Valley basin exhibit shallow flash flooding over large areas (DWR 2004).

The project lease area is located within Honey Lake Valley, portions of which have been designated as a special flood hazard area subject to inundation by the 100-year floodplain. The project lease area is not within the 100-year floodplain (Federal Emergency Management Agency [FEMA] 2020). *Figure 3-1: Flood Zones in the Project Lease Area* shows the flood zones in the project area.

National Flood Hazard Layer FIRMette



119°59'47"W 40°9'33"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 119°59'10"W 40°9'6"N
 Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
	With BFE or Depth <i>Zone AE, AG, AH, VE, AP, Regulatory Floodway</i>
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone B</i>
	Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
	Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone D</i>
	Area with Flood Risk due to Levee <i>Zone C</i>

NO SCREEN	Area of Minimal Flood Hazard <i>Zone X</i>
Effective LUMMS	
OTHER AREAS	Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
OTHER FEATURES	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL, was services provided by FEMA. This map was exported on 7/14/2022 at 5:57 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unincorporated areas cannot be used for regulatory purposes.

Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
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Published:
 July 14, 2022

Praana Two:
Washoe PSES/BESS
 Environmental
 Statement

Scale: As Shown

FIGURE 3-1
 Flood Zones in
 the Project Area

"Water of the United States," defined in 33 Code of Federal Regulations (CFR) 328.3(a) include:

- (1) The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- (2) Tributaries;
- (3) Lakes and ponds, and impoundments of jurisdictional waters; and
- (4) Adjacent wetlands.

No hydrological resources meeting these criteria are present in the Honey Lake Valley. Furthermore, the project lease area does feature hydric soils or a preponderance of hydrophytes and, as a result, cannot be considered a potential wetland habitat (see: *Appendix B – Biological Assessment Report*).

As the Honey Lake Valley is a closed basin in which surface water runoff from the surrounding mountains is directed to one of three dry lakes, there are no permanent surface waters or wetlands on or near the project lease area nor the gen-tie line private utility easement on Rainbow Way. Ephemeral rivulets do flow in the region during infrequent storm events, however since there is no connection of this flow to any Jurisdictional waters, there is no applicable regulation under section 404 of the Clean Water Act.

3.2.2 Environmental Consequences

The following subsections discuss the environmental consequences of the Project for groundwater and surface water.

Groundwater

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. 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. 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 project lease area soils.

Activities associated with the construction and operation of the Project would not have impacts at depths exceeding 30 feet, and therefore would not intercept or impact the groundwater. Water necessary for construction and operation of the proposed utility facilities and the associated Praana Two Washoe PSES/BESS Project will be supplied from an artesian spring located at a nearby Praana Energy facility, to be brought on-site by truck. Water use during construction would be used primarily for dust control and would total approximately 100 acre-feet during the construction period. Water would principally be used during operations for occasional panel washing which is anticipated that panel washing may occur once a year depending on site conditions and rainfall.

Surface Water

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 event, sheet flows from the BESS/PSES facility area may reach the natural ground south of the perimeter fenced area and perc into the ground on adjoining acreage as did historically. Any runoff that may sheet flow beyond the perimeter fencing 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. Increased soil disturbance would occur during construction of the Project, potentially resulting in increased levels of erosion, resulting in incrementally increased levels of sedimentation. Potential impacts resulting from this increased erosion and sedimentation due to soil disturbance would be reduced using BMPs and mitigation measures.

3.2.3 Mitigation Measures

Standard storm water BMPs will be incorporated by Praana Two: Washoe 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 Praana Two: Washoe 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. Praana Two: Washoe BESS/PSES project, will require construction contractors to implement a SWPPP and associated BMPs.

Given the relatively flat topography of the BESS/PSES 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 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 Praana Two: Washoe 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 Praana Two: Washoe 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.

3.3 AIR QUALITY AND CLIMATE

This section describes the impacts of the proposed Praana Two: Washoe BESS/PSES Project on local and regional air quality. The primary factors that determine the air quality are the locations of air pollution sources, the type and magnitude of emissions, and the local meteorological conditions. The Federal Clean Air Act (CAA) and subsequent amendments have provided the authority and framework for USEPA regulation of air emission sources. As an enforcement tool, the CAA established National Ambient Air Quality Standards (NAAQS), which have historically applied to six criteria pollutants-sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter equal to or less than 10 microns in diameter (PM₁₀), ozone (O₃), and lead (Pb) (see *Table 3-1: National Ambient Air Quality Standards*)

Table 3-1 : National Ambient Air Quality Standards

Air Pollutant	Primary/ Secondary	Averaging Time	Units	NAAQS	Attainment Status
Ozone	both	8-hour	ppm	0.075	Unclassifiable/Attainment
Carbon monoxide (CO)	primary primary	8-hour 1-hour	ppm ppm	9 35	Attainment Attainment
Nitrogen dioxide (NO ₂)	primary both	Annual 1-hour	ppm ppm	0.053 0.1	Unclassifiable/Attainment
Sulfur dioxide (SO ₂)	primary secondary	1-hour 3-hour	ppm ppm	0.075 .5	Unclassifiable/Attainment
Fine particulate matter (PM _{2.5})	primary secondary both	Annual Annual 24-hour	µg/m ³ µg/m ³ µg/m ³	12 15 35	Unclassifiable/Attainment Unclassifiable/Attainment Unclassifiable/Attainment
Respirable particulate matter (PM ₁₀)	both	24-hour	µg/m ³	150	Unclassifiable
Lead (Pb)		3-month	µg/m ³	0.15	Unclassifiable/Attainment

Geographic areas are designated as attainment, non-attainment, or unclassified for each of the six criteria pollutants with respect to the NAAQS. Currently, Washoe County meets all NAAQS (Federal Register Vol. 80, No. 235, December 8, 2015).

Currently there are no emission limits for so-called greenhouse gases (GHG), and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions. Ongoing scientific research has identified the potential impacts on the global climate of anthropogenic (manmade) GHG emissions and changes in biological carbon sequestration due to land management activities. Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect on the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back to space. Although GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused carbon dioxide concentrations to increase dramatically and are likely to contribute to overall global climatic changes. Although it is expected that the proposed project would lead to a reduction in regional GHG emissions by offsetting traditional energy production systems, the net reduction in GHG emissions has not been quantified in the present assessment due to the lack of an applicable regulatory framework to guide such an analysis.

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. However, because the proposed project is a renewable energy facility designed to be operated from Praana Energy's existing facilities off site, any emissions associated with operation and maintenance will be minor and sporadic in nature. Therefore, the bulk of the analysis has been dedicated to the construction phase of the proposed Project.

3.3.1 Existing Setting

The Project area and surrounding region is located near a dry lakebed in the Honey Lake Valley, surrounded by desert mountain terrain. Washoe County maintains an arid climate year-round, with average temperatures ranging from a high of 88 degrees in July to a low of 42 degrees in December (The Weather Channel 2020). Elevation in the vicinity of the Project area is approximately 4,000 feet above mean sea level (MSL), the highest elevations in the area included peaks of more than 7,000 feet above MSL in the Fort Sage Mountain Range. The elevation of the mountain ranges surrounding the Honey Lake Valley creates existing discernible air quality effects in the valley as the mountain ranges keep pollutants within the valley.

3.3.2 Environmental Consequences

Air emissions associated with the Project would occur primarily during construction and would be chiefly associated with fugitive dust during construction from ground-disturbing activities include site preparation, pad construction and installation of the gen-tie line, as well as proportionally smaller amounts of emissions associated with engine exhaust from construction equipment and the transportation of goods and construction workers. Once the facility is operational relatively small contributions to air emissions would be generated from on-road travel of vehicles associated with worker commutes for maintenance activities and the potential limited use of an emergency diesel generator for the HVAC system in the event of a power outage.

Construction of the proposed Praana Two: Washoe BESS/PSES project is anticipated to begin in the fourth quarter of 2022 and would be completed by the third quarter of 2023 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.

Construction activities for the project would generate temporary air pollutant emissions and fugitive dust emissions (PM₁₀ and PM_{2.5}) 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.

Fugitive particulate matter emissions (PM₁₀, PM_{2.5}) are the greatest pollutants of concern for a project's construction emissions as well as short-term increases in CO and NO_x emissions associated with vehicle trips and construction equipment. However, the project site is not subject to any quantified thresholds for mobile sources as the region has been shown to be in attainment for all criteria pollutants. Despite this fact, BMPs would help to reduce any temporary issue of fugitive dust emissions from the proposed Praana Two: Washoe BESS/PSES project's construction activity. During operations, criteria pollutant emissions would be limited to those associated with vehicle traffic to and around the facility to perform maintenance on the solar arrays and battery systems.

Emissions during construction would be temporary and, based on comparison of analysis of similar projects in Nevada, would be less than de minimis and would result in no long-term impact on the existing ambient air quality. Similarly, operational emissions would be sporadic and limited in nature and are anticipated to constitute de minimis conditions with no potential to significantly impact regional air quality.

3.3.3 Mitigation Measures

The construction of the Praana Two Washoe BESS/PSES Project would temporarily cause fugitive dust related to grading and other construction activities. To comply with Washoe County dust control requirements, water would be used to control dust. Areas of

higher erosion or poor soils may require application of a palliative dust reducing agent. The Project would implement the following BMPs for fugitive dust and wind erosion control:

- Minimize grading and vegetation removal, and limit surface disturbance during construction to the time just before PV module support structure installation.
- Limit vehicular speeds on non-paved roads (Washoe County ordinance speed limit is 25 mph).
- Apply water and/or palliatives (as allowed) to disturbed soil areas of the Project site to control dust and maintain optimum moisture levels for compaction, as needed. Apply the water using water trucks. Minimize water application rates, as necessary, to prevent runoff and ponding.
- During windy conditions (forecast or actual wind conditions of approximately 25 mph or greater), apply dust control measures to haul roads to adequately control wind erosion. Cover exposed stockpiled material areas, as necessary.
- Suspend excavation and grading during periods of high winds if substantial dust is generated by these activities.
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard.
- Gravel or other similar material would be used where dirt access roads intersect the paved roadways to prevent mud and dirt track-out. All paved roads would be kept clean of objectionable amounts of mud, dirt, or debris, as necessary, to prevent dust and particulates from being reintroduced (re-entrained) into the atmosphere.

3.4 BIOLOGICAL RESOURCES

The term "*biological resources*" refers to the flora and fauna found in the project lease area and the gen-tie line corridor (Rainbow Way Private Utility Easement). The two categories "*vegetation*" (plants) and "*wildlife*" (animals) each have feature the subcategory "*special status species*", which refers to biological resources that have been designated for protection under applicable legislation (Endangered Species Act or the Nevada Administrative Codes NAC.501 and NAC.503).

Sierra Geotech prepared a Biological Assessment in July 2021 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 and along the proposed gen-tie route corridor (Rainbow Way). This section summarizes the findings of the Biological Assessment and Special Status Plant Surveys, which has been provided in its entirety as Appendix B, by describing the biological resources in the area, the impacts of the proposed Project on these resources, and the any BMPs/mitigation measures that would be necessary to reduce these impacts.

3.4.1 Existing Setting

The following subsections describe existing conditions for vegetation and wildlife, including special status species for each, in the Project area.

Vegetation

Plant communities and habitat types were mapped on the Praana Two Washoe BESS/PSES project lease area as well as the Gen-Tie Line corridor of Rainbow Way easement along with a focused survey for special-status plant species (included in the Biological Assessment). Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, May 15, June 21, and July 18 of 2021. The surveys were conducted during the months of April, May, June, and July and consisted of sixteen (16) person days of surveys, or approximately eighty (160) person hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur within the

project action area. Surveys were floristic in nature. The species observed in these studies can be seen in *Table 3-2: Plants Observed in the Project Action Area*. Plants Observed in the Project Action Area. No special status plant species were observed within the Project Action Area.

Table 3-2: Plants Observed in the Project Action Area

Habitat Type	Scientific Name (Common Name)	Special Status
Alkali Desert Scrub (ASC)		
ASC	<i>Artemisia tridentata</i> (Big sagebrush)	No
ASC	<i>Atriplex confertifolius</i> (Shadscale)	No
ASC	<i>Bromus tectorum</i> (Downy brome)	No
ASC	<i>Grayia spinosa</i> (Hop sage)	No
ASC	<i>Halogeton glomeratus</i> (Saltlover)	No
ASC	<i>Lepidium perfoliatum</i> (Clasping pepperweed)	No
ASC	<i>Neokochia americana</i> (Green molly)	No
ASC	<i>Picrothamnus desertorum</i> (Spiny sagebrush)	No
ASC	<i>Salsola tragus</i> (Prickly Russian thistle)	No
ASC	<i>Sarcobatus vermiculatus</i> (Black greasewood)	No
ASC	<i>Tetradymia glabrata</i> (Littleleaf horsebrush)	No
ASC	<i>Tetradymia spinosa</i> (Shortspine horsebrush)	No
ASC	<i>Tragopogon dubius</i> (Goatsbeard)	No
Alkali Desert Scrub with Saltgrass (ASC/SG)		
ASC/SG	<i>Artemisia tridentata</i> (Big sagebrush)	No
ASC/SG	<i>Astragalus filipes</i> (Basalt milkvetch)	No
ASC/SG	<i>Bromus tectorum</i> (Downy brome)	No
ASC/SG	<i>Distichlis spicata</i> (Saltgrass)	No
ASC/SG	<i>Ericameria nauseosa</i> (Rubber rabbitbrush)	No
ASC/SG	<i>Grayia spinosa</i> (Hop sage)	No
ASC/SG	<i>Lepidium perfoliatum</i> (Clasping pepperweed)	No
ASC/SG	<i>Neokochia americana</i> (Green molly)	No
ASC/SG	<i>Salsola tragus</i> (Prickly Russian thistle)	No
ASC/SG	<i>Sarcobatus vermiculatus</i> (Black greasewood)	No
ASC/SG	<i>Tetradymia glabrata</i> (Littleleaf horsebrush)	No
Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)		
DIST/DP/BGS	<i>Ambrosia acanthicarpa</i> (Annual bursage)	No
DIST/DP/BGS	<i>Amsinckia tessellata</i> (Bristly fiddleneck)	No
DIST/DP/BGS	<i>Argemone munita</i> (Flatbud pricklypoppy)	No
DIST/DP/BGS	<i>Artemisia tridentata</i> (Big sagebrush)	No
DIST/DP/BGS	<i>Bromus tectorum</i> (Downy brome)	No
DIST/DP/BGS	<i>Chrysothamnus viscidiflorus</i> (Yellow rabbitbrush)	No

Habitat Type	Scientific Name (Common Name)	Special Status
DIST/DP/BGS	<i>Eriastrum sparsiflorum</i> (Great basin woollystar)	No
DIST/DP/BGS	<i>Ericameria nauseosa</i> (Rubber rabbitbrush)	No
DIST/DP/BGS	<i>Eriogonum baileyi</i> (Bailey's buckwheat)	No
DIST/DP/BGS	<i>Lupinus argenteus</i> (Silvery lupine)	No
DIST/DP/BGS	<i>Mentzelia albicaulis</i> (Whitestem blazingstar)	No
DIST/DP/BGS	<i>Onopordum acanthium</i> (Scotch thistle)	No
DIST/DP/BGS	<i>Pleiocanthus spinosus</i> (Thorn skeletonweed)	No
DIST/DP/BGS	<i>Prunus andersonii</i> (Desert peach)	No
DIST/DP/BGS	<i>Purshia tridentata</i> (Bitterbrush)	No
DIST/DP/BGS	<i>Salsola tragus</i> (Prickly Russian thistle)	No
DIST/DP/BGS	<i>Sisymbrium altissimum</i> (Tumble mustard)	No
Perennial grassland (PGS)		
PGS	<i>Bromus tectorum</i> (Downy brome)	No
PGS	<i>Elymus cinereus</i> (Great basin wild rye)	No
PGS	<i>Iva axillaris</i> (Death weed)	No
PGS	<i>Lepidium perfoliatum</i> (Clasping pepperweed)	No
PGS	<i>Tetradymia canescens</i> (Gray horsebrush)	No
Big Sagebrush (BGS)		
BGS	<i>Agropyron cristatum</i> (Crested wheatgrass)	No
BGS	<i>Artemisia tridentata</i> (Big sagebrush)	No
BGS	<i>Astragalus filipes</i> (Basalt milkvetch)	No
BGS	<i>Bromus tectorum</i> (Downy brome)	No
BGS	<i>Chrysothamnus viscidiflorus</i> (Yellow rabbitbrush)	No
BGS	<i>Ericameria nauseosa</i> (Rubber rabbitbrush)	No
BGS	<i>Eriocoma hymenoides</i> (Indian rice grass)	No
BGS	<i>Salsola tragus</i> (Prickly Russian thistle)	No
BGS	<i>Tetradymia canescens</i> (Gray horsebrush)	No
BGS	<i>Tetradymia glabrata</i> (Littleleaf horsebrush)	No

Wildlife

Evidence was documented during field reconnaissance which demonstrates the presence of five species on and in the vicinity of the project lease area and the Gen-tie line corridor. Of the species observed, the Loggerhead Shrike (*Lanius ludovicianus*) is the only special status species of concern with NAC 503 recognizes as a sensitive species under the Migratory Bird Treaty Act. During the February 26, 2021, field survey, a herd of approximately 18 Pronghorn Antelope was seen grazing in the Doyle Wildlife Area to the

south of the project lease area across the Nevada border in California. The Pronghorn Antelope is listed as a Game Mammal under *NAC 503*.

Table 3-3: Observed Wildlife in Project Action Area

Scientific Name	Common Name	Special Status
<i>Lanius ludovicianus</i>	Loggerhead Shrike	<i>NAC 503</i> – Sensitive
<i>Antilocapra americana</i>	Pronghorn Antelope	<i>NAC 503</i> – Game Mammal
<i>Falco mexicanus</i>	Prairie falcon	None
<i>Lepus californicus</i>	Black-tailed Jack Rabbit	<i>NAC 503</i> – Unprotected Mammal
<i>Equus ferus</i>	Wild Horse	None

Migratory Birds

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*.

As discussed above, migratory birds that were observed during site visits include the Loggerhead Shrike and Prairie Falcon. Although the property does not feature ideal nesting, breeding, or foraging habitats for the identified species, the project action area may contain potential breeding and foraging habitat for additional migratory bird species not observed on or around the project lease area at the time of site reconnaissance.

3.4.2 Environmental Consequences

This section describes potential consequences to Biological Resources that may result from construction of the proposed Project. These include both temporary and permanent

impacts which can be either direct or indirect consequences of the development of the proposed Project.

Vegetation

Development of the proposed Project will require temporary disturbance of the approximately 291 acres of that comprise the project lease area to install pilings. No grading and a low impact construction method will be implemented for 90% of this area. Maintenance of Rainbow Way and installation of the power poles within the Rainbow Way private utility easement (PUE) will require temporary disturbance to an approximate 40-foot-wide PUE along the five mile stretch from the project lease area to the NV Energy Fort Sage substation (+/- 12 acres). Disturbance in this area will be limited to road surface improvements/maintenance and the installation of utility poles for the gen-tie line to be spaced an estimated 200 to 700 feet between each pole.

Wildlife

Construction related consequences 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 Praana Energy plans to restore all disturbed habitats within the project lease area following construction. Permanent impacts that may result from project construction are only anticipated where project improvements (PV panels, electrical substation, battery energy storage system, access/maintenance roads, and fencing) will permanently alter existing habitat.

Special Status Wildlife Species

Migratory birds represent the category of special status species to be directly impacted by the development of the proposed Project. Specifically, Prairie Falcons and Loggerhead Shrikes have been observed in the vicinity of the Project Action Area. However, the Alkali Desert Scrub (ASC) and Alkali Flats/Playas (AFP) habitats which comprise the vast majority of the project lease area are not considered prime habitat for these species. BMPs and mitigation measures have been adopted to ensure that other migratory birds will not be adversely impacted by the development of the Project.

3.4.3 Mitigation Measures

The following subsections discuss mitigation measures for vegetation and wildlife in the Project area.

Vegetation

The following BMPs/mitigation measures would be implemented to reduce construction impacts on vegetation and wildlife habitat:

- Construction vehicle movement would be restricted to the Project area, predesignated access roads, and public roads.

Wildlife

The following BMPs/mitigation measures would aid in preserving wildlife habitat:

- Store, use, and dispose chemicals, fuels, and other toxic materials in an appropriate manner.
- Keep equipment in good condition with no significant leaks of fuel or other substances that could be toxic to animals and fish. Equipment should be washed prior to first site use to prevent the spread of invasive species.
- Keep materials to absorb small spills of toxic materials available onsite.
- Ensure that roads are engineered to adequately spread runoff to minimize erosion.
- Minimize soil compaction, erosion, and vegetation loss to preserve habitat by limiting construction activities to the Project site.

Special Status Wildlife Species

The following BMPs and mitigation measures would be implemented to reduce effects on the migratory birds:

- In compliance with the MBTA of 1918, habitat-altering portions of the Project would be scheduled outside bird breeding season (generally March 1st to August 31st) whenever possible. For clearing and grubbing work occurring during the nesting period, a biologist would survey the area for nests no more than 10 days prior to the start of initial grading and vegetation removal. If any active nests (containing eggs or young) are found, an appropriate no-



construction buffer area would be established and maintained until the young birds fledge and have left the nest.

3.5 CULTURAL RESOURCES

This section summarizes the findings of a Cultural Survey completed by Mesa Field Services (*Nevada Antiquities Permit No. 606*) for the project lease area and gen-tie route (*Rainbow Way*) (See: *Appendix C – Class III Cultural Inventory*) and discusses the potential impacts of the proposed Praana Two Washoe BESS/PSES Project on any cultural resources in the area. BPMs and any appropriate mitigation measures necessary to limit such impacts are also discussed.

3.5.1 Existing Setting

The archaeological inventory involves a series of four adjoining parcels totaling approximately 320 acres, plus 5.5 linear miles of a 200-foot-wide linear inventory for an access and utility easement corridor extending south from the project lease area along Rainbow Way to NV Energy's Fort Sage Substation for a total of 453 +/- acres of archaeological inventory (See *Figure 2-2; Project Vicinity Map and Figure 2-3: Project Boundary Map*). The project lease area and can be found on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps within portions of Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, and 29 of Township 26 North, Range 18 East. The Area of Potential Effect (APE) is all contained on private lands. The direct APE is the footprint of all new ground disturbances occurring from project activities including material staging/prepping areas and vehicle access points. Access to the project lease area is along Rainbow Way, a mostly unimproved two track road depression extending along its easement. Access to Rainbow Way is from Fish Springs Road a Washoe County improved roadway. Although the proposed ground disturbance is not to exceed 291 acres, the disturbance may occur anywhere within the project lease area and Gen-tie corridor. Therefore, the direct APE is defined as the entire acre project lease area plus a 40-foot-wide impact area along Rainbow Way's 60 foot wide PUE.

Historic Context

To properly evaluate cultural resources within the APE, a relevant regional cultural overview is needed to provide specific data for evaluating their eligibility to the NRHP

(Hardesty and Little 2009). The APE is located in eastern Honey Lake basin. Below is a brief outline of the prehistoric, ethnohistoric, and historic periods most relevant to the current APE.

Prehistory

There is archaeological evidence to suggest people have occupied the Great Basin for at least 12,000 years. Great Basin prehistory is divided into a series of sub-areas that represent concentrations of research characterized by differences in artifact inventories and adaptations to local environments (Jennings 1986:114). The project lease area can be found within the western Great Basin, which includes the eastern front of the Sierra Nevada range in California and most of the State of Nevada. The western Great Basin can be further divided into three sub-regions defined by differences in ecology and cultural history including the central sub-region, the Lohontan Basin, and the Eastern Slopes of the Sierras. The project lease area can be found within the Lohontan Basin at the eastern end of Honey Lake basin. The following prehistoric sequence reveals a changing adaptive strategy defined by five periods: Paleoarchaic, the Early, Middle and Late Archaic, and the Late Prehistoric periods (Beck et al. 2002; Beck and Jones 2008; Bischoff et al. 1999; Elston 1986:135-148; Hockett et al. 2008; Konoske et al. 2009).

Pre-Archaic (13,100 to 7,700 B.P.)

The period when people first arrived in the Great Basin is referred to as the Pre-Archaic, Paleoarchaic, or Paleoindian (13,000-8,300 B.P.) which roughly corresponds to the Terminal Pleistocene Early Holocene transition (Beck and Jones 1997; Haynes 2002). In northwestern Nevada this period encompasses Layton's (1970) Earliest Times including the Parman phase and early part of the Calico phase. During the transition to the Early Holocene effective moisture remained high. Biota was much different than today; many of the region's valleys are believed to have been very productive, though complete desertification of the region is not thought to have occurred until near the time of a series of large Mount Mazama eruptions (around 8,000 to 7,700 B.P.). After which the region experienced the most severe warm and dry period of the Holocene.

The most extensive Pre-Archaic sites are located in areas that were prime for exploiting lake/marsh resources and hunting. These areas were located in mid- to low-elevation steppe along beach bars or lunettes associated with pluvial lakes or marshes, and along Pleistocene River and stream terraces (Elston and Zeanah 2002:108-109). Populations are thought to have conducted frequent movements between wetlands for fewer pre-Archaic sites occur in upland montane areas where most are small lithic scatters and isolates. The relative low density of pre-Archaic sites, the use of widely distributed toolstone sources, lack of variability in site assemblages and lack of evidence for more permanent occupations such as midden accumulations and residential structures suggests a low population density and high degree of residential mobility. The distribution of Paleoindian sites across the Great Basin largely mirrors this trend and suggests that a focus on lacustrine environments was a Great Basin wide phenomenon during the Pre-Archaic (Beck and Jones 2008). Towards the end of the period, there is a significant shift in Great Basin subsistence economies from marsh resources to terrestrial mammals such as leporids (jackrabbit and cottontail), artiodactyls such as mountain sheep, and elk. The Calico phase is a brief phase towards the end of the period that marks the major transition to the Archaic with significant changes in technology and land use patterns attributed to a desert-based system of adaptation.

A recent compilation of dated sites in the Lahontan basin suggests a period of fluctuations in population and use of the Lahontan basin for the pre-Archaic (Adams et al 2008; Layton 1970; 1985). Based on carbon assays from open air sites and rock shelters an intensive period of occupation is defined immediately following the Younger Dryas, between 11,420 and 10,200 B.P. After this interval there is virtually no record of human occupation in the Lahontan basin for the period between 10,200 and 8,930 cal. B.P. Both obsidian hydration analysis of artifacts from Hanging Rock Shelter and Last Supper Cave as well as dated archaeological sites suggest a gradual increase in the use of the basin during the 2,000-year interval between 8600 to 6480 cal. B.P. (Adams et al 2008; Layton 1970; 1985).

The period ends with the drying of pluvial lakes in the region and with a series of massive eruptions over a one-to-two-hundred-year period attributed to Mount Mazama. The archaeological record indicates a significant reduction in land use of the area following

the eruption. Increased land use activity is not noted for the area or much of the Great Basin until the Middle Archaic. Layton's (1985) analysis of Hanging Rock Shelter and Last Supper Cave reveals a relative hiatus at this interface. A combination of Mount Mazama eruptions and the complete desiccation of pluvial lakes in the area likely contributed to a decline in use of the area. This marks the end of the Pluvial Lakes Tradition and transition to the desert culture lifeway characteristic of the Archaic. By the Early Archaic there is marked difference or significant shift in material culture and land use strategies over the pre-Archaic.

Early Archaic (7,700 B.P. to 4,500 B.P.)

The Early Archaic encompassed the end of the Early Holocene and all of the Middle Holocene which, as previously discussed, was a time of dramatic climatic shifts across the Great Basin which climaxed with an extended period of warm temperatures and decreased precipitation (Beck and Jones 2008; LaValley 2013:9-11). When the Mount Mazama series of eruptions ending by 7,700 B.P. lakes were drying out during an extended period of warm temperatures and decreased precipitation termed the Altithermal Maximum (Layton 1970:316). The area may have been temporally abandoned with people eventually returning in growing numbers. Residential mobility decreased for this period compared to the Paleoarchaic.

There are few archaeological sites identified in the Great Basin dating to the Early Archaic. Subsistence strategies continued to broaden during this period and seed grinding technology is evident with the regular appearance of milling stones in the archaeological record. The faunal assemblage for the period contains mountain sheep and artiodactyls. Great Basin Stemmed Points disappear altogether during this period and are replaced by notched points (Beck and Jones 2008:46). Projectile points dating to this period include Northern Side-notch, Humboldt Concave Base, Gatecliff, and Elko series. The appearance of Elko points occurs significantly earlier for the Northern and Eastern Great Basin. One of oldest radiocarbon assays for an Elko point in northwestern Nevada was obtained from sinew still attached to the point recovered from Elephant Butte Cave north of Pyramid Lake, 7785 to 7669 cal. B.P. (Smith et al. 2013). The use of Northern Side-notched points is

believed to be restricted to the Early Archaic and considered a distinct temporal marker for this period.

Middle Archaic (4,500 to 1,500 B.P.)

This period saw a significant increase in reoccupation of the area as the climate became considerably cooler and wetter and populations were higher than they were before (Layton 1970; LaValley 2012:11). Elko series projectile points are the most common point type recovered in the area for this period which Layton (1970:321) interprets as the “...most intense period of human occupation of the entire prehistoric period.” During this time, the faunal assemblage contains an increase in leporid and sciurid faunal remains. Dominant projectile point forms for this period include the Elko series, more common in the first half of the Middle Archaic. Oetting (1994:56) suggests the early half of the Middle Archaic assemblages include significant proportions of Gatecliff Split Stem points with these forms gradually phased out toward the end of the Middle Archaic.

Source provenance studies of projectile points from Paiute Creek Shelter (Smith et al. 2013) reveals a preference for the use of local obsidian for the manufacture of projectile points for the Middle Archaic with a shift during the Late Archaic to the preference for non-local obsidian and a significant increase in the use of chert materials. With the introduction in the use of the bow and arrow a few Rosegate series specimens appear late in this phase. Drought conditions and abandonment of sites punctuate the end of this phase. Intermittent drought periods are seen until circa 700 BP.

Significant archaeological resources attributed to this period near the APE include house pits at the Humboldt Lakebed site and near Marble Bluff at Pyramid Lake 2.5 meters in diameter and 0.4 centimeters deep with central hearths, caches, and occasional burials with grave goods (Elston 1986:143). The Karlo site, north of Honey Lake, includes houses defined by post hole patterns 3 meters in diameter with cremations and pit burials dating to 1,600 B.P. Located a few miles south of the APE in the Fort Sage Mountains is the Fort Sage Drift Fence (26Wa3030/CrNv-03-2496) comprised of five separate rock alignments spanning nearly 1800 meters with its use dating between 3700 and 1000 cal. B.P. (Pendleton and Thomas 1983:7; Young and Hildebrandt 2017).

Late Archaic (1,500 B.P. to A.D. 1843)

Population densities reached their highest during the Late Archaic with the spread of Numic speaking groups of Northern Paiute (Layton 1970; LaValley 2013). According to Bettinger and Baumhoff (1982), Madsen and Rhode (1994) and others Numic-speaking hunter-gatherer groups moved across the Great Basin from the southwest replacing or intermixing with existing populations. Desert Side-notched and Cottonwood projectile points are thought to represent the arrival of Numic Speakers across the Great Basin. The Northern Paiute are known to have used these points historically. The Archaic Period ends about the time of the appearance of John C. Fremont in the region in 1843. The early part of the Late Archaic is defined by the use of both Elko and Rosegate Series points with the latter part of the period being dominated by Rosegate and Cottonwood or triangular forms.

Proto-Historic/Historic

This period encompasses the termination of aboriginal hunting and gathering lifeways and the influx of Euro-Americans during the 1849 Gold Rush. The period lasts 77 years, and in that time, the ever-increasing number of Euro-American settlers resulted in numerous territory and resource conflicts. Fairfield (1966:13) makes reference to the Washoe being present along the south side of Honey Lake with Paiutes located in the rest of the valley. As settlement increased in Honey Lake basin in the late 1850s conflicts between the settlers and Native groups living in the basin arose (Fairfield 1966:15-16). These incidents typically involved disagreements over property ownership, retaliation by one group over a dispute, and counterretaliation by the opposite group.

Contact between native groups and Euro-Americans in the mid-1800s resulted in several violent interactions including the Pyramid Lake War of 1860, Owens Valley Indian War from 1861 to 1864, and the Snake War from 1864 to 1868. In Honey Lake basin in 1857, there was the brief "Potato War," between settlers and the Washoe after a group of hungry Washoe took a number of potatoes from the Morehead Ranch (Cerveri 1968). In 1856 Captain William Weatherlow acting on behalf of the settlers of Honey Lake Basin near the south shore of Honey Lake entered into agreement in with Winnemucca or Po-i-to (Cerveri 1968; Fairfield 1966:14). Winnemucca was in control of the Northern Paiute and based out

of Pyramid Lake whose and whose territory included the project area east of Honey Lake. The two sides had an agreement should there be any issues between the settlers and natives that the settlers should come to Winnemucca and not to take indiscriminate revenge. For the most part the treaty was observed by both sides.

Ethno Historic/ Northern Paiute

Attempts at interpretation of the prehistoric record have often used comparisons with the Ethnographic record (Elston and Zeanah 2002). Hunter-gatherer lifeways of the Great Basin evolved and fluctuated over the last 13,000 years in adaptive responses to climactic fluctuations. Two dominant climatic regimes define the prehistoric occupation of the Great Basin with a mesic period during the Pre-Archaic and later desert adaptation. Climatic and ethnographic correlations are believed to be more direct with the Archaic. Pre-Archaic adaptations are presumed to be less analogous to the ethnographic record due to the radical differences in climate and resource availability. Changing environmental conditions between these two significantly different periods is believed to have had a profound impact on overall hunter-gather mobility patterns (i.e. increased use of uplands, seen during the Early Archaic periods), resource procurement, and changes in subsistence strategies (i.e. Early Archaic broadening of diets). Archaic adaptations to the environmental fluctuations resulted in a strategy that enabled Archaic populations to survive the harsh conditions of the country (LaValley, 2013).

Northern Paiute Territory was entirely contained within the Great Basin with the core area being the Stillwater Marsh vicinity (d'Azevedo 1986:467-470; Fowler 2002:9). The Northern Paiute ranged as far north as the Oregon-Idaho border to south of Mono Lake. The Paiute lived in camps well adapted to the harsh desert environment with each sub-group or band occupying a specific territory typically located near a lake or other water source. Although the groups foraged broadly within their home districts, they often overlapped with neighboring territories (Fowler and Liljeblad 1986). In Honey Lake basin the Washoe and Paiute didn't live permanently on the flat valley land (Middleton 1963:30). They settled on ridges or hills and terraces above stream beds or springs where there was some degree of protection. The Northern Paiute lived in clusters of individual families who seasonally

occupied homes or specific geographic areas with individuals permitted to move freely between the different bands or tribes.

Typically, Northern Paiutes were nomadic and made their living by hunting, gathering, and fishing. The territory of the Northern Paiute was environmentally diverse offering a variety of subsistence and settlement choices. A range of resources were utilized from a variety of eco-zones but with a focus on wetland resources and pinyon nuts (Fowler 2002:45-87). In Honey Lake basin food included deer, rabbits, ducks, geese, pigeons, and other birds taken by nets (Middleton 1963:30). Seeds were gathered in baskets by knocking the seeds in a basket with a stick. Fish were harpooned or taken by dip nets. Food was cooked in by stone boiling in a basket.

Historic Background

The resources of the Honey Lake basin played an important role in the early exploration and settlement of the American West. Due to its location at the crossroads between Nevada and California the area attracted the explorer John C. Fremont and later emigrants using the Applegate-Lassen Emigrant Trail on their way to Oregon and California. After the advent of the transcontinental railroad the area saw the development of cattle ranching and dry farming in the valley.

Early Exploration

In the early 1800s, the Great Basin was one of the largest expanses of the United States that remained unexplored and was the most rapidly settled (Morgan 1997:36). Exploration of northern Nevada was first accomplished by fur trappers (Hulse 2004:36-41). At the time, fur hats and coats were a popular fashion in Europe and eastern North America as Wild West items that fueled the expansion for furs into the Great Basin by British and American enterprises. The Lewis and Clarke Expedition through the Rocky Mountains to the Columbia River between 1803 and 1806 was the first transcontinental expedition in the region to detail a rich land with large rivers and plenty of beaver and other fur bearing animals. The first large scale and systematic fur trapping and trading in the region occurred during the mid-1820s (Idaho State Historical Society 1985). Peter Skene Ogden with the Snake River division of the Hudson Bay Company spent six years (1824-1831) trapping

wherever he anticipated American intrusion exploring territory across the Snake River area and the northern Great Basin.

John C. Fremont, working for the Bureau of Topographical Engineers, was the first professional surveyor to enter the Great Basin. Through official government reports, he provided detailed knowledge that contributed the most to the opening of the Great Basin and expansion of the American West (Egan 1985). Fremont recorded flora, fauna, and geological data in addition to travel routes, proper season of travel, necessary supply limits to make the journey possible, etc. Fremont first passed through northwestern Nevada on his second western expedition during the years of 1843-1844 (Egan 1985:190). Although he never visited Honey Lake basin John C. Fremont passed just to the east of the APE when he stopped in Pyramid Lake in 1846 (Middleton 1966:32).

The incursion by Euro-Americans into Northern Paiute territory had a detrimental effect on the traditional life ways of the Native Americans in the Great Basin. After Fremont established routes through the Great Basin emigrants prior to 1848 were primarily farmers passing through the area along the California Trail in low numbers on their way to the coast (Hardesty 1997:20). In 1848, both the signing of the Treaty of Hidalgo ceding northern Mexico to the United States and gold discovered at Sutter's Mill forced many more down the trail in the ensuing years. Between 1840 and 1848, 2,735 emigrants reached California over the California Trail (Hardesty 1997:20). After the discovery of gold, hysteria ensued with 60,000 people taking the overland route through the Humboldt River Basin in 1849 alone (Crum 1994:18).

As the discovery of gold in 1848 sparked a flow of westward migration, new settlers sought an alternative to the route through the treacherous Donner Pass to cross the Sierra Mountain Range. Peter Lassen first explored the area that is now Lassen County in 1850 and, in 1851, William Nobles began leading settlers over a route that ran from the Humboldt River (in the State of Nevada) to Shasta City at the northern end of the Sacramento Valley (Fairfield 1966:17-20). Nobles in a prospecting party of 8 men passed through the mountains to Honey Lake basin in the spring of 1851. Noble so impressed with the value of the passage went to the town of Shasta, then the chief town in extreme northern California, to make

known its potential economic value and divert as much emigrant traffic from the trail along the Humboldt (Fairfield 1966:17; Middleton 1966:33). Improvements were made to the route in 1856 when Nobles obtained \$300,000 in funding from Congress for its development as an improved wagon road, which became part of the Fort Kearny-South Pass-Honey Lake Wagon Road. The newly developed route superseded the Old California and Oregon Trails in the 1860s as an emigrant route to the coast passing through the northern extent of Honey Lake basin.

Of the thousands of people that passed through what is now Lassen County, some chose to remain in the Honey Lake basin (what is now Susanville). Among those early settlers of Susanville was Isaac Roop, who established a trading post where travelers along the Nobles Emigrant Trail could stock up with provisions before crossing the Sierra Mountains. First known as Roptown, Isaac Roop's settlement later was named Susanville for Roop's daughter, Susan. When the Territory of Nevada was established in 1861, Isaac Roop was made governor of the Territory. A few years later, surveys of the area established that Susanville was part of the State of California, and the County of Lassen was established in 1864.

Another early trail or road utilized in Honey Lake basin was the road from Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road. Fort Sage, just south of the APE was located 46 miles north of Reno in Washoe County, west of Pyramid Lake, on the road from Reno to Fort Bidwell, Surprise Valley, California (Ruhlen 1964). The fort was a garrison occupied in the early 1870s and located between State Line Peak and the Virginia Mountains. The route is present in the south part of Township 26 North, Range 18 East dating to 1881 (BLM 2021).

By the early 1850s, Native Americans began to sustain significant impacts to their way of life and survival as ever-increasing numbers of emigrant groups and their stock moved through the area depleting local food sources and restricting the native population from water sources. These threats caused friction between the populations, largely leading to the end of the traditional native way of life by the 1870s. By 1880, settlements had sprung up all over Honey Lake basin. The Nevada-California-Oregon Railway which traversed the

eastern side of the County was established. The railroad, sometimes referred to as the Narrow Crooked & Ornerly, was a narrow-gauge line that operated from 1880 to 1927. Logging was a large economic activity in the western Honey Lake basin around Susanville, the eastern part of Honey Lake is lacking trees and ranching was a main activity in the immediate vicinity of the project area.

Settlement: (Moody 1985)

Settlement in Honey Lake basin proceeded slowly in contrast to elsewhere that saw more rapid settlement. Settlement initiated south and west of Honey Lake. Issac N. Roop and others were first to settle there in 1853-54 (Purdy 1983:1). Short lived mining ventures in the Diamond Range in 1855 brought more permanent residents. Daniel C. Wheeler was the first to settle in the eastern part of the valley at the Lower Hot Springs where he and two German immigrants made a land claim and improved the property in in December of 1863. The property was sold to dairy farmers Thomas Pearson and John Sutherland in 1867. The two were from Red Rock Canyon north of Reno 20 miles. Thomas Parson and his family were killed at the location in Honey Lake on April 17, 1868, by the local Native Americans. The eastern part of the valley remained uninhabited and was mainly used for grazing livestock from Reno in the winter until 1874.

Honey lake economically has bene part of the cattle and timber industry (Middleton 1963:1). Cattle industry more dominant in the eastern part of the valley due to lack of timber. What contributed the most to the settlement of the eastern part of the valley was Charles L. Merrill bill introduced in the United States Congress entitled “the Lassen County Desert Land Act” (Moody 1985:9; Purdy 1983:2). The bill allowed for the homesteading of arid lands of 640 acres approved by congress on March 8, 1875. If improved and irrigated an individual could purchase from the government at \$ 1.25 per acre. Residency was not required. Originally only intended for Lassen County the bill was amended in 1877 for all arid lands of the Far West. At the height of the Golden Era of agriculture in 1911 the Eastside Development League sought to promote the area as rich farmland along east honey Lake. Some irrigation efforts were attempted in eastern part of the valley however, the lake kept



drying up. Also, the results of using alkali water from the Eagle Lake or Honey Lake has ruined the land on several ranches in Honey Lake basin (Middleton 1963:21).

Established in 1880 the Nevada & Oregon Railroad Company was the first to construct a railroad through Honey Lake basin (Purdy 1983:5-6). The company constructed a narrow-gauge railroad headquartered in Reno. The railroad was plagued by financial problems and sold to the Morgan Brothers at Public auction in Reno on April 17, 1884. The company was reorganized as the Nevada-California-Oregon Railway Company (NCO). At the time the line only extended 30 miles north from Reno. A fifty miles extension through the east side of Honey Lake was criticized by the local valley residents for it bypassed most of the development in the valley at the time. The reason was for the railroad could lay claim to the vast amounts of public lands uninhabited on the east side of the valley. Successive amendments to the Desert Land Act allowed for the claim of 1,120 acres prompting abuse of the act by land speculators (Purdy 1983:5-6).

Because of the abuse the Land Act was restructured to allow only 320 acres per individual in 1890. Large holding companies arose in the eastern part of the valley including the Honey Lake Reservoir & Irrigation Company, the Honey Lake Water Company, the Lassen County Land & Livestock Company, and the Lassen Development Company all obtained large tracts of land in the region (Purdy 1983:5). This created the impetus for the development of a town on the east side of the valley. The new terminus at the end of the 50 miles extension was named Heriot's Place after a former manager of the NCO but soon replaced with the name of Amedee in honor of Amedee Depau Moran part owner of the NCO. The first rain arrived in town on November 17, 1890. Being the only railroad in the region Amedee became a large shipping center servicing the Susanville area north to Lakeview, Oregon 121 miles north. The NCO built a large stockyard north of town for utilization by local ranchers for shipping livestock to Reno. The town had 300 to 400 residents at its height. When the terminus for the railroad moved 50 miles north to Madeline Plain at Termo in January of 1899 the town declined (Purdy 1983:19). The Southern Pacific Railroad was constructed across northern Honey Lake basin to exploit the country's abundant timber resources in 1909 attracted additional settlement. The new branch line was known as the Fernley and

Lassen. The NCO lost profitability and was eventually sold to Western Pacific on June 11, 1917 (Purdy 1983:35).

Flanigan was established in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City, Utah (Myrich 1992:318-319; Kneiss 1953:16; Moody 1985:5). The station in the extreme eastern Honey Lake basin was named after Patrick L. Flanigan, a landowner, businessman, and state senator from Washoe County whom the Western Pacific purchased right of way in the area (Moody 1985:5). In 1913, the Southern Pacific Railroad built its Fernley & Lassen branch, with the two lines crossing at Flanigan (Moody 1985:7). A deed for Flanigan Townsite was filed on July 16, 1913 (Moody 1985:11-48). The town grew after the opening of the railroad station, with the establishment of a post office in the spring of 1914, a schoolhouse, and the establishment of a voting precinct in July. Railroad business contributed to most of the growth, with peak population of a few hundred in the 1920s, mostly Southern Pacific and Western Pacific employees. Population slowly dwindled, with only a handful of residents remaining by the 1950s. In March 1959, Southern Pacific Railroad closed the Flanigan station. By fall 1960, only one permanent resident remained.

After the abandonment of Flanigan many still owned title to the land, however, only few ranches remained occupied in the area. Later in the 1970s, investors bought land just east of Flanigan, established dirt streets and planned to sell parcels for \$200-\$300 each, as a novelty to capitalize on Flanigan's Western ghost town history, intending to give parcels to celebrities like John Wayne and Clint Eastwood to draw publicity. However, the Interstate Land Sales Full Disclosure Act of 1968 requires new developments with plots sold over \$100 to have basic infrastructure such as sewer and street lighting, which made the plan unprofitable, and the venture was mostly abandoned.

Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (Wednesday September 7, 1977) and the Reno Gazette Journal (Sunday Sept 11, 1977) suggests this venture wasn't entirely abandoned. The articles detail a revitalization of the area and describes living conditions during the mid-1970s. The articles center on the creation of the "Honey Lake Valley Meeting Hall" a wheel less trailer within a fenced in area.

The meeting hall was actually a private school and called a meeting hall to get around state sanctions against unlicensed private schools. Although the local inhabitants petitioned California for a new school the local population was protesting the more than 30 miles drive to Herlong, California on bad roads with washboard and mostly muddy during winter. Sixteen families are described as inhabiting the area near Calneva and Flanigan, with some on ranches, others in lots across the valley floor.

Long time valley resident Lela Findley interviewed for the articles, had a house on the state border for 21 years prior to printing of the article printed on Sunday, September 11, 1977. Her house is described as just above the fenced in area containing the meeting hall. Lela describes herself as a supervisor of the new valley school. She used a wood stove for cooking and heating water. Oil lamps were used and generators for electricity with access to well water for the residents. She was a longtime resident of eastern Honey Lake basin original from Herlong and recalls visiting Flanigan in the 1940s to attend town dances. Some of the other locals interviewed for the piece include Lynette Horner, Josephine Lander, and Joyce Pederson. The town hall was being built up and dedicated that Memorial Day weekend of 1977. It is part of a recent population boom in the project area starting two to three years earlier. A local Linda Wells stated more families want to move into the area but want better services. However, results from the current field investigation suggests this never happened with population in the project area continuing to decline sometime soon after the articles were printed.

According to the Washoe County Assessors Website the Phil and Lela Findley property (Washoe County Assessors Number 074-010-44) can be found under her name in the NW¼ of the NW¼ of Section 5 Range 25 North, Range 18 East. The site of the “Honey Lake Valley Meeting Hall” would have been just north of the property. Both properties are just over a mile southwest of the intersection of Rainbow Road and Fish Springs Road. A few of the properties in the project vicinity remain occupied and are being sold under the name “Pyramid Lake Ranch Estates.”

Transportation

The Honey Lake basin played an important role as a way station for many travelers utilizing the Nobles' Route of the Applegate-Lassen Emigrant Trail, which would later become the Fort Kearny-South Pass-Honey Lake Wagon Road passing through the northern extent of Honey Lake basin (Purdy 1983:41). The United States Congress passed an act to provide for a federal road from Fort Kearney, Nebraska to the California boundary in the vicinity of Honey Lake in an effort to bypass the more treacherous and drier route through the 40 miles desert and Donner Summit. The construction of the Nevada-California-Oregon Railway and later the Southern Pacific and Western Pacific railroads were significant developments within the eastern part of Honey Lake Basin leading to the development of many small towns attributed to the construction and use of the railroads including the towns of Calneva and Flanigan nearest to the APE.

Western Pacific Railroad (S2852/D352)

The Feather River Route of the Western Pacific Railroad (Western Pacific) has the distinction of being the most recent of transcontinental built in the twentieth century (Myrick 1992:316; Kneiss 1953). The impetus for the railroad's construction is rooted in the decision of the Union Pacific Railroad, then led by E. H. Harriman, decision to close off access to the Southern Pacific to all railroads other than the Union Pacific, leaving all other railroads unable to access the Pacific Coast from Salt Lake City, thereby creating a monopoly on distribution (Kneiss 1953:6-8). This was bad news for California growers and merchants who had hoped to break the Union Pacific monopoly (Kneiss 1953:5).

Built as a standard gauge railroad the Feather River Route was the first transcontinental railroad to be constructed entirely by machine (Kneiss 1953:4) the Western Pacific extends for 924 miles between Oakland California and Salt Lake City, Utah. Formally incorporated on March 6, 1903, the Western Pacific was financed by a George Gould whose father Jay who had compiled a partially complete transcontinental railroad system terminating with the Denver & Rio Grande at Ogden, Utah (Myrick 1992:318-319; Kneiss 1953). George Gould had hoped to fill the gap between his railroad and the coast of California. The first railroad spike was driven in Salt Lake City, Utah on May 24, 1906, with

the last spike driven in on November 9, 1908, at Spanish Creek Bridge a few miles west of Quincy, California. The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907. Regular freight along the line commenced the first of December with passenger service beginning nearly a year later in August of 1910.

Due to relatively light traffic and no branches to feed the railroad it went into receivership in 1915 emerging a year later as the Western Pacific Railroad with an emphasis on the construction of feeder lines with some 230 miles of new lines added over the next 15 years (Myrick 1992:331). The first feeder branch was the acquisition of the Northern California and Oregon Railroad to Reno, Nevada to a point just south of Herlong, California. A series of railroad stations along route in the Honey Lake basin near the project area include Calneva just west of the APE and Flanigan at the far east end of the Western Pacific Railroad through Honey Lake basin.

Flanigan was a company staffed railroad crossing that was first a station on the Western Pacific Railroad five miles east of the state line with California. The station was constructed in 1909 and in operation briefly before it was disconnected from the line in 1911. The station was named in honor of Patrick L. Flanigan, for his allowing passage of the railroad through his expansive ranching domain (Moody 1983:5). While freight and passenger trains of the Western Pacific would use Flanigan Station infrequently it was the Southern Pacific Railroad that would be most influential to Flanigan Station. The construction of the Fernley and Lassen Branch of the Southern Pacific occurred in 1912 to 1913 and crossed the tracks of the Western Pacific at Flanigan Station before it headed west to Amedee (Moody 1983:8). Both railroads had a siding at the location used to "side" cars when not use or as switch.

Telegraph operator at Flanigan first with the Western Pacific Railroad in 1910 then again with the Southern Pacific in 1913 with the Railroad's signal operator doubling as a Western Union Telegrapher (Moody 1983:9). Between 1915 and 1920 the Nevada, California and Oregon Telephone and Telegraph Company (later Pacific Telephone and Telegraph) installed a telephone line between Flanigan and Susanville, with Flanigan listed



as being in California (Moddy 1985:39-40). The line ran from Flanigan to Amedee along a railroad fence.

Ranching/Agriculture

A combination of factors led to development of ranching in the Study Area Prior to the advent of the railroad California had been the regional center of cattle production Western Nevada relied on California as a source of beef cattle during these early years. Due to droughts during the late 1860s California ranchers began using rangelands in northern Nevada as summer range. The advent of the railroad in 1868 allowed the beef industry to become regional in scope (Townley 1983). Cattle could be taken from the range in northern Washoe County fattened in the Truckee Meadows and shipped to the bay area for slaughter. Even comparatively remote areas such as the proposed project area were integrated into this regional marketplace.

Ranching

Locally ranching began in the Honey Lake basin and Winnemucca Lake areas during the 1850s through the 1870s. During this period many ranchers drove their herds to the central valley of California during the winter using their Nevada ranch lands only as summer pasture. Ranchers acquired land through the National Homestead Act of 1862, the Swamp and Overflow Act, or by filing preemption claims. By these means early ranchers gained access to most if not all water sources and potential pasture areas in the region thereby controlling the range. This allowed ranchers to enlarge their herds of cattle sheep and horses and to grow and cut feed. Many pinned their economic hopes for the state on agriculture (Townley 1983). Large ranching operations came into being that operated over huge acreages within Nevada and adjoining states. The Pyramid Land and Stock Company owned by Patrick Flanigan operated in the Pyramid Lake area and eastern Honey Lake basin. Flanigan moved to Nevada in 1877 and began herding sheep in the early 1880s grazing on public domain land around Pyramid Lake. He began acquiring property in the 1890s including ranches near Gerlach Constantia in California in Winnemucca Valley and a number of others in the general area. At the height of his career Flanigan ran than 30,000 ewes 2,000 cattle and 1,800 horses in Washoe County (Moody 1985).

The sheep market boomed during the 1910s and 1920s prompting many ranchers increase the number of sheep they kept versus cattle. After the Wool Crash of 1923 the sheep industry dwindled. This trend was reinforced by several drought years the cumulative effect on vegetation of over grazing and passage of the Taylor Grazing Act. This act was intended to manage public grazing and to prevent degradation of the public domain due to overgrazing. By World War II ranching was no longer a prominent industry in the projects area. Beginning in 1914 Flanigan's empire began to unravel. Declining sheep prices and failed irrigation ventures eventually forced him into bankruptcy.

Agriculture

In the late 1800s there was an interest in reclaiming lands with 20 inches or less of annual rainfall led to a new wave of agriculturalists dry land farmers. The dry land farming movement reached full flower during the first two decades of the Twentieth Century. Many dry land farmers homesteaded in Honey Lake basin during the 1900s and 1910s when the dry farming movement was at its height. Irrigation was proposed and attempted from Honey Lake. There was even a proposed apple plantation near Calneva (Moody 1985:12). In theory the homestead was also supposed to produce a crop of sufficient size that it could be sold. Following World War I when an agricultural depression set in that lasted throughout the 1920s Dry land homesteaders suffered. They were also subject to changes in local climatic conditions. Droughts changing water tables depletion of nutrients in the soil or the accumulation of salts. Litigation over water rights, salinity, and the lake going dry in 1919 put an end to such activity and the homesteaders had largely left the area by the 1920s (Moody 1985:15).

Records Search

Mesa Field Services performed a background literature search for the area concerning past archaeological projects and previously recorded sites in addition to an archival search of General Land Office (GLO) plats, historic topographic maps, historical indices, master title plats and federal and state patent records using the BLM Public Land Records website (Bureau of Land Management - General Land Office [BLM-GLO] 2021). A search of previous archaeological and architectural investigations, and previously recorded



and evaluated properties, within one mile of the APE was performed using the Nevada Cultural Resource Information System (NVCRIS) electronic database. In addition, the NRHP was consulted for significant properties in the project vicinity and a review of existing historic contexts related to the project area was also conducted. The Nevada Historical Society Research Division was contacted for historical records and photos of the APE and Honey Lake basin in addition to a search of the Washoe County Library. Resources were used to predict the frequency and kinds of cultural resources that would be expected as well as for defining the cultural history of the project area. The data is presented below in the following discussion concerning previous archaeological research, and field expectations.

Cultural Resources Records Search Results

The NVCRIS search revealed within one mile of the project area seven prior archaeological inventory projects (*Table 3-4: BLM Previous Archaeological Inventory*), and three previously recorded archaeological sites (*Table 3-5: Trinomial 26 Previous Recorded Archaeological Sites*). The three sites are located at the far southern extent of the APE. Site 26Wa5578 is a large prehistoric artifact scatter which bisect the south end of Rainbow Way and can be found within the direct APE. The site has not been evaluated for listing with the NRHP by the SHPO. The other two sites occur well outside of the direct APE to the southwest and include a road with a fenceline (26Wa9445) and a small prehistoric artifact scatter with debitage and groundstone (26Wa6191). A search for currently listed NRHP properties did not identify any within eastern Honey Lake basin.

Table 3-4. BLM Previous Archaeological Inventory

BLM Report No.	Title	Date & Author
242	Pumping Station and Ancillary Facilities: An Addendum to: A Class III Inventory of the North Valleys Rights-of-Way Project, Washoe County, Nevada	2006, Hutchings, James
16-750	Alturas 345 KV Transmission Line Corridor, Cultural Resource Inventory, Phase I, Class III Survey and Preliminary Evaluation of Cultural Resources	1996, Kautz, R. and J. Hutchins

BLM Report No.	Title	Date & Author
16-751	Cultural Resources Assessment Report: Tuscarora Pipeline Project: Phase I" Survey, Inventory, and Preliminary Assessment of Cultural Resources	1994, Price, B
7494	An Addendum to a Cultural Resource Inventory of Approximately 12.3 Miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120 kV Interconnection Project in Lassen County, California and Washoe County, Nevada	2010, Ringhoff, Mary et al
32482	A Class III Inventory for the US Gypsum Empire Natural Gas Pipeline, Washoe County, Nevada	1997, McNees, L.
19545	A Class I Literature Search for the Tactical Vehicle Off-Road Operations Project in Churchill, Storey, and Washoe Counties, Nevada	2013, Webster, Chris
27003	Class III Cultural Resources Inventory Report for the Fish Springs Ranch Solar Energy Center Project, Washoe County, Nevada	2020, Giacinto, Adam et al

Table 3-5. Trinomial 26 Previous Recorded Archaeological Sites

Trinomial 26	Temporal affiliation/type	Description	Eligibility Status
*WA5578	Prehistoric	Large prehistoric artifact scatter	Unevaluated
WA9445	Historic	Road and fence line	Ineligible
WA6191	Prehistoric	Lithic and groundstone scatter	Eligible

Archival Research

A search for archival resources pertaining to the APE was conducted of historic GLO and USGS maps, and historical indices. The search revealed two GLO map dating to 1873 and 1881 for Township 26 North, Range 18 East and two historic USGS quadrangle maps dating to 1964 (Table 5). The GLO maps depict the same information. There is nothing in the immediate project lease area. Some old roads are depicted in the south part of the valley, southeast of the project lease area at least a mile that are related to the Reno-Fort Bidwell Road in use in the 1870s. The 1964 Flannigan, NV-CA and 1964 Silver Peak, NV 1:24,000-scale topographic quadrangle maps depicted a couple of roads within the APE

including Rainbow Way. Rainbow Way is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29.

Table 3-6. Historic Maps

Historic Maps	OBSERVATIONS
1873 & 1881 GLO Maps, Township 26 North, Range 18 East	Both maps depict the same information. There is nothing in the immediate project area. Some old roads are depicted in the south half of the Township and Range, southeast of the project lease area at least a mile.
1964 Flannigan, NV-CA 1:24,000-scale topographic quadrangle map	There are few man made features in the project lease area or gen-tie line route. The route of the Western Pacific Railroad and a road that somewhat parallels it to the south.
1964 Silver Peak, NV 1:24,000-scale topographic quadrangle map	The map reveals a few roads in the project area. Rainbow Way is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29.

Archaeological Field Survey

Field reconnaissance was completed between the dates of April 27 and June 13, 2021. Mesa Field Services surveyed 320 acres project lease area, plus 5.5 linear miles of a 200-foot-wide linear inventory for an access and utility easement corridor (Rainbow Way) extending south from the project lease area along Rainbow Way to NV Energy’s Fort Sage Substation for a total of 453 acres of archaeological inventory. As a result of the inventory 17 isolates, 15 archaeological sites and a single structural resource were recorded (*Table 3-7: Site Summaries and NRHP Recommendations*). The resources including 14 new sites (26W12839 to 26Wa12851 and 26Wa12895), the update of one large prehistoric artifact scatter (26Wa5578), and the recording of a segment of the Western Pacific Railroad as a structural resource (S2852/D352). The new sites include eight prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849), five historic sites

(26Wa12841, 26Wa12846, 26Wa12850, 26Wa12851, and 26Wa12895) and one multi-component site (26Wa12842) including both prehistoric and historic resources. A recorded segment of the Western Pacific Railroad has been recorded as an architectural element (S2852) as part of a larger railroad district (D352). The historic sites include a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic artifact scatters (26Wa12846 and 26Wa12850). The newly recorded sites include two dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. A segment of the Western Pacific Railroad just west of the project area in California has been recorded and designated P-18-001697. Site 26Wa12850 is attributed to the occupation of Calneva Station (P-18-001698) just west of the project area in California.

Table 3-7: Site Summaries and NRHP recommendations.

State No. 26Wa	Description	Temporal Affiliation	NRHP Eligibility (Criteria)
5578	Large prehistoric artifact scatter	Prehistoric	Eligible, Criterion D
12839	Prehistoric Lithic Scatter	Non diagnostic	Not eligible
12840	Prehistoric Lithic Scatter	Non diagnostic	Not eligible
12841	Disassembled Telegraph Line (in ruin)	Historic	Not eligible
12842	Prehistoric lithic and historic can scatter	Prehistoric/Historic	Not eligible
12843	Prehistoric lithic scatter	Non diagnostic	Not eligible
12844	Prehistoric lithic scatter with two tools	Non diagnostic	Not eligible
12845	Prehistoric lithic scatter with two tools	Non diagnostic	Not eligible
12846	Historic can scatter	Historic	Not eligible
12847	Prehistoric lithic scatter	Non diagnostic	Not eligible
12848	Prehistoric lithic scatter	Non diagnostic	Not eligible
12849	Prehistoric lithic scatter	Non diagnostic	Not eligible
S2852/D352	Western Pacific Railroad (modern construction)	Historic	Non-contributing
12850	Trash scatter from P-18-001698 – Calneva Station	Historic	Not eligible
12851	Two track road south of S2852/D352	Historic	Not eligible

State No. 26Wa	Description	Temporal Affiliation	NRHP Eligibility (Criteria)
12895	Rainbow Road	Historic	Not eligible

26Wa5578

This previously recorded prehistoric site is a very large variable density prehistoric artifact scatter situated on the edge of a dry lacustrine shoreline. The site has been recorded prior by INFOTEC Research, Inc., in October of 1993 for the Tuscarora Gas Transmission Project (Project 003-1583). The site was described as a complex lithic scatter containing three projectile point bases, eight ground stone pieces, three battered stones (basalt), two scrapers, 13 cores, biface fragments, numerous unifaces, uniface fragments, and at least 500 flakes. A piece of apparently worked glass was also observed. The site spans 2,200 x 500 m. They described one concentration containing more than 75 flakes in a 1 by 2 meter area.

This latest update revealed the same site boundary with relation to the current APE. There are significantly more artifacts represented at this site than the 500 observed earlier. There is likely 10s of thousands of artifacts represented at the site. Most are typical of late stage lithic reduction but with a large variety of material types represented on site including cherts in many colors, basalt, and obsidian. The site is densest near its center with the boundary defined by a significant reduction in artifact density with up to 15 to 20 flakes per square meter being the densest in some areas. Only the portion of the site within 100 meters of the 200-foot-wide inventory corridor for Rainbow Way was subject to an update. Boundaries are accurate. No tools were observed.

26Wa12839

This newly recorded prehistoric site is a small lithic scatter comprised of one biface or potential projectile point fragment (A-1) and a single piece of tertiary chert debitage. The site is located on the south side of a low dune just east of Rainbow Way. The surrounding topography is relatively flat. The dune is long and linear extending in a roughly east to west direction. The dune formation is low varying between 5 and 10 feet higher than the surrounding ground surface. The two artifacts are evident in blowouts between areas of vegetation and are 10.5 meters apart. The site lacks an association with tools or temporally

diagnostic artifacts. The site area has been impacted by the construction and use of Rainbow Way and an unnamed road that extends from Rainbow Way to the east.

26Wa12840

This newly recorded prehistoric site is a small lithic scatter comprised of a variable density scatter of artifacts located on flat terrain. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. Most of the material is late-stage reduction being less than two centimeters in length and lacking cortex. The lithic materials are comprised of nine chert flakes, seven basalt flakes and one black translucent obsidian fragment of micro debitage. The majority of the artifacts are concentrated in the east half of the site with up to four pieces of debitage per meter at its most dense, otherwise it is one artifact every 5 to 10 meters. The density thins out considerably towards the west end of the site. The chert flakes are comprised of at least four different varieties including a yellow, red, brown, and a mottled red to orange variety. No tools were identified at this site. The site lacks an association with tools or temporally diagnostic artifacts.

26Wa12841

This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 with passenger service in August of 1910 (Myrich 1992:318-319). While the line has been dismantled there are some remains of materials in the area including two utility poles with its hardware attached in addition to a broad scatter of glass insulators, copper wire, and a number of the wooden cross members. The site boundary is defined by the original alignment and a broad scatter of loose hardware components along the north side of the railroad grade (S2852/D352). The glass insulators include mostly aqua but also one clear

glass insulator. Most are fragments but several include marks including two aqua colored insulators H-1 and H-3 embossed “HEMINGRAY Patented Oct. 8th 1907,” and a clear or replacement insulator H-4 embossed “Hemingray-45, Made in USA.” Hemingray-45 was in manufacture between 1938 - 1950 for long distance telephone lines (Meier 2021). The insulator H-4 would seem to indicate this was a long-distance telephone line.

26Wa12842

This newly recorded multicomponent site is comprised of a small prehistoric lithic and historic can scatter located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The prehistoric artifacts are comprised of two chert and one obsidian flake dispersed across the northern part of the site with each artifact being several meters apart from each other. The assemblage is characteristic of late-stage reduction with flakes lacking cortex. Material includes two brown chert flakes and one black opaque obsidian flake. No prehistoric tools were identified at this site and the prehistoric component lacks an association with temporally diagnostic artifacts. The historic component is comprised of a domestic debris scatter including tin cans concentrated in the southern part of the site with up to several cans per square meter. The historic artifact scatter is comprised of seven hole-in-top cans, eight sanitary cans, one large square fuel can, six fragments of various cans and one embossed can lid (H-1). The lid (H-1) has been knife cut and is embossed “TREE TEA & ORANGE PEKOE.” The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

26Wa12843

This newly recorded prehistoric site is a small lithic scatter comprised of six pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of four translucent black obsidian tertiary flakes and one red tertiary chert flake within a one-meter area plus a brown tertiary chert flake close to 30 meters

north. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12844

This newly recorded variable density prehistoric site is a small lithic scatter comprised of two biface fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 100 meters north of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex and include 14 flakes of translucent and opaque black obsidian, eight chert and eight gray basalt flakes. Most of the debitage are tertiary flakes. The chert materials are represented by two varieties; a gray chert and a yellow and orange mottled chert. The basalt flakes include five tertiary, and three secondary flakes and one piece of angular debris. Site density varies from one artifact every five to ten meters up to three artifacts per square meter in some areas. Both the biface fragments are made of the same gray basalt. The first (A-1) is a biface or midsection fragment of a projectile point broken near the base broken at what are likely side notches and may represent an impact fracture. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks an association with temporally diagnostic artifacts.

26Wa12845

This newly recorded light density prehistoric site is a small lithic scatter comprised of two prehistoric tool fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 30 meters northwest of prehistoric site 26Wa12844. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. They include eight fine grained gray basalt, five chert and two obsidian flakes. The obsidian includes a black opaque tertiary flake and piece of angular debris. The chert includes similar material types to other prehistoric sites in the immediate area and include a yellow and a dark red variety. Site

density varies from one artifact every five to ten meters up to two artifacts per square meter in some areas. Both the tools are fragments made of the same gray fine-grained basalt. The first tool (A-1) is a circular uniface fragment or scraper. The artifact is disc shaped. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks a definitive association with temporally diagnostic artifacts.

26Wa12846

This newly recorded historic domestic debris scatter is comprised of some 50 or so artifacts including various food cans, a broken “Willow Ware” plate (H-1), a glass insulator (H-2), two bottles (H-3 and H-4), sanitary can with a logo (H-5), canning jar (H-6), and the core of a large battery (H-7), likely from a car or truck. The majority of artifacts are in the south part of the site with others dispersed to the north. The site is located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of sanitary cans with up to several cans per square meter. Enough ceramic sherds with H-1 are present to identify it as Willow transfer print. The Willow Pattern is the best known of all transfer print designs. It is a European imitation of a Chinese blue and white design which depicts a river with a bridge across it and willow trees on the bank. Two birds are supposed to represent two lovers flying away from an irate father. First produced by English potters in 1780, the willow pattern is still used today (Barclay 1976). The glass insulator (H-2) is embossed “Brookfield.” Brookfield manufactured a variety of glass insulators between 1864 and 1921 and was second only to the Hemingray Glass Company in the sheer number of insulators they manufactured (Whitten 2021). The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

26Wa12847

This newly recorded prehistoric site is a small lithic scatter comprised of 19 pieces of debitage and a biface fragment (A-1) made form the same material type as the debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of

sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 19 pieces of late stage related debitage including a dark brown mottled chert and a yellow to red chert. The biface fragment (A-1) is a lateral edge fragment from a formally prepared biface. The biface is made of the same dark brown banded chert material as the debitage. Artifacts occur in a variable density artifact scatter with up to two flakes per square meter, otherwise one artifact every few meters. The site lacks an association with temporally diagnostic artifacts.

26Wa12848

This newly recorded prehistoric site is a small lithic scatter comprised of eight pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking cortex. The artifacts are comprised of eight yellowish red chert flakes averaging several meters apart across the site surface. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12849

This newly recorded prehistoric site is a small lithic scatter comprised of 14 pieces of chert debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 8 dark brown mottled chert flakes and 6 yellow to red chert flakes. The chert material is the same or similar to the material types used at 26Wa12847. Two of the flakes exhibit lipping indicating they are likely bifacial thinning flakes. The artifacts are dispersed with one flake every few meters. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12850

This newly recorded historic domestic debris scatter is located on the border between California and Nevada some two to three hundred meters east of Calneva Station (P-18-

001698) along the Western Pacific Railroad (S2832/D352). The site is a trash dumping location located along either side of a historic road (26Wa12851) that runs parallel and south along the railroad tracks to Calneva Station. The site is comprised of a light scatter of artifacts between three concentrated dumping areas identified as Concentration 1 through 3. The site is located on flat terrain with the ground surface being comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of tin cans and bottle fragments with up to several artifacts per square meter in some areas between the three concentrations.

The first concentration is comprised of fragments of clear, aqua, light olive, old amber, and amethyst glass representing over 100 bottles. No cans were identified with this concentration and there were three bottle bases containing makers marks (H-1 through H-3). The bottles are found within a 7 by 20-meter area and are mostly automatic machine-made bottles lacking makers marks and are crown tops. The first diagnostic artifact is H-1, a clear glass bottle base, with a mark on the base "WF&S." The mark is attributed to William Franzen & Son in use from 1900-1929 (Toulouse 1971:536). The second mark, H-2, is an aqua glass bottle base "C" and the third, H-3, is a crown top brown bottle missing its base. Concentration 2 is a large concentrated can dump comprised of 200 to 300 sanitary hole-in-cap and hole-in-top cans of various sizes and fragments. The cans are concentrated within a 10 to 15 meter diameter area with a five-meter diameter core area that is the densest with a dozen or more cans per square meter. Concentration 3 is a much more varied artifact dump spread out over a 10-meter diameter area and is comprised of domestic wares, cans, bottles, truck parts, wooden box fragments, square and wire nails, brick fragments, and other domestic debris fragments.

The site is more than likely attributed to the occupation of the Calneva Station (P-18-001698). Calneva and a number of railroad towns including Flanigan were established in eastern Honey Lake basin in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City 1910 (Myrick 1992:318-319; Kneiss 1953:16). Diagnostic data from the artifacts at this site seems to support to the same period

of occupation for the area. The glass includes aqua, solarized, clear, and brown bottle glass. Amethyst glass, which turns purple when exposed to sunlight due to the presence of manganese in the glass, was generally used in bottle production from c. 1880 to c. 1920, although its use has been noted as late as the 1930s (Lindsey 2013). Sanitary cans have a long period of use and are still in use today. Sanitary cans became the dominant can type in the western United States by 1911 (Rock 1989:65-66).

26Wa12851

This newly recorded historic feature site is just over a one-mile recorded segment of a two-track road depression, identified as Washoe County Road 8283, that extends along the south side of the Western Pacific Railroad (S2852/D352). The recorded segment extends from near the intersection with Rainbow Way (26Wa12895) west to Calneva Station (P-18-001698) just inside California. The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. The far western section of the recorded segment or approach to Calneva Station between sites P-18-001698 and 26Wa12850 has been abandoned. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake basin along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

26Wa12895

This newly recorded historic feature site is "Rainbow Way." The entire road, 4.5 miles in length, was subject to an inventory and recordation. The road varies from a single to a double wide road 8 to 15 feet in width. The southernmost 1.5 miles of the road extending north from Fish Springs Road is depicted on the State Line Peak, Nev. 7.5-min USGS quadrangle map from 1964. Sometime after 1964 the road was extended north to the Western Pacific Railroad (S2852/D352). The road does not appear to have been heavily

utilized historically for there are few sites or historic artifacts along its route and it is wiped out by erosion in many places and exists as a two-track depression. The route is still in use. Rainbow Way appears to serve as a main artery for a number of additional roads that extend off of it to the west and east, mainly on section lines including Marina Way, Truckee Lane, Long Horn Lane, Tahoe Lane, Bonanza Lane, Doyle Lane, and Herlong Lane. It's not clear what land use activity the road is attributed to but it most likely was used to access parcels created along the side routes. Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (7 September 1977) and the Reno Gazette Journal (11 September 1977) detail a revitalization of the area south of Calneva during the mid-1970s. The articles center on the creation of the "*Honey Lake Valley Meeting Hall*" a private school that was recently constructed for the recent influx of families with children to the area. Resident Lela Findley, interviewed for the articles was a longtime resident of the valley original from Herlong, recalls visiting Flanigan to in the 1940s to attend town dances. She had been living in a house on the state border for 21 years prior to the printing of the articles.

S2852/D352

The Western Pacific Railroad, Feather River Route, between Oakland and Salt Lake City, in 1909 (Myrick 1992:318-319; Kneiss 1953:16). The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907 and a number of stations were constructed through eastern Honey Lake basin. The current recordation is for a just over a mile long segment just east of the Calneva Station (P-18-001698) on the California-Nevada Border. There was a long-distance telephone line (26Wa12841) that ran alongside and parallel to the north side of the tracks. But it has since been dismantled. The railroad grade and all materials appear to have been replaced. The grade contains ballast material mounded approximately 30 feet wide and six feet higher than surrounding ground surface. The tracks are US standard railroad gauge is 4 feet, 8.5 inches between the two rails. There are no culverts or sidings with the recorded section and the telephone line along the north side has been dismantled with only a few remaining pieces of hardware in the area. Resources with the railroad feature include modern railroad spikes and broken cast



iron pieces from passing trains. No historic artifacts attributed to the railroad were identified and recorded.

3.5.2 Environmental Consequences

The proposed Praana Two Washoe BESS/PSES Project will have the potential for an adverse impact on archaeological resources in the APE. However, none of the newly identified sites are eligible for inclusion on the NRHP so these impacts are not expected to be extensive and are considered acceptable and less than significant. Previously recorded sites include the Western Pacific Railroad corridor (within the existing railroad easement, will not be affected by Project development) and an area of prehistoric artifact scatter along the gen-tie route will also not be affected.

3.5.3 Mitigation Measures

A large prehistoric artifact scatter (26Wa5578) located along the gen-tie route should be avoided. Appropriate spacing of gen-tie poles and confining construction activities to established roadways (Rainbow Way PUE) and staging areas will ensure that this is possible. Alternatively, the resources may be appropriately removed and cataloged by a professional archeologist. If potential resources are found during project construction, Sierra Geotech recommend Praana Energy EPC contractor halt work immediately and a professional archaeologist mobilized to the site to evaluate the find and determine appropriate further steps and mitigation measures as necessary. If significant resources are discovered, they would be recovered and turned over to the owner of the parcel on which they were found.

3.6 LAND USE

This section analyzes the potential impacts on land use and planning that may result from the proposed Praana Two: Washoe BESS/PSES Project. Land use describes the ways in which a community utilizes land, including the applicable planning policies of the relevant jurisdiction. This includes what is built, where it is built, and includes aspects such as the ownership of land as well as the governing entities' management plans and zoning that regulate development and define types of land use. This section describes the land uses in the area and the Praana Two Washoe BESS/PSES Project's consistency with the zoning criteria of the area.

3.6.1 Existing Setting

The proposed project lease area and the adjacent area is part of the High Desert Planning Area in Washoe County. The project lease area is zoned as “General Rural” zoning classification, which according to the Washoe County Development Code (*Division Three: Regulation of uses*) allows for renewable energy production with a Board of Adjustment Special Use Permit, to be approved by the Washoe County Planning Commission for projects which meet the criteria for projects of regional significance, such as the proposed Praana Two: Washoe BESS/PSES Project. The Praana Two Washoe BESS/PSES Project would be located on vacant rangeland that has been dedicated to agricultural uses for nearly a century and is therefore considered previously disturbed despite the lack of permanent structures or other improvements typically associated with developed properties.

The project lease area is located within a sparsely populated area of Washoe County approximately 45 miles North of Reno within the Honey Lake Valley. The surrounding land is primarily characterized as open rangeland zoned for agricultural uses with some portions of the Honey Lake Valley are used recreationally for off-road vehicles and other outdoors leisure activities. The Praana Two Washoe BESS/PSES Project would include an approximately five mile 345 kV gen-tie power line to be located entirely within an existing, dedicated utility and access easement which runs along the private right of way for Rainbow Way from the project lease area to the NV Energy's Fort Sage substation.



3.6.2 Environmental Consequences

Construction of the Project would convert the project lease area into a solar generation facility including associated infrastructure. As described previously, the project lease area is in a remote region of Washoe County with few nearby residents. Similar solar energy generation facilities currently exist in the area surrounding the Project. Development of the Project within the current zoning classifications would not conflict with any current or known authorized land uses and is consistent with other development activities occurring in the surrounding area.

3.6.3 Mitigation Measures

Because development of the Project is consistent with the established goals and policies of Washoe County as codified in *Chapter 110 of Washoe County Code*, the Project would not have an adverse effect on current or known future land use activities in the area, mitigation measures are not warranted.

3.7 TRANSPORTATION

This section describes the traffic and transportation facilities in the area, potential impacts of the proposed Praana Two Washoe BESS/PSES Project on these resources, and BMPs/mitigation measures designed to reduce potential impacts to a level of non-significance.

3.7.1 Existing Setting

The project lease area is in a remote area in northern Washoe County, as described earlier. The project lease area is generally accessed via US Highway 395 to Hackstaff Road, to Fort Sage Road in California, which becomes Fish Springs Road in Nevada, and Rainbow Way which runs from Fish Springs Road to the project lease area, approximately four miles north of Fish Springs Road. Ingress and egress for the project lease area during both construction and operation would follow this same trajectory. Both Fish Springs/Fort Sage Road are hard-packed gravel roadways with low traffic volumes. Rainbow Way is hard packed dirt road with very low traffic volumes.

3.7.2 Environmental Consequences

During peak construction, an estimated maximum of approximately 200 daily trips for arriving/departing construction workers, and 50 truck trips per day would be required to supply concrete, construction materials, and equipment to the project lease area. Though construction-related traffic for the Project would increase traffic compared to present conditions, no impacts to level of service are anticipated. Traffic is also expected to increase minimally as a result of occasional site visits for maintenance operations to the gen-tie line and solar facility. Daily operation is to be carried out from an offsite location and would therefore not result in a regular increase on traffic on area roads.

3.7.3 Mitigation Measures

Because the proposed Praana Two Washoe BESS/PSES Project would not result in substantive impacts to traffic conditions; mitigation is not warranted.

3.8 VISUAL RESOURCES

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 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 Praana Two: Washoe BESS/PSES Project and the BMPs/mitigation measures intended to reduce these impacts, if warranted.

3.8.1 Existing Setting

The proposed project lease area is in the southern end of the Honey Lake Valley along the Nevada/California 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 project lease area is located on flat lands which do not possess significant natural topographic variation. The immediate surrounding area of the 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 project lease area, several natural gas line facilities, electrical transmission lines, and elevated railroad exist. Just south and west of the project lease area is the Alturas Interconnection 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 project lease area has been used in the past as cattle grazing range land and is disturbed only by natural gas line easements for the several gas lines. The 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 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 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 project lease area) and open cattle range lands/sage brush (west/south/north/east of the project lease area) and Sierra Army Depot with associated structures and storage of military equipment (west of the project lease area) and public utilities facilities (High Power Transmission Lines, High Pressure Natural Gas Pipelines) (south/north/west of project lease area).

The proposed Praana Two: Washoe BESS/PSES Project and project lease area is located four (4) miles north of the intersection of Rainbow Way and Fish Springs Road in rural Washoe County. The project lease area is dissected in the middle by a raised railroad bed which carries the Union Pacific Railroad across the project lease area approximately 5 to 7 feet higher than the surrounding elevation of the project lease area. The project lease area is roughly rectangular in shape, with a width of approximately 4,900 feet and length of 2,600 feet and is approximately 279 +/- acres in size. The 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 project lease area in all directions is characterized by basin and range sage brush landscape with various mountain ranges in the distance. The entire project lease area are alkali sinks and natural sage brush range lands. The project lease area is located within an area that is primarily undeveloped open rangeland for cattle grazing in Washoe County. In general, prominent adjoining land uses are as follows:

- West: The Nevada/California State Boundary Line forms the western limit of the property and undeveloped open rangeland and Sierra Army Depot a military storage complex some five (5) miles west of the project lease area.
- North: Undeveloped open rangeland.

- East: Undeveloped open rangeland.
- South: Undeveloped open rangeland.

The landforms in and around the project lease area range from relatively flat or slightly undulating in the foreground, to low hills in the middle ground, to mountainous terrain in the distance. The 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 while the dry lakebed bottoms in the region of the project lease area provide a lighter almost white shade of soils.

3.8.2 Environmental Consequences

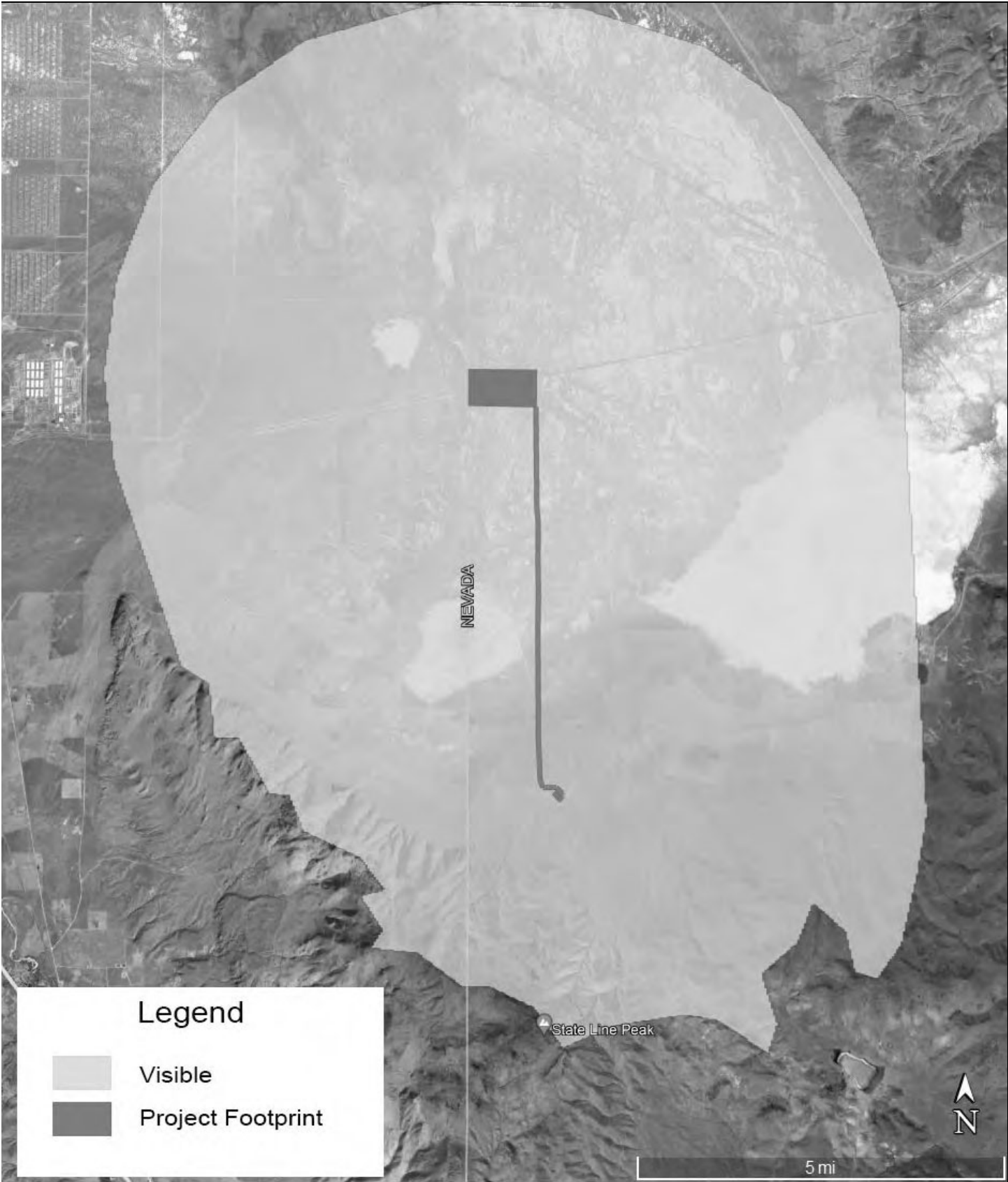
Although the construction of solar facilities under the proposed Project would change the existing local landscape, the surrounding region is already developed with military installations, and public utilities infrastructure including other solar energy production facilities, with the remaining land being open sagebrush rangelands, the military and utilities features take on the dominate visual focus of sensitive viewers. The relative visibility of the project lease area from residences, industrial, institutional, and commercial properties is low (See: *Figure 3-2: Viewshed Map*). 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 project lease area. As a result of the existing development in the nearby vicinity (Herlong, Sierra Army Depot), 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 Praana Two: Washoe BESS/PSES Project.

3.8.3 Mitigation Measures

Because of the distance to sensitive receptors and consistent nature of potential impacts with the existing visual character of the viewshed, mitigation is not warranted.



Legend

-  Visible
-  Project Footprint

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SIERRA GEOTECH

Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**
 Environmental
 Statement

Scale: As Shown

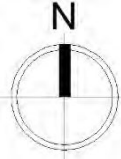


FIGURE 3-2
 Viewshed Map

3.9 NOISE

The following section addresses noise as it relates to the construction and operation of the proposed Praana Two: Washoe BESS/PSES Project. A review of the setting surrounding the project lease area was carried out in order to identify any noise impacts that might occur. Noise sensitive receptors closest to the project lease area are identified and mitigation measures required to avoid significant impacts to said receptors are discussed, where necessary.

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, Leq, 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, Ldn, is like the 24-hour Leq 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. L90 is the sound level that is exceeded 90 percent of the time and is often used to describe the background or residual sound level.

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 (Leq). The percentage of time that a given sound level is exceeded also can be designated as L10, L50, and L90. The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L10 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 L90 is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L50 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 ($\pm 1-2$ dBA).

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.

3.9.1 Existing Setting

The proposed Praana Two: Washoe BESS/PSES Project is located on the Nevada/California state line some four (4) miles north of the intersection of Rainbow Way and Fish Springs Road in northern Washoe County, Nevada. The entire vicinity is dedicated to rural uses with the main improvement in the area being the railroad track which bisects

the project lease area. The nearest residences are located in Herlong, more than five miles west of the project lease area. The current noise environment surrounding the project lease area consists of noise contributed by the Union Pacific Railroad which runs through the middle of the project lease area.

3.9.2 Environmental Consequences

The following subsections discuss the environmental consequences from construction and operation of the Project.

Construction

Noise calculations suggest that the construction noise produced at the Project area would range around 100-110 dBA which would be temporary and would occur intermittently throughout the construction phase. However, because of the distance to the nearest residential area (>5 miles) or sensitive receptor, noise levels perceived at that area would be less than 60 dBA, placing the effect of the construction noise from the proposed Project within acceptable noise levels for an agricultural or community utility site.

The project lease area is located more than five miles from the nearest sensitive receptors, the site is also visually obstructed from said sensitive 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 3-8: Estimated Noise Levels*. Estimated Noise Levels, below for likely construction noise levels to be generated by the proposed Praana Two Washoe BESS/PSES Project. Therefore, construction noise impacts would be temporary and less than significant.

Table 3-8. 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.

Operation

To estimate proposed project operational noise levels, noise modeling completed for a separate, comparable project in El Centro, California, was utilized (Appendix D – *El Centro BESS Project Noise Study*). Operation of the air conditioning equipment used to cool the batteries was determined to 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 for the battery units. 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 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. Which is consistent with the generally accepted standard for attenuation of noise of approximately 6 dBA per distance doubled.

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 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 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. With the closest structure to the proposed project lease area located some 5 miles to the west, no additional noise will be contributed to nearby sensitive receptors.

As discussed above, the proposed Project will not contribute new levels of noise that could impact sensitive land uses surrounding the project lease area. In addition, the Praana Two Washoe BESS/PSES facilities will comply with all local regulations and standards regarding noise. The project lease area is located within a large area zoned for rural/agricultural land uses and noise levels will remain compatible with said land uses. The proposed Project is compatible with the existing agricultural land uses in the area and will not create significant impacts regarding noise.

3.9.3 Mitigation Measures

Typical schedules during the construction phase would generally run from 7:00 am to 5:00 pm, Monday through Friday. This would ensure compliance with the local noise ordinance concerning construction which limits activity to daytime hours between 7:00 am to 7:00 pm. However, because of the distance to the closest sensitive noise receptors, strict adherence to this schedule is not required to avoid potential impacts.

3.10 WASTE MANAGEMENT AND HAZARDOUS MATERIALS

This section addresses potential site contamination issues: the use, handling and storage of hazardous and toxic substances and the generation and disposal of hazardous materials associated with the proposed construction and operations of the Project. Hazardous materials are substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present a substantial danger to public health or the environment if released. In relation to this Project hazardous materials may include fuels, lubricants, and other liquid materials that would be used at the site during construction and operations. Non-hazardous solid waste refers to waste that is commonly discarded during everyday activities and for this Project may include construction debris, landscaping waste, and household waste from construction workers and operational staff.

3.10.1 Existing Setting

A Phase I Environmental Site Assessment (ESA) of the project lease area was conducted by Sierra Geotech in April 2021 according to American Society for Testing and Materials (ASTM) International Practice E-1527-13. That study included a review of the site history, including ownership records and historical aerial photographs and topo maps; interviews with the developer; and review of environmental databases. The Phase I ESA revealed no evidence of recognized environmental conditions (RECs) or likely RECs on the project lease area itself or the surrounding vicinity.

The project lease area is vacant and relatively free of improvements other than the Union Pacific Railroad which crosses east/west through the middle of the project lease area and Rainbow Way, a hard packed dirt road which runs along the project lease area eastern edge. Other Improvements in the Project vicinity include the Tuscarora gas line and the Alturas Interconnection Transmission Line. No observations were made of indicators of the likely presence of hazardous materials or past releases of the same on the project lease area, including the presence of storage tanks, barrels, or drums; stained or discolored soil, unusually stressed vegetation; odors, sheens, or similar.

3.10.2 Environmental Consequences

The construction of the proposed Praana Two Washoe BESS/PSES Project would generate solid waste in the form of soil and brush from clearing and grubbing, as well as materials from installation of the PV panels, gen-tie, BESS, and access driveway. Solid waste generated during construction would be transported for disposal at a licensed waste management facility. The operation of the Project is expected to generate limited amounts of solid waste stemming from routine maintenance activities. Any waste generated because of these activities would be disposed of at a licensed waste management facility.

The construction and operation of the Project is not expected to require the transportation, use, or generation of hazardous materials or hazardous wastes that could create a potential hazard to the public or environment. The types of materials that would potentially be present during construction would be minimal volumes of vehicle fuels, lubricating oils, paints, adhesives, and sealants. The ordinary use of these materials would not generate hazardous wastes. As the construction contractors would be required to comply with environmental and workplace safety laws and procedures, no substantive risks to public health and safety are expected from the proposed action.

3.10.3 Mitigation Measures

The following BMPs and mitigation measures are to be implemented to prevent and reduce potential impacts associated with hazardous waste:

- Spill cleanup kits would be available on construction equipment and vehicles so that spills or leaks of vehicle fluids would be quickly cleaned up for proper disposal.
- Construction sites, material storage yards, and access roads would be kept in an orderly condition throughout the construction period.
- Refuse and trash, including stakes and flags, would be removed from the project and disposed of in an approved manner.
- No construction equipment oil or fuel would be drained on the ground.
- Oils or chemicals would be hauled to an approved site for disposal. No open burning of construction trash would occur.
- An operational Environmental Health and Safety Plan would be prepared for the Project. The Safety Plan would outline all Project activities, identify the hazardous substances



and chemicals used at the site, and ensure compliance with OSHA Standards, the Nevada Division of Industrial Relations requirements, and all other local, state, and federal regulatory requirements. The Safety Plan would identify site-specific safety control measures, site health and safety roles and responsibilities, speed limits, and site safety hazards and controls.

- A Solid and Hazardous Waste Management Plan would be prepared and implemented for both construction and operation of the Project. Included in the solid and hazardous waste management plans would be stipulations and procedures regarding compliance with federal, state, and local regulations for waste minimization, storage, and disposal. The construction contractor shall prepare BMPs that describe the methods for working with hazardous materials during construction.

3.11 SOCIOECONOMICS

This section describes the socioeconomic issues related to the proposed Praana Two Washoe BESS/PSES Project.

3.11.1 Existing Setting

The project lease area is in the undeveloped, uninhabited, and rural area of Washoe County, Nevada. The nearest inhabited area is approximately 6 miles from the project lease area. As of July 2022, the population of Washoe County was estimated at 493,014 people. The population density of the county is approximately 67 persons per square mile. Approximately 37 percent of the population identifies as a minority, consisting of 25 percent Hispanic or Latino, 2.2 percent American Indian or Alaska Native, 5.8 percent Asian, 2.8 percent Black or African American, and 3.9 percent identified as two or more races (U.S. Census Bureau 2012a). There are 205,417 housing units available in Washoe County, of which 58 percent are owner-occupied (U.S. Census Bureau 2019a).

Median income for a household in the Washoe County in 2019 was \$71,881 and the County's poverty rate in 2019 was 11.3 percent. Total employment for Washoe County as of 2019 was 241,666 persons, and the three largest industries were management, business, and financial occupations {31,773 persons}; education, legal, community service, arts, and media occupations {23,392 persons}; and office and administrative support occupations {29,157 persons} (U.S. Census Bureau 2019b).

The unemployment rate for the county was 4.7 percent in November 2019, which was slightly lower than the State's unemployment rate of 4.8 percent. The unemployment rate for the county has decreased since 2010, when the unemployment rate was 13 percent, though it has increased recently due to COVID-19.

Environmental Justice

The USEPA defines a community with potential environmental justice populations as one that has a higher proportion of minority or low-income populations than does an identified reference community. An environmental justice assessment requires an analysis of whether low-income or poverty populations would be disproportionately and adversely

affected by a project. For this analysis, "minority" includes all racial groups other than "white, not Hispanic or Latino." Low-income populations are defined as those individuals that are considered living below poverty levels, as defined by the U.S. Census Bureau. The U.S. Census Bureau defines poverty level thresholds for individuals and a family of four as income levels below \$11,139 and \$22,314, respectively (U.S. Census Bureau 2012c). Populations in either group are considered significant if their share of the population is more than ten percentage points higher than the minority/low-income population's share of the state and the county. *Table 3-9: 2019 Race, Ethnicity and Low-Income Indicators* shows that Washoe County has a higher proportion of white, non-Hispanic residents and lower proportions of low-income residents when compared to those in Nevada. The Project is in Census Tract 35.01, which is located northern area of Washoe County. The Tract shows a significantly larger Indian/Native population than the County and State with other minorities groups being less represented than at the County at State level. The tract also has as significantly higher portion of low-income residents than in Washoe County, or the State of Nevada.

Table 3-9. 2019 Race, Ethnicity and Low-Income Indicators

Environmental Justice Indicator	Nevada	Washoe County	Census Tract 35.01
White, Non-Hispanic	64.6%	74.9%	78.33%
Black	9.6%	2.4%	1.98%
American Indian and Alaska Native	1.4%	1.6%	16.18%
Asian	8.5%	5.7%	1.21%
Native Hawaiian and Other Pacific Islander	0.7%	0.7%	0.1%
Two or More Races	4.7%	3.9%	2.35%
Hispanic or Latino, Total	29.2%	25.0%	9.71%
Low-Income Population (defined as less than or equal to 125 percent of poverty level)	16.1%	14.25%	24.8%

Source: U.S. Census Bureau 2019a, 2019b

3.11.2 Environmental Consequences

The proposed Praana Two Washoe BESS/PSES Project would generate temporary employment during construction of the solar field, substation, and gen-tie line. The construction of the solar field and associated facilities is anticipated to employ

approximately 200 workers during peak activity. Construction would be underway for up to 10 months.

Temporary construction jobs would bring employment and income to Washoe County. It is expected that the construction workers would primarily be residents in Washoe County, NV. However, a small amount of workforce is expected to require specialty skills and would either relocate to the region temporarily or permanently, including staying in hotels/motels, apartments, or purchasing a home. Thus, population is expected to grow at least temporarily by up to 100 individuals over the duration of the construction phase, representing a very minor impact on population and temporary housing. The temporary employment would bring income to the region, which would support other businesses in the area. Workers spend their income on food services, transportation services, accommodations, retail stores, medical services, and other services and products. As worker spending rolls through the local economy, it supports additional jobs and income in the area. Additionally, the state of Nevada as well as Washoe County is expected to gain from sales and property tax receipts from the successful construction and operation of the proposed Praana Two Washoe BESS/PSES Project.

The analysis indicates that the Project would be partially located in a Census Tract that has a higher percentage of Native Americans, a lower percentage of all other minorities, and a higher percentage of low-income residents compared to the population of Washoe County. However, based on review of satellite imagery and site reconnaissance, very few people live adjacent to or near the site (under 5 miles); therefore, no environmental justice populations would be unduly affected. Additionally, construction and operation of the proposed Praana Two Washoe BESS/PSES Project would not have long-term or adverse health or environmental impacts, and therefore there would not be disproportionate and adverse effects to residents in the region.

3.11.3 Mitigation Measures

Potential impacts to socioeconomic conditions may be beneficial, and therefore no mitigation is required.



4.0 LIST OF PREPARERS AND REVIEWERS

This section provides the name, qualifications, professions, and contact information of each person with primary responsibility for the preparation of the environmental statement and of each person who has provided comments or input in the preparation of the statement.

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Appendix A

Geotechnical Report



Preliminary Report of Geotechnical Investigation

TYPE OF SERVICES Preliminary Geotechnical Engineering Services

PROJECT NAME Washoe Battery Energy Storage System
(BESS)/Photovoltaic Solar Energy System (PSES)
Project (Washoe BESS/PSES)

LOCATION NW Corner of Rainbow Way & County Route 8283
Washoe County, Nevada
APN: 074-470-02 to 05

SIERRA GEOTECH PROJECT NO. RL2020-037

DATE DOCUMENT ISSUED April 8, 2020

Preliminary Report of Geotechnical Investigation

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APN: 074-470-02 to 05

SIERRA GEOTECH PROJECT NO. RL2020-037

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Version History	
April 21, 2020	Issued



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(Included as an attachment to the report)

- 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
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- Appendix A: Conceptual drawings
- Appendix B: Geotechnical logs of borings
- Appendix C: Results of Laboratory Testing



1. INTRODUCTION

1.1. WASHOEWASHOE BESS/PSES PROJECT

This report presents the results of a geotechnical investigation undertaken for Washoe Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (WashoeWashoe BESS/PSES) in Washoe County, Nevada. Dr. Charles Hooper, DO, CDR (RET) MC USN, the landowner, is proposing to develop a BESS/PSES facility on approximately 278 acres +/- acres on Washoe County Assessor's Parcel Numbers (APNs) 074-470-02 to 05 located immediately west of Rainbow Way and 4.5 miles north of the intersection at Rainbow Way and Fort Sage Road in Washoe County, California, within the area of Washoe County known as *Washoe* (See *Figure 1: Vicinity Map*). The Washoe 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 Nevada's Renewable 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) Engaging a drilling contractor,
- 3) Preparing a health and safety plan for the on-site activities,
- 4) Conducting a site reconnaissance and locating the proposed soil boring locations in the field,
- 5) Notifying Underground Service Alert (USA) prior to commencing exploration activities to identify any public utility alignments that may conflict with the proposed boring locations,
- 6) Advancing fourteen (14) borings within the footprint of the proposed structure, using a truck-mounted, hollow stem auger/mud rotary drill rig,
- 7) Laboratory testing of select samples from the exploration to evaluate the engineering properties of the encountered subsurface soils, and
- 8) 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, cones, 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 are similarly Holocene in age.

2.2. SITE GEOLOGY

A preview of geologic data (Geologic Map of Nevada, *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, Washoe Road to the West. No graded roads extend into 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 (0-1 percent slopes) throughout the entire proposed project lease area with an approximate elevation above sea level (asl) on the northeast corner of the BESS/PSES project lease area at 4000 feet. The railroad tracks which bisect the proposed project lease area in half has an elevation of approximately 4012 feet asl. Access to the project site is provided by Rainbow Way.

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 3, 2020, and February 4, 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 Washoe 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-301	51+47.8	-394.0	4003.6	24.5	3979.1
SG-302	56+24.4	-899.0	4003.7	24.5	3979.2
SG-303	62+51.8	-604.8	4001.8	24.5	3977.3
SG-304	72+11.6	-746.9	4000.5	24.5	3976.0
SG-305	81+58.3	-436.3	3999.0	24.5	3974.5
SG-306	88+97.4	-515.4	3997.5	24.5	3973.0
SG-307	96+67	-286.6	3996.2	24.5	3971.7
SG-401	49+81.5	530.2	4002.2	24.5	3977.7
SG-402	55+44.5	983.3	4001.0	24.5	3976.5
SG-403	64+41.6	513.7	4000.3	24.5	3975.8
SG-404	72+99.1	1327.1	3998.8	24.5	3974.3
SG-405	80+78.7	935.5	3998.3	24.5	3973.8
SG-406	89+07.5	909.1	3997.3	24.5	3972.8
SG-407	93+14.8	1618.5	3996.3	24.5	3971.8

*See Figure 5 for Project Baseline Stations and Offsets

- Elevations are approximate.

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 6 to 16 blows per foot of penetration. Below approximately 19 feet, the soils become medium dense to dense, with "N" values generally between 24 to 38 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	9,254	38,425	37,485	26,485	31,475	32,582	8,715	25,976	38,082
1.5	8,854	37,280	35,340	25,811	28,350	29,660	8,478	23,492	37,607
2	8,489	35,496	33,365	25,337	25,602	27,675	8,284	21,708	34,866
3	8,244	34,151	31,890	24,727	24,526	24,801	8,100	17,924	31,719
5	8,094	31,403	30,464	24,252	22,898	22,287	7,846	15,568	29,372
7	7,784	29,555	28,790	23,901	21,891	20,814	7,495	11,784	27,897
10	7,626	26,080	27,826	22,917	19,313	20,290	7,344	11,276	25,113
15	7,479	22,405	26,830	22,075	17,275	17,815	7,093	9,589	22,008
20	7,311	21,954	26,076	21,423	14,682	16,806	6,903	7,110	21,533
30	7,133	18,979	25,335	20,712	13,422	14,432	6,721	5,745	19,060
50	6,785	17,295	25,210	19,725	10,254	11,285	6,369	3,270	15,345
70	6,273	1,611	22,795	19,566	6,296	8,772	6,071	1,285	14,860
100	6,139	1,503	21,050	18,581	2,696	6,848	5,690	25,976	38,082

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-301	2.5	SM	214	175	784	7.24
SG-305	2.5	SM	27	45	17,584	6.57
SG-406	2.5	SM	47	27	16,458	7.47



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. 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 Washoe 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.

A design level geotechnical investigation is required once the design of the facility progresses to detailed design level.



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 ($\frac{3}{8}$ -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 ELECTRICAL 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 Nevada 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.



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



Vicinity Map

Washoe Battery Energy Storage System
(BESS)/Photovoltaic Solar Energy
System (PSES) Project (Calneva
BESS/PSES)

Project Number

RL2020-037

Figure Number

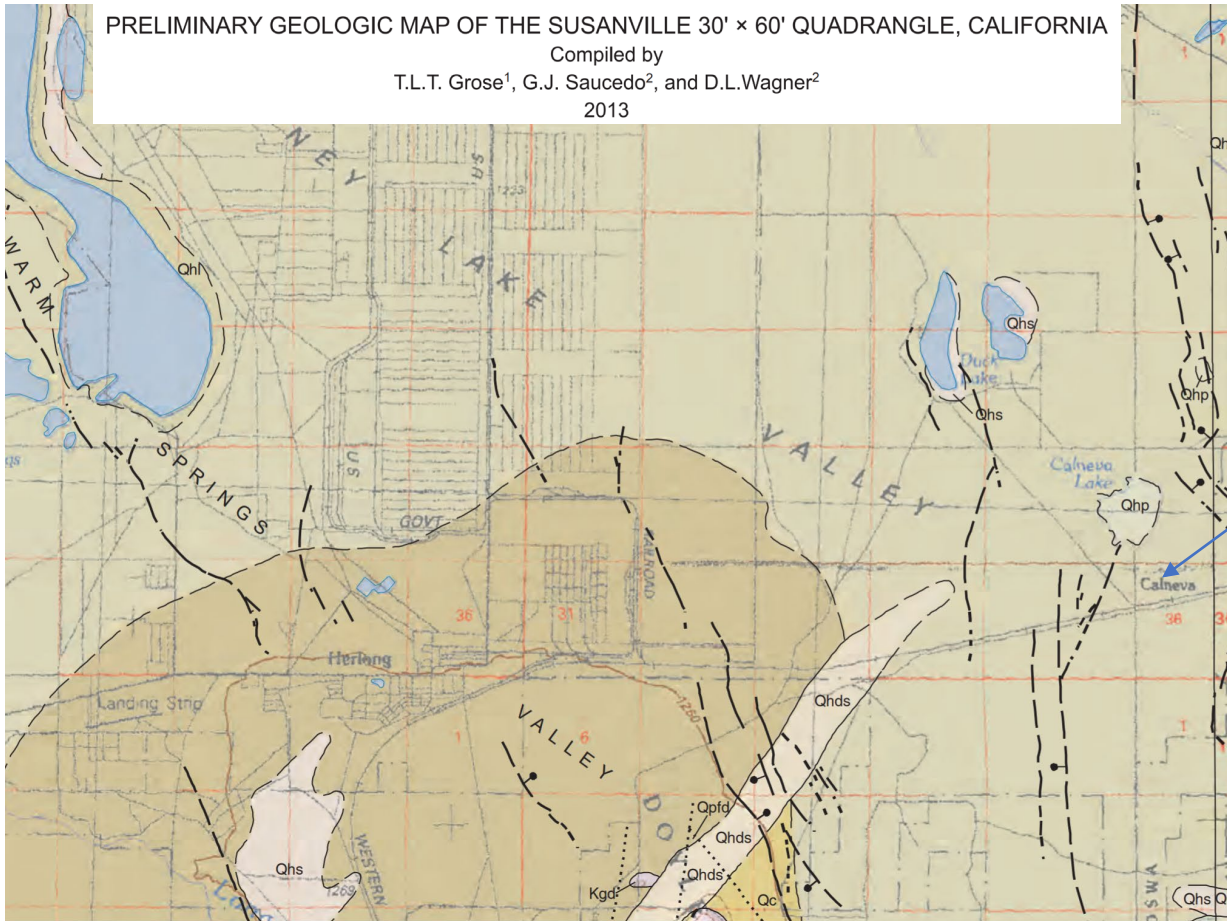
1

Date Prepared

04-21-2020

PRELIMINARY GEOLOGIC MAP OF THE SUSANVILLE 30' x 60' QUADRANGLE, CALIFORNIA

Compiled by
 T.L.T. Grose¹, G.J. Saucedo², and D.L. Wagner²
 2013



Project Site

- Qhp Playa deposits
- Qhs Sand sheet and sand bar deposits
- Qhf Alluvial fan deposits



Geologic Map

Washoe 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



Site Photo

Washoe Battery Energy Storage System
(BESS)/Photovoltaic Solar Energy
System (PSES) Project (Calneva
BESS/PSES)

Project Number

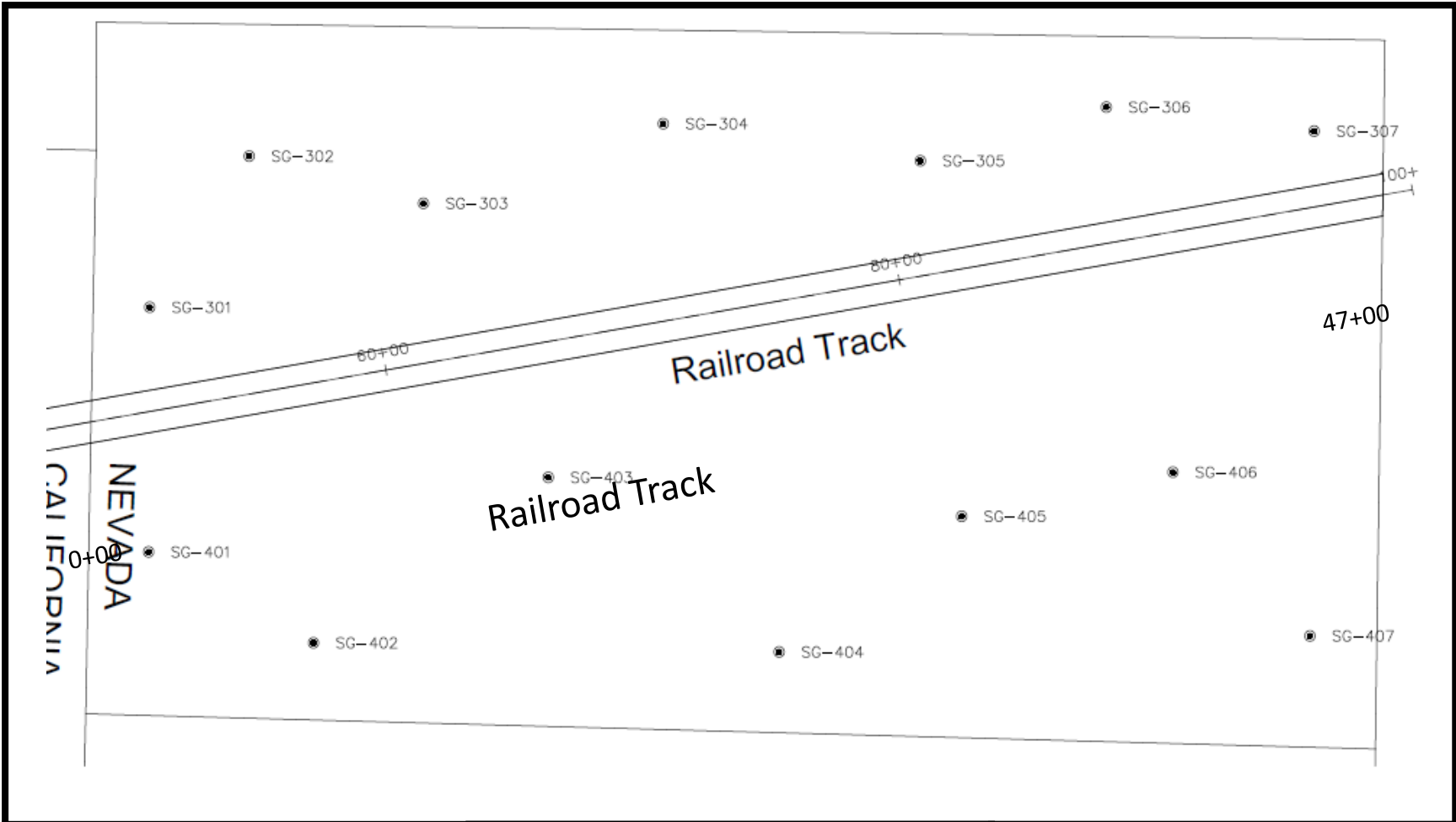
RL2020-037

Figure Number

4

Date Prepared

04-21-2020



Boreholes Location Map

Washoe Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number

RL2020-037

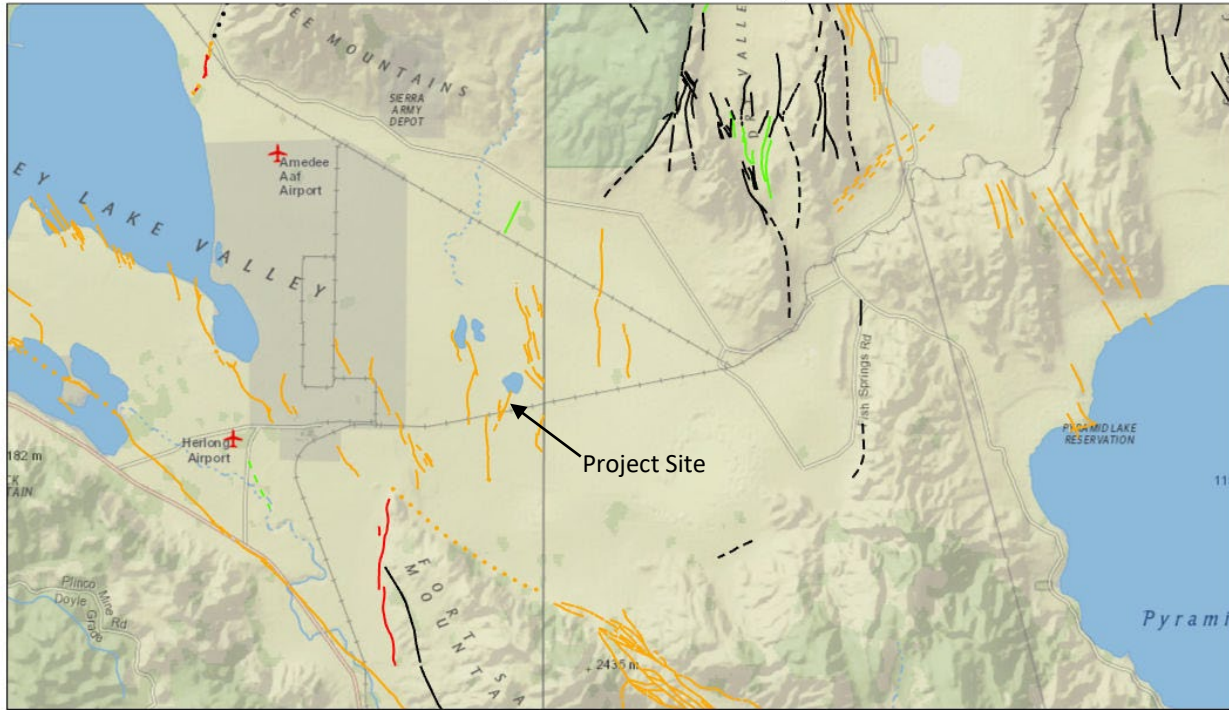
Figure Number

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)

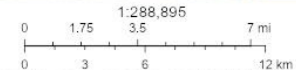
Late Quaternary (< 130,000 years)

Middle and Late Quaternary (< 750,000 years)

Undifferentiated Quaternary (< 1.6 million years)

Quaternary Faults Database

Historic (< 150 years), well constrained location



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 |



Faults Map

Washoe Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number

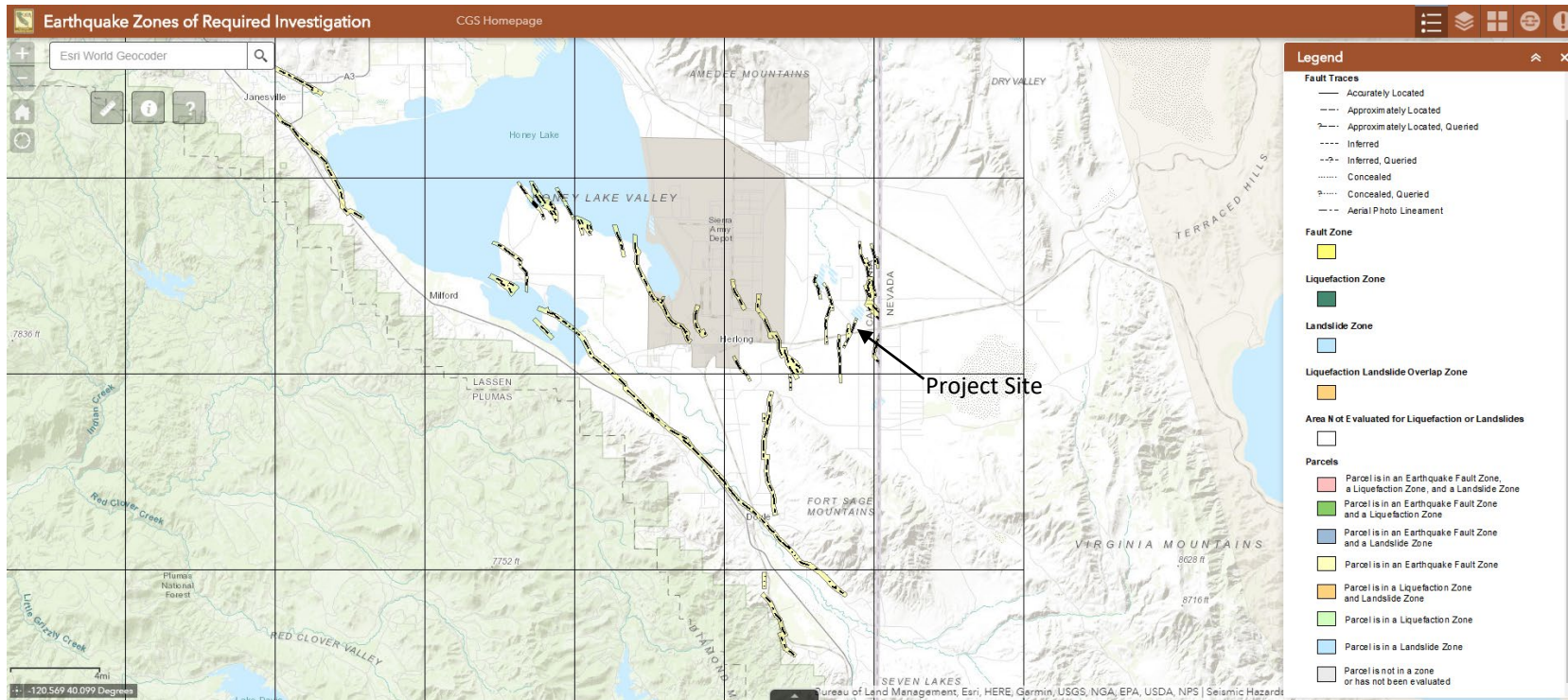
RL2020-037

Figure Number

6

Date Prepared

04-21-2020



Alquist Priolo Earthquake Zone Map

Washoe Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project (Calneva BESS/PSES)

Project Number

RL2020-037

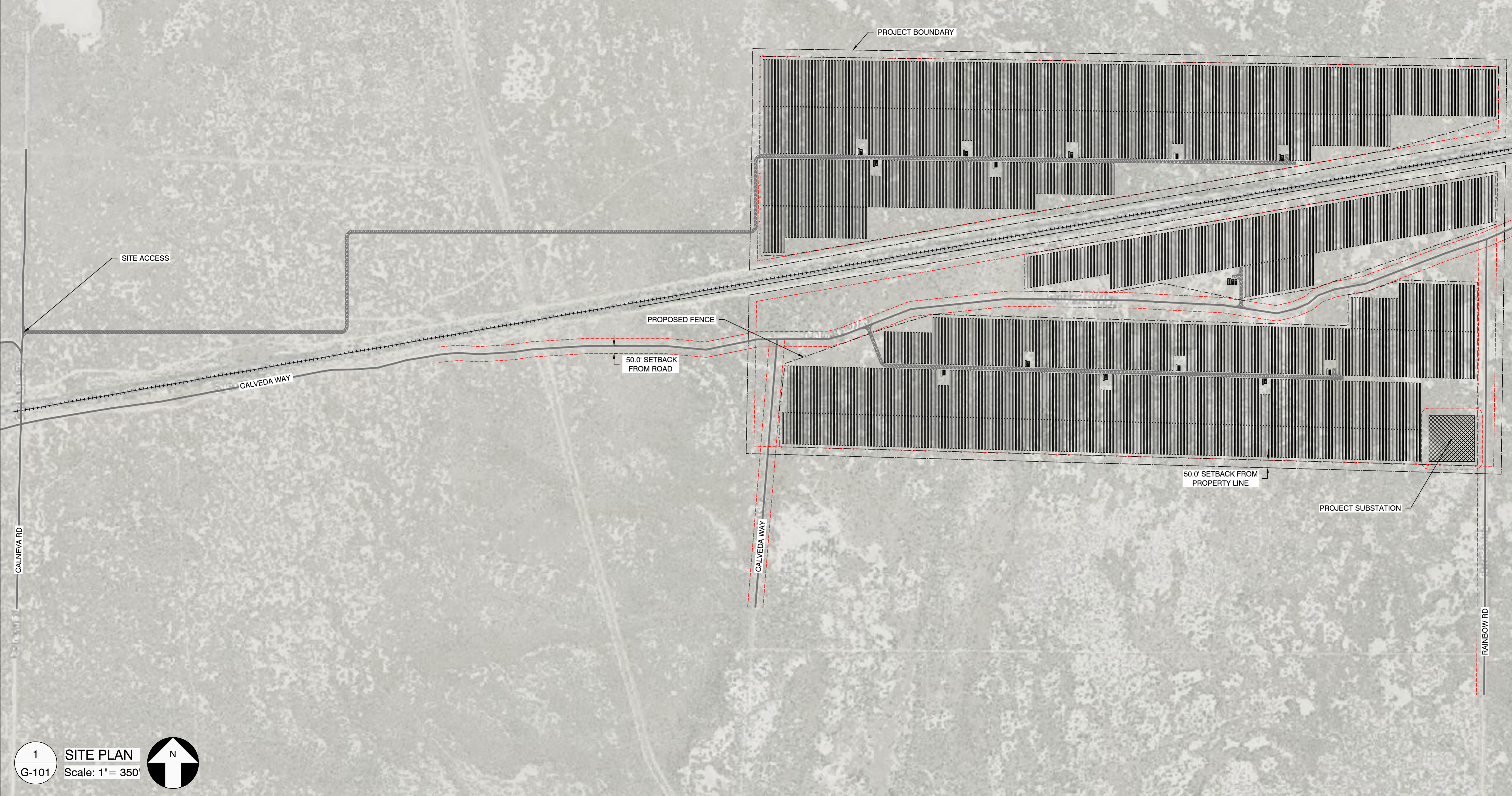
Figure Number

7

Date Prepared

04-21-2020

Appendix A : Conceptual Drawings



PROJECT BOUNDARY

SITE ACCESS

PROPOSED FENCE

50.0' SETBACK FROM ROAD

CALVEDA WAY

50.0' SETBACK FROM PROPERTY LINE

PROJECT SUBSTATION

CALVEDA WAY

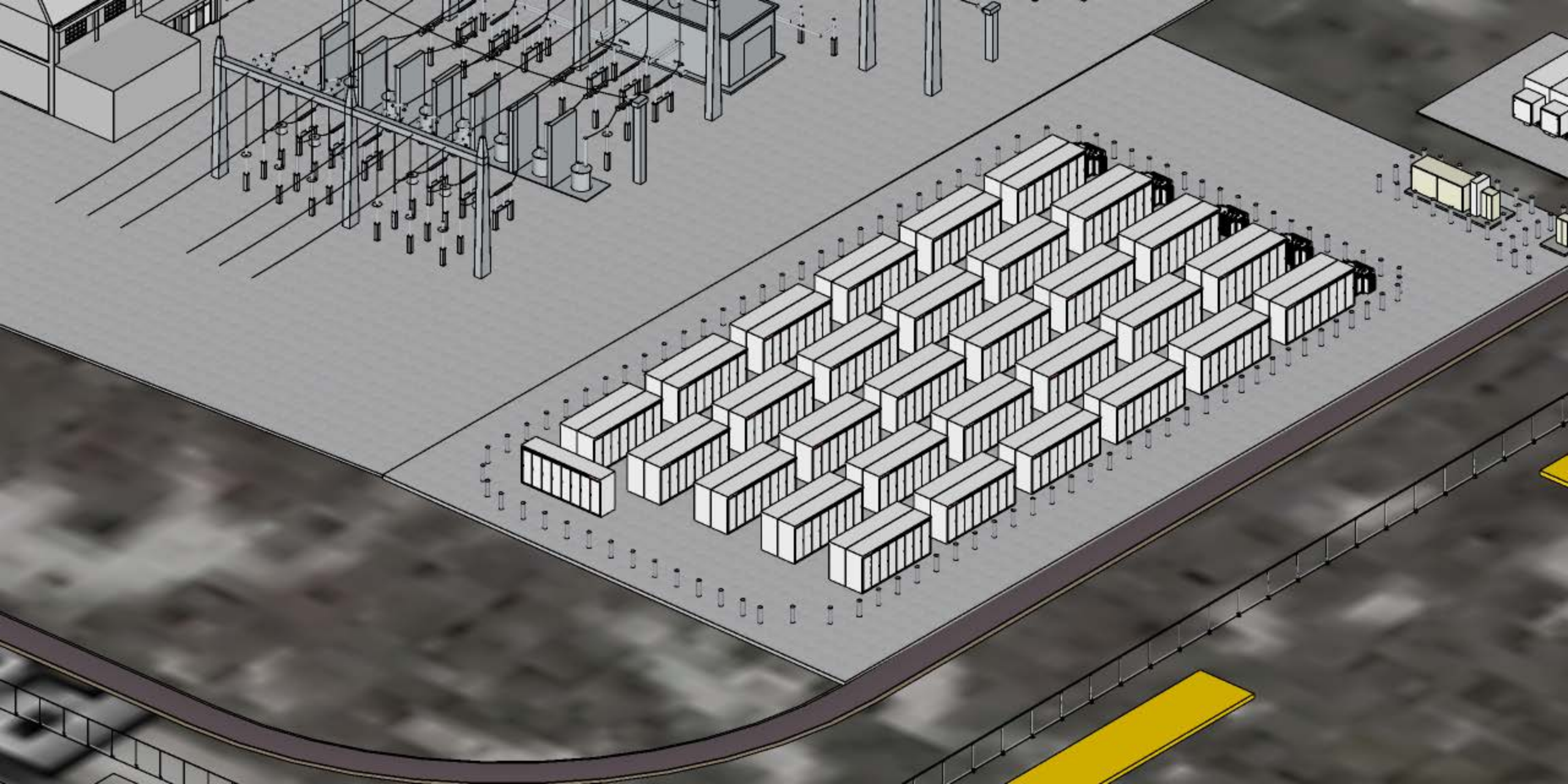
RAINBOW RD

CALNEVA RD

1
G-101

SITE PLAN
Scale: 1"= 350'









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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>51+47.8', 394.1' Left</u>
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-301</u> Total Depth <u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4003.6</u>
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u> Completed <u>2/4/2020</u>
Supervisor	<u>SV</u> Driller <u>Toby</u>	Depth of Water	<u>Not Encountered</u> Date/Time <u>2/4/2020</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u> Provided By <u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4003.6	0	Top soil - organics	SPT-1	0-1.5	4,6,5	
			SPT-2	1.5-3	6,5,6,	
4003.1	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	8,8,8	
			SPT-5	6-7.5	9,9,10	
			SPT-6	7.5-9	11,10,10	
			SPT-7	9-10.5	7,11,12	
			SPT-8	10.5-12	11,10,15	
			SPT-9	12-13.5	8,11,14	
			SPT-10	13.5-15	6,10,15	
3998.4	4.7		SPT-11	15-16.5	9,11,12	
			SPT-12	16.5-18	11,14,14	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	10,13,14	
			SPT-14	19.5-21	10,14,14	
			SPT-15	21-22.5	13,15,15	
			SPT-16	22.5-24	14,15,15	
3992.4	11.2					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3979.1	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 locations across 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	<u>RL2020-037</u>	Location	<u>56+24.4', 899' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-302</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4003.7</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4003.7	0	Top soil - organics	SPT-1	0-1.5	5,5,5	
			SPT-2	1.5-3	6,6,6	
4003.2	0.5		SPT-3	3-4.5	6,5,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,7,7	
			SPT-5	6-7.5	7,8,9	
			SPT-6	7.5-9	7,9,9	
			SPT-7	9-10.5	7,8,9	
			SPT-8	10.5-12	10,11,10	
			SPT-9	12-13.5	10,11,10	
			SPT-10	13.5-15	10,12,13	
3998.9	4.8		SPT-11	15-16.5	11,12,13	
			SPT-12	16.5-18	11,13,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	12,12,14	
			SPT-14	19.5-21	13,13,14	
			SPT-15	21-22.5	13,14,15	
			SPT-16	22.5-24	15,15,15	
3991.5	12.2		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense			
3979.2	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>62+51.8', 604.8' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-303</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4001.8</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4001.8	0	Top soil - organics	SPT-1	0-1.5	2,4,4	
			SPT-2	1.5-3	3,4,6,	
4001.3	0.5		SPT-3	3-4.5	3,5,6	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	3,6,6	
			SPT-5	6-7.5	5,7,8	
			SPT-6	7.5-9	7,7,8	
			SPT-7	9-10.5	6,9,9	
			SPT-8	10.5-12	7,9,9	
			SPT-9	12-13.5	10,9,10	
			SPT-10	13.5-15	9,11,11	
3996.7	5.1		SPT-11	15-16.5	10,11,12	
			SPT-12	16.5-18	10,12,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	11,12,13	
			SPT-14	19.5-21	13,13,14	
			SPT-15	21-22.5	13,14,15	
			SPT-16	22.5-24	14,15,15	
			Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense			
3977.3	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>72+11.6', 746.9' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-304</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4000.5</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4000.5	0	Top soil - organics	SPT-1	0-1.5	3,4,5	
			SPT-2	1.5-3	5,6,6,	
4000.0	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	6,9,8	
			SPT-5	6-7.5	7,8,9	
			SPT-6	7.5-9	9,9,10	
			SPT-7	9-10.5	9,9,11	
			SPT-8	10.5-12	10,10,11	
			SPT-9	12-13.5	10,11,13	
			SPT-10	13.5-15	10,11,13	
3995.9	4.6		SPT-11	15-16.5	10,12,13	
			SPT-12	16.5-18	11,13,14	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	12,14,14	
			SPT-14	19.5-21	12,14,15	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3988.8	11.7		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense			
3976.0	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>81+58.3', 436.3' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-305</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3999</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3999.0	0	Top soil - organics	SPT-1	0-1.5	3,4,4	
			SPT-2	1.5-3	4,4,5,	
3998.5	0.5		SPT-3	3-4.5	4,5,6	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	5,6,6	
			SPT-5	6-7.5	6,6,7	
			SPT-6	7.5-9	8,9,10	
			SPT-7	9-10.5	8,11,11	
			SPT-8	10.5-12	9,11,11	
			SPT-9	12-13.5	10,11,13	
			SPT-10	13.5-15	11,11,13	
3993.2	5.8		SPT-11	15-16.5	11,13,13	
			SPT-12	16.5-18	11,13,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	12,13,15	
			SPT-15	21-22.5	12,14,15	
			SPT-16	22.5-24	14,15,15	
3985.1	13.9		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense			
3974.5	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>88+97.4', 515.4' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-306</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3997.5</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3997.5	0	Top soil - organics	SPT-1	0-1.5	3,5,5	
			SPT-2	1.5-3	4,5,6	
3997.0	0.5		SPT-3	3-4.5	4,5,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,5,7	
			SPT-5	6-7.5	6,7,7	
			SPT-6	7.5-9	8,7,8	
			SPT-7	9-10.5	8,8,10	
			SPT-8	10.5-12	9,9,9	
			SPT-9	12-13.5	9,9,10	
3992.5	5.0		SPT-10	13.5-15	10,10,10	
			SPT-11	15-16.5	10,10,11	
			SPT-12	16.5-18	11,12,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	11,14,14	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	13,14,15	
			SPT-16	22.5-24	14,15,15	
3984.8	12.7	Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3973.0	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>96+67', 286.6' Left</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-307</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3996.2</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3996.2	0	Top soil - organics	SPT-1	0-1.5	3,4,5	
			SPT-2	1.5-3	3,4,5	
3995.7	0.5		SPT-3	3-4.5	5,4,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	5,5,5	
			SPT-5	6-7.5	6,5,7	
			SPT-6	7.5-9	7,7,8	
			SPT-7	9-10.5	7,8,9	
			SPT-8	10.5-12	8,8,9	
			SPT-9	12-13.5	9,9,9	
			SPT-10	13.5-15	9,9,12	
3991.4	4.1		SPT-11	15-16.5	12,10,11	
			SPT-12	16.5-18	11,10,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	11,12,13	
			SPT-14	19.5-21	13,13,13	
			SPT-15	21-22.5	14,14,14	
			SPT-16	22.5-24	14,14,15	
			Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense			
3971.7	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>49+81.5', 530.2' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-401</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4002.2</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4002.2	0	Top soil - organics	SPT-1	0-1.5	3,3,5	
			SPT-2	1.5-3	4,5,6,	
4001.7	0.5		SPT-3	3-4.5	4,4,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	5,5,7	
			SPT-5	6-7.5	6,5,7	
			SPT-6	7.5-9	7,7,7	
			SPT-7	9-10.5	7,9,10	
			SPT-8	10.5-12	9,9,11	
			SPT-9	12-13.5	10,10,10	
			SPT-10	13.5-15	11,10,11	
3998.3	3.9		SPT-11	15-16.5	11,11,12	
			SPT-12	16.5-18	11,12,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	11,13,14	
			SPT-14	19.5-21	13,13,14	
			SPT-15	21-22.5	13,13,14	
			SPT-16	22.5-24	14,14,15	
3987.6	14.6					
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3977.7	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>55+44.5', 983.3' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-402</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4001</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4001.0	0	Top soil - organics	SPT-1	0-1.5	3,5,4	
			SPT-2	1.5-3	4,5,6,	
4000.5	0.5		SPT-3	3-4.5	4,6,7	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	7,8,7	
			SPT-5	6-7.5	6,8,8	
			SPT-6	7.5-9	8,9,10	
			SPT-7	9-10.5	8,9,11	
			SPT-8	10.5-12	10,10,10	
			SPT-9	12-13.5	11,10,10	
			SPT-10	13.5-15	11,12,11	
3997.4	3.6		SPT-11	15-16.5	11,12,14	
			SPT-12	16.5-18	12,14,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	14,14,13	
			SPT-14	19.5-21	14,14,14	
			SPT-15	21-22.5	14,15,14	
			SPT-16	22.5-24	15,15,15	
3985.1	15.9	Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3976.5	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>64+41.6', 513.7' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-403</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>4000.3</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
4000.3	0	Top soil - organics	SPT-1	0-1.5	5,5,5	
			SPT-2	1.5-3	5,6,5,	
3999.8	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	6,7,7	
			SPT-5	6-7.5	8,7,9	
			SPT-6	7.5-9	8,9,8	
			SPT-7	9-10.5	9,9,10	
			SPT-8	10.5-12	10,10,11	
			SPT-9	12-13.5	10,9,13	
			SPT-10	13.5-15	10,10,14	
3994.4	5.9		SPT-11	15-16.5	11,10,15	
			SPT-12	16.5-18	12,13,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	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	14,15,14	
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3975.8	24.5					

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BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>72+99.1', 1327.1' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-404</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3998.8</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3998.8	0	Top soil - organics	SPT-1	0-1.5	4,4,6	
			SPT-2	1.5-3	5,5,5,	
3998.3	0.5		SPT-3	3-4.5	5,5,6	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,5,7	
			SPT-5	6-7.5	7,6,7	
			SPT-6	7.5-9	7,7,7	
			SPT-7	9-10.5	7,7,9	
			SPT-8	10.5-12	8,9,9	
			SPT-9	12-13.5	8,9,11	
			SPT-10	13.5-15	8,12,13	
3994.1	4.7		SPT-11	15-16.5	9,12,13	
			SPT-12	16.5-18	12,13,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	12,14,13	
			SPT-14	19.5-21	12,14,13	
			SPT-15	21-22.5	14,15,14	
			SPT-16	22.5-24	15,14,15	
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3974.3	24.5					

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 info@sierrageotech.com
 www.sierrageotech.com
 916.934.2167

BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>80+78.7', 935.5' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-405</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3998.3</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3998.3	0	Top soil - organics	SPT-1	0-1.5	3,5,4	
			SPT-2	1.5-3	5,4,6,	
3997.8	0.5		SPT-3	3-4.5	6,5,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	6,5,6	
			SPT-5	6-7.5	7,6,6	
			SPT-6	7.5-9	7,8,7	
			SPT-7	9-10.5	7,9,10	
			SPT-8	10.5-12	9,9,11	
			SPT-9	12-13.5	9,11,11	
3994.5	3.8		SPT-10	13.5-15	9,11,12	
			SPT-11	15-16.5	10,12,12	
			SPT-12	16.5-18	11,12,12	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-13	18-19.5	12,12,13	
			SPT-14	19.5-21	12,14,14	
			SPT-15	21-22.5	13,15,15	
3984.6	13.7		SPT-16	22.5-24	14,15,15	
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3973.8	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 locations across 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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 916.934.2167

BOREHOLE LOG

Project Number	<u>RL2020-037</u>	Location	<u>93+14.8', 1618.5' Right</u>		
Project Name	<u>Washoe PSES/BESS</u>	Boring No.	<u>SG-407</u>	Total Depth	<u>24.5</u>
County	<u>Washoe</u>	Surface Elevation	<u>3996.3</u>		
Address	<u>CalNeva Road</u>	Date Started	<u>2/3/2020</u>	Completed	<u>2/4/2020</u>
Supervisor	<u>SV</u>	Driller	<u>Toby</u>	Depth of Water	<u>Not Encountered</u>
Logged By	<u>SV/CC</u>	Hammer Eff.	<u>80%</u>	Provided By	<u>Taber</u>

Elevation	Depth	Material Description	SPT	Depth	Blow Counts	Moisture Content
3996.3	0	Top soil - organics	SPT-1	0-1.5	4,4,5	
			SPT-2	1.5-3	3,4,5,	
3995.8	0.5		SPT-3	3-4.5	4,5,5	
		Soil 1: POORLY GRADED SAND; SP; dark brown (7.5 YR 3/4); moist; loose to very loose	SPT-4	4.5-6	4,5,6	
			SPT-5	6-7.5	5,6,6	
			SPT-6	7.5-9	5,7,8	
			SPT-7	9-10.5	8,8,8	
			SPT-8	10.5-12	9,8,9	
			SPT-9	12-13.5	9,10,9	
			SPT-10	13.5-15	9,10,11	
3991.0	5.3		SPT-11	15-16.5	10,11,11	
			SPT-12	16.5-18	10,12,13	
			SPT-13	18-19.5	10,13,13	
		Soil 2: SILTY SAND; SM; olive brown (2.5YR 4/3); moist; loose to medium dense	SPT-14	19.5-21	12,13,14	
			SPT-15	21-22.5	13,13,13	
			SPT-16	22.5-24	14,14,14	
		Soil 3: SANDY SILT; ML; dark brownish gray (10YR 6/1); moist; loose to medium dense				
3971.8	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 locations across the site and with time. Descriptions are simplifications of actual conditions encountered. Transitions between soil types maybe gradual. Elevations shown are approximate AMSL.



Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-301/SG-302

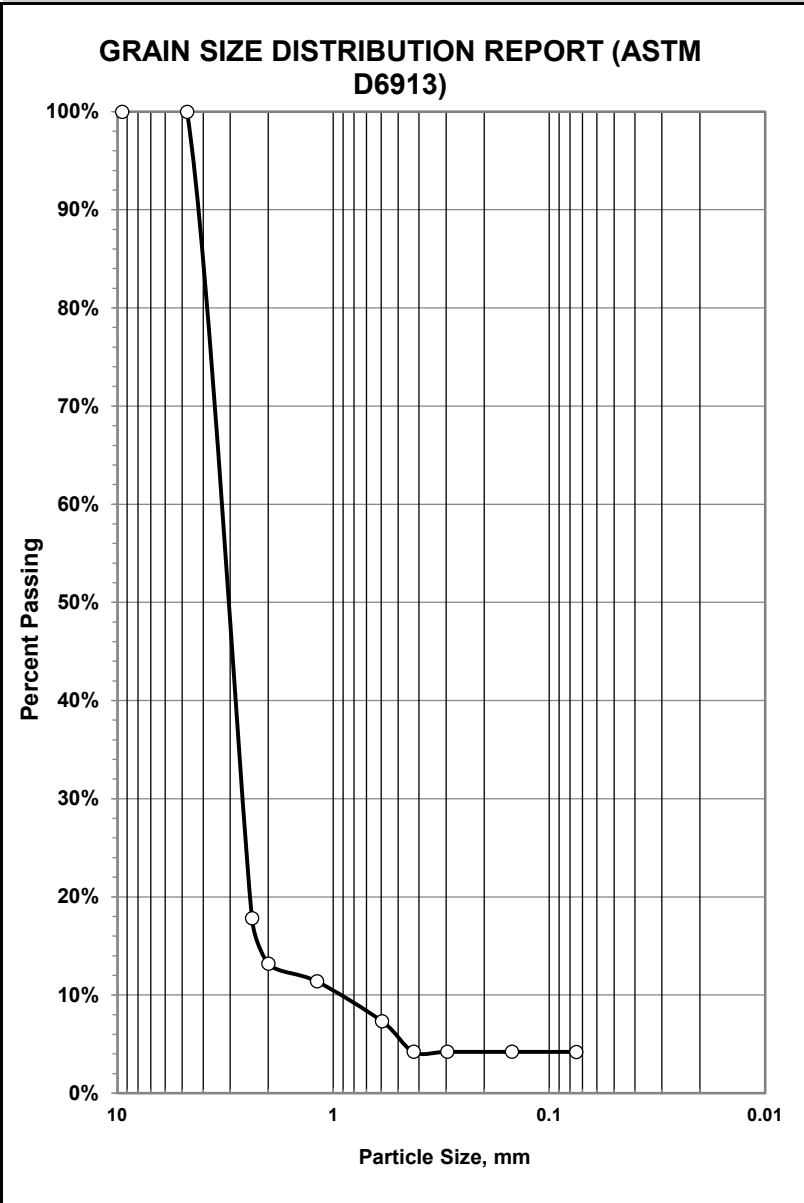
Field Sample Description:
Composite of Soil 1 from SG-301 and SG-302

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties

Natural Moisture Content: 8.79%

Assumed Specific Gravity: 2.7

Liquid Limit | Plastic Limit: |

Plasticity Index: |

Soil Description	% Passing	
Poorly Graded Sand (SP)	0.375	100.0%
Gravel Percent	#4	100.0%
	#10	13.2%
Sand Percent	#16	11.4%
	#30	7.3%
Fines Percent	#40	4.2%
	#50	4.2%
	#100	4.2%
	#200	4.2%

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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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-303/SG-304

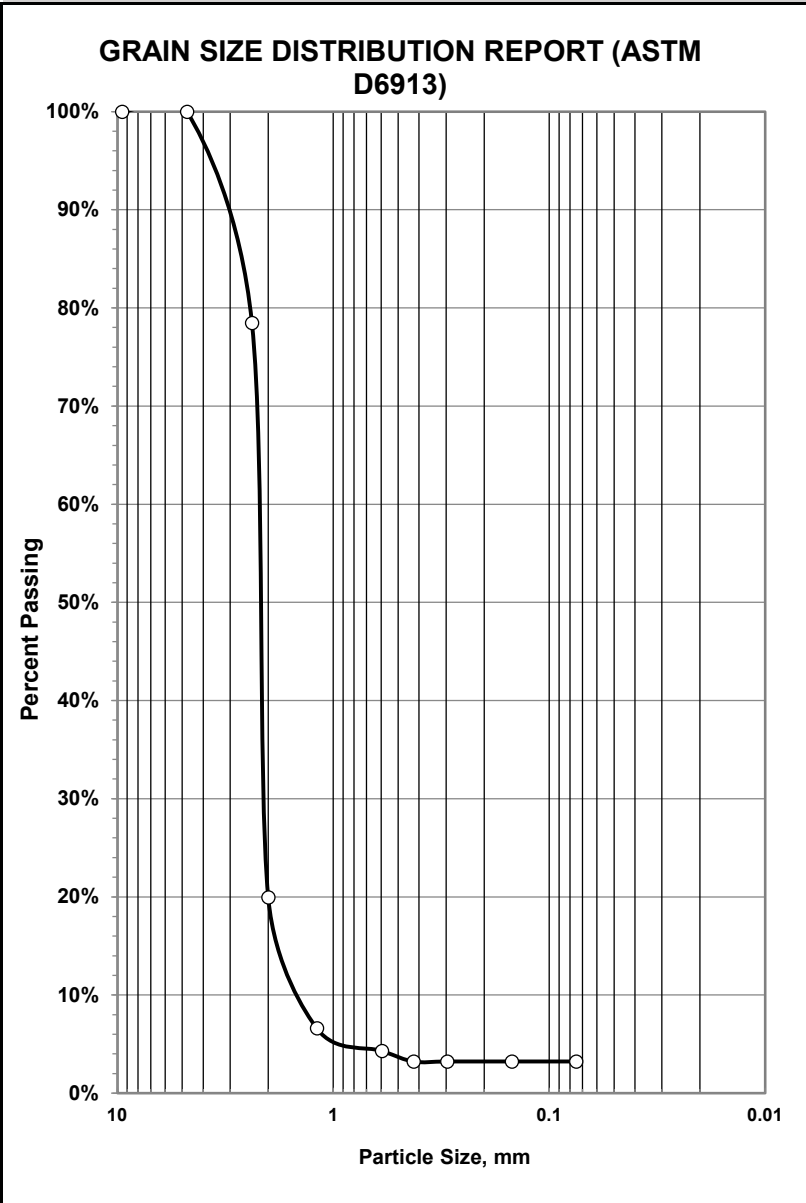
Field Sample Description:
Composite of Soil 1 from SG-303 and SG-304

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	8.25%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Poorly Graded Sand (SP)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 78.5%
	0.00% #10 19.9%
Sand Percent	#16 6.6%
	96.78% #30 4.3%
Fines Percent	#40 3.2%
	3.22% #50 3.2%
	#100 3.2%
	#200 3.2%
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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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-305/SG-306

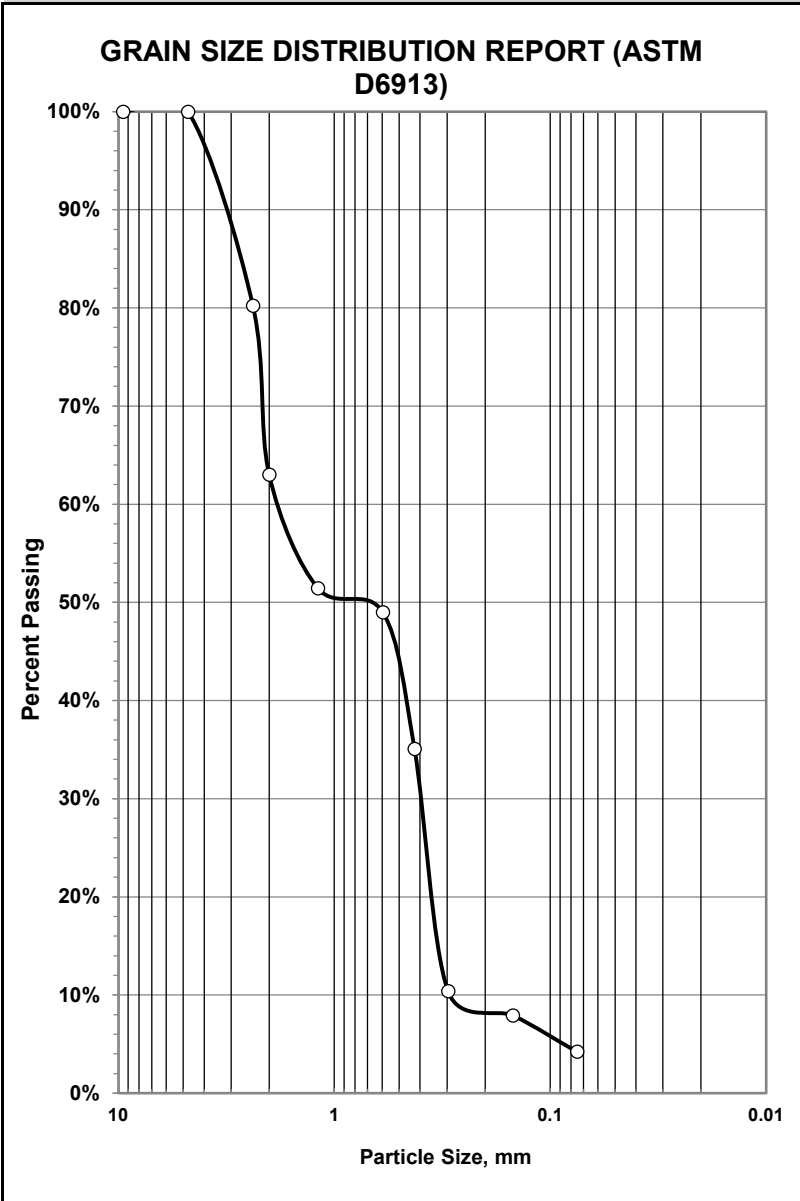
Field Sample Description:
Composite of Soil 1 from SG-305 and SG-306

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	7.98%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Poorly Graded Sand (SP)	0.375 100.0%
Gravel Percent	#4 100.0%
0.00%	#10 63.0%
Sand Percent	#16 51.4%
95.78%	#30 49.0%
Fines Percent	#40 35.1%
4.22%	#50 10.4%
	#100 7.9%
	#200 4.2%
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:	1003

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-401/SG-402

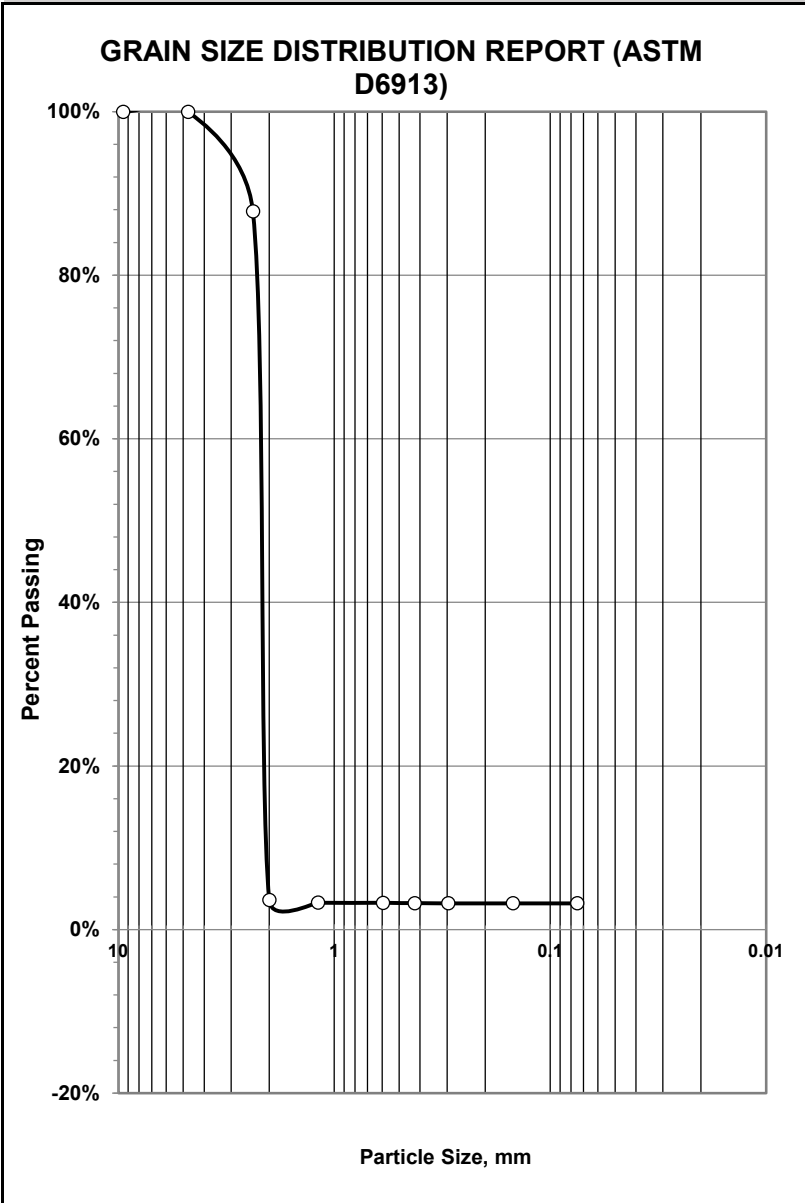
Field Sample Description:
Composite of Soil 1 from SG-401 and SG-402

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	13.10%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Poorly Graded Sand (SP)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 87.8%
	0.00% #10 3.6%
Sand Percent	#16 3.3%
	96.78% #30 3.3%
Fines Percent	#40 3.2%
	3.22% #50 3.2%
	#100 3.2%
	#200 3.2%
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:	1004

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-403/SG-404

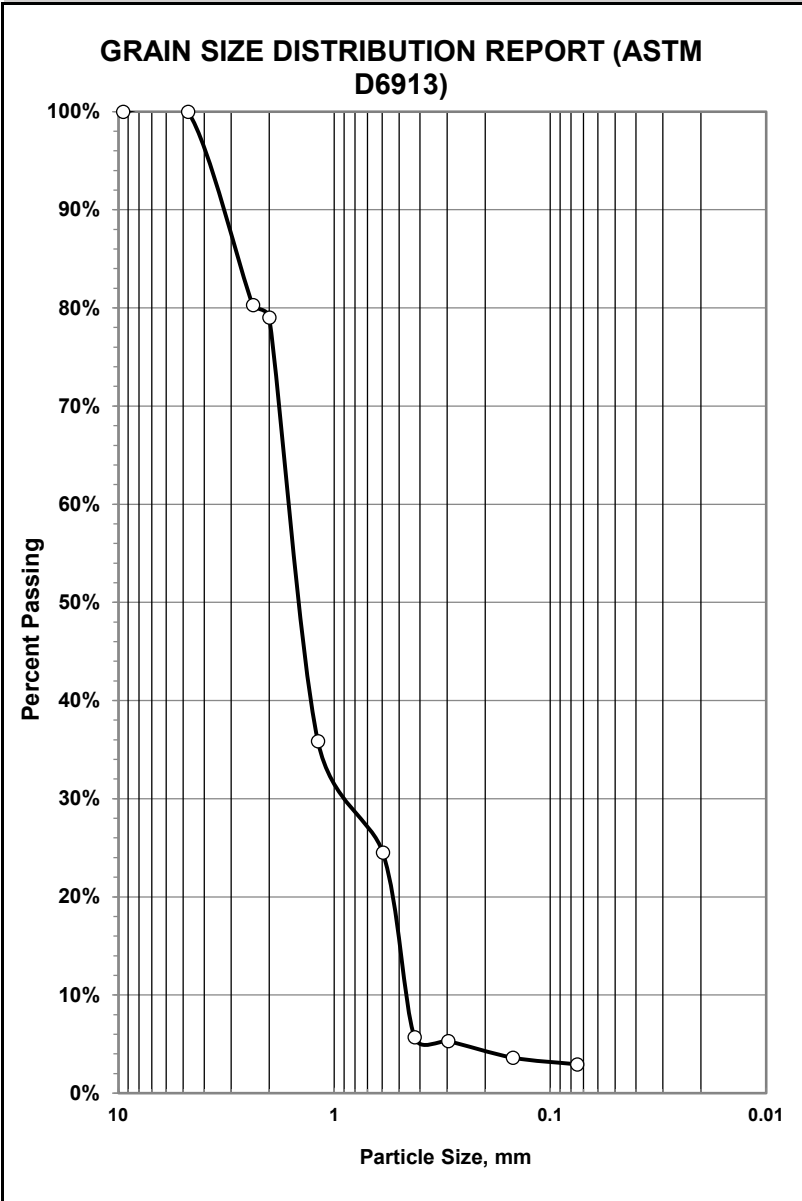
Field Sample Description:
Composite of Soil 1 from SG-403 and SG-404

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	13.50%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Poorly Graded Sand (SP)	0.375 100.0%
Gravel Percent	#4 100.0%
0.00%	#10 79.0%
Sand Percent	#16 35.9%
97.07%	#30 24.5%
Fines Percent	#40 5.7%
2.93%	#50 5.3%
	#100 3.6%
	#200 2.9%
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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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-405/SG-406

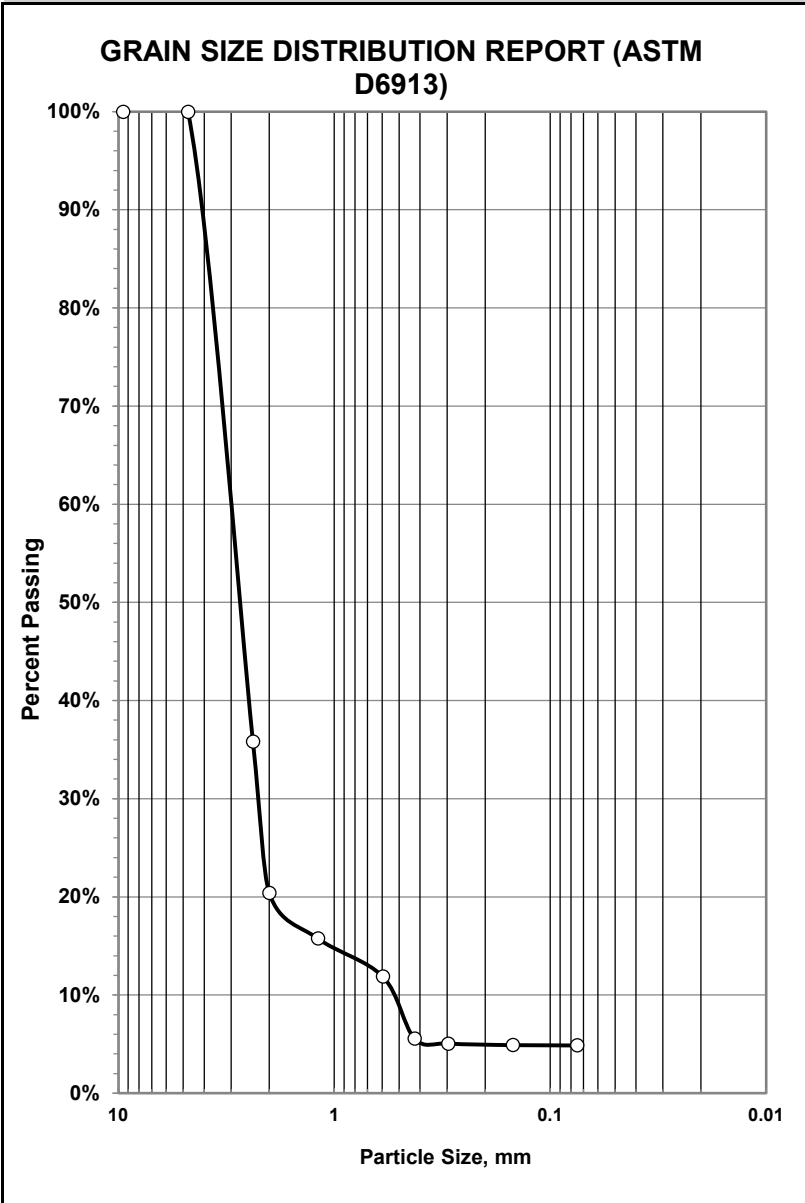
Field Sample Description:
Composite of Soil 1 from SG-405 and SG-406

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	12.90%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Poorly Graded Sand (SP)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 35.8%
	0.00% #10 20.4%
Sand Percent	#16 15.8%
	95.13% #30 11.9%
Fines Percent	#40 5.6%
	4.87% #50 5.1%
	#100 4.9%
	#200 4.9%
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:	1006

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-301/SG-302

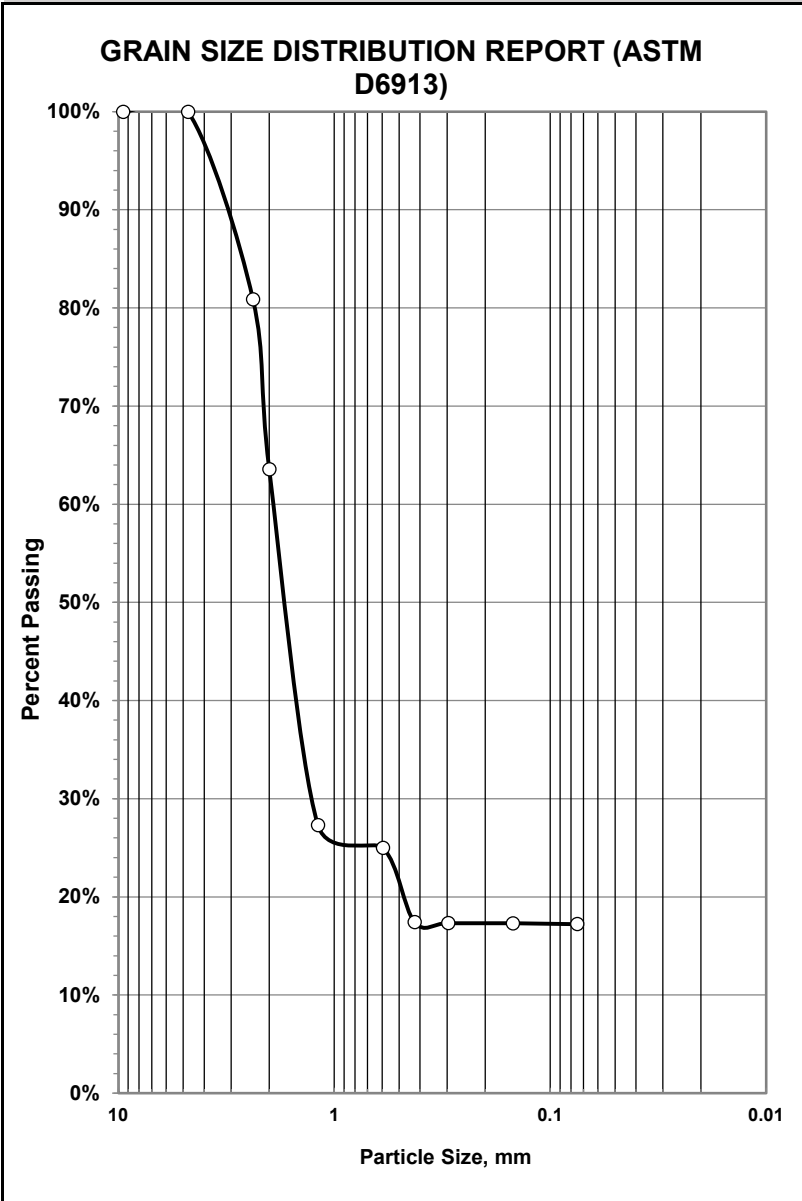
Field Sample Description:
Composite of Soil 2 from SG-301 and SG-302

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	11.57%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Silty Sand (SM)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 80.9%
	0.00% #10 63.6%
Sand Percent	#16 27.3%
	82.78% #30 25.0%
Fines Percent	#40 17.4%
	17.22% #50 17.3%
	#100 17.3%
	#200 17.2%
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:	1007

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-303/SG-304

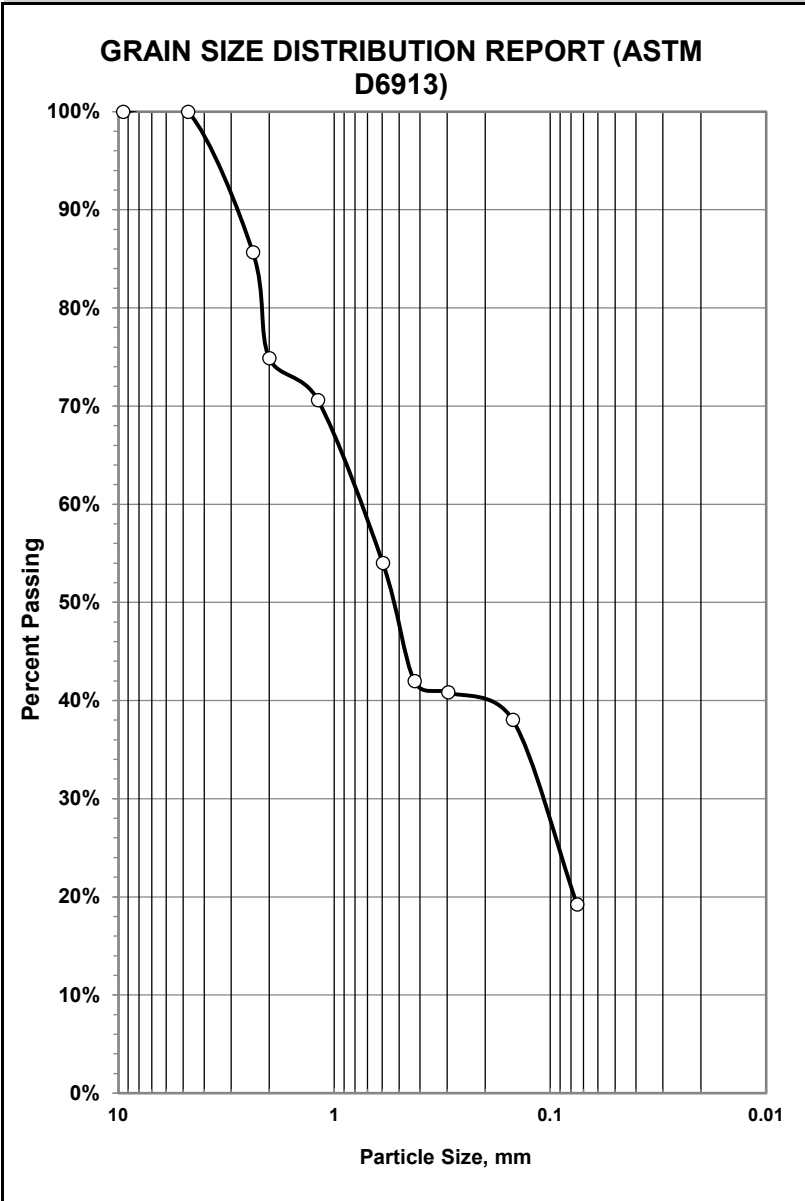
Field Sample Description:
Composite of Soil 2 from SG-303 and SG-304

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties		
Natural Moisture Content:	11.30%	
Assumed Specific Gravity:	2.7	
Liquid Limit Plastic Limit		
Plasticity Index		
Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	85.7%
	0.00%	
	#10	74.9%
Sand Percent	#16	70.6%
	80.78%	
	#30	54.0%
Fines Percent	#40	42.0%
	19.22%	
	#50	40.8%
	#100	38.0%
	#200	19.2%
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:	1008	

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-305/SG-306

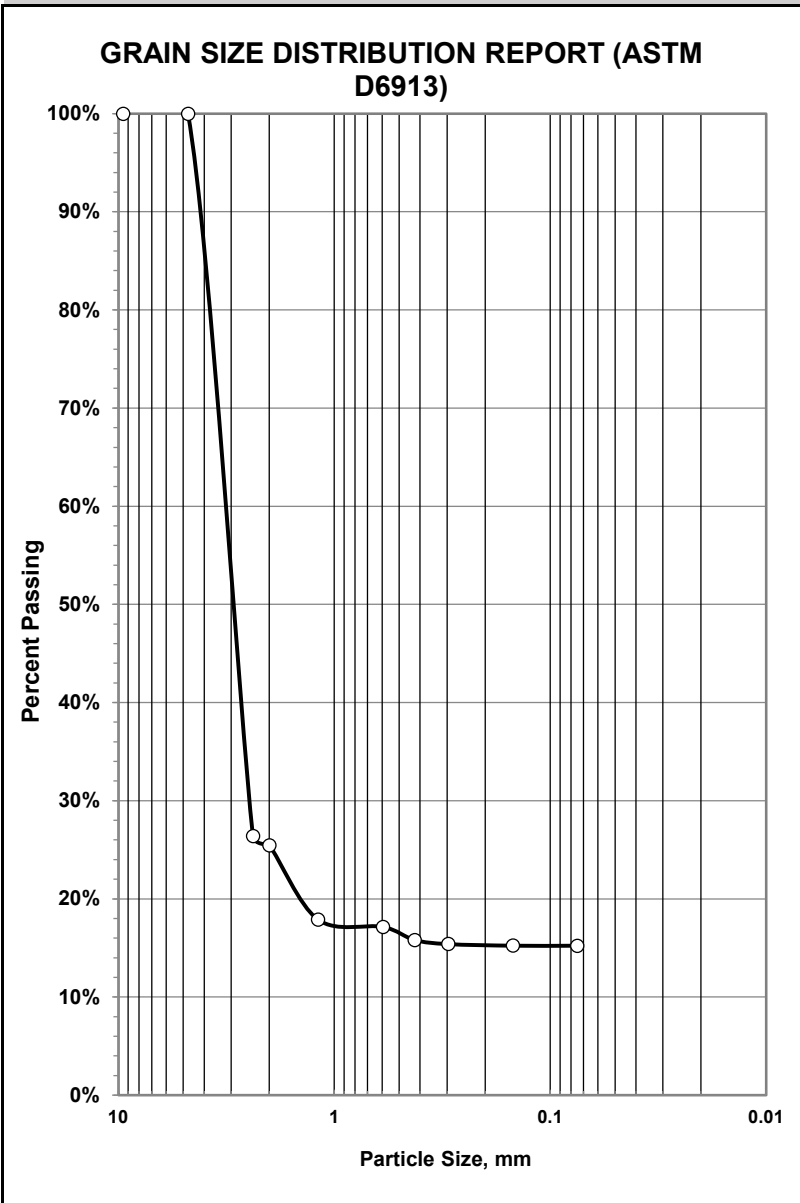
Field Sample Description:
Composite of Soil 2 from SG-305 and SG-306

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	14.70%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Silty Sand (SM)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 26.4%
0.00%	#10 25.5%
Sand Percent	#16 17.9%
84.78%	#30 17.1%
Fines Percent	#40 15.8%
15.22%	#50 15.4%
	#100 15.2%
	#200 15.2%
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:	1009

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-401/SG-402

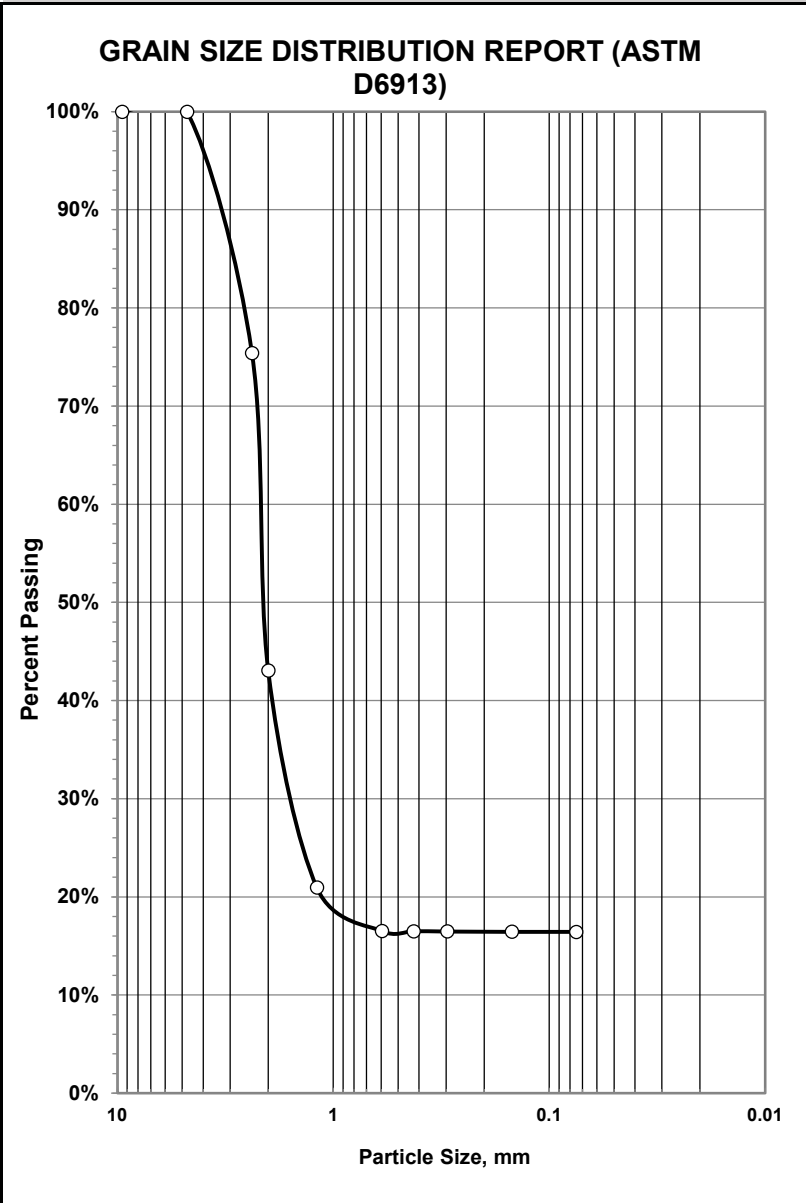
Field Sample Description:
Composite of Soil 2 from SG-401 and SG-402

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	12.70%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Silty Sand (SM)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 75.4%
	0.00% #10 43.1%
Sand Percent	#16 20.9%
	83.57% #30 16.5%
Fines Percent	#40 16.5%
	16.43% #50 16.5%
	#100 16.4%
	#200 16.4%
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: 1010	

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-403/SG-404

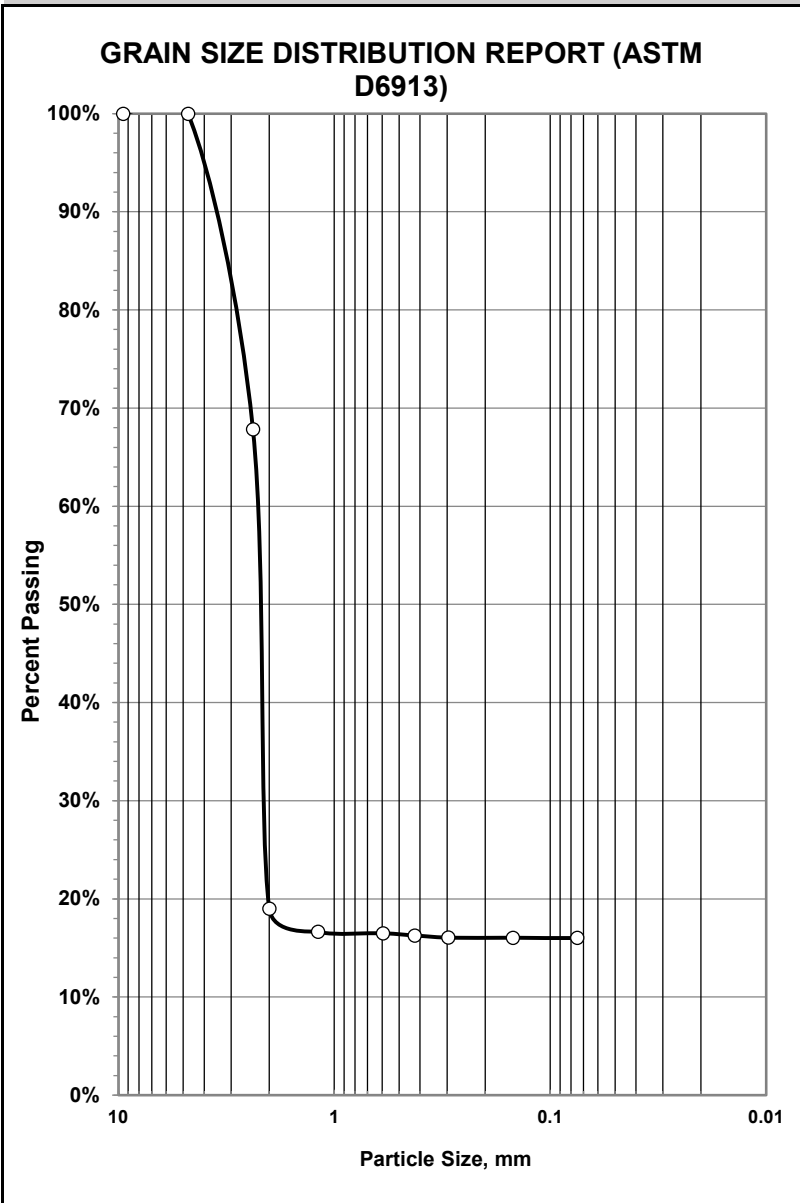
Field Sample Description:
Composite of Soil 2 from SG-403 and SG-404

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	12.90%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Silty Sand (SM)	0.375 100.0%
	#4 100.0%
Gravel Percent	#8 67.8%
	0.00% #10 19.0%
Sand Percent	#16 16.6%
	83.98% #30 16.5%
Fines Percent	#40 16.3%
	16.02% #50 16.1%
	#100 16.0%
	#200 16.0%
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:	1011

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-405/SG-406

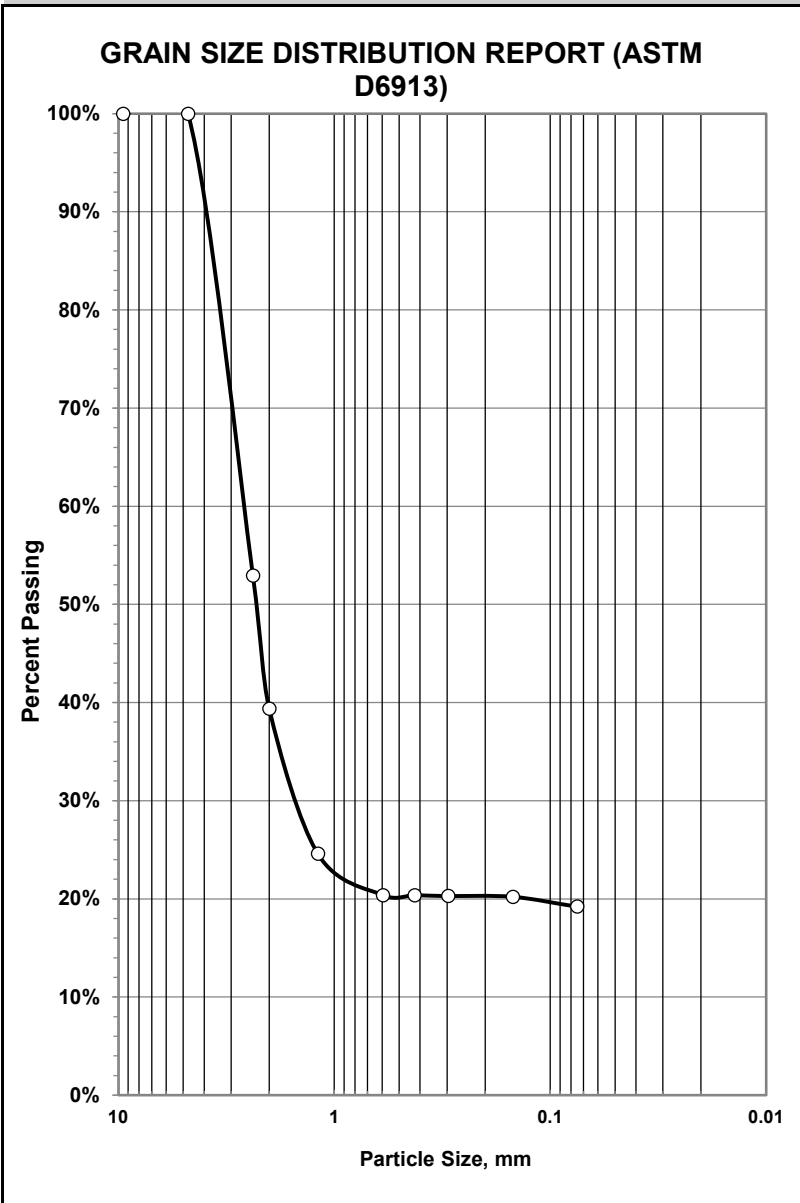
Field Sample Description:
Composite of Soil 2 from SG-405 and SG-406

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties		
Natural Moisture Content:	14.80%	
Assumed Specific Gravity:	2.7	
Liquid Limit Plastic Limit		
Plasticity Index		
Soil Description	% Passing	
Silty Sand (SM)	0.375	100.0%
	#4	100.0%
Gravel Percent	#8	52.9%
	#10	39.4%
Sand Percent	#16	24.6%
	#30	20.4%
Fines Percent	#40	20.4%
	#50	20.3%
	#100	20.2%
	#200	19.2%
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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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-301/SG-302

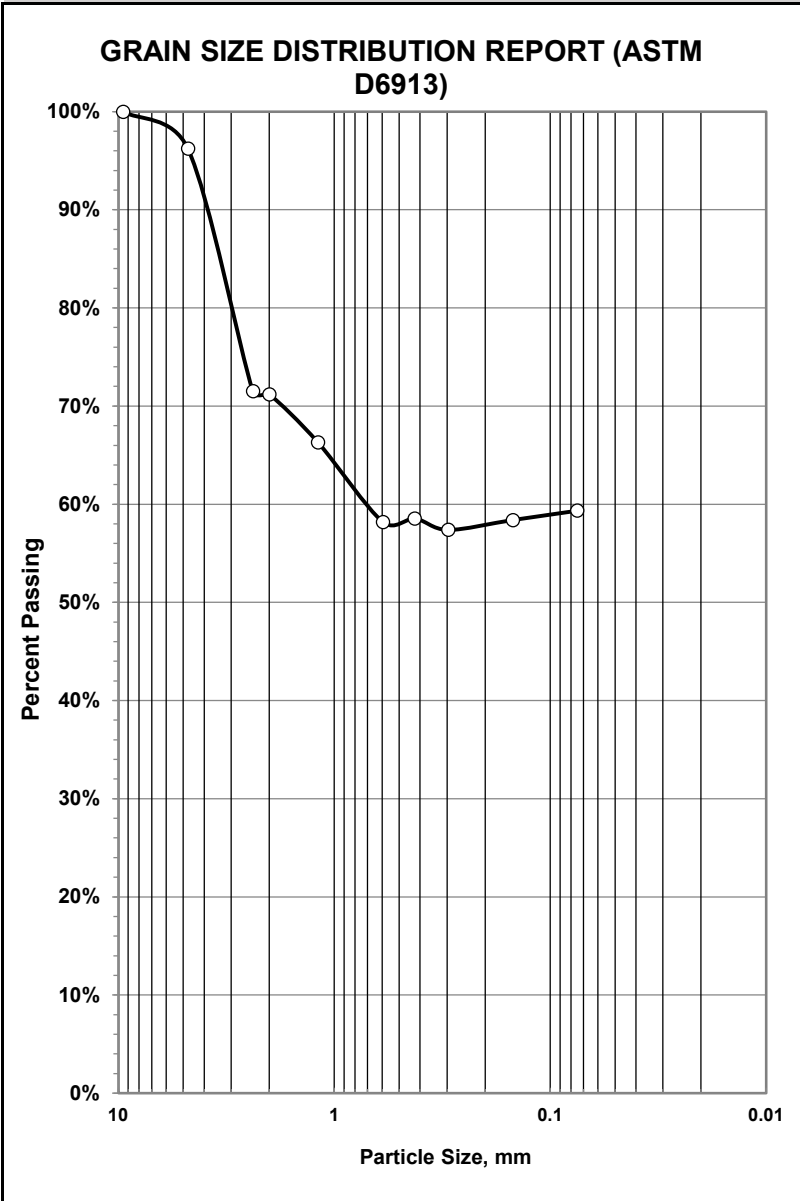
Field Sample Description:
Composite of Soil 3 from SG-301 and SG-302

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	11.70%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Sandy SILT (ML)	0.375 96.2%
	#4 96.2%
Gravel Percent	#8 71.5%
3.78%	#10 71.2%
Sand Percent	#16 66.3%
36.87%	#30 58.2%
Fines Percent	#40 58.6%
59.35%	#50 57.4%
	#100 58.4%
	#200 59.4%
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:	1013

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-303/SG-304

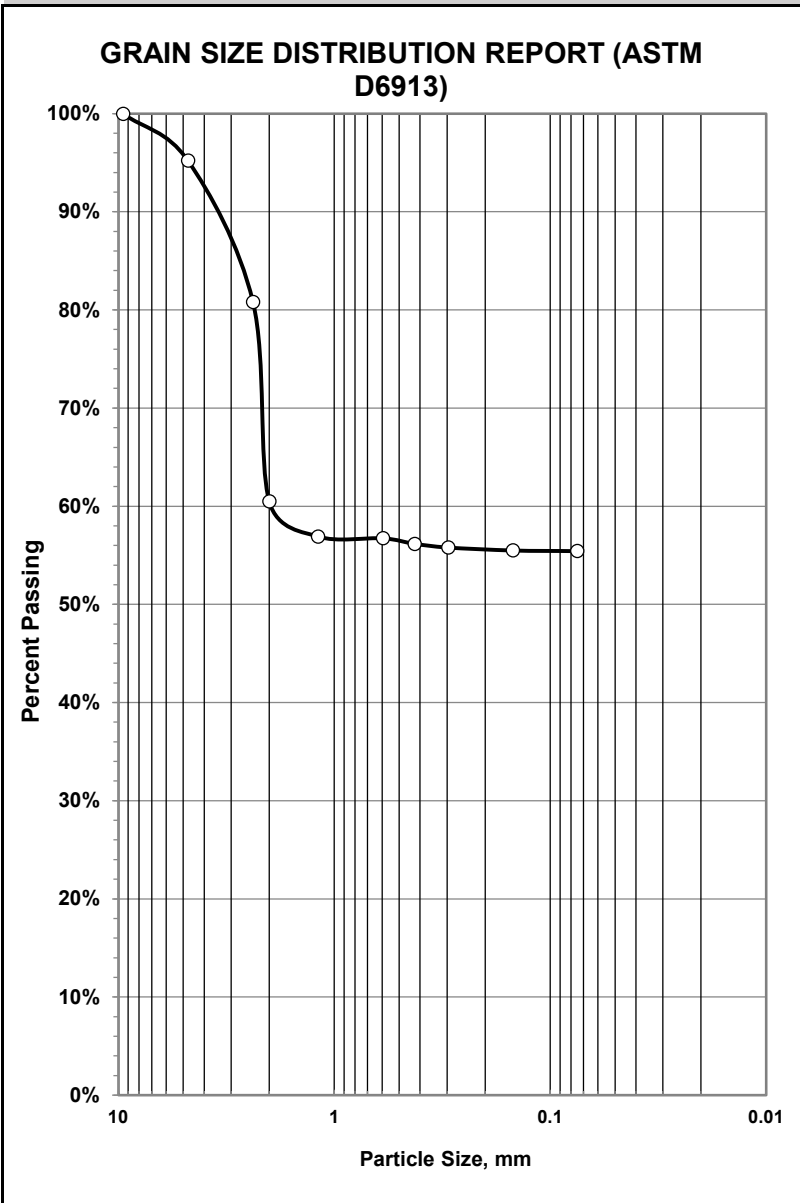
Field Sample Description:
Composite of Soil 3 from SG-303 and SG-304

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	15.90%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Sandy SILT (ML)	0.375 95.2%
	#4 95.2%
Gravel Percent	#8 80.8%
4.78%	#10 60.5%
Sand Percent	#16 56.9%
39.78%	#30 56.7%
Fines Percent	#40 56.2%
55.44%	#50 55.8%
	#100 55.5%
	#200 55.4%
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:	1014

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-305/SG-306

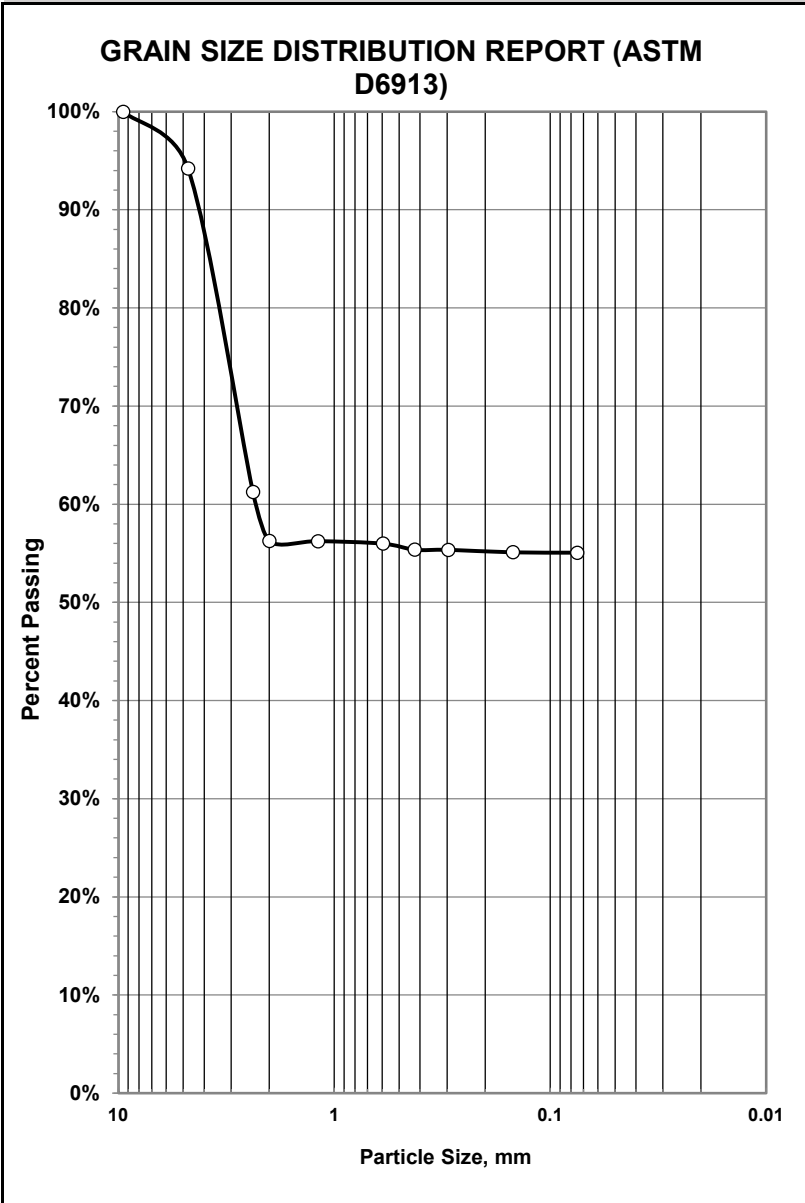
Field Sample Description:
Composite of Soil 3 from SG-305 and SG-306

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	18.90%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Sandy SILT (ML)	0.375 94.2%
	#4 94.2%
Gravel Percent	#8 61.3%
5.78%	#10 56.3%
Sand Percent	#16 56.2%
39.15%	#30 56.0%
Fines Percent	#40 55.4%
55.07%	#50 55.4%
	#100 55.1%
	#200 55.1%
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:	1015

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-403/SG-404

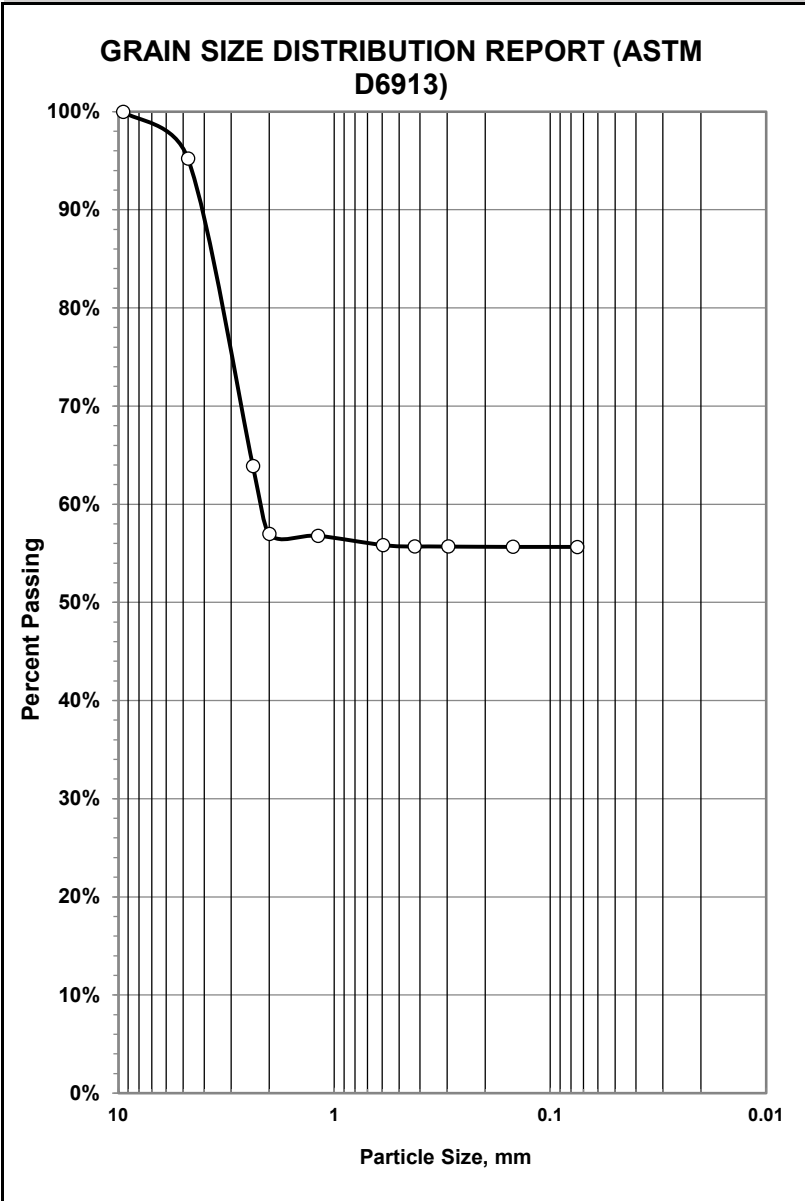
Field Sample Description:
Composite of Soil 3 from SG-403 and SG-404

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	17.60%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Sandy SILT (ML)	0.375 95.2%
	#4 95.2%
Gravel Percent	#8 63.9%
4.78%	#10 57.0%
Sand Percent	#16 56.8%
39.57%	#30 55.8%
Fines Percent	#40 55.7%
55.65%	#50 55.7%
	#100 55.7%
	#200 55.7%
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:	1017

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Lab Testing Report

Our Client:
Charles Hooper

Project Owner:
Sierra Geotech

General Contractor:
TBD

Client Project Number:
NA

Client Project Name:
Washoe PSES/BESS

Project Location:
Calneva Rd, Calneva, CA

Our Project #:
RL2020-037

Our Project Name:
Calneva PSES/BESS

Sierra Geotech PM:
Shaun Vemuri, PE

Sierra Geotech Lab Location:
Rocklin, CA

Lab Manager:
Shaun Vemuri, PE

Lab Technician:
JC/CC/BZ/HA

Field Sample ID:
SG-405/SG-406

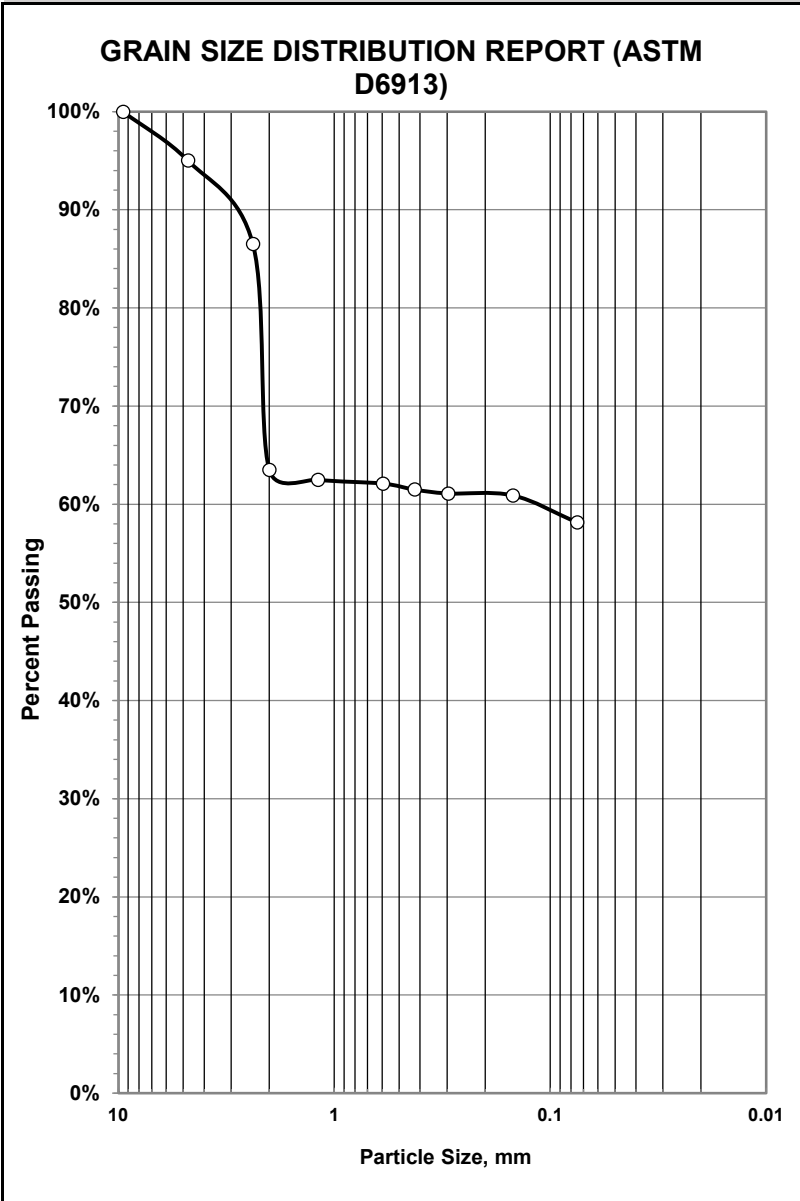
Field Sample Description:
Composite of Soil 3 from SG-405 and SG-406

Sampled By:
Sierra Geotech

Source:
Geotechnical Investigation

Depth (feet) below existing ground surface:
See Logs

Sampled On:
2/3/2020 or 2/4/2020



Soil Properties	
Natural Moisture Content:	15.10%
Assumed Specific Gravity:	2.7
Liquid Limit Plastic Limit	
Plasticity Index	
Soil Description	% Passing
Sandy SILT (ML)	0.375 95.0%
	#4 95.0%
Gravel Percent	#8 86.5%
4.98%	#10 63.5%
Sand Percent	#16 62.5%
36.87%	#30 62.1%
Fines Percent	#40 61.5%
58.15%	#50 61.1%
	#100 60.9%
	#200 58.2%
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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Appendix B

Biological Assessment Report

Biological Assessment for the Praana One Calneva and Praana Two Washoe Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) Projects

Lassen County, California and Washoe County, Nevada
July 2021



Prepared for:
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Executive Summary

Praana Renewables Energy, LLC, (Praana Energy) and Dr. Charles Hooper, D.O. (Hooper) are planning to construct the Praana Two Washoe BESS/PSES project on the Nevada side of the Honey Lake Valley in Washoe County, Nevada just east of 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 345 kV Gen-tie line to connect the project to the NV Energy Fort Sage substation along a private public utility easement located within Rainbow Way approximately 5.5 miles in length.

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 lease area is located within the *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, February 2021, January 2022, February 2022) 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 storage systems.

Construction of the 345 kV generation-tie line within the public utility easement of Rainbow Way of approximately 5.5 miles will traverse the following habitat types: Alkali Desert Scrub (ASC); Alkali Desert

Scrub with Salt Grass (ASC/SG); Disturbed/Desert Peach/Big Sagebrush (DIST/DP/BGS); Perennial Grasslands (PGS); and Big Sagebrush (BGS). Special Status Plant Surveys were conducted on the Rainbow Way public utility easement (PUE) with a corridor width on each side of the PUE of one hundred feet (100').

No federally listed, federal candidate, or state-listed plant species (*Nevada Administrative Code 527.010*) occurs in the project lease area or action area (*Gen-Tie Line Corridor*) 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 or gen-tie line corridor:

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	Nevada Protected Species	Project Effect
Geyer's milkvetch	<i>Astragalus geyeri</i> var. <i>geyeri</i>	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 Washoe County represents the western most extension of this species.	No	The proposed project may affect but is not likely to adversely affect this species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	<i>Chylismia claviformis</i> ssp. <i>cruciformis</i>	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 Lease Area.	No	The proposed project may affect but is not likely to adversely affect this species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Wire Mousetail	<i>Ivesia webberi</i>	A perennial herb that blooms from May to July and grows in sand or gravel flats and slopes. It is known to occur in along the California and Nevada Border approximately ten miles south of the project site along the border.	Yes	The proposed project may affect but is not likely to adversely affect the Nevada State listed threatened species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Tahoe yellow cress	<i>Rorippa subumbellata</i>	A perennial which grows only in the Lake Tahoe region in sandy lake margins located in Washoe County. This rare species of flowering plant is in the mustard family blooming between late May and early October.	Yes	The proposed project will not affect the Nevada State and US Fish and Wildlife special status species. No occurrence within the project action area.

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
Whitebark pine	<i>Pinus albicaulis</i>	Whitebark pine are found in high elevations of the Sierra Nevada within Washoe County. No occurrence of the Whitebark pine occurs within the project action area.	Yes	The proposed project will not affect the Nevada State and US Fish and Wildlife special status species. No occurrence within the project action area.
Williams combleaf	<i>Polyctenium williamsiae</i>	A perennial that blooms from March to July and is found in sandy or volcanic soils and lake margins. It is known to occur north of Honey Lake in California and south of the project approximately 30 miles on the Nevada side of the border.	Yes	The proposed project may affect but is not likely to adversely affect the Nevada State listed threatened in species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Williams buckwheat or steamboat buckwheat	<i>Eriogonum ovalifolium var. williamsiae</i>	A perennial herb that blooms mid-May through July. Variety williamsiae is listed federally as endangered and is known only from Steamboat Springs in southern Washoe County. The plants are restricted to an outcrop of sinter, a substrate derived from hot spring deposits. The population occupies ca. 150 hectares and is divided into three subpopulations. Not likely to occur within the project action area.	Yes	The proposed project may affect but is not likely to adversely affect the Nevada State listed threatened species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's Ivesia	<i>Ivesia baileyi var. baileyi</i>	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.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush Loeflingia	<i>Loeflingia squarrosa var. artemisiarum</i>	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	No	The proposed project may affect but is not likely to adversely affect the fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's Lomatium	<i>Lomatium foeniculaceum var. macdougalii</i>	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush	No	The proposed project may affect but is not likely to adversely affect the fairly endangered species.

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
		communities. The project lease area does not have suitable soils to support this species.		Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	<i>Lupinus pusillus</i> var. <i>intermontanus</i>	An annual that blooms from May to June in open sandy areas.	No	The proposed project may affect but is not likely to adversely affect the not very endangered in species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	<i>Ladeania lanceolata</i>	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	<i>Rumex venosus</i>	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. This species is only found only in the Honey Lake valley of California and Nevada.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	<i>Sphaeralcea grossulariifolia</i> ssp. <i>grossulariifolia</i>	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	No	The proposed project may affect but is not likely to adversely affect the CNPS and NNPS fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	<i>Suaeda occidentalis</i>	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.	No	The proposed project may affect but is not likely to adversely affect the NNPS and CNPS listed not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered Thelypodium	<i>Thelypodium milleflorum</i>	A perennial that blooms April to June in sandy soils.	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
				between May and August will ensure any potential impacts will be mitigated to less than significant.
Hillman's Cleomella	<i>Cleomella hillmanii</i>	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand Verbena	<i>Tripterocalyx crux-maltae</i>	A perennial that blooms May to July in partially or fully stabilized sand dunes.	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	<i>Eremothera minor</i>	An annual that blooms from April to July in the Chenopod scrub habitat	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	<i>Eriogonum ochrocephalum</i>	A perennial that blooms May to June in volcanic or clay soils.	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute Lomatium	<i>Lomatium ravenii</i>	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed not very endangered species. 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	Nevada Protected Species	Project Effect
American badger	<i>Taxidea taxus</i>	Badger has been known to occur in the western portions of the Basin and Range. The California Natural Diversity Data Base, and the Us Fish and Wildlife have reported badger burrow in the vicinity of the proposed project lease area and the gen-tie line corridor	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 June of 2021 and no active burrows found on project site.
Long-eared Owl	<i>Asio otus</i>	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	<i>Falco mexicanus</i>	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List Nevada Conservation Status – Priority Species	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.
Pronghorn Antelope	<i>Antilocapra americana</i>	Pronghorn Antelope have been seen just south of the proposed project site utilizing the Doyle Wildlife Area as a grazing area.	Nevada Conservation Status - Protected	The proposed project may affect but is not likely to adversely affect the Nevada protected status species Pronghorn Antelope.

1. Introduction

Praana Energy and Dr. Charles Hooper, DO, CDR (RET) MC USN, are responding to the Nevada Revised Statutes (NRS) Section 704.7801 through 7828, the Nevada Administrative Code (NAC) 704.8831 and the California Public Utility Commission (CPUC) to develop cost-effective energy storage projects. The proposed Praana Two Washoe BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance Nevada's and California's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. To meet this demand, Praana Energy and 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 proposed generation-tie line (345kV) to be placed either on the Rainbow Way corridor or the Calneva Road and Fort Sage Road corridor. 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 NV Energy Fort Sage substation south of the solar generation site and
- Gen-Tie Laydown Area

On behalf of Praana Energy and 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 and gen-tie line corridor (Rainbow Way); 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 1971 Utility Environmental Protection Act (UEPA) of Nevada found in the Nevada Revised Statutes (NRS). UEPA permits are addressed in NRS 704.820 through 704.900, and NAC 703.415 through 703.427.

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 lease area or gen-tie corridor. 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 and Washoe 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, February of 2021 and July 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 Names

Praana One: Calneva Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System Project (Praana I: Calneva BESS/PSES Project)

Praana Two: Washoe Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System Project (Praana II: Washoe BESS/PSES Project)

BACKGROUND AND CONTEXT

Praana Energy is proposing the construction of two battery energy storage facilities and photovoltaic solar energy systems on land owned by the Dr. Charles Hooper, DO, CDR (RET) MC USN. Dr. Hooper has leased the proposed project lease areas to Praana Energy, independent power merchant, to develop and operate the Praana One: Calneva BESS/PSES project (Lassen County, California, Use Permit and CEQA Initial Study and Mitigated Negative Declaration adopted November 2021 by Lassen County Planning Commission) and Praana Two: Washoe BESS/PSES Project (Washoe County, Nevada, Washoe County Special Use Permit Pending, Public Utility Commission of Nevada UEPA Permit to Construct Pending). The lease area for the proposed Praana One: Calneva BESS/PSES project is located some five (5) miles north of the intersection of Calneva Road and Fort Sage Road on the east side of Calneva Road, on Lassen County Assessor's Parcel Numbers (APNs) 137-170-12, (180 acres) and 137-170-13, (98 acres) Lassen County, California on a total project site of 278 acres. The lease area for the proposed Praana Two: Washoe BESS/PSES project is located approximately five (5) miles north of the NV Energy Fort Sage Substation off Rainbow Way on Washoe County APNs 074-470-03, (116.22 acres), 074-470-02 (26.05 acres), 074-470-04 (17.632 acres), and 074-470-05 (119.02 acres) Washoe County, Nevada on a total project site of 278 acres. Praana One and Praana Two BESS/PSES projects are located approximately five (5) miles north of the Sierra Pacific Power Company's/NV Energy (SPPCo's/NV Energy), Fort Sage Substation, which will be utilized by the proposed BESS/PSES project via a 345 kV generation intertie line to convey power to the grid in both Nevada and California. Plumas Sierra Rural Electric Cooperative (PSREC) is building a 120 kV intertie line between the PSREC Herlong Substation and the SPPCo's Fort Sage Substation to provide another source of power for the Honey Lake Valley and the Herlong US Army Depot.

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 UEPA and CEQA guidelines. The Praana One and Praana Two BESS/PSES projects 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 Engineering, Procurement and Construction (EPC) Contractor selected by Praana Energy, and exact input/output consumption values may vary from assumed values provided herein for purposes of this Biological Assessment.

Lassen County would have primary jurisdiction over the proposed Praana One: Calneva BESS/PSES project and Washoe County and Public Utilities Commission of Nevada (PUCN) would have primary jurisdiction of the proposed Praana Two: Washoe BESS/PSES. The federal regulatory agencies that may have jurisdiction over these projects 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

(CDFW), Lassen County Air Pollution Control District, Lahontan Regional Water Quality Control Board, Lassen County, Washoe County Planning Commission, Washoe County Board of Commissioners, the Truckee Meadows Regional Planning Commission, PUCN, Nevada Conservation and Natural Resources – Divisions: Environmental Protection, Division of Forestry, Division of Natural Heritage, and State Historic Preservation Office.

Praana One: Calneva and Praana Two: Washoe Projects Need

Reduce the Need for Fossil Fuel Power Contracts and Electrical Costs

All electric utility providers in California and Nevada must reach renewable energy portfolio standards of their respective state and 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 Praana One and Praana Two BESS/PSES projects, California and Nevada utilities will be forced to pay high costs to continue the existing fossil fuel power operations, which higher costs will be passed on to ratepayers. The proposed Praana One and Praana Two BESS/PSES facilities have been evaluated by CAISO and determined to reduce, or eliminate, the local sub-area deficiencies at a reasonable cost. The proposed projects development schedule allows for on-line and operational status on or before a date sufficient to ensure that the contracts for the fossil fuel power plants will not be renewed in any year from 2022 through 2024.

Reduction of Greenhouse Gas Emissions

Battery storage and solar generation are used to reduce greenhouse gas emissions associated with fossil fuel-fired power generation facilities by storing solar generated 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 Praana One and Praana Two projects would increase regional electricity peak power storage supply, thereby supporting the stability of the regional electrical grid and removing offline the old fossil fuel fired power plants which service Lassen and Washoe Counties and surrounding region. The proposed locations of Praana One and Praana Two with access to the Plumas-Sierra Rural Electric Cooperative (PSREC) 120kV transmission line which connects the project to the NV Energy's Fort Sage and PSREC's Herlong substations allows the proposed Praana One and Praana Two BESS/PSES facilities to service the deficiencies created by the shutdown of fossil fuel power plants and enabling connection to the existing grid both in Lassen County, California, and Washoe County, Nevada. Benefits of the proposed BESS/PSES facilities include integration of solar array field with a total of 100 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, California and Washoe County, Nevada. Electricity dispatched from the battery storage system would supplement the existing peaking capacity available to the CAISO system as well as the Nevada system.

CPUC Adopted Energy Renewable Plan-Goal of 100% Retail Electricity and PUCN Renewable Portfolio Standard of 50% by 2030

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 Praana One and Two BESS/PSES projects 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 California 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.

Nevada's Renewable Portfolio Standard (RPS), NRS 704.7801, was first adopted by the Nevada Legislature in 1997 and has been modified nearly every legislative session since. The RPS sets the percentage of electricity sold each year by providers of electric service to Nevada customers that must come from renewable energy (biomass, geothermal energy, solar energy, waterpower, and wind) or energy efficiency measures. Praana Two Washoe BESS/PSES is being developed to help Nevada utilities meet the RPS. Praana Energy has been in discussions with NV Energy concerning the production of solar energy and is trying to effect a construction schedule and interconnection agreement with NV Energy to meet the 2023 RPS goals.

The 2019 Nevada Legislature (Senate Bill 358) modified the RPS by increasing the percentage of electricity sold each year to Nevadans that must come from renewable energy or energy efficiency measures. The 2019 Nevada Legislature also declared it is the policy of the state of Nevada to:

1. Encourage and accelerate the development of new renewable energy projects for the economic, health and environmental benefits provided to Nevadans.
2. Become a leading producer and consumer of clean and renewable energy, with a goal of achieving by 2050 an amount of energy production from zero carbon dioxide emission resources equal to the total amount of electricity sold by providers of electric service in Nevada.
3. Ensure that the benefits of the increased use of portfolio energy systems and energy efficiency measures are received by the Nevada residents. Such benefits include, without limitation, improved air quality, reduced water use, a more diverse portfolio of resources for generating electricity, reduced fossil fuel consumption and more stable rates for retail customers of electric service.

The percentage of renewable energy required by the RPS will increase at a scheduled rate until it reaches 50% in 2030.

- 22% in 2020
- 24% in 2021
- 29% in 2022 and 2023
- 34% in 2024 through 2026
- 42% in 2027 through 2029
- 50% in 2030 and each year thereafter

PROJECT OBJECTIVES

The proposed Praana One: Calneva and Praana Two: Washoe 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 (Lassen Municipal Utility District (LMUD), PSREC, NV Energy, Pacific Gas and Electric (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, Washoe County, Reno, 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 Praana One and Praana Two BESS/PSES projects objectives are summarized as follows:

Maximize renewable energy generation through construction of two (2) large-scale, nominal 50-MW solar energy facilities to help meet California's and Nevada's renewable energy and climate goals

California's stated RPS goal is to serve 50 percent of its electric load with renewable energy by the end of 2026, and 60 percent by 2030. California 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 Praana One and Praana Two BESS/PSES projects would advance California's RPS and GHG reduction policy objectives by providing renewable energy and storage.

Nevada's Renewable Portfolio Standard (RPS), NRS 704.7801, was first adopted by the Nevada Legislature in 1997 and has been modified nearly every legislative session since. The RPS sets the percentage of electricity sold each year by providers of electric service to Nevada customers that must come from renewable energy (biomass, geothermal energy, solar energy, waterpower, and wind) or energy efficiency measures. The 2019 Nevada Legislature (Senate Bill 358) modified the RPS by increasing the percentage of electricity sold each year to Nevadans that must come from renewable energy or energy efficiency measures. The 2019 Nevada Legislature also declared it is the policy of the state of Nevada to:

1. Encourage and accelerate the development of new renewable energy projects for the economic, health and environmental benefits provided to Nevadans.
2. Become a leading producer and consumer of clean and renewable energy, with a goal of achieving by 2050 an amount of energy production from zero carbon dioxide emission resources equal to the total amount of electricity sold by providers of electric service in Nevada.

3. Ensure that the benefits of the increased use of portfolio energy systems and energy efficiency measures are received by the Nevada residents. Such benefits include, without limitation, improved air quality, reduced water use, a more diverse portfolio of resources for generating electricity, reduced fossil fuel consumption and more stable rates for retail customers of electric service.

The percentage of renewable energy required by the RPS will increase at a scheduled rate until it reaches 50% in 2030.

- 22% in 2020
- 24% in 2021
- 29% in 2022 and 2023
- 34% in 2024 through 2026
- 42% in 2027 through 2029
- 50% in 2030 and each year thereafter

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 Praana One and Praana Two BESS/PSES projects 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 Praana One and Praana Two BESS/PSES projects 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 Praana One and Praana Two BESS/PSES projects would help meet the California and Nevada 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 Praana One and Praana Two BESS/PSES projects 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 facilities 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 Praana One and Praana Two BESS/PSES project lease areas are rated at 5.9 kWh/m²/day. The high solar resource means that during times of peak solar energy production, the proposed Praana One and Praana Two 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 intertie line has available 100 MW of excess capacity to connect to the California Independent System Operator (CAISO)-controlled grid without requiring system upgrades. The Praana One and Praana Two BESS/PSES project will utilize a 345 kV gen-tie line to Fort Sage Substation which also has the capacity to move power out of the region and a bus which has been dedicated for Praana Energy projects. Praana Energy is filing an Application with the PUCN for a Permit to construct Praana Two (50 MW) solar energy generating facilities, 345 kV project substation, 345 kV generation-tie line, battery energy storage systems, and associated facilities pursuant to the Nevada Utility Environmental Protection Act (UEPA). The proposed Praana One and Praana Two BESS/PSES projects 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

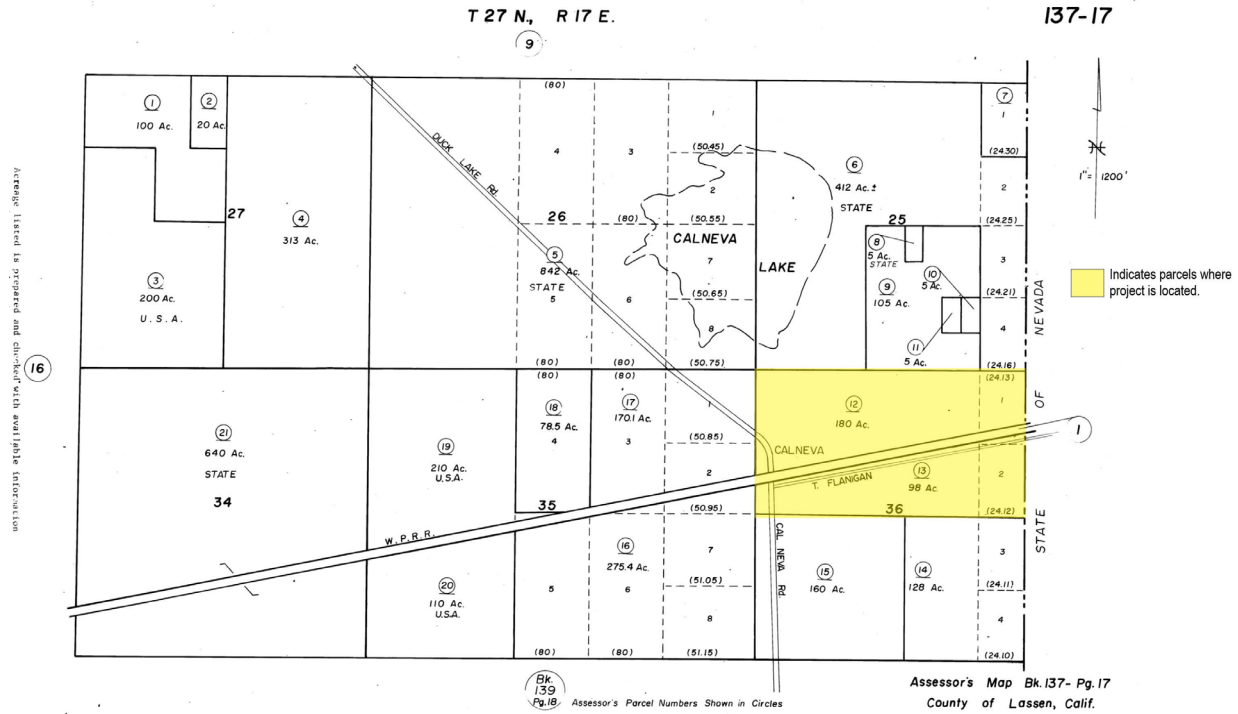
The most efficient large-scale solar PV project requires relatively level and flat land; thus, it is desirable to have topography with less than a 3-percent slope. Siting a solar PV project on previously disturbed land away from urban population centers, sensitive receptor uses, and outside of parkland and designated habitat conservation areas would reduce or eliminate potential environmental effects.

Achieve commercial operations as soon as practicable (targeted for the end of 2023)

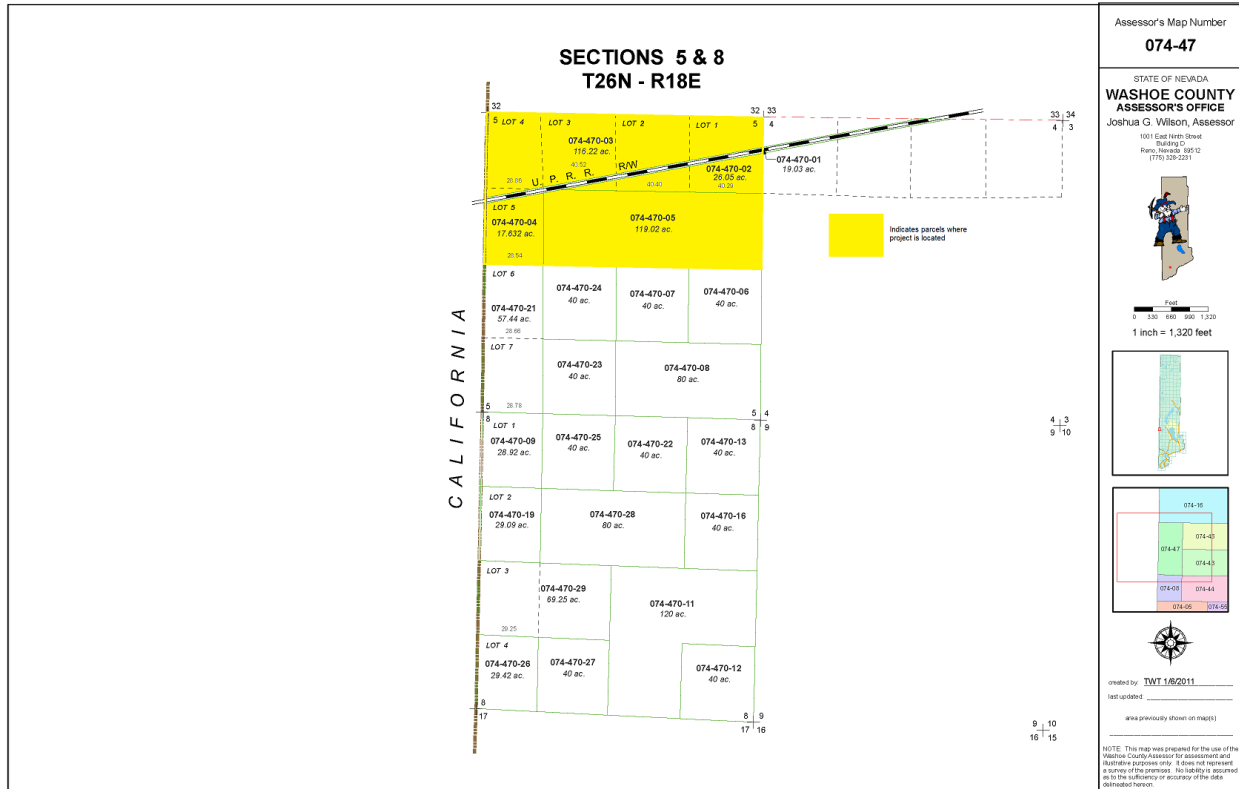
Praana Energy's goal is to complete construction on schedule to ensure the timely delivery and procurement of renewable energy to California and Nevada utilities. (Estimated Date of Commercial Operations Third Quarter of 2023)

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Praana One: Calneva BESS/PSES Project Site Lassen County Assessor's Map



Praana Two: Washoe BESS/PSES Project Site Washoe County Assessor's Map



Size and Nature of Praana One: Calneva and Praana Two: Washoe

The proposed Praana One and Praana Two BESS/PSES projects each will consist of battery electrical storage systems (BESS) which would store up to 50 megawatts (MWAC) or 200 megawatt hours (MWh) of electricity for dispatch into the local grid via the NV Energy's Fort Sage Substation. Each project will consist of an up to 50 MW alternating current (AC) solar photovoltaic (PV) energy generating facility with approximately 143,000 to 163,000 solar PV modules. The lease areas for Praana One and Praana Two BESS/PSES projects would be fenced for security and to restrict access.

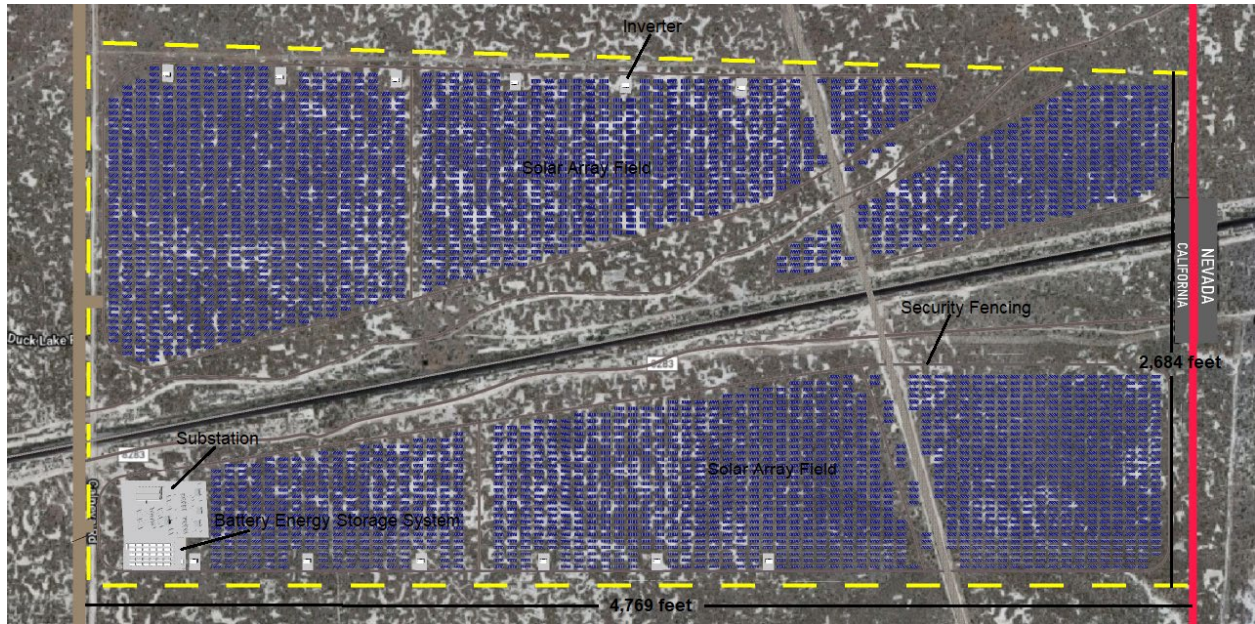
Praana One and Praana Two BESS/PSES projects would comprise the following project components located within an approximate footprint of 278 acres each:

- Approximately 143,000 to 163,000 solar PV modules
- A single axis track system
- Electrical inverters and transformers
- Battery energy storage system (BESS)
 - thirty (60) battery storage enclosures (i.e., 50 MW of power) store up to 50 megawatts (MW) or 200 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 Fort Sage Substation south of the site and
- Gen-Tie Laydown Area

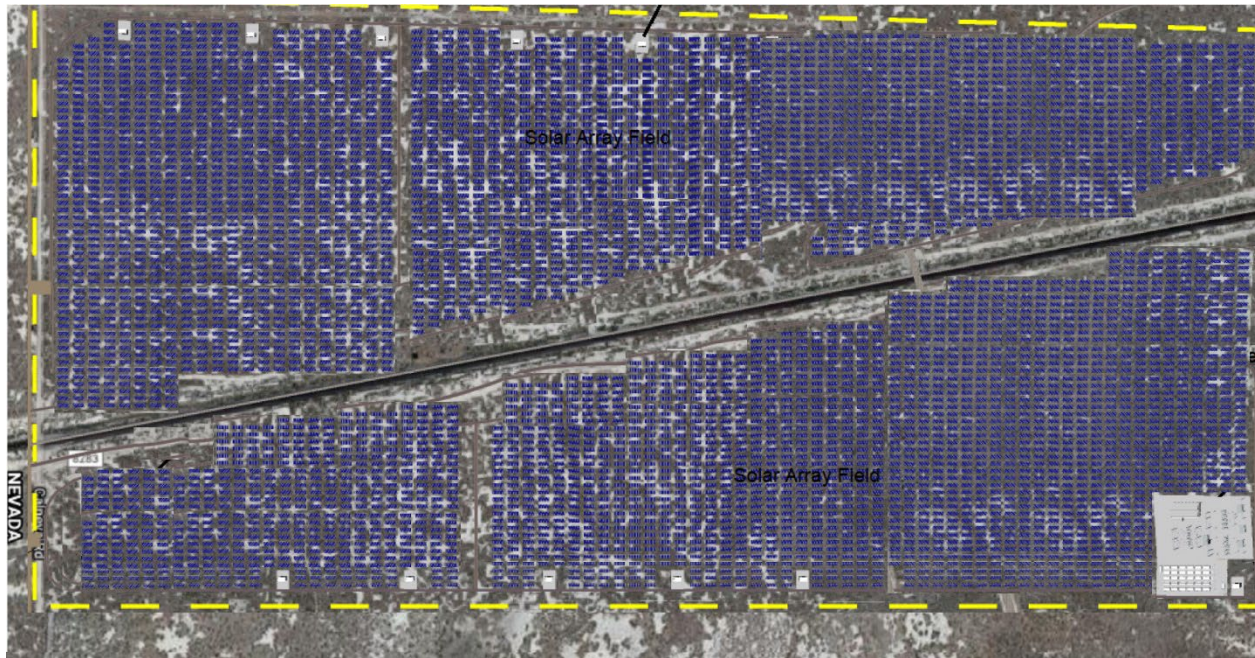
Conceptual Site Plans for Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES follows on next page. The components identified above are described in more detail below.

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Praana I Calneva BESS/PSES Site Plan (278 Acres in California)



Praana II Washoe BESS/PSES Site Plan (278 Acres in Nevada)



Solar PV Energy Generation System

The Praana I and Pranna II BESS/PSES projects combined will produce 100 MW solar energy generating facilities to be built over a ten (10) month period. We anticipate Praana One Calneva will start construction first with Praana Two Washoe following shortly thereafter. Both Praana One Calneva and Praana Two Washoe BESS/PSES project sites 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 each project site will install approximately 143,000 to 163,000 PV modules. The total number of PV panels would depend on the technology ultimately selected for Praana One Calneva and Praana Two Washoe projects during the final design. 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 Honey Lake Valley 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. We anticipate the on-site substation will be in the southeast corner of Praana Two Washoe BESS/PSES project site.

Gen-Tie Line and Routes

The Gen-Tie line design is determined by the connection at NV Energy's Fort Sage substation which has been planned for 345 kV Gen-Tie line connection. The Gen-Tie alignment within the 60 feet public utility easement (PUE) allocated on Rainbow Way and the section line will be determined during the transmission interconnection approval process. It is anticipated the Gen-Tie line will utilize the western half of the PUE along the section line till it reaches Fort Sage Road where it will then utilize the eastern

half of the PUE. Praana Energy has developed a preferred route for the Gen-Tie line on the Rainbow Way alignment and an alternative route on Calneva Road.

Preferred Gen-Tie Line Route Rainbow Way

This route would use a 345 kV Gen-tie line which will travel roughly five (5) miles within the Rainbow Way easement as depicted on deeds and record of survey from the Praana Two Washoe BESS/PSES project site to SPPCo’s/NV Energy Fort Sage Substation. The Gen-tie line structures will be towers up to 59 feet high. The span between supporting structures will range between 200 and 900 feet. Access for construction and maintenance of the Gen-tie line will be via Rainbow Way on the eastern edge of the Praana Two Washoe BESS/PSES project site. Praana Energy anticipates that the Gen-tie line will be constructed and operated by Praana Energy and understands that the Gen-tie line would be constructed to SPPCo/NV Energy Gen-tie line specifications. The design characteristics of the Gen-tie line are listed in Table 1, below.

Table 1. Typical Design Characteristics for a 345 kV Gen-Tie Line

Feature	345 kV Characteristics
Type of Structure	Per SPPCo’s/NV Energy Design Specifications
Structure Height	U to 95 feet
Span Length	Between 200 feet to 900 feet
Anticipated Number of Structures	Thirty (30)
Voltage	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 345 kV conductors
OPGW	Strung above the 345 kV conductors

Alternative Gen-Tie Line Route Calneva Road

This route will utilize the public roadway known as Calneva. Lassen County requested Praana Energy investigate the right to use the roadway since the Lassen County declared in 1973, they would no longer maintain the right of way of Calneva Road. Praana Energy 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 Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Projects

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 Praana One Calneva and Praana Two Washoe BESS/PSES projects 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.) Praana Energy status as a private corporation no more disqualifies it from access to the overhead portion of the Calneva Road right-of-way than it would justify excluding Praana Energy trucks from using the above-ground right-of-way.

Significantly, *California 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.) California 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 (Praana Energy) 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 Praana One Calneva and Praana Two Washoe to the NV Energy Fort Sage substation point of interconnect (POI) just south of the intersection of Rainbow Way and Fort Sage Road seven (7) miles, utilizing an overhead Gen-Tie line. The Gen-Tie poles would be tubular steel structures approximately 59 feet tall placed approximately 200 feet to 900 feet apart along the Gen-Tie route (68 poles). A manual disconnect (air) switch would be located on the last pole of the Gen-Tie line to provide means of manually isolating the Gen-Tie line and solar facility from the Fort Sage Substation.

GEN-TIE INTERCONNECTION / POINT OF CHANGE OF OWNERSHIP POLE (POCO)

It is anticipated Praana One Calneva and Praana Two Washoe BESS/PSES projects will share a substation between the two facilities which will connect to SPPCo's/NV Energy existing Fort Sage Substation via a 345 kV Gen-tie line approximately five (5) miles from the projects shared substation. The Projects Point of Change of Ownership (POCO) will be located just outside of the Fort Sage Substation. The Gen-tie line will be constructed, operated, and maintained by Praana Energy. The structures will be designed consistent SPPCo's/NV Energy's specifications and design standards and will have a 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 Fort Sage Substation. The Gen-tie line will also provide a communication path via optical fiber composite overhead ground wire, (OPGW) strung above the 345 kV conductor. We anticipated specific network upgrades at the Fort Sage Substation will include a new 345 kV terminal, two breakers, three switches, five CCVTs, three lighting arresters, and structures and associated bus work.

PRAANA ONE CALNEVA AND PRAANA TWO WASHOE SHARED 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 345kV to match the transmission grid voltage at the point of interconnection (POI) with SPPCo/NV Energy Fort Sage Substation. The Praana One Calneva and Praana Two Washoe projects shared substation would be located inside the Solar Field Area on the southeast corner of Praana Two Washoe. 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 Praana One Calneva and Praana Two Washoe BESS/PSES project's collection system 34.5kV to the 345kV transmission grid voltages at SPPCo's/NV Energy's Fort Sage Substation. The substation generator step up (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 1,000 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. 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 (PCS)

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.

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.

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 previous concrete slab next to the switchgear. The power inverter is an electronic device or circuitry that changes direct current (DC) to alternating current (AC).

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.

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 Praana One Calneva and Praana Two Washoe BESS/PSES projects. 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 four MET Stations are anticipated to be installed for Praana One Calneva and Praana Two Washoe BESS/PSES projects.

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 Praana One Calneva and Praana Two Washoe 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) 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 disabled 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. Praana One Calneva and Praana Two Washoe 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 Praana One Calneva and Praana Two Washoe 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 Praana One Calneva and Praana Two Washoe BESS/PSES projects 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/NV Energy 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 Praana One 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. Praana Two Washoe BESS/PSES project is bordered by Calveda Way on the western boundary of the project site and Rainbow Way on the eastern boundary of the project site. The site entrance road for Praana One Calneva would connect to Calneva Road and Praana Two Washoe would connect to Rainbow Way which would be the primary points of access to the projects lease areas. The Praana One Calneva and Praana Two Washoe project lease areas entrance roads, perimeter road, and central fire road would be 26 feet wide and constructed of compacted native soil and gravel per Praana Energy'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/Rainbow Way/Fort Sage Road) would provide adequate ingress and egress to and from the Praana One Calneva and Praana Two Washoe project lease areas for emergency vehicles.

Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES Construction Access Road

Construction access to the Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES project's Solar Field Area and BESS Areas would be via Highway 395 to Doyle Grade Road, to Doyle Loop, to Hackstaff Road to Fort Sage Road to Calneva Road for Praana One Calneva and Rainbow Way for Praana Two Washoe. All roads to the Praana One Calneva and Praana Two Washoe project lease areas 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 and Rainbow Way which is a private unpaved road in Washoe County, Nevada. Portions of Calneva Road and Rainbow Way 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 Praana One Calneva and Praana Two Washoe Solar Field Areas, and BESS Areas. 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 will not require an encroachment permit from Lassen County due to non-maintenance Resolution adopted by the

Board of Supervisors in 1973 nor will an encroachment permit be required by Washoe County since Rainbow Way is not considered a County public road nor proposed County public road. During the construction phase the contractor would water this segment of Calneva Road and Rainbow Way to prevent fugitive dust.

PRAANA ONE CALNEVA BESS/PSES AND PRAANA TWO WASHOE BESS/PSES AUXILIARY SYSTEMS

Praana One Calneva and Praana Two Washoe will share plant auxiliary systems (including lighting and cathodic protection systems) designed to protect and support both projects 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 two projects 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 BESS. 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 BESS is down. Water for construction activities at both Praana One Calneva and Praana Two Washoe will be provided by a connection to a Tahoe Meadows Water Agency ("TMWA") main located approximately 3.2 miles from the Praana One Calneva and Praana Two Washoe lease areas near the Fort Sage Substation. Pursuant to entering into an agreement with TMWA, water will be made available to the Praana One Calneva and Praana Two Washoe 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 197,000 gallons of potable water per cycle, assuming approximately 320,000 PV modules between the two lease areas and would be trucked to the Praana One Calneva and Praana Two Washoe lease areas. 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.

Praana One Calneva and Praana Two Washoe lighting system will provide Operation and Maintenance (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.

PROJECT LOCATION AND REGIONAL CONTEXT

The proposed Praana One Calneva and Praana Two Washoe BESS/PSES project lease areas are located four (4) miles north of the Fort Sage Road and Calneva Road intersection on the eastside of Calneva Road, in Lassen County or four miles north of Rainbow Way and Fort Sage Road intersection on the westside of Rainbow Way. The proposed project lease areas are a total of approximately 556 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) 137-170-12 (180 acres), 137-170-13 (98 acres) and Washoe County Assessor's Parcel Numbers (APNs) 074-470-02 (26.05 acres); 074-470-03 (116.22 acres); 074-470-04 (17.632 acres) and 074-470-05 (119.02 acres). Adjacent to the project lease areas, are the following properties and associated land uses:

- North: On the California side 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. On the Nevada side a 160-acre parcel, 10-acre parcel, and 20-acre parcel all of which are privately owned.
- South: On the California side is vacant open rangeland with two privately owned 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. On the Nevada side are two privately owned parcels that about the southern boundary, one parcel is 40 acres, and the other parcel is 40 acres.
- West: On the California side 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 project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size. On the Nevada side is the Praana One Calneva BESS/PSES project and the California/Nevada state border.
- East: On the California side is the Praana Two Washoe BESS/PSES project and the California/Nevada state border. On the Nevada side is Rainbow Way easement and then vacant range land. Three privately owned parcels border the eastern half of the project lease area one being 139.76 acres, and two being 10 acres each.

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

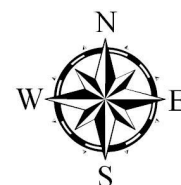


Google Earth

PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

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REV.	DESCRIPTION	BY	APP. CHKD



Project Setting

DATE: 02-16-2021

SCALE: As Shown

BY: AKM

FIGURE: 1



The climate in the project lease areas are 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 areas lie 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 areas, the availability of water or soil moisture is the critical factor that determines the broad distribution of vegetation types and associated wildlife species.

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. Mowing and management of existing vegetation will take place prior to construction and during operations. The Praana Two Washoe project lease area has been historically plowed and all vegetation removed in the past.

Interconnection Facilities

Interconnection Facilities will be placed within an area of permanent disturbance associated with the Rainbow Way easements which will include the placement of Gen-Tie pole structure foundations, and minor road grading to maintain Rainbow Way 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 Rainbow Way easement.

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 be mowed and remain in place and be mowed in the future during operations if it grew into interfering with the equipment.

Substation Construction

The substation would be constructed by an engineering, procurement and construction (EPC) contractor selected by the Praana Energy 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.

Foundations 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 Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Projects

be within the Solar Field Area.

Gen-Tie Line Construction

The Gen-tie Line would be constructed by a contractor selected by Praana Energy 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 (Rainbow Way) maintenance and site preparation
- Foundation construction and anchor installation
 - The Gen-Tie Line 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 (BESS) Construction

The BESS would be constructed by a contractor selected by Praana Energy 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 and gravel placed and compacted. 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 Rainbow Way 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 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 Rainbow Way easement restoration plan.

CONSTRUCTION SCHEDULE

Construction of the Praana One Calneva BESS/PSES Project and the Gen-Tie Line are scheduled to begin in Fall of 2022, and may continue through Summer of 2023, while Praana Two Washoe BESS/PSES will begin in Winter of 2022 and may continue through Fall of 2023 depending on interconnection approvals. If sensitive environmental resources such as nesting birds, burrowing American badgers, are encountered in preconstruction surveys or during construction, construction scheduling in those identified portions of the project lease area or Gen-Tie Line corridor on Rainbow Way 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 Areas or Action Area

The project lease areas or action area includes the easement of Rainbow Way from the NV Energy Fort Sage Substation to the Praana Two Washoe 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 southeast 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 Rainbow Way easement 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 Praana One Calneva and Praana Two Washoe project lease areas. Focused surveys for special-status plant species were conducted on the Praana One Calneva and Praana Two Washoe lease areas as well as the Gen-Tie Line corridor of Rainbow Way easement. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, May 15, June 21, and July 18 of 2021. The surveys were conducted during the months of April, May, June, and July and consisted of sixteen (16) person days of surveys, or approximately one hundred sixty (160) person hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur within the action area. Surveys were floristic in nature. No special status plant species were observed within the action area.

A separate special status plant survey report is attached to this biological assessment as an appendix. 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 2 shows the habitat characterization of the Praana One Calneva and Praana Two Washoe project lease areas (*Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*). Figure 2 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Alkali Desert Scrub plant community areas between the alkali basins/flats/playas which can support vegetation. Figure 3 shows the changing and various habitat characterization of the Gen-Tie Line corridor down Rainbow Way from the Praana Two Washoe BESS/PSES project lease area to the NV Energy Fort Sage substation (*Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*). The habitat characterization types that were identified in the project action areas are described in detail below.

DESCRIPTIONS HABITAT TYPES IN PROJECT ACTION AREAS

Alkali Flats/Playas (AFP)

Alkali basins/flats/playas which are barren and void of all vegetation. These areas contain high concentrations of precipitated dry, glistening salts. These areas are a salty basin landform. Rainwater drains to these basins and collects in areas where it cannot penetrate the soil due to a layer of clay or caliche. When the water evaporates, it leaves behind increasing amounts of salts in the soil. Playas are among the flattest known landforms. Their slopes are generally less than 0.2 meter per kilometre. Alkali flats/playas are mostly found within the project lease areas and limited locations on the Rainbow Way easement.

Alkali Desert Scrub (ASC)

The ASC habitat type in the project action area is characterized as extremely dry, with highly alkaline silt originating from an ancient lakebed. Open, silty regions bereft of vegetation (“playas”) are interspersed with regions that are stabilized by the roots of low growing shrubs adapted to this harsh environment. ASC is by far the most extensive habitat type in the project action area. The observed understory vegetation in the ASC habitat type is limited to infrequent, annual nonnative species, such as *Bromus tectorum*, *Halogeton glomeratus*, and *Lepidium perfoliatum*. Woody vegetation is dominated by *Sarcobatus vermiculatus*, *Atriplex confertifolius*, and *Picrothamnus desertorum*. *Artemisia tridentata*, *Grayia spinosa*, *Tetradymia glabrata*, *Tetradymia spinosa*, and *Neokochia americana* are woody species that occur infrequently.

Alkali Desert Scrub with Saltgrass (ASC/SG)

The ASC/SG habitat type is very similar to the ASC habitat type but supports a slightly different plant community. Most significantly, as ASC intergrades into ASC/SG in the project action area, *Distichlis spicata* (Saltgrass) is abundant in the understory. The overstory vegetation is dominated by *Sarcobatus vermiculatus* and supports moderate abundance of *Artemisia tridentata*, *Ericameria nauseosa*, and *Tetradymia glabrata*. Additional herbaceous species appear moderately in this habitat type, such as *Bromus tectorum*, *Lepidium perfoliatum*. Other herbaceous species, such as *Astragalus filipes*, *Eriocoma hymenoides*, and *Tragopogon dubius* occur infrequently.

Big Sagebrush (BGS)

The BGS habitat type occurs at slightly higher elevation than ASC and ASC/SG in the project action area. The understory vegetation consists of moderate abundance of *Distichlis spicata* as well as moderate occurrences of *Bromus tectorum*, and *Lepidium perfoliatum* and infrequent occurrences of *Astragalus filipes*. The overstory vegetation is dominated by *Artemisia tridentata*, and supports moderate abundance of *Ericameria nauseosa*, *Chrysothamnus viscidiflorus*, and *Tetradymia canescens*.

Disturbed Habitat/Desert peach/Big Sagebrush (DIST/DP/BGS)

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 areas that cross the project lease areas and the Rainbow Way easement. The DIST/DP/BGS habitat type in the project action area is associated with the margin of the Bitterbrush/Desert Peach/Big Sagebrush habitat type, but its close proximity to the road and associated disturbance limits the abundance of *Purshia tridentata* (bitterbrush, only one individual present in the project action area) and increases the abundance of ruderal plant species. DIST/DP/BGS supports the highest diversity of herbaceous understory plant species, with a mixture of native and non-native vegetation. Additionally, DIST/DP/BGS areas represented the highest number of plant species in flower or fruit among the various habitat types found within the project action area. *Amsinckia tessellata*, *Ambrosia acanthicarpa*, *Pleiocanthus spinosus*, and *Eriogonum baileyi* are the most abundant herbaceous understory species, with several others occurring at moderate to infrequent abundance. The overstory shrub vegetation is dominated by *Prunus andersonii*, and *Chrysothamnus viscidiflorus*, with moderate abundance of *Artemisia tridentata* and *Tetradymia canescens*, and infrequent *Ericameria nauseosa*.

Perennial grassland (PGS)

The PGS is an open and sparsely vegetated habitat type occurs in a small region in the project action area south of Fort Sage Road for a very short distance along the Rainbow Way easement. *Elymus cinereus* and *Iva axillaris* are dominant herbaceous species, with *Lepidium perfoliatum* and *Bromus tectorum* occurring infrequently. The woody *Artemisia tridentata* and *Tetradymia canescens* occur moderately in the overstory.

WILDLIFE HABITAT RELATIONSHIP SYSTEM - ALKALI DESERT SCRUB

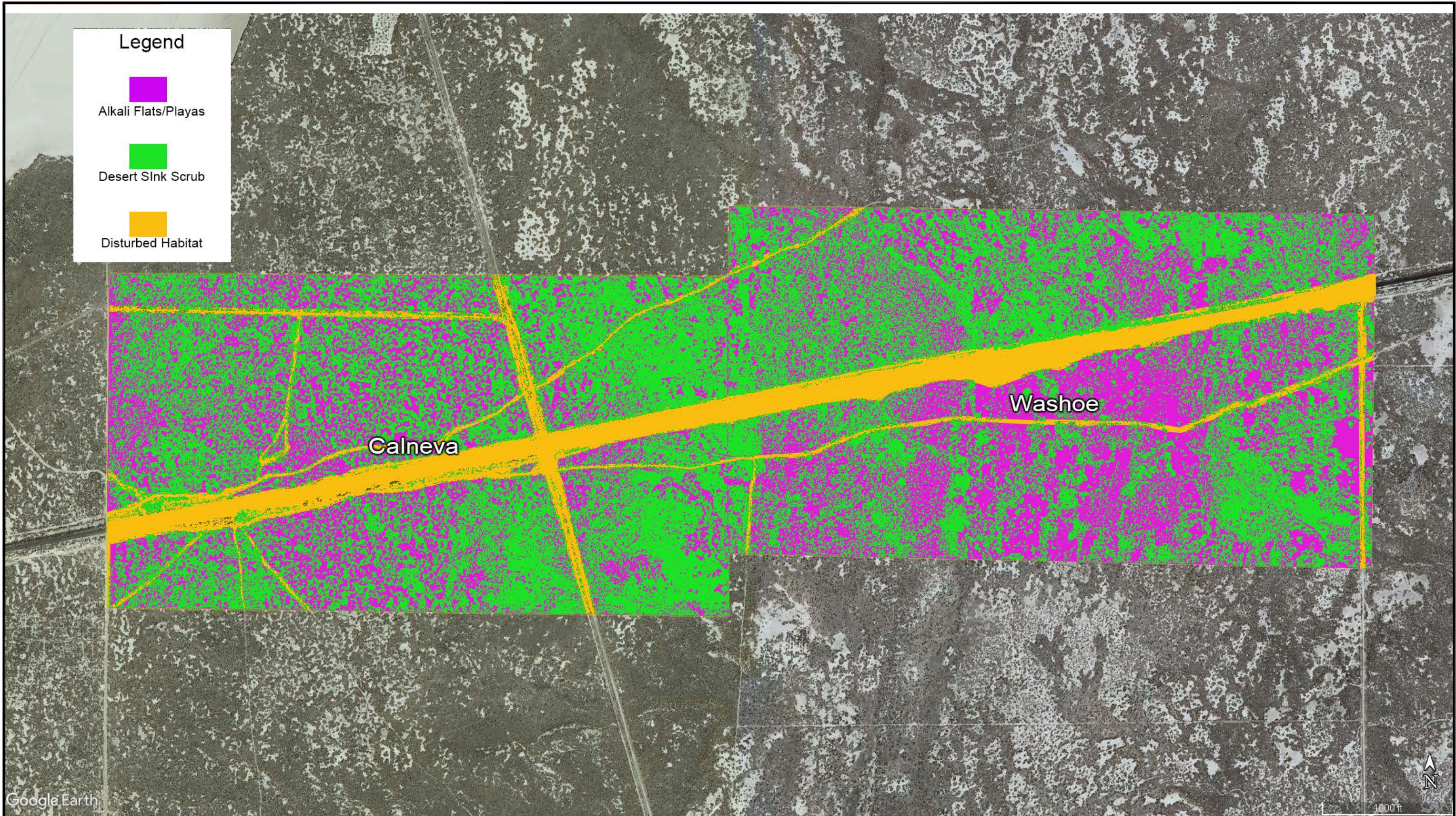
Biological Setting

Habitat

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 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 many locations, Alkali Scrub overlaps with Perennial Grassland (PGS).

Wildlife Considerations

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.



Legend

- Alkali Flats/Playas
- Desert Sink Scrub
- Disturbed Habitat

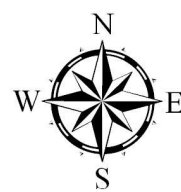
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PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

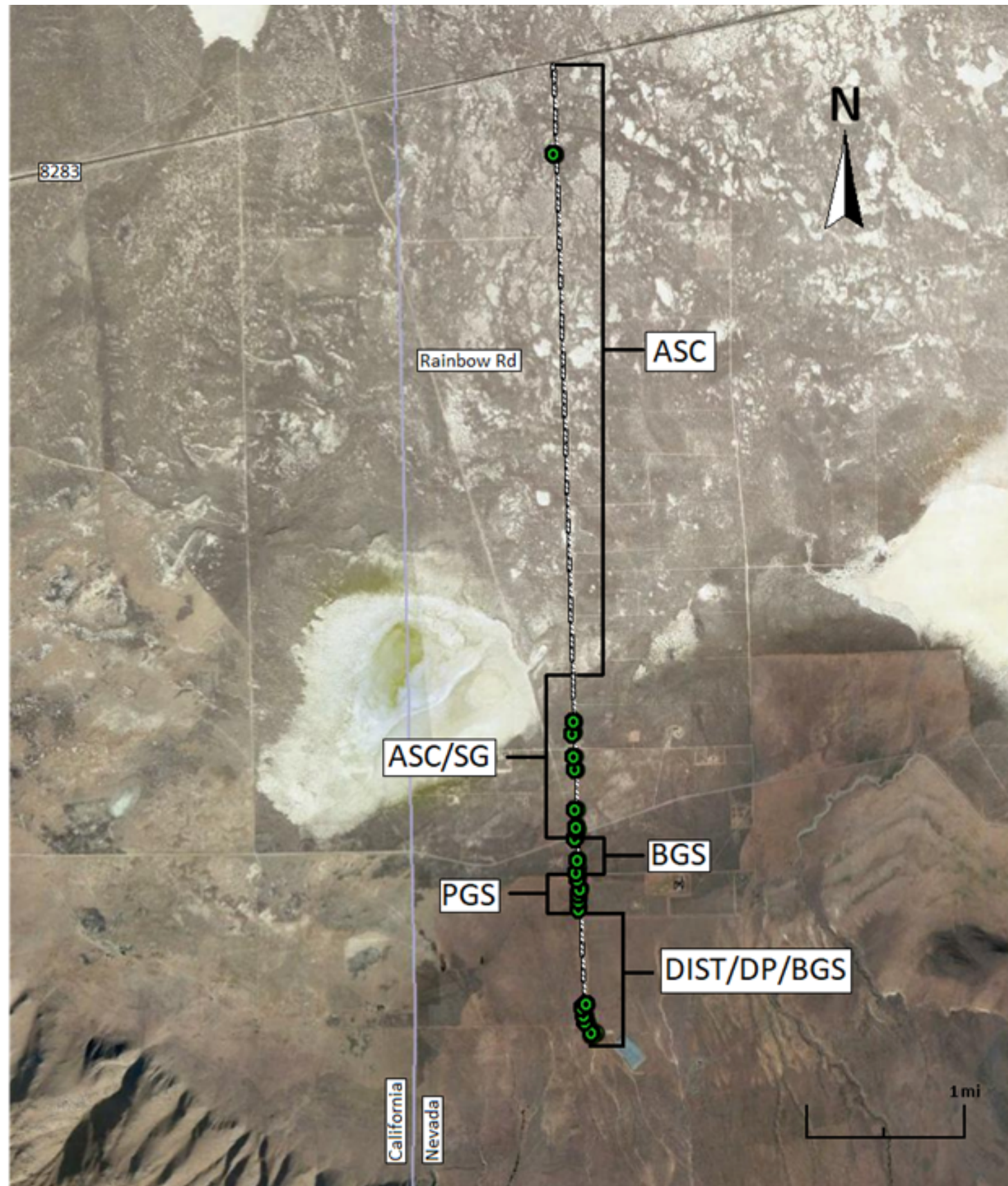
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Habitat Characterization Map

DATE:	03-02-2021	SCALE:	As Shown
BY:	AKM	FIGURE:	2



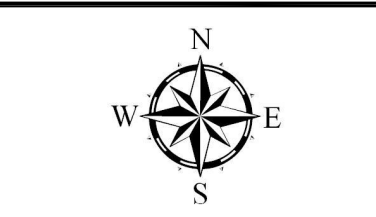


Habitat types along Rainbow Way/Road (black and white striped line) are bracketed and tagged. Green circles are individual plant observations represented digitally on <http://www.inaturalist.org>.

PROJECT: CALNEVA/WASHOE BESS/PSES

Lassen County, CA
Washoe County, NV

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Changing and Various Habitat Characterization of Gen-Tie Line Corridor

DATE: 07-27-2021

SCALE: As Shown

BY: AKM

FIGURE: 3



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 areas identified as Palustrine, Unconsolidated Shore, Temporarily Flooded (PUSA). The PUSA mapped on the project lease areas are alkali basins/flats/playas or interconnected basins. See Figure 6: National Wetlands Inventory Map.

Alkali Basins Flats or Playas – Interconnected Basins

The Desert 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. An inventory of plant species located within the project action area performed as part of the biological assessment and the special status plant survey included as a appendix to this assessment, meticulously documented the vegetation within the project action areas demonstrating that neither the property as a whole, nor that portion of the property identified in the United States Fish and Wildlife Service's (USFWS) *National Wetlands Inventory Map* as consisting of Palustrine, Unconsolidated features, are either free of vegetation or hydrophytes.

These features, alkali basins/flats/playas, and the Desert 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 areas. However, puddling is sporadic and unpredictable from one year to the next. The alkali basins/flats/playas on the lease areas do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation and lack of wetland hydrology and hydric soils (Soil samples taken as part of Geotechnical Report). 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: National Wetlands Inventory Map.)

Figure 5: Typical Alkali Basin/Flat/Playa on Project Lease Areas



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 lease areas. These maps indicate that the project lease areas have 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 Praana One Calneva BESS/PSES project lease area is identified as unconsolidated, seasonal Lacustrine feature with documented vegetation and physiographic features limited to "sand". Under the Trump Administration the 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.

However, on August 30, 2021, the Environmental Protection Agency and U.S. Army Corps of Engineers ("the agencies") received the U.S. District Court for the District of Arizona's order vacating and remanding the Navigable Waters Protection Rule of the Trump Administration in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. In light of this order, the agencies have halted implementation of the Navigable Waters Protection Rule ("NWPR") nationwide and are interpreting "*waters of the United States*" consistent with the pre-2015 regulatory regime until further notice.

The term waters of the United States means:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 2. All interstate waters including interstate wetlands;
 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
 4. All impoundments of waters otherwise defined as waters of the United States under this definition;
 5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
 6. The territorial sea;
 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.
3. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Waters of the State of Nevada

"Waters of the State" (Defined) Nevada (*Nevada Revised Statutes 445A.415*) Means all waters situated wholly or partly within or bordering upon the State of Nevada, including, but not limited to: (1) All streams, lakes, ponds, impounding reservoirs, marshes, water courses, waterways, wells, springs, irrigation systems and drainage systems, and (2) All bodies or accumulations of water, surface and underground, natural or artificial.

Waters of the State of California

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 Lease Areas or Gen-Tie Line Corridor

In order to meet the Wetland criteria established by the State of Nevada, California, 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 project action areas.

Sierra Geotech submitted to Lassen County in June of 2020 a soils survey and geotechnical report dated April 8, 2020 and have included the Geotechnical Report as a technical appendix to the PUCN UEPA Report, with boring logs, and laboratory testing results which analyzes the soils of the project lease areas. This Geotechnical Report demonstrates, with site specific sampling and testing of the soils that the filtration rate of the upper substrate and underlying soils is more than sufficient to ensure that the limited annual precipitation of the project lease areas would percolate away from the surface in routine weather conditions; and any puddles/ponds which might form in extraordinary weather events (*non-recurrent*) would likely drain prior to constituting lasting anaerobic conditions. Furthermore, groundwater was not encountered at any of the test locations (*termination depth of exploration borings 24.5 feet*). Groundwater contour data from California Department of Water Resources (DWR) and other publicly available information show that the ground water in the vicinity ranges in depths from 30 feet to greater than 60 feet below the ground surface (*i.e., the upper substrate is not saturated*). This soil report documents that the project lease areas soils do not meet the first criteria of the state nor federal definition of a wetland. The project lease area 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 project lease areas (Praana One Calneva and Praana Two Washoe) are 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.

Waters of the State for Nevada and California 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 project lease areas. 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 within the project lease areas.

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 lease areas. 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. A wetland must either be dominated by hydrophytes or lack vegetation. However, an inventory of plant species located on site performed as part of the biological assessment included as a supplement to the PUCN UEPA report and circulated in the public and part of the Administrative Record available for public agencies’ review in consideration of the project meticulously documented the vegetation on site demonstrating that neither the property as a whole, nor that portion of the property identified in the United States Fish and Wildlife Service’s (USFWS) *National Wetlands Inventory Map* as consisting of Palustrine, Unconsolidated features, are either free of vegetation or dominated by hydrophytes. 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 PUCN UEPA report and as a appendix to the UEPA report July 2022.

Another criteria of the Waters of the state of California definition of a wetland states: “(2) *the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate*” and similar language in Waters of the State of Nevada definition “(2) *All bodies or accumulations of water, surface and*

underground, natural or artificial.” There is no data available that establishes the project lease areas soils have “*anaerobic conditions*” in the upper substrate or have “*accumulations of water*” as called for by the definitions of state waters in California and Nevada. 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). These same conditions would be found in soils which have accumulations of water for parts of the year.

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 lease areas soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the project lease areas. 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 lease areas are 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.

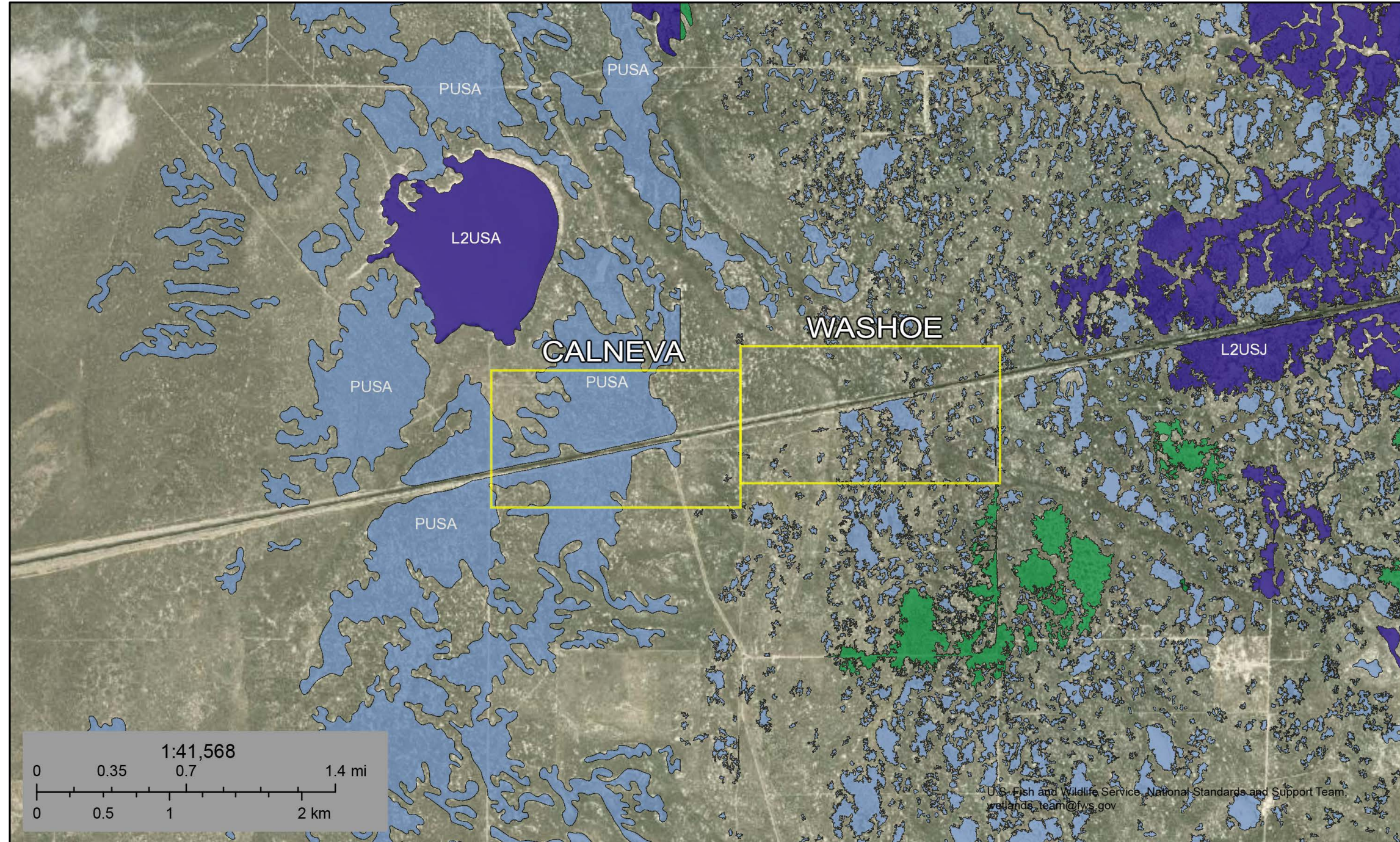
Use of the federal definition, California definition, and Nevada definition for wetland identification and delineation requires careful consideration of hydrology, substrate, and vegetation in every case and as provided by Sierra Geotech in the PUCN UEPA report and Technical Appendices to the PUCN UEPA report. 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 project description, construction and operational characteristics descriptions, and analysis of how the project components will interact with the alkali flats clearly makes the findings that impacts to the alkali flats will only be temporary.



U.S. Fish and Wildlife Service
National Wetlands Inventory

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
 This page was produced by the NWI mapper

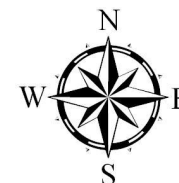


- Estuarine and Marine Deepwater
- Freshwater Emergent Wetland
- Freshwater Pond
- Other
- Estuarine and Marine Wetland
- Freshwater Forested/Shrub Wetland
- Lake
- Riverine

PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

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



National Wetland Inventory Map

DATE: 02-23-2021 SCALE: As SHown
 BY: AKM FIGURE: 4



4. Study Methods and Species Considered

LITERATURE REVIEW

Special-status species lists from the USFWS (USFWS, 2020 and 2021), National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) (NMFS, 2020 and 2021), Nevada Division of Natural Heritage Program (NDONHP), At Risk Plant and Animal Tracking List, Plant and Animal Watch List, At-risk Species Occurrence Records, Nevada Vegetation Synthesis Map, Nevada Vegetation Project Index, and California Natural Diversity Data Base (CNDDDB) (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 Flanigan, and 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 (California nor Nevada) occur in the project lease areas 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 Flanigan or Calneva Lake quads 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, habitat assessments, and blooming surveys. The list of special-status plant species was utilized to organize and implement blooming focused surveys in the 2021 blooming season. Figure 6 show the locations of CNDDDB 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 Fairly endangered in California and nine (9) plant species classified by the CNPS as Not very endangered in California were found in record searches for the Calneva Lake quad. A total of five (5) Nevada protected plant species were identified to occur within Washoe County in record searches at Nevada Division of Natural Heritage Program. Of these eight (8) CNPS plant species and five (5) Nevada DONHP, seven CNPS (7) species and three (3) Nevada DONHP 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, nor blooming surveys of the project lease area/project action area nor on previous projects carried out on the project lease area and action 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	Nevada Protected Species	Project Effect
Geyer's milkvetch	<i>Astragalus geyeri</i> var. <i>geyeri</i>	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 Washoe County represents the western most extension of this species.	No	The proposed project may affect but is not likely to adversely affect this species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Cruciform evening-primrose	<i>Chylismia claviformis</i> ssp. <i>cruciformis</i>	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 Lease Area.	No	The proposed project may affect but is not likely to adversely affect this species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Wire Mousetail	<i>Ivesia webberi</i>	A perennial herb that blooms from May to July and grows in sand or gravel flats and slopes. It is known to occur in along the California and Nevada Border approximately ten miles south of the project site along the border.	Yes	The proposed project may affect but is not likely to adversely affect the Nevada State listed threatened species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Tahoe yellow cress	<i>Rorippa subumbellata</i>	A perennial which grows only in the Lake Tahoe region in sandy lake margins located in Washoe County. This rare species of flowering plant is in the mustard family blooming between late May and early October.	Yes	The proposed project will not affect the Nevada State and US Fish and Wildlife special status species. No occurrence within the project action area.
Whitebark pine	<i>Pinus albicaulis</i>	Whitebark pine are found in high elevations of the Sierra Nevada within Washoe County. No occurrence of the Whitebark pine occurs within the project action area.	Yes	The proposed project will not affect the Nevada State and US Fish and Wildlife special status species. No occurrence within the project action area.
Williams combleaf	<i>Polycytenium williamsiae</i>	A perennial that blooms from March to July and is found in sandy or volcanic	Yes	The proposed project may affect but is not likely to adversely affect the Nevada

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
		soils and lake margins. It is known to occur north of Honey Lake in California and south of the project approximately 30 miles on the Nevada side of the border.		State listed threatened in species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Williams buckwheat or steamboat buckwheat	<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>	A perennial herb that blooms mid-May through July. Variety <i>williamsiae</i> is listed federally as endangered and is known only from Steamboat Springs in southern Washoe County. The plants are restricted to an outcrop of sinter, a substrate derived from hot spring deposits. The population occupies ca. 150 hectares and is divided into three subpopulations. Not likely to occur within the project action area.	Yes	The proposed project may affect but is not likely to adversely affect the Nevada State listed threatened species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Bailey's Ivesia	<i>Ivesia baileyi</i> var. <i>baileyi</i>	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.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Sagebrush Loeflingia	<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	An annual that blooms from April through May and is found on sandy, gravelly areas of sand dunes and sand flats in sagebrush scrub.	No	The proposed project may affect but is not likely to adversely affect the fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
MacDougal's Lomatium	<i>Lomatium foeniculaceum</i> var. <i>macdougalii</i>	A perennial that blooms from April to July and is found in rocky clayey soils in sagebrush communities. The project lease area does not have suitable soils to support this species.	No	The proposed project may affect but is not likely to adversely affect the fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Intermontane lupine	<i>Lupinus pusillus</i> var. <i>intermontanus</i>	An annual that blooms from May to June in open sandy areas.	No	The proposed project may affect but is not likely to adversely affect the not very endangered in species. Focused blooming surveys between May and July will

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
				ensure any potential impacts will be mitigated to less than significant.
Lance-leaved scurf-pea	<i>Ladeania lanceolata</i>	A perennial that blooms from April to August in sandy soils with a preference for disturbed soils.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Winged dock	<i>Rumex venosus</i>	A perennial that blooms in May and June in dry, sandy soils, preferably in disturbed areas. This species is only found only in the Honey Lake valley of California and Nevada.	No	The proposed project may affect but is not likely to adversely affect the not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Currant-leaved desert mallow	<i>Sphaeralcea grossulariifolia</i> ssp. <i>grossulariifolia</i>	A perennial found in dry alkaline or volcanic soils. Known populations are north and northeast of the project area.	No	The proposed project may affect but is not likely to adversely affect the CNPS and NNPS fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Western seablite	<i>Suaeda occidentalis</i>	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.	No	The proposed project may affect but is not likely to adversely affect the NNPS and CNPS listed not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Many-flowered Thelypodium	<i>Thelypodium milleflorum</i>	A perennial that blooms April to June in sandy soils.	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Hillman's Cleomella	<i>Cleomella hillmanii</i>	An annual that blooms from April to June in clay soils within the Chenopod scrub habitat community	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
				will ensure any potential impacts will be mitigated to less than significant.
Kellogg's sand Verbena	<i>Tripterocalyx crux-maltae</i>	A perennial that blooms May to July in partially or fully stabilized sand dunes.	No	The proposed project may affect but is not likely to adversely affect the NNPS/ CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Nelson's evening primrose	<i>Eremothera minor</i>	An annual that blooms from April to July in the Chenopod scrub habitat	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
Ochre-flowered buckwheat	<i>Eriogonum ochrocephalum</i>	A perennial that blooms May to June in volcanic or clay soils.	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed fairly endangered species. Focused blooming surveys between May and August will ensure any potential impacts will be mitigated to less than significant.
Paiute Lomatium	<i>Lomatium ravenii</i>	A perennial that blooms April to June in rocky, gravely, volcanic with underlying clay soils	No	The proposed project may affect but is not likely to adversely affect the NNPS/CNPS listed not very endangered species. Focused blooming surveys between May and July will ensure any potential impacts will be mitigated to less than significant.
American badger	<i>Taxidea taxus</i>	Badger has been known to occur in the western portions of the Basin and Range. The California Natural Diversity Data Base, and the Us Fish and Wildlife have reported badger burrow in the vicinity of the proposed project lease area and the gen-tie line corridor	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 June of 2021 and no active burrows found on project site.
Long-eared Owl	<i>Asio otus</i>	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

Common Name	Scientific Name	Description of Habitat Type	Nevada Protected Species	Project Effect
				Owl.
Prairie falcon	<i>Falco mexicanus</i>	Project site does not provide adequate habitat for breeding. Project could provide foraging habitat. Project area is yearlong range.	Watch List Nevada Conservation Status – Priority Species	The proposed project may affect but is not likely to adversely affect the watch list species prairie falcon.
Pronghorn Antelope	<i>Antilocapra americana</i>	Pronghorn Antelope have been seen just south of the proposed project site utilizing the Doyle Wildlife Area as a grazing area.	Nevada Conservation Status - Protected	The proposed project may affect but is not likely to adversely affect the Nevada protected status species Pronghorn Antelope.

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 Praana One Calneva BESS/PSES and Praana Two 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 lease areas and project action area were conducted to identify sensitive resources in proximity to the project and consisted primarily of visually canvassing the vicinity from the vantage of all accessible roads adjacent to the project lease areas or action area. After initial site visits, biological reconnaissance surveys were conducted on the project lease areas in September 2019, December 2019, and February 2021 by Sierra staff who walked the project lease area on 50 foot transects. After the reconnaissance surveys at appropriate times of the year April 2021 through July 2021 Blooming surveys or Special Status Plant Surveys were conducted.

METHODOLOGY OF SURVEYS

Three reconnaissance biological field surveys of the project lease areas and the Gen-Tie Line corridor, 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, February 26, 2021, April 22, 2021, April 30, 2021, May 4, 2021, May 15, 2021, June 7, 2021, and July 18, 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 remaining surveys conducted in 2021 had clear skies and mild wind during visits.

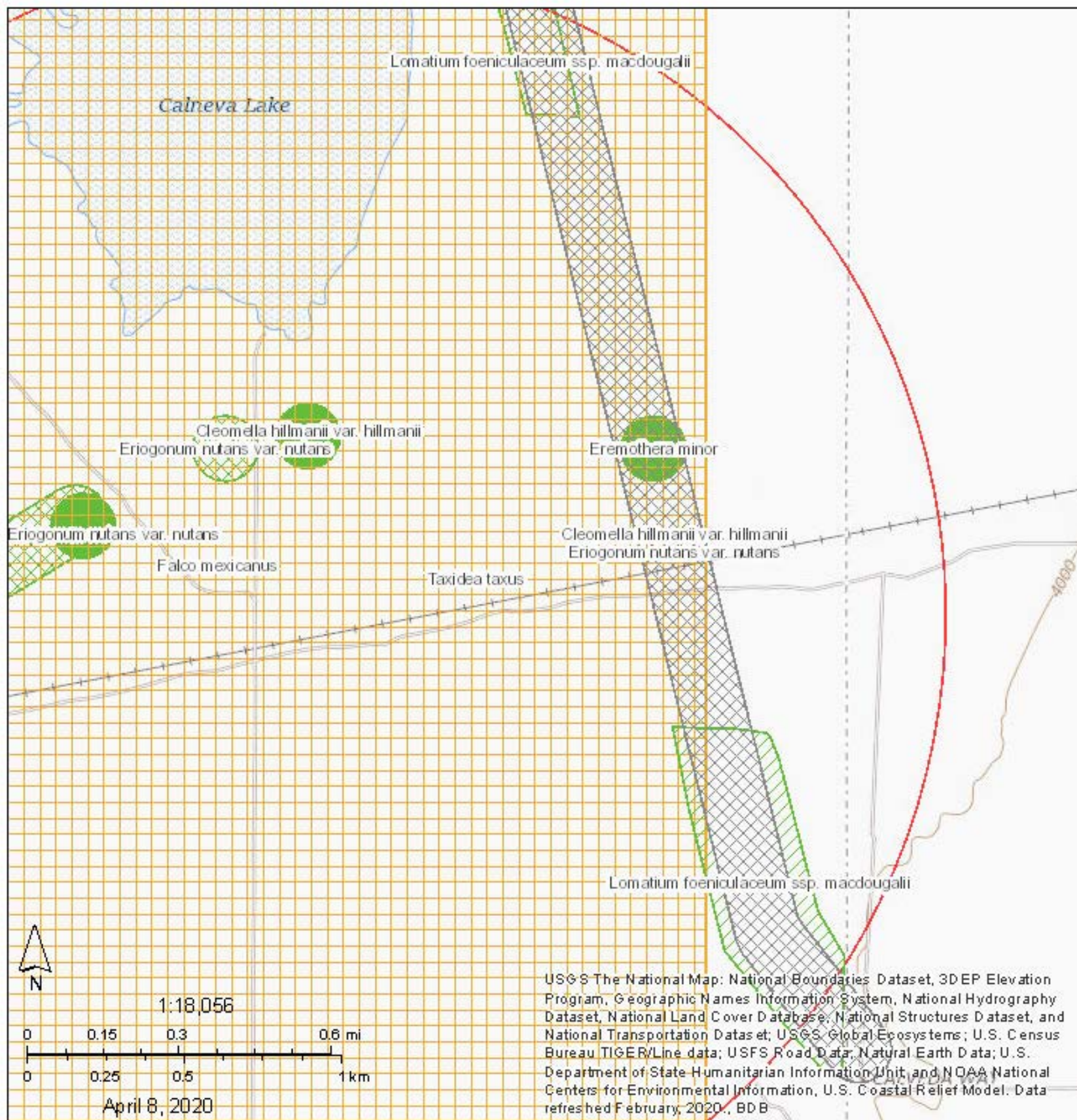
The entirety of the project lease areas was meticulously canvassed, and all plants, animals, and habitats were noted and identified in the field. Because of the season of the surveys and the methods used (visual and auditory identifications only), some of the plants and many of the cryptic or migratory 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 inhabitation, 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 project action 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, 2001, *Policy on Botanical Survey Guidelines of the California Native Plant Society* (Guidelines). These Guidelines were utilized to implement the proper methods for Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Projects
Biological Assessment
July 2021

performing plant surveys, considering the environmental impacts that may occur as a result of new Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES developments, and developing the type of mitigation necessary to reduce project-related impacts to special-status plants. Final Report is attached as Attachment B: *Special Status Plant Survey Report*, to this Biological Assessment.

Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, May 15, June 7, and July 18, 2021. The surveys were conducted during April, May, June and July which consisted of sixteen (16) person days of surveys, or approximately one hundred sixty (160) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the project lease areas and project action 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 project lease areas. 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, NDNHP and CDFW, "*Special-Status Plant Species with potential to occur on either the Praana One Calneva BESS/PSES or Praana Two Washoe BESS/PSES project lease areas on CNDDB, NDNHP, and CNPS Database Search Results*" above. The entire project lease areas were walked with transects no more than 20 feet apart. Sierra Geotech botanists collected plant specimens of all species documented in the project lease areas and the Gen-Tie line corridor for identification.



California Natural Diversity Database (CNDDDB) 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
 Printed from <http://bbs.dfg.ca.gov>

PROJECT: CALNEVA/WASHOE BESS/PSES	0 Issued as Final	SCV	BLM		CNDDDB Map
Calneva, CA and Washoe County, NV					DATE: 04-09-2021
					SCALE: As Shown
					BY: AKM
					FIGURE: 5
	REV.	DESCRIPTION	BY	APP.	CHKD



5. 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 the Terrestrial Natural Communities of California and Nevada which include: Habitat Characterization of the Project Lease Areas - *Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*; Habitat Characterization of the Gen-Tie Line Corridor between the project lease areas and NV Energy Fort Sage substation along Rainbow Way - *Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*. All the plants and animals associated with the project lease area or Gen-Tie line corridor 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. 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 294 +/- acres of the project lease areas are comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 100 +/- acres of the project lease areas are characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, cattle trails, recreational vehicles trails, and the railroad. The remaining areas of the project lease areas which represents approximately 29% or 161 +/- acres is associated with the plant community known as *Alkali Desert Scrub (ASC)* 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 *Alkali Desert Scrub (ASC)* plant community within the project lease area. 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 within the project lease area.

- **Big sagebrush (*Artemisia tridentata*)**. was most abundant in the southern portion of the project lease areas and comprised approximately 20% of the plant community.
- **Spiny sagebrush (*Picrothamnus desertorum*)** 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 areas.
- **Saltlover (*Halogeton glomeratus*)**. was locally observed along a disturb areas within the project lease areas 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 (*Salsola 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 areas.
- **Black greasewood (*Sarcobatus vermiculatus*)** was very abundant and comprised

approximately 25% of the plant community of the Project Lease Areas.

- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community within the project lease areas.
- **Shortspine horsebrush (*Tetradymia spinosa*)**. Shortspine horsebrush was locally abundant within the project lease areas.
- **Goatsbeard (*Tragopogon dubius*)**. Was observed in the southern ends along disturbed areas of the project lease areas.
- **Green Molly (*Neokochia americana*)**. Was observed at low density throughout the project lease areas.

Almost no understory of vegetation was found within the *Alkali Desert Scrub (ASC)* plant community within the project lease areas.

The following plant species were observed on the focused special status plant surveys along the Gen-Tie Line corridor on Rainbow Way between the project lease areas and NV Energy's Fort Sage Substation. Plant surveys were conducted within 200 feet on each side of the center line of the public utility easement dedicated along the section line of approximately 55 parcels. The following habitat types were identified in the Gen-Tie Line corridor on Rainbow Way: (See Figure 4: Changing and Various Habitat Characterization of Gen-Tie Line Corridor, for locations of habitat types along corridor) *Alkali Desert Scrub (ASC)*; *Alkali Desert Scrub with Saltgrass (ASC/SG)*; *Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)*; *Perennial grassland (PGS)*; and *Big Sagebrush (BGS)*.

Alkali Desert Scrub (ASC)

Artemisia tridentata (Big sagebrush)
Atriplex confertifolius (Shadscale)
Bromus tectorum (Downy brome)
Grayia spinosa (Hop sage)
Halogeton glomeratus (Saltlover)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Picrothamnus desertorum (Spiny sagebrush)
Salsola tragus (Prickly Russian thistle)
Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)
Tetradymia spinosa (Shortspine horsebrush)
Tragopogon dubius (Goatsbeard)

Alkali Desert Scrub with Saltgrass (ASC/SG)

Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Distichlis spicata (Saltgrass)
Ericameria nauseosa (Rubber rabbitbrush)
Grayia spinosa (Hop sage)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Salsola tragus (Prickly Russian thistle)

Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)

Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)

Ambrosia acanthicarpa (Annual bursage)
Amsinckia tessellata (Bristly fiddleneck)
Argemone munita (Flatbud pricklypoppy)
Artemisia tridentata (Big sagebrush)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)
Eriastrum sparsiflorum (Great basin woollystar)
Ericameria nauseosa (Rubber rabbitbrush)
Eriogonum baileyi (Bailey's buckwheat)
Lupinus argenteus (Silvery lupine)
Mentzelia albicaulis (Whitestem blazingstar)
Onopordum acanthium (Scotch thistle)
Pleiacanthus spinosus (Thorn skeletonweed)
Prunus andersonii (Desert peach)
Purshia tridentata (Bitterbrush)
Salsola tragus (Prickly Russian thistle)
Sisymbrium altissimum (Tumble mustard)

Perennial grassland (PGS)

Bromus tectorum (Downy brome)
Elymus cinereus (Great basin wild rye)
Iva axillaris (Death weed)
Lepidium perfoliatum (Clasping pepperweed)
Tetradymia canescens (Gray horsebrush)

Big Sagebrush (BGS)

Agropyron cristatum (Crested wheatgrass)
Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)
Ericameria nauseosa (Rubber rabbitbrush)
Eriocoma hymenoides (Indian rice grass)
Salsola tragus (Prickly Russian thistle)
Tetradymia canescens (Gray horsebrush)
Tetradymia glabrata (Littleleaf horsebrush)

Fauna

The following species were observed on or just nearby the project lease areas.

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a medium-sized songbird found throughout North America. They are most often Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Projects

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 areas 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 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.

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 areas 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 the project lease areas.

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 and during the July 2021 blossom survey on Rainbow Way, a herd of approximately 30 wild horses were observed migrating from east to west approximately 1 mile southeast of the project lease areas along the California/Nevada border and along Rainbow Way.

Abandoned Burrows

The project lease areas are suitable habitat for American badger which could occur within the project lease areas; 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 Nevada Division of Natural Heritage, 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 areas are not sensitive and is not considered a significant biological resource for analysis purposes in this report.

Special-Status Plant Species

Twenty-one (21) special status plant species were identified in preliminary research for this analysis from the CNPS, NNPS lists and the Nevada Division of Natural Heritage list which occurred in Lassen and Washoe Counties. Out of the twenty-one listed special status plant species found in Lassen and Washoe Counties only eleven (11) plant species could find the project lease areas suitable habitat. However, none of these eleven species were found in protocol-level surveys within the project lease areas conducted for the Tuscarora Natural Gas Pipeline in 1994 nor protocol-level surveys conducted for Praana One Calneva, and Praana Two Washoe in the blooming season surveys of 2021. 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 Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Projects

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 areas 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 areas. 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 Nevada Division of Natural Heritage Conservation Rank for the long-eared Owl is G-5 or global population of species is secure or at very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations or occurrences, with little to no concern from declines or threats. Nevada conservation ranking also states, “*the subnational (state) population of a species are Vulnerable – At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.*” 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 areas. No long-eared owls were observed during the 2019’s or 2021 surveys. The project lease areas provide no suitable habitats for nesting and roosting. The project lease areas only provide 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 (CNDDDB 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 areas south of Fort Sage road. 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 areas 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 areas do not provide adequate habitat for breeding. Project lease areas could provide foraging habitat. Project lease areas are yearlong range for the prairie falcon.

6. 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.

NEVADA ADMINISTRATIVE CODE (NAC) 503.030: PROTECTED, THREATENED AND SENSITIVE MAMMALS; 503.050 BIRDS, AND 503.060 FISH

The Nevada Administrative Code (NAC) protects threatened, and sensitive mammals, birds, and fish. Specific lists of mammals, birds, and fish are established and identified within the NAC.

NEVADA ADMINISTRATIVE CODE (NAC) 527.010 LIST OF FULLY PROTECTED SPECIES OF NATIVE FLORA; NAC 503.0935 SPECIAL PERMIT FOR HANDLING, MOVING OR TEMPORARILY POSSESSING PROTECTED WILDLIFE; NEVADA REVISED STATUES; (NRS) 527.270 LIST OF FULLY PROTECTED SPECIES

DECLARED TO BE THREATENED WITH EXTINCTION; SPECIAL PERMIT REQUIRED FOR REMOVAL OR DESTRUCTION

The Nevada Administrative Code (NAC) lists fully protected species of native flora. The NAC also prescribes special permits for handling, moving, or temporarily possessing protected wildlife. The NRS establishes the requirements and information needed for the application for the special permits.

NEVADA ADMINISTRATIVE CODE (NAC) 527.200 NEVADA NATURAL HERITAGE PROGRAM

The Nevada Administrative Code (NAC) sets out the responsibilities of the Nevada Natural Heritage Program which includes establishing and maintaining a committee of qualified professionals to conduct scientific research and analysis of native flora; maintain data and records related thereto; and provide assistance to the State Forester in the development and administration of a program for the conservation, protection, restoration and propagation of critically endangered species of native flora. It is the responsibility of the Nevada Natural Heritage Program to determine if the existence of a species or subspecies of native flora is endangered and if the survival of that species or subspecies requires assistance because of overexploitation, disease or other factors, or because the habitat of the native flora is threatened with destruction, drastic modification or curtailment. The Nevada Natural Heritage Program in consultation with the State Forester will recommend that the species or subspecies of native flora be placed on the list of fully protected species of native flora in the state of Nevada.

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

WASHOE COUNTY MASTER PLAN

High Desert Area Plan

The Praana Two Washoe BESS/PSES Project is located within the High Desert Area Plan of the Washoe County Master Plan, which is composed of a number of unique habitats that provide for a diverse population of wildlife and plants. Mule deer, pronghorn antelope, California bighorn sheep, and wild horses can be found in this region. Conducting wildlife surveys on Praana Two Washoe BESS/PSES project Sierra biologist documented migration of pronghorn antelope, and wild horses south of the Praana Two Washoe lease area. The federal list of threatened and endangered species indicates that the endangered Peregrine falcon and Southern bald eagle occur in the High Desert Area Plan, planning area as well. Wildlife habitat and migratory routes are a key component of the area’s character. In 2006, The Nevada Natural Heritage Program ranked Wall Canyon and Fly Geyser as "*Highest Priority Conservation*

Sites." These sites are characterized as currently requiring protection in order to conserve a significant assemblage of at-risk species and to prevent the loss of one or more species in the immediate future. Due to the High Desert's sensitive environmental conditions, it is essential to protect the natural balance that has evolved in the area over time. Careful stewardship of this rich natural environment is fundamental to maintaining and preserving this valuable component of the High Desert area character.

The High Desert Area Plan calls for new development to respect the value of wildlife and wildlife habitat. Goal HD.12.2 states: *"Any development that has the potential to negatively impact an established wildlife migration route or critical habitat, including but not limited to traditional mule deer migration routes, deer winter range, federally classified Threatened and Endangered Species and their associated habitat must demonstrate how that project will protect the integrity of the migration route or habitat."* Goal nineteen requires that all wetlands and their associated habitats be addressed. Goal HD 19.1 states: *"All development will meet or exceed the standards for wetland development and impact established by state and federal agencies responsible for wetlands management."* Goal HD 19.3 states: *"Development proposals that impact any area designated "potential wetlands" on the Development Suitability map must conduct a wetlands delineation study and obtain Army Corps of Engineers certification of the proposed wetlands and comply with vector-borne diseases regulations."*

Conservation Element

Nevada Revised Statutes (NRS) Chapter 278.160 requires a conservation plan as part of any adopted master plan for counties with a population of more than 100,000 but less than 400,000, as is the case in Washoe County. The Praana Two Washoe project lease area and the Gen-Tie Line corridor are subject to the Washoe County Master Plan – Conservation Element. The Conservation Element of the Washoe County Master Plan serves as the conservation "plan" for unincorporated Washoe County and outlines policies and action programs for the conservation and preservation of natural resources. The plan also provides guidance to the Washoe County Planning Commission and the Washoe County Board of County Commissioners regarding their efforts to conserve natural resources while balancing the interests of growth and development. The Conservation Element was first adopted in 1991 and was comprehensively updated in 2008. It should be noted that several different planning documents, agencies, and regulations (including federal, state, and local) are often used to address or implement the required contents of a conservation plan cited in NRS 278.160.

The Praana Two Washoe BESS/PSES must demonstrate compliance with the goals of the Conservation Element which include:

- C.3.1 The Washoe County Department of Community Development shall adequately consult with other agencies while maintaining Development Suitability maps that depict valuable and/or critical land, water and wildlife resources or features which shall include, but not be limited to, the following:
...Key wildlife habitats and migration routes; Perennial and intermittent streams and wetlands.
- C.11.4 Washoe County will encourage the development of active solar energy collection and production infrastructure.
- C.13.1 Protect key wildlife habitats; habitats of threatened, endangered or rare species; and key migration routes.
- C.13.2 Promote the conservation and enhancement of fishery and wildlife resources; areas of high wildlife value; areas necessary for the protection and perpetuation of rare, endangered and threatened species; and areas important for scientific study.
- C.13.3 Ensure that all existing natural streams, playas and other water bodies are recognized for their wildlife habitat, floodway, water quality enhancement and scenic value.

The Conservation Element identifies the Nevada Natural Heritage Program, and five plant species in Washoe County that are identified for Nevada state protection (Washoe pine, Webber ivesia, Williams

combleaf, Steamboat buckwheat, and Tahoe yellowcress). The Conservation Element calls for new development to avoid further damage to these species and their habitats, so as to maintain their presence in Washoe County.

The Conservation Element provides guidelines for protecting the Washoe County's important resources while satisfying the requirement for a conservation plan as outlined by the Nevada Revised Statutes. It is the premise of this Element that environmental factors must weigh far more heavily than they have in the past in planning and development decisions, and that, in the long run, planning in recognition of the environment will be beneficial to Washoe County's inhabitants and, at the same time, provide for the growth and development envisioned for the next 20 years.

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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES Projects.

7. 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 projects (Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES). These types of impacts are described below.

- **Temporary Impacts:** Construction of Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES and components of the projects will require temporary disturbance of an approximate 500 acres or 90% percent of the project lease areas to install pilings. No grading and a low impact construction method will be implemented for 90% of the project lease areas. Maintenance of Rainbow Way and installation of the power poles within the Rainbow Way public utility easement (PUE) will require temporary disturbance to an approximate 40-foot-wide PUE. In certain areas, the PUE may be narrowed to avoid impacts to sensitive habitats and special-status species. In other areas, additional workspace needs may require that the PUE 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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES plans to restore all disturbed habitats within the project lease areas 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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects consists of the construction of an shared electrical substation, shared 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 32 acres or 5% of the project lease areas. 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 areas and properly restoring the project lease areas and work areas, and by replacing sensitive habitat features as 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	100	10
Alkali Desert Scrub	160	22
Alkali Basins/Flats/Playas	296	1

Disturbed Habitat

Temporary Impacts

Construction of the Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects will temporarily impact approximately 100 acres of disturbed habitat (approximately 100 acres of existing dirt roads, natural gas pipelines, railroad right of way, trails, public utility easements). Impacts may include the temporary loss of portions of disturbed areas when they are used for laydown areas. Following construction, most disturbed habitat lands disturbed during installation of the project will be restored to its previous condition or better, including replanting Alkali Desert Scrub vegetation. However, some impacts will be permanent, as described below. Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES will restore the Rainbow Way a private easement and PUE to the existing condition or better and Calneva Road ROW as agreed upon with Lassen County following completion of construction activities. Additionally, Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects 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 shared electrical substation, shared battery energy storage system, and access/maintenance roads, weather monitoring stations, and maintenance of the permanent easements, PUE, and ROW on Calneva Road and Rainbow Way will permanently remove approximately 10 acres of disturbed habitat. Dirt access roads, Rainbow Way, and Calneva Road will be permanently impacted where a 30-foot-wide permanent strip of the permanent PUE and ROW centered on electrical infrastructure facilities will be maintained by Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects to keep the area free of deep-rooted vegetation for safety purposes.

Alkali Desert Scrub

Temporary Impacts

Construction of the project will temporarily impact approximately 138 acres of Alkali Desert Scrub habitat. Alkali Desert 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 138 acres of the Alkali Desert Scrub. Sensitive areas located in the Alkali Desert 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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects shared electrical substation, shared battery energy storage system, weather monitoring stations, and access/maintenance roads will permanently remove approximately 22 acres of Alkali Desert Scrub habitat. Additionally, Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES will

implement the mitigation measures outlined in Section 8 to minimize permanent impacts to Alkali Desert Scrub habitat.

Alkali Basins/Flats/Playas

Temporary Impacts

Construction of the project lease areas will temporarily impact approximately 296 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 296 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 lease areas will permanently impact approximately one 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.

Alkali Desert Scrub with Saltgrass; Desert peach/Big Sagebrush; Perennial grassland; and Big Sagebrush

Temporary Impacts

Construction of the Gen-Tie Line corridor within the PUE established by Deed or Record of Survey along the Rainbow Way alignment will temporarily impact approximately 26 +/- acres of various habitats which will include: Alkali Desert Scrub with Saltgrass; Desert peach/Big Sagebrush; Perennial grassland; and Big Sagebrush habitats. The Rainbow Way PUE has been surveyed and no special-status plant or wildlife species were identified. The PUE corridor and installation of Gen-Tie poles will be mostly within existing disturbed areas which are void of vegetation and wildlife. The Gen-Tie line corridor will install poles and string the conductors with low impact methods. Sensitive areas located in the Gen-Tie corridor will be identified and avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

Construction of the Gen-Tie Line within the Rainbow Way PUE will permanently impact approximately .13 of an acre of various habitat identified above where the Gen-Tie Line Poles are placed into the earth approximately every 550 feet within the PUE. No other permanent impacts to these habitat types within the Gen-Tie Line corridor are expected.

SPECIAL-STATUS PLANT SPECIES

Plant communities and habitat types were mapped on the Praana One Calneva and Praana Two Washoe project lease areas. Focused surveys for special-status plant species were conducted on the Praana One Calneva and Praana Two Washoe lease areas as well as the Gen-Tie Line corridor of Rainbow Way easement. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, May 15, June 21, and July 18 of 2021. The surveys were conducted during the months of April, May, June, and July and consisted of sixteen (16) person days of surveys, or approximately one hundred sixty (160) person hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur within the action area. Surveys were floristic in nature. No special status plant species were observed within the action area.

A separate special status plant survey report is attached to this biological assessment as an appendix.

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 Praana One Calneva and Praana Two Washoe project lease areas (*Alkali Desert Scrub (ASC) Alkali Flats/Playas (AFP) and Disturbed Habitat (DH)*). Figure 3 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Alkali Desert Scrub plant community areas between the alkali basins/flats/playas which can support vegetation. Figure 4 shows the changing and various habitat characterization of the Gen-Tie Line corridor down Rainbow Way from the Praana Two Washoe BESS/PSES project lease area to the NV Energy Fort Sage substation (*Alkali Desert Scrub with Saltgrass (ASC/SG), Big Sagebrush (BGS), Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS), and Perennial grassland (PGS)*).

Suitable habitat exists within the action area for the following eleven (11) 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*), Nelson's evening primrose (*Eremothera minor*) Wire Mousetail (*Ivesia webberi*), and Williams combleaf (*Polyctenium williamsiae*). These plant species were not observed within the projects action area during the focused surveys (April 22, April 30, May 4, May 15, June 21, and July 18 of 2021); 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 Praana One Calneva BESS/PSES project lease area, despite no suitable habitat to support the following special-status plant species being present within the project action 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 within the project action area during the focused surveys (April 22, April 30, May 4, May 15, June 21, or July 18 of 2021); nor were any other special-status plant species.

A protocol blooming survey was conducted in 1994 for the Tuscarora Natural Gas Pipeline on the Praana One Calneva and Praana Two Washoe project lease areas 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 project action area and are not likely to have populated in the Praana One Calneva or Praana Two Washoe project lease areas since the last focused survey (April, May, June, and July of 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 areas or Gen-Tie line corridor are 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 areas or Gen-Tie Line corridor are 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 areas are 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 areas or Gen-Tie Line corridor are 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 areas are 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 areas and Gen-Tie Line corridor are 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 areas are 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 areas or Gen-Tie Line corridor are not properly designed and restored.

Pronghorn Antelope

Temporary Impacts

Temporary construction impacts to the Pronghorn Antelope could include loss of grazing areas or migration corridors resulting from pile driving, and grading of the access roads, or herd disruption resulting from construction noise that causes a loss of young, species harassment, or displacement.

Permanent Impacts

Permanent impacts to the Pronghorn Antelope could include direct mortality or permanent loss of grazing habitat if the project lease areas or Gen-Tie line corridor are not properly restored.

Direct Impacts

Direct effects resulting from solar array construction could include habitat destruction resulting in loss of grazing lands, resulting from construction noise, displacement, or direct mortality.

Indirect Impacts

Indirect effects could include adverse habitat modification that results in loss of future winter grazing lands if the project lease areas or Gen-Tie Line corridor are not properly designed and restored.

OPERATION AND MAINTENANCE

Operation and maintenance activities of Praana One Calneva and Praana Two Washoe 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 Alkali Desert 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 areas, construction and maintenance vehicles will remain on designated project access routes and existing surfaced roads. Praana One Calneva BESS/PSES and Praana Two Washoe 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 Praana One Calneva and Praana Two Washoe project activities are 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 Way 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 and northwestern Nevada, 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 Praana One Calneva BESS/PSES and Praana Two Washoe 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 Praana One Calneva and Praana Two Washoe projects will be constructed in areas that have previously been disturbed, or within alkali basins/flats/playas that do not harbor special status species.

8. Impact Avoidance and Minimization Recommendations

The following mitigation measures will be implemented by Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects 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 action area and both project lease areas, and are organized into preconstruction, during construction, and postconstruction measures. General mitigation measures include worker education training, erosion control, ROW or PUE 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: Praana Energy's 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 projects (Praana One Calneva and Praana Two Washoe) 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 Nevada Revised Statutes, Nevada Administrative Code, California Endangered Species Acts, California 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 action 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 areas and the findings and mitigation requirements.

MM 3: Educational Brochure: As part of construction training, Praana Energy will produce an educational brochure for crews working on the project. Color photos of threatened and endangered species, likely to occur in the action area will be included, as well as a discussion of protective measures agreed to by Praana Energy and the resource agencies of California and Nevada.

MM 4: Exclusion Zone Fencing: Praana Energy 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: Praana Energy 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: Praana Energy contractor 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 action areas with the potential to support special-status species. Where these avoidance measures are not feasible, Praana Energy will apply for and obtain the appropriate permits prior to construction from the Nevada or California agencies, grading permit and will implement any additional avoidance or mitigation measures that are agreed upon during the grading permit process.

MM 7: Construction Monitoring: Praana Energy 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, Praana Energy 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: Praana Energy 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: Praana Energy 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, CESA, Nevada Revised Statutes, and Nevada Administrative Code, Praana Energy 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 Praana Energy work supervisor or contractor 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. Praana Energy will be responsible for immediately reporting any unauthorized impacts to the USFWS, CDFW, Nevada Department of Wildlife (NDOW).

MM 13: Trash Cleanup: Praana Energy contractor will properly contain and remove all trash and waste items generated by construction or crew activities.

MM 14: Prohibitions for Pets, Fire, Firearms: Praana Energy contractor will prohibit employees, contractors, and subcontractors from having pets, campfires, or firearms at the project sites. Smoking will be limited to designated smoking areas only.

General Postconstruction

MM 15: Restoration: Praana Energy 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 Areas Restoration Plan: Praana Energy contractor 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 Praana Energy contractor for review

with resource agencies will include, at a minimum, the following measures:

- At the completion of construction activities, the ROW/PUE 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 Alkali Desert Scrub areas and existing disturbed habitat areas.

MM 17: Seed Mix and Success Criteria: In sensitive communities such as Alkali Desert Scrub areas, Praana Energy'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, Washoe County, NDOW, and CDFW).

MM 18: Erosion Control: Praana Energy contractor 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 action area (typically February 1 through August 31), Praana Energy's contractor 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 action areas, 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 action area during construction, Praana Energy's contractor 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: Praana Energy's contractor 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 prior to construction. 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, Praana Energy's contractor 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, Praana Energy's contractor will prepare an American Badger Monitoring Plan, which will include mitigation success criteria and a timeline for submittal of annual reports to the CDFW and NDOW. Annual reports will describe the number and locations of relocations, relocation procedures used, and the degree of success.

9. Conclusions and Determination Statements

Conclusion

Potential direct effects resulting from solar array and battery 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 lease areas nor the Gen-Tie Line corridor or other action areas. The Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects will not affect special status plant species.

Special Status Wildlife Species: Pending results from 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 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



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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November 13, 2020

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

LASSEN COUNTY DEPARTMENT OF
PLANNING AND BUILDING SERVICES

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 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 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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Stefano Richichi, Senior Planner

November 13, 2020

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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 (CNDDDB) 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 CNDDDB 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)

Stefano Richichi, Senior Planner

November 13, 2020

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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 CNDDDB 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 CNDDDB.

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 CNDDDB 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.

Stefano Richichi, Senior Planner

November 13, 2020

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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 CNDDDB 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 CNDDDB can be found at: <https://wildlife.ca.gov/Data/CNDDDB/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

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

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California Department of Fish and Wildlife
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DEC 22 2020

December 22, 2020

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

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

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 CNDDDB 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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Stefano Richichi, Senior Planner
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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 CNDDDB 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 CNDDDB.

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 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 CNDDDB known to occur within a five-mile radius of the Project including, but not limited to, the following:

Plants

- Lance-leaved scurf-pea (*Ladefania 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)

Stefano Richichi, Senior Planner
December 22, 2020
Page 3

- 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)
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- 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

Stefano Richichi, Senior Planner
December 22, 2020
Page 4

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 wetland¹ 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.

1

[https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/dredge and fill draft procedures fact sheet 022519 update.pdf](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 CNDDDB 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 CNDDDB, 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 CNDDDB 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 CNDDDB can be found at: <https://wildlife.ca.gov/Data/CNDDDB/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:

1AFB1E1AEF314DD...

Curt Babcock

Habitat Conservation Program Manager

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

Stefano Richichi, Senior Planner
December 22, 2020
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State Clearinghouse
State.clearinghouse@opr.ca.gov

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Amy.Henderson@wildlife.ca.gov

Habitat Conservation Planning Branch
CEQACOMMENTLETTERS@WILDLIFE.CA.GOV

Chron

Attachment C: Special Status Plant Survey Report



Special Status Plant Survey Report
for the
Praana One Calneva and Praana Two Washoe Battery
Energy Storage System (BESS) and Photovoltaic
Solar Energy System (PSES)
Lassen County, California and Washoe County, Nevada
July 2021



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1. Summary

Focused surveys for special-status plant species were conducted on the Praana One Calneva BESS/PSES and Praana Two Washoe Project Lease Areas and the Gen-Tie Line Corridors of Rainbow Way in Washoe County, and Calneva Road/Fort Sage Road in Lassen and Washoe County. Two qualified botanists performed the presence/absence surveys on April 22, April 30, May 4, May 15, June 21, and July 18, 2021. The surveys were conducted during April, May, June and July and consisted of eight (16) person days of surveys, or approximately eighty (160) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Project Lease Areas and Project Action Areas. Surveys were floristic in nature. No special status plant species were observed within the Project Lease Areas, Gen-Tie Line Corridors, nor the Project Action Areas.

Suitable habitat exists within the action area for the following eleven (11) 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*), Nelson's evening primrose (*Eremothera minor*) Wire Mousetail (*Ivesia webberi*), and Williams combleaf (*Polycytenium williamsiae*). These plant species were not observed within the projects action area during the focused surveys (April 22, April 30, May 4, May 15, June 21, and July 18 of 2021); 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 Praana One Calneva BESS/PSES project lease area, despite no suitable habitat to support the following special-status plant species being present within the project action 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 within the project action area during the focused surveys (April 22, April 30, May 4, May 15, June 21, or July 18 of 2021); nor were any other special-status plant species.

A protocol blooming survey was conducted in 1994 for the Tuscarora Natural Gas Pipeline on the Praana One Calneva and Praana Two Washoe project lease areas 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 within the project's action area conducted (*Tuscarora Natural Gas Pipeline, Sierra Plumas Intertie Line, and Alturas Transmission Line*) and are not likely to have populated in the Praana One Calneva or Praana Two Washoe project lease areas since the last focused survey (April, May, June, and July of 2021), temporary, permanent, direct, and indirect impacts to these special-status species are not expected to result from the project.



2. Introduction

PROJECT DESCRIPTION

The Praana One Calneva BESS/PSES and Praana Two BESS/PSES projects will construct a battery electrical storage system (BESS) that would store up to 50 megawatts (MW) or 200 megawatt hours (MWh) of electricity for dispatch into the local grid via the Gen-Tie Line on the preferred route of Rainbow Way connecting the projects to the NV Energy's Fort Sage Substation. The project will also construct 100 MW of solar photovoltaic power generation with the installation of Approximately 286,000 to 326,000 solar PV modules on a single axis track system on the 556 +/- acre Project Lease Areas (Praana One Calneva 278 acres and Praana Two Washoe 278 acres). The project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
 - Sixty (60) battery storage enclosures (i.e., 50 MW of power) store up to 50 megawatts (MW) or 200 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 NV Energy's Fort Sage Substation 5.5 miles south of the project lease areas along the Rainbow Way Public Utility Easement (PUE) 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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES project lease areas and the Gen-Tie line corridors (Rainbow Way and Calneva Road/Fort Sage Road). Focused surveys were conducted to determine whether any special- status plant species are present on the project action area that may pose development constraints to the Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES projects.

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

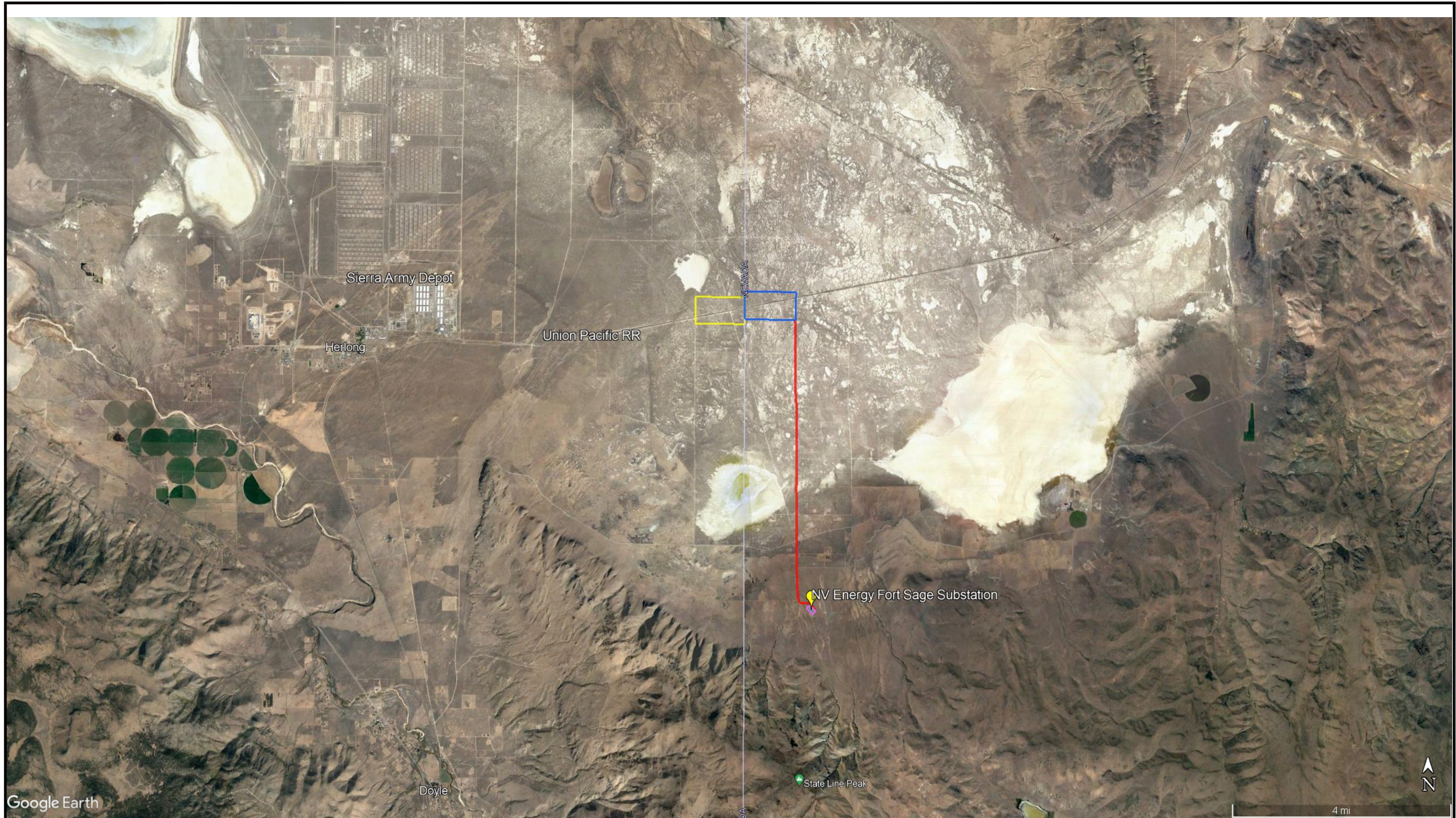
GENERAL SITE CHARACTERISTICS

The Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES Project Lease Areas are located four (4) miles north of the Fort Sage Road between Calneva Road on the westside and Rainbow Way on the eastside, in the southern end of the Honey Lake Valley, in Lassen County, California and Washoe County, Nevada. Each Project Lease Area is approximately 278 +/- acres in size within the parcels identified as Lassen County Assessor's Parcel Numbers (APNs) 137-170-12 (180 acres) and 137-170-13 (98 acres) and Washoe County APNs 074-470-03, (116.22 acres), 074-470-02 (26.05 acres), 074-470-04 (17.632 acres), and 074-470-05 (119.02 acres). Praana One and Praana Two BESS/PSES projects are located approximately five (5) miles north of the Sierra Pacific Power Company's/NV Energy (SPPCo's/NV Energy), Fort Sage Substation, which will be utilized by the BESS/PSES projects via a 345 kV generation intertie line aligned on Rainbow Way PUE to convey power to the grid in both Nevada and California.

Adjacent to the project lease areas, are the following properties and associated land uses:

- North: On the California side 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. On the Nevada side a 160-acre parcel, 10-acre parcel, and 20-acre parcel all of which are privately owned.
- South: On the California side is vacant open rangeland with two privately owned 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. On the Nevada side are two privately owned parcels that about the southern boundary, one parcel is 40 acres, and the other parcel is 40 acres.
- West: On the California side 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 project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size. On the Nevada side is the Praana One Calneva BESS/PSES project and the California/Nevada state border.
- East: On the California side is the Praana Two Washoe BESS/PSES project and the California/Nevada state border. On the Nevada side is Rainbow Way easement and then vacant range land. Three privately owned parcels border the eastern half of the project lease area one being 139.76 acres, and two being 10 acres each.

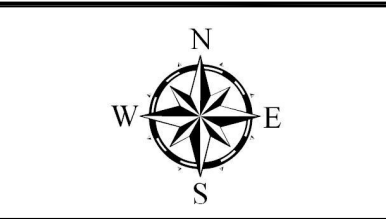
The Tuscarora natural gas pipeline runs through the entire Praana One Calneva project lease area. The Union Pacific railroad bisects the entire project lease areas of Praana One Calneva and Praana Two Washoe. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed project lease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



PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

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REV.	DESCRIPTION	BY	APP. CHKD



Project Setting	
DATE: 02-16-2021	SCALE: As Shown
BY: AKM	FIGURE: 1





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 Praana One Calneva and Praana Two Washoe Project Lease Areas 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 two Project Lease Areas 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 Project Lease Areas are 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 Project Lease Areas displays large amounts of cracking in the soils due to salinization, which is the precipitation of salts in the Project Lease Area soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the Project Lease Areas. 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 Lease Areas are 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 Project Lease Areas.

PLANT COMMUNITIES

Plant communities and habitat types were mapped on the Praana One Calneva and Praana Two Washoe project lease areas.

Figure 3-2 shows the habitat characterization of the Praana One Calneva and Praana Two Washoe project lease areas (*Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*). Figure 3-2 shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Alkali Desert Scrub plant community areas between the alkali basins/flats/playas which can support vegetation. Figure 3-3 shows the changing and various habitat characterization of the Gen-Tie Line corridor down Rainbow Way from the Praana Two Washoe BESS/PSES Project Lease Area to the NV Energy Fort Sage substation (*Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*). The habitat characterization types that were identified in the project action areas are described in detail below.

Alkali Flats/Playas (AFP)

Alkali basins/flats/playas which are barren and void of all vegetation. These areas contain high concentrations of precipitated dry, glistening salts. These areas are a salty basin landform. Rainwater drains to these basins and collects in areas where it cannot penetrate the soil due to a layer of clay or caliche. When the water evaporates, it leaves behind increasing amounts of salts in the soil. Playas are among the flattest known landforms. Their slopes are generally less than 0.2 meter per kilometer. Alkali flats/playas are mostly found within the project lease areas and limited locations on the Rainbow Way easement.

Alkali Desert Scrub (ASC)

The ASC habitat type in the project action area is characterized as extremely dry, with highly alkaline silt originating from an ancient lakebed. Open, silty regions bereft of vegetation ("playas") are interspersed with regions that are stabilized by the roots of low growing shrubs adapted to this harsh environment. Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Project
Special Status Plant Survey Report
July 2021



ASC is by far the most extensive habitat type in the project action area. The observed understory vegetation in the ASC habitat type is limited to infrequent, annual nonnative species, such as *Bromus tectorum*, *Halogeton glomeratus*, and *Lepidium perfoliatum*. Woody vegetation is dominated by *Sarcobatus vermiculatus*, *Atriplex confertifolius*, and *Picrothamnus desertorum*. *Artemisia tridentata*, *Grayia spinosa*, *Tetradymia glabrata*, *Tetradymia spinosa*, and *Neokochia americana* are woody species that occur infrequently.

Alkali Desert Scrub with Saltgrass (ASC/SG)

The ASC/SG habitat type is very similar to the ASC habitat type but supports a slightly different plant community. Most significantly, as ASC intergrades into ASC/SG in the project action area, *Distichlis spicata* (Saltgrass) is abundant in the understory. The overstory vegetation is dominated by *Sarcobatus vermiculatus* and supports moderate abundance of *Artemisia tridentata*, *Ericameria nauseosa*, and *Tetradymia glabrata*. Additional herbaceous species appear moderately in this habitat type, such as *Bromus tectorum*, *Lepidium perfoliatum*. Other herbaceous species, such as *Astragalus filipes*, *Eriocoma hymenoides*, and *Tragopogon dubius* occur infrequently.

Big Sagebrush (BGS)

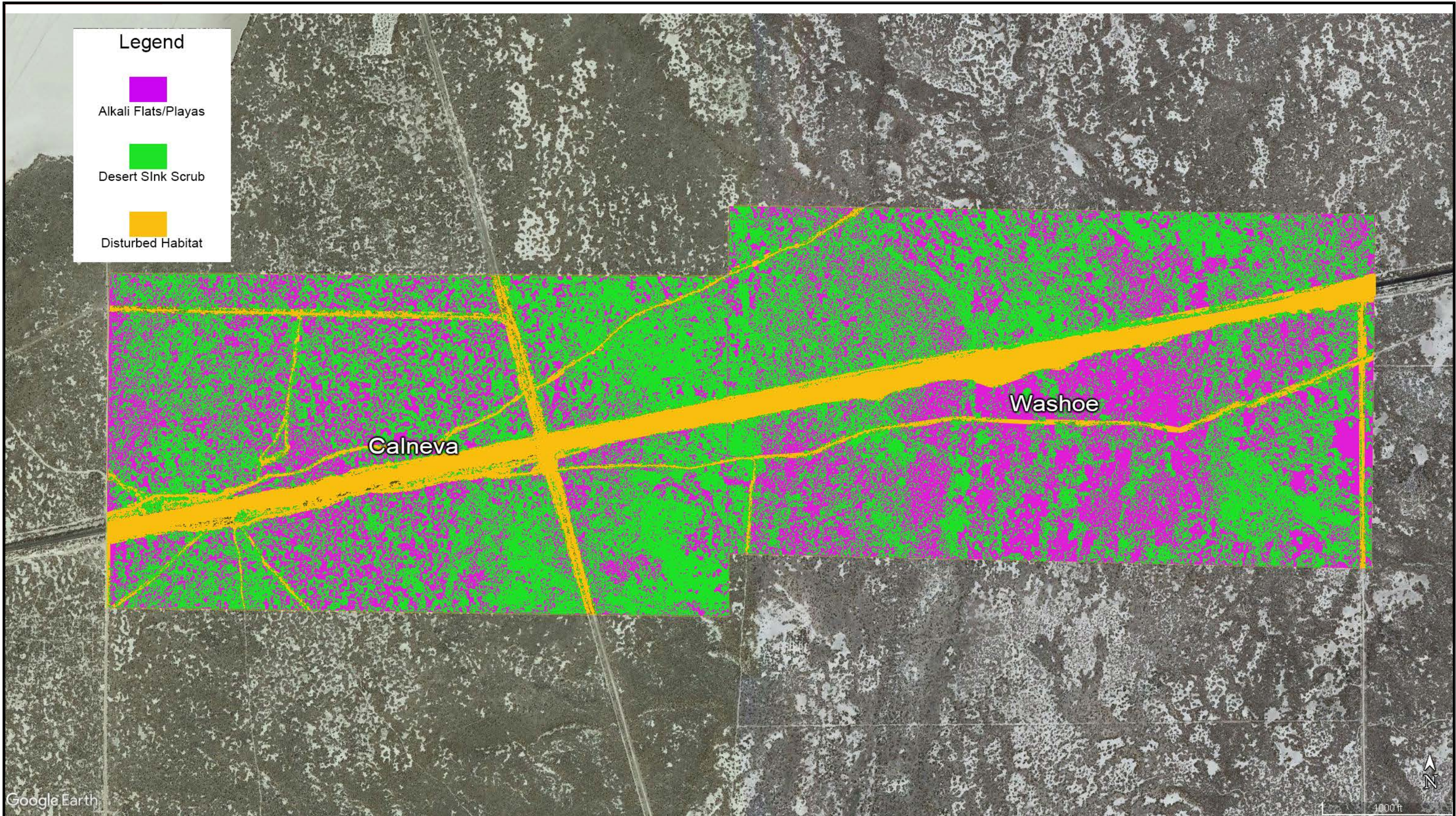
The BGS habitat type occurs at slightly higher elevation than ASC and ASC/SG in the project action area. The understory vegetation consists of moderate abundance of *Distichlis spicata* as well as moderate occurrences of *Bromus tectorum*, and *Lepidium perfoliatum* and infrequent occurrences of *Astragalus filipes*. The overstory vegetation is dominated by *Artemisia tridentata*, and supports moderate abundance of *Ericameria nauseosa*, *Chrysothamnus viscidiflorus*, and *Tetradymia canescens*.

Disturbed Habitat/Desert peach/Big Sagebrush (DIST/DP/BGS)

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 areas that cross the project lease areas and the Rainbow Way easement. The DIST/DP/BGS habitat type in the project action area is associated with the margin of the Bitterbrush/Desert Peach/Big Sagebrush habitat type, but its close proximity to the road and associated disturbance limits the abundance of *Purshia tridentata* (bitterbrush, only one individual present in the project action area) and increases the abundance of ruderal plant species. DIST/DP/BGS supports the highest diversity of herbaceous understory plant species, with a mixture of native and non-native vegetation. Additionally, DIST/DP/BGS areas represented the highest number of plant species in flower or fruit among the various habitat types found within the project action area. *Amsinckia tessellata*, *Ambrosia acanthicarpa*, *Pleiocanthus spinosus*, and *Eriogonum baileyi* are the most abundant herbaceous understory species, with several others occurring at moderate to infrequent abundance. The overstory shrub vegetation is dominated by *Prunus andersonii*, and *Chrysothamnus viscidiflorus*, with moderate abundance of *Artemisia tridentata* and *Tetradymia canescens*, and infrequent *Ericameria nauseosa*.

Perennial grassland (PGS)

The PGS is an open and sparsely vegetated habitat type occurs in a small region in the project action area south of Fort Sage Road for a very short distance along the Rainbow Way easement. *Elymus cinereus* and *Iva axillaris* are dominant herbaceous species, with *Lepidium perfoliatum* and *Bromus tectorum* occurring infrequently. The woody *Artemisia tridentata* and *Tetradymia canescens* occur moderately in the overstory.



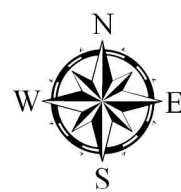
Google Earth

1000 ft

PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

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REV.	DESCRIPTION	BY	APP. CHKD



Habitat Characterization Map

DATE:	03-02-2021	SCALE:	As Shown
BY:	AKM	FIGURE:	2

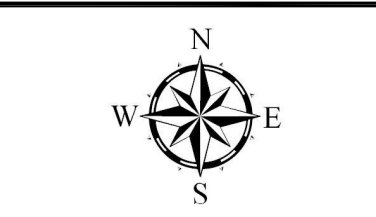




Habitat types along Rainbow Way/Road (black and white striped line) are bracketed and tagged. Green circles are individual plant observations represented digitally on <http://www.inaturalist.org>.

PROJECT: CALNEVA/WASHOE BESS/PSES
 Lassen County, CA
 Washoe County, NV

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REV.	DESCRIPTION	BY	APP. CHKD



Changing and Various Habitat Characterization of Gen-Tie Line Corridor
 DATE: 07-27-2021
 SCALE: As Shown
 BY: AKM
 FIGURE: 3-3





PLANT SPECIES OBSERVED DURING FOCUSED SURVEYS

The flora identified during the surveys is typical of the Basin and Range and the Terrestrial Natural Communities of California and Nevada which include: Habitat Characterization of the Project Lease Areas - *Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*; Habitat Characterization of the Gen-Tie Line Corridor between the Project Lease Areas and NV Energy Fort Sage substation along Rainbow Way - *Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*. All the plants associated with the Project Lease Areas or Gen-Tie line corridor are locally common. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the Project Lease Areas.

Approximately 53% or 294 +/- acres of the Project Lease Areas are comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 100 +/- acres of the Project Lease Areas are characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, cattle trails, recreational vehicles trails, and the railroad. The remaining areas of the Project Lease Areas which represents approximately 29% or 161 +/- acres is associated with the plant community known as *Alkali Desert Scrub (ASC)* which can support limited plant life.

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 *Alkali Desert Scrub (ASC)* plant community within the Project Lease Areas. 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 within the Project Lease Area.

- **Big sagebrush (*Artemisia tridentata*)**. was most abundant in the southern portion of the project lease areas and comprised approximately 20% of the plant community.
- **Spiny sagebrush (*Picrothamnus desertorum*)** 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 areas.
- **Saltlover (*Halogeton glomeratus*)**. was locally observed along a disturb areas within the project lease areas 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 (*Salsola 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 areas.
- **Black greasewood (*Sarcobatus vermiculatus*)** was very abundant and comprised approximately 25% of the plant community of the Project Lease Areas.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community within the project lease areas.
- **Shortspine horsebrush (*Tetradymia spinosa*)**. Shortspine horsebrush was locally abundant within the project lease areas.
- **Goatsbeard (*Tragopogon dubius*)**. Was observed in the southern ends along disturbed areas of the project lease areas.
- **Green Molly (*Neokochia americana*)**. Was observed at low density throughout the project lease areas.



Almost no understory of vegetation was found within the *Alkali Desert Scrub (ASC)* plant community within the Project Lease Areas.

The following plant species were observed on the focused special status plant surveys along the Gen-Tie Line corridor on Rainbow Way between the Project Lease Areas and NV Energy's Fort Sage Substation. Plant surveys were conducted within 200 feet on each side of the center line of the public utility easement (PUE) dedicated along the section line of approximately 55 parcels. The following habitat types were identified in the Gen-Tie Line corridor on Rainbow Way: (See Figure 3-3: Changing and Various Habitat Characterization of Gen-Tie Line Corridor, for locations of habitat types along Gen-Tie Line corridor) *Alkali Desert Scrub (ASC)*; *Alkali Desert Scrub with Saltgrass (ASC/SG)*; *Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)*; *Perennial grassland (PGS)*; and *Big Sagebrush (BGS)*.

Alkali Desert Scrub (ASC)

Artemisia tridentata (Big sagebrush)
Atriplex confertifolius (Shadscale)
Bromus tectorum (Downy brome)
Grayia spinosa (Hop sage)
Halogeton glomeratus (Saltlover)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Picrothamnus desertorum (Spiny sagebrush)
Salsola tragus (Prickly Russian thistle)
Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)
Tetradymia spinosa (Shortspine horsebrush)
Tragopogon dubius (Goatsbeard)

Alkali Desert Scrub with Saltgrass (ASC/SG)

Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Distichlis spicata (Saltgrass)
Ericameria nauseosa (Rubber rabbitbrush)
Grayia spinosa (Hop sage)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Salsola tragus (Prickly Russian thistle)
Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)

Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)

Ambrosia acanthicarpa (Annual bursage)
Amsinckia tessellata (Bristly fiddleneck)
Argemone munita (Flatbud pricklypoppy)
Artemisia tridentata (Big sagebrush)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)



Eriastrum sparsiflorum (Great basin wooly star)
Ericameria nauseosa (Rubber rabbitbrush)
Eriogonum baileyi (Bailey's buckwheat)
Lupinus argenteus (Silvery lupine)
Mentzelia albicaulis (Whitestem blazing star)
Onopordum acanthium (Scotch thistle)
Pleiacanthus spinosus (Thorn skeletonweed)
Prunus andersonii (Desert peach)
Purshia tridentata (Bitterbrush)
Salsola tragus (Prickly Russian thistle)
Sisymbrium altissimum (Tumble mustard)

Perennial grassland (PGS)

Bromus tectorum (Downy brome)
Elymus cinereus (Great basin wild rye)
Iva axillaris (Death weed)
Lepidium perfoliatum (Clasping pepperweed)
Tetradymia canescens (Gray horsebrush)

Big Sagebrush (BGS)

Agropyron cristatum (Crested wheatgrass)
Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)
Ericameria nauseosa (Rubber rabbitbrush)
Eriocoma hymenoides (Indian rice grass)
Salsola tragus (Prickly Russian thistle)
Tetradymia canescens (Gray horsebrush)
Tetradymia glabrata (Littleleaf horsebrush)

SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR ON THE PRAANA ONE CALNEVA BESS/PSES AND PRAANA TWO WASHOE BESS/PSES PROJECT LEASE AREAS BASED ON CNDDDB, NDNH, AND CNPS DATABASE SEARCH RESULTS

Astragalus geyeri Gray var. *geyeri*

Geyer's milk-vetch

USFWS: Not Listed

CDFW: Not Listed

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California

Habitat: Present on Project Lease Areas



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 Lease Areas as Lassen and Washoe Counties 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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California

Common elsewhere, Not very endangered
In California

Habitat: **Not** Present on Project Lease Areas



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 Project Lease Areas do 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 Project Lease Areas.

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. nutans

Dugway wild buckwheat

USFWS: Not Listed

CDFW: Not Listed

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California

Common elsewhere, Not very endangered
In California

Habitat: Present on Project Lease Areas



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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California

Common elsewhere, Not very endangered

In California

Habitat: **Not** Present on Project Lease Areas



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 Project Lease Areas.

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 Project Lease Areas 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

NDNH: 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

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California

Habitat: **Not** Present on Project Lease Areas



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 Project Lease Areas do 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 Project Lease Areas.

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
 NDNH: Not Listed
 CNPS: 2B.3 Rare or Endangered in California
 Common elsewhere, Not very endangered
 In California
 Habitat: Present on Project Lease Areas



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 Project Lease Areas.

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
 NDNH: Not Listed
 CNPS: 2B.3 Rare or Endangered in California
 Common elsewhere, Not very endangered
 In California
 Habitat: Present on Project Lease Areas



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 Project Lease Areas 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 Project Lease Areas.

<http://www.rareplants.cnps.org/detail/2026.html>

Rumex venosus

Winged dock

USFWS: Not Listed

CDFW: Not Listed

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California

Habitat: Present on Project Lease Areas



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 Project Lease Areas 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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California

Habitat: Present on Project Lease Areas



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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California

Common elsewhere, Not very endangered
In California

Habitat: **Not** Present on Project Lease Areas



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 Project Lease Areas.

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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California

Common elsewhere, Fairly endangered
In California

Habitat: Present on Project Lease Areas



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

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California

Habitat: **Not** Present on Project Lease Areas

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 Project Lease 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 Hillman's cleomella several miles northwest of Calneva Lake and the Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California

Habitat: **Not** Present on Project Leased Areas

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



Praana One Calneva and Praana Two Washoe, Battery Energy Storage System (BESS) / Photovoltaic Solar Energy System (PSES) Project

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 Project Lease Areas 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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California

Habitat: Present on Project Leased Areas



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 Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.2 Rare or Endangered in California
Common elsewhere, Fairly endangered
In California

Habitat: **Not** Present on Project Lease Areas



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 Project Lease 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 Ochre-flowered buckwheat several miles northwest of Calneva Lake and the Project Lease Areas.

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

NDNH: Not Listed

CNPS: 2B.3 Rare or Endangered in California
Common elsewhere, Not very endangered
In California

Habitat: **Not** Present on Project Lease Areas



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, gravelly, volcanic with underlying clay soils. This perennial blooms April to June in rocky, gravelly, volcanic with underlying clay soils which are not found in the Project Lease 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 Paiute Lomatium several miles northwest of Calneva Lake and the Project Lease Areas.

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 webberi

Wire Mousetail

USFWS: Candidate

CDFW: Threatened

NDNH: Threatened

CNPS: 1B.1 Threatened or endangered in California
Common elsewhere

Habitat: **Not** Present on Project Lease Areas



Wire Mousetail is a perennial herb in the Rosaceae family, with greenish-gray foliage and dark red wiry stems. The flowers are yellow. Late in the season the whole plant becomes reddish-tinged. Until very recently, nearly all of its California occurrences and many of its Nevada occurrences were known only from historic herbarium collections (Witham 2000)

Ivesia webberi is restricted to sites with sparse vegetation and shallow, clay soils derived from andesitic rock (Witham 2000). Occupied sites generally occur on mid-elevation flats, benches, or terraces on mountain slopes above and adjacent to large valleys. These sites tend to be wet in the spring but dry out as the season progresses. The high clay content in the soils creates a shrink-swell behavior as the soils wet and dry, which tends to “heave” rocks in the soil profile to the surface and creates a rocky surface “pavement” (Zamudio 1999). This perennial blooms May to July in high clay soils which are not found in the Project Lease Areas.

The species has been known to occupy some portions of the Little Mud Flat 4012042 7.5-minute quadrangle and Constantia 3912081 7.5-minute quadrangle with one or more occurrences. All areas known to have *Ivesia webberi* present are located more than ten miles north and south of Project Lease Areas.

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>

Rorippa subumbellata

Tahoe yellow cress
 USFWS: Candidate
 CDFW: Critically Endangered
 NDNH: Critically Endangered
 CNPS: 1B.1 Threatened or endangered in California Common elsewhere
 Habitat: **Not** Present on Project Lease Areas



Tahoe yellow cress (TYC) is a small native plant that grows on the shoreline of Lake Tahoe and nowhere else in the world. It lives only on the sandy beaches and dunes at the ever-changing margin of the lake. It is located in Washoe County only in the Lake Tahoe basin. TYC is a perennial plant that grows very low to the ground in small clusters. It is a member of the mustard family (Brassicaceae) and spreads by underground rhizomes. The leaves are 1 to 3 centimeters long, and wavy or lobed along the edges. The yellow flowers are small and grow in compact clusters. As recently as 1996, this unique member of the mustard family teetered on the brink of extinction when it disappeared from beaches in Nevada and was found growing in less than 10 sites on the California side of the lake. This perennial blooms May to September in decomposed granite soils along the shoreline of Lake Tahoe which are not found in the Project Lease Areas.

All areas known to have *Rorippa subumbellata* present are located more than hundred miles south of Project Lease Areas.

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>

Pinus albicaulis

Whitebark pine
 USFWS: Not Listed
 CDFW: Not Listed
 NDNH: Protected Species
 CNPS: Not Listed Too common
 Habitat: **Not** Present on Project Lease Areas



Whitebark pine are found in high elevations of the Sierra Nevada within Washoe County. No occurrence of the Whitebark pine occurs within the project action area or Project Lease Areas. Most Whitebark pine stands grow on weakly developed (immature) soils. Many of the sites were covered by extensive mountain glaciers during the Pleistocene and have been released from glacial ice for less than 12,000 years. Chemical weathering is retarded by the short, cool, summer season.

Whitebark pine is monoecious. The female strobili and cones develop near the tip of upper crown branches while the male or pollen strobili develop throughout the crown on the current year's growth. Whitebark pine flowers are receptive, and pollen is shed during the first half of July, but at some mid-elevation sites the species probably flowers in June. The ripe pollen strobili are a distinct carmine, which distinguishes them from the yellow pollen strobili of limber pine. The importance of various factors limiting pollination and fertilization is unknown. The isolation of some individual trees and small populations planted by birds, such as Clark's nutcracker, may prevent pollination. Also, animal planting of genetically similar seeds in a given area might increase the level of inbreeding, which might reduce regeneration success.

All areas known to have *Pinus albicaulis* present are located more than fifty miles from Project Lease Areas.

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>

Polyctenium williamsiae

Williams combleaf

USFWS: Not Listed

CDFW: Not Listed

NDNH: Critically Endangered

CNPS: 1B.2 Threatened or endangered in California

Common elsewhere

Habitat: **Not** Present on Project Lease Areas

Williams combleaf is a perennial that blooms from March to July and is found in sandy or volcanic soils and lake margins. It is known to occur north of Honey Lake in California and south of the Project Lease Areas approximately 45 miles on the Nevada side of the border. *Polyctenium williamsiae* was almost entirely restricted to the relatively barren sandy to sandy-clay or mud margins and bottoms of non-alkaline seasonal lakes and playas perched over siliceous volcanic bedrock in the sagebrush, pinyon-juniper, and mountain sagebrush zones. A perennial herb from a buried taproot and somewhat woody, loosely to densely branched underground stems, grayish to dark green with small white flowers.



University of Nevada, Reno has recorded the locations of *Polyctenium williamsiae* in Pine Nut Mountains, ephemeral lake between Mill and Bull Canyons, about 4 air miles east and north east of Como. All areas known

to have *Polycytenium williamsiae* present are located more than forty-five miles south of Project Lease Areas.

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 ovalifolium var. williamsiae

Williams buckwheat or steamboat buckwheat

USFWS: Endangered

CDFW: Endangered

NDNH: Endangered

CNPS: 1B.1 Threatened or endangered in California

Habitat: **Not** Present on Project Lease Areas



Eriogonum ovalifolium var. williamsiae (steamboat buckwheat) is a low, densely matted, compact perennial herb 2-18 inches (in; 5-46 centimeters (cm)) across. The above-ground portions of the plant arise from a shallow but stout, woody, reddish-brown taproot (usually in older plants) or a shallow, fibrous, rhizomatous root system in younger plants. Steamboat buckwheat grows on open slopes of loose, gravelly, sandy-clay soil derived from hot springs deposits. This plant is highly sensitive to changes in moisture and will die if too wet or too dry; thus, it is dependent upon the constant flow provided by the springs. Historical collections of this plant are mainly from around Steamboat Hot Springs, Nevada, but it is thought to have been more widely distributed in the past.

This species is presently represented by one site at Steamboat Hot Springs (Washoe County), Nevada, just to the south of Reno. Most plants are concentrated on 20 acres (8 hectares) within a larger area of Bureau of Land Management (BLM) lands. There are no areas known to have *Eriogonum ovalifolium var. williamsiae* within the Project Lease Areas.

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 SEARCH

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 Project Lease Areas, Project Action Areas 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 and Nevada (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 Project Lease Areas, and the two potential Gen-Tie Line routes (Rainbow Way PUE and Calneva Road/Fort Sage Road ROW).

Our assessment of the potential for special-status plant species to occur on the Project Lease Area is based on the proximity of the Project Lease Area to recorded occurrences, on-site vegetation and habitat characteristics, topography, elevation, soils, surrounding land uses, previous documentation of biological resources on or near the Project Lease Areas, Gen-Tie Line corridors, or Project Action Areas, and known habitat preferences and geographic ranges of special-status plant species known to occur in the Honey Lake Valley region of California and Nevada. 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 Project Action Area and Gen-Tie Line corridors. 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 Project Lease Areas 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 Project Lease Areas. None of these past studies discovered any special-status plant species within the Project Action Areas or Project Lease Areas.

PRESENCE/ABSENCE SPECIAL STATUS PLANT SURVEYS

To accurately determine whether special-status plants identified in Section 3 above actually occur on the Project Lease Areas or Project Action Areas, 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, 2001 *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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES developments, 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, May 15, June 21, and July 18, 2021. The surveys were conducted during April, May, June, July and consisted of sixteen (16) person days of surveys, or approximately one hundred sixty (160) person-hours. Surveys were conducted during the peak blooming periods for special status species determined to have potential to occur in the Project Lease Areas or Gen-Tie Line corridors. 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 Project Lease Areas (see Biological Resources Assessment Report, Sierra Geotech, July 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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES Project Lease Areas on CNDDDB and CNPS Database Search Results*” above. The entire Project Lease Areas were 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 and submitted plant specimens to Michigan State University Herbarium. Habitat types along Rainbow Way, and the Project Lease Areas (black and white striped line on Figure 3-3) are bracketed and tagged. Green circles on Figure 3-3 are individual plant observations represented digitally on <http://www.inaturalist.org>.

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 Praana One Calneva BESS/PSES and Praana Two Washoe BESS/PSES Project Lease Areas and the Gen-Tie Line corridors on CNDDDB, NDNH, and CNPS Database Search Results*” includes all special-status plant species identified as occurring in the project region based on a review of the CNDDDB, CNPS, NDNH 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 Project Lease Areas nor the Gen-Tie Line corridors during the focused surveys which were conducted during the appropriate blooming periods.

The common species observed on the Project Lease Areas and Gen-Tie Line corridors 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 Project Lease Areas nor within the Gen-Tie Line corridors. 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 Project Lease Areas), and because the extent of the Project Lease Areas and Gen-Tie Line corridors 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 Project Lease Areas nor within the Gen-Tie Line corridors.

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Appendix C

Class III Cultural Inventory for the Praana Two Washoe BESS/PSES Project

**A CLASS III CULTURAL INVENTORY FOR THE PRAANA TWO WASHOE
BESS/PSES PROJECT AND GEN-TIE LINE, WASHOE COUNTY, NEVADA**

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July 20, 2021

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1. ADMINISTRATIVE SUMMARY

A Cultural Survey for the proposed Praana Two Washoe BESS/PSES Project Lease Area and Gen-Tie Line, Washoe County, Nevada was completed in the field by Mesa Field Services (MFS) between the dates of April 27 and June 13, 2021 (Figure 1). The archaeological inventory involves a series of four adjoining parcels totaling approximately 320 acres, plus 5.5 linear miles of a 200-foot-wide linear inventory for an access and utility easement corridor extending south from the project lease area along Rainbow Way to NV Energy's Fort Sage Substation for a total of 453 +/- acres of archaeological inventory (Figure 2 through 3). The project lease area and can be found on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps within portions of Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, and 29 of Township 26 North, Range 18 East. The Area of Potential Effect (APE) is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). Although the project is on private land with the project to be reviewed by the Nevada, State Historic Preservation Office (SHPO) all inventory, and reporting standards follow Nevada, Bureau of Land Management (BLM) guidelines. Mesa Field Services holds a current Nevada Antiquities Permit (No. 606).

The inventory resulted in the recordation of 17 isolates, 15 archaeological sites and a single structural resource. The resources including 14 new sites (26W12839 to 26Wa12851 and 26Wa12895), the update of one large prehistoric artifact scatter (26Wa5578), and the recording of a segment of the Western Pacific Railroad as a structural resource (S2852/D352). The new sites include eight prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849), five historic sites (26Wa12841, 26Wa12846, 26Wa12850, 26Wa12851, and 26Wa12895) and one multi-component site (26Wa12842) including both prehistoric and historic resources. A recorded segment of the Western Pacific Railroad has been recorded as an architectural element (S2852) as part of a larger railroad district (D352). The historic sites include a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic artifact scatters (26Wa12846 and 26Wa12850). The newly recorded sites include two dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. A segment of the Western Pacific Railroad just west of the project area in California has been recorded and designated P-18-001697. Site 26Wa12850 is attributed to the occupation of Calneva Station (P-18-001698) just west of the project lease area in California.

The large prehistoric artifact scatter (26Wa5578) is recommended eligible for listing to the National Register of Historic Places (NRHP). All remaining sites are recommended not eligible for listing with the NRHP. The recorded portion of the Calneva Station (P-18-001698) in California has been recommended not eligible for listing with the NRHP due to lack of intact deposits, features and a unique assemblage. Mesa Field Services Concurs with the recommendation that the scatter of historic artifacts within the project area designated 26Wa12850 is recommended not eligible for listing with the NRHP. The recorded segment of the Western Pacific Railroad within the APE is of modern construction and considered a non-contributing element to the district (D352). The remaining sites are small prehistoric and historic artifact scatters comprised of domestic debris and are recommended not eligible for listing with the NRHP. There is a potential for effects to 26Wa5578 and the site should be avoided or monitored.

2. PROJECT DESCRIPTION

Praana Renewables Energy, LLC (Praana Energy) proposes the construction of a Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES). The Area of Potential Effect (APE) is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). The project lease area is located just east of the border with California in an unincorporated area of Washoe County, Nevada (Figure 1) and is on private land including Assessor's Parcel Numbers (APNs) 074-470-02, 074-470-03, 074-470-04 and 074-470-05 for a total of 320 acres. The Praana Two Washoe BESS/PSES project is to include a 278-acre area for a substation, solar field, and battery storage facility, plus 5.5 miles for a 345-kilovolt (kV) Gen-Tie line along Rainbow Way. The Union Pacific Railroad would bisect the project lease area and solar field. The project lease area and can be found on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps within portions of Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, and 29 of Township 26 North, Range 18 East.

The project proposes to construct a nominal 55 to 60-megawatt (MW) solar photovoltaic (PV) power facility, related substation, and integrated BESS. The BESS would store 25 MW or 100 MW hours of electricity, to provide renewable energy and critically needed flexibility attributes to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. The Praana Energy would utilize the non-inclusive private ingress/egress easement and public utility easement (PUE) known as Rainbow Way which is delineated on the record of survey map, and deeds recorded at Washoe County Recorder's Office, to install the 345-kV Gen-Tie line, which will run on standard distribution utility poles, 300-foot span lengths (70 utility poles) to connect to the existing NV Energy's Fort Sage Substation at the end of Rainbow Way approximately 5 +/- miles south of the project lease area. The proposed Praana Two Washoe 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.

Direct APE

The direct APE is the footprint of all new ground disturbances occurring from project activities including material staging/prepping areas and vehicle access points. Access to the project lease area is along Rainbow Way, a mostly unimproved two track road depression extending along its easement. Access to Rainbow Way is from Fish Springs Road a Washoe county improved road. Although the proposed ground disturbance is not to exceed 453 acres the disturbance may occur anywhere within the 320 acres project lease area. Therefore, the direct APE is defined as the entire 320-acre project lease area plus a 40-foot-wide impact area along Rainbow Ways 60 foot PUE.

Indirect APE

Any noise, visual, or atmospheric indirect effects associated with construction will be temporary and negligible. Standing structures will include a solar field plus a 345-kV gen-tie line that will be constructed. Atmospheric effects will be temporary during construction then non-existent. Impacts to the visual and scenic quality of the area will be reduced by reclaiming all disturbed areas, except for existing roads, in a timely manner. Indirect effects will mainly include indirect

physical effects from construction activities. Vibrations associated with the proposed action have the potential to affect cultural resources within the project lease area and access utility easement.



Figure 1: Project Vicinity Map.

An Archaeological Inventory for the the Praana II Washoe
BESS/PSES Site Project, Washoe County, Nevada
Mesa Field Services

0 30 60 120 180 240

Miles

1:6,000,000



Map for informational purposes only. Source: 2021 National Geographic Society

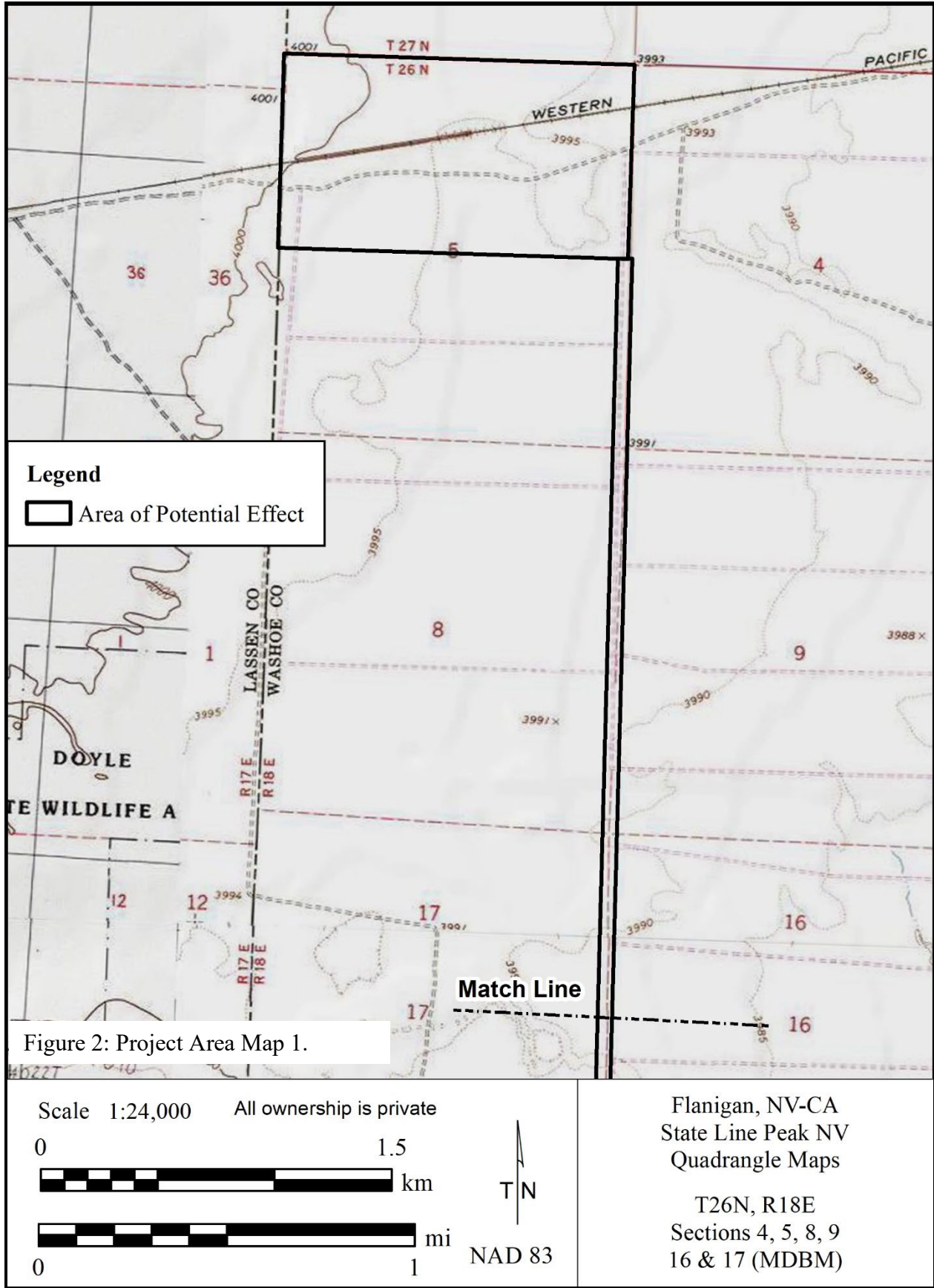


Figure 2: Project Area Map 1.

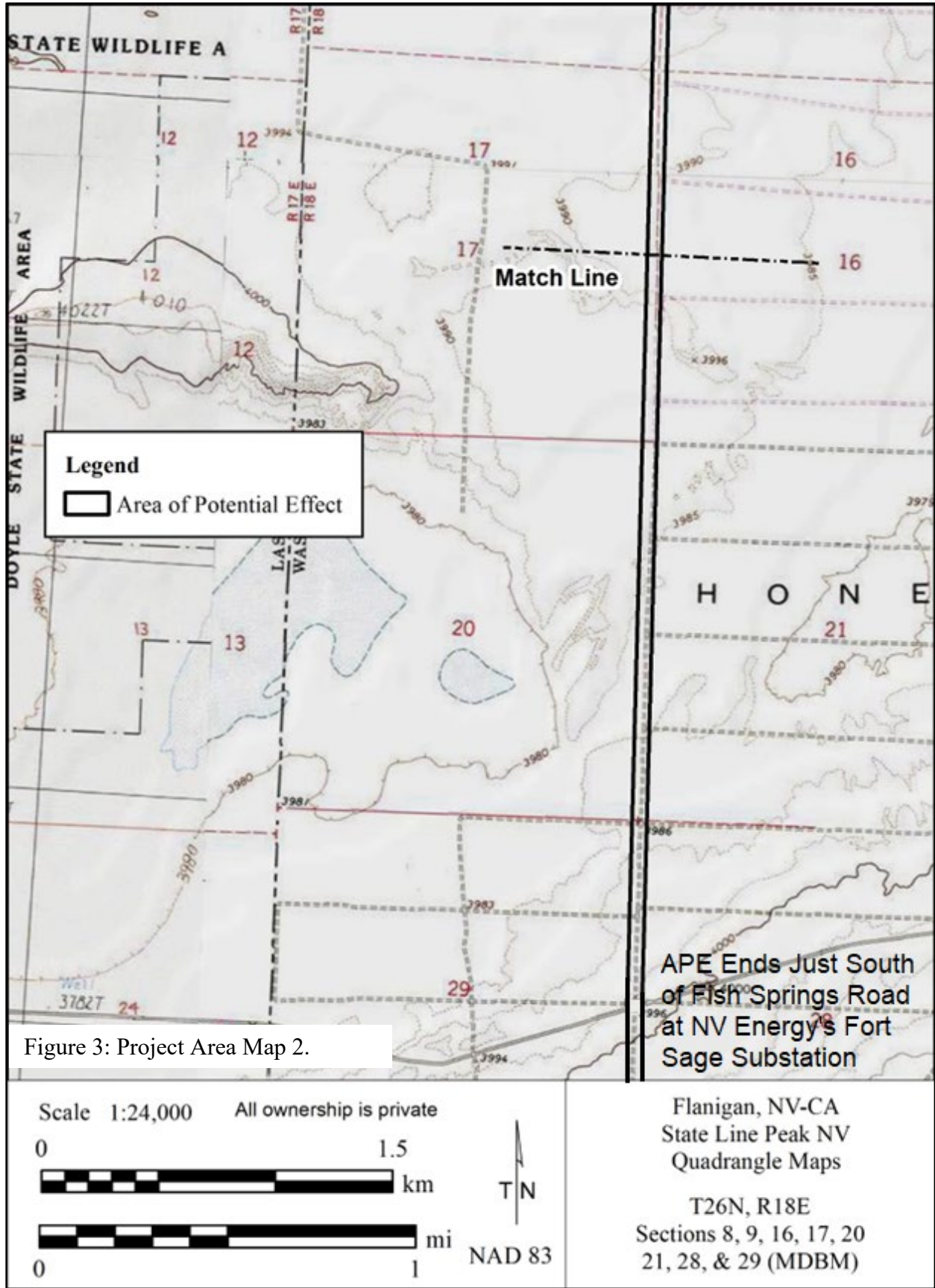


Figure 3: Project Area Map 2.

3. PREHISTORIC AND HISTORIC OVERVIEW

To properly evaluate cultural resources within the APE, a relevant regional cultural overview is needed to provide specific data for evaluating their eligibility to the NRHP (Hardesty and Little 2009). The APE is located in eastern Honey Lake basin. Below is a brief outline of the prehistoric, ethnohistoric, and historic periods most relevant to the current APE.

Prehistory

There is archaeological evidence to suggest people have occupied the Great Basin for at least 12,000 years. Great Basin prehistory is divided into a series of sub-areas that represent concentrations of research characterized by differences in artifact inventories and adaptations to local environments (Jennings 1986:114). The project lease area can be found within the western Great Basin, which includes the eastern front of the Sierra Nevada range in California and most of the State of Nevada. The western Great Basin can be further divided into three sub-regions defined by differences in ecology and cultural history including the central sub-region, the Lohontan Basin, and the Eastern Slopes of the Sierras. The project lease area can be found within the Lohontan Basin at the eastern end of Honey Lake basin. The following prehistoric sequence reveals a changing adaptive strategy defined by five periods: Paleoarchaic, the Early, Middle and Late Archaic, and the Late Prehistoric periods (Beck et al. 2002; Beck and Jones 2008; Bischoff et al. 1999; Elston 1986:135-148; Hockett et al. 2008; Konoske et al. 2009).

Pre-Archaic (13,100 to 7,700 B.P.)

The period when people first arrived in the Great Basin is referred to as the Pre-Archaic, Paleoarchaic, or Paleoindian (13,000-8,300 B.P.) which roughly corresponds to the Terminal Pleistocene Early Holocene transition (Beck and Jones 1997; Haynes 2002). In northwestern Nevada this period encompasses Layton's (1970) Earliest Times including the Parman phase and early part of the Calico phase. During the transition to the Early Holocene effective moisture remained high. Biota was much different than today; many of the region's valleys are believed to have been very productive, though complete desertification of the region is not thought to have occurred until near the time of a series of large Mount Mazama eruptions (around 8,000 to 7,700 B.P.). After which the region experienced the most severe warm and dry period of the Holocene.

The most extensive Pre-Archaic sites are located in areas that were prime for exploiting lake/marsh resources and hunting. These areas were located in mid- to low-elevation steppe along beach bars or lunettes associated with pluvial lakes or marshes, and along Pleistocene River and stream terraces (Elston and Zeanah 2002:108-109). Populations are thought to have conducted frequent movements between wetlands for fewer pre-Archaic sites occur in upland montane areas where most are small lithic scatters and isolates. The relative low density of pre-Archaic sites, the use of widely distributed toolstone sources, lack of variability in site assemblages and lack of evidence for more permanent occupations such as midden accumulations and residential structures suggests a low population density and high degree of residential mobility. The distribution of Paleoindian sites across the Great Basin largely mirrors this trend and suggests that a focus on lacustrine environments was a Great Basin wide phenomenon during the Pre-Archaic (Beck and Jones 2008). Towards the end of the period, there is a significant shift in Great Basin subsistence economies from marsh resources to terrestrial mammals such as leporids (jackrabbit and cottontail), artiodactyls such as mountain sheep, and elk. The Calico phase is a brief phase towards the end

of the period that marks the major transition to the Archaic with significant changes in technology and land use patterns attributed to a desert-based system of adaptation.

A recent compilation of dated sites in the Lahontan basin suggests a period of fluctuations in population and use of the Lahontan basin for the pre-Archaic (Adams et al 2008; Layton 1970; 1985). Based on carbon assays from open air sites and rock shelters an intensive period of occupation is defined immediately following the Younger Dryas, between 11,420 and 10,200 B.P. After this interval there is virtually no record of human occupation in the Lahontan basin for the period between 10,200 and 8,930 cal. B.P. Both obsidian hydration analysis of artifacts from Hanging Rock Shelter and Last Supper Cave as well as dated archaeological sites suggest a gradual increase in the use of the basin during the 2,000-year interval between 8600 to 6480 cal. B.P. (Adams et al 2008; Layton 1970; 1985).

The period ends with the drying of pluvial lakes in the region and with a series of massive eruptions over a one-to-two-hundred-year period attributed to Mount Mazama. The archaeological record indicates a significant reduction in land use of the area following the eruption. Increased land use activity is not noted for the area or much of the Great Basin until the Middle Archaic. Layton's (1985) analysis of Hanging Rock Shelter and Last Supper Cave reveals a relative hiatus at this interface. A combination of Mount Mazama eruptions and the complete desiccation of pluvial lakes in the area likely contributed to a decline in use of the area. This marks the end of the Pluvial Lakes Tradition and transition to the desert culture lifeway characteristic of the Archaic. By the Early Archaic there is marked difference or significant shift in material culture and land use strategies over the pre-Archaic.

Early Archaic (7,700 B.P. to 4,500 B.P.)

The Early Archaic encompassed the end of the Early Holocene and all of the Middle Holocene which, as previously discussed, was a time of dramatic climatic shifts across the Great Basin which climaxed with an extended period of warm temperatures and decreased precipitation (Beck and Jones 2008; LaValley 2013:9-11). When the Mount Mazama series of eruptions ending by 7,700 B.P. lakes were drying out during an extended period of warm temperatures and decreased precipitation termed the Altithermal Maximum (Layton 1970:316). The area may have been temporally abandoned with people eventually returning in growing numbers. Residential mobility decreased for this period compared to the Paleoarchaic.

There are few archaeological sites identified in the Great Basin dating to the Early Archaic. Subsistence strategies continued to broaden during this period and seed grinding technology is evident with the regular appearance of milling stones in the archaeological record. The faunal assemblage for the period contains mountain sheep and artiodactyls. Great Basin Stemmed Points disappear altogether during this period and are replaced by notched points (Beck and Jones 2008:46). Projectile points dating to this period include Northern Side-notch, Humboldt Concave Base, Gatecliff, and Elko series. The appearance of Elko points occurs significantly earlier for the Northern and Eastern Great Basin. One of oldest radiocarbon assays for an Elko point in northwestern Nevada was obtained from sinew still attached to the point recovered from Elephant Butte Cave north of Pyramid Lake, 7785 to 7669 cal. B.P. (Smith et al. 2013). The use of Northern Side-notched points is believed to be restricted to the Early Archaic and considered a distinct temporal marker for this period.

Middle Archaic (4,500 to 1,500 B.P.)

This period saw a significant increase in reoccupation of the area as the climate became considerably cooler and wetter and populations were higher than they were before (Layton 1970; LaValley 2012:11). Elko series projectile points are the most common point type recovered in the area for this period which Layton (1970:321) interprets as the "...most intense period of human occupation of the entire prehistoric period." During this time, the faunal assemblage contains an increase in leporid and sciurid faunal remains. Dominant projectile point forms for this period include the Elko series, more common in the first half of the Middle Archaic. Oetting (1994:56) suggests the early half of the Middle Archaic assemblages include significant proportions of Gatecliff Split Stem points with these forms gradually phased out toward the end of the Middle Archaic.

Source provenance studies of projectile points from Paiute Creek Shelter (Smith et al. 2013) reveals a preference for the use of local obsidian for the manufacture of projectile points for the Middle Archaic with a shift during the Late Archaic to the preference for non-local obsidian and a significant increase in the use of chert materials. With the introduction in the use of the bow and arrow a few Rosegate series specimens appear late in this phase. Drought conditions and abandonment of sites punctuate the end of this phase. Intermittent drought periods are seen until circa 700 BP.

Significant archaeological resources attributed to this period near the APE include house pits at the Humboldt Lakebed site and near Marble Bluff at Pyramid Lake 2.5 meters in diameter and 0.4 centimeters deep with central hearths, caches, and occasional burials with grave goods (Elston 1986:143). The Karlo site, north of Honey Lake, includes houses defined by post hole patterns 3 meters in diameter with cremations and pit burials dating to 1,600 B.P. Located a few miles south of the APE in the Fort Sage Mountains is the Fort Sage Drift Fence (26Wa3030/CrNv-03-2496) comprised of five separate rock alignments spanning nearly 1800 meters with its use dating between 3700 and 1000 cal. B.P. (Pendleton and Thomas 1983:7; Young and Hildebrandt 2017).

Late Archaic (1,500 B.P. to A.D. 1843)

Population densities reached their highest during the Late Archaic with the spread of Numic speaking groups of Northern Paiute (Layton 1970; LaValley 2013). According to Bettinger and Baumhoff (1982), Madsen and Rhode (1994) and others Numic-speaking hunter-gatherer groups moved across the Great Basin from the southwest replacing or intermixing with existing populations. Desert Side-notched and Cottonwood projectile points are thought to represent the arrival of Numic Speakers across the Great Basin. The Northern Paiute are known to have used these points historically. The Archaic Period ends about the time of the appearance of John C. Fremont in the region in 1843. The early part of the Late Archaic is defined by the use of both Elko and Rosegate Series points with the latter part of the period being dominated by Rosegate and Cottonwood or triangular forms.

Proto-Historic/Historic

This period encompasses the termination of aboriginal hunting and gathering lifeways and the influx of Euro-Americans during the 1849 Gold Rush. The period lasts 77 years, and in that time, the ever-increasing number of Euro-American settlers resulted in numerous territory and resource conflicts. Fairfield (1966:13) makes reference to the Washoe being present along the south side of Honey Lake with Paiutes located in the rest of the valley. As settlement increased in Honey

Lake basin in the late 1850s conflicts between the settlers and Native groups living in the basin arose (Fairfield 1966:15-16). These incidents typically involved disagreements over property ownership, retaliation by one group over a dispute, and counterretaliation by the opposite group.

Contact between native groups and Euro-Americans in the mid-1800s resulted in several violent interactions including the Pyramid Lake War of 1860, Owens Valley Indian War from 1861 to 1864, and the Snake War from 1864 to 1868. In Honey Lake basin in 1857, there was the brief "Potato War," between settlers and the Washoe after a group of hungry Washoe took a number of potatoes from the Morehead Ranch (Cerveri 1968). In 1856 Captain William Weatherlow acting on behalf of the settlers of Honey Lake Basin near the south shore of Honey Lake entered into agreement in with Winnemucca or Po-i-to (Cerveri 1968; Fairfield 1966:14). Winnemucca was in control of the Northern Paiute and based out of Pyramid Lake whose and whose territory included the project area east of Honey Lake. The two sides had an agreement should there be any issues between the settlers and natives that the settlers should come to Winnemucca and not to take indiscriminate revenge. For the most part the treaty was observed by both sides.

Ethno Historic/ Northern Paiute

Attempts at interpretation of the prehistoric record have often used comparisons with the Ethnographic record (Elston and Zeanah 2002). Hunter-gatherer lifeways of the Great Basin evolved and fluctuated over the last 13,000 years in adaptive responses to climactic fluctuations. Two dominant climatic regimes define the prehistoric occupation of the Great Basin with a mesic period during the Pre-Archaic and later desert adaptation. Climatic and ethnographic correlations are believed to be more direct with the Archaic. Pre-Archaic adaptations are presumed to be less analogous to the ethnographic record due to the radical differences in climate and resource availability. Changing environmental conditions between these two significantly different periods is believed to have had a profound impact on overall hunter-gather mobility patterns (i.e. increased use of uplands, seen during the Early Archaic periods), resource procurement, and changes in subsistence strategies (i.e. Early Archaic broadening of diets). Archaic adaptations to the environmental fluctuations resulted in a strategy that enabled Archaic populations to survive the harsh conditions of the country (LaValley, 2013).

Northern Paiute Territory was entirely contained within the Great Basin with the core area being the Stillwater Marsh vicinity (d'Azevedo 1986:467-470; Fowler 2002:9). The Northern Paiute ranged as far north as the Oregon-Idaho border to south of Mono Lake. The Paiute lived in camps well adapted to the harsh desert environment with each sub-group or band occupying a specific territory typically located near a lake or other water source. Although the groups foraged broadly within their home districts, they often overlapped with neighboring territories (Fowler and Liljeblad 1986). In Honey Lake basin the Washoe and Paiute didn't live permanently on the flat valley land (Middleton 1963:30). They settled on ridges or hills and terraces above stream beds or springs where there was some degree of protection. The Northern Paiute lived in clusters of individual families who seasonally occupied homes or specific geographic areas with individuals permitted to move freely between the different bands or tribes.

Typically, Northern Paiutes were nomadic and made their living by hunting, gathering, and fishing. The territory of the Northern Paiute was environmentally diverse offering a variety of subsistence and settlement choices. A range of resources were utilized from a variety of eco-zones but with a focus on wetland resources and pinyon nuts (Fowler 2002:45-87). In Honey Lake basin food included deer, rabbits, ducks, geese, pigeons, and other birds taken by nets (Middleton 1963:30). Seeds were gathered in baskets by knocking the seeds in a basket with a stick. Fish were harpooned or taken by dip nets. Food was cooked in by stone boiling in a basket.

Historic Background

The resources of the Honey Lake basin played an important role in the early exploration and settlement of the American West. Due to its location at the crossroads between Nevada and California the area attracted the explorer John C. Fremont and later emigrants using the Applegate-Lassen Emigrant Trail on their way to Oregon and California. After the advent of the transcontinental railroad the area saw the development of cattle ranching and dry farming in the valley.

Early Exploration

In the early 1800s, the Great Basin was one of the largest expanses of the United States that remained unexplored and was the most rapidly settled (Morgan 1997:36). Exploration of northern Nevada was first accomplished by fur trappers (Hulse 2004:36-41). At the time, fur hats and coats were a popular fashion in Europe and eastern North America as Wild West items that fueled the expansion for furs into the Great Basin by British and American enterprises. The Lewis and Clarke Expedition through the Rocky Mountains to the Columbia River between 1803 and 1806 was the first transcontinental expedition in the region to detail a rich land with large rivers and plenty of beaver and other fur bearing animals. The first large scale and systematic fur trapping and trading in the region occurred during the mid-1820s (Idaho State Historical Society 1985). Peter Skene Ogden with the Snake River division of the Hudson Bay Company spent six years (1824-1831) trapping wherever he anticipated American intrusion exploring territory across the Snake River area and the northern Great Basin.

John C. Fremont, working for the Bureau of Topographical Engineers, was the first professional surveyor to enter the Great Basin. Through official government reports, he provided detailed knowledge that contributed the most to the opening of the Great Basin and expansion of the American West (Egan 1985). Fremont recorded flora, fauna, and geological data in addition to travel routes, proper season of travel, necessary supply limits to make the journey possible, etc. Fremont first passed through northwestern Nevada on his second western expedition during the years of 1843-1844 (Egan 1985:190). Although he never visited Honey Lake basin John C. Fremont passed just to the east of the APE when he stopped in Pyramid Lake in 1846 (Middleton 1966:32).

The incursion by Euro-Americans into Northern Paiute territory had a detrimental effect on the traditional life ways of the Native Americans in the Great Basin. After Fremont established routes through the Great Basin emigrants prior to 1848 were primarily farmers passing through the area along the California Trail in low numbers on their way to the coast (Hardesty 1997:20). In 1848, both the signing of the Treaty of Hidalgo ceding northern Mexico to the United States and gold discovered at Sutter's Mill forced many more down the trail in the ensuing years. Between 1840 and 1848, 2,735 emigrants reached California over the California Trail (Hardesty 1997:20). After the discovery of gold, hysteria ensued with 60,000 people taking the overland route through the Humboldt River Basin in 1849 alone (Crum 1994:18).

As the discovery of gold in 1848 sparked a flow of westward migration, new settlers sought an alternative to the route through the treacherous Donner Pass to cross the Sierra Mountain Range. Peter Lassen first explored the area that is now Lassen County in 1850 and, in 1851, William Nobles began leading settlers over a route that ran from the Humboldt River (in the State of

Nevada) to Shasta City at the northern end of the Sacramento Valley (Fairfield 1966:17-20). Nobles in a prospecting party of 8 men passed through the mountains to Honey Lake basin in the spring of 1851. Noble so impressed with the value of the passage went to the town of Shasta, then the chief town in extreme northern California, to make known its potential economic value and divert as much emigrant traffic from the trail along the Humboldt (Fairfield 1966:17; Middleton 1966:33). Improvements were made to the route in 1856 when Nobles obtained \$300,000 in funding from Congress for its development as an improved wagon road, which became part of the Fort Kearny-South Pass-Honey Lake Wagon Road. The newly developed route superseded the Old California and Oregon Trails in the 1860s as an emigrant route to the coast passing through the northern extent of Honey Lake basin.

Of the thousands of people that passed through what is now Lassen County, some chose to remain in the Honey Lake basin (what is now Susanville). Among those early settlers of Susanville was Isaac Roop, who established a trading post where travelers along the Nobles Emigrant Trail could stock up with provisions before crossing the Sierra Mountains. First known as Roptown, Isaac Roop's settlement later was named Susanville for Roop's daughter, Susan. When the Territory of Nevada was established in 1861, Isaac Roop was made governor of the Territory. A few years later, surveys of the area established that Susanville was part of the State of California, and the County of Lassen was established in 1864.

Another early trail or road utilized in Honey Lake basin was the road from Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road. Fort Sage, just south of the APE was located 46 miles north of Reno in Washoe County, west of Pyramid Lake, on the road from Reno to Fort Bidwell, Surprise Valley, California (Ruhlen 1964). The fort was a garrison occupied in the early 1870s and located between State Line Peak and the Virginia Mountains. The route is present in the south part of Township 26 North, Range 18 East dating to 1881 (BLM 2021).

By the early 1850s, Native Americans began to sustain significant impacts to their way of life and survival as ever-increasing numbers of emigrant groups and their stock moved through the area depleting local food sources and restricting the native population from water sources. These threats caused friction between the populations, largely leading to the end of the traditional native way of life by the 1870s. By 1880, settlements had sprung up all over Honey Lake basin. The Nevada-California-Oregon Railway which traversed the eastern side of the County was established. The railroad, sometimes referred to as the Narrow Crooked & Ornerly, was a narrow-gauge line that operated from 1880 to 1927. Logging was a large economic activity in the western Honey Lake basin around Susanville, the eastern part of Honey Lake is lacking trees and ranching was a main activity in the immediate vicinity of the project area.

Settlement: (Moody 1985)

Settlement in Honey Lake basin proceeded slowly in contrast to elsewhere that saw more rapid settlement. Settlement initiated south and west of Honey Lake. Issac N. Roop and others were first to settle there in 1853-54 (Purdy 1983:1). Short lived mining ventures in the Diamond Range in 1855 brought more permanent residents. Daniel C. Wheeler was the first to settle in the eastern part of the valley at the Lower Hot Springs where he and two German immigrants made a land claim and improved the property in in December of 1863. The property was sold to dairy farmers Thomas Pearson and John Sutherland in 1867. The two were from Red Rock Canyon north of

Reno 20 miles. Thomas Parson and his family were killed at the location in Honey Lake on April 17, 1868, by the local Native Americans. The eastern part of the valley remained uninhabited and was mainly used for grazing livestock from Reno in the winter until 1874.

Honey lake economically has bene part of the cattle and timber industry (Middleton 1963:1). Cattle industry more dominant in the eastern part of the valley due to lack of timber. What contributed the most to the settlement of the eastern part of the valley was Charles L. Merrill bill introduced in the United States Congress entitled “the Lassen County Desert Land Act” (Moody 1985:9; Purdy 1983:2). The bill allowed for the homesteading of arid lands of 640 acres approved by congress on March 8, 1875. If improved and irrigated an individual could purchase from the government at \$ 1.25 per acre. Residency was not required. Originally only intended for Lassen County the bill was amended in 1877 for all arid lands of the Far West. At the height of the Golden Era of agriculture in 1911 the Eastside Development League sought to promote the area as rich farmland along east honey Lake. Some irrigation efforts were attempted in eastern part of the valley however, the lake kept drying up. Also, the results of using alkali water from the Eagle Lake or Honey Lake has ruined the land on several ranches in Honey Lake basin (Middleton 1963:21).

Established in 1880 the Nevada & Oregon Railroad Company was the first to construct a railroad through Honey Lake basin (Purdy 1983:5-6). The company constructed a narrow-gauge railroad headquartered in Reno. The railroad was plagued by financial problems and sold to the Morgan Brothers at Public auction in Reno on April 17, 1884. The company was reorganized as the Nevada-California-Oregon Railway Company (NCO). At the time the line only extended 30 miles north form Reno. A fifty miles extension through the east side of Honey Lake was criticized by the local valley residents for it bypassed most of the development in the valley at the time. The reason was for the railroad could lay claim to the vast amounts of public lands uninhabited on the east side of the valley. Successive amendments to the Desert Land Act allowed for the claim of 1,120 acres prompting abuse of the act by land speculators (Purdy 1983:5-6).

Because of the abuse the Land Act was restructured to allow only 320 acres per individual in 1890. Large holding companies arose in the easter part of the valley including the Honey Lake Reservoir & Irrigation Company, the Honey Lake Water Company, the Lassen County Land & Livestock Company, and the Lassen Development Company all obtained large tracts of land in the region (Purdy 1983:5). This created the impetus for the development of a town on the east side of the valley. The new terminus at the end of the 50 miles extension was named Heriot’s Place after a former manager of the NCO but soon replaced with the name of Amedee in honor of Amedee Depau Moran part owner of the NCO. The first rain arrived in town on November 17, 1890. Being the only railroad in the region Amedee became a large shipping center servicing the Susanville area north to Lakeview, Oregon 121 miles north. The NCO built a large stockyard north of town for utilization by local ranchers for shipping livestock to Reno. The town had 300 to 400 residents at its height. When the terminus for the railroad moved 50 miles north to Madeline Plain at Termo in January of 1899 the town declined (Purdy 1983:19). The Southern Pacific Railroad was constructed across northern Honey Lake basin to exploit the countries abundant timber resources in 1909 attracted additional settlement. The new branch line was known as the Fernley and Lassen. The NCO lost profitability and was eventually sold to Western Pacific on June 11, 1917 (Purdy 1983:35).

Flanigan was established in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City, Utah (Figure 4; Myrich 1992:318-319; Kneiss 1953:16; Moody 1985:5). The station in the extreme eastern Honey Lake basin was named after Patrick L. Flanigan, a landowner, businessman, and state senator from Washoe County whom the Western Pacific purchased right of way in the area (Moody 1985:5). In 1913, the Southern Pacific Railroad built its Fernley & Lassen branch, with the two lines crossing at Flanigan (Moody 1985:7). A deed for Flanigan Townsite was filed on July 16, 1913 (Moody 1985:11-48). The town grew after the opening of the railroad station, with the establishment of a post office in the spring of 1914, a schoolhouse, and the establishment of a voting precinct in July. Railroad business contributed to most of the growth, with peak population of a few hundred in the 1920s, mostly Southern Pacific and Western Pacific employees. Population slowly dwindled, with only a handful of residents remaining by the 1950s. In March 1959, Southern Pacific Railroad closed the Flanigan station. By fall 1960, only one permanent resident remained.

After the abandonment of Flanigan many still owned title to the land, however, only few ranches remained occupied in the area. Later in the 1970s, investors bought land just east of Flanigan, established dirt streets and planned to sell parcels for \$200-\$300 each, as a novelty to capitalize on Flanigan's Western ghost town history, intending to give parcels to celebrities like John Wayne and Clint Eastwood to draw publicity. However, the Interstate Land Sales Full Disclosure Act of 1968 requires new developments with plots sold over \$100 to have basic infrastructure such as sewer and street lighting, which made the plan unprofitable, and the venture was mostly abandoned.

Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (Wednesday September 7, 1977) and the Reno Gazette Journal (Sunday Sept 11, 1977) suggests this venture wasn't entirely abandoned. The articles detail a revitalization of the area and describes living conditions during the mid-1970s. The articles center on the creation of the "Honey Lake Valley Meeting Hall" a wheel less trailer within a fenced in area. The meeting hall was actually a private school and called a meeting hall to get around state sanctions against unlicensed private schools. Although the local inhabitants petitioned California for a new school the local population was protesting the more than 30 miles drive to Herlong, California on bad roads with washboard and mostly muddy during winter. Sixteen families are described as inhabiting the area near Calneva and Flanigan, with some on ranches, others in lots across the valley floor.

Long time valley resident Lela Findley interviewed for the articles, had a house on the state border for 21 years prior to printing of the article printed on Sunday, September 11, 1977. Her house is described as just above the fenced in area containing the meeting hall. Lela describes herself as a supervisor of the new valley school. She used a wood stove for cooking and heating water. Oil lamps were used and generators for electricity with access to well water for the residents. She was a longtime resident of eastern Honey Lake basin original from Herlong and recalls visiting Flanigan in the 1940s to attend town dances. Some of the other locals interviewed for the piece include Lynette Horner, Josephine Lander, and Joyce Pederson. The town hall was being built up and dedicated that Memorial Day weekend of 1977. It is part of a recent population boom in the project area starting two to three years earlier. A local Linda Wells stated more families want to move into the area but want better services. However, results from the current field investigation

suggests this never happened with population in the project area continuing to decline sometime soon after the articles were printed.

According to the Washoe County Assessors Website the Phil and Lela Findley property (Washoe County Assessors Number 074-010-44) can be found under her name in the NW¼ of the NW¼ of Section 5 Range 25 North, Range 18 East. The site of the “Honey Lake Valley Meeting Hall” would have been just north of the property. Both properties are just over a mile southwest of the intersection of Rainbow Road and Fish Springs Road. A few of the properties in the project vicinity remain occupied and are being sold under the name “Pyramid Lake Ranch Estates.”

Transportation

The Honey Lake basin played an important role as a way station for many travelers utilizing the Nobles' Route of the Applegate-Lassen Emigrant Trail, which would later become the Fort Kearny-South Pass-Honey Lake Wagon Road passing through the northern extent of Honey Lake basin (Purdy 1983:41). The United States Congress passed an act to provide for a federal road from Fort Kearney, Nebraska to the California boundary in the vicinity of Honey Lake in an effort to bypass the more treacherous and drier route through the 40 miles desert and Donner Summit. The construction of the Nevada-California-Oregon Railway and later the Southern Pacific and Western Pacific railroads were significant developments within the eastern part of Honey Lake Basin leading to the development of many small towns attributed to the construction and use of the railroads including the towns of Calneva and Flanigan nearest to the APE.

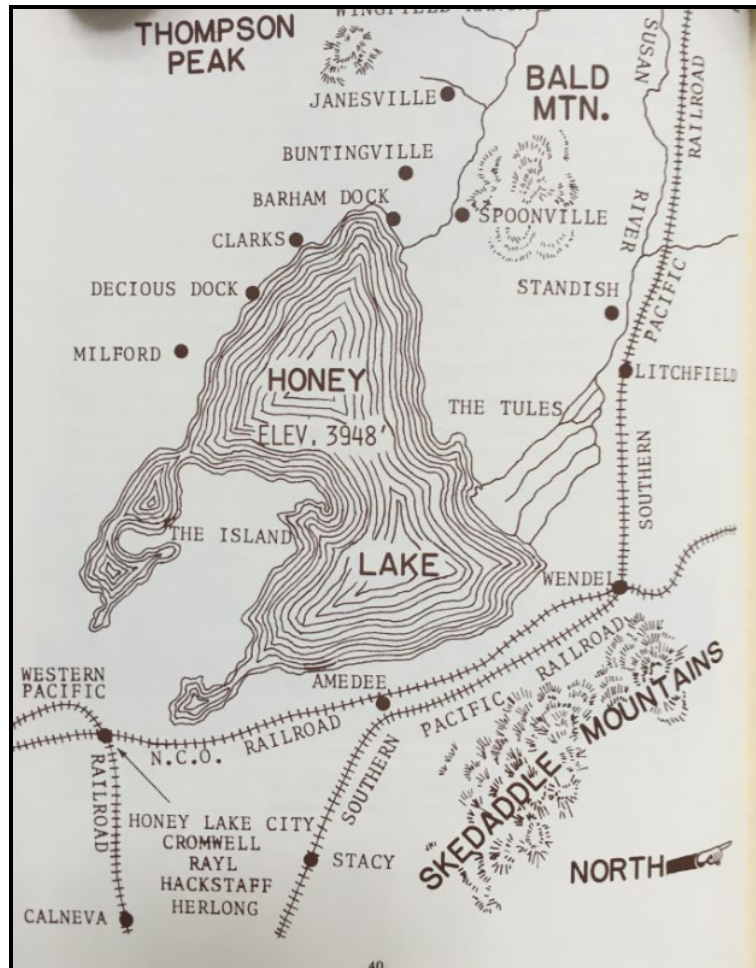


Figure 4. Routes of the Western Pacific Railroad and the Southern Pacific Railroad through Honey Lake basin (Purdy 1983:40).

Western Pacific Railroad (S2852/D352)

The Feather River Route of the Western Pacific Railroad (Western Pacific) has the distinction of being the most recent of transcontinental built in the twentieth century (Myrick 1992:316; Kneiss 1953). The impetus for the railroad's construction is rooted in the decision of the Union Pacific Railroad, then led by E. H. Harriman, decision to close off access to the Southern Pacific to all railroads other than the Union Pacific, leaving all other railroads unable to access the Pacific Coast from Salt Lake City, thereby creating a monopoly on distribution (Kneiss 1953:6-8). This was bad news for California growers and merchants who had hoped to break the Union Pacific monopoly (Kneiss 1953:5).

Built as a standard gauge railroad the Feather River Route was the first transcontinental railroad to be constructed entirely by machine (Kneiss 1953:4) the Western Pacific extends for 924 miles between Oakland California and Salt Lake City, Utah. Formally incorporated on March 6, 1903, the Western Pacific was financed by a George Gould whose father Jay who had compiled a partially complete transcontinental railroad system terminating with the Denver & Rio Grande at Ogden, Utah (Myrick 1992:318-319; Kneiss 1953). George Gould had hoped to fill the gap between his railroad and the coast of California. The first railroad spike was driven in Salt Lake

City, Utah on May 24, 1906, with the last spike driven in on November 9, 1908, at Spanish Creek Bridge a few miles west of Quincy, California. The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907. Regular freight along the line commenced the first of December with passenger service beginning nearly a year later in August of 1910.

Due to relatively light traffic and no branches to feed the railroad it went into receivership in 1915 emerging a year later as the Western Pacific Railroad with an emphasis on the construction of feeder lines with some 230 miles of new lines added over the next 15 years (Myrick 1992:331). The first feeder branch was the acquisition of the Northern California and Oregon Railroad to Reno, Nevada to a point just south of Herlong, California. A series of railroad stations along route in the Honey Lake basin near the project area include Calneva just west of the APE and Flanigan at the far east end of the Western Pacific Railroad through Honey Lake basin.

Flanigan was a company staffed railroad crossing that was first a station on the Western Pacific Railroad five miles east of the state line with California. The station was constructed in 1909 and in operation briefly before it was disconnected from the line in 1911. The station was named in honor of Patrick L. Flanigan, for his allowing passage of the railroad through his expansive ranching domain (Moody 1983:5). While freight and passenger trains of the Western Pacific would use Flanigan Station infrequently it was the Southern Pacific Railroad that would be most influential to Flanigan Station. The construction of the Fernley and Lassen Branch of the Southern Pacific occurred in 1912 to 1913 and crossed the tracks of the Western Pacific at Flanigan Station before it headed west to Amedee (Moody 1983:8). Both railroads had a siding at the location used to "side" cars when not use or as switch.

Telegraph operator at Flanigan first with the Western Pacific Railroad in 1910 then again with the Southern Pacific in 1913 with the Railroad's signal operator doubling as a Western Union Telegrapher (Moody 1983:9). Between 1915 and 1920 the Nevada, California and Oregon Telephone and Telegraph Company (later Pacific Telephone and Telegraph) installed a telephone line between Flanigan and Susanville, with Flanigan listed as being in California (Moddy 1985:39-40). The line ran from Flanigan to Amedee along a railroad fence.

Ranching/Agriculture

A combination of factors led to development of ranching in the Study Area Prior to the advent of the railroad California had been the regional center of cattle production Western Nevada relied on California as a source of beef cattle during these early years. Due to droughts during the late 1860s California ranchers began using rangelands in northern Nevada as summer range. The advent of the railroad in 1868 allowed the beef industry to become regional in scope (Townley 1983). Cattle could be taken from the range in northern Washoe County fattened in the Truckee Meadows and shipped to the bay area for slaughter. Even comparatively remote areas such as the proposed project area were integrated into this regional marketplace.

Ranching

Locally ranching began in the Honey Lake basin and Winnemucca Lake areas during the 1850s through the 1870s. During this period many ranchers drove their herds to the central valley of California during the winter using their Nevada ranch lands only as summer pasture. Ranchers

acquired land through the National Homestead Act of 1862, the Swamp and Overflow Act, or by filing preemption claims. By these means early ranchers gained access to most if not all water sources and potential pasture areas in the region thereby controlling the range. This allowed ranchers to enlarge their herds of cattle sheep and horses and to grow and cut feed. Many pinned their economic hopes for the state on agriculture (Townley 1983). Large ranching operations came into being that operated over huge acreages within Nevada and adjoining states. The Pyramid Land and Stock Company owned by Patrick Flanigan operated in the Pyramid Lake area and eastern Honey Lake basin. Flanigan moved to Nevada in 1877 and began herding sheep in the early 1880s grazing on public domain land around Pyramid Lake. He began acquiring property in the 1890s including ranches near Gerlach Constantia in California in Winnemucca Valley and a number of others in the general area. At the height of his career Flanigan ran than 30,000 ewes 2,000 cattle and 1,800 horses in Washoe County (Moody 1985).

The sheep market boomed during the 1910s and 1920s prompting many ranchers increase the number of sheep they kept versus cattle. After the Wool Crash of 1923 the sheep industry dwindled. This trend was reinforced by several drought years the cumulative effect on vegetation of over grazing and passage of the Taylor Grazing Act. This act was intended to manage public grazing and to prevent degradation of the public domain due to overgrazing By World War II ranching was no longer a prominent industry in the projects area. Beginning in 1914 Flanigan's empire began to unravel. Declining sheep prices and failed irrigation ventures eventually forced him into bankruptcy.

Agriculture

In the late 1800s there was an interest in reclaiming lands with 20 inches or less of annual rainfall led to a new wave of agriculturalists dry land farmers. The dry land farming movement reached full flower during the first two decades of the Twentieth Century. Many dry land farmers homesteaded in Honey Lake basin during the 1900s and 1910s when the dry farming movement was at its height. Irrigation was proposed and attempted from Honey Lake. There was even a proposed apple plantation near Calneva (Moody 1985:12). In theory the homestead was also supposed to produce a crop of sufficient size that it could be sold. Following World War I when an agricultural depression set in that lasted throughout the 1920s Dry land homesteaders suffered. They were also subject to changes in local climatic conditions. Droughts changing water tables depletion of nutrients in the soil or the accumulation of salts. Litigation over water rights, salinity, and the lake going dry in 1919 put an end to such activity and the homesteaders had largely left the area by the 1920s (Moody 1985:15).

4. HISTORIC CONTEXT

The significance of resources in the project area should be evaluated within a regionally relevant framework or context when determining their relative significance to the NRHP at the local, regional, and worldwide level (Hardesty and Little 2009; National Park Service [NPS] 1995:7). A proper historic sequence provides an analytical framework within which the significance of an archaeological site or district can be understood. To properly evaluate archaeological remains they first need to be linked to a relevant historic context. Archaeological sites should not only include diagnostic artifacts or features that can link its temporal association with the local context but also task specific data that clearly identifies a sites or components specific land use activity or related research theme. Without a proper identification of a particular sites associated research theme, its meaning and ultimately its significance within history or prehistory cannot be understood.

Furthermore, archeological remains should be evaluated with the local context through a series of middle range research questions specifically relevant to the APE (Little et al. 2000:31). Research questions should not be over generalized and applicable to any cultural resource inventory in North America such as food practices, technology, etc. (Hardesty 1990). Instead, they should be tailored to the resources at hand and within the limits of the proposed undertaking by being able to reach specific, detailed, and reliably supported conclusions within a reasonable amount of time (Hardesty 1990:43).

Sites identified during the investigation were evaluated based on their ability to meet the four National Register (NR) criteria. National Register eligibility recommendations were developed using those aspects of the historic context appropriate to the cultural resources identified during the inventory. Cultural resources were examined to determine significance based on property type, resources present, integrity, and association with time, space, and themes important to local, state, or national history. Guidelines provided in the NR Bulletin 15 (NPS 1995) stipulate that properties must, as a rule, be at least 50 years old and meet requirements for site significance for listing on the NR under at least one of the following criteria:

- Criterion A:** Association with major events or patterns of events significant in U.S., Nevada, or local history, or traditional cultural values.
- Criterion B:** Association with persons important in the past.
- Criterion C:** Representative of the distinctive characteristics of a particular type, period, or method of construction; of the works of a master; of high artistic values; or of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D:** Have the potential to yield important information to understanding prehistory or history. In general, moved properties; birthplaces; cemeteries; reconstructed buildings, structures, or objects; commemorative properties; and properties that have achieved significance within the past 50 years are not considered eligible for the NR.
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A proper evaluation of a property's significance must be based on the four criteria (A, B, C, or D). However, a site's mere association with historic events, trends, or important persons in the past is not enough for establishing eligibility for Criteria A and B. A property's specific association must be considered. In addition to the use of cultural contexts, arguments of significance should also consider comparisons with similar known sites in the area relative to the region's prehistory and history, an appraisal of the expected kinds of information that the site could yield, and judgments about a cultural property's research potential.

Not only should a property have an important association with historic trends, it must also retain its historic integrity. Evaluation of the integrity of a property can occur after the establishment of significance. An evaluation of integrity must be grounded in an understanding of the property's physical features and how they relate to its significance (NPS 1995:44). A site's key features must retain their integrity to convey its significance. An assessment of integrity relative to the data potential of a site depends on the research design or questions. It is important that the significant data contained in the property be preserved or is present to address important information relevant to a property's significance (NPS 1995:23). The National Parks Service (1995) defines seven aspects to integrity including location, design, setting, materials, workmanship, feeling, and association. To retain historical integrity a property should meet at least a few of these aspects. Determining which aspects are more important to the resource is determined by its association with the local relevant historic context.

Location:	The construction place of the historic property or place where the historic event occurred. Location helps in understanding the "why" of a construction or an event.
Design:	The result of the conception and planning that created the form, plan, space, structure, technology, scale, materials, functions, aesthetics, and style of a property.
Setting:	The character of the physical environment of a historic property. Setting, or how the property is situated, includes topographic features, vegetation, cultural features, relationships between features, and open space.
Materials:	The combination of physical elements that were used to create a historic property during a particular period of time in a particular pattern. The property must retain actual historic resources dating from the period of its significance.
Workmanship:	The evidence of artisans' labor and skill of a particular culture or people in creating a property during any given period in history or prehistory.
Feeling:	The presence of physical features that express the aesthetic or historic sense of a particular period of time.
Association:	The direct link between an important historic event or person and a historic property.

Assessing integrity requires determining whether or not the property retains the identity for which it is significant. A property that retains integrity may possess several of the seven aspects, as well as the essential features that define why a property is significant and when it was significant. Archaeological sites eligible under Criteria A and B must retain excellent preservation of features, artifacts, and spatial relationships to convey important associations with events or persons. For Criterion C, sites must retain the majority of features to illustrate a site type, period, method of construction, or work of a master. Overall condition is less important under Criterion D in which integrity is based upon the property's data potential, as shown by intact or identifiable relationships among artifacts, features, and other elements of the site. A "property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained" (NPS 1995:22).

Prehistory

The lack of written records compounds the difficulty in the development of prehistoric contexts with prehistoric sites most frequently being considered eligible under Criterion D. Using the concepts of theme, place, and time a broad-based prehistoric context can be developed to address eligibility of prehistoric resources within the APE. Chronometric data such as diagnostic artifacts or features with the potential for dating typically must be present for a prehistoric site to be considered eligible for the NRHP. Chronometric data is critical to defining the different periods of the past and trends over time. In addition, a site must retain sufficient integrity to yield important information that can address relevant research issues to the area of concern. A prehistoric site with additional research potential should contain datable subsurface deposits and be able to address one or more of the following broad based research themes: chronology; land use patterns; site structure; and trade and exchange. The four broad themes center on research issues that may help illuminate prehistoric occupation and land use for central Nevada over time.

Chronology

One of the more critical data classes for reconstructing prehistoric human activities, land use patterns, and ultimately, behavior, is the establishment of a chronological sequence. Chronology is the most important and basic research issue in any region, particularly in relation to questions involving human adaptation to changing environmental, technological, and population dynamics. Chronological placement allows for the definition of different prehistoric periods or trends in a region over time critical to our understanding of the past. A number of projectile point types and series are generally accepted as reliable chronological indicators, although testing with other datable deposits and relative obsidian hydration results are also contributors to our understanding of a site's chronology (Beck and Jones 1994; Hockett 1995). Secure dates on sites, features, and artifacts provide the basis for developing chronologies capable of being used for both temporal and regional comparison. The lack of high-resolution chronological data is commonplace in the Great Basin with the temporal associations of most sites having been assigned from the analysis of diagnostic artifacts particularly projectile points from surface assemblages. What are needed for control are secondary sources of chronological data that could refine the relative projectile point sequences.

Although all periods associated with the local chronological sequence are in need of additional refinement, there are three major unresolved chronological issues associated with transitions in the archaeological record including: (1) the nature of the Late Pleistocene Early Holocene transition

for the Great Basin; (2) the appearance of Early Archaic Elko and Gatecliff forms may occur earlier in the eastern Great Basin than in the west; and (3) the Numic expansion. There are few unambiguous time markers dating to the Early Holocene transition, as a result most other aspects concerning the early occupation in the Great Basin are not well understood. The major issue that compounds the difficulty in our understanding of the Pleistocene Early Holocene transition is relevant diagnostic artifacts associated with the Late Pleistocene were also utilized through the Early Holocene. Additionally, large side-notched points and Gatecliff points (including Pinto) first used during the Early Archaic persist into the Middle Archaic and are sparsely represented in the record. This is not only a local issue of relative importance for the Early Holocene is poorly understood across North America and any knowledge we can contribute to this little understood period in North American prehistory could constitute a significant contribution.

To substantiate or refute the theory of Numic expansion there is a need to distinguish ethnographic or Northern Paiute related sites or occupations from other late prehistoric sites within the local archaeological record. Archaeological sites that can be considered Northern Paiute are few, for the period is difficult to identify archaeologically. One of the few diagnostic artifacts conclusively associated with the Northern Paiute may be pottery, in the form of a locally made Intermountain Brownware. Late prehistoric projectile points such as Desert Side Notch and Cottonwood Series may also be potential indicators of a Northern Paiute occupation; however, it is sites that are associated with the period just before contact that are needed. The timing and position of the arrival of certain artifacts, features, or site types attributed to the Northern Paiute may help substantiate or refute the theory of Numic expansion.

Projectile Points

There are a number of research issues surrounding Pleistocene adaptive strategies and the nature of the transition to the Holocene, and the timing of the arrival of Middle Archaic point types from the eastern Great Basin. Major issues that compound the difficulty in our understanding of the Paleoarchaic are relevant diagnostic artifacts associated with the early Holocene overlap with the preceding Pleistocene. Concerning the Middle Archaic transition, large side-notched points, Gatecliff, and Pinto points first used during the Early Archaic persist into the Middle Archaic and are sparsely represented in the record.

Point types for central Nevada have been sequenced by David Hearst Thomas at Gatecliff Rockshelter (Thomas 1981). The sequence suggests local date ranges for Archaic points for the western Great Basin may be significantly later than for the eastern Great Basin with gradual diffusion of Early Archaic Elko and Gatecliff forms to the west by the Middle Archaic (Hockett 1995:41). Elko points recovered from Danger and Hogup caves reveal the presence of Elko points in the Bonneville Basin as early as 8,000 years ago, nearly 5,000 years earlier than at Gatecliff Rockshelter (Hockett 1995:43). An obsidian hydration analysis of 109 projectile points from northeastern Nevada reveals Elko and Split Stem or Pinto forms may have been in the Bonneville Basin region as early as 8,000 years ago (Hockett 1995). The presence of these point types at Gatecliff between 5,000 and 3,300 supports the theory of gradual diffusion of these forms from the east. The identification of these forms in the landscape can serve as an important indicator. By identifying the source material and hydration readings independent verification of the date ranges of use for individual point styles can be refined and is the only way to substantiate or refute the theory of gradual diffusion from the east for the Elko and Split Stem forms.

Research Questions and Data Requirements

To address a site's chronological placement diagnostic artifacts, a number of obsidian artifacts, or datable features would have to be present. Chronological information is paramount to address questions associated with reuse/reoccupation over time and to distinguish temporally specific activity areas from one another on multi-component sites as well as identifying diagnostic patterns associated with land use, site structure, patterns of trade and exchange, and changes over time. The lack of chronometric data for small non-diagnostic lithic scatters makes it impossible to place a site's prehistoric occupation within any of the regional periods. However, all too often sites contain additional buried deposits in the form of artifacts and potential thermal features that could address chronology. In this instance, the site retains additional information potential or integrity in the form of buried deposits. This is why prehistoric sites are often evaluated under Criterion D. For a site to be considered eligible, it should have the potential to refine local diagnostic projectile point sequences and be able to address important chronological research issues for the area. An eligible site should possess a chronometric association and be able to address at least one of the last two research questions presented below:

What is the time frame for the sites and do they represent a single occupation or reoccupation of the same area over time?

Are there fire hearths or intact subsurface deposits with diagnostic artifacts, projectile points or ceramics that could provide independent verification and refinement of current chronological sequences?

Does the site contain a large enough sample of obsidian artifacts, either projectile points or flakes, which could provide independent chronological data in the form of obsidian hydration analysis?

A site's mere association with diagnostic artifacts is not enough to consider a site eligible to the NRHP. A site will also need a secondary source of chronometric data that can verify the relative time markers. Sites or site types with the potential to address chronological research issues are those with the potential to provide any of the following: projectile points, ceramics or other datable cultural material from a single occupation or activity area in association with a secondary chronometric indicator. The addition of dateable artifacts beyond those found on the surface such as radiocarbon samples, stratified cultural deposits, or a sample of obsidian for hydration studies are needed. The presence of datable feature deposits in direct or close proximity to projectile points would be ideal for addressing the outlined chronological related research issues such as the current theory of diffusion of Early Archaic Elko and Gatecliff points across the Great Basin from the east.

Land Use Patterns

Land use patterns relate to a prehistoric population's land use strategy. This is a broad category that includes but is not limited to issues of settlement, subsistence, and material production including lithic procurement. The research theme is based on the assumption that prehistoric activities have a direct relationship to landscape features and resource distributions. Binford's (1980) model of foraging and collecting hunter-gatherer land use systems figures prominently in Great Basin archaeology as research has attempted to interpret variation in settlement patterns across both space and time. It is assumed landscape use is tied to the spatial position of key

resources such as toolstone, water, game, and vegetation communities on a landform. The position of these key resources is potentially reflected in patterns of site type or use and distribution important to our understanding of resource acquisition strategies and mobility patterns and how they change over time. Hunter-gatherer land use systems are dynamic, changing in response to shifting environments and social factors such as population growth, movement, and territorial restrictions. The interpretation of land use is dependent on our understanding of how a site is used such as whether it is a habitation site or a satellite site, a short-term encampment for the procurement or processing of resources on a seasonal basis. A site must be able to provide data that can answer some of these basic questions such as what types of activities are represented at the site and how it compares to other sites in the area or relevant region or territory.

Obsidian sourcing and hydration studies have gained in importance in the Great Basin for it is prevalent at sites in northern Nevada and can provide both a source location on the landscape and temporal data important for addressing settlement mobility and changes over time. Obsidian sourcing and hydration analysis can contribute valuable data concerning broad land use patterns. However, we must be careful in our interpretations for the tracing of obsidian artifacts to a specific source can reflect either direct procurement by site occupants or acquisition through trade.

Key to our understanding of land use practice is our need for reliable information on the different periods' subsistence practices. The interpretation of land use strategies based on the distribution of lithic tool sources and analysis of their use alone is not adequate. However, almost no direct data concerning prehistoric subsistence has been recovered in the archaeological record for the Great Basin. Interpretation of subsistence practices has been largely reliant on indirect evidence such as the analysis of projectile point sequences and associated tools including the presence or absence of groundstone artifacts to infer a reliance on vegetal food or the processing of seeds.

Land Use Patterns Property Types

Property types associated with land use include a wide variety of sites associated with single component lithic scatters to complex sites containing artifacts and features that have built up over time. Some of the more obvious activities that can be identified during a surface inspection include quarrying, tool manufacture or maintenance, hunting and the processing of vegetal food stuffs by the presence of projectile points, groundstone, food caches or other tools diagnostic of a particular type of behavior or task. Site types can be identified as satellite sites, single or multiple use episodes, or a more permanent habitation locale such as a base camp or habitation site where a population may congregate during winter months. Satellite sites are often associated with direct resource procurement. Base camps or habitation sites are in general more of a built up environment typically reoccupied over years. A greater range of activities should be present as well as more permanent types of features such as fire hearths and evidence for more substantial structures that could protect the population from winter cold. Site types include some of the more common or familiar types of patterns that can be discerned in the archaeological record that directly relate to a type of task or activity. These various site types include: (1) quarry; (2) tool production or maintenance, (3) hunting or butcher site; (4) vegetal procurement; (5) a base camp; or (6) habitation site where a range of repetitive activities are often represented. The same type or related activities can take place either at a satellite site or at a more established camp. Resources are often procured and then brought back to a base camp or habitation site where they could be further worked or refined, stored, or consumed.

In addition to the identification of potential site types, the position of a site on the landform must also be considered. The position of the different site types and their relative frequency must be identified for each time period so general land use patterns can be identified and changes over time. The location of sites as they relate to landform type, slope, vegetation type and other potential valuable landform related data is critical to our understanding of how a landscape was utilized.

Research Questions and Data Requirements

Sites addressing questions in this research domain must contain sufficient data about the site's function and resource use. A site's significance cannot be addressed by itself but must be compared to the region as a whole and its ability to contribute to our understanding of land use patterns for northwestern Nevada. A site must have a chronological placement to be identified to a specific prehistoric period and be directly compared to the occupation of other sites in the region with temporal associations. For a site to be considered eligible under this research domain it must contain task specific artifacts or tools and or features with chronological indicators and be able to address at least the first of the following important research questions that relate to land use patterns:

- 1. Are there tools or features at a site that might reveal task specific activities or potential site types and be able to contribute to our understanding of local land use strategies by offering new or additional data for the regional prehistoric sequence?*
- 2. Does the site contain local obsidian materials from one of the nearby obsidian sources in northwestern Nevada defined by the Northwest Research Obsidian Studies Laboratory or does it include preferred or exotic materials that could potentially be sourced from outside of the region?*
- 3. Can changes in mobility strategies through time be identified by comparing the representation and lithic reduction strategies of local and non-local toolstone sources?*

The variety of tool types within the assemblage can offer data about the types of activities and resources targeted while subsistence activities can be identified directly from floral and faunal remains obtained from cultural features. Sites with large, moderate, and small assemblages containing at least one tool and debitage are needed, as are sites containing obsidian artifacts, especially projectile points, suitable for sourcing studies. Quarry sites should include the presence of lithic raw material as well as the presence of cores, early-stage reduction, and broken blanks or bifaces being shaped for transport. Sites containing groundstone, hunting blinds, tools or pinyon caches, or spatial patterning would also help address questions associated with land use patterns, particularly with subsistence. For a site to be identified as a base camp or habitation site it must contain evidence for structures or other features typical of a base camp or built up environment such as fire hearths, midden deposits, or large concentrations of artifacts. Sites may also have evidence for spatial patterning suggesting a wider range of activities to have taken place at the location over a length of time to establish some sort of permanence on the landscape.

Sourcing data in conjunction with the identification of lithic technology, including relative stages of reduction for material types is also important to our understanding of mobility patterns and changes over time. A high degree of use of localized material sources would suggest more limited mobility whereas the presence of exotic materials from more distant sources tends to be more reduced and curated. Local materials usage can be identified by the presence of quarry sites with lithic raw material. Material type assemblages that are characterized by early-stage reduction techniques typically occur in close proximity to sources. There are no obsidian sources in close proximity to the APE. The closest are at Fredonyer Peak and Buffalo Hills north of the APE 50 miles (Northwest Research Obsidian Studies Laboratory 2021).

Site Structure

Site structure relates to how a site or area has been utilized and is fundamental to our understanding of land use patterns. This research theme is valuable to our understanding of prehistory for its ability to interpret how resources were utilized and deposited or discarded on the landscape as it relates to different types of behavior. Important issues associated with this research theme for the Great Basin is with small sites that are defined by only a few formed tools. Small sites have traditionally been deemed insignificant since it is assumed they represent short stays with little potential in regard to chronology and settlement issues. However, small sites constitute the bulk of the archaeological record, are typically associated with a single task activity, and excavations at some small sites have yielded datable hearth features or additional diagnostic artifacts not noted during surface inspection.

Larger sites typically represent a range of different activities over time and materials from different time periods that can overlap at the same location within a site forming artifact concentrations or middens. Activity areas, often spatially discreet at the time of an occupation, can become focal points for the discarding of refuse during later occupations. While the various site types in the Great Basin are in need of identification and additional refinement habitation sites are critical to our understanding of land use patterns for each major prehistoric period. One of the more critical research issues for the Lahontan Basin area and the Great Basin overall is the general lack of pre-Archaic habitation sites identified in the archaeological record, along with long distance tool source procurement as an important indicator for a high degree of residential mobility.

Research Questions and Data Requirements

A discussion of site structure should include a discussion of potential feature types as they relate to the inter components of a site. Activity areas can be manifest in the record of a site in many forms represented by a series of different feature types but most often by concentrations of artifacts and their relative position within the site. The type of artifacts associated with a concentration can be indicative of a particular type of activity. For smaller sites a concentration comprised primarily of lithic debitage may be an example of a single reduction event where materials was reduced or worked and left in position. In contrast to larger sites spatial use may be more organized with activities being routinely cleaned and discarded in an organized location. Concentrations in this case could include a range of different types of artifacts and may include the presence of charcoal and or ash from cooking activities forming a midden deposit over time. Other types of features characteristic of task specific or related activities could include fire hearths, structures, or caches. A small site that lacks any evidence for internal special patterning shall not be considered eligible. Only sites that contain spatial patterning should be considered and be able to address at least one of the following related research questions:

1. *Are there patterns associated with the placement of artifacts or features at a site?*
2. *Do various types of sites contain the assemblages and facilities predicted in settlement models for each period?*
3. *Can site typologies be refined into more discrete behavioral units?*
4. *Are there habitation sites present?*
5. *Are there unique patterns associated with each site type attributed to the different periods of prehistory?*

Various types of datable sites with discrete clusters of artifacts, sites located in good depositional environments that retain integrity in the form of subsurface cultural material, and sites that appear to represent single occupations or activity areas on larger sites that can be isolated as single use events are needed to address this little understood research issue.

Trade and Exchange

This research issue relates to the identification of and distribution of trade goods both within and between regions. Trade relationships within the Great Basin itself are distinguished by a variety of regional goods. Extra-regional trade goods are rare and could include Pacific Coast shell beads and pendants, turquoise from Arizona and possibly central Nevada, and Anasazi ceramics. For small sites with limited artifact assemblages, task specific activities often do not contain data associated with trade and exchange beyond the identification of potential material sources for lithic technology. A significant problem with identifying trade and exchange in the archaeological record for the Great Basin is Archaic groups appear to have predominantly used locally available resources, resulting in limited information regarding trade relations with other regions. Local exchange is more likely and could be represented by inter-valley, nearest neighbor encounters. Regional exchange may be represented at lithic scatter sites as material from regionally important quarries were traded over large areas.

One commonly employed method of identifying trade and exchange is through the identification and tracking of tool sources such as chert and obsidian. However, the resulting data is often more relevant to the discussion of land use patterns. Existing studies of toolstone transport suggest tool size decreases and late stage lithic reduction strategies can increase with distance from sources. Since site assemblages in the Great Basin are dominated by the presence of stone tools and waste flakes, toolstone sourcing studies, lithic reduction sequences, and tool use is typically the only method available when trying to address issues associated with trade and exchange. The tracking of source material is not necessarily the best data for identifying issues associated with trade and exchange for it is often difficult to determine if the resources were traded within a prehistoric group's territory or between territories, which more specifically addresses issues associated with residential mobility.

Data Requirements

For a site to be considered eligible under this research issue, it must contain exotic forms of trade items that would have come from outside of the occupants' traditional territory such as shell beads,

turquoise, ceramics or other exotics. For the prehistoric period where ethnic identity or cultural affiliation is difficult to determine, this would include the presence of any artifact whose material or construction originates archaeologically outside its sphere of influence or subarea as defined by Jennings (1986). For a site to be considered eligible under this research theme, it must be able to address one of the following research questions pertaining to trade and exchange:

1. *Does the site assemblage contain exotic forms of trade items that would have come from outside of the occupants' traditional territory such as shell beads, turquoise, ceramics or other exotic.*
2. *Is there evidence for the presence of exotic toolstone or other evidence of non-local material use at the site that originates outside the traditional region or sphere of influence?*

Prehistoric Site Evaluation

Due to the lack of written records, prehistoric sites cannot be evaluated under Criterion B with most sites being evaluated under Criterion D. Criterion C could potentially apply if prehistoric sites within the project area and region contain unique built up or engineered features associated with a specific site type; however, feature and site types that could potentially be evaluated under Criterion C have not currently been identified for northwestern Nevada. Therefore, prehistoric resources are more likely to be evaluated under Criterion D for a site or resource's ability to provide important understanding to prehistory.

Criterion A: A site could potentially be associated with this criterion if a site can address any of the important research themes outlined above as they relate specifically with an important transitional period. Sites that represent the introduction of dart points during the transition from the Paleoarchaic to the Archaic or represent the first known use of a diagnostic artifact type, unique feature type, or site type would represent a major shift in land use strategies, site patterning or introduction of a trade good and would mark a significant event in prehistory.

Criterion C: Potentially eligible sites under this criterion relate to the prehistoric research themes of land use patterns and site structure. If a unique or well represented example of a diagnostic trend in site layout or site patterning is evident or if a good example of a unique feature type not well represented elsewhere is present then the site may be considered eligible.

Criterion D: This criterion is the most broadly applicable category. The resource should be able to address the major research themes and issues outlined for the prehistoric period. It must have a chronometric association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicator that can verify relative chronologies. However, few prehistoric resources have been identified for the region of central Nevada and almost any site with a temporal affiliation has the potential to contribute significantly to our understanding of the local prehistoric sequence.

Although a site might not be remarkable or significant by itself with so few prehistoric sites identified in the local record, almost any prehistoric property types identified during the project with a chronometric association could be considered a significant contribution to our

understanding of the local prehistoric sequence. Sites with both a chronometric and property type association offer the best potential for addressing important research themes and questions outlined in the context section of this report. Sites associated with short time periods or transitional periods such as the transition from the Late Pleistocene to Early Transition during the Paleoarchaic or theory of Numic expansion are of particular significance since they are the most underrepresented in the archaeological record and most poorly understood periods of prehistory.

History

The background search suggests historic resources most likely to be encountered would relate to historic “transportation” and “agriculture” related themes as outlined in the NR Bulletin 15 (NPS 1995). Although, the Nobles section of the route passes through Honey Lake basin it was significantly further north and west of the APE. The Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road is located a few miles south of the APE resources attributed to early exploration and settlement are not expected within the direct APE. Therefore, the following discussion presents data requirements developed to facilitate the evaluation of the significance of transportation and agricultural related historic resources for nomination to the NRHP.

Transportation Property Types Evaluation

This research theme includes systems associated with the long-distance transport of people or commodities between different regions or communities. Shorter routes such as driveways, turnouts, ore tracks, ranching field roads, short paths, etc. are considered a feature of a site and are assessed as property types under the sites particular research theme such as mining or agriculture. The kinds of sites associated with transportation corridors include trails, wagon roads, highways, and railroads. The Western Pacific Railroad’s Feather River Route (S2852/D352), an extensive transcontinental transportation feature is within the APE and still in use. Some typical property types attributed to a railroad include ballast material, borrow pits, construction/work camps, hill cuts, fill or elevated roadbeds, grade line, parks, telegraph or telephone line, railroad yards, roadbed, shoo-fly’s, sidings, snow sheds, spurs, stockyards, town plans, tunnels, and access roads (Bernstein and James 1989:8-40-41). Ballast is made of crushed stone, gravel or cinder. It is placed on top of a roadbed and beneath track. Ballast is used to support the load of the track and train and distribute the weight evenly to the foundation. A siding is a track of various length that is connected to one or both ends of the main track and used to "side" cars when not use or as switch. A shoo-fly is a temporary segment of passage of construction that allows trains to pass until the completion of the permanent grade. A cut is utilized, to go through terrain obstacles like hills or cliffs. Construction related workcamps are common along railroads. The types of diagnostic artifacts or hardware attributed to railways include rails, rail fasteners, rail cars and engines, railroad ties, and related hardware such as bar bolts, track bolts, rail braces, and tie plates, or switches.

To address research questions an overall background review was developed to determine construction dates for the line and roads, how it was used through time, and use demand and need. Additionally, association with important figures was also addressed, such as the railroads founder George Gould. It is then necessary to research specific research concerns for the railroad within the project area. This includes integrity and modifications to the line and features, the Calneva Station history and use, people affiliated with the area, and any unique elements to railroad within this section.

Criterion A: The resource should be clearly related to an important railroad line or road that connected with other communities and ultimately the world or have importance within the community.

Criterion B: The resource should show evidence linking a road and/or railroad to an important person's significant achievements.

Criterion C: The resource should be a segment to a system that shows innovative or unusual construction techniques.

Criterion D: The resource should contain information that can address research issues important in the history of railroads. The resource should address one or several research questions listed below:

Research Questions and Data Needs

Do work camps exist, and if so, what do they tell us about construction and/or maintenance techniques and the workforce? Is there evidence of specific ethnic groups at these camps?

If the workcamps exist then what are they utilized for and do the material remains inform on when and how long they were used?

Do the railroad features reveal information about construction dates and techniques, or integrity of the line?

Do any of the features, and remains provide significant new information for the overall railroad transportation system?

A railroad should display sufficient integrity to discern construction methods and maintenance techniques and lack vandalism or other damages. According to the State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada State Historic Preservation Office (2012a:43-44), maintenance that is not consistent with its historic use compromises the integrity of a historic resource. For railroads this would be the in-kind replacement of ties, rails and switching facilities and for roads this would be the same kind of repairing, grading, and cleaning of roads. Upgrades to features such as culverts or replacement of elements such as railroad ties alter this integrity. Railroads are often evaluated by segment as non-contributing to the site due to the lack of integrity of original features.

Telegraph/ Telephone

The telegraph and the railroad were natural partners in commerce. The telegraph needed the right of way that the railroads provided, and the railroads needed the telegraph to coordinate the arrival and departure of trains. Western Union controlled the telegraph market by being one of the first telegraph companies in the United States to use railroads to establish their lines. Railroad companies provided a protected route for telegraph lines while at the same time the telegraph system was used by the railroad to promote safe travel (Johnson 2006:5, 21). The remains of utility lines can include all aspects of the system, from the point of origin to its delivery to the customers (Johnson 2006:62). This includes the standing, cut or fallen poles, wire, insulators, brackets or cross-arms, and hardware, as well as temporary construction camps and access roads built solely for the utility lines. Telephone lines used mostly glass insulators, but rural lines may have had a variety of insulator materials. Galvanized wire appeared on earlier lines, while copper wire was often used on later period lines.

Criterion A: The resource should be clearly related to an important utility line, newspaper, or mail service that connected major cities or metropolitan areas with each other.

Criterion B: The resource should show evidence linking a utility line or communication system to an important person's significant achievements.

Criterion C: The resource should be a segment to a system that shows innovative or unusual construction techniques.

Criterion D: The resource should contain information that can address research issues important in the history of utility lines and communication. The resource should address one or several research questions listed below:

Research Questions and Data Needs

Do the physical characteristics of the property provide information about its construction and maintenance?

Is there evidence of equipment used to build and maintain the line?

Is evidence of innovative construction techniques evident, such as methods of dealing with rough terrain?

The remains of a communication or utility line should have enough of the line (standing line to occasional stumps and linear scatter of insulators and wire) to discern construction methods and maintenance techniques. The use of a line is often ephemeral and leaves few physical traces. The line should not be altered by vandalism, removal of poles, or removal of insulators. In general, a utility line should be considered a linear feature of a larger system and should be evaluated as part of an entire utility system under Criteria A and B. The recorded portion within a project area should be evaluated under Criteria C and D for that segment only as a contributing or non-contributing element of the entire utility system. The rest of the system should be left unevaluated. With reference to Appendix E of the State Protocol Agreement (BLM 2012a) "a segment of a telecommunication or utility line should be considered categorically not eligible if the line is not datable and lacks unique engineered features associated with the segment."

5. ENVIRONMENTAL BACKGROUND

Important to our understanding of the archaeological record and adaptation is a background on the local flora and fauna, climate, and geology. The project area is within the Lahontan Basin within the far eastern part of Honey Lake basin. Topography ethnographically and historically Honey Lake basin is part of the Intermountain Region (Middleton 1963:1). Honey Lake basin is the division between the Sierras to the south and the fault block ranges or Basin and Range province to the east (Middleton 1963:12-14). The Sierra's effectively block moisture from the Pacific, as affectively as it did early communications and transportation. 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. Located along the Honey Lake Fault Zone, the geographical landscape within the project lease area is flat with an average elevation of 4,000 feet above mean sea level (msl). The area offers a unique geographical combination of high-altitude desert playa, mountainous areas, and narrow, steep cut canyons; located in the northwestern shrub-steppe ecoregion of the Great Basin north of Reno.

The closest town is Doyle, California located approximately 14 miles west. The APE is remarkable flat. The lowest part of the APE is in the north where the project is bisected by the Union Pacific Railroad at 3,995 ft above mean sea level (AMS). The highest point is at the southern end of Rainbow Way at the intersection with Fish Springs Road at close to 4,000 ft ams. The valley has a dry climate with a winter moisture regime and dry summers. Heavier moisture is characteristic of the western part of Honey Lake basin with the eastern much drier (Middleton 1963:16-17). Cold winters are characteristic of interior ranges with the climate becoming dryer and seasonal temperatures ranges larger eastward across Honey Lake basin. The nearest climatic data available for the project area is from Doyle, California (Western Regional Climate Center, 2021). The project lease area receives an average of 10.69 inches of water a year and has an average high temperature of 93.4 degrees Fahrenheit in July and 41.7 degrees in January (Table 1).

Table 1. Period of monthly record: 5/01/1959 to 6/30/1977 for Doyle, California.

Averages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temp (F)	41.7	47.6	56.3	65.1	74.0	82.7	93.4	91.6	82.4	69.7	53.9	43.5	66.8
Average Min. Temp (F)	20.1	24.3	28.0	32.6	38.3	43.4	48.8	46.4	41.1	33.8	26.1	21.4	33.7
Average Total Precip (in.)	1.80	1.39	1.15	0.62	0.62	0.53	0.25	0.22	0.36	0.76	1.25	1.73	10.69
Average Total Snow (in.)	5.6	3.7	3.5	1.8	0.6	0.0	0.0	0.0	0.1	0.2	2.0	5.0	22.6

Geological Setting

Honey Lake basin is a large, closed area of approximately 2,378 square miles (Middleton 1963:7-10). It is the terminal sink for the Susan River draining from the west and Long (Valley) Creek, draining from the southeast as well as numerous unnamed ephemeral washes. Honey Lake is an alkali lake or intermittent body of water located approximately 8 miles west of the APE that occasionally goes completely dry (Middleton 1963:2). When filled it contains a shallow body of turbid alkaline water about 100 square miles in extent. At an elevation of less than 4,000 feet msl, Honey Lake fluctuates greatly in area and volume. Historically, it was full at 135 square miles in 1853/55, then completely dry in 1859 and 1863, and then covered 90 square miles in 1867. Its maximum depth was calculated at 1.5 feet in 1877 and 4 feet in 1882 (Purdy 1989).

Soils

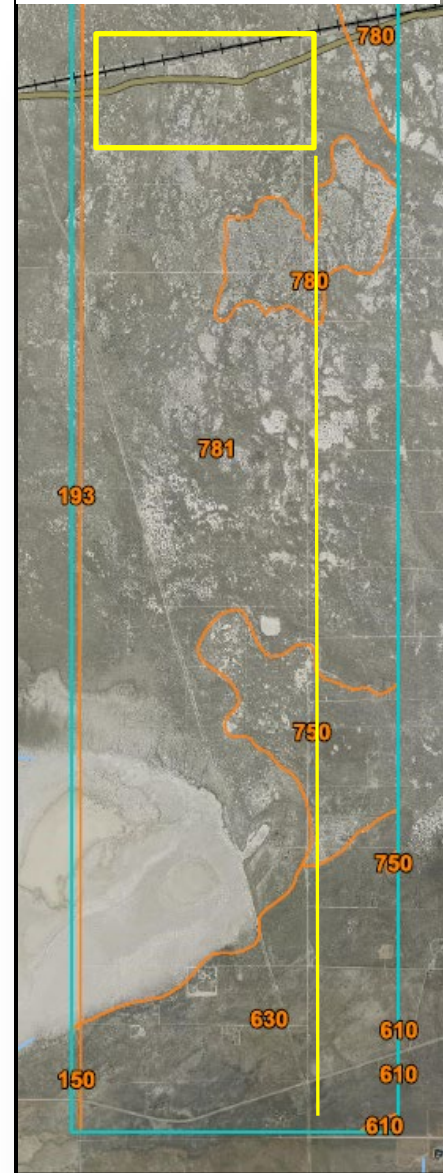
The level portion of the valley is lacustrine sediments that at one time were an arm of ancient Lake Lahontan, which covered a large area of the Great Basin in eastern Nevada and adjacent parts of California (Middleton 1963). Sediments of the valley floor are typical stratified lacustrine deposits washed in from the surrounding mountains and mixed with volcanic ash deposited on the old lake surface (Middleton 1963:11). The texture grade from silts and fine alkaline clays in the center of the valley to sands and coarse gravels next to ranges. Soil material in the eastern part of Honey Lake basin is derived from basaltic and andesitic rocks. The basin also contains areas of aeolian deposits. Due to aridity or low rainfall has an almost complete absence of soil leaching (Middleton 1963:20). The United State Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS 2021) categorizes a series of five separate soil types within the APE (Table 2; Figure 5).

Table 2. Soil unit descriptions.

Map Unit Symbol	Map Unit Name
610	Haybourne-Mottsville-Incy association
630	Chappuis sandy loam
750	Gitakup-Tresed-Ragtown association
780	Chuckles-Playas complex
781	Chuckles-Ragtown-Playas complex

The Haybourne-Mottsville-Incy association is described as typical lake terraces, lacustrine deposits and includes alluvium and eolian deposits derived mainly from granitic rocks. The salinity of the soil varies from non-saline to very slightly saline. The association has 6 to 9 inches of annual rainfall with a mean annual air temperature between 49 to 52 degrees Fahrenheit. There are 100 to 130 frost free days. The remaining soil types are strongly saline soils typical of lake

Figure 5: Soil Map.



plains and lacustrine deposits soils vary from a silty clay to a silty clay loam. The soils are well drained with the exception of Ragtown soils described as poorly drained playa sediments.

Flora and Fauna

While forests characterize the western part of Honey Lake basin brushland and open grassland dominate the eastern part of the basin (Middleton 1963:22). In better soils big sagebrush (*Artemisia tridentata*), and two sagebrush (*Artemisia tridentata*) variety (*arbuscula*) combined with bitter brush (*Purshia tridentata*). Two other varieties of sage are in lower areas with poorer quality soils including the bud sage or spiney sage (*Artemisia spinescens*) and silver sage (*Artemisia cana*). On the margins of salt flats can be found greasewood (*Sarcobatus vermiculatus*) and rabbit brush (*Chrysothamnus nauseosus*). Grasses include cheat grass or downy brome (*Bromus tectorum*) and various types of bunch grasses; Idaho fescue (*Festuca idahoensis*), bluestem wheat grass (*Agrophyron spicatum*) and squirrel tail (*sitanion hystrix*).

6. EXPECTATIONS

This chapter presents the results of a background literature search for the area concerning past archaeological projects and previously recorded sites in addition to an archival search of General Land Office (GLO) plats, historic topographic maps, historical indices, master title plats and federal and state patent records using the BLM Public Land Records website (Bureau of Land Management - General Land Office [BLM-GLO] 2021). A search of previous archaeological and architectural investigations, and previously recorded and evaluated properties, within one mile of the APE was performed using the Nevada Cultural Resource Information System (NVCRIS) electronic database on April 8, 2021. In addition, the NRHP was consulted for significant properties in the project vicinity and a review of existing historic contexts related to the project area was also conducted. The Nevada Historical Society Research Division was contacted for historical records and photos of the APE and Honey Lake basin in addition to a search of the Washoe County Library. Resources were used to predict the frequency and kinds of cultural resources that would be expected as well as for defining the cultural history of the project area. The data is presented below in the following discussion concerning previous archaeological research, and field expectations.

Cultural Resources Records Search Results

The NVCRIS search revealed within one mile of the project area seven prior archaeological inventory projects (Table 3), and three previously recorded archaeological sites (Table 4). The three sites are located at the far southern extent of the project area. Site 26Wa5578 is a large prehistoric artifact scatter which bisect the south end of Rainbow Road and can be found within the direct APE. The site has not been evaluated for listing with the NRHP by the SHPO. The other two sites occur well outside of the direct APE to the southwest and include a road with a fenceline (26Wa9445) and a small prehistoric artifact scatter with debitage and groundstone (26Wa6191). A search for currently listed NRHP properties did not identify any within eastern Honey Lake basin.

Table 3. Previous archaeological inventory projects within one mile of the APE.

BLM Report No.	Title	Date & Author
242	Pumping Station and Ancillary Facilities: An Addendum to: A Class III Inventory of the North Valleys Rights-of-Way Project, Washoe County, Nevada	2006, Hutchings, James
16-750	Altuas 345 KV Transmission Line Corridor, Cultural Resource Inventory, Phase I, Class III Survey and Preliminary Evaluation of Cultural Resources	1996, Kautz, R. and J. Hutchins
16-751	Cultural Resources Assessment Report: Tuscarora Pipeline Project: Phase I" Survey, Inventory, and Preliminary Assessment of Cultural Resources	1994, Price, B
7494	An Addendum to a Cultural Resource Inventory of Approximately 12.3 Miles of Transmission Line for the Plumas-Sierra Fort Sage to Herlong 120 kV Interconnection Project in Lassen County, California and Washoe County, Nevada	2010, Ringhoff, Mary et al
32482	A Class III Inventory for the US Gypsum Empire Natural Gas Pipeline, Washoe County, Nevada	1997, McNeese, L.

BLM Report No.	Title	Date & Author
19545	A Class I Literature Search for the Tactical Vehicle Off-Road Operations Project in Churchill, Storey, and Washoe Counties, Nevada	2013, Webster, Chris
27003	Class III Cultural Resources Inventory Report for the Fish Springs Ranch Solar Energy Center Project, Washoe County, Nevada	2020, Giancinto, Adam et al

Table 4. Previous recorded archaeological sites within one mile of the APE.

Trinomial 26	Temporal affiliation/type	Description	Eligibility Status
*WA5578	Prehistoric	Large prehistoric artifact scatter	Unevaluated
WA9445	Historic	Road and fenceline	Ineligible
WA6191	Prehistoric	Lithic and groundstone scatter	Eligible

* Sites located within current project area.

Archival Research

A search for archival resources pertaining to the APE was conducted of historic GLO and USGS maps, and historical indices. The search revealed two GLO map dating to 1873 and 1881 for Township 26 North, Range 18 East and two historic USGS quadrangle maps dating to 1964 (Table 5). The GLO maps depict the same information. There is nothing in the immediate project area (Figure 6). Some old roads are depicted in the south part of the valley, southeast of the project area at least a mile that are related to the Reno-Fort Bidwell Road in use in the 1870s. The 1964 Flannigan, NV-CA and 1964 Silver Peak, NV 1:24,000-scale topographic quadrangle maps depicted a couple of roads within the APE including Rainbow Road. Rainbow Road is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29 (Figures 6 and 7).

Table 5. Historic Maps.

Historic Maps	OBSERVATIONS
1873 & 1881 GLO Maps, Township 26 North, Range 18 East	Both maps depict the same information. There is nothing in the immediate project area. Some old roads are depicted in the south half of the Township and Range, southeast of the project area at least a mile. This likely the
1964 Flannigan, NV-CA 1:24,000-scale topographic quadrangle map	There are few man made features in the project area. The route of the Western Pacific Railroad and a road that somewhat parallels it to the south.
1964 Silver Peak, NV 1:24,000-scale topographic quadrangle map	The map reveals a few roads in the project area. Rainbow Road is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29.

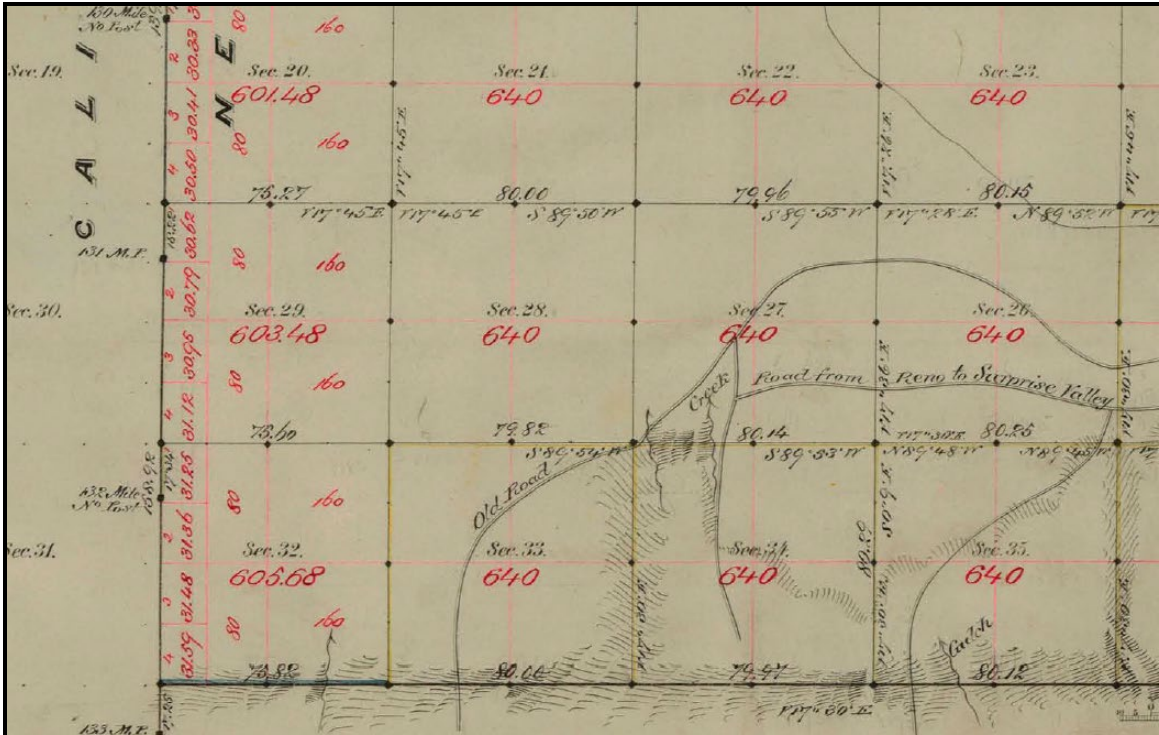


Figure 6. Township 26 North, Range 18 East. February 5th, 1881.

Figure 7: 1964 Flannigan, NV-CA
1:24,000-scale topographic
quadrangle map.

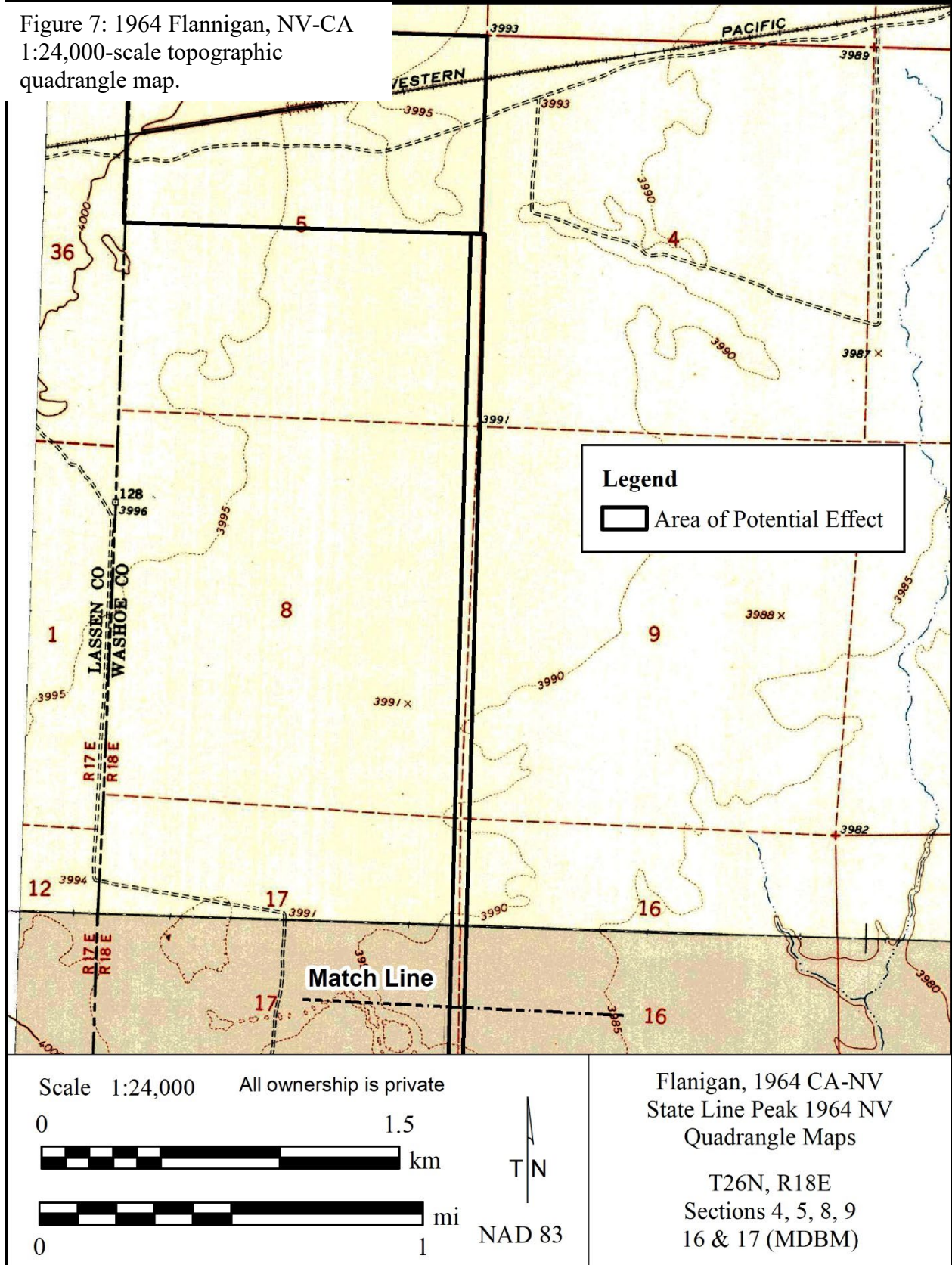
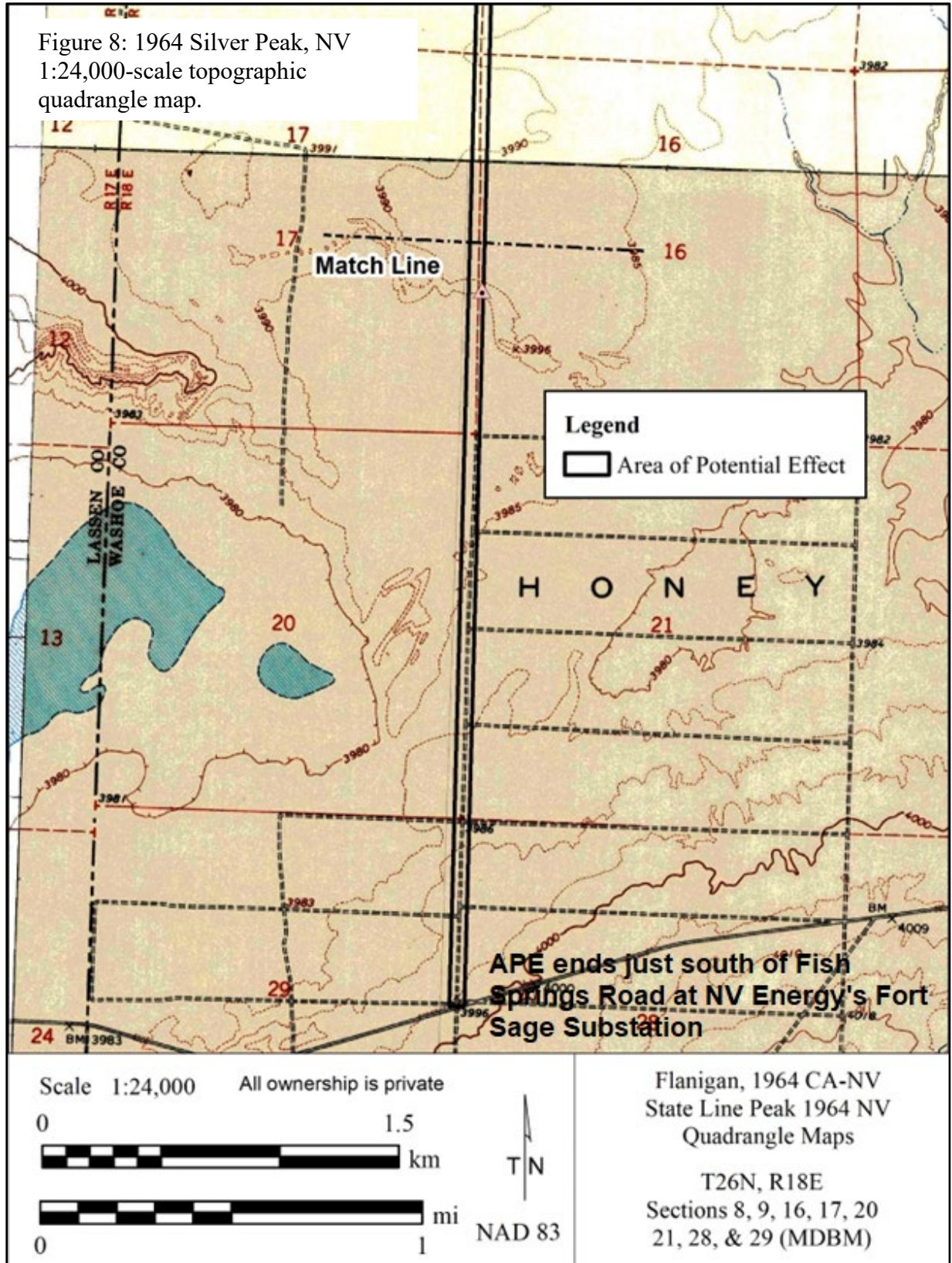


Figure 8: 1964 Silver Peak, NV
1:24,000-scale topographic
quadrangle map.



Scale 1:24,000 All ownership is private



Flanigan, 1964 CA-NV
State Line Peak 1964 NV
Quadrangle Maps
T26N, R18E
Sections 8, 9, 16, 17, 20
21, 28, & 29 (MDBM)

Native American or Tribal Consultation

As recommended by the Nevada, SHPO, Utilizing Tribal Directory Assessment Tool (TDAT), Mesa Field Services identified a total of eight entities with concerns or interested parties in Washoe County (Table 6). The tribes will receive copies of draft and final reports for review.

Table 6. Tribal consultation:

Tribal Name	Contact	Address	Phone	Email
Reno-Sparks Indian Colony, Nevada	Michon Eben THPO	98 Colony Rd. Reno, NV 89502	(775) 785-1326	meben@rsic.org
Paiute-Shoshone Tribe of the Fallon Reservation and Colony, Nevada	Len George Chairperson	565 Rio Vista Dr. Fallon, NV 89406	(775) 423-6075	chairman@fpst.org
Washoe Tribe of Nevada and California	Serrell Smokey Chairperson	919 Highway 395 N Gardnerville NV 89410	(775) 265-8600	serrell.smokey@washoetribe.us
Fort McDermitt Indian Reservation, Nevada and Oregon	Maxine Redstar, Chairman/ Administrator	PO Box 457 McDermitt NV 89421	(775) 532-8259	maxine.redstar@fmpst.org
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada	Betty Aleck, THPO	208 Capitol Hill Nixon NV 89406	(775) 574-1088	thpo@plpt.nsn.us
Confederated Tribes of the Warm Springs Reservation of Oregon	Raymond Tsumpti, Chairman	PO Box C Warm Springs OR 97761	(541) 553-1161	info@warmsprings.com
Yerington Paiute Tribe of the Yerington Colony & Campbell Ranch, Nevada	Ginny Hatch, Chairperson	171 Campbell Ln Yerington NV 89447	(775) 463-3301	ghatch@ypt-nsn.gov
Walker River Paiute Tribe of the Walker River Reservation, Nevada	Amber Torres/ Tribal Chairman	PO Box 220 Schurz NV 89427	(775) 773-2306	chairman@wrpt.org

7. FIELD METHODS

In this section, the procedures and standards that were used during fieldwork and for the completion of the report are identified and discussed. All survey and site inventory methods correspond to Class III inventory standards outlined in the BLM Nevada guidelines and standards for archaeological inventory (2012b). The client provided maps indicating the boundaries of the project area in addition to flagging the corners of the direct APE.

Inventory Methods

Survey of the project area was accomplished by walking parallel transects no more than 20 meters apart in cardinal directions throughout the APE. When cultural resources were encountered, personnel performed transects in the immediate area at closer intervals to identify the extent of the discovery and locate associated artifacts or features. The 5.5 miles of access and utility corridor was surveyed at 15 meters along both sides of the centerline for a 60-meter wide or 200 foot wide corridor surveyed for cultural resources.

Site Recording and Artifact Analysis

A site is defined by the current Nevada BLM guidelines as any location containing two or more artifacts or features spaced no more than 30 meters apart (BLM 2012). An isolate is considered a single artifact spatially discrete from any other artifacts by a minimum distance of 30 meters. A number of fragments from a single artifact are considered an isolate, such as broken bottle or ceramic vessel if no other artifacts or features are located within 30 meters. Isolated features, which lack associated artifacts or other associated features, are considered isolates, which are described, with measurements when possible. Photographs were taken in JPG format and at a minimum of 10 megapixels using 600 dpi (BLM 2012b: Appendix H). Sites were photographed, providing at least three overviews of the location and setting with information tracked on an image log (Appendix B). Diagnostic and/or unique historic artifacts were also photographed, such as personal items, buttons, ceramic bases with maker's marks, etc. Fragmentary or non-diagnostic historic artifacts or artifacts for which function could not be reliably described were not drawn or photographed. Additional historic artifact analysis included recording the height, diameter, and or/width of complete cans and tins, seam types, and glass bottle finish types and recording any company information such as makers marks, embossing, and other diagnostic information on glass, cans, or ceramics.

Site locations were mapped with an Ashtech Mobile Mapper 10 GPS unit with data generated to create an accurate sketch map with relative position to the APE. Additionally, GPS/GIS shapefiles are provided for all sites within this undertaking and included with the report on a disk relative to datum NAD 83, Zone 11. Previously recorded sites encountered that were found were updated according to current BLM guidelines and subject to a minimum of recordation per the BLM guidelines (2012b:10) including the GPS reference of diagnostic artifacts and site boundary plus site overview photos with an updated IMACS site form completed. An isolate table and maps are presented in Appendix C. All archaeological sites were documented in the field on an Intermountain Antiquities Computer System (IMACS) site short form (BLM 2012b: Appendix H) and architectural resources recorded on an Architectural Resources Assessment form (Appendix D).

Linear Features

Historic linear features can be very long, often extending well outside the APE and can vary widely in their state of preservation and degree of engineering. As a result, often only segments of corridors are documented relative to an APE. The scope of historic linear feature recordation related activities includes: (1) documenting location and extent with GPS; (2) a description of engineered features, including measurements, and (3) the noting the degree of its remaining integrity. According to the “Guidelines and Standards for Archaeological Inventory” detailed by the BLM (2012b:12) requirements for recording historic linear features include recording 100 meters beyond the APE boundaries. Two historic roads used within the APE were documented during the survey. Recorded information included reference to: “location and boundaries; description, including dimensions of the feature and any identified associated features, each of which shall be recorded and described; and setting, or the degree of alteration of the surrounding landscape past the period of use of the feature.”

8. RESULTS OF INVENTORY

Field reconnaissance was completed between the dates of April 27 and June 13, 2021. Mesa Field Services surveyed 320 acres project lease area, plus 5.5 linear miles of a 200-foot-wide linear inventory for an access and utility easement corridor (Rainbow Way) extending south from the project lease area along Rainbow Way to NV Energy's Fort Sage Substation for a total of 453 acres of archaeological inventory. As a result of the inventory 17 isolates (Appendix C), 15 archaeological sites and a single structural resource were recorded (Table 7). The resources including 14 new sites (26W12839 to 26Wa12851 and 26Wa12895), the update of one large prehistoric artifact scatter (26Wa5578), and the recording of a segment of the Western Pacific Railroad as a structural resource (S2852/D352). The new sites include eight prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849), five historic sites (26Wa12841, 26Wa12846, 26Wa12850, 26Wa12851, and 26Wa12895) and one multi-component site (26Wa12842) including both prehistoric and historic resources. A recorded segment of the Western Pacific Railroad has been recorded as an architectural element (S2852) as part of a larger railroad district (D352). The historic sites include a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic artifact scatters (26Wa12846 and 26Wa12850). The newly recorded sites include two dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. A segment of the Western Pacific Railroad just west of the project area in California has been recorded and designated P-18-001697. Site 26Wa12850 is attributed to the occupation of Calneva Station (P-18-001698) just west of the project area in California.

Table 7. Site Summaries and NRHP recommendations.

State No. 26Wa	Description	Temporal Affiliation	NRHP Eligibility (Criteria)
5578	Large prehistoric artifact scatter	Prehistoric	Eligible, Criterion D
12839	Prehistoric Lithic Scatter	Non diagnostic	Not eligible
12840	Prehistoric Lithic Scatter	Non diagnostic	Not eligible
12841	Disassembled Telegraph Line (in ruin)	Historic	Not eligible
12842	Prehistoric lithic and historic can scatter	Prehistoric/Historic	Not eligible
12843	Prehistoric lithic scatter	Non diagnostic	Not eligible
12844	Prehistoric lithic scatter with two tools	Non diagnostic	Not eligible
12845	Prehistoric lithic scatter with two tools	Non diagnostic	Not eligible
12846	Historic can scatter	Historic	Not eligible
12847	Prehistoric lithic scatter	Non diagnostic	Not eligible
12848	Prehistoric lithic scatter	Non diagnostic	Not eligible
12849	Prehistoric lithic scatter	Non diagnostic	Not eligible
S2852/D352	Western Pacific Railroad (modern construction)	Historic	Non-contributing
12850	Trash scatter from P-18-001698 – Calneva Station	Historic	Not eligible
12851	Two track road south of S2852/D352	Historic	Not eligible
12895	Rainbow Road	Historic	Not eligible

26Wa5578

This previously recorded prehistoric site is a very large variable density prehistoric artifact scatter situated on the edge of a dry lacustrine shoreline. The site has been recorded prior by INFOTEC Research, Inc., in October of 1993 for the Tuscarora Gas Transmission Project (Project 003-1583). The site was described as a complex lithic scatter containing three projectile point bases, eight ground stone pieces, three battered stones (basalt), two scrapers, 13 cores, biface fragments, numerous unifaces, uniface fragments, and at least 500 flakes. A piece of apparently worked glass was also observed. The site spans 2,200 x 500 m. They described one concentration containing more than 75 flakes in a 1 by 2 meter area.

This latest update revealed the same site boundary with relation to the current APE. There are significantly more artifacts represented at this site than the 500 observed earlier. There is likely 10s of thousands of artifacts represented at the site. Most are typical of late stage lithic reduction but with a large variety of material types represented on site including cherts in many colors, basalt, and obsidian. The site is densest near its center with the boundary defined by a significant reduction in artifact density with up to 15 to 20 flakes per square meter being the densest in some areas. Only the portion of the site within 100 meters of the 200 foot wide inventory corridor for Rainbow Road was subject to an update. Boundaries are accurate. No tools were observed.

26Wa12839

This newly recorded prehistoric site is a small lithic scatter comprised of one biface or potential projectile point fragment (A-1) and a single piece of tertiary chert debitage. The site is located on the south side of a low dune just east of Rainbow Road (Figure 1). The surrounding topography is relatively flat. The dune is long and linear extending in a roughly east to west direction. The dune formation is low varying between 5 and 10 feet higher than the surrounding ground surface. The two artifacts are evident in blowouts between areas of vegetation and are 10.5 meters apart. The site lacks an association with tools or temporally diagnostic artifacts. The site area has been impacted by the construction and use of Rainbow Road and an unnamed road the extends from Rainbow Road to the east.

26Wa12840

This newly recorded prehistoric site is a small lithic scatter comprised of a variable density scatter of artifacts located on flat terrain. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. Most of the material is late-stage reduction being less than two centimeters in length and lacking cortex. The lithic materials are comprised of nine chert flakes, seven basalt flakes and one black translucent obsidian fragment of micro debitage. The majority of the artifacts are concentrated in the east half of the site with up to four pieces of debitage per meter at its most dense, otherwise it is one artifact every 5 to 10 meters. The density thins out considerably towards the west end of the site. The chert flakes are comprised of at least four different varieties including a yellow, red, brown, and a mottled red to orange variety. No tools were identified at this site. The site lacks an association with tools or temporally diagnostic artifacts.

26Wa12841

This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground

surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 with passenger service in August of 1910 (Myrich 1992:318-319). While the line has been dismantled there are some remains of materials in the area including two utility poles with its hardware attached in addition to a broad scatter of glass insulators, copper wire, and a number of the wooden cross members. The site boundary is defined by the original alignment and a broad scatter of loose hardware components along the north side of the railroad grade (S2852/D352). The glass insulators include mostly aqua but also one clear glass insulator. Most are fragments but several include marks including two aqua colored insulators H-1 and H-3 embossed "HEMINGRAY Patented Oct. 8th 1907," and a clear or replacement insulator H-4 embossed "Hemingray-45, Made in USA." Hemingray-45 was in manufacture between 1938 - 1950 for long distance telephone lines (Meier 2021). The insulator H-4 would seem to indicate this was a long-distance telephone line.

26Wa12842

This newly recorded multicomponent site is comprised of a small prehistoric lithic and historic can scatter located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The prehistoric artifacts are comprised of two chert and one obsidian flake dispersed across the northern part of the site with each artifact being several meters apart from each other. The assemblage is characteristic of late-stage reduction with flakes lacking cortex. Material includes two brown chert flakes and one black opaque obsidian flake. No prehistoric tools were identified at this site and the prehistoric component lacks an association with temporally diagnostic artifacts. The historic component is comprised of a domestic debris scatter including tin cans concentrated in the southern part of the site with up to several cans per square meter. The historic artifact scatter is comprised of seven hole-in-top cans, eight sanitary cans, one large square fuel can, six fragments of various cans and one embossed can lid (H-1). The lid (H-1) has been knife cut and is embossed "TREE TEA & ORANGE PEKOE." The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

26Wa12843

This newly recorded prehistoric site is a small lithic scatter comprised of six pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of four translucent black obsidian tertiary flakes and one red tertiary chert flake within a one-meter area plus a brown tertiary chert flake close to 30 meters north. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12844

This newly recorded variable density prehistoric site is a small lithic scatter comprised of two biface fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 100 meters north (Figure 1) of the Western Pacific Railroad (S2852/D352). The ground surface

is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex and include 14 flakes of translucent and opaque black obsidian, eight chert and eight gray basalt flakes. Most of the debitage are tertiary flakes. The chert materials are represented by two varieties; a gray chert and a yellow and orange mottled chert. The basalt flakes include five tertiary, and three secondary flakes and one piece of angular debris. Site density varies from one artifact every five to ten meters up to three artifacts per square meter in some areas. Both the biface fragments are made of the same gray basalt. The first (A-1) is a biface or midsection fragment of a projectile point broken near the base broken at what are likely side notches and may represent an impact fracture. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks an association with temporally diagnostic artifacts.

26Wa12845

This newly recorded light density prehistoric site is a small lithic scatter comprised of two prehistoric tool fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 30 meters northwest of prehistoric site 26Wa12844 (Figure 1). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. They include eight fine grained gray basalt, five chert and two obsidian flakes. The obsidian includes a black opaque tertiary flake and piece of angular debris. The chert includes similar material types to other prehistoric sites in the immediate area and include a yellow and a dark red variety. Site density varies from one artifact every five to ten meters up to two artifacts per square meter in some areas. Both the tools are fragments made of the same gray fine-grained basalt. The first tool (A-1) is a circular uniface fragment or scraper. The artifact is disc shaped. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks a definitive association with temporally diagnostic artifacts.

26Wa12846

This newly recorded historic domestic debris scatter is comprised of some 50 or so artifacts including various food cans, a broken "Willow Ware" plate (H-1), a glass insulator (H-2), two bottles (H-3 and H-4), sanitary can with a logo (H-5), canning jar (H-6), and the core of a large battery (H-7), likely from a car or truck. The majority of artifacts are in the south part of the site with others dispersed to the north. The site is located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of sanitary cans with up to several cans per square meter. Enough ceramic sherds with H-1 are present to identify it as Willow transfer print. The Willow Pattern is the best known of all transfer print designs. It is a European imitation of a Chinese blue and white design which depicts a river with a bridge across it and willow trees on the bank. Two birds are supposed to represent two lovers flying away from an irate father. First produced by English potters in 1780, the willow pattern is still used today (Barclay 1976). The glass insulator (H-2) is embossed "Brookfield." Brookfield manufactured a variety of glass insulators between 1864 and 1921 and was second only to the Hemingray Glass

Company in the sheer number of insulators they manufactured (Whitten 2021). The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

26Wa12847

This newly recorded prehistoric site is a small lithic scatter comprised of 19 pieces of debitage and a biface fragment (A-1) made form the same material type as the debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 19 pieces of late stage related debitage including a dark brown mottled chert and a yellow to red chert. The biface fragment (A-1) is a lateral edge fragment from a formally prepared biface. The biface is made of the same dark brown banded chert material as the debitage. Artifacts occur in a variable density artifact scatter with up to two flakes per square meter, otherwise one artifact every few meters. The site lacks an association with temporally diagnostic artifacts.

26Wa12848

This newly recorded prehistoric site is a small lithic scatter comprised of eight pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking cortex. The artifacts are comprised of eight yellowish red chert flakes averaging several meters apart across the site surface. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12849

This newly recorded prehistoric site is a small lithic scatter comprised of 14 pieces of chert debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 8 dark brown mottled chert flakes and 6 yellow to red chert flakes. The chert material is the same or similar to the material types used at 26Wa12847. Two of the flakes exhibit lipping indicating they are likely bifacial thinning flakes. The artifacts are dispersed with one flake every few meters. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26Wa12850

This newly recorded historic domestic debris scatter is located on the border between California and Nevada some two to three hundred meters east of Calneva Station (P-18-001698) along the Western Pacific Railroad (S2832/D352). The site is a trash dumping location located along either side of a historic road (26Wa12851) that runs parallel and south along the railroad tracks to Calneva Station. The site is comprised of a light scatter of artifacts between three concentrated dumping areas identified as Concentration 1 through 3. The site is located on flat terrain with the ground surface being comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of tin cans and bottle fragments with up to several artifacts per square meter in some areas between the three concentrations.

The first concentration is comprised of fragments of clear, aqua, light olive, old amber, and amethyst glass representing over 100 bottles. No cans were identified with this concentration and there were three bottle bases containing makers marks (H-1 through H-3). The bottles are found within a 7 by 20-meter area and are mostly automatic machine-made bottles lacking makers marks and are crown tops. The first diagnostic artifact is H-1, a clear glass bottle base, with a mark on the base "WF&S." The mark is attributed to William Franzen & Son in use from 1900-1929 (Toulouse 1971:536). The second mark, H-2, is an aqua glass bottle base "C" and the third, H-3, is a crown top brown bottle missing its base. Concentration 2 is a large concentrated can dump comprised of 200 to 300 sanitary hole-in-cap and hole-in-top cans of various sizes and fragments. The cans are concentrated within a 10 to 15 meter diameter area with a five-meter diameter core area that is the densest with a dozen or more cans per square meter. Concentration 3 is a much more varied artifact dump spread out over a 10-meter diameter area and is comprised of domestic wares, cans, bottles, truck parts, wooden box fragments, square and wire nails, brick fragments, and other domestic debris fragments.

The site is more than likely attributed to the occupation of the Calneva Station (P-18-001698). Calneva and a number of railroad towns including Flanigan were established in eastern Honey Lake basin in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City 1910 (Myrick 1992:318-319; Kneiss 1953:16). Diagnostic data from the artifacts at this site seems to support to the same period of occupation for the area. The glass includes aqua, solarized, clear, and brown bottle glass. Amethyst glass, which turns purple when exposed to sunlight due to the presence of manganese in the glass, was generally used in bottle production from c. 1880 to c. 1920, although its use has been noted as late as the 1930s (Lindsey 2013). Sanitary cans have a long period of use and are still in use today. Sanitary cans became the dominant can type in the western United States by 1911 (Rock 1989:65-66).

26Wa12851

This newly recorded historic feature site is just over a one-mile recorded segment of a two-track road depression, identified as Washoe County Road 8283, that extends along the south side of the Western Pacific Railroad (S2852/D352). The recorded segment extends from near the intersection with Rainbow Road (26Wa12895) west to Calneva Station(P-18-001698) just inside California. The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. The far western section of the recorded segment or approach to Calneva Station between sites P-18-001698 and 26Wa12850 has been abandoned. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake basin along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

26Wa12895

This newly recorded historic feature site is "Rainbow Drive." The entire road, 4.5 miles in length, was subject to an inventory and recordation. The road varies from a single to a double wide road 8 to 15 feet in width. The southernmost 1.5 miles of the road extending north from Fish Springs

Road is depicted on the State Line Peak, Nev. 7.5-min USGS quadrangle map from 1964. Sometime after 1964 the road was extended north to the Western Pacific Railroad (S2852/D352). The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is wiped out by erosion in many places and exists as a two-track depression. The route is still in use and maintained by Washoe County. Rainbow Road appears to serve as a main artery for a number of additional roads that extend off of it to the west and east, mainly on section lines including Marina Way, Truckee Lane, Long Horn Lane, Tahoe Lane, Bonanza Lane, Doyle Lane, and Herlong Lane. It's not clear what land use activity the road is attributed to but it most likely was used to access residences present along the side routes. Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (7 September 1977) and the Reno Gazette Journal (11 September 1977) detail a revitalization of the area south of Calneva during the mid-1970s. The articles center on the creation of the "Honey Lake Valley Meeting Hall" a private school that was recently constructed for the recent influx of families with children to the area. Resident Lela Findley, interviewed for the articles was a longtime resident of the valley original from Herlong, recalls visiting Flanigan to in the 1940s to attend town dances. She had been living in a house on the state border for 21 years prior to the printing of the articles.

S2852/D352

The Western Pacific Railroad, Feather River Route, between Oakland and Salt Lake City, in 1909 (Myrick 1992:318-319; Kneiss 1953:16). The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907 and a number of stations were constructed through eastern Honey Lake basin. The current recordation is for a just over a mile long segment just east of the Calneva Station (P-18-001698) on the California-Nevada Border. There was a long-distance telephone line (26Wa12841) that ran alongside and parallel to the north side of the tracks. But it has since been dismantled. The railroad grade and all materials appear to have been replaced. The grade contains ballast material mounded approximately 30 feet wide and six feet higher than surrounding ground surface. The tracks are US standard railroad gauge is 4 feet, 8.5 inches between the two rails. There are no culverts or sidings with the recorded section and the telephone line along the north side has been dismantled with only a few remaining pieces of hardware in the area. Resources with the railroad feature include modern railroad spikes and broken cast iron pieces from passing trains. No historic artifacts attributed to the railroad were identified and recorded.

9. ELIGIBILITY RECOMMENDATIONS

As a result of the inventory 17 isolates, 15 archaeological sites and a single structural resource were recorded. The resources including 14 new sites (26W12839 to 26Wa12851 and 26Wa12895), the update of one large prehistoric artifact scatter (26Wa5578), and the recording of a segment of the Western Pacific Railroad as a structural resource (S2852/D352). The new sites include eight prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849), five historic sites (26Wa12841, 26Wa12846, 26Wa12850, 26Wa12851, and 26Wa12895) and one multi-component site (26Wa12842) including both prehistoric and historic resources. A recorded segment of the Western Pacific Railroad has been recorded as an architectural element (S2852) as part of a larger railroad district (D352). The historic sites include a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic artifact scatters (26Wa12846 and 26Wa12850). The newly recorded sites include two dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964.

With the exception of the one very large prehistoric site 26Wa5578, all prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849) and the prehistoric components of multi-component sites (26Wa12842), containing prehistoric and historic artifacts, are comprised of limited artifact scatters lacking diagnostic artifacts or an adequate sample of obsidian for hydration analysis and are recommended not eligible to the NRHP under any of the four nationally derived criteria for prehistoric sites as developed for the current undertaking. The prehistoric sites and component lack a temporal affiliation and cannot address important research questions for prehistoric sites outlined for the current investigation. A property is not considered eligible if it cannot be related to a particular period or cultural group for it lacks a historic context within which it can be evaluated (NPS 1995:22). Site 26Wa5578 is a very large prehistoric site recommended the site for listing under Criterion D for variability in the artifact assemblage suggests that this site may yield important data on chronology, settlement, technology, and subsistence.

The historic sites and component are recommended not eligible for listing with the NRHP. The recorded portion of the Calneva Station (P-18-001698) in California has been recommended not eligible for listing with the NRHP due to lack of intact deposits, features and a unique assemblage. Mesa Field Services Concur with the recommendation that the scatter of historic artifacts within the project area is associated with the occupants at the Calneva Station and designated 26Wa12850 is recommended not eligible for listing with the NRHP. The recorded segment of the Western Pacific Railroad within the APE (S2852) is of modern construction and considered a non-contributing element to the district (D352). The dismantled telephone line (26Wa12841) is an archaeological resource with only a few pieces of hardware remaining that has been fully recorded in the field. The one large prehistoric site is recommended eligible for listing with the NRHP under criterion D and should be avoided or impacts minimized.

26Wa5578

The prior evaluation of this very large prehistoric site recommended the site for listing under Criterion D for variability in the artifact assemblage suggests that this site may yield important data on chronology, settlement, technology, and subsistence. They also suggested the potential for subsurface deposits. Mesa concurs with the prior evaluation. The prehistoric component is

recommended not eligible to the NRHP under Criterion A for it cannot be identified as the earliest or latest example of a site attributed to a major prehistoric period or transitional event at this time. Due to the lack of written records, prehistoric sites cannot be identified with a specific individual and the site is recommended not eligible to the NRHP under Criterion B. The prehistoric site is not recommended eligible for listing under Criterion C for there is currently no evidence for unique features or spatial patterning at this time therefore the site cannot currently address the research questions outlined for the current investigation as they relate to site structure. The site is recommended eligible to the NRHP under Criterion D, for it includes a vary large number of artifacts spread out over a large area and likely may represent all prehistoric time periods. Its position and density in close proximity to a lacustrine dry lakebed suggests the potential for a Paleoarchaic related occupation that could provide information concerning Late Pleistocene/ Early Holocene transition in the Great Basin. The site includes a large number of obsidian artifacts and chronological data in the form of obsidian hydration analysis and sourcing studies can refine current chronological sequences for the area and our understanding of land use strategies. Therefore, the site is recommended eligible to the NRHP for its potential to address many of the major research issues and questions associated with chronology and land use patterns as outlined for the current investigation.

26Wa12839

The prehistoric site consists of a limited debitage scatter with one biface fragment. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12840

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under

Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12841

The site constitutes a recorded segment of a historic era telephone line along the north side the Western Pacific Railroad first in operation in 1910. According to Johnson (2006:63) a utility line should be considered a linear feature and evaluated as part of an entire utility system under Criteria A and B with the recorded portion or segment within a project area evaluated under Criteria C and D as a contributing or non-contributing element. The line was installed in possible as early as 1910. A search of archival information does not support the use of the line by a particular significant individual in the development of the Western Pacific Railroad and the site is recommended not eligible to the NRHP under Criteria A and B. Only a few pieces of hardware are all that remains of the system which does not appear to represent the remains of a unique system. Therefore, the recorded segment does not represent unique architecture or constructed elements or the remains of a system specifically important to developments for the area and is recommended not eligible to the NRHP under Criterion C. The recorded segment has been mostly dismantled and the remaining hardware have been fully recorded in the field with little to no additional information remaining. Since the recorded segment does not contain unique engineered features or evidence for work camps it cannot address important research questions and issues attributed to communication lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D. According to the United State Forest Service recorded segments of a telecommunication line that lack unique engineered features or have been severely altered by vandalism, removal of poles, or removal of insulators are considered not eligible under all criteria (Dunkelberger 2014:127). If additional segments of the telephone line can be identified that are more intact with significant research potential the site may be considered eligible to the NRHP under Criteria C or D. However, the current recorded segment should be considered a non-contributing element.

26Wa12842

The prehistoric component consists of a limited debitage scatter of only three pieces of debitage. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric component is limited. The prehistoric component is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation marking a significant transitional event. Due to the lack of written records, the prehistoric component cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The prehistoric component is recommended not eligible under Criterion C for it is a limited scatter of artifacts and lacks evidence

for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric component lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric component is recommended as not eligible to the NRHP under any of the four National Register criteria.

The historic component is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic component is a limited domestic debris scatter that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore recommended not eligible to the NRHP under Criterion C. The historic component contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic component is a limited domestic debris scatter that lacks task specific artifacts related to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans are common to many contemporaneous occupations regardless of land use activity. Therefore, the historic component does not address important research themes and issues attributed to transportation and telephone lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

26Wa12843

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12844

The prehistoric site consists of a limited debitage scatter with two biface fragments. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be

identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12845

The prehistoric site consists of a limited debitage scatter with two tools and no temporally diagnostic artifacts. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12846

The historic site is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic site is a limited domestic debris scatter that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore recommended not eligible to the NRHP under Criterion C. The historic site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic site is a limited domestic debris scatter that lacks task specific artifacts related

to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans are common to many contemporaneous occupations regardless of land use activity. Therefore, the site does not address important research themes and issues attributed to transportation and telephone lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

26Wa12847

The prehistoric site consists of a limited debitage scatter and a single biface fragment. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12848

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12849

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) “a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.” Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26Wa12850

The historic site is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic site is a limited domestic debris scatter attributed to residents of the Calneva Station that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains are a simple trash scatter and do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore recommended not eligible to the NRHP under Criterion C. The historic site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic site is a limited domestic debris scatter that lacks task specific artifacts related to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans are common to many contemporaneous occupations regardless of land use activity. Therefore, the site does not address important research themes and issues attributed to mining and domestic related support activity developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

26Wa12851

This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road parallels the south side of the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is or specifically what type of land use activity it is specifically attributed to. The historic site is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic site is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The two-track road depression is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique

technological adaptation to local resource conditions. The site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple two-track depression limited to the eastern Honey Lake basin that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

26Wa12895

This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road extends south from the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is exactly or what type of land use activity it is specifically attributed to beside potentially serving as a main artery for a number of additional roads that extend off of it. The historic road is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic road is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The dirt road is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique technological adaptation to local resource conditions. The historic road contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple dirt road that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

S2852/D352

The Western Pacific Railroad, Feather River Route has been designated a district resource (D352) and is considered eligible for listing to the NRHP by the Nevada State Historic Preservation Office (SHPO). Although the site is considered eligible the original materials associated with the recorded segment have all been replaced with modern counterparts and the recorded segment is recommended not eligible for listing with the NRHP under any of the established criteria for railroads outlined for the current investigation. Although there is archival information that indicates the route built in Nevada was constructed by the Utah Construction Company during the summer of 1907 the company is not identified with a significant person or event in local or national history. Archival information is lacking that would link the construction and use of the railroad with a significant individual or event in southern Nevada outlined in the context section of this report and the site is recommended not eligible to the NRHP under Criteria A and B. The recorded segments lack integrity of materials and are recommended not eligible to the NRHP under Criteria C and D. The Western Pacific Railroad is a modern gauge railroad bed that is not unique and does not include original materials.

All prior recordings of the Blue Diamond Railroad (IMACS form: CrNV-53-5641/26CK4441) have resulted in the evaluation of the line as not eligible under Criteria A and B and Criteria C and D due to the lack of integrity of original features. Mesa Field Services agrees with the prior recommendations. The current recorded segments have had their culverts replaced with modern counterparts and the addition of a different color of ballast material used for repairs and the recorded segments are recommended not eligible for listing with the NRHP under any of the established criteria for railroads outlined for the current investigation. According to the State

Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office (SHPO; 2012a:43-44), maintenance that is not consistent with its historic use compromises the integrity of a historic resource. The removal of much of the components due to salvage, destruction such as fire, or any other type of activity of calamity leaves the physical remains more or less intact and lacking integrity of materials. A railroad should display sufficient integrity to discern construction methods and maintenance techniques and lack vandalism or other damages. Few artifacts were observed along the length of the recorded segment, and it cannot address important research themes and issues attributed to its construction and use developed for the current investigation. Therefore, the recorded segment is recommended not eligible to the NRHP under Criteria C and D.

10. MANAGEMENT RECOMMENDATIONS

The large prehistoric artifact scatter (26Wa5578) is recommended eligible for listing to the National Register of Historic Places (NRHP). All remaining sites are recommended not eligible for listing with the NRHP. The recorded portion of the Calneva Station (P-18-001698) in California has been recommended not eligible for listing with the NRHP due to lack of intact deposits, features and a unique assemblage. Mesa Field Services Concurs with the recommendation that the scatter of historic artifacts within the project area designated 26Wa12850 is recommended not eligible for listing with the NRHP. The recorded segment of the Western Pacific Railroad within the APE is of modern construction and considered a non-contributing element to the district (D352). The remaining sites are small prehistoric and historic artifact scatters comprised of domestic debris and are recommended not eligible for listing with the NRHP. There is a potential for effects to 26Wa5578 and the site should be avoided or monitored.

11. SUMMARY/DISCUSSION/CONCLUSIONS

Between the dates of April 27 and June 13, 2021, archaeologist Sean Simpson with MFS conducted a Class III archaeological survey for the proposed Praana Two Washoe BESS/PSES Project, Washoe County, Nevada. The APE is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). As a result of the survey 17 isolates, 15 archaeological sites and a single structural resource were recorded within the project area including 14 new sites (26W12839 to 26Wa12851 and 26Wa12895), the update of one large prehistoric artifact scatter (26Wa5578), and the recording of a segment of the Western Pacific Railroad as a structural resource (S2852/D352). The new sites include eight prehistoric sites (26Wa12839, 26Wa12840, 26Wa12843 to 26Wa12845 and 26Wa12847 to 26Wa12849), five historic sites (26Wa12841, 26Wa12846, 26Wa12850, 26Wa12851, and 26Wa12895) and one multi-component site (26Wa12842) including both prehistoric and historic resources. A recorded segment of the Western Pacific Railroad has been recorded as an architectural element (S2852) as part of a larger railroad district (D352). The historic sites include a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic artifact scatters (26Wa12846 and 26Wa12850). The newly recorded sites include two dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. A segment of the Western Pacific Railroad just west of the project area in California has been recorded and designated P-18-001697. Site 26Wa12850 is attributed to the occupation of Calneva Station (P-18-001698) just west of the project area in California.

As a result of the survey six historic sites were recorded within the project area including four previously recorded sites and two newly recorded sites. The previously recorded sites include the “Bard Site” (CrNV-53-5529/26CK4365), a historic segment of the Salt Lake Route of the Union Pacific Railroad with a parallel telegraph/telephone line (CrNV-53-7232/5629;26CK4429/5685), a related construction camp (CrNV-53-7259/26CK6035), and a historic powerline route (CrNV-53-9334/26CK8500). The newly recorded sites include two dirt roads (CrNV-53-9335 and CrNV-53-9336) visible on the Sloan, Nevada 1960, 15-minutes series quadrangle map. Of the six sites identified and recorded within the project area only the Salt Lake Route of the Union Pacific Railroad (CrNV-53-7232/5629/26CK4429/5685) has been recommended eligible for listing with the NRHP. However, the recorded segment within the APE is not considered a contributing element. Therefore, no significant effects to eligible cultural resources are anticipated.

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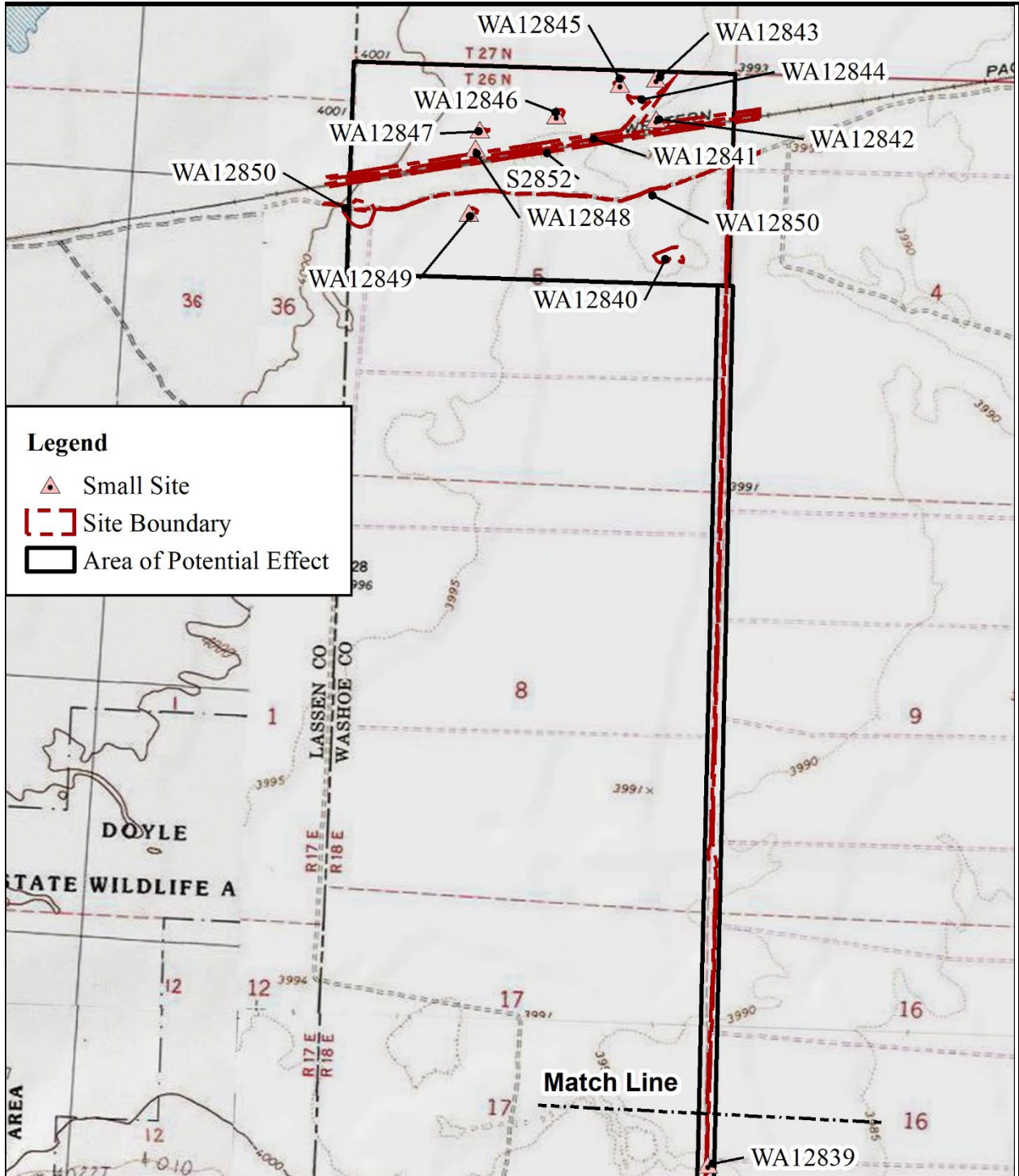
Washoe County Assessor's Office

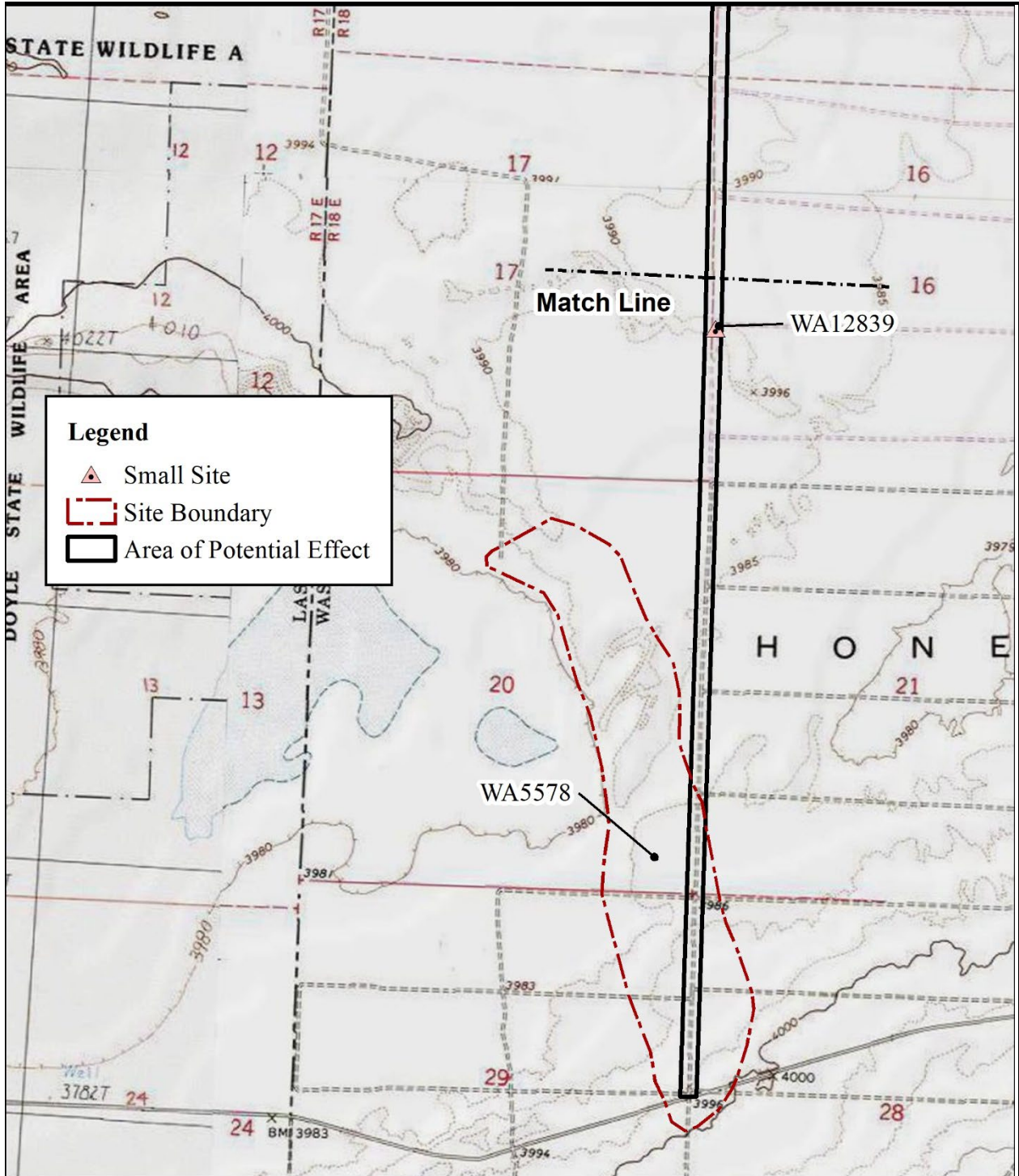
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APPENDIX A: PROJECT AREA MAPS RESULTS





Legend

- Small Site
- Site Boundary
- Area of Potential Effect

Scale 1:24,000 All ownership is private

0 1.5
 km

0 1
 mi

T N
 NAD 83

Praana II Washoe BESS/PSES Site
 Flanigan & State Line Peak, NV-CA
 Quadrangle Maps

T26N, R18E
 Sections 8, 9, 16, 17, 20
 21, 28, & 29 (MDBM)

APPENDIX B: IMAGE LOG

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
1	26Wa12839	Site overview	10°	246130	4445302	4/22/21
2	26Wa12839	Site overview	285°	246152	4445328	4/22/21
3	26Wa12839	A-1 Serrated Projectile Point Fragment	Plan	246132	4445330	4/22/21
4	26Wa12839	A-1 Serrated Projectile Point Fragment	Plan	246132	4445330	4/22/21
5	26Wa12839	A-1 Serrated Projectile Point Fragment	Profile	246132	4445330	4/22/21
6	26Wa12839	Site overview	120°	246119	4445351	4/22/21
7	26Wa12840	Site overview	50°	246005	4448880	4/23/21
8	26Wa12840	Site overview	120°	246005	4448916	4/23/21
9	26Wa12840	Site overview	335°	245936	4448878	4/23/21
10	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Profile	246111	4449440	4/23/21
11	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Profile	246111	4449440	4/23/21
12	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Plan	246111	4449440	4/23/21
13	26Wa12841	H-2 Cross arm from telegraph pole	Plan	245986	4449426	4/23/21
14	26Wa12841	H-2 Cross arm insulator bolt,	Plan	245986	4449426	4/23/21
15	26Wa12841	H-2 cross arm insulator bolt with wooden dowl	Plan	245986	4449426	4/23/21
16	26Wa12841	H-3 Broken aqua glass insulator "Patented Oct. 8 th 1907"	Plan	245898	4449393	4/27/21
17	26Wa12841	H-3 Broken aqua glass insulator "Patented Oct. 8 th 1907"	Plan	245898	4449393	4/27/21
18	26Wa12841	H-3 Two collected poles	210°	245836	4449440	4/27/21
19	26Wa12841	H-3 Two collected poles	100°	245836	4449440	4/27/21
20	26Wa12841	H-3 Detail of hardware components	Plan	245836	4449440	4/27/21
21	26Wa12841	H-3 Detail of hardware components	Plan	245836	4449440	4/27/21
22	26Wa12841	H-3 Clear insulator threaded on wooden peg	Plan	245836	4449440	4/27/21
23	26Wa12841	H-3 Clear glass insulator "Made in USA, 3-54, Hemingray-45"	Plan	245836	4449440	4/27/21
24	26Wa12841	H-3 Clear glass insulator "Made in USA, 3-54, Hemingray-45"	Plan	245836	4449440	4/27/21
25	26Wa12841	Site overview	90°	244774	4449216	5/02/21

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
26	26Wa12841	Site overview	270°	244774	4449216	5/02/21
27	26Wa12841	Site overview	270°	246627	4449442	5/02/21
28	26Wa12841	Site overview	70°	246627	4449442	5/02/21
29	26Wa12842	Site overview	43°	245928	4449435	4/27/21
30	26Wa12842	Site overview	189°	245929	4449497	4/27/21
31	26Wa12842	Site overview	224°	245936	4448878	4/27/21
32	26Wa12842	H-1: Can lid embossed "TREE TEA & ORANGE PEKOE"	Plan	245927	4449434	4/27/21
33	26Wa12842	H-1: Can lid embossed "TREE TEA & ORANGE PEKOE"	Plan	245927	4449434	4/27/21
34	26Wa12843	Site overview	70°	245922	4449573	4/27/21
35	26Wa12843	Site overview	280°	246937	4449574	4/27/21
36	26Wa12843	Site overview	170°	245927	4449584	4/27/21
37	26Wa12844	Site overview	270°	245882	4449502	4/27/21
38	26Wa12844	Site overview	210°	245890	4449528	4/27/21
39	26Wa12844	Site overview	90°	245833	4449510	4/27/21
40	26Wa12844	A-1 biface, side A	Plan	245859	4449528	4/27/21
41	26Wa12844	A-1 biface, side B	Plan	245859	4449528	4/27/21
42	26Wa12844	A-1 biface	Profile	245859	4449528	4/27/21
43	26Wa12844	A-2 biface, side A	Plan	245883	4449508	4/27/21
44	26Wa12844	A-2 biface, side B	Plan	245883	4449508	4/27/21
45	26Wa12844	A-2 biface	Profile	245883	4449508	4/27/21
46	26Wa12845	A-1 Side A, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
47	26Wa12845	A-1 Side B, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
48	26Wa12845	A-1 Profile, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
49	26Wa12845	A-2 Side A, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21
50	26Wa12845	A-2 Side B, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
51	26Wa12845	A-2 Profil, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21
52	26Wa12845	Site overview	330°	245817	4449551	4/27/21
53	26Wa12845	Site overview	200°	245805	4449599	4/27/21
54	26Wa12845	Site overview	110°	245762	4449599	4/27/21
55	26Wa12846	H-1 Willow Ware Plate Fragments, various sizes	Plan	245540	4449454	4/28/21
56	26Wa12846	H-2 "Brookfield" aqua glass insulator	Plan	245540	4449454	4/28/21
57	26Wa12846	H-2 "Brookfield" aqua glass insulator	Plan	245540	4449454	4/28/21
58	26Wa12846	H-3 Clear glass bottle with threads	Profile	245540	4449454	4/28/21
59	26Wa12846	H-3 Clear glass bottle with threads	Plan	245540	4449454	4/28/21
60	26Wa12846	H-4 Brown glass bottle with crown top "AFG" in a diamond symbol	Profile	245540	4449454	4/28/21
61	26Wa12846	H-4 Brown glass bottle with crown top "AFG" in a diamond symbol	Plan	245540	4449454	4/28/21
62	26Wa12846	H-5 Sanitary Can mark on base a flag in the wind	Profile	245544	4449460	4/28/21
63	26Wa12846	H-5 Sanitary Can mark on base a flag in the wind	Plan	245544	4449460	4/28/21
64	26Wa12846	H-6 Food jar clear glass threaded top "Best Foods Registered,"	Profile	245547	4449455	4/28/21
65	26Wa12846	H-6 Food jar clear glass threaded top "Best Foods Registered,"	Plan	245547	4449455	4/28/21
66	26Wa12846	H-7 Vehicle battery core	Plan	245540	4449454	4/28/21
67	26Wa12846	Site overview	240°	245528	4449447	4/28/21
68	26Wa12846	Site overview	160°	245545	4449490	4/28/21
69	26Wa12846	Site overview	250°	245587	4449479	4/28/21
70	26Wa12839	A-1: Side A, brown ccs biface fragment	Plan	245246	4449378	4/28/21
71	26Wa12839	A-1: Side B, brown ccs biface fragment	Plan	245246	4449378	4/28/21
72	26Wa12839	A-1: Brown ccs biface fragment	Profile	245246	4449378	4/28/21

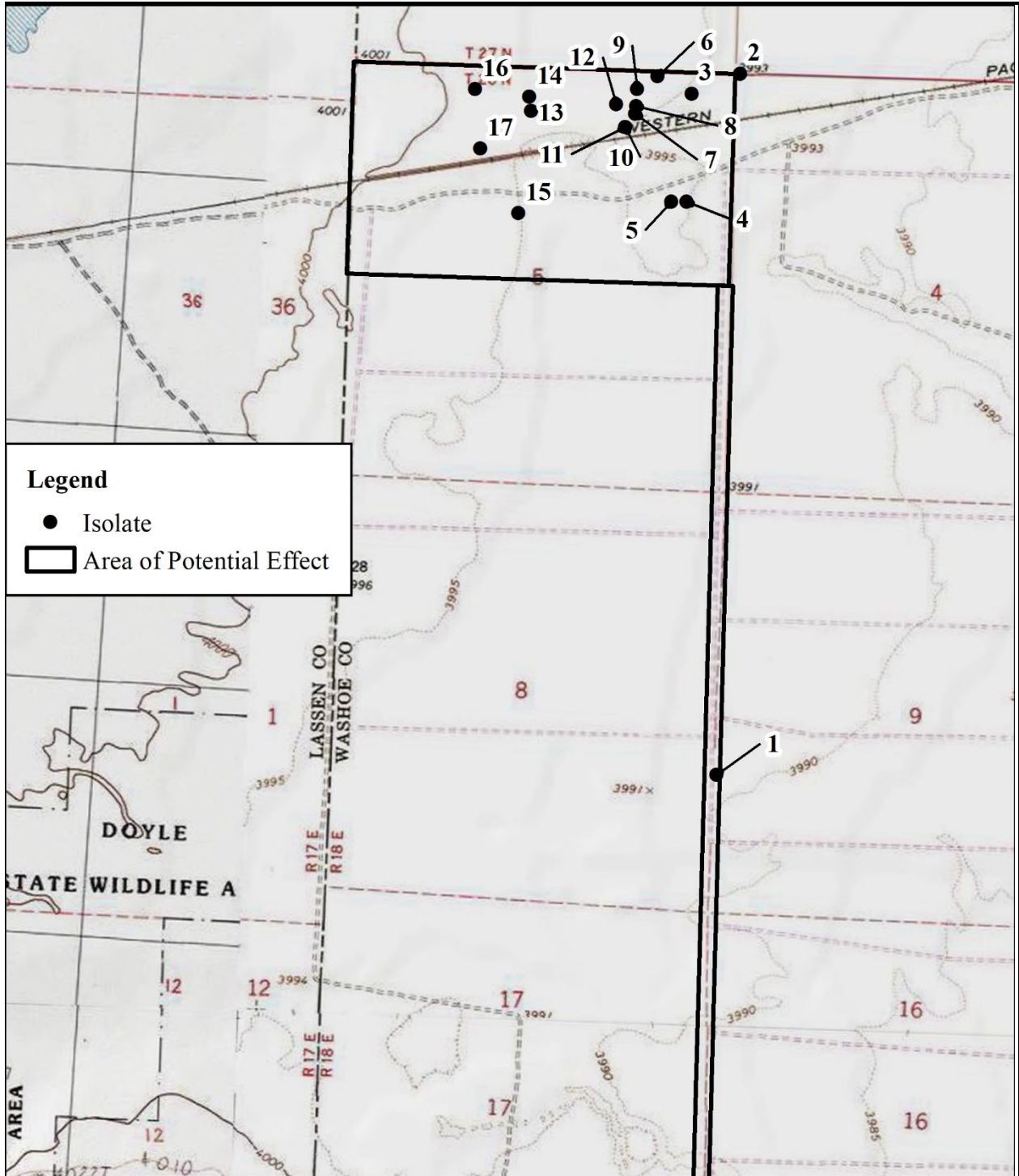
No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
73	26Wa12839	Site overview	100°	245228	4449387	4/28/21
74	26Wa12839	Site overview	5°	245246	4449413	4/28/21
75	26Wa12839	Site overview	285°	245283	4449391	4/28/21
76	26Wa12848	Site overview	85°	245202	4449311	4/28/21
77	26Wa12848	Site overview	180°	245222	4449330	4/28/21
78	26Wa12848	Site overview	250°	245239	4449322	4/28/21
79	26Wa12849	Site overview	85°	245170	4449063	5/02/21
80	26Wa12849	Site overview	355°	245201	4449033	5/02/21
81	26Wa12849	Site overview	295°	245241	4449047	5/02/21
82	26Wa12850	Site overview	310°	244778	4448988	5/02/21
83	26Wa12850	Site overview	360°	244778	4448988	5/02/21
84	26Wa12850	Site overview	190°	244823	4449149	5/02/21
85	26Wa12850	Concentration 1	90°	244773	4449058	5/02/21
86	26Wa12850	Concentration 1	345°	244773	4449058	5/02/21
87	26Wa12850	Concentration 1, H-1 Clear glass bottle base "WF&S"	Plan	244773	4449058	5/02/21
88	26Wa12850	Concentration 1, H-2 Aqua glass bottle base "C"	Plan	244773	4449058	5/02/21
89	26Wa12850	Concentration 1, H-3 Crown top beer bottle base missing	Plan	244773	4449058	5/02/21
90	26Wa12850	Concentration 2, cans	360°	244764	4449023	5/02/21
91	26Wa12850	Concentration 2, cans	180°	244764	4449023	5/02/21
92	26Wa12850	Concentration 3, artifacts	310°	244797	4449096	5/02/21
93	26Wa12850	Concentration 3, artifacts	Plan	244797	4449096	5/02/21
94	26Wa12850	Concentration 3, H-4 "M" in a pentagon	Plan	244797	4449096	5/02/21
95	26Wa12851	Site overview from Rainbow Road	250°	246221	4440249	6/13/21
96	26Wa12851	Site overview from Rainbow Road	60°	246221	4440249	6/13/21
97	26Wa12851	Site overview with berm sides	230°	245142	4449148	6/13/21
98	26Wa12851	Site overview with abandoned section to Calneva Station on right	Plan	244778	4449083	6/13/21

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
99	26Wa12851	Site overview of abandoned section to Calneva Station	Plan	244675	4449096	6/13/21
100	26Wa12895	Rainbow Road at Fish Springs Road	360°	246033	4442312	6/13/21
101	26Wa12895	Site overview of Rainbow Road	360°	246094	4444376	4/12/21
102	26Wa12895	Site overview of Rainbow Road	180°	246094	4444376	4/12/21
103	26Wa12895	Intersection with Rainbow Road on Right and Bonanza Lane on left	310°	246052	4443103	6/13/21
104	26Wa12895	Bonanza Lane from the Intersection with Rainbow Road	270°	246047	4443103	6/13/21
105	26Wa12851	From Bonanza Lane 100 meters to Intersection with Rainbow Road	90°	244678	4443103	6/13/21
106	Isolate 2	Cadastral Marker "1973"	Plan	246259	4449612	4/23/21
107	Isolate 4	Automatic machine-made aqua bottle base fragment "ABCo/E6" 3-inch diameter	Plan	246049	4449111	4/23/21
108	Isolate 4	Automatic machine-made aqua bottle base fragment "ABCo/E6" 3-inch diameter	Plan	246049	4449111	4/23/21
109	26Wa5578	Site overview	330°	246065	4443507	5/02/21
110	26Wa5578	Site overview	270°	246065	4443507	5/02/21
111	26Wa5578	Site overview	320°	246005	4442883	5/02/21
112	26Wa5578	Site overview	320°	246005	4442883	5/02/21
109	26Wa5578	Site overview	330°	246065	4443507	5/02/21

APPENDIX C: ISOLATES

Isolate Summary

Isolate Number	Description	UTM Coordinates		Legal Location
		Easting	Northing	
1	Basalt angular Debris	246133	4446864	SW ¹ / ₄ NW ¹ / ₄ SW ¹ / ₄ of Section 9, T26N, R18E
2	Cadastral Marker "1973"	246259	4449612	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
3	Hole-in-cap-can 2 15/16 by 4 3/8 inches	246070	4449534	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
4	Automatic machine-made aqua bottle base fragment "ABCo/ E6" 3-inch diameter	246049	4449111	NW SE NE of Section 5, T26N, R18E
5	Tertiary flake fragment	245990	4449115	NW SE NE of Section 5, T26N, R18E
6	Red chert angular debris	245935	4449606	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
7	Knife cut opened hole-in-cap can crushed	245848	4449457	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
8	Translucent obsidian tertiary flake fragment	245850	4449486	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
9	Opaque obsidian tertiary flake fragment	245856	4449555	NE ¹ / ₄ NE ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
10	Dark red tertiary flake	245808	4449403	SE ¹ / ₄ NW ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
11	Gray basalt uniface 4 x 3.3 x 0.7 centimeters	245810	4448950	SE ¹ / ₄ NW ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
12	Two fragments of a gray basalt biface or midsection point fragment with oblique flaking	245772	4449493	NE ¹ / ₄ NW ¹ / ₄ NE ¹ / ₄ of Section 5, T26N, R18E
13	Crushed hole-in-top can	245438	4449469	NE ¹ / ₄ NW ¹ / ₄ NW ¹ / ₄ of Section 5, T26N, R18E
14	Red tertiary flake	245432	4449520	NE ¹ / ₄ NW ¹ / ₄ NW ¹ / ₄ of Section 5, T26N, R18E
15	Crushed hole-in-cap can	245391	4449064	NE ¹ / ₄ SE ¹ / ₄ NW ¹ / ₄ of Section 5, T26N, R18E
16	Secondary basalt flake	245220	4449550	NW ¹ / ₄ NE ¹ / ₄ NW ¹ / ₄ of Section 5, T26N, R18E
17	Crushed hole-in-cap can	245239	4449314	SW ¹ / ₄ NE ¹ / ₄ NW ¹ / ₄ of Section 5, T26N, R18E



Legend

- Isolate
- ▭ Area of Potential Effect

Scale 1:24,000 All ownership is private

0 1.5 km

0 1 mi

T N

NAD 83

Praana II Washoe BESS/PSES Site
 Flanigan, CA-NV
 Quadrangle Map

T26N, R18E
 Sections 4, 5, 8, 9
 16 & 17 (MDBM)



Log 1, Image 106, Isolate 2, Cadastral Marker "1973" (Plan)
Praana Two Washoe BESS/PSES Site Project, UTM Zone 11, 246259 E/ 4449612 N



Log 1, Image 107, Isolate 4, Automatic machine-made aqua bottle base fragment "ABCo/ E6" 3-inch diameter
(Plan) Praana Two Washoe BESS/PSES Site Project, UTM Zone 11, 246049 E/ 4449111 N



Log 1, Image 108, Isolate 4, Automatic machine-made aqua bottle base fragment “ABCo/ E6” 3-inch diameter
(Plan) Praana Two Washoe BESS/PSES Site Project, UTM Zone 11, 246049 E/ 4449111 N

APPENDIX D: IMACS FORMS

Eligibility: Unevaluated ___ Not eligible___ Eligible X Criteria: A___B___C___D X by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa5578

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 2,400 m N/S by 470 M E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada

Historic Theme/Affiliation: Unknown prehistoric

Age: N/A

Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This previously recorded prehistoric site is a very large variable density prehistoric artifact scatter situated on the edge of a dry lacustrine shoreline. The site has been recorded prior by INFOTEC Research, Inc., in October of 1993 for the Tuscarora Gas Transmission Project (Project 003-1583). The site was described as a complex lithic scatter containing three projectile point bases, eight ground stone pieces, three battered stones (basalt), two scrapers, 13 cores, biface fragments, numerous unifaces, uniface fragments, and at least 500 flakes. A piece of apparently worked glass was also observed. The site spans 2,200 x 500 m. They described one concentration containing more than 75 flakes in a 1 by 2 meter area.

This latest update revealed the same site boundary with relation to the current APE. There are significantly more artifacts represented at this site than the 500 observed earlier. There is likely 10s of thousands of artifacts represented at the site. Most are typical of late-stage lithic reduction but with a large variety of material types represented on site including cherts in many colors, basalt, and obsidian. The site is densest near its center with the boundary defined by a significant reduction in artifact density with up to 15 to 20 flakes per square meter being the densest in some areas. Only the portion of the site within 100 meters of the 200-foot-wide inventory corridor for Rainbow Road was subject to an update. Boundaries are accurate. No tools were observed.

National Register Justification:

The prior evaluation of this very large prehistoric site recommended the site for listing under Criterion D for variability in the artifact assemblage suggests that this site may yield important data on chronology, settlement, technology, and subsistence. They also suggested the potential for subsurface deposits. Mesa concurs with the prior evaluation. The prehistoric component is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the earliest or latest example of a site attributed to a major prehistoric period or transitional event at this time. Due to the lack of written records, prehistoric sites cannot be identified with a specific individual and the site is recommended not eligible to the NRHP under Criterion B. The prehistoric site is not recommended eligible for listing under Criterion C for there is currently no evidence for unique features or spatial patterning at this time therefore the site cannot currently address the research questions outlined for the current investigation as they relate to site structure. The site is recommended eligible to the NRHP under Criterion D, for it includes a vary large number of artifacts spread out over a large area and likely may represent all prehistoric time periods. Its position and density in close proximity to a lacustrine dry lakebed suggests the potential for a Paleoarchaic related occupation that could provide information concerning Late Pleistocene/ Early Holocene transition in the Great Basin. The site includes a large number of obsidian artifacts and chronological data in the form of obsidian hydration analysis and sourcing studies can refine current chronological sequences for the area and our understanding of land use strategies. Therefore, the site is recommended eligible to the NRHP for its potential to address many of the major research issues and questions associated with chronology and land use patterns as outlined for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245600 m E/ 4444450 m N; 246100 m E/ 4442060 m N; 246370 m E/ 4442420 m N; 245350 m E/ 44443120 m N

12. Township/Range (to quarter section only): Sections 20, 21, 27, & 28 of Township 26 North, Range 18 East

- 13. Meridian:** Mt. Diablo **14. Map Reference:** *Flanigan, Nev-Ca & State Line Peak. 7.5-min*
USGS quads. 1964 (Photorevised, 1981)
- 15. Land Owner:** Private **16. BLM District and Field Office:** N/A
- 17. Photographs (attach photo log):** Log 1, Images 109-112
- 18. Recorded by:** S. Simpson **Date:** 05/02/2021 **19. Survey Organization:** Mesa Field Services
- 20. Distance to Permanent Water (meters X 100):** 7.8 **Type:** Spring
- 21. Geographic Unit:** Honey Lake Valley (BMG)
- 22. Topographic Location/Primary Landform:** Valley
- 23. Depositional Context:** Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

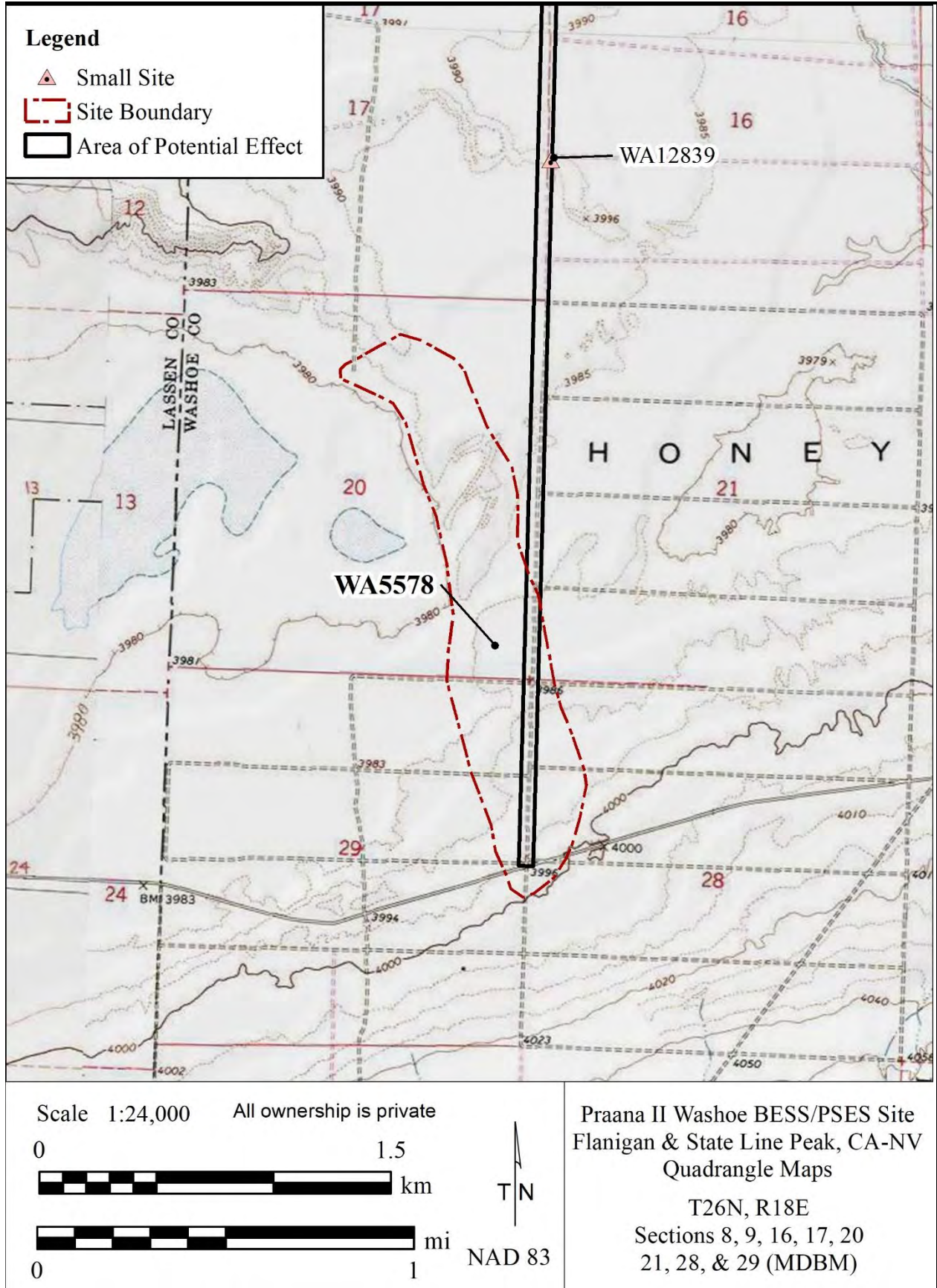
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
1,000+	1	Obsidian	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	Extensive debris scatter of mostly tertiary and secondary flakes
1,000+	1	Chert	(LS) Lithic Scatter/Concentration	1 to 3 centimeters in length	Extensive debris scatter of mostly tertiary and secondary flakes. Large variety of colors and material types.
1,000+	1	Basalt	(LS) Lithic Scatter/Concentration	2 to 3 centimeters in length	Extensive debris scatter of mostly tertiary and secondary flakes

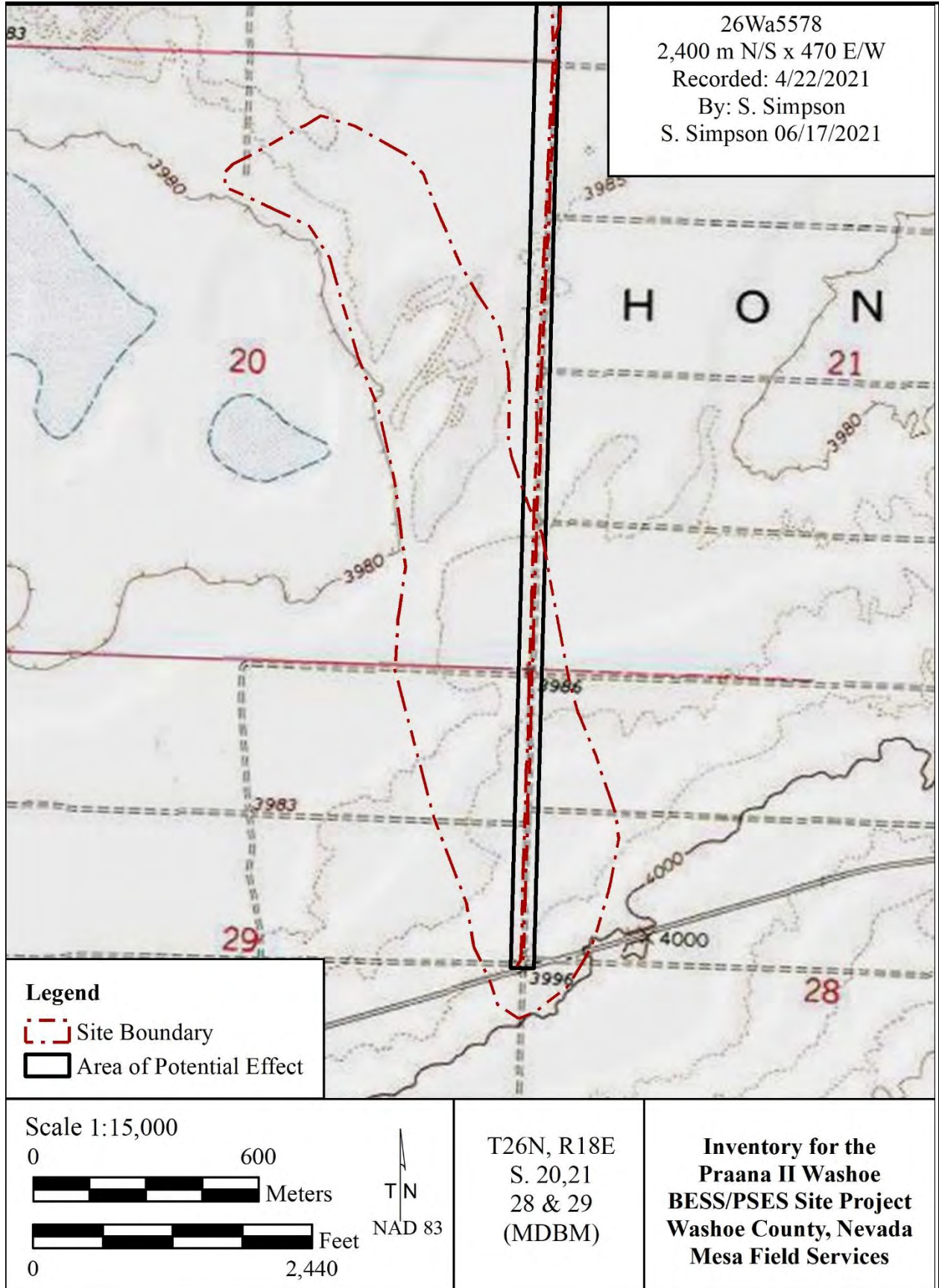
Bibliography:

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation.* National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs





Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
109	26Wa5578	Site overview	330°	246065	4443507	5/02/21
110	26Wa5578	Site overview	270°	246065	4443507	5/02/21
111	26Wa5578	Site overview	320°	246005	4442883	5/02/21
112	26Wa5578	Site overview	320°	246005	4442883	5/02/21



Log 1, Image 109, 26Wa5578, Site Overview (330°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246065 E/ 4443507 N



Log 1, Image 110, 26Wa5578, Site Overview (270°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246065 E/ 4443507 N



Log 1, Image 111, 26Wa5578, Site Overview (320°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246005 E/ 4442883 N



Log 1, Image 112, 26Wa5578, Site Overview (160°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246005 E/ 4442883 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12839

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 10.5 m N/S x 1 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of one biface or potential projectile point fragment (A-1) and a single piece of tertiary chert debitage. The site is located on the south side of a low dune just east of Rainbow Road (Figure 1). The surrounding topography is relatively flat. The dune is long and linear extending in a roughly east to west direction. The dune formation is low varying between 5 and 10 feet higher than the surrounding ground surface. The two artifacts are evident in blowouts between areas of vegetation and are 10.5 meters apart. The site lacks an association with tools or temporally diagnostic artifacts. The site area has been impacted by the construction and use of Rainbow Road and an unnamed road that extends from Rainbow Road to the east.

National Register Justification:

The prehistoric site consists of a limited debitage scatter with one biface fragment. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exist in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,990 ft.

11. UTM Grid: Zone 11, 246134 m E/ 4445335 m N

12. Township/Range (to quarter section only): SW $\frac{1}{4}$ of Section 15, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 1-6

18. Recorded by: S. Simpson Date: 04/22/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 7.8

Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

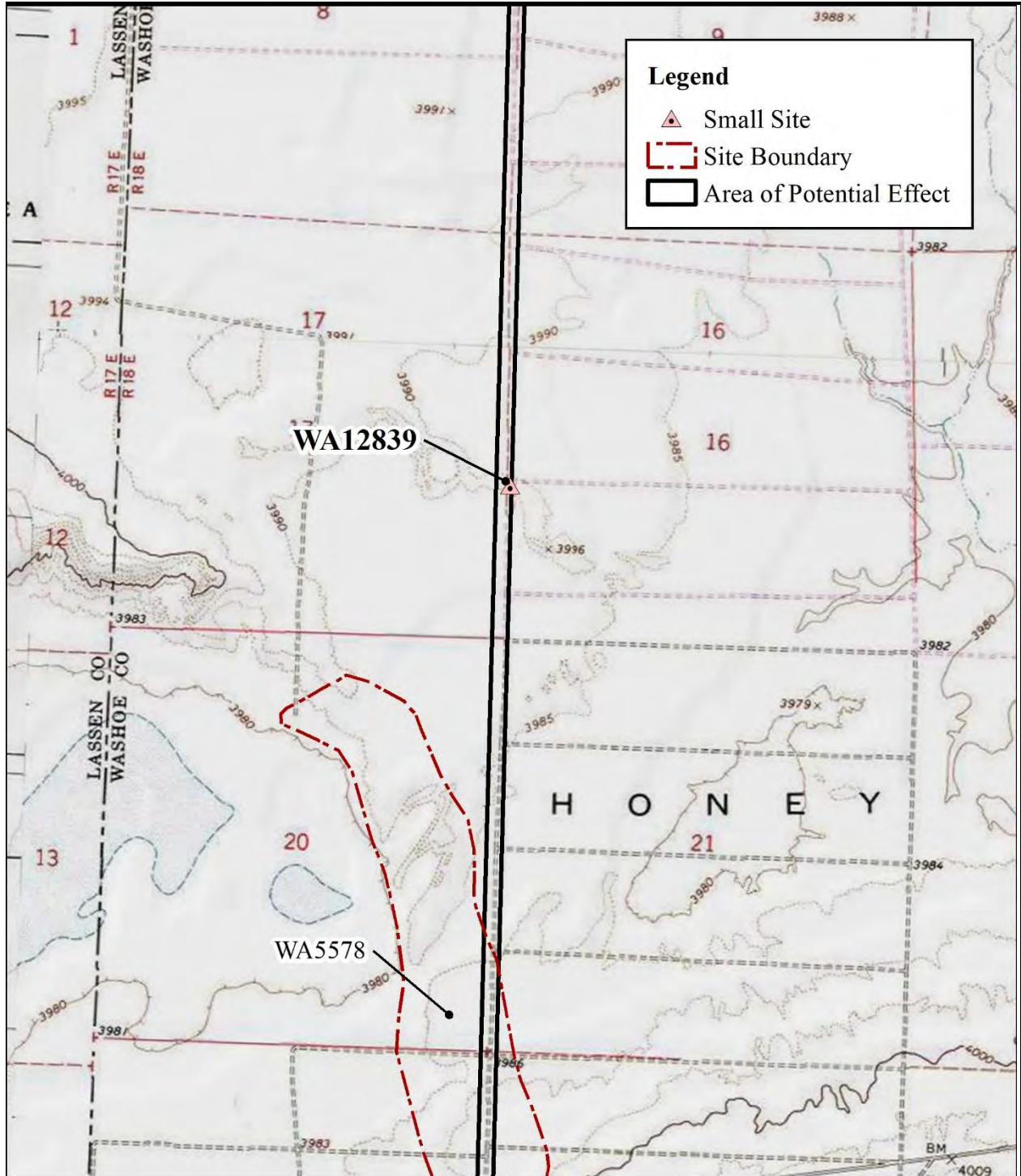
Count	Density m ³	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
9	1	Brown Chert	(LS) Lithic Scatter/Concentration	2 centimeters in length	One tertiary flake.
1	1	gray ccs	Biface	2.1 cm x 2.3 cm x 0.7 cm	A-1: Biface with serrated edges and a damaged base.

Bibliography:

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation.* National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs



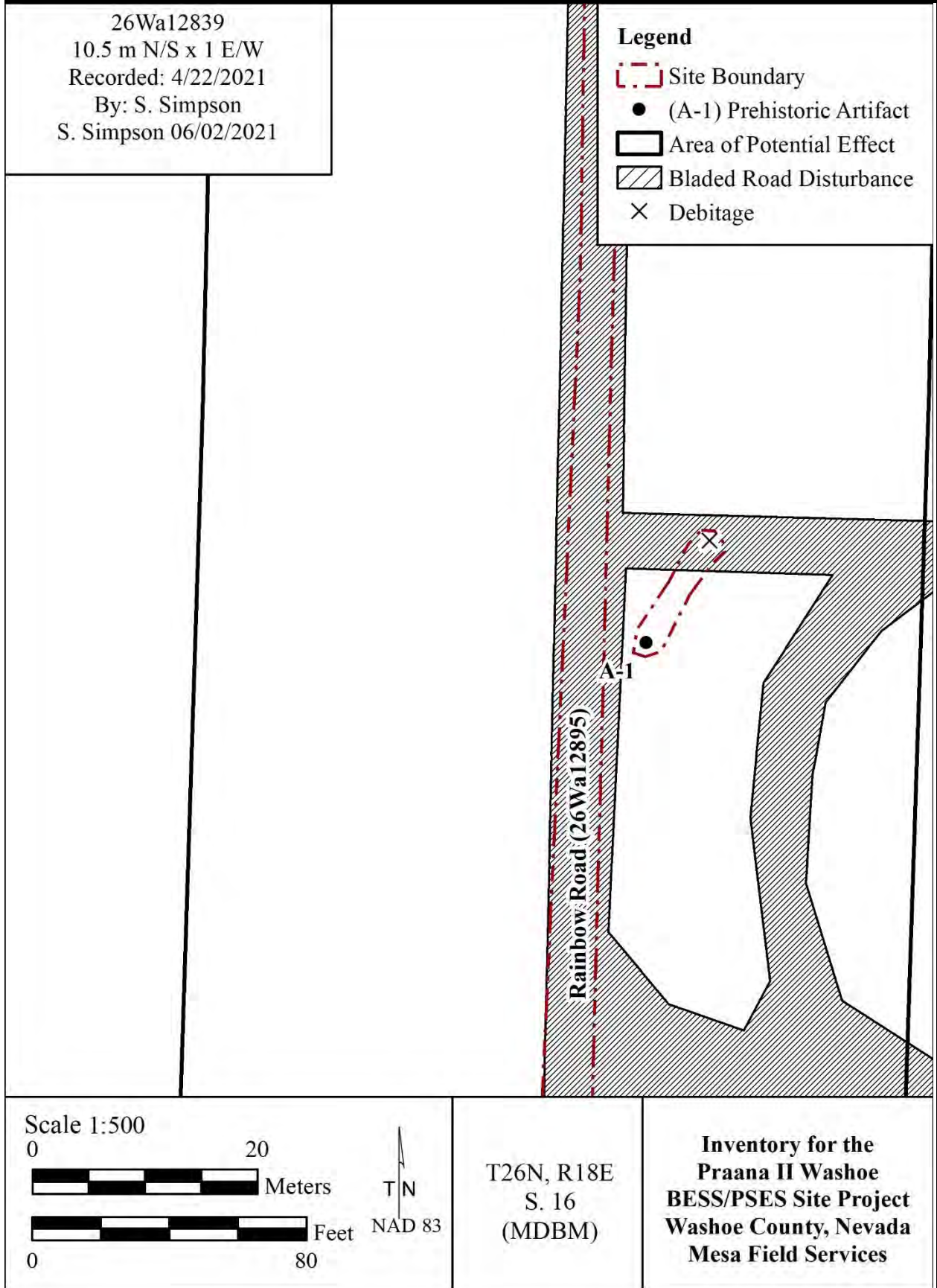
Scale 1:24,000 All ownership is private



NAD 83

Praana II Washoe BESS/PSES Site
 Flanigan NV-CA &
 State Line Peak, NV
 Quadrangle Maps

T26N, R18E
 Section 16 (MDBM)



Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
1	26Wa12839	Site overview	10°	246130	4445302	4/22/21
2	26Wa12839	Site overview	285°	246152	4445328	4/22/21
3	26Wa12839	A-1 Serrated Projectile Point Fragment	Plan	246132	4445330	4/22/21
4	26Wa12839	A-1 Serrated Projectile Point Fragment	Plan	246132	4445330	4/22/21
5	26Wa12839	A-1 Serrated Projectile Point Fragment	Profile	246132	4445330	4/22/21
6	26Wa12839	Site overview	120°	246119	4445351	4/22/21



Log 1, Image 1, 26Wa12839, Site Overview (10°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246130 E/ 4445302 N



Log 1, Image 2, 26Wa12839, Site Overview (285°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246152 E/ 4445328 N



Log 1, Image 3, 26Wa12839, A-3 Side B, gray ccs biface, 2.1 cm x 2.3 cm x 0.7 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246132 E/ 4445330 N



Log 1, Image 4, 26Wa12839, A-3 Side B, gray ccs biface, 2.1 cm x 2.3 cm x 0.7 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246132 E/ 4445330 N



Log 1, Image 5, 26Wa12839, A-3 Side B, gray ccs biface, 2.1 cm x 2.3 cm x 0.7 cm (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246132 E/ 4445330 N



Log 1, Image 6, 26Wa12839, Site Overview (120°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246119 E/ 4445351 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12840

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 66 m N/S x 120 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of a variable density scatter of artifacts located on flat terrain. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. Most of the material is late-stage reduction being less than two centimeters in length and lacking cortex. The lithic materials are comprised of nine chert flakes, seven basalt flakes and one black translucent obsidian fragment of micro debitage. The majority of the artifacts are concentrated in the east half of the site with up to four pieces of debitage per meter at its most dense, otherwise it is one artifact every 5 to 10 meters. The density thins out considerably towards the west end of the site. The chert flakes are comprised of at least four different varieties including a yellow, red, brown, and a mottled red to orange variety. No tools were identified at this site. The site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245960 m E/ 4448904 m N

12. Township/Range (to quarter section only): NE $\frac{1}{4}$ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 7 through 9

18. Recorded by: S. Simpson

Date: 04/23/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 11.2 Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

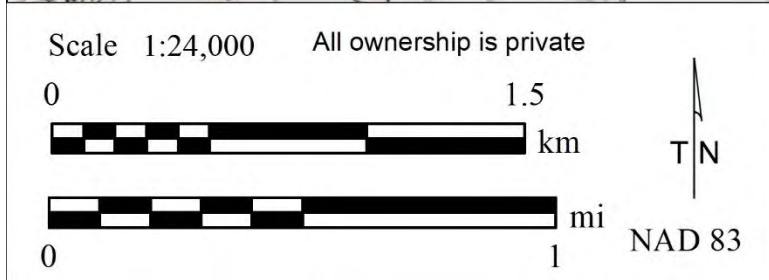
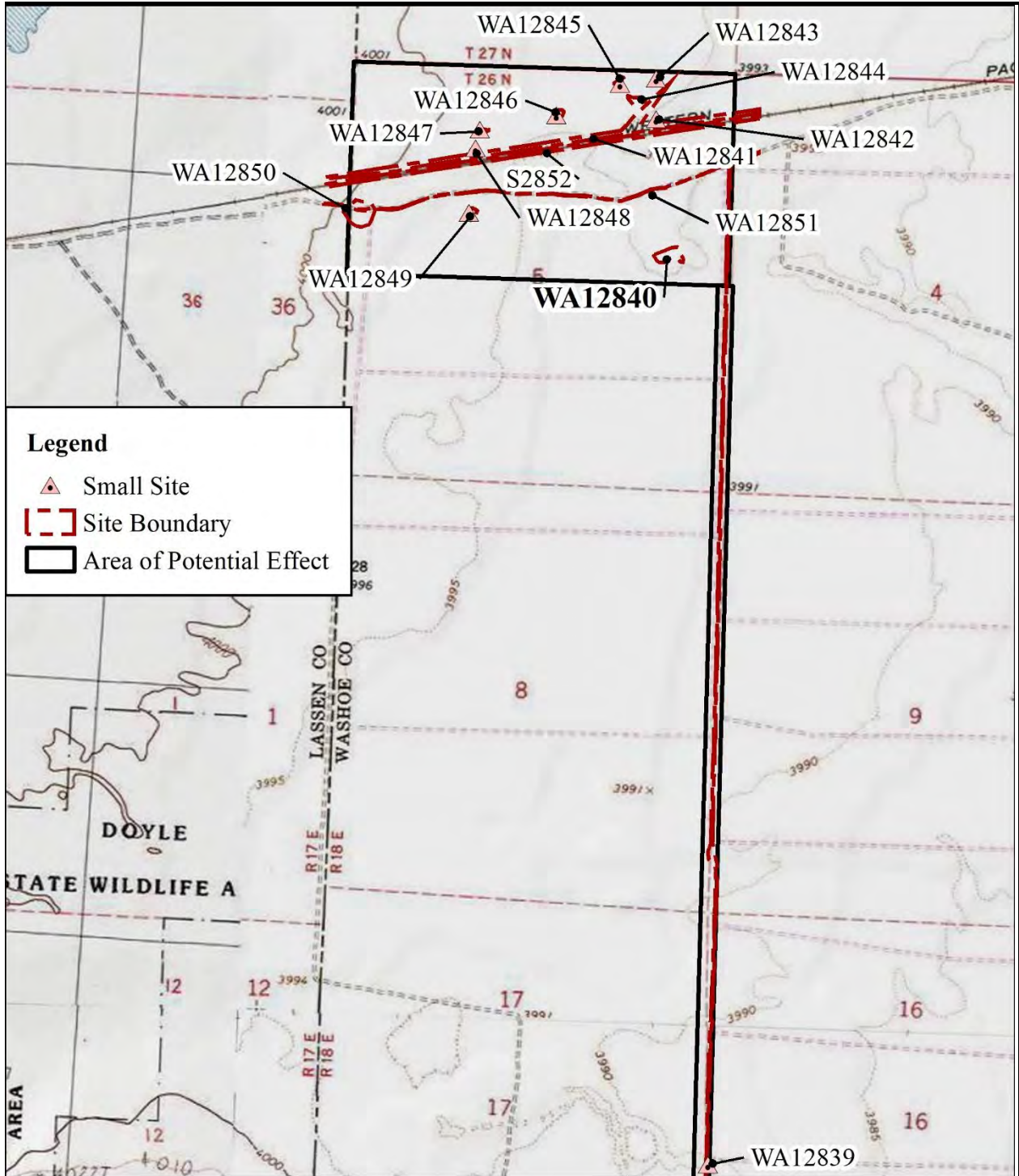
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
9	1	Chert	(LS) Lithic Scatter/Concentration		General lithic scatter for the site with up to 4 flakes per square meter. Red, yellow, orange, brown purple, and white colored materials (100% sample analyzed).
7	1	Basalt	(LS) Lithic Scatter/Concentration		One flake per meter at its most dense.
1	1	Obsidian	(LS) Lithic Scatter/Concentration		One small micro debitage, black opaque.

Bibliography:

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

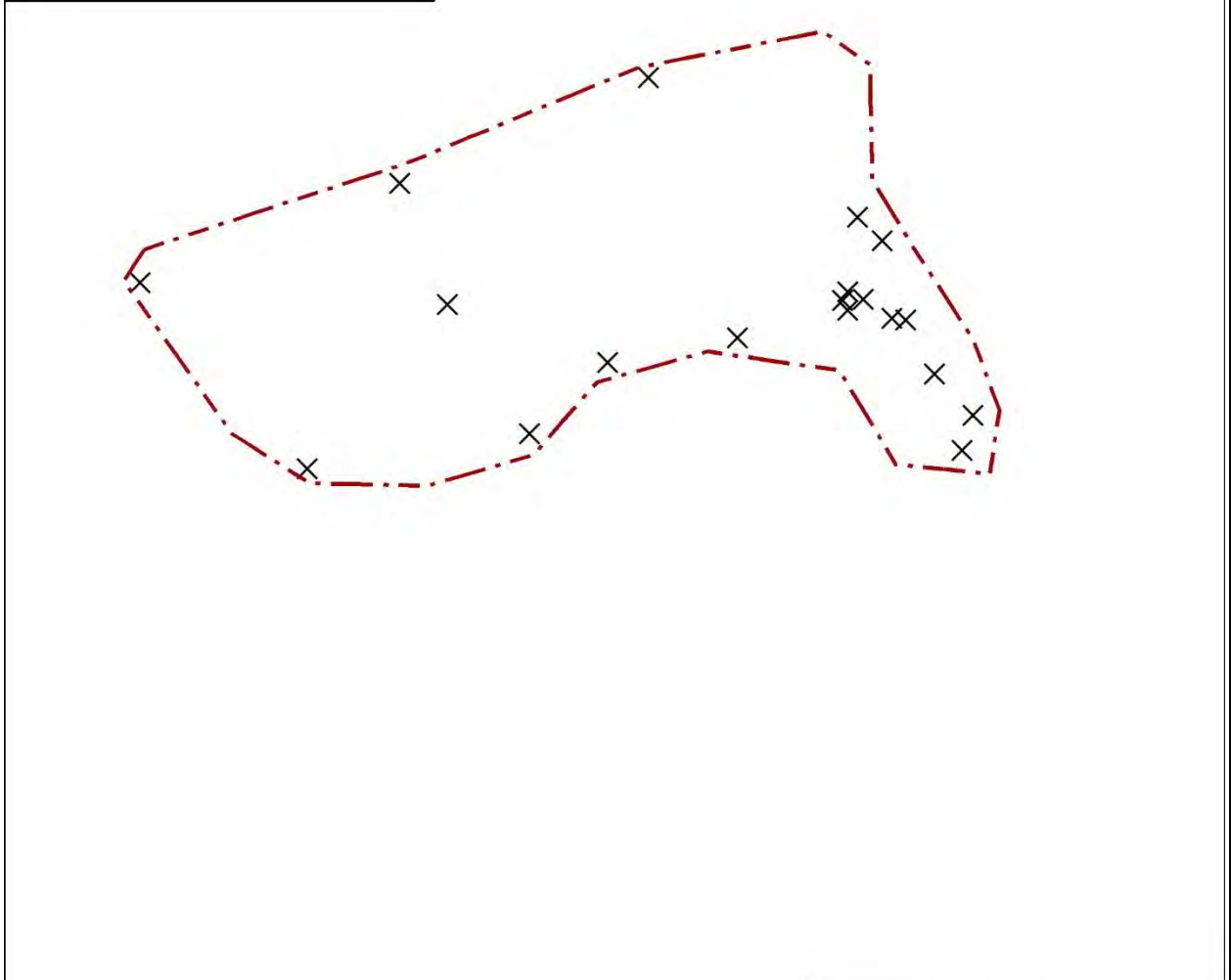
Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs



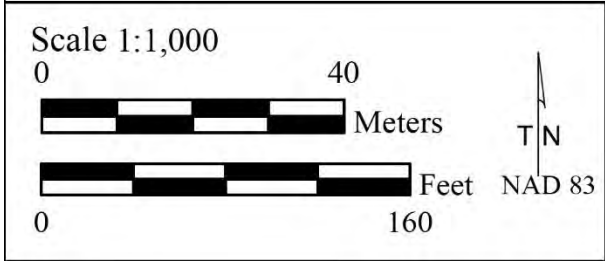
Praana II Washoe BESS/PSES Site
 Flanigan NV-CA &
 State Line Peak, NV
 Quadrangle Maps

 T26N, R18E
 Section 5 (MDBM)

26Wa12840
66 m N/S x 120 m E/W
Recorded: 4/23/2021
By: S. Simpson
S. Simpson 06/10/2021



Legend
[Red dashed line] Site Boundary
[Black solid line] Area of Potential Effect
X Debitage



T26N, R18E
S. 5
(MDBM)

**Inventory for the
Praana II Washoe
BESS/PSES Site Project
Washoe County, Nevada
Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
7	26Wa12840	Site overview	50°	246005	4448880	4/23/21
8	26Wa12840	Site overview	120°	246005	4448916	4/23/21
9	26Wa12840	Site overview	335°	245936	4448878	4/23/21



Log 1, Image 7, 26Wa12840, Site Overview (50°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246005 E/ 4448880 N



Log 1, Image 8, 26Wa12840, Site Overview (120°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246005 E/ 4448916 N



Log 1, Image 9, 26Wa12840, Site Overview (335°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246045 E/ 4448883 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12841

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Historic

Site area: 190 m N/S by 1,730 m E/W
Artifacts

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Communication (CM)

Age: 1907+ Dating Method: (F) Cross-Dating/Diag.

Depth of Cultural Fill: surface

9. Site description:

This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 with passenger service in August of 1910 (Myrich 1992:318-319). While the line has been dismantled there are some remains of materials in the area including two utility poles with its hardware attached in addition to a broad scatter of glass insulators, copper wire, and a number of the wooden cross members. The site boundary is defined by the original alignment and a broad scatter of loose hardware components along the north side of the railroad grade (S2852/D352). The glass insulators include mostly aqua but also one clear glass insulator. Most are fragments but several include marks including two aqua colored insulators H-1 and H-3 embossed "HEMINGRAY Patented Oct. 8th 1907," and a clear or replacement insulator H-4 embossed "Hemingray-45, Made in USA." Hemingray-45 was in manufacture between 1938 - 1950 for long distance telephone lines (Meier 2021). The insulator H-4 would seem to indicate this was a long-distance telephone line.

National Register Justification:

The site constitutes a recorded segment of a historic era telephone line along the north side the Western Pacific Railroad first in operation in 1910. According to Johnson (2006:63) a utility line should be considered a linear feature and evaluated as part of an entire utility system under Criteria A and B with the recorded portion or segment within a project area evaluated under Criteria C and D as a contributing or non-contributing element. The line was installed in possible as early as 1910. A search of archival information does not support the use of the line by a particular significant individual in the development of the Western Pacific Railroad and the site is recommended not eligible to the NRHP under Criteria A and B. Only a few pieces of hardware are all that remains of the system which does not appear to represent the remains of a unique system. Therefore, the recorded segment does not represent unique architecture or constructed elements or the remains of a system specifically important to developments for the area and is recommended not eligible to the NRHP under Criterion C. The recorded segment has been mostly dismantled and the remaining hardware have been fully recorded in the field with little to no additional information remaining. Since the recorded segment does not contain unique engineered features or evidence for work camps it cannot address important research questions and issues attributed to communication lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D. According to the United State Forest Service recorded segments of a telecommunication line that lack unique engineered features or have been severely altered by vandalism, removal of poles, or removal of insulators are considered not eligible under all criteria (Dunkelberger 2014:127). If additional segments of the telephone line can be identified that are more intact with significant research potential the site may be considered eligible to the NRHP under Criteria C or D. However, the current recorded segment should be considered a non-contributing element.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 246334mE 4449468m N NAD 83 (East End)
244625m E 4449205m N NAD 83 (West End)

12. Township/Range (to quarter section only): NW¼ and NE¼ of Section 5, Township 26 North, Range 18 East, NE¼ of Section 6 of Township 26 North, Range 18 East, and Section 4 of Township 26 North, Range 18 East

13. Meridian: Mt. Diablo

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

(Photorevised, 1981)

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 10 through 28

18. Recorded by: S. Simpson

Date: 04/23/2021, 4/27/2021 & 5/02/2021

19. Survey Organization:

Mesa Field Services

20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
6+/-	2	Copper	(WI) Wire		Telegraph or telephone wire
2	2	Glass	(G7) Insulators	Fragments	Aqua color similar to H-1 below
1	2	Glass	(G7) Insulators	3 3/16 by 2 ½ in.	H-1 Aqua glass insulator "HEMINGRAY/ Pat 1907"
1	1	Glass	(G7) Insulators	3 3/16 by 2? in.	H-3 Broken aqua glass insulator "Patented Oct. 8th 1907"
1	1	Glass	(G7) Insulators	3½ by 3¼ in.	H-4 Clear glass insulator "Hemingray-45, Made in USA/3-54"
2	2	Wood	(BX) Utility Pole	9 in. by 25 ft. in length	Telegraph poles dismantled with hardware present
8	1	Wood	Cross arm	10 feet by 3½ by 2½ in.	Some include their metal pins

Bibliography:

Dunkelberger, W.

2015 *Humboldt-Toiyabe National Forest Interim Guidelines and Standards for Archaeological Inventory for Archaeological Contractors Working in Nevada.* Revised Interim Draft. Humboldt-Toiyabe National Forest.

Johnson, Erika

2006 *Along the Smooth and Slender Wires: A Historical Context for Overhead Communication and Electrical Lines in Nevada.* Summit EnviroSolutions, Reno, Nevada. Prepared for Sierra Pacific Power Company, Reno, Nevada.

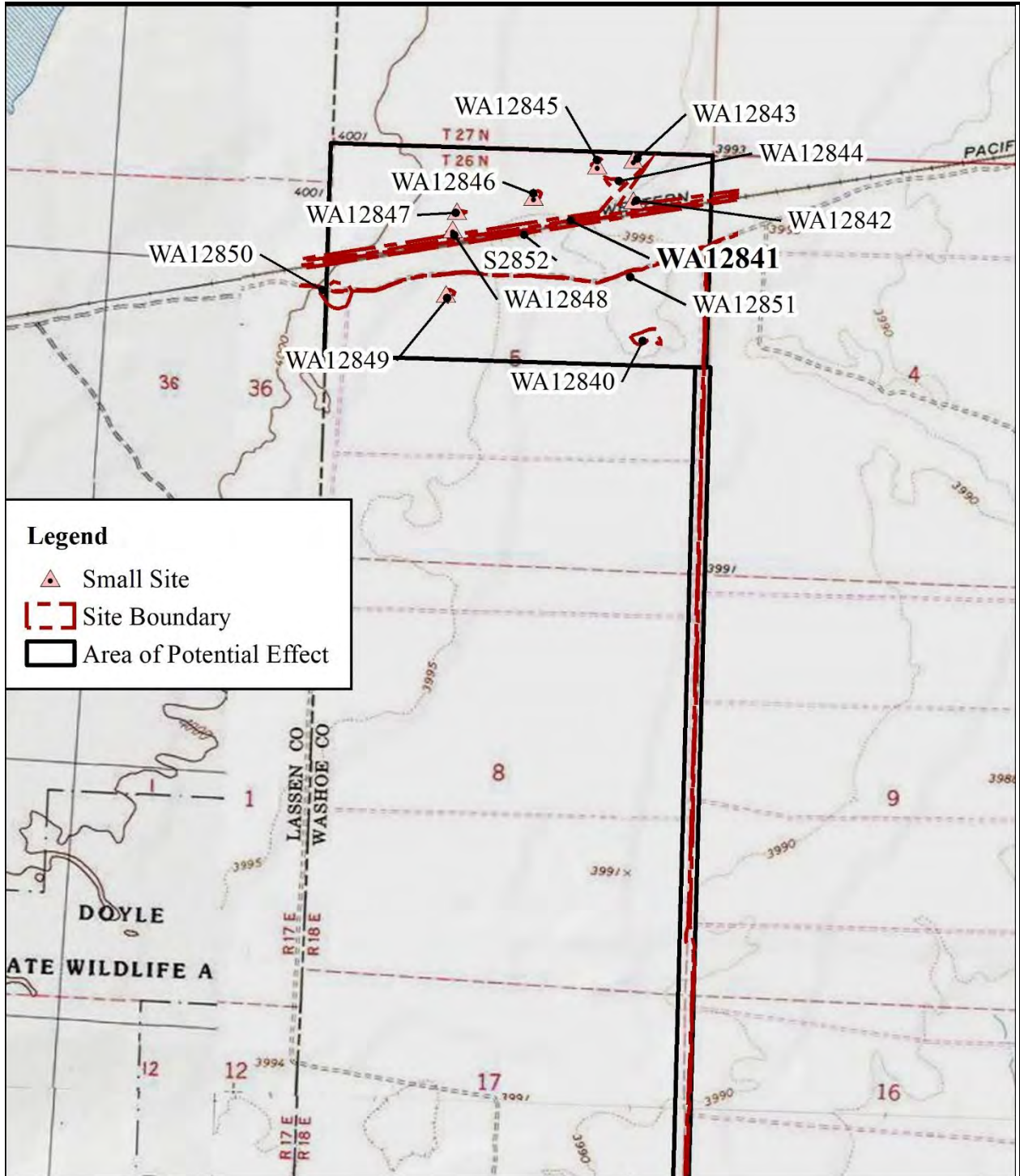
Myrick, D.

1992 *Railroads of Nevada and Eastern California, Volume I: The Northern Roads.* University of Nevada Press, Reno, Las Vegas, London.

Meier, Bill

2021 Insulators Glass and Porcelain. Electronic document,
<https://www.insulators.info/general/profiles/155hemi.htm>, accessed June 7, 2021.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs



Legend

- Small Site
- Site Boundary
- Area of Potential Effect

Scale 1:24,000 All ownership is private

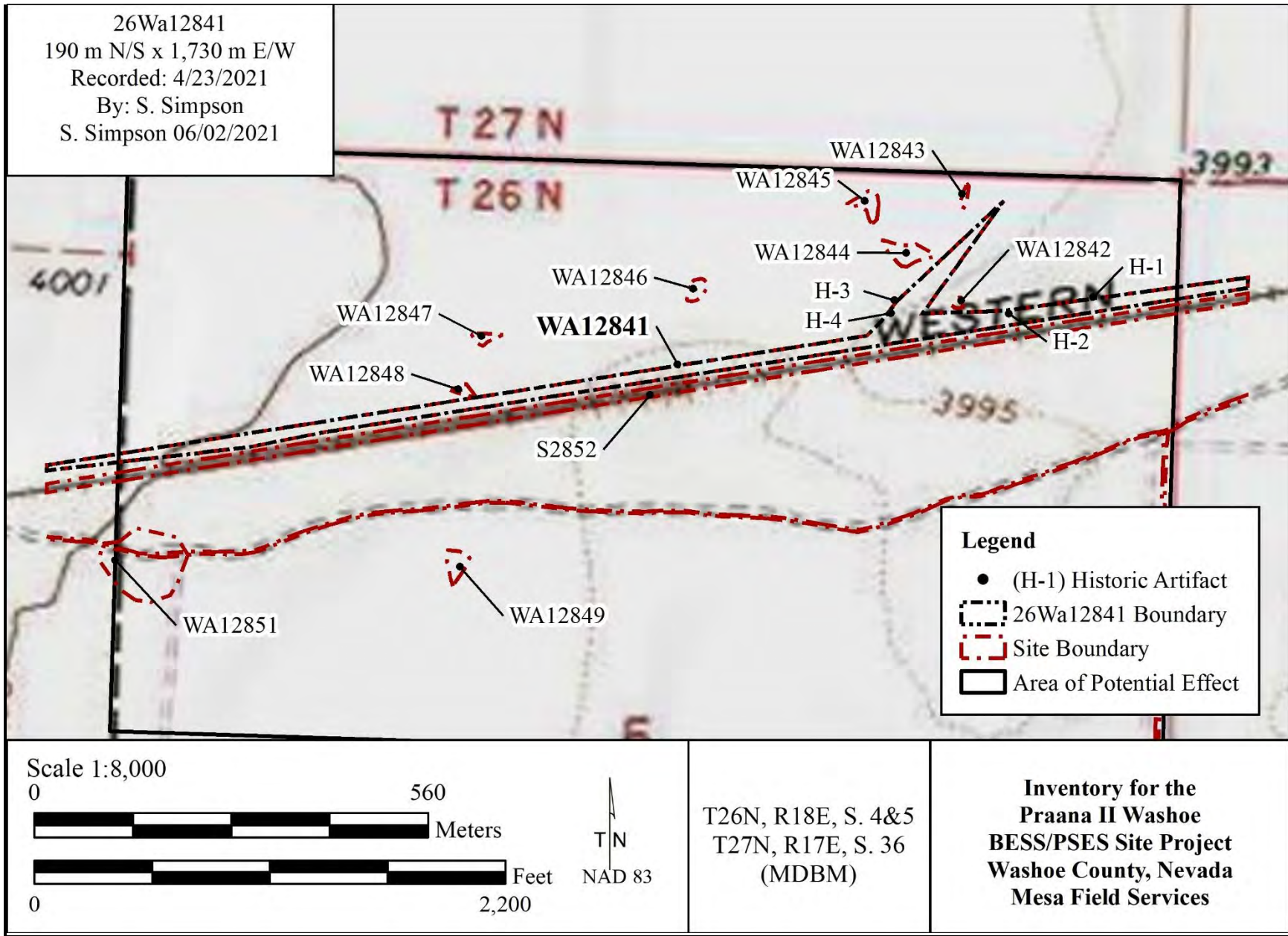
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T N

NAD 83

Praana II Washoe BESS/PSES Site
 Flanigan NV-CA &
 State Line Peak, NV
 Quadrangle Maps
 T26N, R18E, S. 4&5
 T27N, R17E. S36 (MDBM)



Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
10	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Profile	246111	4449440	4/23/21
11	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Profile	246111	4449440	4/23/21
12	26Wa12841	H-1 Aqua glass insulator "Hemingray/ Pat 1907"	Plan	246111	4449440	4/23/21
13	26Wa12841	H-2 Cross arm from telegraph pole	Plan	245986	4449426	4/23/21
14	26Wa12841	H-2 Cross arm insulator bolt,	Plan	245986	4449426	4/23/21
15	26Wa12841	H-2 cross arm insulator bolt with wooden dowl	Plan	245986	4449426	4/23/21
16	26Wa12841	H-3 Broken aqua glass insulator "Patented Oct. 8 th 1907"	Plan	245898	4449393	4/27/21
17	26Wa12841	H-3 Broken aqua glass insulator "Patented Oct. 8 th 1907"	Plan	245898	4449393	4/27/21
18	26Wa12841	H-3 Two collected poles	210°	245836	4449440	4/27/21
19	26Wa12841	H-3 Two collected poles	100°	245836	4449440	4/27/21
20	26Wa12841	H-3 Detail of hardware components	Plan	245836	4449440	4/27/21
21	26Wa12841	H-3 Detail of hardware components	Plan	245836	4449440	4/27/21
22	26Wa12841	H-3 Clear insulator threaded on wooden peg	Plan	245836	4449440	4/27/21
23	26Wa12841	H-3 Clear glass insulator "Made in USA, 3-54, Hemingray-45"	Plan	245836	4449440	4/27/21
24	26Wa12841	H-3 Clear glass insulator "Made in USA, 3-54, Hemingray-45"	Plan	245836	4449440	4/27/21
25	26Wa12841	Site overview	90°	244774	4449216	5/02/21
26	26Wa12841	Site overview	270°	244774	4449216	5/02/21
27	26Wa12841	Site overview	270°	246627	4449442	5/02/21
28	26Wa12841	Site overview	70°	246627	4449442	5/02/21



Log 1, Image 10, 26Wa12841, H-1 Aqua glass insulator “HEMINGRAY/ Pat 1907,” 3 3/16 by 2 ½ in. tall (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246111 E/ 4449440 N



Log 1, Image 11, 26Wa12841, H-1 Aqua glass insulator “HEMINGRAY/ Pat 1907,” 3 3/16 by 2 ½ in. tall (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246111 E/ 4449440 N



Log 1, Image 12, 26Wa12841, H-1 Aqua glass insulator "HEMINGRAY/ Pat 1907," 3 3/16 by 2 1/2 in. tall (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246111 E/ 4449440 N



Log 1, Image 13, 26Wa12841, H-2 Cross arm from telegraph pole, 10 feet long by 3 1/2 in. by 2 1/2 in. (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245986 E/ 4449426 N



Log 1, Image 14, 26Wa12841, H-2 cross arm insulator bolt, 9 in. length (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245986 E/ 4449426 N



Log 1, Image 15, 26Wa12841, H-2 cross arm insulator bolt 9 in. length with wooden dowl (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245986 E/ 4449426 N



Log 1, Image 16, 26Wa12841, H-3 Broken aqua glass insulator "Patented Oct. 8th 1907," 3 3/16 by 2? in. tall (Profile) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245898 E/ 4449393 N



Log 1, Image 17, 26Wa12841, H-3 Broken aqua glass insulator "Patented Oct. 8th 1907," 3 3/16 by 2? in. tall (Profile) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245898 E/ 4449393 N



Log 1, Image 18, 26Wa12841, H-3 Collected poles, base 9 in. diameter by 25 ft. in length (210°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 19, 26Wa12841, H-3 Collected poles, base 9 in. diameter by 25 ft. in length (100°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 20, 26Wa12841, H-3 Detail of hardware components (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 21, 26Wa12841, H-3 Detail of hardware components (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 22, 26Wa12841, H-4 Clear insulator threaded on wooden peg, 8¾ in. long (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 23, 26Wa12841, H-4 Clear glass insulator "Hemingray-45, Made in USA/3-54," 3½ by 3¾ (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 24, 26Wa12841, H-4 Clear glass insulator "Hemingray-45, Made in USA/3-54," 3½ by 3¾ (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 25, 26Wa12841, Site overview (90°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 26, 26Wa12841, Site overview (270°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 27, 26Wa12841, Site overview (270°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N



Log 1, Image 28, 26Wa12841, Site overview (70°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245836 E/ 4449440 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12842

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric/Historic

Site area: 15 m N/S x 15 m E/W

Artifacts

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Unknown Prehistoric

Age: 1911+ Dating Method: (F) Cross-Dating/Diag.

Depth of Cultural Fill: surface

9. Site description:

This newly recorded multicomponent site is comprised of a small prehistoric lithic and historic can scatter located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The prehistoric artifacts are comprised of two chert and one obsidian flake dispersed across the northern part of the site with each artifact being several meters apart from each other. The assemblage is characteristic of late-stage reduction with flakes lacking cortex. Material includes two brown chert flakes and one black opaque obsidian flake. No prehistoric tools were identified at this site and the prehistoric component lacks an association with temporally diagnostic artifacts. The historic component is comprised of a domestic debris scatter including tin cans concentrated in the southern part of the site with up to several cans per square meter. The historic artifact scatter is comprised of seven hole-in-top cans, eight sanitary cans, one large square fuel can, six fragments of various cans and one embossed can lid (H-1). The lid (H-1) has been knife cut and is embossed "TREE TEA & ORANGE PEKOE." The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

National Register Justification:

The prehistoric component consists of a limited debitage scatter of only three pieces of debitage. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric component is limited. The prehistoric component is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation marking a significant transitional event. Due to the lack of written records, the prehistoric component cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The prehistoric component is recommended not eligible under Criterion C for it is a limited scatter of artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric component lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric component is recommended as not eligible to the NRHP under any of the four National Register criteria.

The historic component is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic component is a limited domestic debris scatter that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore recommended not eligible to the NRHP under Criterion C. The historic component contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic component is a limited domestic debris scatter that lacks task specific artifacts related to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans

are common to many contemporaneous occupations regardless of land use activity. Therefore, the historic component does not address important research themes and issues attributed to transportation and telephone lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

- 10. Elevation:** 3,995 ft. **11. UTM Grid:** Zone 11, 245920 m E/ 4449437 m N
12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo **14. Map Reference:** *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private **16. BLM District and Field Office:** N/A
17. Photographs (attach photo log): Log 1, Images 29 through 33
18. Recorded by: S. Simpson **Date:** 04/27/2021 **19. Survey Organization:** Mesa Field Services
20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
7	3	Metal	(TD) Tin Cans - Hole in Top	3 x 4 5/16 in.	Evaporated Milk
5	2	Metal	(TC) Tin Can-Sanitary	3 6/16 x 4 9/16 in.	Knife cut opened
3	1	Metal	(TC) Tin Can-Sanitary	3 x 2 11/16 in.	Knife cut opened
1	1	Metal	(TC) Tin Can-Sanitary	6 1/3 x 2½ x 3 in. thick	Square can, knife cut opened.
6	1	Metal	(TC) Tin Cans - Sanitary	Crushed	Various fragments
1	1	Metal	(CN) Can Lid	3 11/16 dia. in.	H-1: Knife cut lid embossed "TREE TEA & ORANGE PEKOE"
2	1	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters	Opaque brown chert tertiary flakes
1	1	Obsidian	(LS) Lithic Scatter/Concentration	1 to 2 centimeters	Black opaque tertiary flake

Bibliography:

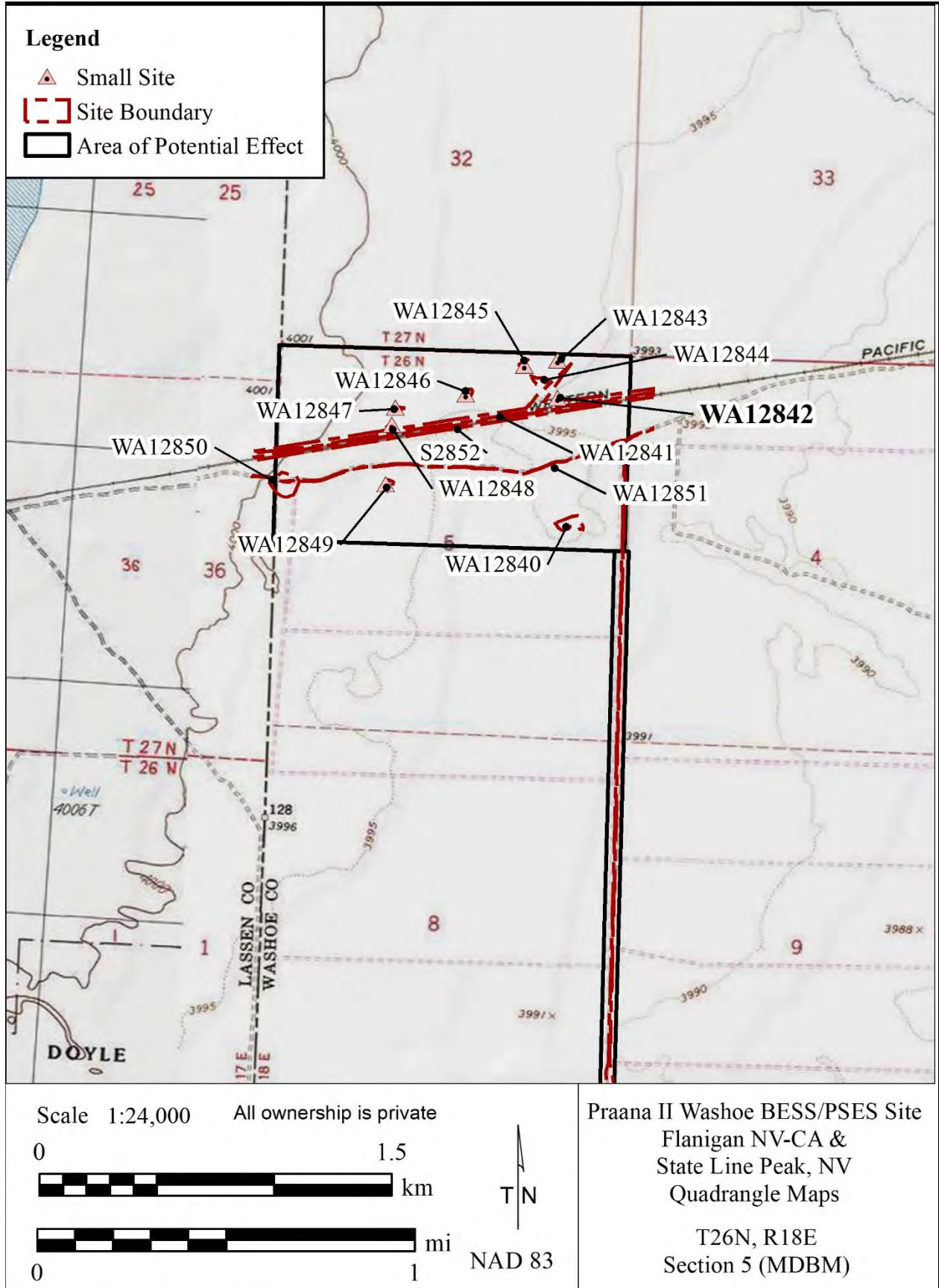
Rock, J.

1989 *Tin Canister: Their Identification.* Ms. On file at the U.S. Forest Service, Klamath National Forest, Yreka, California.

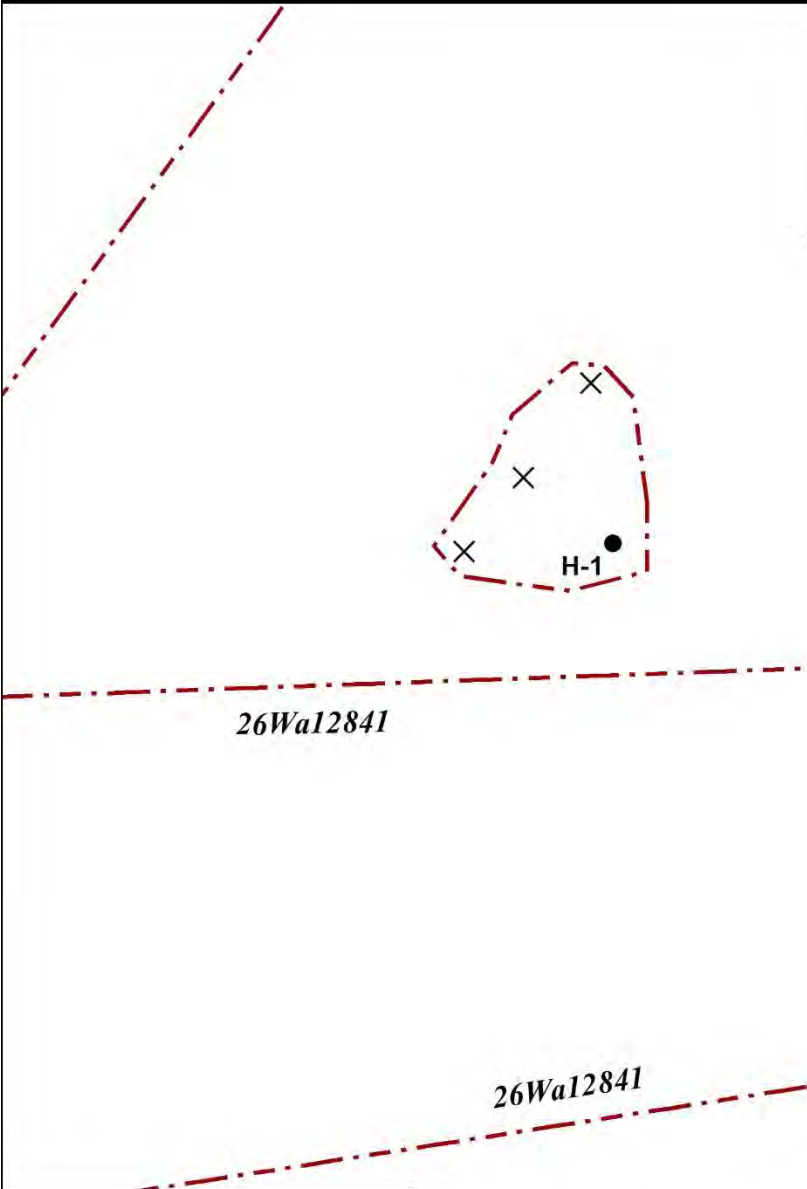
National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation.* National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.





Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs




26Wa12842
 15 m N/S x 15 m E/W
 Recorded: 4/27/2021
 By: S. Simpson
 S. Simpson 06/02/2021




Legend

-  Site Boundary
-  Debitage
-  (H-1) Historic Artifact
-  Railroad Tracks

Scale 1:500

0 20
 Meters

0 80
 Feet

T N
 NAD 83

T26N, R18E
 S. 5
 (MDBM)

**Inventory for the
 Praana II Washoe
 BESS/PSES Site Project
 Washoe County, Nevada
 Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
29	26Wa12842	Site overview	43°	245928	4449435	4/27/21
30	26Wa12842	Site overview	189°	245929	4449497	4/27/21
31	26Wa12842	Site overview	224°	245936	4448878	4/27/21
32	26Wa12842	H-1: Can lid embossed "TREE TEA & ORANGE PEKOE"	Plan	245927	4449434	4/27/21
33	26Wa12842	H-1: Can lid embossed "TREE TEA & ORANGE PEKOE"	Plan	245927	4449434	4/27/21



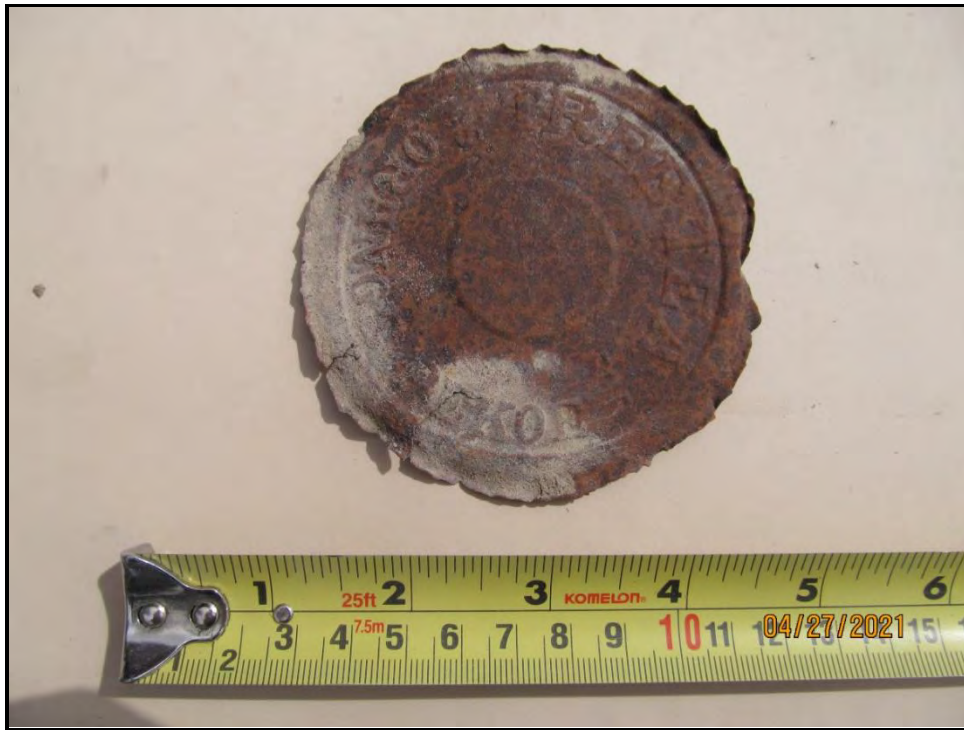
Log 1, Image 29, 26Wa12842, Site Overview (43°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245928 E/ 4449435 N



Log 1, Image 30, 26Wa12842, Site Overview (189°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245929 E/ 4449479 N



Log 1, Image 31, 26Wa12842, Site Overview (224°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245936 E/ 4448878 N



Log 1, Image 32, 26Wa12842, H-1: Can lid embossed "TREE TEA & ORANGE PEKOE" 3 11/16" dia. (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245927 E/ 4449434 N



Log 1, Image 33, 26Wa12842, H-1: Can lid embossed "TREE TEA & ORANGE PEKOE" 3 11/16" dia. (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245927 E/ 4449434 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12843

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 33 m N/S x 12 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of six pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of four translucent black obsidian tertiary flakes and one red tertiary chert flake within a one-meter area plus a brown tertiary chert flake close to 30 meters north. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245932 m E/ 4449589 m N

12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 34 through 36

18. Recorded by: S. Simpson

Date: 04/27/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 17.9

Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

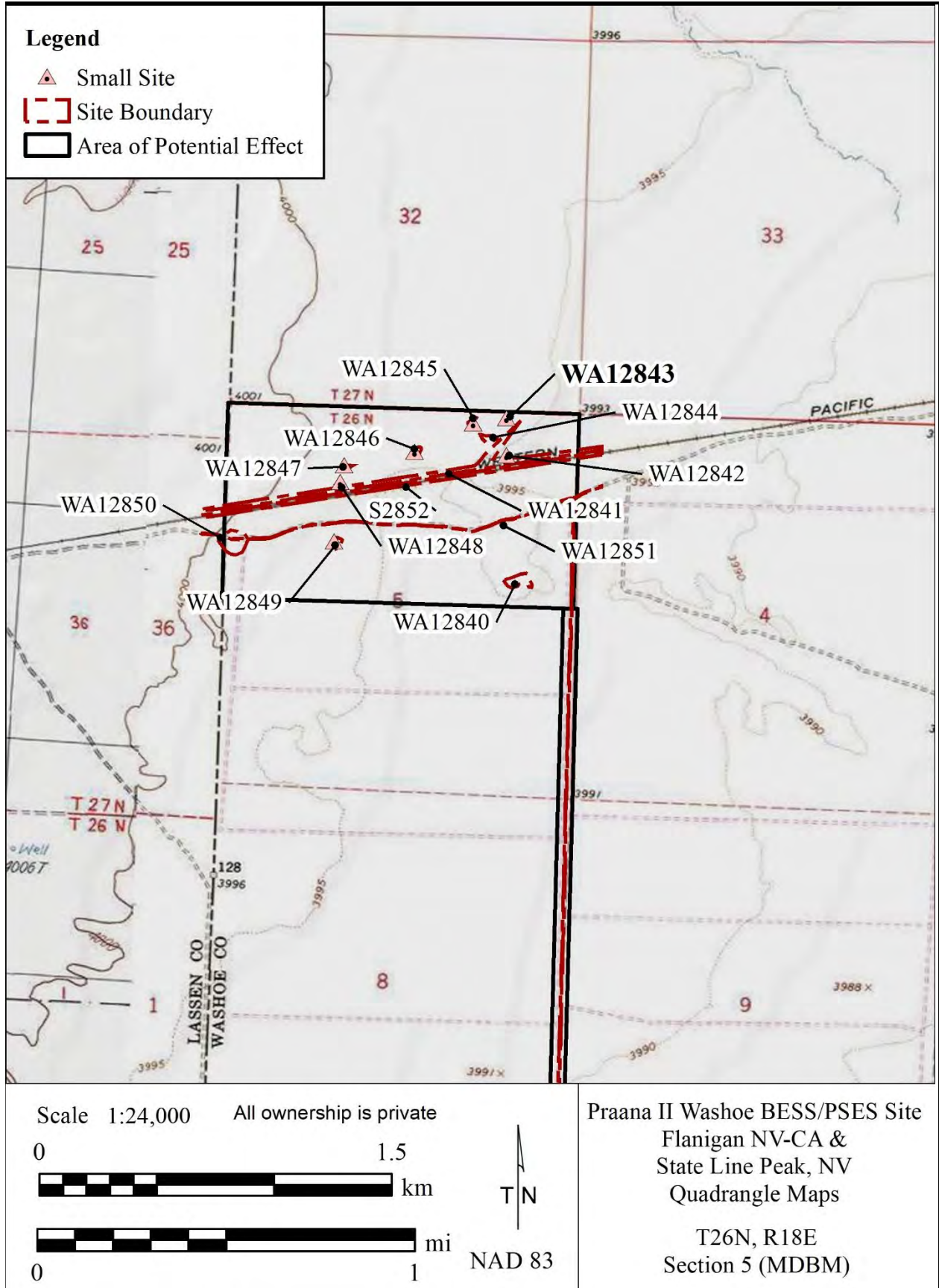
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
2	1	Chert	(LS) Lithic Scatter/Concentration		Red and a brown variety each.
4	4	Obsidian	(LS) Lithic Scatter/Concentration		Small tertiary debitage, black translucent.

Bibliography:

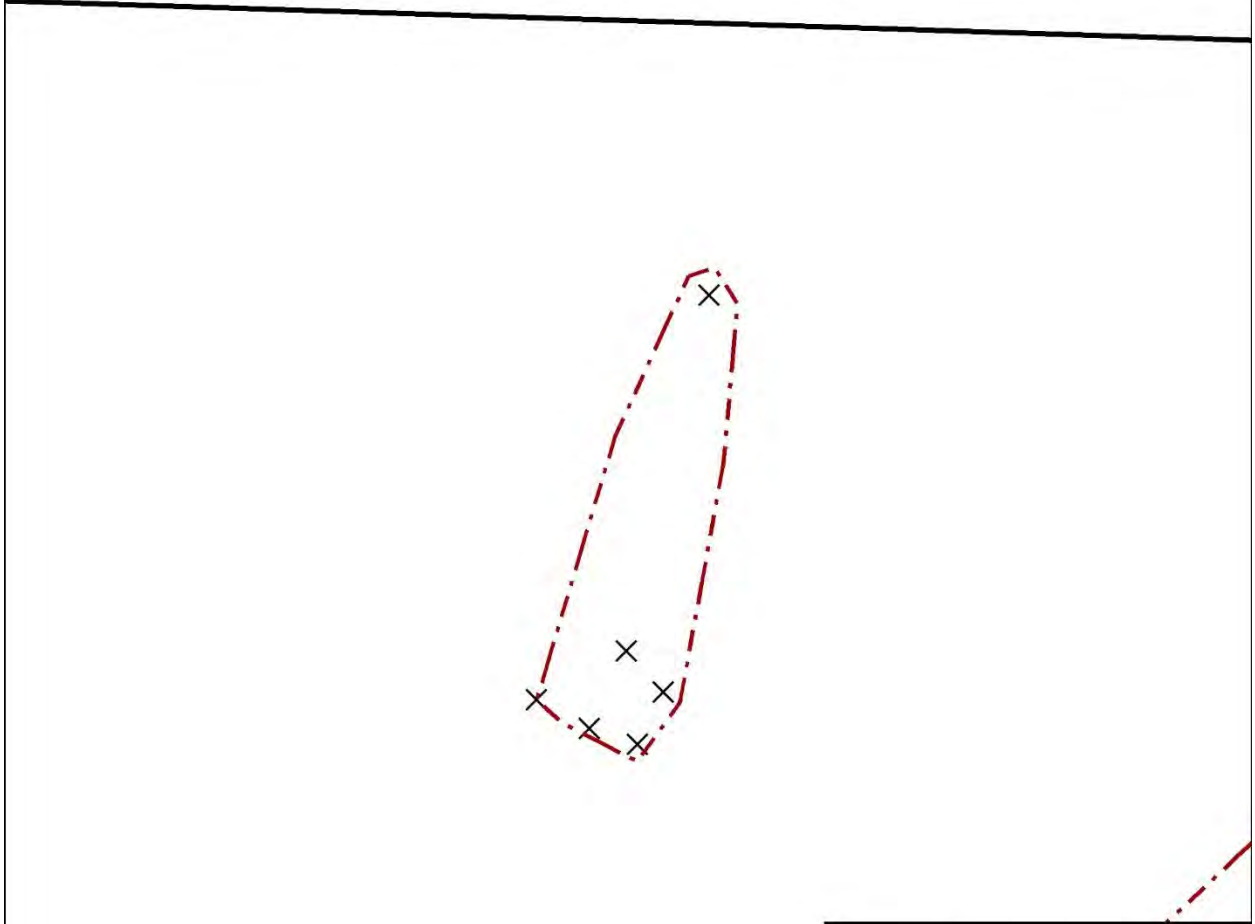
National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

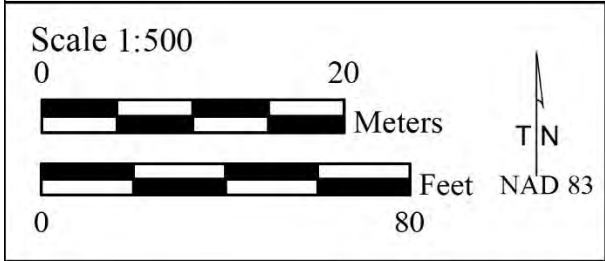
Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs



26Wa12843
33 m N/S x 12 m E/W
Recorded: 4/27/2021
By: S. Simpson
S. Simpson 06/02/2021



Legend
[Red dashed line] Site Boundary
[White box] Area of Potential Effect
X Debitage



T26N, R18E
S. 5
(MDBM)

**Inventory for the
Praana II Washoe
BESS/PSES Site Project
Washoe County, Nevada
Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
34	26Wa12843	Site overview	70°	245922	4449573	4/27/21
35	26Wa12843	Site overview	280°	246937	4449574	4/27/21
36	26Wa12843	Site overview	170°	245927	4449584	4/27/21



Log 1, Image 34, 26Wa12843, Site Overview (70°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245922 E/ 4449573 N



Log 1, Image 35, 26Wa12843, Site Overview (280°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246937 E/ 4449574 N



Log 1, Image 36, 26WaSite2, Site Overview (170°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245927 E/ 4449584 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12844
3. BLM Site No: Not Applicable

2. County: Washoe
4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

5. Temporary/Field Site No: N/A
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Site area: 38 m N/S x 73 m E/W

Historic Theme/Affiliation: Unknown
Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded variable density prehistoric site is a small lithic scatter comprised of two biface fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 100 meters north (Figure 1) of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex and include 14 flakes of translucent and opaque black obsidian, eight chert and eight gray basalt flakes. Most of the debitage are tertiary flakes. The chert materials are represented by two varieties; a gray chert and a yellow and orange mottled chert. The basalt flakes include five tertiary, and three secondary flakes and one piece of angular debris. Site density varies from one artifact every five to ten meters up to three artifacts per square meter in some areas. Both the biface fragments are made of the same gray basalt. The first (A-1) is a biface or midsection fragment of a projectile point broken near the base broken at what are likely side notches and may represent an impact fracture. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks an association with temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter with two biface fragments. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245851 m E/ 4449509 m N

12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 37-45

18. Recorded by: S. Simpson Date: 04/27/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 7.8

Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

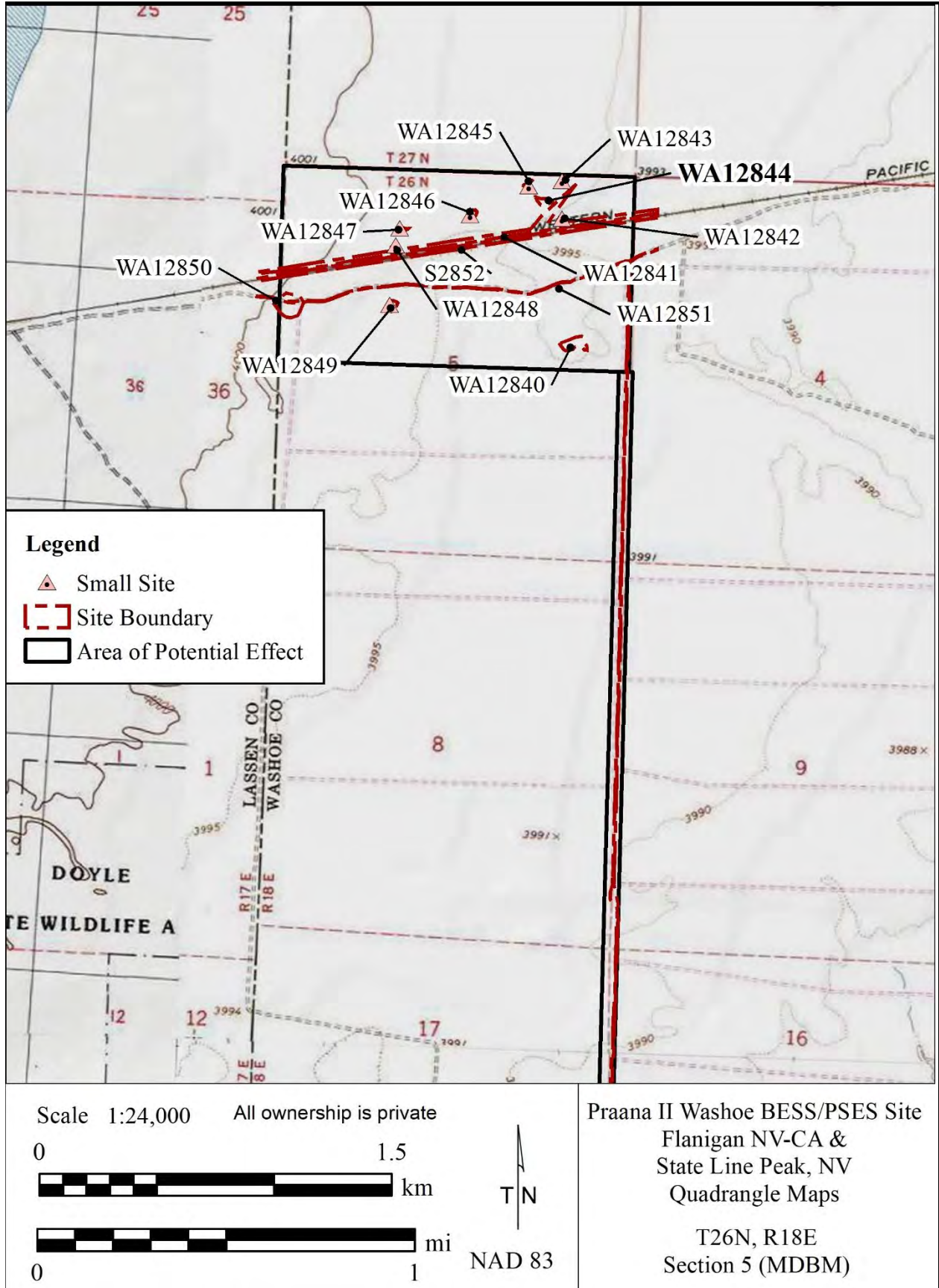
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
14	1	Obsidian	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	Eight translucent and six opaque black obsidian tertiary flakes.
8	1	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	15 Tertiary flakes and one secondary. 3 dark gray chert and the rest mottled yellow to orange variety.
8	1	Basalt	(LS) Lithic Scatter/Concentration	2 to 3 centimeters in length	5 Tertiary flakes, three secondary and one angular debris.
1	1	gray basalt	Biface	3 cm x 2.8 cm x 0.6 cm	A-1: Basalt Biface or midsection projectile point near the base broken at side notching.
1	1	gray basalt	Biface	2 cm x 1.5 cm x 0.4 cm	A-2: Biface fragment one half heavily polished or worn on one side.

Bibliography:

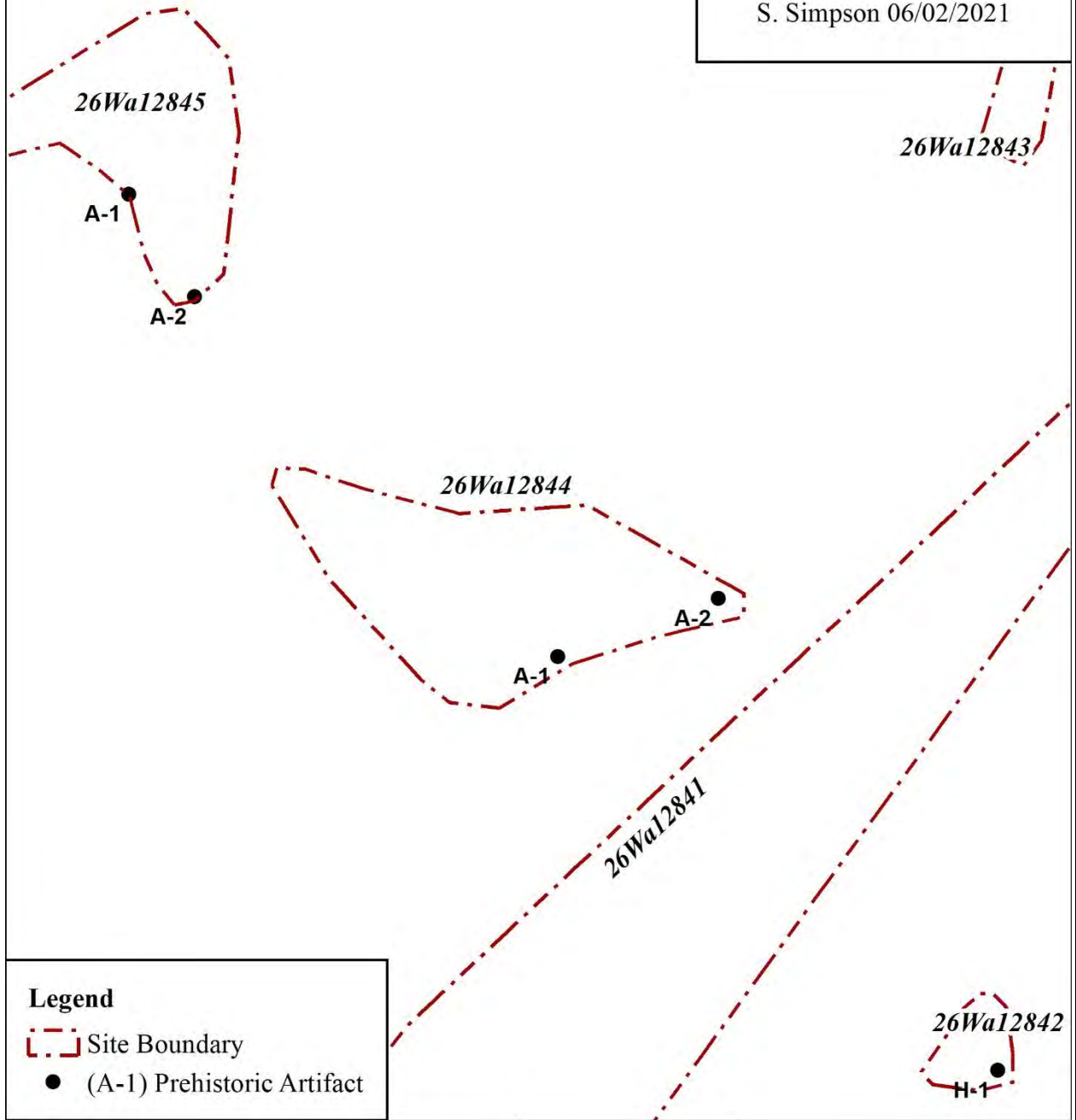
National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs



26Wa12844
 38 m N/S x 78 m E/W
 Recorded: 4/27/2021
 By: S. Simpson
 S. Simpson 06/02/2021



Legend
 Site Boundary
 (A-1) Prehistoric Artifact

Scale 1:1,000
 0 40
 Meters
 0 160
 Feet
 T N
 NAD 83

T26N, R18E
 S. 5
 (MDBM)

**Inventory for the
 Praana II Washoe
 BESS/PSES Site Project
 Washoe County, Nevada
 Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
37	26Wa12844	Site overview	270°	245882	4449502	4/27/21
38	26Wa12844	Site overview	210°	245890	4449528	4/27/21
39	26Wa12844	Site overview	90°	245833	4449510	4/27/21
40	26Wa12844	A-1 biface, side A	Plan	245859	4449528	4/27/21
41	26Wa12844	A-1 biface, side B	Plan	245859	4449528	4/27/21
42	26Wa12844	A-1 biface	Profile	245859	4449528	4/27/21
43	26Wa12844	A-2 biface, side A	Plan	245883	4449508	4/27/21
44	26Wa12844	A-2 biface, side B	Plan	245883	4449508	4/27/21
45	26Wa12844	A-2 biface	Profile	245883	4449508	4/27/21



Log 1, Image 37, 26Wa12844, Site Overview (270°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245882 E/ 4449502 N



Log 1, Image 38, 26Wa12844, Site Overview (210°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245890 E/ 4449528 N



Log 1, Image 39, 26Wa12844, Site Overview (90°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245833 E/ 4449510 N



Log 1, Image 40, 26Wa12844, A-1 Side A, gray basalt biface fragment or mid-section, 3 cm x 2.8 cm x 0.6 cm
(Plan) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245859 E/ 4449528 N



Log 1, Image 41, 26Wa12844, A-1 Side B, gray basalt biface fragment or mid-section, 3 cm x 2.8 cm x 0.6 cm (Plan) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245859 E/ 4449528 N



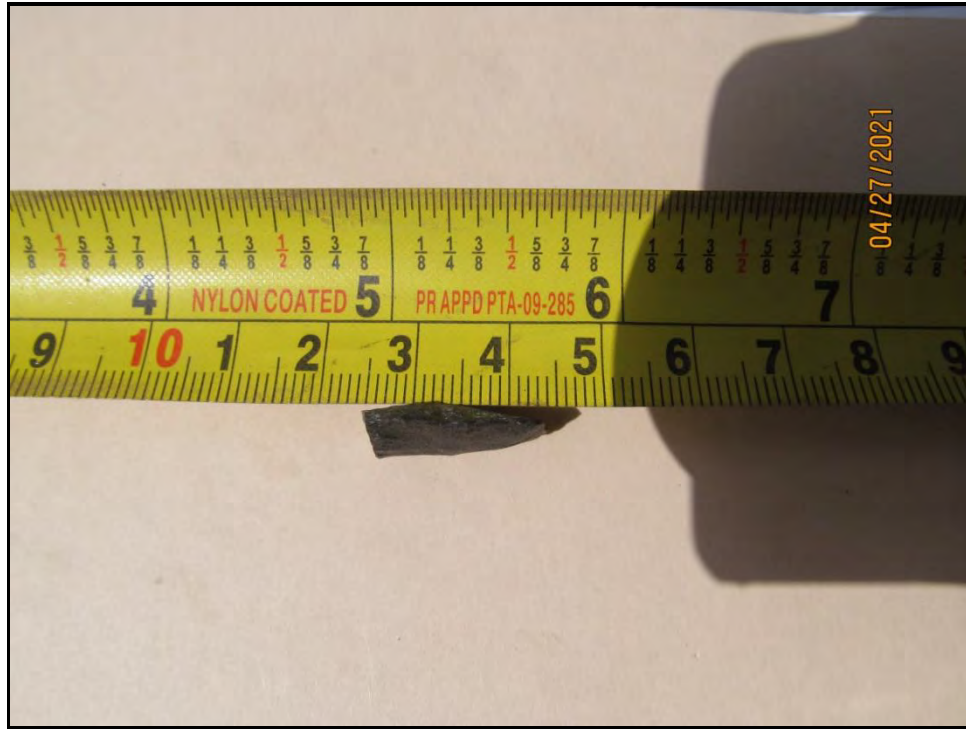
Log 1, Image 42, 26Wa12844, A-1 Profile, gray basalt biface fragment or mid-section, 3 cm x 2.8 cm x 0.6 cm Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245859 E/ 4449528 N



Log 1, Image 43, 26Wa12844, A-2 Side A, gray basalt biface fragment, 2 cm x 1.5 cm x 0.4 cm
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245883 E/ 4449508 N



Log 1, Image 44, 26Wa12844, A-2 Side B, gray basalt biface fragment, 2 cm x 1.5 cm x 0.4 cm
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245883 E/ 4449508 N



Log 1, Image 45, 26Wa12844, A-2 Profile, gray basalt biface fragment, 2 cm x 1.5 cm x 0.4 cm
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245883 E/ 4449508 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12845

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 45 m N/S x 45 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded light density prehistoric site is a small lithic scatter comprised of two prehistoric tool fragments (A-1 and A-2) and a light scatter of debitage. The site is located approximately 30 meters northwest of prehistoric site 26Wa12844 (Figure 1). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. They include eight fine grained gray basalt, five chert and two obsidian flakes. The obsidian includes a black opaque tertiary flake and piece of angular debris. The chert includes similar material types to other prehistoric sites in the immediate area and include a yellow and a dark red variety. Site density varies from one artifact every five to ten meters up to two artifacts per square meter in some areas. Both the tools are fragments made of the same gray fine-grained basalt. The first tool (A-1) is a circular uniface fragment or scraper. The artifact is disc shaped. The second (A-2), is one half of a biface fragment. It is heavily polished or worn on one side. The site lacks a definitive association with temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter with two tools and no temporally diagnostic artifacts. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245786 m E/ 4449575 m N

12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: Flanigan, Nev. 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 46-54

18. Recorded by: S. Simpson Date: 04/27/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 7.8

Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain**24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
8	1	Basalt	(LS) Lithic Scatter/Concentration	2 to 3 centimeters in length	8 Tertiary flakes.
5	1	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	4 Tertiary flakes and one angular debris. Includes a Gray and a dark red colored cherts.
2	1	Obsidian	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	One tertiary flake and one primary flake of opaque black obsidian.
1	1	gray basalt	Biface	5 cm x 3.5 cm x 1.9 cm	A-1: Fine grained gray basalt scraper "Turtle Back Scraper" fragment.
1	1	gray basalt	Biface	2.8 cm x 2 cm x 0.6 cm	A-2: Biface base fragment or possible stem point. Some polish on lateral edges.

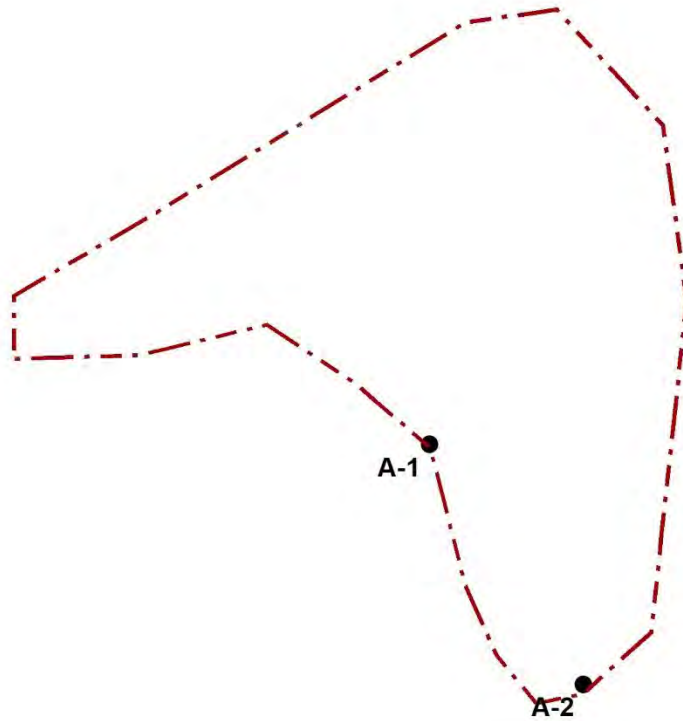
Bibliography:



National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.



Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs

26Wa12845
 45 m N/S x 45 m E/W
 Recorded: 4/27/2021
 By: S. Simpson
 S. Simpson 06/02/2021



Legend
 Site Boundary
 (A-1) Prehistoric Artifact

26Wa12844


Scale 1:500
 0 20
 Meters
 0 80
 Feet
 T N
 NAD 83

T26N, R18E
 S. 5
 (MDBM)

**Inventory for the
 Praana II Washoe
 BESS/PSES Site Project
 Washoe County, Nevada
 Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
46	26Wa12845	A-1 Side A, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
47	26Wa12845	A-1 Side B, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
48	26Wa12845	A-1 Profile, gray basalt scraper "Turtle Back Scraper,"	Plan	245792	4449569	4/27/21
49	26Wa12845	A-2 Side A, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21
50	26Wa12845	A-2 Side B, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21
51	26Wa12845	A-2 Profile, Biface base fragment/ stem point	Plan	245802	4449553	4/27/21
52	26Wa12845	Site overview	330°	245817	4449551	4/27/21
53	26Wa12845	Site overview	200°	245805	4449599	4/27/21
54	26Wa12845	Site overview	110°	245762	4449599	4/27/21



Log 1, Image 46, 26Wa12845, A-1 Side A, gray basalt scraper “Turtle Back Scraper,” 5 cm x 3.5 cm x 1.9 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245792 E/ 4449569 N



Log 1, Image 47, 26Wa12845, A-1 Side B, gray basalt scraper “Turtle Back Scraper,” 5 cm x 3.5 cm x 1.9 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245792 E/ 4449569 N



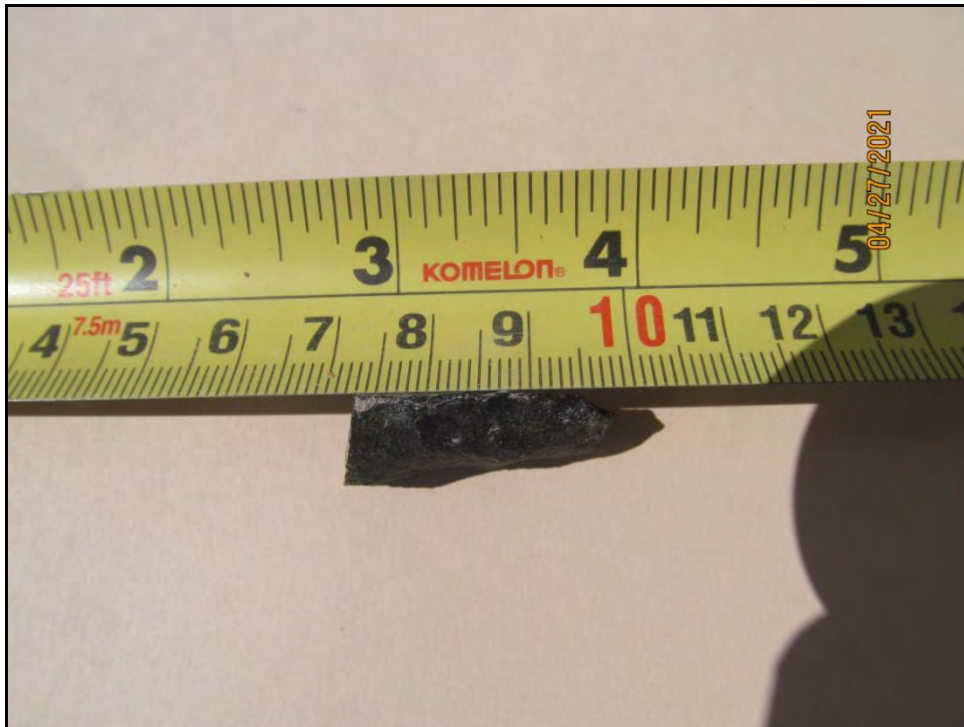
Log 1, Image 48, 26Wa12845, A-1 Profile, gray basalt scraper "Turtle Back Scraper," 5 cm x 3.5 cm x 1.9 cm (Plan) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245792 E/ 4449569 N



Log 1, Image 49, 26Wa12845, A-2 Side A, Biface base fragment/ stem point, 2.8 cm x 2 cm x 0.6 cm (Plan) Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245802 E/ 4449553 N



Log 1, Image 50, 26Wa12845, A-2 Side B, Biface base fragment/ stem point," 2.8 cm x 2 cm x 0.6 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245802 E/ 4449553 N



Log 1, Image 51, 26Wa12845, A-1 Profile, A-2: Biface base fragment/ stem point," 2.8 cm x 2 cm x 0.6 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245802 E/ 4449553 N



Log 1, Image 52, 26Wa12845, Site Overview (330°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245817 E/ 4449551 N



Log 1, Image 53, 26Wa12845, Site Overview (200°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245805 E/ 4449599 N



Log 1, Image 54, 26Wa12845, Site Overview (110°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245762 E/ 4449599 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12846

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Historic

Site area: 32 m N/S x 30 m E/W

Artifacts

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: (ZZ) Unknown

Age: 1911-1921 Dating Method: (F) Cross-Dating/Diag.

Depth of Cultural Fill: surface

9. Site description:

This newly recorded historic domestic debris scatter is comprised of some 50 or so artifacts including various food cans, a broken "Willow Ware" plate (H-1), a glass insulator (H-2), two bottles (H-3 and H-4), sanitary can with a logo (H-5), canning jar (H-6), and the core of a large battery (H-7), likely from a car or truck. The majority of artifacts are in the south part of the site with others dispersed to the north. The site is located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of sanitary cans with up to several cans per square meter. Enough ceramic sherds with H-1 are present to identify it as Willow transfer print. The Willow Pattern is the best known of all transfer print designs. It is a European imitation of a Chinese blue and white design which depicts a river with a bridge across it and willow trees on the bank. Two birds are supposed to represent two lovers flying away from an irate father. First produced by English potters in 1780, the willow pattern is still used today (Barclay 1976). The glass insulator (H-2) is embossed "Brookfield." Brookfield manufactured a variety of glass insulators between 1864 and 1921 and was second only to the Hemingray Glass Company in the sheer number of insulators they manufactured (Whitten 2021). The sanitary can was introduced in 1904 and but did not dominant the market until 1911 (Rock 1989:50, 65-66).

National Register Justification:

The historic site is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic site is a limited domestic debris scatter that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore recommended not eligible to the NRHP under Criterion C. The historic site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic site is a limited domestic debris scatter that lacks task specific artifacts related to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans are common to many contemporaneous occupations regardless of land use activity. Therefore, the site does not address important research themes and issues attributed to mining and domestic related support activity developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245550 m E/ 44449457 m N

12. Township/Range (to quarter section only): NE $\frac{1}{4}$ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo

14. Map Reference: Flanigan, Nev. 7.5-min USGS quad. 1964

(Photorevised, 1981)

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 55 through 69

18. Recorded by: S. Simpson

Date: 04/28/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 11.2

Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain**24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
4	2	Metal	(TC) Tin Can-Sanitary	2¾ x 4 in.	Rotary and knife cut opened
2	1	Metal	(TC) Tin Can-Sanitary	3 3/8 x 3 7/16 in.	Rotary opened
2	1	Metal	(TC) Tin Can-Sanitary	3 7/8 x 4 3/8 in.	Rotary opened
1	1	Metal	(TC) Tin Can-Sanitary	2¾ x 3 ¼ in.	Rotary opened
10	2	Metal	(TD) Tin Cans - Hole in Top	3 x 4¼ in.	Evaporated Milk
16	3	Metal	(TC) Tin Can-Sanitary	Fragments	Various fragments
2	1	Metal	(TC) Tin Can-Sanitary	Crushed	Fish tin
2	1	Metal	(TO) Tobacco Tins	Crushed	Three hinge pin lid
1	1	Ceramic	Plate	Fragments of one plate	H-1: Willow Ware plate fragments
1	1	Glass	Insulator	2¼ x 3½ in.	H-2: "Brookfield" aqua glass insulator
1	1	Glass	(G8) Undetermined Beverage Bottle	2½ x 9¼ in.	H-3: Clear glass bottle with threads
1	1	Glass	(G8) Undetermined Beverage Bottle	2 5/8 x 9¼ in.	H-4: Brown glass bottle with crown top "AFG" in a diamond symbol
2	1	Metal	(TC) Tin Can-Sanitary	3 x 4 5/8 in.	H-5: Sanitary Can mark on base a flag in the wind
1	1	Glass	(GO) Fruit/Canning Jars	2 5/8 x 4 1/8 in.	H-6: Clear glass with threaded top
1	1	Graphite	(BA) Battery	2 5/8 x 4 1/8 in.	H-7: Vehicle battery core

Bibliography:

Barclay, Paulette (Historic Ceramics)

1977 Ceramic Analysis 1976 Archaeological Excavations Officials Quarters Fort Ross State Historic Park. Unpublished manuscript. State of California Department of Parks and Recreation, Sacramento, California.

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Rock, J.

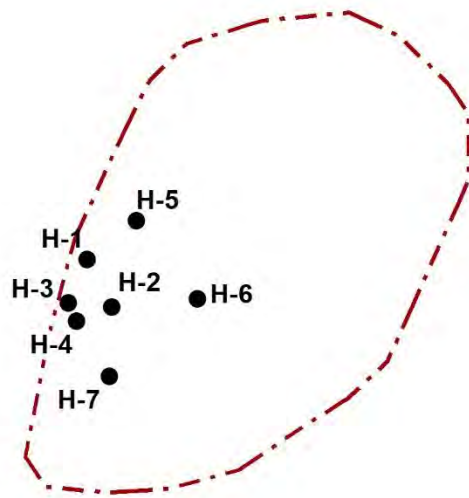
1989 *Tin Canister: Their Identification*. Ms. On file at the U.S. Forest Service, Klamath National Forest, Yreka, California.



Whitten, D.

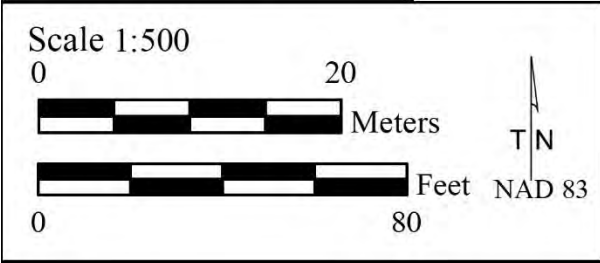
2021 Glass Bottle Marks. Electronic document, <http://www.glassbottlemarks.com/bottlemarks-4/>, accessed June 10, 2021.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs

26Wa12846
 32 m N/S x 30 m E/W
 Recorded: 4/28/2021
 By: S. Simpson
 S. Simpson 06/02/2021



Legend
 Site Boundary
 (H-1) Historic Artifact



T26N, R18E
 S. 5
 (MDBM)

**Inventory for the
 Praana II Washoe
 BESS/PSES Site Project
 Washoe County, Nevada
 Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
55	26Wa12846	H-1 Willow Ware Plate Fragments, various sizes	Plan	245540	4449454	4/28/21
56	26Wa12846	H-2 "Brookfield" aqua glass insulator	Plan	245540	4449454	4/28/21
57	26Wa12846	H-2 "Brookfield" aqua glass insulator	Plan	245540	4449454	4/28/21
58	26Wa12846	H-3 Clear glass bottle with threads	Profile	245540	4449454	4/28/21
59	26Wa12846	H-3 Clear glass bottle with threads	Plan	245540	4449454	4/28/21
60	26Wa12846	H-4 Brown glass bottle with crown top "AFG" in a diamond symbol	Profile	245540	4449454	4/28/21
61	26Wa12846	H-4 Brown glass bottle with crown top "AFG" in a diamond symbol	Plan	245540	4449454	4/28/21
62	26Wa12846	H-5 Sanitary Can mark on base a flag in the wind	Profile	245544	4449460	4/28/21
63	26Wa12846	H-5 Sanitary Can mark on base a flag in the wind	Plan	245544	4449460	4/28/21
64	26Wa12846	H-6 Food jar clear glass threaded top "Best Foods Registered,"	Profile	245547	4449455	4/28/21
65	26Wa12846	H-6 Food jar clear glass threaded top "Best Foods Registered,"	Plan	245547	4449455	4/28/21
66	26Wa12846	H-7 Vehicle battery core	Plan	245540	4449454	4/28/21
67	26Wa12846	Site overview	240°	245528	4449447	4/28/21
68	26Wa12846	Site overview	160°	245545	4449490	4/28/21
69	26Wa12846	Site overview	250°	245587	4449479	4/28/21



Log 1, Image 55, 26Wa12846, H-1 Willow Ware Plate Fragments, various sizes (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 56, 26Wa12846, H-2 "Brookfield" aqua glass insulator, 2¼ in. diam. by 3½ in. length (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 57, 26Wa12846, H-2 "Brookfield" aqua glass insulator, 2¼ in. diam. by 3½ in. length (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 58, 26Wa12846, H-3 Clear glass bottle with threads, 2½ in. diam. by 9¼ in. length (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 59, 26Wa12846, H-3 Clear glass bottle with threads, 2½ in. diam. by 9¼ in. length (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 60, 26Wa12846, H-4 Brown glass bottle with crown top "AFG" in a diamond symbol, 2 in. 5/8 diam.
by 9¼ in. length (Profile), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 61, 26Wa12846, H-4 Brown glass bottle with crown top "AFG" in a diamond symbol, 2 in. 5/8 diam. by 9¼ in. length (Plan), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245540 E/ 4449454 N



Log 1, Image 62, 26Wa12846, H-5 Sanitary Can mark on base a flag in the wind, 3 in. diam. by 4 5/8 in. length (Profile), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245544 E/ 4449460 N



Log 1, Image 63, 26Wa12846, H-5 Sanitary Can mark on base a flag in the wind, 3 in. diam. by 4 5/8 in. length (Plan), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245544 E/ 4449460 N



Log 1, Image 64, 26Wa12846, H-6 Food jar clear glass threaded top," 2 5/8 in. diam. by 4 1/8 in. length (Profile), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245547 E/ 4449455 N



Log 1, Image 65, 26Wa12846, H-6 canning jar clear glass threaded top “Best Foods Registered,” 2 5/8 in. diam. by 4 1/8 in. length (Plan), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245547 E/ 4449455 N



Log 1, Image 66, 26Wa12846, H-7 Vehicle battery core, 2 5/8 in. diam. By 4 1/8 in. length (Plan), Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245547 E/ 4449455 N



Log 1, Image 67, 26Wa12846, Site Overview (240°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245528 E/ 4449447 N



Log 1, Image 68, 26Wa12846, Site Overview (160°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245545 E/ 4449490 N



Log 1, Image 69, 26Wa12846, Site Overview (250°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245587 E/ 4449497 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12847

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 17 m N/S x 42 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of 19 pieces of debitage and a biface fragment (A-1) made from the same material type as the debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 19 pieces of late stage related debitage including a dark brown mottled chert and a yellow to red chert. The biface fragment (A-1) is a lateral edge fragment from a formally prepared biface. The biface is made of the same dark brown banded chert material as the debitage. Artifacts occur in a variable density artifact scatter with up to two flakes per square meter, otherwise one artifact every few meters. The site lacks an association with temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter and a single biface fragment. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exist in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245248 m E/ 4449388 m N

12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 70 through 75

18. Recorded by: S. Simpson

Date: 04/28/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 17.9 Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

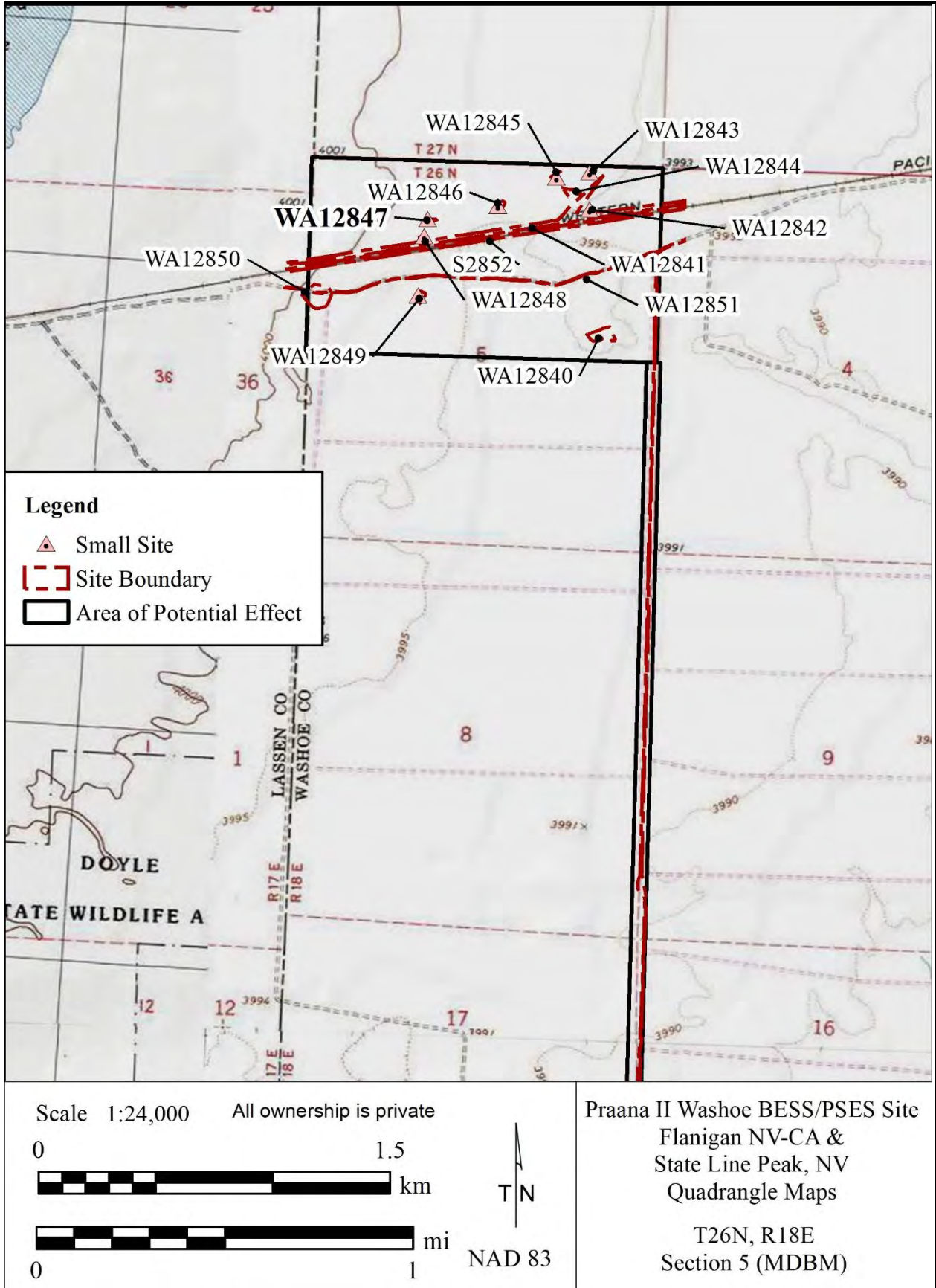
Count	Density m ³	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
19	2	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	A dark brown banded and a yellow to red varieties
1	1	Chert	Biface	2.3 cm x 1.9 cm x 0.6 cm	A-1: Midsection of a lateral edge from a formal biface. Brown banded chert

Bibliography:

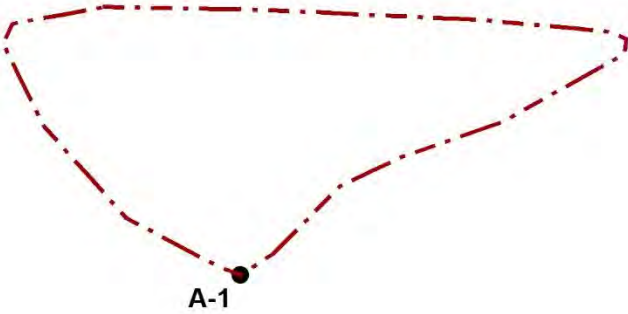
National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs



26Wa12847
17 m N/S x 42 m E/W
Recorded: 4/28/2021
By: S. Simpson
S. Simpson 06/02/2021



Legend
[Red dashed line] Site Boundary
● (A-1) Prehistoric Artifact

Scale 1:500
0 20
[Scale bar] Meters
0 80
[Scale bar] Feet NAD 83

T26N, R18E
S. 5
(MDBM)

**Inventory for the
Praana II Washoe
BESS/PSES Site Project
Washoe County, Nevada
Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
70	26Wa12839	A-1: Side A, brown ccs biface fragment	Plan	245246	4449378	4/28/21
71	26Wa12839	A-1: Side B, brown ccs biface fragment	Plan	245246	4449378	4/28/21
72	26Wa12839	A-1: Brown ccs biface fragment	Profile	245246	4449378	4/28/21
73	26Wa12839	Site overview	100°	245228	4449387	4/28/21
74	26Wa12839	Site overview	5°	245246	4449413	4/28/21
75	26Wa12839	Site overview	285°	245283	4449391	4/28/21



Log 1, Image 70, 26Wa12847, A-1 Side A, brown ccs biface fragment, 2.3 cm x 1.9 cm x 0.6 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245246 E/ 4449378 N



Log 1, Image 71, 26Wa12847, A-1 Side B, brown ccs biface fragment, 2.3 cm x 1.9 cm x 0.6 cm (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245246 E/ 4449378 N



Log 1, Image 72, 26Wa12847, A-1 Profile, brown ccs biface fragment, 2.3 cm x 1.9 cm x 0.6 cm (Profile)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245246 E/ 4449378 N



Log 1, Image 73, 26Wa12847, Site Overview (100°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245228 E/ 4449387 N



Log 1, Image 74, 26Wa12847, Site Overview (5°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245246 E/ 4449413 N



Log 1, Image 75, 26Wa12847, Site Overview (285°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245283 E/ 4449391 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12848

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 21 m N/S x 36 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of eight pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking cortex. The artifacts are comprised of eight yellowish red chert flakes averaging several meters apart across the site surface. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245220 m E/ 4449315 m N

12. Township/Range (to quarter section only): NW¼ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 76 through 78

18. Recorded by: S. Simpson

Date: 04/28/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 17.9 Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
8	1	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	A yellowish red variety.

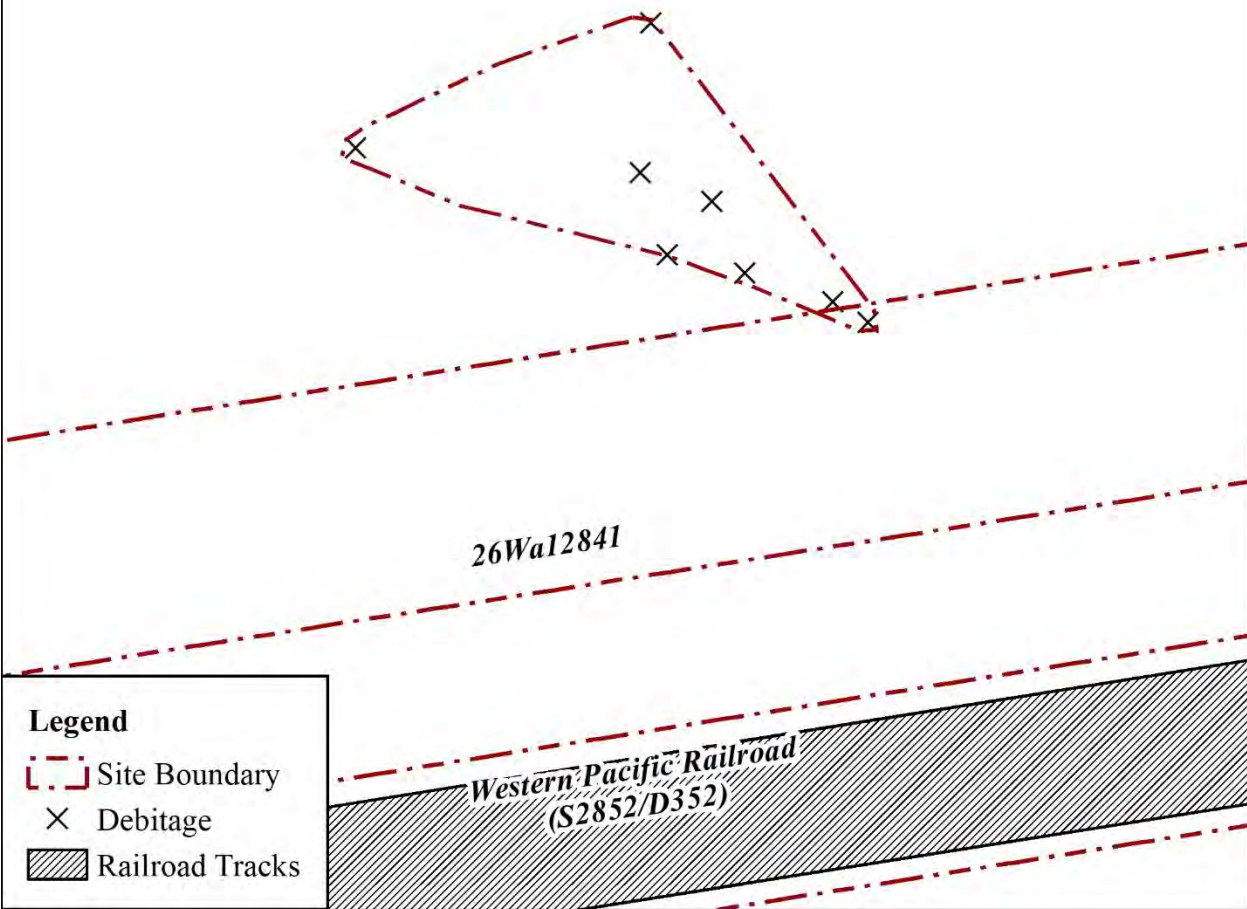
Bibliography:

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs

26Wa12848
 21 m N/S x 36 m E/W
 Recorded: 4/28/2021
 By: S. Simpson
 S. Simpson 06/11/2021



Legend
 [Red dash-dot line] Site Boundary
 x Debitage
 [Hatched box] Railroad Tracks

Scale 1:500
 0 20
 [Scale bar] Meters
 0 80
 [Scale bar] Feet
 T N
 NAD 83

T26N, R18E
 S. 5
 (MDBM)

**Inventory for the
 Praana II Washoe
 BESS/PSES Site Project
 Washoe County, Nevada
 Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
76	26Wa12848	Site overview	85°	245202	4449311	4/28/21
77	26Wa12848	Site overview	180°	245222	4449330	4/28/21
78	26Wa12848	Site overview	250°	245239	4449322	4/28/21



Log 1, Image 76, 26Wa12848, Site Overview (85°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245202 E/ 4449311 N



Log 1, Image 77, 26Wa12848, Site Overview (180°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245222 E/ 4449330 N



Log 1, Image 78, 26Wa12848, Site Overview (250°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245239 E/ 4449322 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12849

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Prehistoric

Site area: 32 m N/S x 49 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: Unknown

Age: Dating Method: N/A

Depth of Cultural Fill: surface

9. Site description:

This newly recorded prehistoric site is a small lithic scatter comprised of 14 pieces of chert debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The artifacts are comprised of 8 dark brown mottled chert flakes and 6 yellow to red chert flakes. The chert material is the same or similar to the material types used at 26Wa12847. Two of the flakes exhibit lipping indicating they are likely bifacial thinning flakes. The artifacts are dispersed with one flake every few meters. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake basin marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 245211 m E/ 4449062 m N

12. Township/Range (to quarter section only): NW $\frac{1}{4}$ of Section 5, Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 79 through 81

18. Recorded by: S. Simpson

Date: 05/02/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 17.9 Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

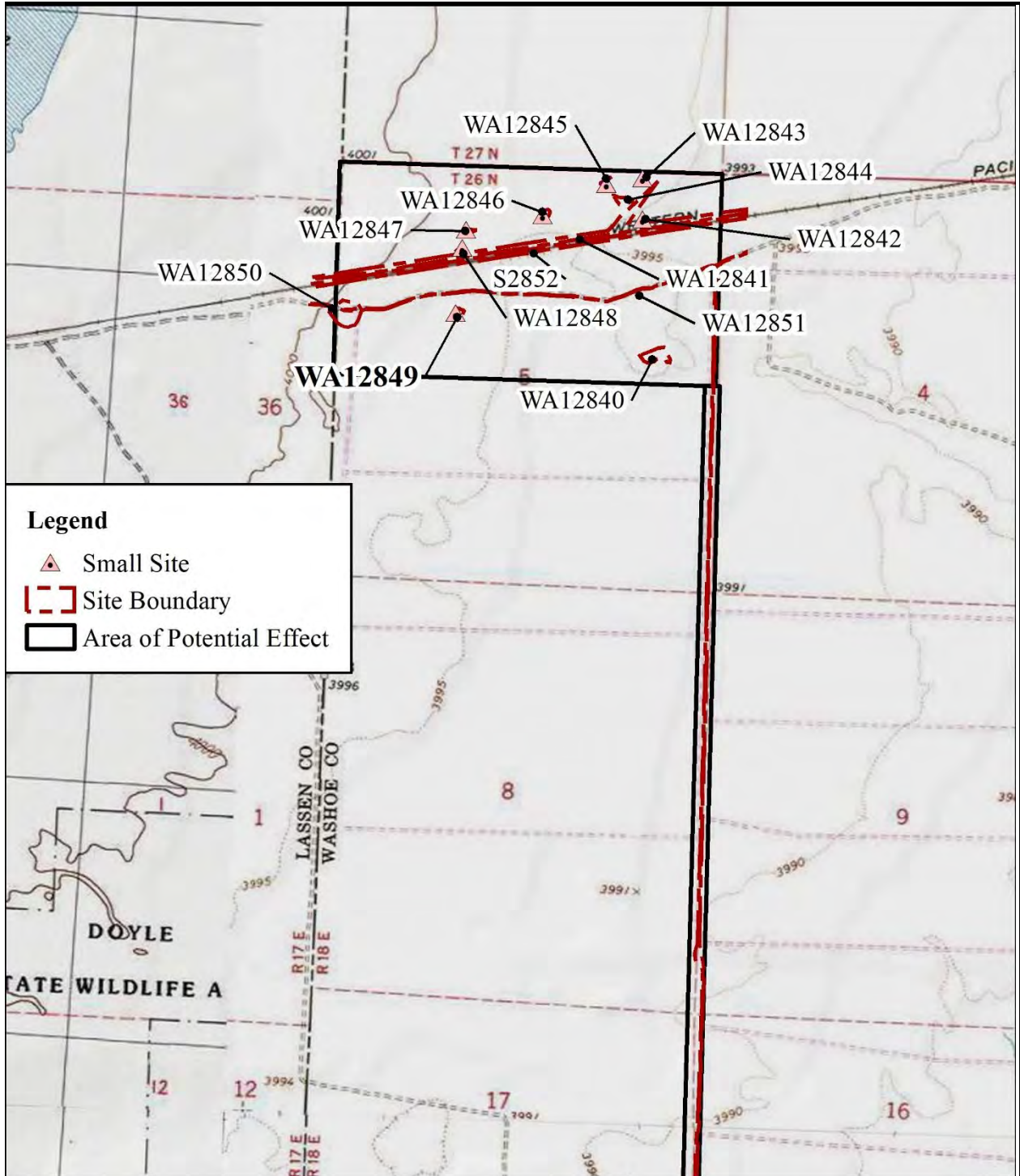
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
14	2	Chert	(LS) Lithic Scatter/Concentration	1 to 2 centimeters in length	A dark brown banded and a red to yellow mottled variety cherts.

Bibliography:

National Park Service (NPS)

1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

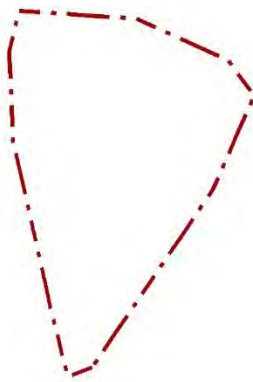
Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs



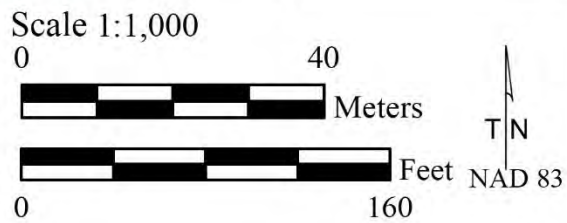
Praana II Washoe BESS/PSES Site
 Flanigan NV-CA &
 State Line Peak, NV
 Quadrangle Maps

 T26N, R18E
 Section 5 (MDBM)

26Wa12849
32 m N/S x 49 m E/W
Recorded: 5/02/2021
By: S. Simpson
S. Simpson 06/11/2021



Legend
[Red dashed line symbol] Site Boundary



T26N, R18E
S. 5
(MDBM)

**Inventory for the
Praana II Washoe
BESS/PSES Site Project
Washoe County, Nevada
Mesa Field Services**

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
79	26Wa12849	Site overview	85°	245170	4449063	5/02/21
80	26Wa12849	Site overview	355°	245201	4449033	5/02/21
81	26Wa12849	Site overview	295°	245241	4449047	5/02/21



Log 1, Image 79, 26Wa12849, Site Overview (85°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245170 E/ 4449063 N



Log 1, Image 80, 26Wa12849, Site Overview (355°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245201 E/ 4449033 N



Log 1, Image 81, 26Wa12849, Site Overview (295°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245241 E/ 4449047 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12850

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Historic

Site area: 105 m N/S x 124 m E/W
Artifacts

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: (ZZ) Unknown

Age: 1909- Dating Method: (F) Cross-Dating/Diag.

Depth of Cultural Fill: surface

9. Site description:

This newly recorded historic domestic debris scatter is located on the border between California and Nevada some two to three hundred meters east of Calneva Station (P-18-001698) along the Western Pacific Railroad (S2832/D352). The site is a trash dumping location located along either side of a historic road (26Wa12851) that runs parallel and south along the railroad tracks to Calneva Station. The site is comprised of a light scatter of artifacts between three concentrated dumping areas identified as Concentration 1 through 3. The site is located on flat terrain with the ground surface being comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The general artifacts are comprised of domestic debris scatter comprised primarily of tin cans and bottle fragments with up to several artifacts per square meter in some areas between the three concentrations.

The first concentration is comprised of fragments of clear, aqua, light olive, old amber, and amethyst glass representing over 100 bottles. No cans were identified with this concentration and there were three bottle bases containing makers marks (H-1 through H-3). The bottles are found within a 7 by 20-meter area and are mostly automatic machine-made bottles lacking makers marks and are crown tops. The first diagnostic artifact is H-1, a clear glass bottle base, with a mark on the base "WF&S." The mark is attributed to William Franzen & Son in use from 1900-1929 (Toulouse 1971:536). The second mark, H-2, is an aqua glass bottle base "C" and the third, H-3, is a crown top brown bottle missing its base. Concentration 2 is a large concentrated can dump comprised of 200 to 300 sanitary hole-in-cap and hole-in-top cans of various sizes and fragments. The cans are concentrated within a 10 to 15 meter diameter area with a five-meter diameter core area that is the densest with a dozen or more cans per square meter. Concentration 3 is a much more varied artifact dump spread out over a 10-meter diameter area and is comprised of domestic wares, cans, bottles, truck parts, wooden box fragments, square and wire nails, brick fragments, and other domestic debris fragments.

The site is more than likely attributed to the occupation of the Calneva Station (P-18-001698). Calneva and a number of railroad towns including Flanigan were established in eastern Honey Lake basin in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City 1910 (Myrick 1992:318-319; Kneiss 1953:16). Diagnostic data from the artifacts at this site seems to support to the same period of occupation for the area. The glass includes aqua, solarized, clear, and brown bottle glass. Amethyst glass, which turns purple when exposed to sunlight due to the presence of manganese in the glass, was generally used in bottle production from c. 1880 to c. 1920, although its use has been noted as late as the 1930s (Lindsey 2013). Sanitary cans have a long period of use and are still in use today. Sanitary cans became the dominant can type in the western United States by 1911 (Rock 1989:65-66).

National Register Justification:

The historic site is recommended not eligible to the NRHP under any of the four criteria developed for the current undertaking. The historic site is a limited domestic debris scatter attributed to residents of the Calneva Station that has not been directly identified with a significant event, production, or persons and is recommended not eligible to the NRHP under Criteria A and B. The remains are a simple trash scatter and do not represent unique architecture or constructed elements or the remains of a system specifically important to developments in the area and is therefore

recommended not eligible to the NRHP under Criterion C. The historic site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The historic site is a limited domestic debris scatter that lacks task specific artifacts related to a specific land use activity and the artifacts are not unique with limited diagnostic data. Hole in top and sanitary cans are common to many contemporaneous occupations regardless of land use activity. Therefore, the site does not address important research themes and issues attributed to mining and domestic related support activity developed for the current investigation and is recommended not eligible to the NRHP under Criterion D.

- 10. Elevation:** 3,995 ft. **11. UTM Grid:** Zone 11, 244765 m E/ 4449068 m N
12. Township/Range (to quarter section only): NE¼ of Section 5, Township 26 North, Range 18 East
 NE ¼ of Township 27 North, Range 17 East
13. Meridian: Mt. Diablo **14. Map Reference:** *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private **16. BLM District and Field Office:** N/A
17. Photographs (attach photo log): Log 1, Images 82 through 94
18. Recorded by: S. Simpson **Date:** 05/02/2021 **19. Survey Organization:** Mesa Field Services
20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
100+	10	Metal	(TC) Tin Cans - Sanitary	Various fragments and crushed cans	General site scatter
100+	25	Glass	(GL) Glass	Fragments	Various fragments of clear, aqua, light olive, old amber, and amethyst across site surface
50+	1	Metal	(BC) Bottle Cap	1 inch	Crown top metal caps across site surface.
100+	25	Glass	(GL) Glass	Fragments	Concentration 1: Various fragments of clear, aqua, light olive, old amber, and amethyst
1	1	Glass	(G8) Undetermined Beverage Bottle	3 in. x fragment	Concentration 1, H-1 Clear glass bottle base "WF&S"
1	1	Glass	(G8) Undetermined Beverage Bottle	2¾ in. x fragment	Concentration 1, H-2 Aqua glass bottle base "C"
1	1	Glass	(G8) Undetermined Beverage Bottle	Fragment x 6+ inches	Concentration 1, H-3 Crown top brown bottle base (missing)
100+	10	Metal	(TC) Tin Cans - Sanitary	4 x 4¾ inches	Concentration 2, A combination of knife cut and rotary opened cans.
100+	10	Metal	(TH) Tin Cans - Hole in Cap	4 x 4¾ inches	Concentration 2, Double serving punch and rotary opened
50+	10	Metal	(TD) Tin Cans - Hole in Top	2 15/16 x 4 3/8 inches	Concentration 2, Stamped ends, punch opened
100+	10	Metal	(NW) Nails - Wire	Various sizes and fragments	Concentration 3
100+	10	Metal	(NC) Nails - Cut	Various sizes and fragments	Concentration 3
10+	2	Ceramic	(VE) Plate	Fragments	Concentration 3, No marks, plates, and bowls cups.
10+	10	Metal	(TW) Cutlery/Silverware	Various utensils	Concentration 3

Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
50+	25	Glass	(GL) Glass	Fragments	Concentration 3, Various fragments of clear, aqua, old amber, and amethyst
100+	10	Metal	(TH) Tin Cans - Hole in Cap	Crushed	Concentration 3, Rotary opened
1	1	(C) Wood (cut lumber)	(WC) Wood Crate	Fragments or parts	Concentration 3
2	1	Metal	(TK) Truck/Truck Parts	Body part fragments	Concentration 3
1	1	Clay Brick?	(BR) Brick	Fragments	Building materials
1	1	Glass	(G8) Undetermined Beverage Bottle	3 inches x fragment	Concentration 3, H-4 "M" in a pentagon

Bibliography:

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1953 *Fifty Candles for Western Pacific: 1903 to 1953 Golden Anniversary Western Pacific*. Published by Western Pacific Mileposts.

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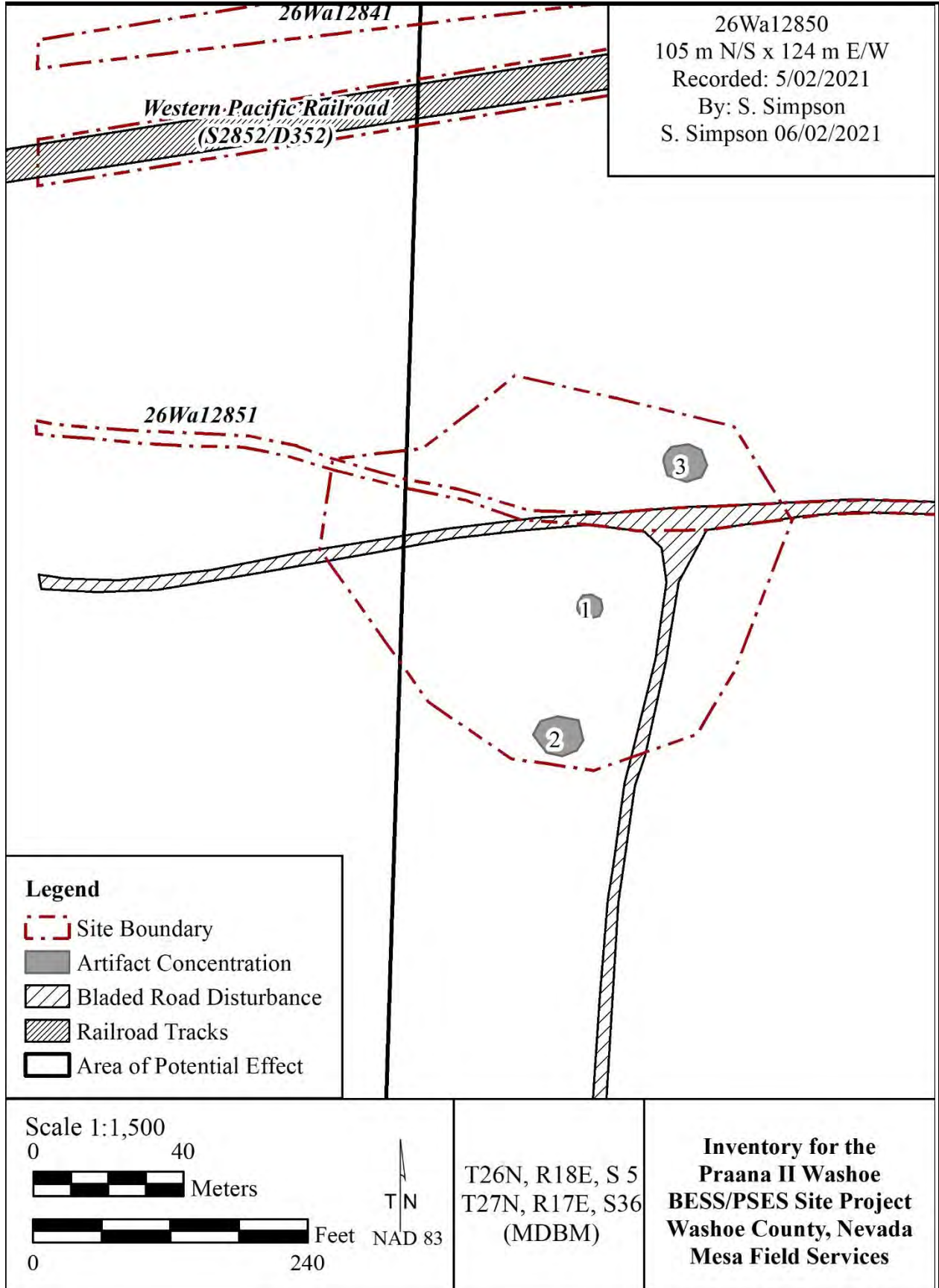
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Whitten, D.

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Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs



Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
82	26Wa12850	Site overview	310°	244778	4448988	5/02/21
83	26Wa12850	Site overview	360°	244778	4448988	5/02/21
84	26Wa12850	Site overview	190°	244823	4449149	5/02/21
85	26Wa12850	Concentration 1	90°	244773	4449058	5/02/21
86	26Wa12850	Concentration 1	345°	244773	4449058	5/02/21
87	26Wa12850	Concentration 1, H-1 Clear glass bottle base "WF&S"	Plan	244773	4449058	5/02/21
88	26Wa12850	Concentration 1, H-2 Aqua glass bottle base "C"	Plan	244773	4449058	5/02/21
89	26Wa12850	Concentration 1, H-3 Crown top beer bottle base missing	Plan	244773	4449058	5/02/21
90	26Wa12850	Concentration 2, cans	360°	244764	4449023	5/02/21
91	26Wa12850	Concentration 2, cans	180°	244764	4449023	5/02/21
92	26Wa12850	Concentration 3, artifacts	310°	244797	4449096	5/02/21
93	26Wa12850	Concentration 3, artifacts	Plan	244797	4449096	5/02/21
94	26Wa12850	Concentration 3, H-4 "M" in a pentagon	Plan	244797	4449096	5/02/21



Log 1, Image 82, 26Wa12850, Site overview (310°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244778 E/ 4448988 N



Log 1, Image 83, 26Wa12850, Site overview (360°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244778 E/ 4448988 N



Log 1, Image 84, 26Wa12850, Site overview (190°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244823 E/ 4449149 N



Log 1, Image 85, 26Wa12850, Concentration 1 (90°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244773 E/ 4449058 N



Log 1, Image 86, 26Wa12850, Concentration 1 (345°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244773 E/ 4449058 N



Log 1, Image 87, 26Wa12850, Concentration 1, H-1 Clear glass bottle base "WF&S," 3 inches x fragment (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244773 E/ 4449058 N



Log 1, Image 88, 26Wa12850, Concentration 1, H-2 Aqua glass bottle base "C," 2¾ in. x fragment (Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244773 E/ 4449058 N



Log 1, Image 89, 26Wa12850, Concentration 1, H-3 Crown top beer bottle base missing, fragment x 6+ inches
(Plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244773 E/ 4449058 N



Log 1, Image 90, 26Wa12850, Concentration 2, cans (360°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244764 E/ 4449023 N



Log 1, Image 91, 26Wa12850, Concentration 2, cans (180°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244764 E/ 4449023 N



Log 1, Image 92, 26Wa12850, Concentration 3, artifacts (310°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244797 E/ 4449096 N



Log 1, Image 93, 26Wa12850, Concentration 3, artifacts (plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244797 E/ 4449096 N



Log 1, Image 94, 26Wa12850, Concentration 3, H-4 "M" in a pentagon (plan)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244797 E/ 4449096 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12851

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Historic

Site area: 3 m N/S x 1,629 m N/S

2. County: Washoe

4. Project Name: A Class III Inventory for the Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada

Historic Theme/Affiliation: (ZZ) Unknown

Age: 1909

Dating Method: (I) Historical Record

Depth of Cultural Fill: surface

9. Site description:

This newly recorded historic feature site is just over a one-mile recorded segment of a two-track road depression, identified as Washoe County Road 8283, that extends along the south side of the Western Pacific Railroad (S2852/D352). The recorded segment extends from near the intersection with Rainbow Road (26Wa12895) west to Calneva Station (P-18-001698) just inside California. The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. The far western section of the recorded segment or approach to Calneva Station between sites P-18-001698 and 26Wa12850 has been abandoned. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake basin along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

National Register Justification:

This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road parallels the south side of the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is or specifically what type of land use activity it is specifically attributed to. The historic site is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic site is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The two-track road depression is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique technological adaptation to local resource conditions. The site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple two-track depression limited to the eastern Honey Lake basin that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 246334mE 4449304m N NAD 83 (East End)
244625m E 4449105m N NAD 83 (West End)

12. Township/Range (to quarter section only): NE $\frac{1}{4}$ of Section 36, Township 27 North, Range 17 East and the NW $\frac{1}{4}$ of Section 4 and N $\frac{1}{2}$ of Section 5 of Township 26 North, Range 18 East

13. Meridian: Mt. Diablo
(Photorevised, 1981)

14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 95 through 99

18. Recorded by: S. Simpson

Date: 06/13/2021

19. Survey Organization: Mesa Field Services

20. Distance to Permanent Water (meters X 100): 11.2 Type: Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain

24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

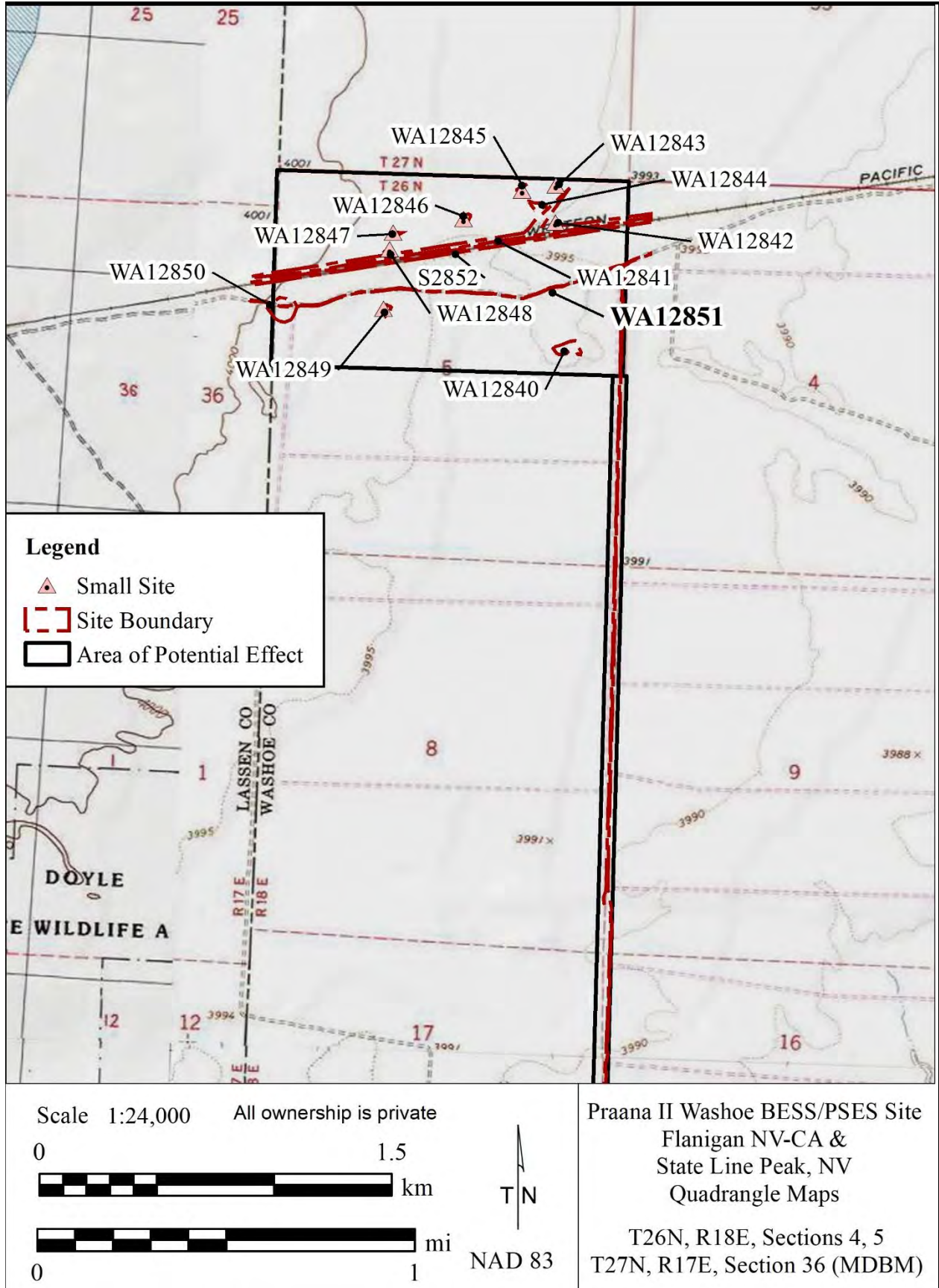
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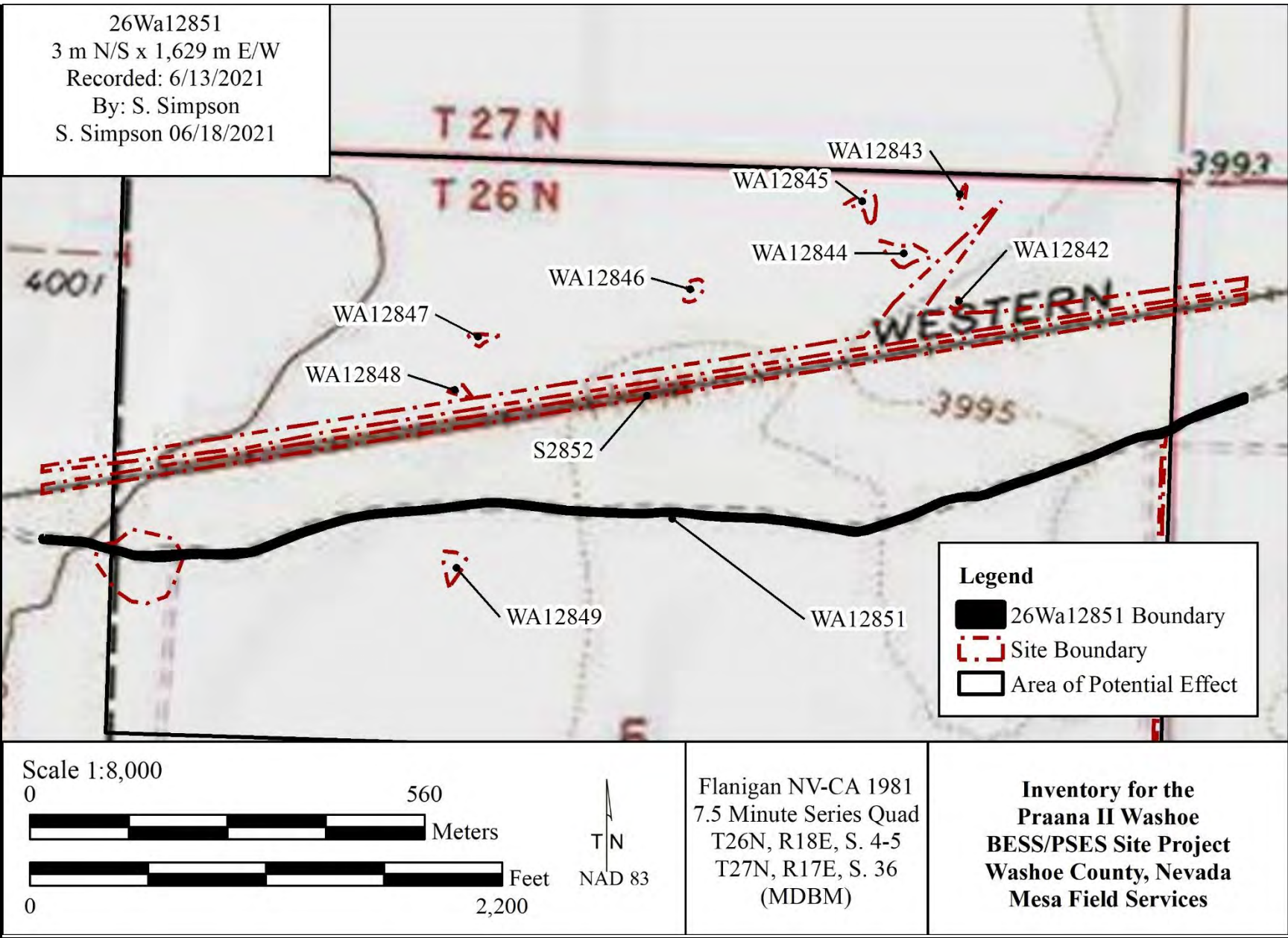
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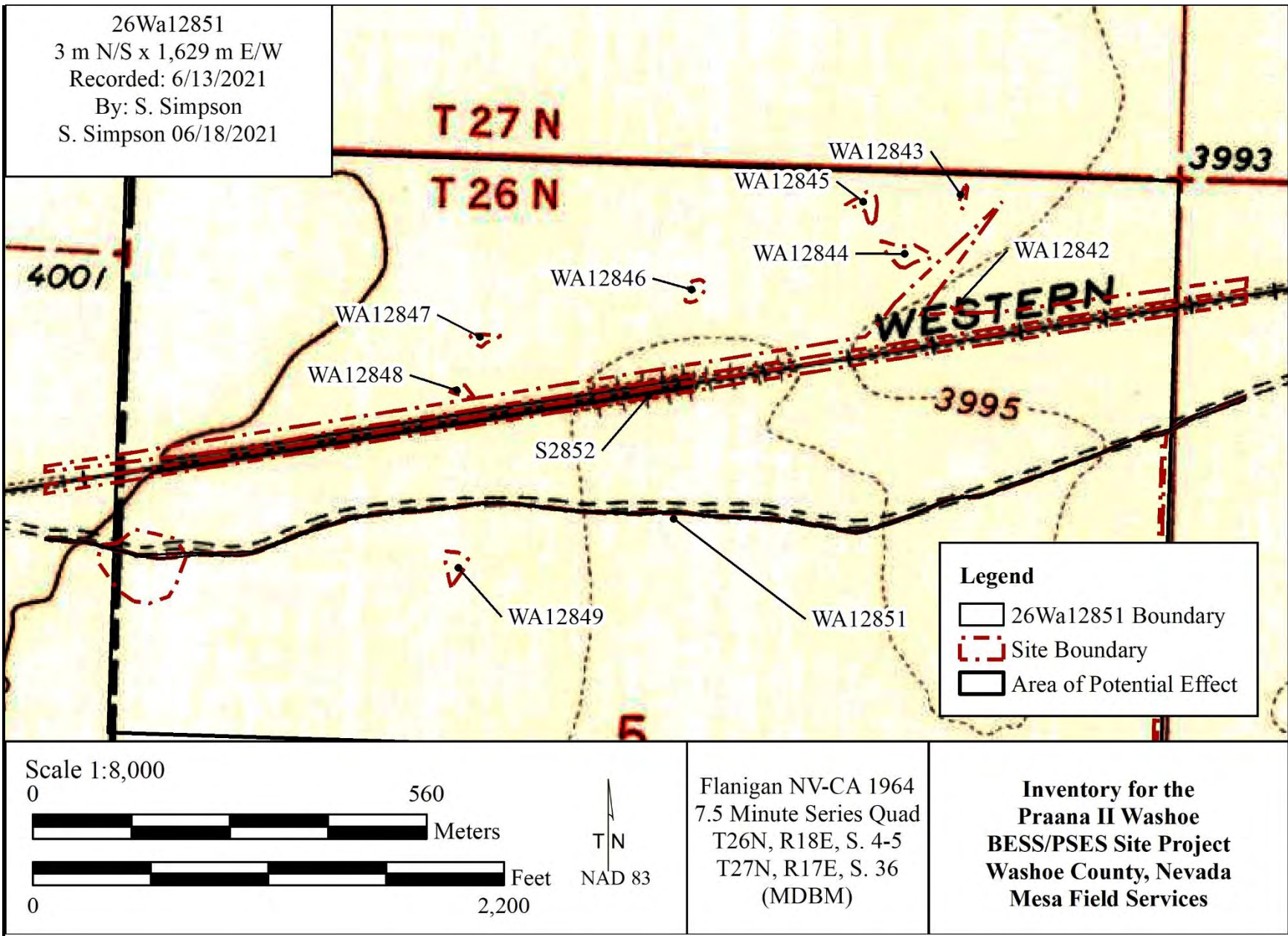
Kneiss, G. H.

1953 *Fifty Candles for Western Pacific: 1903 to 1953 Golden Anniversary Western Pacific*. Published by Western Pacific Mileposts.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs







Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
95	26Wa12851	Site overview from Rainbow Road	250°	246221	4440249	6/13/21
96	26Wa12851	Site overview from Rainbow Road	60°	246221	4440249	6/13/21
97	26Wa12851	Site overview with berm sides	230°	245142	4449148	6/13/21
98	26Wa12851	Site overview with abandoned section to Calneva Station on right	Plan	244778	4449083	6/13/21
99	26Wa12851	Site overview of abandoned section to Calneva Station	Plan	244675	4449096	6/13/21



Log 1, Image 95, 26Wa12851, Site overview from Rainbow Road (250°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246221 E/ 4440249 N



Log 1, Image 96, 26Wa12851, Site overview from Rainbow Road (60°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246221 E/ 4440249 N



Log 1, Image 97, 26Wa12851, Site overview with berm sides (230°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 245142 E/ 4449148 N



Log 1, Image 98, 26Wa12851, Site overview with abandoned section to Calneva Station on right (85°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244778 E/ 4449083 N



Log 1, Image 99, 26Wa12851, Site overview of abandoned section to Calneva Station (290°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244675 E/ 4449096 N

Eligibility: Unevaluated ___ Not eligible X Eligible ___ Criteria: A ___ B ___ C ___ D ___ by:

concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12895

3. BLM Site No: Not Applicable

5. Temporary/Field Site No: N/A

6. BLM Report No: Not Applicable

7. Site/Property Name:

8. Site Class: Historic

Site area: 4.5 miles N/S x 3 m E/W

2. County: Washoe

4. Project Name: A Class III Inventory for the
Praana II Washoe BESS/PSES Site Project, Washoe
County, Nevada

Historic Theme/Affiliation: (ZZ) Unknown

Age: 1964

Dating Method: (I) Historical Record

Depth of Cultural Fill: surface

9. Site description:

This newly recorded historic feature site is "Rainbow Drive." The entire road, 4.5 miles in length, was subject to an inventory and recordation. The road varies from a single to a double wide road 8 to 15 feet in width. The southernmost 1.5 miles of the road extending north from Fish Springs Road is depicted on the State Line Peak, Nev. 7.5-min USGS quadrangle map from 1964. Sometime after 1964 the road was extended north to the Western Pacific Railroad (S2852/D352). The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is wiped out by erosion in many places and exists as a two-track depression. The route is still in use and maintained by Washoe County. Rainbow Road appears to serve as a main artery for a number of additional roads that extend off of it to the west and east, mainly on section lines including Marina Way, Truckee Lane, Long Horn Lane, Tahoe Lane, Bonanza Lane, Doyle Lane, and Herlong Lane. It's not clear what land use activity the road is attributed to but it most likely was used to access residences present along the side routes. Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (7 September 1977) and the Reno Gazette Journal (11 September 1977) detail a revitalization of the area south of Calneva during the mid-1970s. The articles center on the creation of the "Honey Lake Valley Meeting Hall" a private school that was recently constructed for the recent influx of families with children to the area. Resident Lela Findley, interviewed for the articles was a longtime resident of the valley original from Herlong, recalls visiting Flanigan to in the 1940s to attend town dances. She had been living in a house on the state border for 21 years prior to the printing of the articles.

National Register Justification:

This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road extends south from the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is exactly or what type of land use activity it is specifically attributed to beside potentially serving as a main artery for a number of additional roads that extend off of it. The historic road is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic road is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The dirt road is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique technological adaptation to local resource conditions. The historic road contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple dirt road that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

10. Elevation: 3,995 ft.

11. UTM Grid: Zone 11, 246218mE 4449260m N NAD 83 (North End)
246026m E 4442333m N NAD 83 (South End)

12. Township/Range (to quarter section only): Section line between Sections 4, 5, 8, 9, 16, 17, 20, 21, 28, and 29 of Township 26 North, Range 18

13. Meridian: Mt. Diablo

14. Map Reference: *Flanigan, Nev-Cal. and State Line Peak, Nev. 7.5-*

min USGS quads maps 1964 (Photorevised, 1981)

15. Land Owner: Private

16. BLM District and Field Office: N/A

17. Photographs (attach photo log): Log 1, Images 100 through 105

18. Recorded by: S. Simpson **Date:** 04/22/2021 06/13/2021 **19. Survey Organization:** Mesa Field Services

20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring

21. Geographic Unit: Honey Lake Valley (BMG)

22. Topographic Location/Primary Landform: Valley

23. Depositional Context: Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

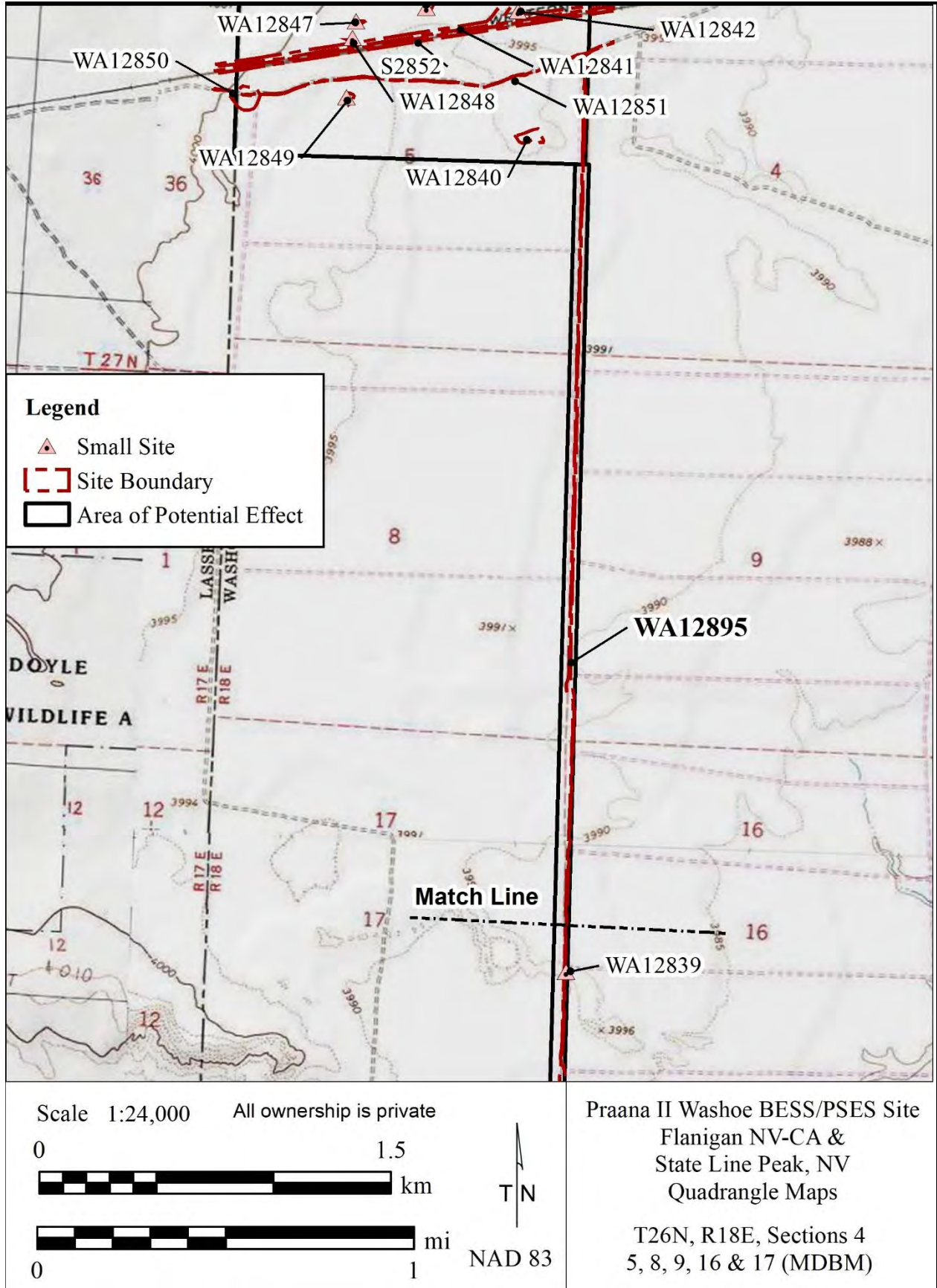
Count	Density m ²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments

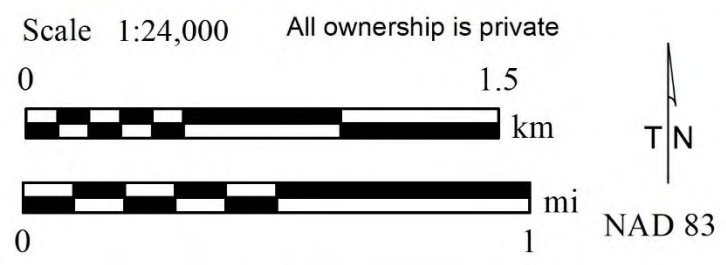
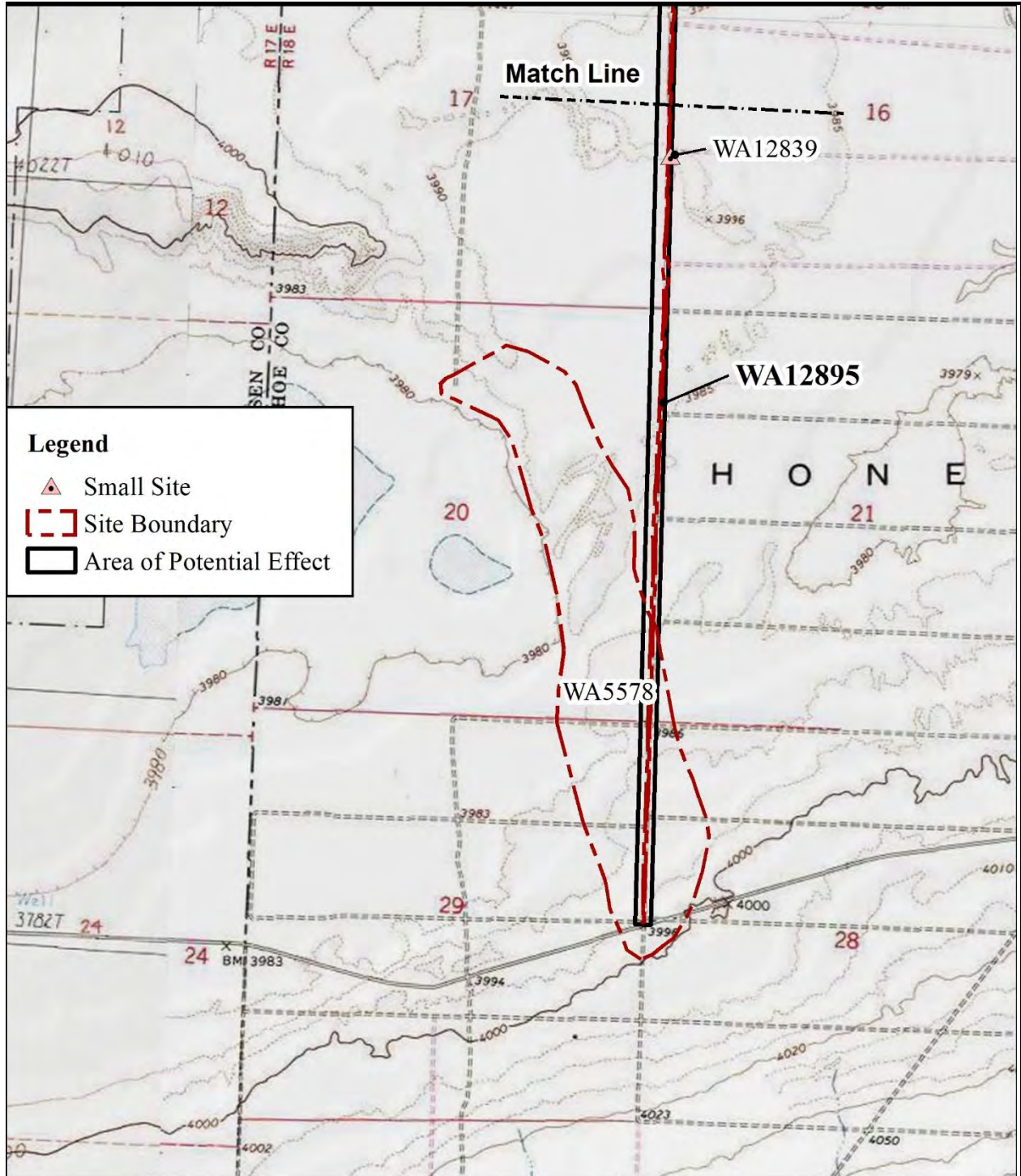
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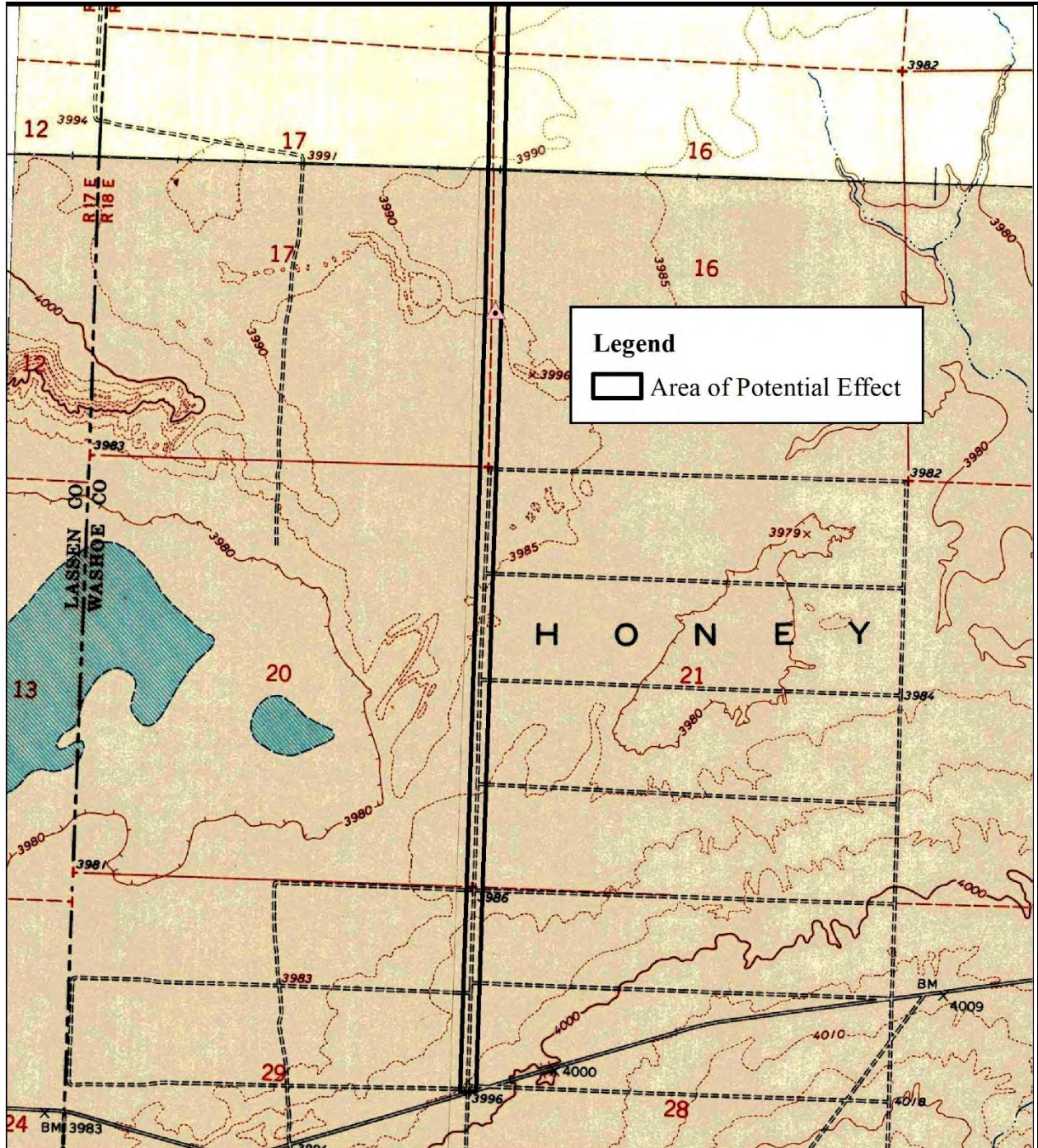
Reno Gazette Journal
1977 Rattlesnake Country. 11 September. Reno, Nevada.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs

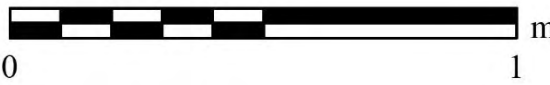




Praana II Washoe BESS/PSES Site
 Flanigan NV-CA &
 State Line Peak, NV
 Quadrangle Maps
 T26N, R18E, Sections 4
 5, 8, 9, 16 & 17 (MDBM)



Scale 1:24,000 All ownership is private



T N
 ↑
 N
 NAD 83

Flanigan, 1964 CA-NV
 State Line Peak 1964 NV
 Quadrangle Maps

T26N, R18E
 Sections 20, 21
 28 & 29 (MDBM)

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
100	26Wa12895	Rainbow Road at Fish Springs Road	360°	246033	4442312	6/13/21
101	26Wa12895	Site overview of Rainbow Road	360°	246094	4444376	4/12/21
102	26Wa12895	Site overview of Rainbow Road	180°	246094	4444376	4/12/21
103	26Wa12895	Intersection with Rainbow Road on Right and Bonanza Lane on left	310°	246052	4443103	6/13/21
104	26Wa12895	Bonanza Lane from the Intersection with Rainbow Road	270°	246047	4443103	6/13/21
105	26Wa12851	From Bonanza Lane 100 meters to Intersection with Rainbow Road	90°	244678	4443103	6/13/21



Log 1, Image 100, 26Wa12895, Site overview of Rainbow Road at Fish Springs Road (360°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246033 E/ 4442312 N



Log 1, Image 101, 26Wa12895, Site overview of Rainbow Road (360°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246094 E/ 4444376 N



Log 1, Image 102, 26Wa12895, Site overview of Rainbow Road (180°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246094 E/ 4444376 N



Log 1, Image 103, 26Wa12895, Intersection with Rainbow Road on Right and Bonanza Lane on left (310°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246052 E/ 4443103 N



Log 1, Image 104, 26Wa12895, Bonanza Lane from the Intersection with Rainbow Road (270°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 246047 E/ 4443103 N



Log 1, Image 105, 26Wa12895, From Bonanza Lane 100 meters to Intersection with Rainbow Road (90°)
Praana II Washoe BESS/PSES Site Project, UTM Zone 11, 244678 E/ 4443103 N



Architectural Resource Assessment (ARA) Form

For SHPO Use Only		SHPO Concurrence?: Y / N		Date:	
Survey Date	5/2/21	Recorded By	S. Simpson	Agency Report #	N/A

1. Property Type

Building <input type="checkbox"/>	Structure <input checked="" type="checkbox"/>	Object <input type="checkbox"/>	Landscape (non-archaeological site) <input type="checkbox"/>
-----------------------------------	---	---------------------------------	--

2. Property Overview and Location

Street Address		N/A			
City, Zip					
County		Washoe County			
Assessor's Parcel #		074-470-01	Subdivision Name		
UTM Location (NAD 83, UTM Zone 11 North)		Easting: 246334 244624		Northing: 4449446 4449176	
USGS Info	Township: 26 & 27 North	Range: 17 & 18 East	Section: 4&5 and 36	USGS 7.5' Quad & Date: Flanigan 1964, CA-NV (photorevised 1981)	
Ownership	Private <input checked="" type="checkbox"/>	Public-Local <input type="checkbox"/>	Public-State <input type="checkbox"/>	Public-Federal <input type="checkbox"/>	Multiple <input type="checkbox"/>
Should the property's location be kept confidential?		Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	

3. Architectural Information

(Insert primary photograph below.)

Construction Date	November 1, 1909	
Architectural Style	No Style	
Architectural Type	Railroad grade	
Roof Form	N/A	
Roof Materials	N/A	
Exterior Wall Materials	N/A	
Foundation Materials	Aggregate	
Window Materials	N/A	
Window Type	N/A	
Accessory Resources?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Number?:	



Condition of Resource(s)?		
Good <input checked="" type="checkbox"/>	Fair <input type="checkbox"/>	Poor <input type="checkbox"/>
Explanation: Materials are upgraded or replaced. The structure is entirely of modern materials.		

4. NRHP Eligibility - Existing Listings, Districts, & Potential Districts

Is the property listed in the National Register?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	If yes, provide:	Date Listed:	
				NRIS #:	
Contributing to a listed historic district?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	If yes, provide:	NRIS #:	
			Name:		
			Date listed:		
If no, is there a potential district?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	If so, is the potential district eligible for the NRHP?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
			If so, is this resource contributing?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
District Name: Feather River Route Western Pacific Railroad			SHPO #: D352		

Note: A resource that is contributing to a National Register-eligible district is considered eligible for the National Register for the purposes of project review, even though the resource itself may not be individually eligible.

5. NRHP Eligibility - Individual

If not already listed, complete the information below:

Eligible Under:	Criterion A <input type="checkbox"/>	Criterion B <input type="checkbox"/>	Criterion C <input type="checkbox"/>	Criterion D <input type="checkbox"/>		
	Not Eligible <input checked="" type="checkbox"/>	Unevaluated <input type="checkbox"/>				
Area(s) of Significance						
Period(s) of Significance						
Integrity – Does the resource possess integrity in all or some of the 7 aspects? No, just integrity of location.						
Location <input checked="" type="checkbox"/>	Design <input type="checkbox"/>	Materials <input type="checkbox"/>	Workmanship <input type="checkbox"/>	Setting <input type="checkbox"/>	Feeling <input type="checkbox"/>	Association <input type="checkbox"/>
General Integrity:		Intact <input type="checkbox"/>	Altered <input type="checkbox"/>	Moved <input type="checkbox"/>	Date(s):	
Threats to Resource:						
Historic Name		Western Pacific Railroad, Feather River Route				
Current/Common Name		Union Pacific Railroad				
Historic/Original Owner		Western Pacific Railroad				
Current Owner		Union Pacific Railroad				
Current Owner Address						
Historic Building Use		N/A				
Current Building Use		N/A				
Architect/Engineer/Designer		N/A				
Builder/Contractor		Utah Construction Company				

6. Narrative Eligibility Justification

Provide a detailed explanation of the resource's eligibility for the National Register, including supporting historic information, methods for evaluation under the four criteria, discussion of the seven aspects of integrity, and conclusions about eligibility.

The Western Pacific Railroad, Feather River Route has been designated a district resource (D352) and is considered eligible for listing to the NRHP by the Nevada State Historic Preservation Office (SHPO). Although the site is considered eligible the original materials associated with the recorded segment have all been replaced with modern counterparts and the recorded segment is recommended not eligible for listing with the NRHP under any of the established criteria for railroads outlined for the current investigation. Although there is archival information that indicates the route built in Nevada was constructed by the Utah Construction Company during the summer of 1907 the company is not identified with a significant person or event in local or national history. Archival information is lacking that would link the construction and use of the railroad with a significant individual or event in southern Nevada outlined in the context section of this report and the site is recommended not eligible to the NRHP under Criteria A and B. The recorded segments lack integrity of materials and are recommended not eligible to the NRHP under Criteria C and D. The Western Pacific Railroad is a modern gauge railroad bed that is not unique and does not include original materials.

All prior recordings of the Blue Diamond Railroad (IMACS form: CrNV-53-5641/26CK4441) have resulted in the evaluation of the line as not eligible under Criteria A and B and Criteria C and D due to the lack of integrity of original features. Mesa Field Services agrees with the prior recommendations. The current recorded segments have had their culverts replaced with modern counterparts and the addition of a different color of ballast material used for repairs and the recorded segments are recommended not eligible for listing with the NRHP under any of the established criteria for railroads outlined for the current investigation. According to the State Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office (SHPO; 2012a:43-44), maintenance that is not consistent with its historic use compromises the integrity of a historic resource. The removal of much of the components due to salvage, destruction such as fire, or any other type of activity of calamity leaves the physical remains more or less un-intact and lacking integrity of materials. A railroad should display sufficient integrity to discern construction methods and maintenance techniques and lack vandalism or other damages. Few artifacts were observed along the length of the recorded segment, and it cannot address important research themes and issues attributed to its construction and use developed for the current investigation. Therefore, the recorded segment is recommended not eligible to the NRHP under Criteria C and D.

7. Narrative Architectural Description

Provide a detailed description of the resource, including all character defining features, potential construction methods, potential alterations (both historic and non-historic), and any accessory resources.

The Western Pacific Railroad, Feather River Route, between Oakland and Salt Lake City, in 1909 (Myrick 1992:318-319; Kneiss 1953:16). The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907 and a number of stations were constructed through eastern Honey Lake basin. The current recordation is for a just over a mile long segment just east of the Calneva Station (P-18-001698) on the California-Nevada Border. There was a long-distance telephone line (26Wa12841) that ran alongside and parallel to the north side of the tracks. But it has since been dismantled. The railroad grade and all materials appear to have been replaced. The grade contains ballast material mounded approximately 30 feet wide and six feet higher than surrounding ground surface. The tracks are US standard railroad gauge is 4 feet, 8.5 inches between the two rails. There are no culverts or sidings with the recorded section and the telephone line along the north side has been dismantled with only a few remaining pieces of hardware in the area. Resources with the railroad feature include modern railroad spikes and broken cast iron pieces from passing trains. No historic artifacts attributed to the railroad were identified and recorded.

8. References

List references used to research and evaluate the individual property.

Bureau of Land Management Nevada State Office (BLM)

2012b *Bureau of Land Management Nevada State Office: Guidelines and Standards for Archaeological Inventory*, January 2012, Fifth Edition. United States Department of Interior Bureau of Land Management Nevada State Office.

Kneiss, G. H.

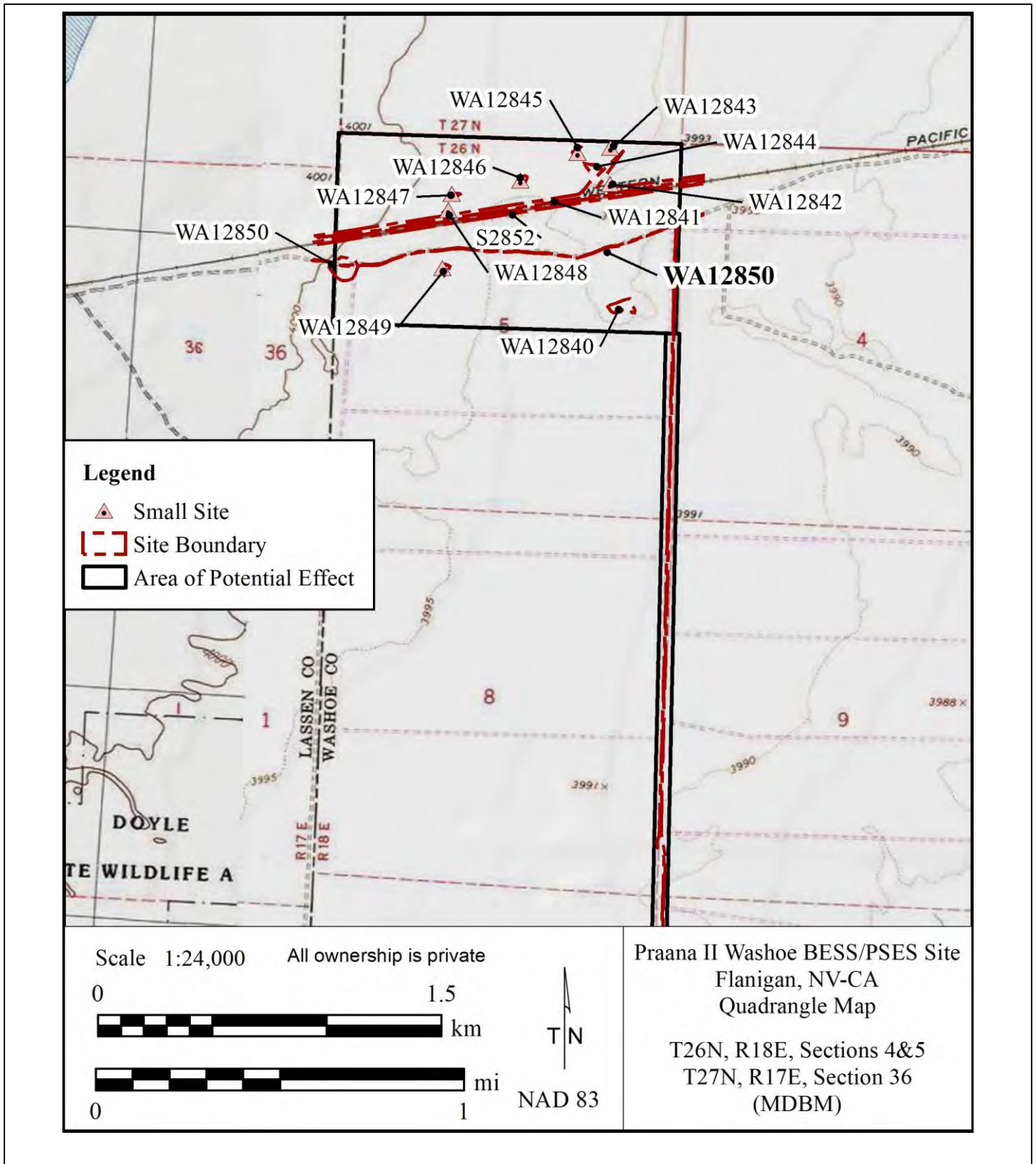
1953 *Fifty Candles for Western Pacific: 1903 to 1953 Golden Anniversary Western Pacific*. Published by Western Pacific Mileposts.

Myrick, D.

1992 *Railroads of Nevada and Eastern California, Volume I: The Northern Roads*. University of Nevada Press, Reno, Las Vegas, London.

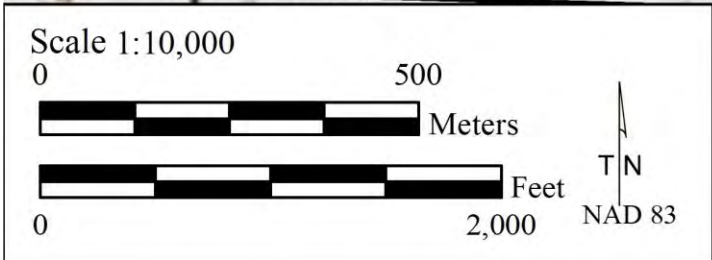
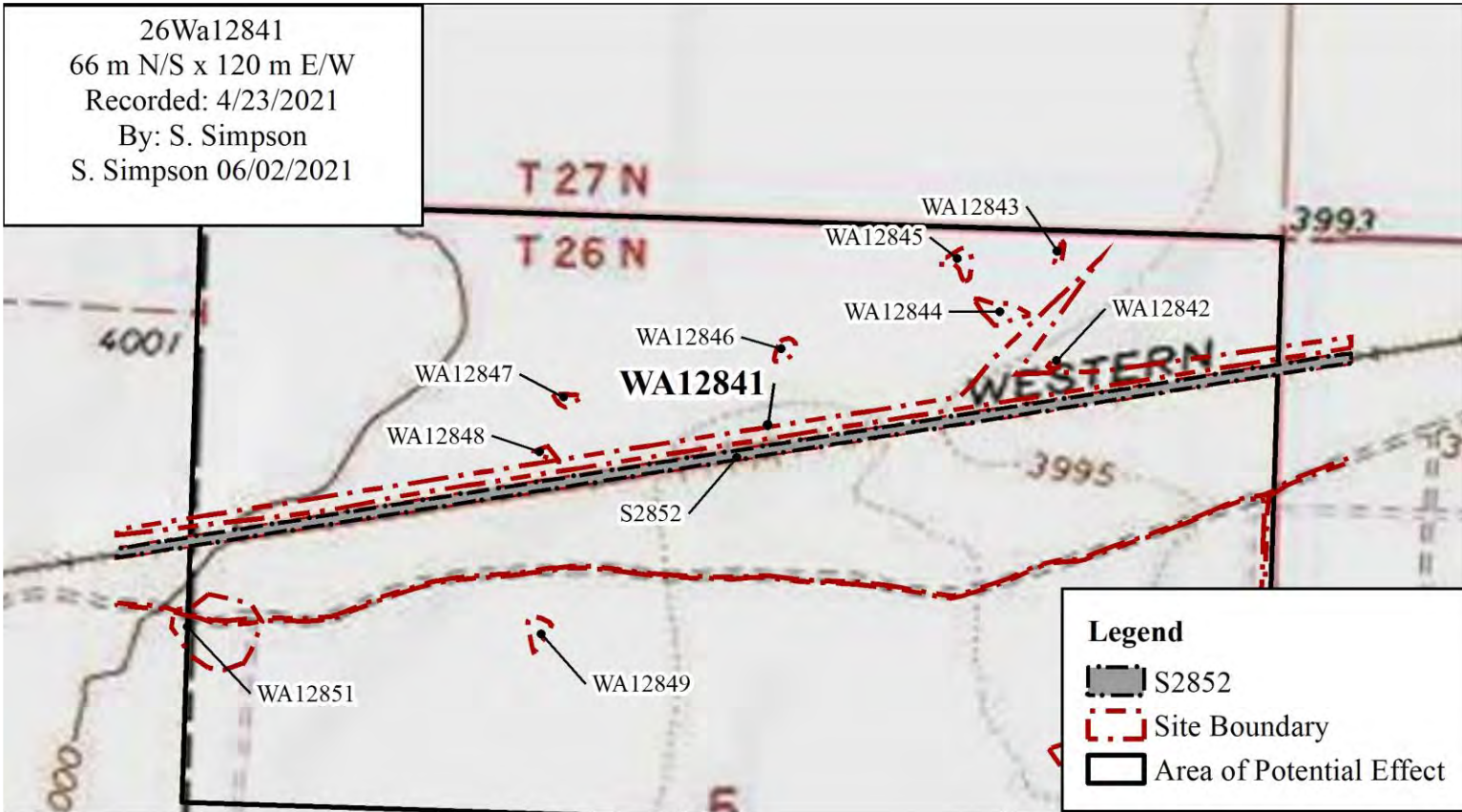
9. Area Location Map

Use a USGS quadrangle map at large extent to show general area of resource.



10. Site Plan Map

Use aerial imagery, drafting software, or a hand-drawn sketch (to scale) showing, at minimum, building/structure footprints and relationship to associated features. Attach extra maps if needed.



T26N, R18E, S. 4&5
T27N, R17E, S. 36
(MDBM)

**Inventory for the
Praana II Washoe
BESS/PSES Site Project
Washoe County, Nevada
Mesa Field Services**

11. Photographs

Include as many photographs as needed to accurately depict the resource.



Elevation: N/A

Direction facing: Southwest

Photographer: S. Simpson

Date: 05/02/2021



Elevation: N/A

Direction facing: Northeast

Photographer: S. Simpson

Date: 05/02/2021

12. Accessory Resources

Complete only if Accessory Resources are present. Include as many extra entries as necessary.

Accessory Property Type

Building <input type="checkbox"/>	Structure <input type="checkbox"/>	Object <input type="checkbox"/>	Landscape (non-archaeological site) <input type="checkbox"/>
-----------------------------------	------------------------------------	---------------------------------	--

Accessory Resource Overview

Accessory Resource Name			
Construction Date		Contributing?	Yes <input type="checkbox"/> No <input type="checkbox"/>
UTM (NAD 83, UTM Zone 11 North)	Easting:	Northing:	

Insert photograph here.

Elevation: Direction facing: Photographer: Date:

Accessory Property Type

Building <input type="checkbox"/>	Structure <input type="checkbox"/>	Object <input type="checkbox"/>	Landscape (non-archaeological site) <input type="checkbox"/>
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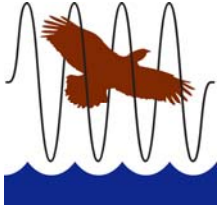
Accessory Resource Overview

Accessory Resource Name			
Construction Date		Contributing?	Yes <input type="checkbox"/> No <input type="checkbox"/>
UTM (NAD 83, UTM Zone 11 North)	Easting:	Northing:	

Insert photograph here.

Elevation: Direction facing: Photographer: Date:

Appendix D
El Centro BESS Project Noise Study



EILAR ASSOCIATES, INC.

Acoustical and Environmental Consulting

210 South Juniper Street, Suite 100, Escondido, CA 92025
Phone: 760-738-5570 or 800-439-8205 • Fax: 760-738-5227
www.eilarassociates.com • info@eilarassociates.com

September 15, 2016

Job #B60902N1

Tri-Technic, Inc.
Attention: Dennis Ledbetter
185 South Fairview Lane
Sonora, California 95370

Subject: Post-Installation Noise Measurements for IID El Centro BESS Project

Eilar Associates has conducted post-installation noise measurements of the noise-generating equipment at the recently constructed Imperial Irrigation District (IID) Battery Energy Storage System (BESS) in El Centro. Post-installation noise measurements aim to determine compliance with project noise requirements as well as noise requirements contained within the City of El Centro Municipal Code.

Project Description & Noise Sources

The subject property is located at 485 East Villa Avenue in the City of El Centro, California. Please refer to Figures 1 through 3 for a Vicinity Map, Satellite Aerial Photograph, and Topographic Map of the site, respectively. The project site is zoned LU (Limited Use). The property to the west is zoned ML (Light Manufacturing), and the property to the South is zoned MG (General Manufacturing). Properties to the north and east are located within the County of Imperial, and are zoned A2U (General Agricultural).

The project included the construction of a new building to house an array of batteries, with a total capacity of 30 MW. A total of 32 transformers and 30 inverters associated with the battery system were also installed on post-tensioned concrete slabs at the exterior of the building, as well as air conditioning equipment serving the building. For additional project details and equipment positioning, please refer to the project plans, provided in Appendix A.

Noise and Sound Level Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol "L_{EQ}." Unless a different time period is specified, "L_{EQ}" is implied to mean a period of one hour.

Methodology

Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10\log(10^{L1/10} + 10^{L2/10} + 10^{LN/10})$$

where L_C = the combined noise level (dB), and
 L_N = the individual noise sources (dB).

Cadna Noise Modeling Software

Modeling of the outdoor noise environment is accomplished using Cadna Version 4.6, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and alleviation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts.

Applicable Noise Standards

According to the engineering, procurement, and construction requirements document for this project, the maximum sound level generated by the BESS systems and associated equipment should not exceed a noise level of 60 dBA at a distance of 50 feet from the substation fence or building exterior, or as required by local ordinances. As there are no sensitive receivers located within 50 feet of the building exterior, the noise limits have been evaluated at the closest fence lines to the facility, at the north and west property lines of the project site. The noise regulations applicable to this project are contained within the City of El Centro and County of Imperial Municipal Codes which specify noise limits based on the zoning of the property in question.

According to Section 17.1.4 of the City of El Centro Municipal Code, the noise limit for properties zoned LU is an hourly average of 60 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 55 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. The noise limit for properties zoned for manufacturing is an hourly average of 75 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 70 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. Additionally, according to the municipal code, the noise limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. As the BESS facility may operate during any hour on any given day, the more restrictive nighttime noise limits would apply. Therefore, the nighttime noise limit of 62.5 dBA L_{EQ} would apply at the west and south property lines.

According to Title 9, Division 7, Chapter 2 (Sound Level Limits) of the County of Imperial Municipal Code, the noise limit for properties zoned for agricultural use is an hourly average of 70 dBA L_{EQ} at any time.

Measurement Equipment

The following equipment was used at the site to measure noise levels:

- Larson Davis Model LxT Type 1 Integrating Sound Level Meter, Serial #4084
- Larson Davis Model CA250 Type 1 Calibrator, Serial #2625
- Tripods, microphones with windscreens
- Distance measurement wheel and tape measure

The sound level meter was field-calibrated immediately prior to all noise level measurements and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report were made with sound level meters that conform to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

On-Site Noise Level Measurements

A site visit was conducted on the morning of Monday, September 12, 2016 to perform noise level measurements with and without the BESS facility in operation, and to determine ambient noise levels in the vicinity of the project. During all noise measurements, the microphone position was placed approximately five feet above grade.

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

Upon arrival to the site, the BESS equipment was not in operation; however, the air conditioning equipment serving the BESS facility was in operation. In addition to noise from the operational air conditioning equipment serving the BESS facility, noise from the adjacent gas turbine facility was audible at the site and was the primary source of ambient noise. In order to determine the ambient noise environment without the influence of equipment operation at the BESS facility, measurements were conducted at several locations around the BESS facility. Close-range noise measurements were then conducted of the air conditioning equipment to incorporate into a Cadna noise model for verification of results, and to estimate the noise contribution of the adjacent gas turbine facility. Using the methodology described above, the modeled/calculated noise level was subtracted from the measured noise level at each receiver location to estimate the ambient noise level at each receiver.

Please refer to Table 1 for results of these measurements and calculations. For a graphical representation of the noise measurement locations and equipment noise contours, please refer to Figure 4.

Table 1. Noise Measurements and Estimated Ambient Noise Levels				
Location	Dominant Noise Source(s)	Noise Level (dBA)		
		Measured Noise Level (Ambient + HVAC)	Calculated Noise Level (HVAC Only)	Calculated Ambient Noise Level
Cal 1	HVAC	79.8	79.8	< 60
Cal 2	HVAC	78.8	78.7	< 60
Cal 3	HVAC, Gas Turbine Equipment	63.8	59.7	61.7
Cal 4	Gas Turbine Equipment, HVAC	59.5	53.5	58.2
Cal 5	Gas Turbine Equipment	59.5	49.5	59.5
Cal 6	Gas Turbine Equipment, HVAC	54.9	47.4	54.0
Cal 7	HVAC, Gas Turbine Equipment	61.1	57.4	58.7
Cal 8	Gas Turbine Equipment, HVAC	59.8	55.1	58.0
Cal 9	HVAC	N/A	70.8	< 60

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

After establishing the HVAC and ambient noise levels surrounding the facility, noise level measurements were then conducted with the BESS facility equipment in operation at full discharge. In order to determine the noise impacts from equipment associated with the BESS facility, the calculated ambient noise levels were subtracted from the measured noise levels. Please refer to Table 2 for results of these measurements and calculations.

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	Dominant Noise Source(s)	Noise Level (dBA)		
		Measured Noise Level (Ambient + BESS)	Calculated Ambient Noise Level	Adjusted Measured Noise Level (BESS Only)
Cal 3	BESS Equipment, Gas Turbine Equipment	67.9	61.7	66.7
Cal 4	BESS Equipment, Gas Turbine Equipment	62.0	58.2	59.7
Cal 5	Gas Turbine Equipment	N/A	59.5	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	55.8	54.0	51.1
Cal 7	BESS Equipment, Gas Turbine Equipment	68.7	58.7	68.2

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	Dominant Noise Source(s)	Noise Level (dBA)		
		Measured Noise Level (Ambient + BESS)	Calculated Ambient Noise Level	Adjusted Measured Noise Level (BESS Only)
Cal 8	Gas Turbine Equipment, BESS Equipment	60.7	58.0	57.4
Cal 9	BESS Equipment	78.1	< 60	78.1

In order to determine the accuracy of the noise model, the adjusted measured noise levels were compared to the calculated noise levels at the same receiver locations. Typically, a noise model is considered to be calibrated if the results of the noise model fall within three decibels of measurement results at the same locations. Please refer to Table 3 for a comparison of calculated and measured noise levels of equipment associated with the BESS facility. For a graphical representation of BESS equipment noise contours, and receiver locations, please refer to Figure 5.

Table 3. Calculated BESS Noise Levels and Model Verification				
Location	Dominant Noise Source(s)	Noise Level (dBA)		
		Adjusted Measured Noise Level (BESS Only)	Calculated Noise Level (BESS Only)	Difference
Cal 1	HVAC	N/A	80.8	N/A
Cal 2	HVAC	N/A	79.2	N/A
Cal 3	BESS Equipment, Gas Turbine Equipment	66.7	67.9	1.2
Cal 4	BESS Equipment, Gas Turbine Equipment	59.7	61.3	1.6
Cal 5	Gas Turbine Equipment	N/A	57.1	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	51.1	55.3	4.2
Cal 7	BESS Equipment, Gas Turbine Equipment	68.2	68.2	0.0
Cal 8	Gas Turbine Equipment, BESS Equipment	57.4	58.3	0.9
Cal 9	BESS Equipment	78.1	76.9	1.2
North Fence	N/A	N/A	54.3	N/A
West Fence	N/A	N/A	48.0	N/A

With the exception of the Cal 6 receiver, all calculated results were found to be within two decibels of the measured noise levels of the BESS facility, once the measured results were adjusted to account for the noise produced by the adjacent gas turbine facility. It should be noted that, as the calculated result at the CAL 6 receiver exceeded the adjusted measurement result at the same

receiver, the model can be considered to be a worst-case representation of anticipated noise levels from the facility. As the measured and calculated results differ by less than three decibels for the majority of the receiver locations, results of the Cadna noise model can be considered to be representative of the anticipated noise impacts from the BESS facility.

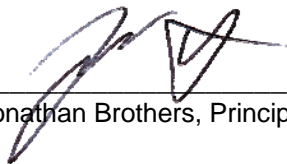
As shown above in Table 3, according to the Cadna noise model, anticipated noise levels at the north and west fence lines are expected to be 54.3 dBA and 48.0 dBA, respectively. As these noise levels are below the project criteria of 60 dBA and are also below the applicable nighttime noise limits for the City of El Centro and County of Imperial, the project can be considered to be in compliance as currently constructed. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility

Conclusion

As installed, noise levels generated by the BESS facility were determined to be in compliance with project requirements as well as the applicable City of El Centro and County of Imperial noise limits. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility.

This report is based on project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the IID BESS facility in the City of El Centro, California. This report was prepared by Jonathan Brothers, Dan Gershun, and Amy Hool.

EILAR ASSOCIATES, INC.



Jonathan Brothers, Principal Acoustical Consultant



Daniel Gershun, Acoustical Consultant

Figures

1. Vicinity Map
2. Satellite Aerial Photograph
3. Topographic Map
4. Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
5. Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations

Appendix

- A. Project Plans

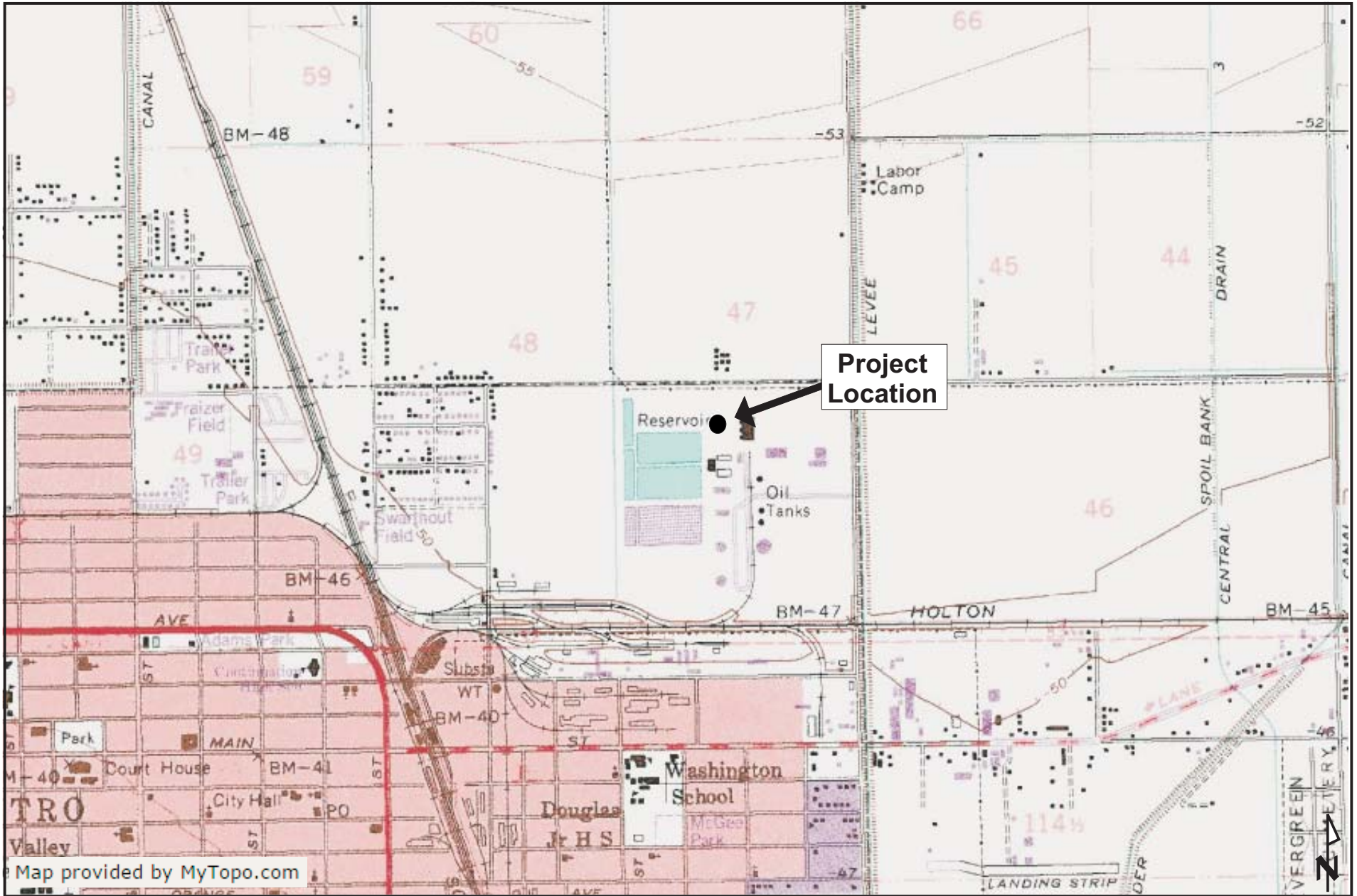
FIGURES



Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Satellite Aerial Photograph
Job # B60902N1

Figure 2

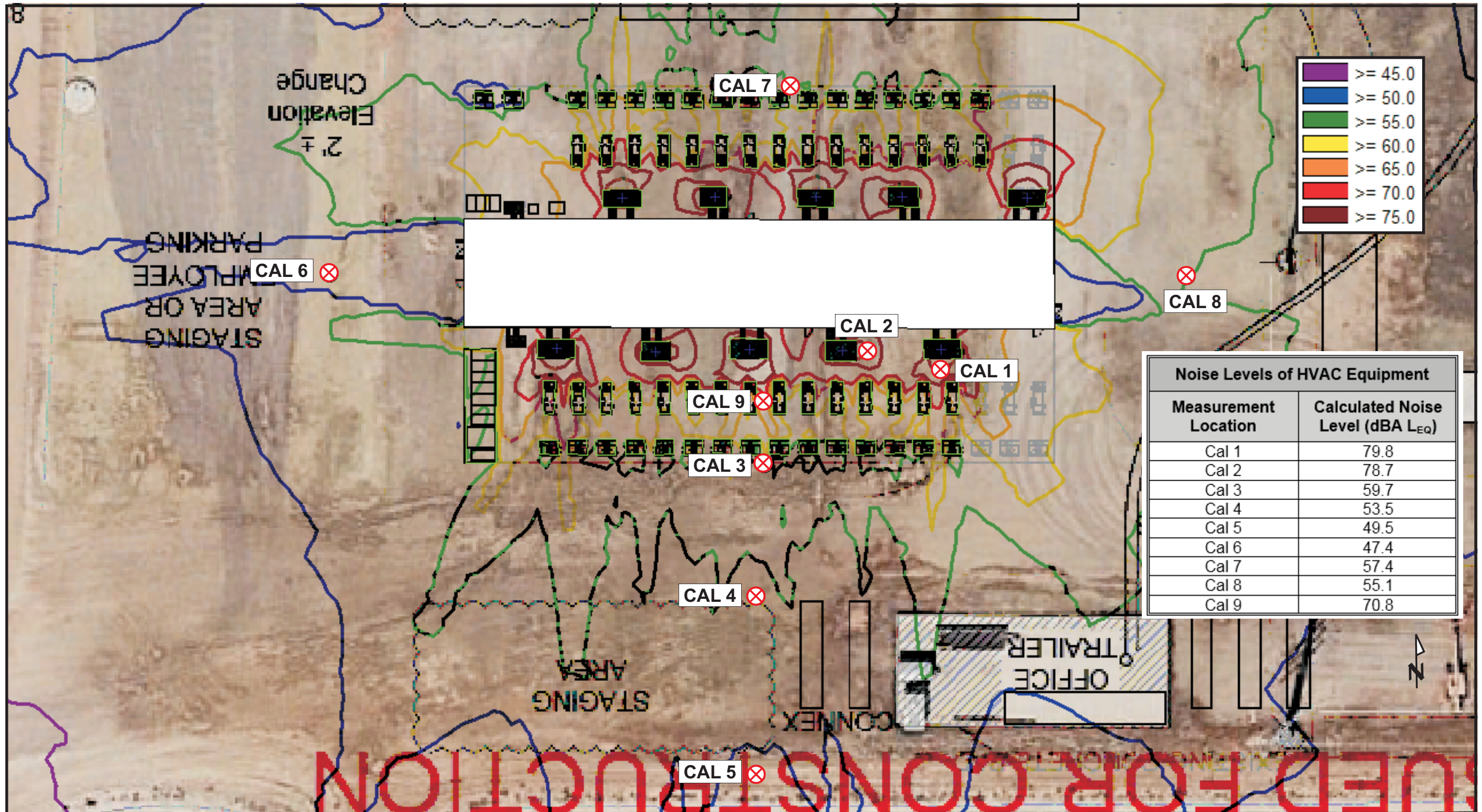


Map provided by MyTopo.com

Eilar Associates, Inc.
 210 South Juniper Street, Suite 100
 Escondido, California 92025
 760-738-5570

Topographic Map
 Job # B60902N1

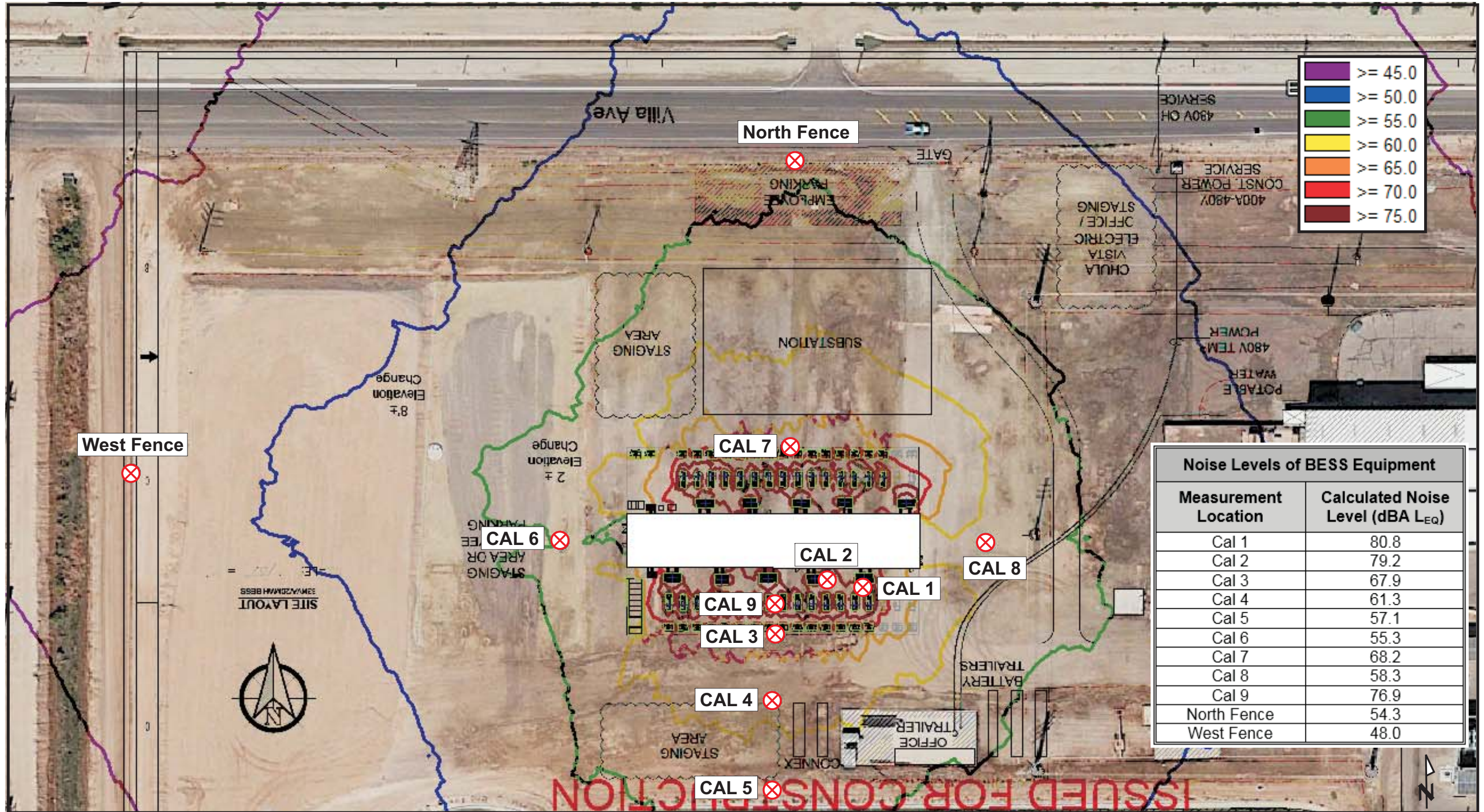
Figure 3



Eilar Associates, Inc.
 210 South Juniper Street, Suite 100
 Escondido, California 92025
 760-738-5570

Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
 Job # B60902N1

Figure 4



Eilar Associates, Inc.
 210 South Juniper Street, Suite 100
 Escondido, California 92025
 760-738-5570

Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations
 Job # B60902N1

Figure 5

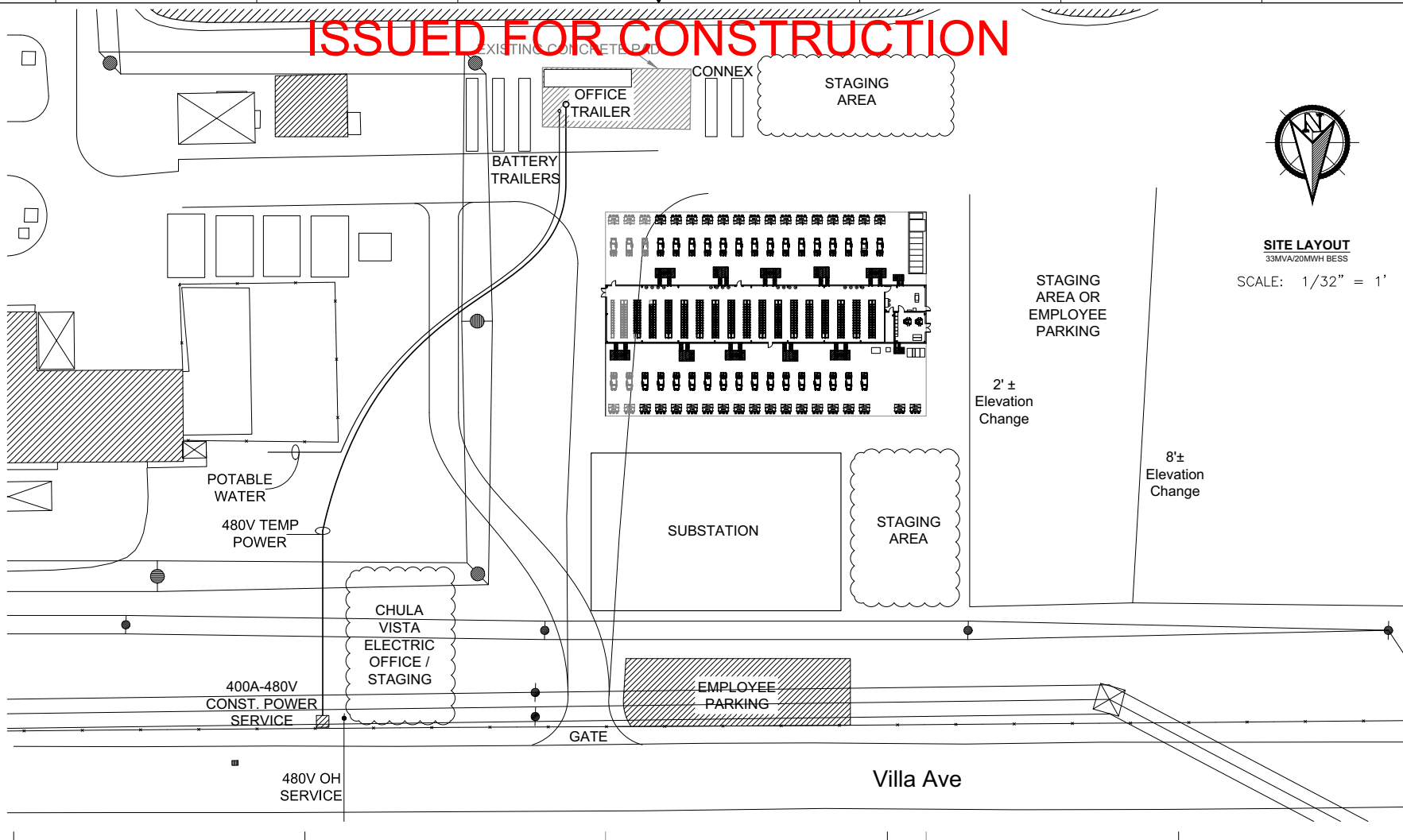
APPENDIX A

Project Plans

ISSUED FOR CONSTRUCTION



SITE LAYOUT
33MVA/20MWH BESS
SCALE: 1/32" = 1'



Tri-Technic, Inc.
Corporate Office: 185 S. Fairview Ln, Sonoma, CA 95370
Construction Office: 441 Oak Blvd., Ripon, Ca. 95386
209-599-6000 www.tri-technic.com

CONSTRUCTORS - ENGINEERS - CONSULTANTS

GE ENERGY STORAGE

D. P. GEORGE 08/25/15
ENGINEER'S STAMP

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No.	DATE	BY	REASON	REVISED BY	REVISION
1	08/25/15	TTT	ISSUED FOR CONSTRUCTION		
2	08/25/15	TTT	REVISION		
3	08/25/15	TTT	REVISION		
4	08/25/15	TTT	REVISION		

COACHELLA ENERGY STORAGE PARTNERS



I I D. ENERGY
A Division of
IMPERIAL IRRIGATION DISTRICT

SITE LAYOUT
33MVA/20MWH BESS

DRAWN BY: V.L.(TTT)	APPROVED BY: D.P.(GE)	SEC
DESIGNED BY: D.L.(TTT)	REVIEWED BY:	
SCALE: 1/32" = 1'	ENGR. NO. BESS-102	REVB

Appendix E

Phase 1 Environmental Site Assessment

Phase I Environmental Site Assessment

Praana Two: Washoe Battery Energy
Storage System (BESS) and Photovoltaic
Solar Energy System (PSES), Lease Area
Calveda Way
Washoe County, Nevada



SIERRA GEOTECH

Prepared for:

Dr. Charles Hooper, DO
CDR (RET) MC USN
11242 Clinton Bar Road
Pine Grove, California 95665
&

Praana Renewables Energy, LLC
4470 Yankee Hill Road, Suite 110
Rocklin, California 95677

Prepared by:

Sierra Geotech, DBE, Inc.
4470 Yankee Hill Road, Suite 110
Rocklin, California 95677

April 30, 2021

Sign-off Sheet

This document entitled, Phase I Environmental Site Assessment (ESA), was prepared by Sierra Geotech DBE, Inc., (Sierra Geotech) for the account of Dr. Charles Hooper, DO and Praana Renewables Energy, LLC (Praana Energy) . The material in it reflects Sierra Geotech's best judgment considering the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Sierra Geotech accepts no responsibility for damages, if any, suffered by any third party because of decisions made or actions based on this report.

All information, conclusions, and recommendations provided by Sierra Geotech in this document regarding the Phase I ESA have been prepared under the supervision of and reviewed by the professionals whose signatures appear below.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Property. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



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Acronyms & Abbreviations

AAI	All Appropriate Inquiry
ACM	Asbestos containing material
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BER	Business Environmental Risk
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CREC	Controlled Recognized Environmental Conditions
CWA	Clean Water Act
ELUC	Environmental Land Use Control
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
ft msl	Feet above mean sea level
HREC	Historical Recognized Environmental Conditions
HWMU	Hazardous Waste Management Unit
LBP	Lead-based Paint
LUST	Leaking Underground Storage Tank
NESHAP	National Emissions Standard for Hazardous Air Pollutants
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
pVEC	Potential Vapor Encroachment Condition
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
SWMU	Solid Waste Management Unit
TSCA	Toxic Substance Control Act
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VOCs	Volatile Organic Compounds

1.0 SUMMARY

Sierra Geotech has completed a Phase I Environmental Site Assessment (ESA) of a property comprised of Washoe County Assessor's Parcel Numbers (APNs) 074-470-03, 074-470-02, 074-470-04, and 074-470-05 (property) located on Calveda Way in Washoe County, Nevada. This Phase I ESA has been completed on behalf of Dr. Charles Hooper, DO ("HOOPER" or "Client") and Praana Renewables Energy LLC ("Praana Energy" or "Client"). The Scope of Services performed was in accordance with the agreement with Dr. Charles Hooper, DO, and Praana Energy. Sierra Geotech understands that the Client has requested this Phase I ESA in support of environmental due diligence to assess site conditions; to characterize and review past and present land use practices; and to document existing site operations and conditions in support of Dr. Hooper's and Praana Energy's pursuit of permits to construct and operate a Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) BESS/PSES facility at the proposed property. HOOPER and Praana Energy (the "Users") has been designated as the Users of this report. This Phase I ESA was conducted in conformance with the requirements of ASTM International (ASTM) Practice E1527-13, except as may have been modified by the scope of work, and terms and conditions, as requested by the Client. Any exceptions to, or deletions from, the ASTM practice are described in Sections 2.3 and 7.2.

The Property is comprised of four parcels: one parcel located north of the railroad tracks (APN 074-470-03) comprised of approximately 116 +/- acres and three parcels located south of the railroad tracks (APNs 074-470-02, 074-470-04, and 074-470-05) comprising approximately 162 +/- acres (+/- 26, 17, and 119 acres respectively). The four parcels are located just east of the California/Nevada border and west of Rainbow Way in Washoe County, Nevada. The Praana Energy project lease area was observed to be a primarily undeveloped vacant rangeland. The project lease area is characterized as native vegetation which is typical of the Great Basin desert community. Vegetative communities within the project lease area include sagebrush, bitterbrush, desert peach, rabbitbrush, Mormon tea, and antelope bitterbrush. The project lease area is zoned by Washoe County Development Code as General Rural (GR) zoning classification.

This ESA was accomplished by, and limited to, a reconnaissance of the Praana Two Washoe BESS/PSES project lease area, a perimeter survey of the proposed BESS/PSES project lease area vicinity, and review of agency databases and other reasonably ascertainable information regarding past and current land use for indications of the manufacture, generation, use, storage, and/or disposal of hazardous substances at the property following the provisions enumerated by ASTM E1527-13.

Sierra Geotech environmental site assessors performed a reconnaissance of the Property on April 22, 2021, focusing on observation of current conditions and observable indications of past uses and conditions that may indicate the presence of a REC. The site visit confirmed the findings of previously administered public record searches, personal interviews, and owner reported data that the Property is currently dedicated to agricultural rangeland cattle grazing uses. No indications were found to indicate the likely presence of environmental conditions, historical, controlled, or otherwise that would be considered RECs under the scope of this ESA. Photographs taken during the site reconnaissance visit are provided in Appendix A.

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This Phase I Environmental Site Assessment is based on the foregoing and subject to the limitations, qualifications, exceptions, and assumptions set forth herein. The preceding summary is intended for informational purposes only. Reading of the full body of this report is recommended.

2.0 INTRODUCTION

The objective of this Phase I ESA was to perform appropriate inquiry into the past ownership and uses of the Property consistent with good commercial or customary practice as outlined by the ASTM in "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", Practice E1527-13. The purpose of this Phase I ESA was to identify, to the extent feasible, adverse environmental conditions including "RECs" on the Property.

The ASTM E1527-13 standard indicates that the purpose of the Phase I ESA is to identify RECs, including historical recognized environmental conditions ("HRECs"), and controlled recognized environmental conditions ("CRECs") that may exist at a property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property:

- (1) Due to any release to the environment;
- (2) Under conditions indicative of a release to the environment; or
- (3) Under conditions that pose a material threat of a future release to the environment.

ASTM defines a "HREC" as a REC that has occurred in connection with the property but has been addressed to the satisfaction of the applicable regulatory authority and meets unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a HREC, the environmental professional must determine whether the past release is a REC when the current Phase I ESA is conducted (for example, if there has been a change in the regulations). If the Environmental Professional (EP) considers the past release to be a REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a REC.

ASTM defines a "CREC" as a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), but with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

De minimis conditions are not RECs. The term de minimis includes hazardous substances or petroleum products even under conditions in compliance with laws. As indicated, the term REC does not include de minimis conditions, which generally do not present a material risk to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies.

The scope of work conducted during this Phase I ESA consisted of a visual reconnaissance of the Property, interviews with key individuals, and review of reasonably ascertainable documents. The scope of work did not include an assessment for environmental regulatory compliance of any

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operations at the Property (past or present), or sampling and analyzing of environmental media. Sierra Geotech was not contracted to perform any independent evaluation of the purchase or lease price of the Property and its relationship to current fair market value. The conclusions presented in this ESA Report are professional opinions based on data described herein. The opinions are subject to the limitations described in Section 2.3.

ASTM E1527-13 notes that the availability of record information varies from source to source. The User or EP is not obligated to identify, obtain, or review every possible source that might exist with respect to a property. Instead, ASTM identifies record information that is reasonably ascertainable from standard sources. "Reasonably ascertainable" means:

- (1) Information that is publicly available;
- (2) Information that is obtainable from its source within reasonable time and cost constraints; and
- (3) Information that is practicably reviewable.

2.1 PROPERTY DESCRIPTION

The property is approximately 279 +/- acre area, located on of Calveda Way and bisected by the Union Pacific Railroad in Washoe County, Nevada. The lease area for the Washoe BESS/PSES project consists of the entire 279 +/- acres on the four Assessor's Parcel Numbers 074-470-03 (116.2 acres), 074-470-02 (26 acres), 074-470-04 (17.6 acres), and 074-470-05 (119 acres). The nearest community to the property is Herlong, California and the Sierra Army Depot located approximately five (5) miles to the west of the Washoe BESS/PSES project lease area; the project lease area is located approximately 4 miles north of the Fish Springs Road and Rainbow Road intersection on the east side of Rainbow Road, Washoe County, Nevada. The project lease area is bounded by Rainbow Road Road to the east, the Nevada/California border to the west, and vacant rangeland to the north south. The project lease area is zoned by Washoe County Development Code as General Rural (GR) zoning classification.

The property is located within an area that is primarily undeveloped open rangeland for cattle grazing land uses in Washoe County. In general, prominent adjoining land uses are as follows:

- West: Undeveloped open rangeland, California/Nevada State Boundary Line, and Sierra Army Depot a military storage complex some five (5) miles west of the property
- North: Undeveloped open rangeland.
- East: Undeveloped open rangeland.
- South: Undeveloped open rangeland.

Sierra Geotech did not observe activities that would indicate the potential for surface or subsurface impacts to the property from adjoining properties.

2.2 SPECIAL TERMS, CONDITIONS, & SIGNIFICANT ASSUMPTIONS

It is assumed that the purpose of this Phase I ESA is to qualify the User, in part, for landowner protection from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. The possible contaminants of concern considered in this assessment include those hazardous compounds listed under CERCLA and petroleum products. Other than adherence to Client-specific scope of work requirements, there were no other special terms, conditions, or significant assumptions associated with the Phase I ESA.

2.3 EXCEPTIONS & LIMITING CONDITIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided and given the schedule and budget constraints established by the Client. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential and actual liabilities and conditions associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Sierra Geotech at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the Client or third parties in the preparation of this report has been assumed by Sierra Geotech to be correct. Sierra Geotech assumes no responsibility for any deficiency or inaccuracy in information received from others.

If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Sierra Geotech regarding it.

Conclusions made within this report consist of Sierra Geotech's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition.

This report relates solely to the specific project for which Sierra Geotech was retained and the stated purpose for which this report was prepared and shall not be used or relied upon by the Client identified herein for any variation or extension of this project, any other project or any other purpose.

This report has been prepared for the exclusive use of the Client identified herein and any use of or reliance on this report by any third party is prohibited, except as may be consented to in writing by Sierra Geotech or as required by law. The provision of any such consent is at Sierra Geotech's sole and unfettered discretion and will only be authorized pursuant to the conditions of Sierra Geotech's standard form reliance letter. Sierra Geotech assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

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The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures must be confirmed by the Client and Sierra Geotech assumes no liability resulting from damage to such utilities and structures.

The conclusions are based on the site conditions encountered by Sierra Geotech at the time the work. Accordingly, additional studies and actions may be required. As the purpose of this report is to identify selected site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment. The findings, observations, and conclusions expressed by Sierra Geotech in this report are not an opinion concerning the compliance of any past or present owner or operator of the site which is the subject of this report with any Federal, state, provincial or local law or regulation.

This report presents professional opinions and findings of a scientific and technical nature. It does not and shall not be construed to offer a legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations, or policies of Federal, state, provincial or local governmental agencies. Issues raised by the report should be reviewed by Client legal counsel.

Sierra Geotech specifically disclaims any responsibility to update the conclusions in this report if new or different information later becomes available or if the conditions or activities on the property subsequently change.

2.4 PERSONNEL QUALIFICATIONS

This Phase I ESA was conducted by, or under the supervision of, an individual that meets the ASTM definition of an Environmental Professional (EP). The credentials of the EP and other key Sierra Geotech personnel involved in conducting this Phase I ESA are provided in Appendix B.

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3.0 USER-PROVIDED INFORMATION

ASTM E1527-13 describes responsibilities of the User to complete certain tasks in connection with the performance of "All Appropriate Inquiries" into the Property. The ASTM standard requires that the EP request information from the User on the results of those tasks because that information can assist in the identification of RECs, CRECs, HRECs, or de minimis conditions in connection with the Property. Towards that end, Sierra Geotech requested that the Users provide the following documents and information:

Description of Information	Provided (Yes / No)	Description and/or Key Findings
Owner Questionnaire (Dr. Charles Hooper, DO)	Yes	Dr. Charles Hooper, DO, has owned the property since the mid 1980's, when he inherited the property from his father Harry Hooper, who purchased the property in the 1970's. Dr. Hooper stated that he is unaware of any contamination by hazardous substances or petroleum products being found on his property.
Environmental Liens or Activity Use Limitations	No	The Property Owner have no knowledge of environmental liens filed against the Property.
Previous Environmental Permits or Reports Provided by User	No	The Property Owner did not provide previous environmental reports on the Property.
Purpose of the Phase I ESA	Yes	See above

The Owner (Dr. Charles Hooper, DO) provided information is included in Appendix C.

4.0 RECORDS REVIEW

The objective of consulting historical sources of information is to develop the history of the Property and surrounding area, to evaluate if past uses may have resulted in RECs. Physical setting records are evaluated to determine if the physical setting may have contributed to adverse environmental conditions in connection with the Property. During the review of historical records, Sierra Geotech attempted to identify uses of the Property from the present to the Property's first developed use. Sierra Geotech's research included the reasonably ascertainable and useful records described in this section.

4.1 PHYSICAL SETTING

A summary of the physical setting of the Property is provided in the table below with additional details in the following subsections.

Topography:	The Property is located within the basin and range with ostensibly null topographic relief.
Soil/Bedrock Data:	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. Soils on the property are characterized as Epot soil series, which 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.
Estimated Depth to Groundwater/ Estimated Direction of Gradient:	The estimated direction of gradient on the property slants down very gradually toward the northeast. Depth to groundwater is approximately ten (10) feet.
<i>Note: Property-specific groundwater direction and depth can only be determined by conducting site-specific testing, which Sierra Geotech has not conducted.</i>	

4.1.1 Property Topography and Surface Water Flow

The Property is located at an elevation of approximately 4000 feet above mean sea level (ft msl) with limited topographic relief. The Property is 4000 ft msl on the southern boundary and 4004 ft msl on the northern boundary, with the western boundary setting at 4006 ft msl and eastern boundary at 3998 ft msl. Based on the topography, and observation of local topography, local surface water flow is anticipated to flow in a generally eastern direction.

4.1.2 Regional and Property Geology

The eastern Honey Lake Valley is characterized by sedimentary deposits that are generally lacustrine

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or alluvial, as most of the Honey Lake Basin was dominated by Lake Lahontan until about 12,000 years ago (Wegener et al. 2004). Soils in the area include sands, silts, and sandy loams, especially in the eastern parts of the basin. The presence of terraces, deltas, gravel bars, and spits (all above the current valley floor) suggest that Honey Lake basin now only holds a fraction of the water that filled it during the Pleistocene (Wegener et al. 2004; Milliken and Hildebrandt 1997). Along with this sedimentary deposition, alluvial and aeolian deposits also are present in the basin (Milliken and Hildebrandt 1997). Near the Property in the southern portion of the valley, the ephemeral Long Valley Creek is responsible for alluvial deposits, and low sand dunes prove testament to aeolian forces in much of the area. Most of the alluvial and aeolian deposits are superimposed over Lake Lahontan's lacustrine deposits from the earlier era (Milliken and Hildebrandt 1997).

Additionally, the Fort Sage Mountains to the south of the Property is the result of uplift during the Mesozoic era and are part of the granitic Sierra Range (Milliken and Hildebrandt 1997). The Fort Sage Mountains located just south of the Property show evidence of rhyolitic ash flows and air-fall tuffs, and have formations of andesite, rhyolite, and dacite (McGuire et al. 1997). These rhyolite formations contain silica-rich deposits of toolstone, which outcrop throughout the region (McGuire et al. 1997).

4.1.3 Regional and Property Hydrogeology

A search of relevant databases and regulatory authorities failed to reveal reasonably ascertainable, site-specific well data. Two wells within 1 mile of the Property were identified Well 27N17E35B001M is drilled to a depth of 94 feet and Well 26N17E01C001M is drilled to a depth of 300 feet. Based on soil composition and topography of the Property and the Susan River watershed, local groundwater is anticipated to flow generally to the South.

4.2 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from EDR, a third-party environmental database search firm. For the purposes of the environmental database report an area at Latitude (North): 40.1551710 - 40° 9' 18.61" and Longitude (West): 119.9886350 - 119° 59' 19.08" was considered; cardinally constrained search limits which correspond to the extent of the property and its immediate environs. A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix D.

Sierra Geotech analyzed the data enumerated within the report to evaluate the potential for conditions which would pose potential risks RECs, CRECs, or HRECs for the Property. Observations about the Property and surrounding properties made during the Property reconnaissance are provided in more detail in Section 5.

4.2.1 Listings for the Property

EDR's search of available, reasonably ascertainable, government records revealed no entries or mapped sites pertaining to the target property. There is, therefore, no data from this listing which could potentially represent a REC for the Property.

4.2.2 Listings for Nearby Sites with Potential to Impact Property

The EDR Radius Map Report documented no nearby sites with the potential to impact the Property.

It should be noted that this information is reported as received by Sierra Geotech from EDR, which in turn reports information as provided in various government databases. It is not possible for either Sierra Geotech or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence. The property reconnaissance focused on observation of current conditions and observable indications of past uses and conditions that may indicate the presence of a REC.

4.3 LOCAL/REGIONAL ENVIRONMENTAL RECORDS

Sierra Geotech checked the following sources to obtain information pertaining to the Property use and/or indications of RECs in connection with the Property:

4.3.1 Washoe County Tax Assessor Online Records

Agency Name & Resource Information	Findings
Washoe County Assessors Website Date of search: 02/10/2021	Sierra Geotech reviewed online records for the Property. The records identify the Property as vacant land comprised of +/- 279 acres of open rangeland as shown on the Washoe County Assessor's Parcel Map Book 074, Page 47.

4.4 HISTORICAL RECORDS REVIEW

4.4.1 Land Title Records/Deeds

A public records search of the databases for the Washoe County Recorder and Assessor offices was performed on February 10, 2021, for all deeds vesting title to the subject property. No environmental agency liens or other evidence of RECs were identified.

4.4.2 Aerial Photographs

Sierra Geotech reviewed historical aerial photographs provided by EDR. The general type of activity on a property and land use changes can often be discerned from the type and layout of structures visible in the photographs. However, specific elements of operation usually cannot be discerned from aerial photographs alone. The following table summarizes Sierra Geotech's observations of the reviewed historical aerial photographs.

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Year	Scale	Observations, Property and Adjoining Properties
1954	1" = 750'	The property appears to have a railroad running through the middle of the property. Property is open rangeland with cattle trails/paths visible throughout the area. A large area stretching south from the railroad to beyond the limits of the photo, including most of the property, appears to have been cleared of vegetation. The property was surrounded by open rangelands in all directions (North/South/East/West).
1962	1" = 750'	The cleared area from the previous photo now appears to have regrown vegetation consistent with the surrounding region. No other changes of note are observed.
1980	1" = 750'	What appear to be dirt roads are now visible running north/south and east/west around the property vicinity, including what appears to be Rainbow Way which runs along the properties eastern border.
1993	1" = 750'	No apparent changes are observed to the property or adjacent properties.
2006	1" = 750'	No apparent changes are observed to the property or adjacent properties.
2010	1" = 750'	No apparent changes are observed to the property or adjacent properties.
2014	1" = 750'	No apparent changes are observed to the property or adjacent properties.
2017	1" = 750'	No apparent changes are observed to the property or adjacent properties.

Source: The EDR Aerial Photo Decade Package

4.4.3 City Directories

Sierra Geotech reviewed data from a comprehensive historical directory listings report compiled from standard sources such as Haines Criss-Cross Directory, Cole Information and Dun & Bradstreet. Examination on business directories including city, cross reference and telephone directories reviewed, if available, at approximately five-year intervals for the years in which records were available. The target address was not discovered in the directory search. No listings were found for the project site and in the general vicinity of the Property. No indications of RECs for the Property were identified in the directories. The complete city directory report is provided in Appendix E.

4.4.4 Historical Fire Insurance Maps

Fire insurance maps were developed for use by insurance companies to depict facilities, properties, and their uses for many locations throughout the United States. These maps provide information on the history of prior land use and are useful in assessing whether there may be potential environmental contamination on or near the Property. These maps, which have been periodically updated since the late 19th century, often provide valuable insight into historical land uses.

Sierra Geotech contracted with EDR to obtain Sanborn Fire Insurance Maps for the property. Based on EDR's search, Sanborn Fire Insurance Maps were not found and EDR certifies that the complete

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holdings of the Sanborn Library, LLC collection were searched based on supplied target property information by Sierra Geotech, and fire insurance maps covering the target property were not found.

4.4.5 Historical Topographic Maps

Sierra Geotech reviewed historical USGS 7.5-Minute, 15-Minute, and 30-Minute Topographic Maps of the Calneva Lake (7.5-Minute) and Flanigan Quadrangles (7.5-Minute) to help identify past Property usage and areas of potential environmental concern.

No RECs were noted during our review of the topographic maps. Copies of the historical maps are provided in Appendix E. The following table summarizes the maps reviewed and our observations.

Year	Observations, Property and Adjoining Properties
1964	Flanigan 7.5-Minute Series Map shows the Western Pacific Railroad running roughly southwest/northeast through the subject property. A dirt road or similar is depicted running roughly parallel to the southern side of the railroad. The general topography in the region is shown as predominately flat with a gradually downward slope to the east.
1974	No apparent changes from previous map observed.
1981	Additional, grid like, linear features have been mapped on surrounding parcels (no changes on the subject property). It is unclear if these markings refer to roadways, easements, or other similar feature.
2012/2014	The dirt road (previously unlabeled) which runs east/west across the subject property is now labeled as "Calveda Way". Calneva Lake is now depicted to the northwest of the property. Previously depicted rights of way (or similar) have been reduced, the dashed line which appears to correspond to Rainbow Way remains visible.

Source: The EDR Historical Topographic Map Report

5.0 PROPERTY RECONNAISSANCE

On April 22, 2021, Mr. Brent L. Moore, CEP of Sierra Geotech escorted by Dr. Charles Hooper, DO, the property owner, conducted a reconnaissance of the Property. The reconnaissance consisted of the observation and documentation of existing site conditions and the nature of the neighboring property development within approximately five (5) miles of the Property. Photographs taken during the site reconnaissance are provided in Appendix A.

5.1 PROPERTY RECONNAISSANCE METHODOLOGY

The Property reconnaissance focused on observation of current conditions and observable indications of past uses and conditions that may indicate the presence of a REC. The Property reconnaissance was conducted on foot and by four-wheel drive vehicle and Sierra Geotech utilized the following methodology to observe the Property:

- Traverse the outer Property boundary.
- Traverse transects across the Property.
- Observe accessible interior areas.

5.2 GENERAL DESCRIPTION

Property and Area Description:	The Property is located in the southern portion of the Honey Lake Valley within the basin and range and the Susan River watershed. The property is open rangeland, agricultural parcel with no improvements. Union Pacific Railroad and Calveda Way transverse the Property. Activities on the property and in the surrounding vicinity are mainly of an agricultural open rangeland grazing of cattle.
Property Operations:	Open rangeland for cattle grazing.
Structures, Roads, Other Improvements:	The property is bordered by the Rainbow Road (County Dirt Road) to the east and Union Pacific Railroad running east/west through the middle of the Property
Observed Evidence of Past Property Use(s):	None observed.
Sewage Disposal Method (and age):	None
Potable Water Source:	Potable water is not available.
Electric and Gas Service:	Electric service provided by NV Energy and natural gas service provided to property by Tuscarora Gas.

5.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

The following table summarizes Sierra Geotech's observations during the Property reconnaissance.

Observations	Description/Location
Hazardous Substances and Petroleum Products as Defined by CERCLA 42 U.S.C. § 9601(14):	None observed.
Drums (≥ 5 gallons):	None observed.
Strong, Pungent, or Noxious Odors:	None observed.
Pools of Liquid:	None observed.
Unidentified Substance Containers:	None observed.
PCB-Containing Equipment:	None observed.
Other Observed Evidence of Hazardous Substances or Petroleum Products:	None observed.

5.4 INTERIOR OBSERVATIONS

The project area contains no structures and is characterized as open cattle grazing rangeland.

5.5 EXTERIOR OBSERVATIONS

Sierra Geotech made the following observations during the site reconnaissance of exterior areas of the Property and/or identified the following information during the interview or records review portions of the assessment:

Observations	Description
On-site Pits, Ponds, or Lagoons:	Some low lying depression areas, Alkali sinks
Stained Soil or Pavement:	None observed.
Stressed Vegetation:	None observed.
Waste Streams and Waste Collection Areas:	None observed.
Solid Waste Disposal:	None observed.
Potential Areas of Fill Placement:	None observed.
Wastewater:	None observed.
Stormwater:	None observed.
Wells:	None observed.
Septic Systems:	None observed.

5.6 UNDERGROUND STORAGE TANKS/STRUCTURES

Observations	Description/Location
Existing USTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface patches), which would indicate the presence of USTs, was observed during the Property reconnaissance.
Former USTs:	No evidence (fill pipes, vent pipes, dispensers, surface patches), reports, or other evidence of the former presence of USTs was discovered during this Phase I ESA.
Other Underground Structures:	None observed.

5.7 ABOVEGROUND STORAGE TANKS

Observations	Description/Location
Existing ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), which would indicate the presence of ASTs, was discovered during the site reconnaissance.
Former ASTs:	No visible evidence (fill pipes, vent pipes, dispensers, surface stains), reports, or other evidence of the former presence of ASTs was discovered during this Phase I ESA.

5.8 ADJOINING PROPERTIES

5.8.1 Current Uses of Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Sierra Geotech made the following observations about use and activities on adjoining properties:

NORTH	Open rangeland characterized as Antelope bitterbrush (<i>Purshia tridentata</i>) dominant with variations of sagebrush species (<i>Artemisia tridentata</i> and subspecies), desert peach (<i>Prunus andersonii</i>), rabbitbrush (<i>Chrysothamnus</i> spp.), and Mormon tea (<i>Ephedra viridis</i>) interspersed in the understory.
SOUTH	Open rangeland characterized as Antelope bitterbrush (<i>Purshia tridentata</i>) dominant with variations of sagebrush species (<i>Artemisia tridentata</i> and subspecies), desert peach (<i>Prunus andersonii</i>), rabbitbrush (<i>Chrysothamnus</i> spp.), and Mormon tea (<i>Ephedra viridis</i>) interspersed in the understory.
EAST	Open rangeland characterized as Antelope bitterbrush (<i>Purshia tridentata</i>) dominant with variations of sagebrush species (<i>Artemisia tridentata</i> and subspecies), desert peach (<i>Prunus andersonii</i>), rabbitbrush (<i>Chrysothamnus</i> spp.), and Mormon tea (<i>Ephedra viridis</i>) interspersed in the understory.

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

WEST	Open rangeland characterized as Antelope bitterbrush (<i>Purshia tridentata</i>) dominant with variations of sagebrush species (<i>Artemisia tridentata</i> and subspecies), desert peach (<i>Prunus andersonii</i>), rabbitbrush (<i>Chrysothamnus</i> spp.), and Mormon tea (<i>Ephedra viridis</i>) interspersed in the understory.
-------------	--

5.8.2 Observed Evidence of Past Uses of Adjoining Properties

Observations of adjoining properties providing indications of past use and activities that may have varied from those currently in place, if any, are described below.

North	None observed
South	None observed
East	None observed
West	None observed

5.8.3 Pits, Ponds or Lagoons on Adjoining Properties

As viewed from the Property and/or from public rights-of-way, Sierra Geotech made the following observations about the presence of pits, ponds and lagoons on adjoining properties:

North	None observed
South	None observed
East	None observed
West	None observed

5.9 OBSERVED PHYSICAL SETTING

Observations	Description/Location
Topography of the Property and Surrounding Area:	The entire area is relatively flat with virtually no topographical relief visible to the naked eye in immediate vicinity of the property. Railroad tracks are the only raised area of the topography.

6.0 INTERVIEWS

Sierra Geotech conducted an interview with Dr. Charles Hooper, DO, the property owner and obtained information regarding historical and current site operations. Dr. Hooper has owned the property since the mid 1980's, and prior to that his father Harry Hooper owned the property from the 1970's. Dr. Hooper stated that he is unaware of any contamination by hazardous substances or petroleum products being found on his property. Dr. Hooper stated that he has used the property for cattle grazing only. Brent L. Moore, CEP walked portions of the property and drove portions of the property in a four-wheel drive vehicle with the Dr. Hooper and found the property to be clean with no signs of contamination or spills.

7.0 EVALUATION

This section provides a summary overview of or Findings, Opinions, and Conclusions.

7.1 FINDINGS AND OPINIONS

Information gathered from interviews, reviews of existing data review, and a property inspection was evaluated to determine if RECs are present in connection with the Property.

Finding 1: Historical records from the 19th century indicate that the property was the site of a railroad corridor to service the Sierra Army Depot. The Property has been historically used for cattle grazing as an open range. No information was identified that indicates a release or imminent threat of a release at the Property.

Opinion 1: No evidence of RECs for the Property was identified. Under the scope of this ESA.

7.2 DATA GAPS

The federal AAI rule [40 CFR 312.10(a)] and ASTM E1527-13 identify a "data gap" as the lack or inability to obtain information required by the standards and practices of the rule despite good faith efforts by the EP, Owner or the User. Any data gaps resulting from the Phase I ESA described in this report are listed and discussed below.

Deletions or Exceptions From Scope of Work:	None.
Weather-Related Restrictions To Property Reconnaissance:	None.
Facility Access Restrictions to Property Reconnaissance:	None.
Other Property Reconnaissance Restrictions:	None.
Data Gaps From Environmental Records Review:	None.
Data Gaps From Historical Records Review:	None.
Data Gaps From Interviews:	None. Sierra Geotech obtained sufficient information about the Property from interviews, records searches, other readily available sources, and site reconnaissance to evaluate the potential for RECs.
Other Data Gaps:	None.

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

7.3 CONCLUSIONS

Sierra Geotech has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of land located on Calveda Way approximately five (5) miles north of Fort Sage Road in Washoe County (APN's 074-470-03, 074-470-02, 074-470-04, and 074-470-05) as shown on Washoe County Tax Assessor's Parcel Maps). Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Property.

8.0 REFERENCES

The following documents, maps or other publications may have been utilized specifically in the preparation of this Phase I ESA Report or generally in the development of the report format. References to specific documents are also provided in appropriate sections of the report.

Dr. Charles Hooper, DO, Personal Interview, Property Owner, April 22, 2021

Environmental Data Resources, Inc., Radius Map with GeoCheck / Site Assessment Reports

Environmental Data Resources, Inc., Tax Map Report

Environmental Data Resources, Inc., Historical Topo Map Report

Environmental Data Resources, Inc., Environmental Lien and AUL Search

Environmental Data Resources, Inc., City Directory Image Report

Environmental Data Resources, Inc., Certified Sanborn Map Report

Environmental Data Resources, Inc., Building Permit Report

Environmental Data Resources, Inc., Aerial Photo Decade Package

McGuire, K. R., W. Bloomer, E. Honeysett, H. McCarthy, S. Waechter, P. Welsh, E. Wohlgemuth and D. C. Young, Jr. 1997. Culture Change Along the Eastern Sierra Nevada/Cascade Front, Volume VI: Fort Sage Uplands and Spanish Springs Valley. Cultural Resource Report #3-1709. Prepared for Tuscarora Gas Transmission Company, Reno, Nevada, by Far Western Anthropological Research Group, Inc., Archaeological Research Services, Inc., and JRP Associates, Inc.

Milliken, R. and W. R. Hildebrandt. 1997. Culture Change Along the Eastern Sierra Nevada/Cascade Front, Volume V: Honey Lake Basin. Cultural Resource Report #3-1709. Prepared for Tuscarora Gas Transmission Company, Reno, Nevada, by Far Western Anthropological Research Group, Inc., Archaeological Research Services, Inc., and JRP Associates, Inc.

Wegener, R. M., J. H. Altschul, A. H. Keller, and A. Q. Stoll (Eds), 2004. Distant Shores: Cultural Resources Survey at Honey Lake, Lassen County, California. DACW09-03-D-0005 CQ01. Prepared for the U.S. Army Corps of Engineers, Sacramento District, by Statistical Research, Inc., Redlands, California and Tucson, Arizona.

The following web sites have been accessed to obtain information used in the preparation of this Phase I ESA Report.

Bedrock Geology - <http://geology.about.com/od/stategeologicmaps/>

Geologic Provinces - <http://www2.nature.nps.gov/geology/usgsnps/province/province.html>

Soils Reference - <http://soils.usda.gov/>

State and Local Government Records - <http://www.statelocalgov.net/index.cfm>

State Radon Levels - http://radon.com/radon/radon_map.html

Tax and Property Records - http://www.netronline.com/public_records.htm

Wetlands Maps - <http://wetlandfws.er.usgs.gov/>

Figures

Phase I Environmental Site Assessment

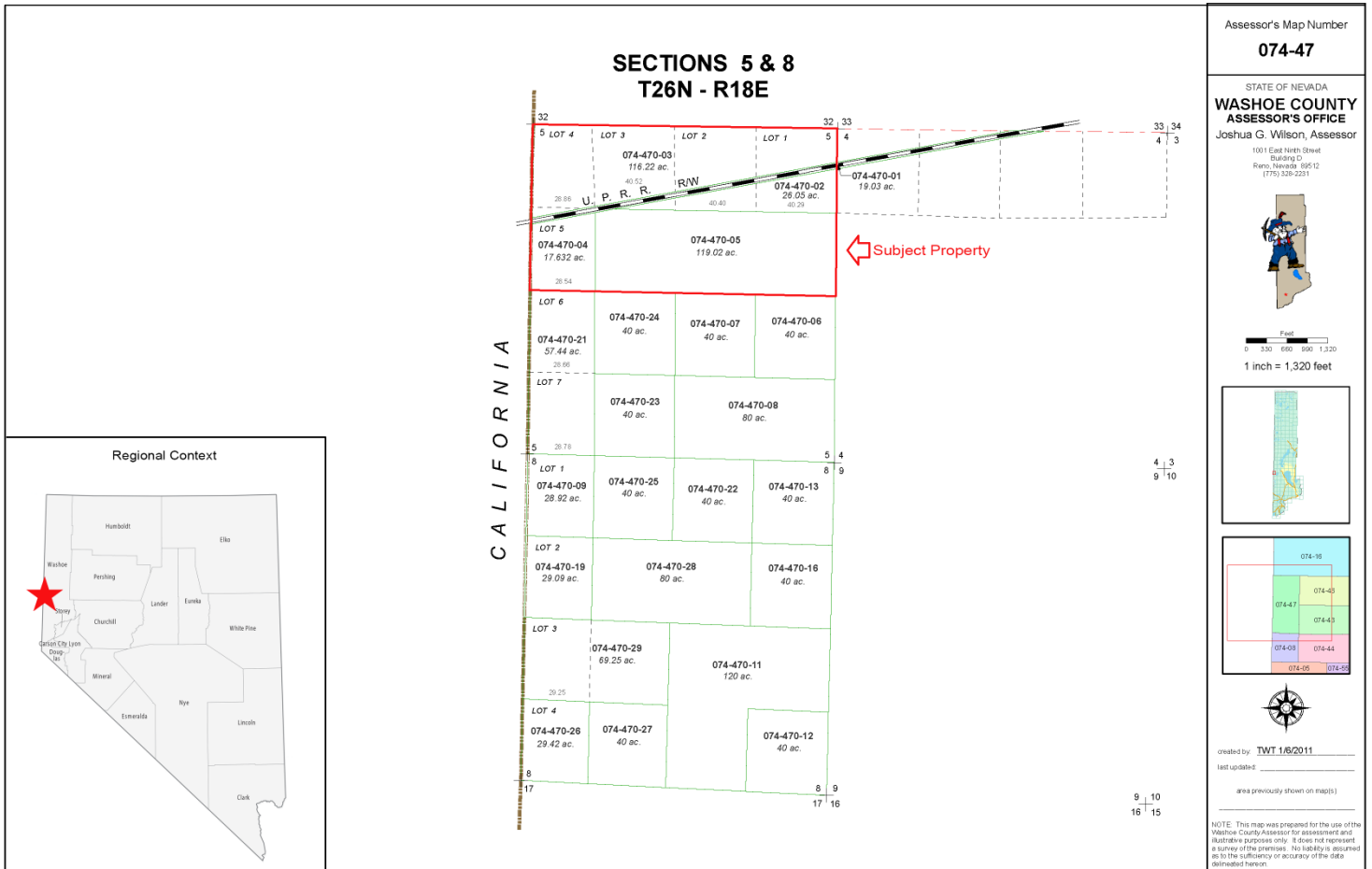
Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

Figure 1

DESCRIPTION OF THE PROPERTY

The property is situated in the County of Washoe, State of Nevada, within Assessor's Parcel Numbers (APNs) 074-470-03, 074-470-02, 074-470-04, and 074-470-05. The land referred to herein below is situated in the unincorporated area in the County of Washoe, State of Nevada in Township 26 North, Range 18 East, Mount Diablo Meridian.

The property is generally described in the figure below.



Appendix A

Photographs of Subject Property

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

PHOTOGRAPHIC RECORD



Client: Dr. Charles Hooper/Praana Energy	
Subject Name: Washoe BESS/PSES Project Lease Area	Location: Rainbow Road, Washoe County, Nevada
Photographer: Brent L. Moore, CEP	Date: 22-April -2021

Photograph No. 1



Looking Southwest from northeast boundary of property on Calveda Way

Photograph No. 2



Looking Southeast from Calveda Way and Rainbow Road Intersection eastern boundary of property

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

PHOTOGRAPHIC RECORD



Client: Dr. Charles Hooper/Praana Energy	
Subject Name: Washoe BESS/PSES Project Lease Area	Location: Rainbow Road, Washoe County, Nevada
Photographer: Brent L. Moore, CEP	Date: 22-April-2021

Photograph No. 3



At Rainbow Road Southeast Corner of property looking north up Rainbow Road and west at the Project Lease Area

Photograph No. 4



At Rainbow Road in middle of property looking West over Project Lease Area

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

PHOTOGRAPHIC RECORD



Client: Dr. Charles Hooper/Praana Energy	
Subject Name: Washoe BESS/PSES Project Lease Area	Location: Rainbow Road, Washoe County, Nevada
Photographer: Brent L. Moore, CEP	Date: 22-April-2021

Photograph No. 5



Calveda Way south of Railroad in middle of property Looking South at Washoe BESS/PSES Project Lease Area

Photograph No. 6



Looking Southeast from Calveda Way just south of Railroad on northwest corner of Project Lease Area



Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

PHOTOGRAPHIC RECORD



Client: Dr. Charles Hooper/Praana Energy	
Subject Name: Wahsoe BESS/PSES Project Lease Area	Location: Rainbow Road, Washoe County, Nevada
Photographer: Brent L. Moore, CEP	Date: 22-April-2021

Photograph No. 7



Union Pacific Railroad access road north half of Project Lease Area looking Northeast

Photograph No. 8



North of Railroad on western border of property Looking northeast

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

PHOTOGRAPHIC RECORD



Client: Dr. Charles Hooper/Praana Energy	
Subject Name: Washoe BESS/PSES Project Lease Area	Location: Rainbow Road, Washoe County, Nevada
Photographer: Brent L. Moore, CEP	Date: 22-April-2021

Photograph No. 9



North of Railroad on western border of property Looking north at Project Lease Area

Photograph No. 10



Northside of property looking South at railroad and Fort Sage Mountains

Appendix B

Sierra Geotech Resumes

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

Brent L. Moore CEP

Principal Scientist/Project Manager/Property Reconnaissance/Report Review.

Mr. Moore is an expert in Environmental Site Assessment and implementing the Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process issued by the American Society for Testing and Materials (ASTM Standard Practice E1527-13) and the U.S. EPA Final Rule on "All Appropriate Inquiries Standards." Mr. Moore has conducted Phase I ESA's for private sector and government clients at diverse sites throughout the United States. Mr. Moore coordinates scientific support services for CERCLA projects encompassing remedial investigations, feasibility studies, implementation of waste treatment alternatives and on-site remedial actions. He has experience managing and supervising a variety of diverse science tasks in support of EPA, USACE/ TERC, Navy RAC, and commercial contracts. He provides project-specific risk management consulting support to major government and industrial clients. He facilitates the use of innovation and a risk-based approach to environmental cleanup, where appropriate. In addition to supervisory and field duties, develops and evaluates data quality objectives, matrix-specific field sampling techniques, analytical testing protocols, scientific data acquisition, validation and reporting systems, and QA/QC plans. Mr. Moore is also an expert in the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) with thirty years of management and environmental consulting experience.

EDUCATION

BS, Geography- Environmental Science, Urban & Regional Planning, Brigham Young University, Provo, Utah, 1982

BA, Public Administration, Brigham Young University, Provo, Utah, 1982

MS, Geography- Environmental Science/Urban & Regional Planning, Brigham Young University, Provo, Utah, 1987

PROFESSIONAL REGISTRATIONS

Academy of Board-Certified Environmental Professional (CEP) (#07040406)



Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

Austin Kent Moore

Associate Scientist/Phase I ESA Report Preparer

Mr. Moore has ten years of experience in environmental impact assessment; urban and regional land use planning; and environmental due diligence. Throughout his career, Mr. Moore has been involved in the preparation and processing of environmental impact assessment and land use planning documents. As an Associate Scientist with Sierra Geotech, he is responsible for the management and processing of Phase I and II Environmental Site Assessment; CEQA/NEPA environmental reports; and related documents. Mr. Moore is an experienced California Environmental Quality Act (CEQA) practitioner who has experience working with both private and public sector clients to achieve their objectives while adhering to CEQA. As an Environmental Planner, Mr. Moore has been an author of many environmental documents such as Environmental Impact Reports (EIR), Initial Studies (IS), Mitigated Negative Declarations (MND), Notice of Exemptions (NOE), Mitigation Monitoring and Reporting Programs (MMRP), Notices of Preparation (NOP), Notices of Intent (NOI), and Notices of Determination (NOD). He has experience in rural community planning and in the development and writing of federal, state, and foundation grants for cities, counties, and special districts. He has provided technical and environmental planning support for numerous transportation and infrastructure projects, including pipelines, marine oil terminals, high-voltage electrical transmission facilities and substations, power plants, wastewater treatment plants, telecommunications facilities, and land use planning projects.

EDUCATION

BA, Latin American and Iberian Studies - emphasis on Economics and Regional Development. University of California, Santa Barbara. 2009

Graduate coursework in Planning and Sustainability. University of California, Davis. 2014

MS, Cognitive Science – Linguistics, *Universidad de Sevilla*. 2018

Appendix C

User Provided Information Questionnaire

Phase I Environmental Site Assessment

Praana Two: Washoe BESS/PSES Project, Washoe County, Nevada

USER PROVIDED INFORMATION QUESTIONNAIRE FOR PHASE I ENVIRONMENTAL SITE ASSESSMENT

This questionnaire outlines those responsibilities discussed in Section 6 of the American Society of Testing & Materials (ASTM) Method E 1527-13 "Standard Practice for Conducting Environmental Site Assessments: Phase I Environmental Site Assessment Process."

Please complete this questionnaire to the best of your ability. Upon completion of the questionnaire, please return the form via email to brent@sierrageotech.com. Should you have questions while completing this questionnaire, please contact Brent Moore at (916) 712-9707. Thank you.

CONTACT INFORMATION

PROPERTY OWNER: Dr. Charles Hooper, DO

NAME: Washoe BESS/PSES Project, Washoe County, Nevada

ADDRESS: 11242 Clinton Bar Road, Pine Grove, CA 95665

PROPERTY INFORMATION/QUESTIONS

Do you have any knowledge of environmental liens against the property that are filed or recorded under federal, tribal, state or local law? Yes **No X**

Do you have any knowledge of activity and land use limitations (such as land use restrictions, engineering controls, or institutional controls) that are in place on the site or that have been filed or recorded in a registry under federal, tribal, state or local law? Yes **No X**

Do you have specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business? Yes **No X**

Does the purchase price of the property reasonably reflect the fair market value of the property? **Yes X** No

Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence of likely presence of releases at the property? Yes **No X**

Printed Name of Person Completing Form: Dr. Charles Hooper, DO

Date: April 22, 2021



Appendix D

Environmental Database Report



Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05

Empire, NV 89405

Inquiry Number: 6363661.11

February 10, 2021

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

02/10/21

Site Name:

Praana II Washoe
074-470-03, 074-470-02, 074-4
Empire, NV 89405
EDR Inquiry # 6363661.11

Client Name:

Sierra Geotech, DVBE, Inc.
4470 Yankee Hill Suite 110
Rocklin, CA 95677
Contact: Austin K Moore



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2017	1"=750'	Flight Year: 2017	USDA/NAIP
2014	1"=750'	Flight Year: 2014	USDA/NAIP
2010	1"=750'	Flight Year: 2010	USDA/NAIP
2006	1"=750'	Flight Year: 2006	USDA/NAIP
1993	1"=750'	Acquisition Date: July 08, 1993	USGS/DOQQ
1980	1"=750'	Flight Date: July 30, 1980	USDA
1962	1"=750'	Flight Date: July 21, 1962	USGS
1954	1"=750'	Flight Date: September 05, 1954	USGS

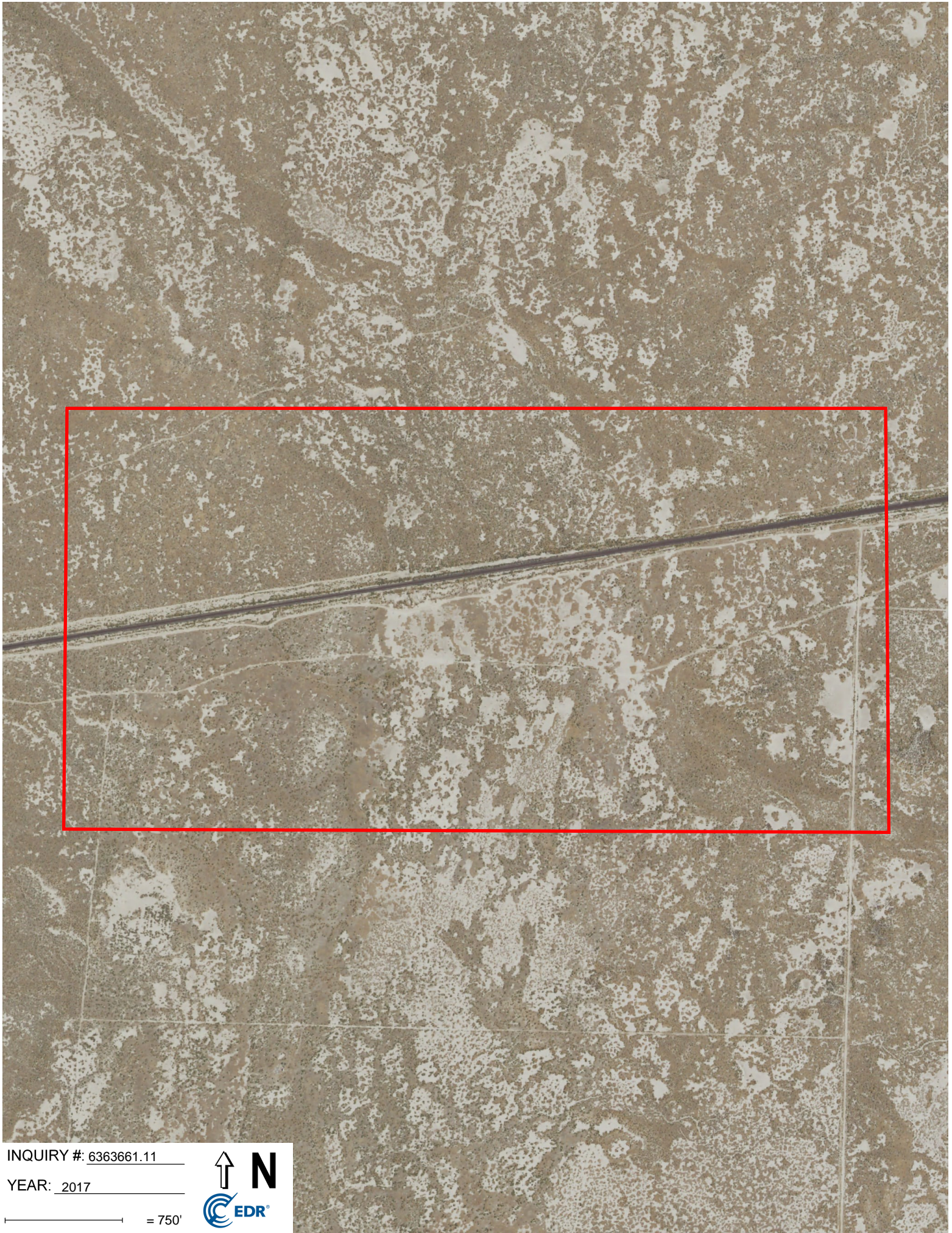
When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

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INQUIRY #: 6363661.11

YEAR: 2017

 = 750'



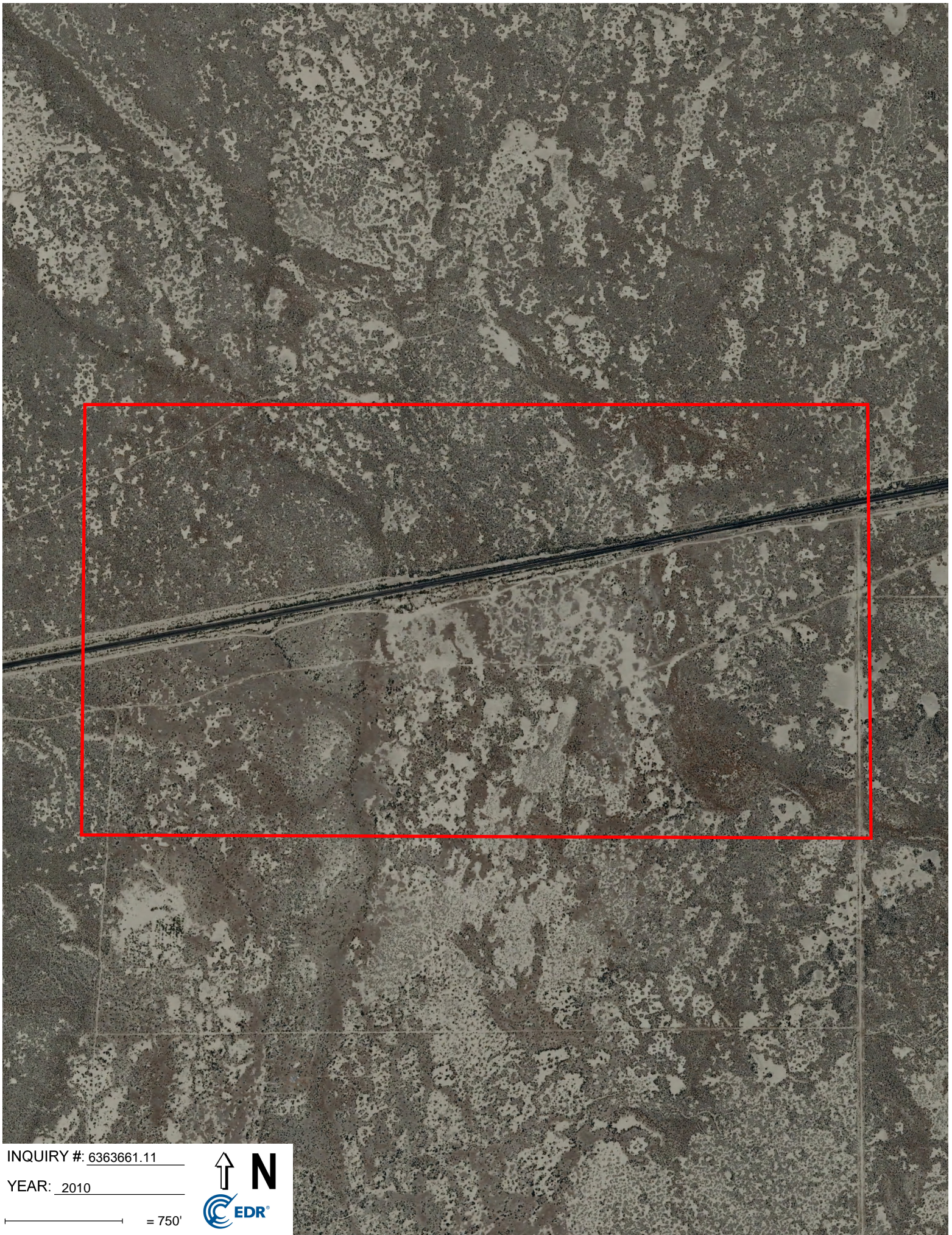


INQUIRY #: 6363661.11

YEAR: 2014

 = 750'





INQUIRY #: 6363661.11

YEAR: 2010

 = 750'



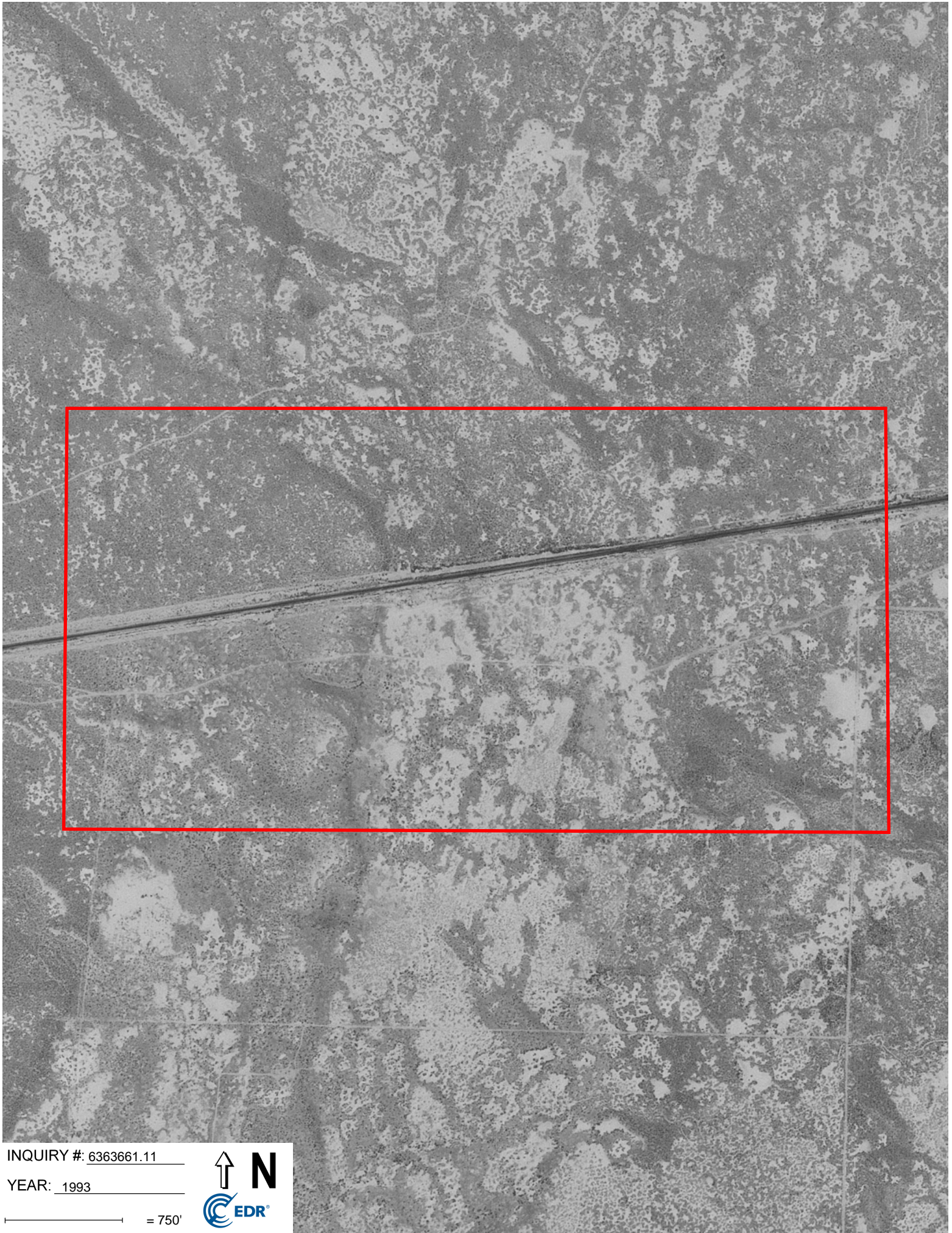


INQUIRY #: 6363661.11

YEAR: 2006

 = 750'



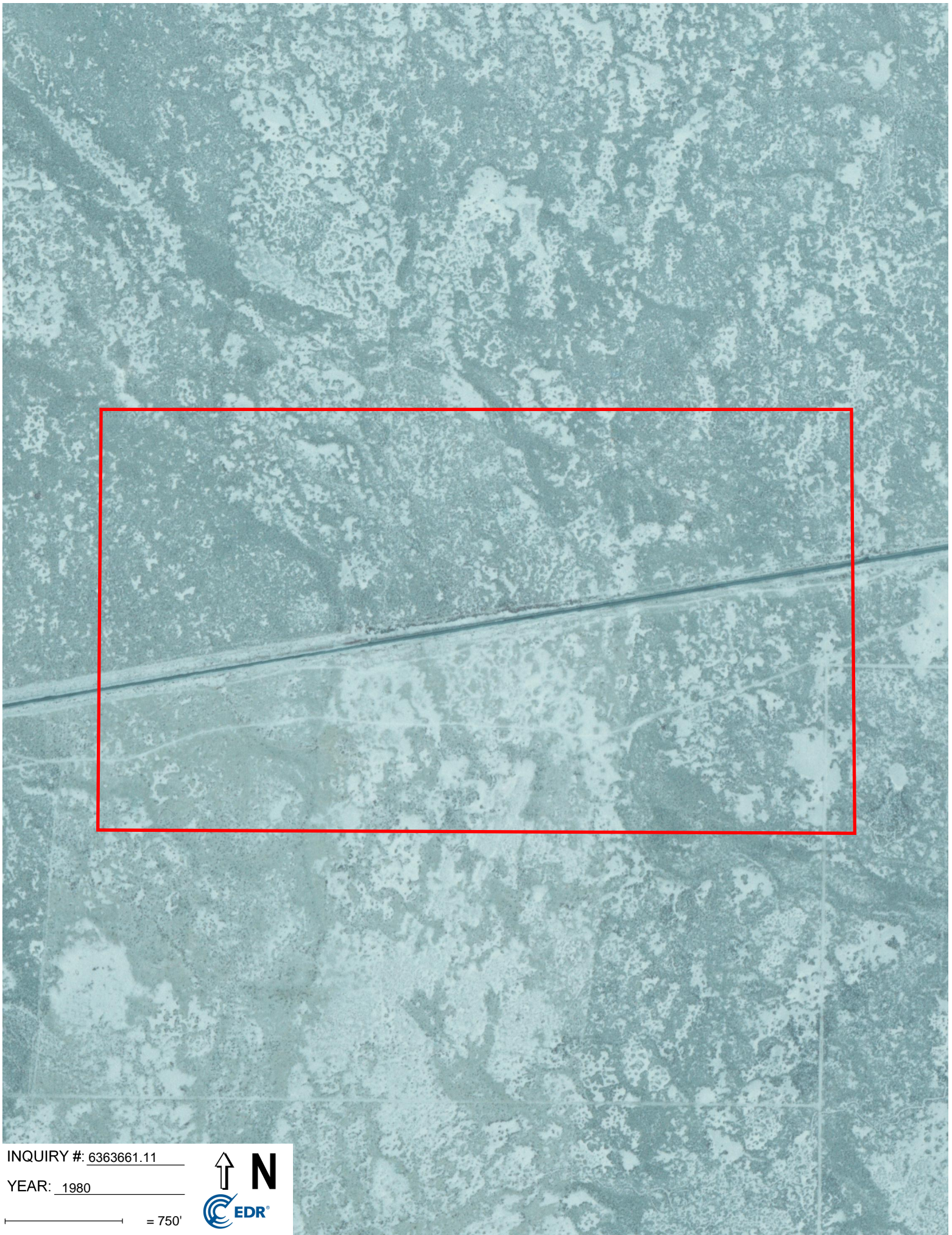


INQUIRY #: 6363661.11

YEAR: 1993

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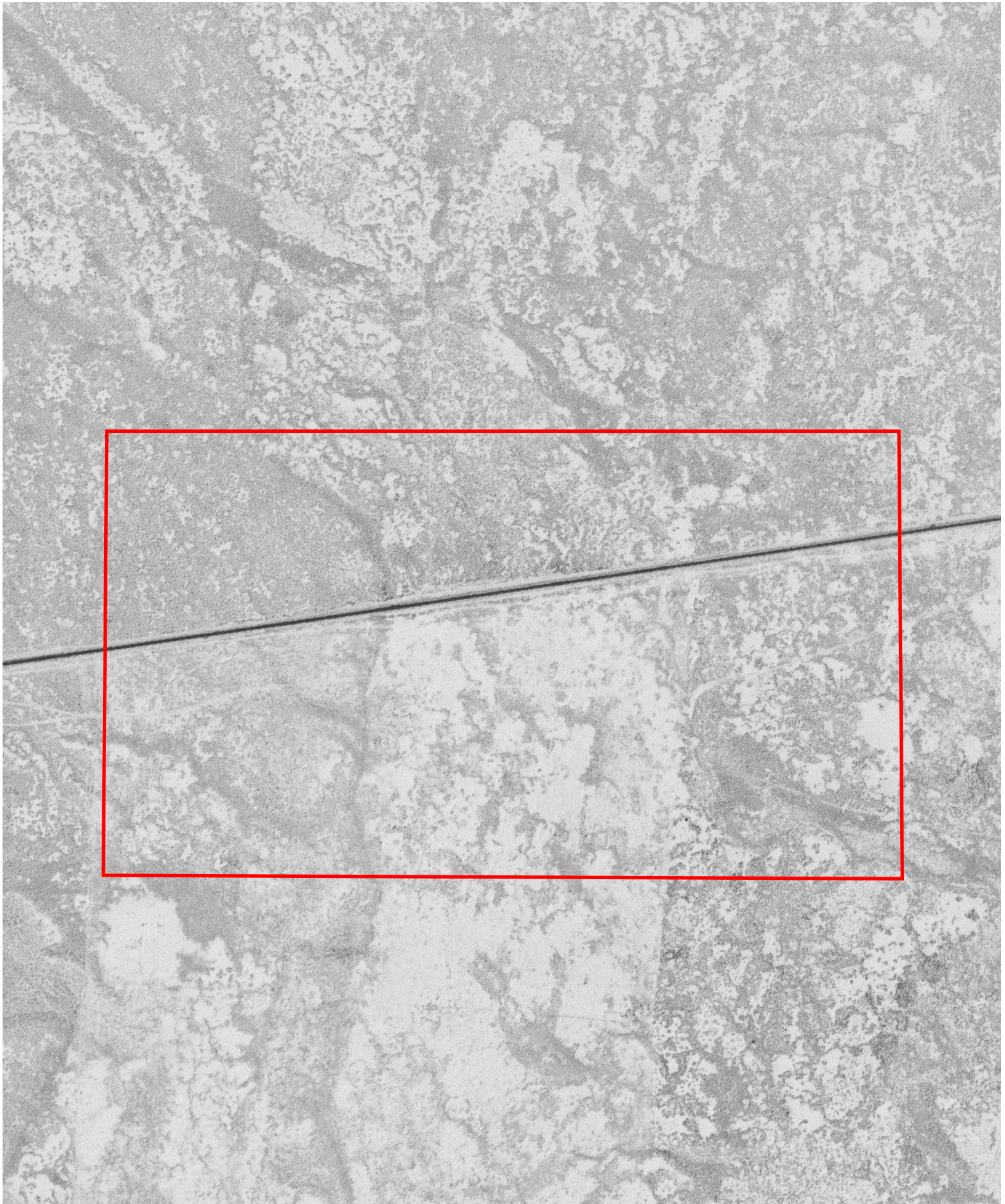


INQUIRY #: 6363661.11

YEAR: 1980

— = 750'





INQUIRY #: 6363661.11

YEAR: 1962

 = 750'





INQUIRY #: 6363661.11

YEAR: 1954

 = 750'



Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV 89405

Inquiry Number: 6363661.8
February 10, 2021

EDR Building Permit Report

Target Property and Adjoining Properties

EDR Building Permit Report: Search Documentation

2/10/21

Site Name:

Praana II Washoe
074-470-03, 074-
Empire, NV 89405

Client Name:

Sierra Geotech, DVBE, Inc.
4470 Yankee Hill Suite 110
Rocklin, CA 95677

EDR Inquiry # 6363661.8

Contact: Austin K Moore

Search Documentation

DATA GAP

The complete collection of Building Permit data available to EDR has been searched, and as of 2/10/21, EDR does not have access to building permits in the city where your target property is located (Empire, NV).

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EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.



Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV 89405

Inquiry Number: 6363661.5
February 10, 2021

The EDR-City Directory Image Report

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SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by

infoUSA[®]

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2017	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
2014	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
2010	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
2005	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
2000	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
1995	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive
1992	<input type="checkbox"/>	<input type="checkbox"/>	EDR Digital Archive

FINDINGS

TARGET PROPERTY STREET

074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV 89405

No Addresses Found

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
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CALVEDA WAY

2017	-	EDR Digital Archive	Street not listed in Source
2014	-	EDR Digital Archive	Street not listed in Source
2010	-	EDR Digital Archive	Street not listed in Source
2005	-	EDR Digital Archive	Street not listed in Source
2000	-	EDR Digital Archive	Street not listed in Source
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source

Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05

Empire, NV, 89405

Inquiry Number: 6363661.7

February 10, 2021

EDR Environmental Lien and AUL Search



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Environmental LienSearch™ Report

The EDR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental LienSearch™ Report

TARGET PROPERTY INFORMATION

ADDRESS

Praana II Washoe
074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV, 89405

RESEARCH SOURCE

Source 1: Washoe County Assessor
Source 2: Washoe County Recorder

PROPERTY INFORMATION

Deed 1

Type of deed: Order
Title is vested in: Ronald Knapp and Warren Knapp
Title received from: Estate of Warren A. Tinsley, deceased
Deed dated:
Date recorded: 12/1/1994
Instrument: 1853280
Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available
Legal current owner: The Hooper Family Trust; and Ronald Knapp and Warren Knapp
Property identifier: 074-470-02

Deed 2

Type of deed: Quitclaim Deed
Title is vested in: Charles I. Hooper and Michelle S. Hooper, as Co-Trustees of the Hooper Family Trust
Title received from: Charles I. Hooper
Deed dated: 10/10/1994
Date recorded: 1/12/1995
Instrument: 1871198
Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available
Legal current owner: The Hooper Family Trust; and Ronald Knapp and Warren Knapp
Property identifier: 074-470-02

Deed 3

Type of deed: Deed
Title is vested in: Harry S. Hooper, as Trustee of the Hooper Family Trust
Title received from: Harry S. Hooper and Ceta L. Hooper, his wife, as Trustors
Deed dated: 1/6/1978
Date recorded: 10/30/1978
Instrument: 567658
Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available

Legal current owner: The Hooper Family Trust; and Ronald Knapp and Warren Knapp

Property identifier: 074-470-03

Deed 4

Type of deed: Order
Title is vested in: Ronald Knapp and Warren Knapp
Title received from: Estate of Warren A. Tinsley, deceased
Deed dated:
Date recorded: 12/1/1994
Instrument: 1853280
Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available

Legal current owner: The Hooper Family Trust; and Ronald Knapp and Warren Knapp

Property identifier: 074-470-03

Deed 5

Type of deed: Order
Title is vested in: Ronald Knapp and Warren Knapp
Title received from: Estate of Warren A. Tinsley, deceased
Deed dated:
Date recorded: 12/1/1994
Instrument: 1853280
Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available

Legal current owner: The Hooper Family Trust; and Ronald Knapp and Warren Knapp

Property identifier: 074-470-04

Deed 6

Type of deed: Quitclaim Deed
 Title is vested in: Charles I. Hooper and Michelle S. Hooper, as Co-Trustees of the Hooper Family Trust
 Title received from: Charles I. Hooper
 Deed dated: 10/10/1994
 Date recorded: 1/12/1995
 Instrument: 1871198
 Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available**Legal current owner:** The Hooper Family Trust; and Ronald Knapp and Warren Knapp**Property identifier:** 074-470-04**Deed 7**

Type of deed: Order
 Title is vested in: Ronald Knapp and Warren Knapp
 Title received from: Estate of Warren A. Tinsley, deceased
 Deed dated:
 Date recorded: 12/1/1994
 Instrument: 1853280
 Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available**Legal current owner:** The Hooper Family Trust; and Ronald Knapp and Warren Knapp**Property identifier:** 074-470-05**Deed 8**

Type of deed: Quitclaim Deed
 Title is vested in: Charles I. Hooper and Michelle S. Hooper, as Co-Trustees of the Hooper Family Trust
 Title received from: Charles I. Hooper
 Deed dated: 10/10/1994
 Date recorded: 1/12/1995
 Instrument: 1871197
 Comments: Conveys 1/2 interest.

Legal description: See attached deed copy if available**Legal current owner:** The Hooper Family Trust; and Ronald Knapp and Warren Knapp**Property identifier:** 074-470-05**ENVIRONMENTAL LIEN**

Environmental Lien: Found Not Found

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AUL's: Found Not Found

EDR Environmental LienSearch™ Report

DEED EXHIBIT

P.T.T. & NONE

D E E D

THIS INDENTURE, made this 6TH day of JANUARY, 1978, between HARRY S. HOOPER and CETA L. HOOPER, husband and wife, of Reno, Washoe County, Nevada, as Trustors, parties of the first part, and HARRY S. HOOPER, of the same County and State, as Trustee, party of the second part;

W I T N E S S E T H:

That the said parties of the first part, for and in consideration of the sum of TEN DOLLARS (\$10.00), lawful money of the United States of America, to them in hand paid by the said part of the second part, the receipt whereof is hereby acknowledged, do by these presents grant, bargain, sell, and convey unto the said party of the second part, as Trustee under that certain HOOPER FAMILY TRUST made the 6TH day of JANUARY, 1978, between HARRY S. HOOPER and CETA L. HOOPER, as Trustors, and HARRY S. HOOPER as Trustee, recorded as Document No. 557566, on September 13TH 1978, Official Records, Washoe County, Nevada, his successors and assigns, all their right, title and interest, (the same being an undivided one-half (1/2) interest) in all that property situated in the County of Washoe, State of Nevada, described to-wit:

"Lots 1, 2, 3, 4 & 5, & Southeast 1/4 of Northwest 1/4 lying North of Western Pacific R.R. R/W, Section 5, Township 26, North, Range 18 East, containing 130 acres more or less."

TOGETHER WITH all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof.

TO HAVE AND TO HOLD, all and singular, the said premises, together with the appurtenances, unto the said party of the second part, as Trustee, his successors and assigns, forever.

BOOK 1324 PAGE 580

567658

OCT 30 1978

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands the day and year first above written.

Harry S. Hooper
HARRY S. HOOPER


Ceta L. Hooper
CETA L. HOOPER

State of Nevada)
) SS:
County of Washoe)

On the 6th day of January, 1978, personally appeared before me, a Notary Public in and for the State of Nevada, HARRY S. HOOPER and CETA L. HOOPER, husband and wife, as Trustors, and HARRY S. HOOPER, as Trustee, who acknowledged to me that they executed the foregoing instrument.

Laura Saarem
NOTARY PUBLIC

(SEAL)

 LAURA SAAREM
Notary Public — State of Nevada
Carson City
My Commission Expires August 6, 1983

OFFICIAL RECORDS
WASHOE CO., NEVADA
RECORD REQUESTED BY
Woodburn, Wedge et al.
78 OCT 30 P 3: 05

JAMES K. JONES
COUNTY RECORDER
FEE 40 DEP 10

567658

BOOK 1324 PAGE 581

OCT 30 1978

FILED

1 Case No. CV94-06436

'94 DEC -1 A9:17

2 Dept. No. 5

3 BY BAIL BOND
T. Jackson
4 DEPUTY

5
6 IN THE SECOND JUDICIAL DISTRICT COURT OF THE STATE OF NEVADA
7 IN AND FOR THE COUNTY OF WASHOE

8 In the Matter of the
9 Estate of

10 WARREN A. TINSLEY,
11 Deceased.

ORDER TO SET ASIDE THE
ESTATE WITHOUT ADMINISTRATION

12 The verified Petition To Set Aside The Estate Without
13 Administration came on for hearing this day. No person appeared to
14 contest the Petition. Upon proof duly made to the satisfaction of
15 the Court, the Court now finds as follows:

16 1. All notices of the hearing have been duly given as
17 required by law.

18 2. Warren A. Tinsley, deceased (hereinafter referred to as
19 the "Decedent") died on October 12, 1991, in Marysville, Yuba
20 County, California and at the time of his death was a resident of
21 Yuba County, California. The Decedent left an Estate in Washoe
22 County consisting of real property.

23 3. The Decedent left a Will dated June 18, 1975. The Will
24 was admitted to probate in California to dispose of all of the
25 Decedent's personal property and all of the Decedent's real
26 property situated in California. The only property remaining for

BK4202PG0626

1 property situated in California. The only property remaining for
2 probate is certain real property located in Washoe County, Nevada,
3 the gross value of which does not exceed the sum of \$25,000.

4 4. Under the terms of Decedent's Will, Decedent's one-half
5 (1/2) interest in the real property located in Washoe County is to
6 be distributed to Ronald Knapp and Warren Knapp in equal shares.

7 5. The facts of the Petition having been found to be true,
8 and good cause appearing, the Court now grants the Petition as
9 follows:

10 A. IT IS HEREBY ORDERED that the Will of the Decedent dated
11 June 18, 1975, be set aside without administration as provided in
12 Chapter 146 of the Nevada Revised Statutes.

13 B. IT IS FURTHER ORDERED that Decedent's entire estate
14 consisting of an undivided one-half (1/2) interest in the real
15 property located in Washoe County, Nevada, more particularly
16 described below, be assigned and set apart to Ronald Knapp and
17 Warren Knapp, in equal shares as tenants in common.

18 Parcel 1: An undivided one-half (1/2) interest in Lot 5
19 & Lot 6 of Section 5 of Township 27 North, Range 18 East,
M.D.B. & M.

20 Parcel 2: An undivided one-half (1/2) interest in Lots 1,
21 2, 3, 4, and 5, and Southeast 1/4 of Northwest 1/4 lying
22 North of Western Pacific Railroad Right-of-Way, Section
23 5, Township 26 North, Range 18 East, South 1/2 of
24 Northeast 1/4; the portion of Southeast 1/4 of Northwest
25 1/4, lying South of Western Pacific Railroad Right-of-
26 Way, Section 5, Township 26 North, Range 18 East, the
portion of Lot 5 lying South of Western Pacific Railroad
Right-of-Way, Section 5, Township 26 North, Range 18
East, the portion of Lots 1 & 2 lying South of Western
Pacific Railroad Right-of-Way, Section 5, Township 26
North, Range 18 East, M.D.B. & M.

BK4202PG0627

BK4202PG0628

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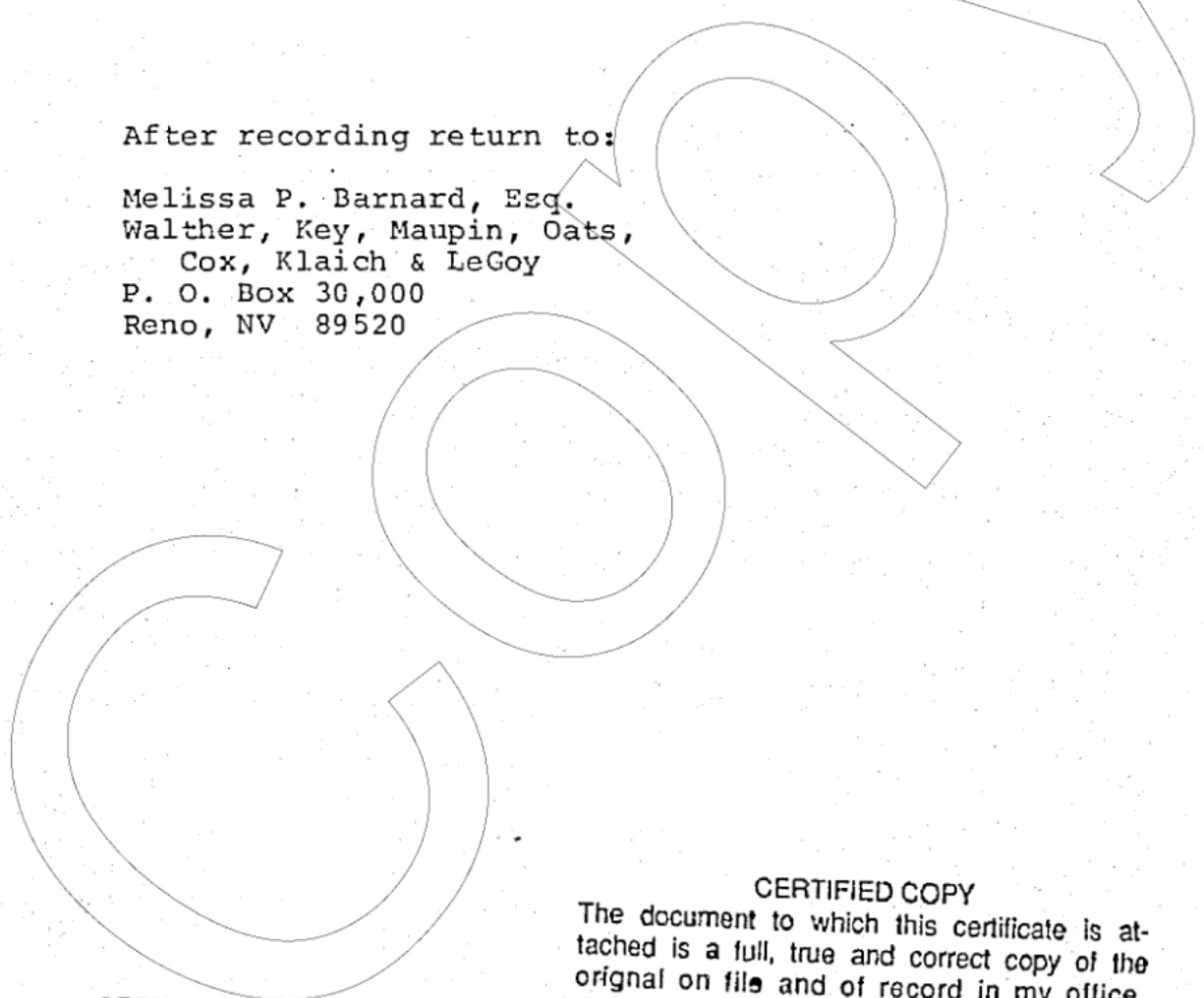
Parcel 3: An undivided one-half (1/2) interest in Lots 2, 3, and 4 in Section 17, township 27 North, Range 18 East, M.D.B. & M.

Dated this 1 day of Dec, 1994.

Mark Handelsman

District Judge

After recording return to:
Melissa P. Barnard, Esq.
Walther, Key, Maupin, Oats,
Cox, Klaich & LeGoy
P. O. Box 30,000
Reno, NV 89520



CERTIFIED COPY

The document to which this certificate is attached is a full, true and correct copy of the original on file and of record in my office.

DATE: DEC 1 1994
JUDI BAILEY, Clerk of the Second Judicial District Court, in and for the County of Washoe, State of Nevada.

By [Signature] Deputy.

OFFICIAL RECORDS
WASHOE CO., NEVADA
RECORD REQUESTED BY

Walther Key et al
94 DEC -1 A10:40

JOE MELCHER
COUNTY RECORDER
FEE 9.00 DER [Signature]

1853280

9:00 AM

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

DROBNY LAW OFFICES
2485 Natomas Park Drive, Suite 500
Sacramento, CA 95833

1871197

MAIL TAX STATEMENTS AS BEFORE:
Dr. Charles I. Hooper, Trustee
Mrs. Michelle S. Hooper, Trustee
1800 Apple View Way
Paradise, California 95969-2369

INDIVIDUAL QUITCLAIM DEED

The undersigned grantor declares: "This conveyance transfers the grantor's interest into his revocable living trust."
This is a Trust Transfer under Section 62 of the Revenue and Taxation Code and Grantor has checked the applicable exclusion:
 (X) Transfer to a revocable trust without consideration;
 (X) Documentary transfer tax is \$-0-. A Transfer to trustees of a revocable trust not pursuant to a sale. 26 CFR 47-4361-2(b)(2), R. & T §62(d).
 () Unincorporated area: () City of _____, and
FOR NO CONSIDERATION,

BK 4246 PG 0355

CHARLES I. HOOPER, a married man, as to an undivided 1/2 interest,
hereby REMISES, RELEASES, and QUITCLAIMS to Charles I. Hooper and Michelle S. Hooper, as Co-Trustees
of The Hooper Family Trust dated April 23, 1994,
all of his right, title and interest in and to the following described real property in the
County of Washoe, State of Nevada:

See Exhibit "A" attached hereto and made a part hereof
A.P.N. 74-470-05 and 74-090-40

DATED: 10/10/94

Charles I. Hooper
CHARLES I. HOOPER

STATE OF CALIFORNIA)
COUNTY OF BUTTE)

On 10/10/94, before me, Todd Robie,
a notary public, personally appeared CHARLES I. HOOPER,
personally known to me (or proved to me on the basis of satisfactory
evidence) to be the person whose name is subscribed to the within
instrument and acknowledged to me that he executed the same in his
authorized capacity, and that by his signature on the instrument the
person, or the entity upon behalf of which the person acted, executed
the within instrument. WITNESS my hand and official seal.

Todd Robie



EXHIBIT "A"

South 1/2 of Northeast 1/4; The Portion of Southeast 1/4 of Northwest 1/4, lying South of Western Pacific R.R. R/W, Section 5, Township 26 North, Range 18 East, containing 110 acres more or less.

A.P.N. 74-470-05

Lot Five (5) and Lot Six (6) of Section Five (5) of Township Twenty-Seven (27) North, Range Eighteen (18) East, Mount Diablo Base and Meridian (containing 42.14 acres, more or less).

A.P.N. 74-090-40

BK 4246 PG 0356

COPY

7/11/21

BK 4246 PG 0357

COPY

1871197

OFFICIAL RECORDS
WASHOE CO., NEVADA
RECORD REQUESTED BY
Orobony Law Offices
95 FEB 14 AM 11:30

JOE MELCHER
COUNTY RECORDER

FEE 9.00 DEP CA

AM 9.00

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

1871198

DROBNY LAW OFFICES
2485 Natomas Park Drive, Suite 500
Sacramento, CA 95833

MAIL TAX STATEMENTS AS BEFORE:
Dr. Charles I. Hooper, Trustee
Mrs. Michelle S. Hooper, Trustee
1800 Apple View Way
Paradise, California 95969-2369

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The undersigned grantor declares: "This conveyance transfers the grantor's interest into his revocable living trust."
This is a Trust Transfer under Section 62 of the Revenue and Taxation Code and Grantor has checked the applicable exclusion:

- (X) Transfer to a revocable trust without consideration;
- (X) Documentary transfer tax is \$-0-. A Transfer to trustees of a revocable trust not pursuant to a sale. 26 CFR 47-4361-2(b)(2), R & T §62(d).

() Unincorporated area: () City of _____, and
FOR NO CONSIDERATION,

CHARLES I. HOOPER, a married man,

hereby REMISES, RELEASES, and QUITCLAIMS to Charles I. Hooper and Michelle S. Hooper, as Co-Trustees of The Hooper Family Trust dated April 23, 1994,

all of his right, title and interest in and to the following described real property in the County of Washoe, State of Nevada:

See Exhibit "A" attached hereto and made a part hereof

A.P.N. 018-063-05, 74-470-02, and 74-470-04

DATED: 10/10/94

Charles I. Hooper
CHARLES I. HOOPER

STATE OF CALIFORNIA)
COUNTY OF BUTTE)

On 10/10/94, before me, Todd Robie
a notary public, personally appeared CHARLES I. HOOPER,
personally known to me (or proved to me on the basis of satisfactory
evidence) to be the person whose name is subscribed to the within
instrument and acknowledged to me that he executed the same in his
authorized capacity, and that by his signature on the instrument the
person, or the entity upon behalf of which the person acted, executed
the within instrument. WITNESS my hand and official seal.



Todd Robie

BK 4246PG0358

EXHIBIT "A"

Commencing at the North quarter corner of Section 22, Township 19 North, Range 19 East, M.D.B.&M., marked by a 3/4 inch iron pipe set in concrete; thence North 86°25'30" East along the North line of Section 22, a distance of 1914.54 feet; thence South 4°05' East 323.49 feet to the place of beginning; thence South 85°43'30" East 175.0 feet; thence South 4°05' East 101.0 feet; thence South 85°43'30" West 175.0 feet; thence North 4°05' West 101.0 feet to the place of beginning. Situate in the NE 1/4 of the NE 1/4 of Section 22, Township 19 North, Range 19 East, M.D.B.&M., and being a portion of Tract 7 delineated on "Levison Survey", filed as Document No. 177842, Washoe County, Nevada Records.

A.P.N. 018-063-05

The Portion of Lots 1 & 2 lying South of Western Pacific, R.R. R/W, Section 5 Township 26 North, Range 18 East, containing 22.44 acres more or less.

A.P.N. 74-470-02

The Portion of Lot 5 lying South of Western Pacific R.R. R/W, Section 5, Township 26 North, Range 18 East, containing 17.632 acres more or less.

A.P.N. 74-470-04

BK4246PG0359

1251168

BK 4246PG0360

COPY

1871198
OFFICIAL RECORDS
WASHOE CO., NEVADA
RECORD REQUESTED BY
Ordony Law Offices
95 FEB 14 AM 11:30

JOE MELCHER
COUNTY RECORDER

FEE 9.00 DEP CA

LM 9.00

Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV 89405

Inquiry Number: 6363661.6
February 10, 2021

The EDR Property Tax Map Report

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

Thank you for your business.

Please contact EDR at 1-800-352-0050
with any questions or comments.

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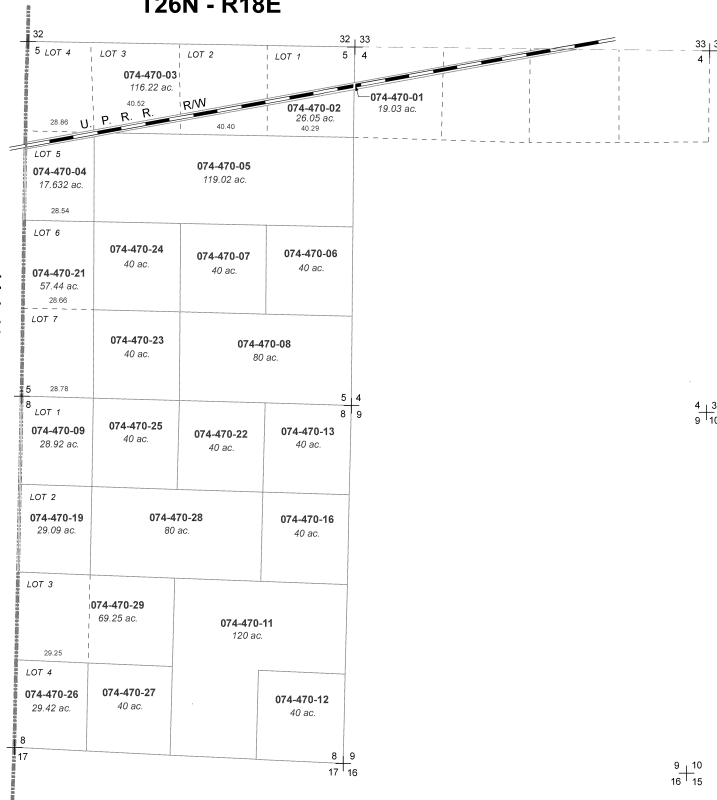
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**SECTIONS 5 & 8
T26N - R18E**

CALIFORNIA



Assessor's Map Number
074-47

STATE OF NEVADA
**WASHOE COUNTY
ASSESSOR'S OFFICE**
Joshua G. Wilson, Assessor
1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231

Scale: 1 inch = 1,320 feet

created by: TWT 1/6/2011
last updated: _____
area previously shown on map(s): _____

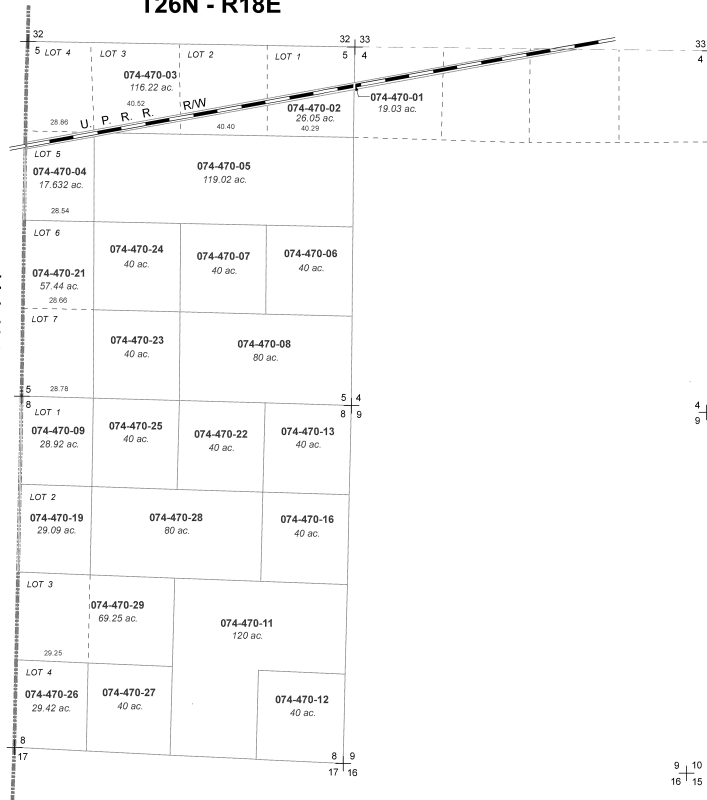
NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

4 3
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**SECTIONS 5 & 8
T26N - R18E**

CALIFORNIA



Assessor's Map Number
074-47

STATE OF NEVADA
**WASHOE COUNTY
ASSESSOR'S OFFICE**
Joshua G. Wilson, Assessor
1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231

Scale: 1 inch = 1,320 feet

created by: TWT 1/6/2011
last updated: _____
area previously shown on map(s): _____

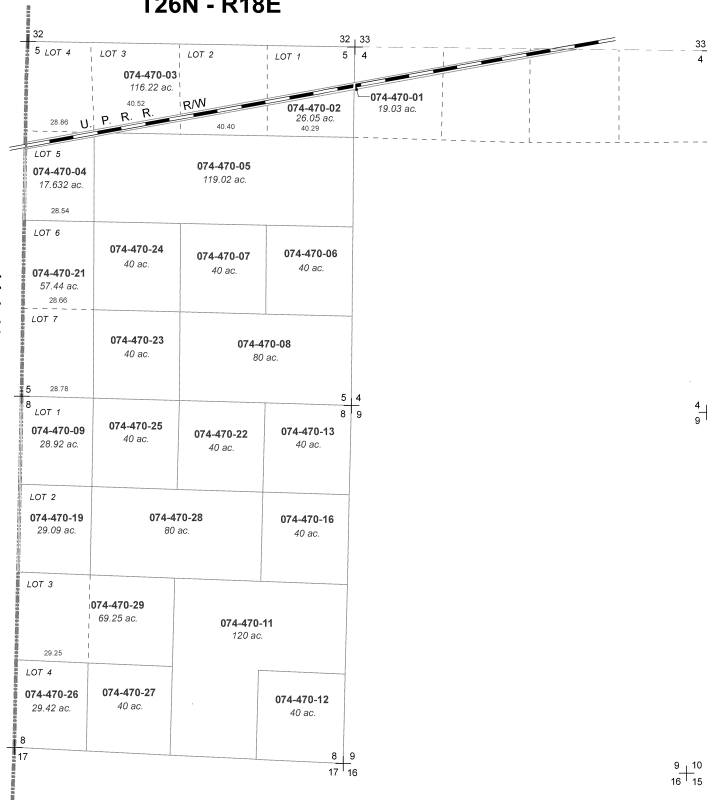
NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

4 3
9 10

9 10
16 15

**SECTIONS 5 & 8
T26N - R18E**

CALIFORNIA



Assessor's Map Number
074-47

STATE OF NEVADA
**WASHOE COUNTY
ASSESSOR'S OFFICE**
Joshua G. Wilson, Assessor
1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231

Scale: 1 inch = 1,320 feet

created by: TWT 1/6/2011
last updated: _____
area previously shown on map(s): _____

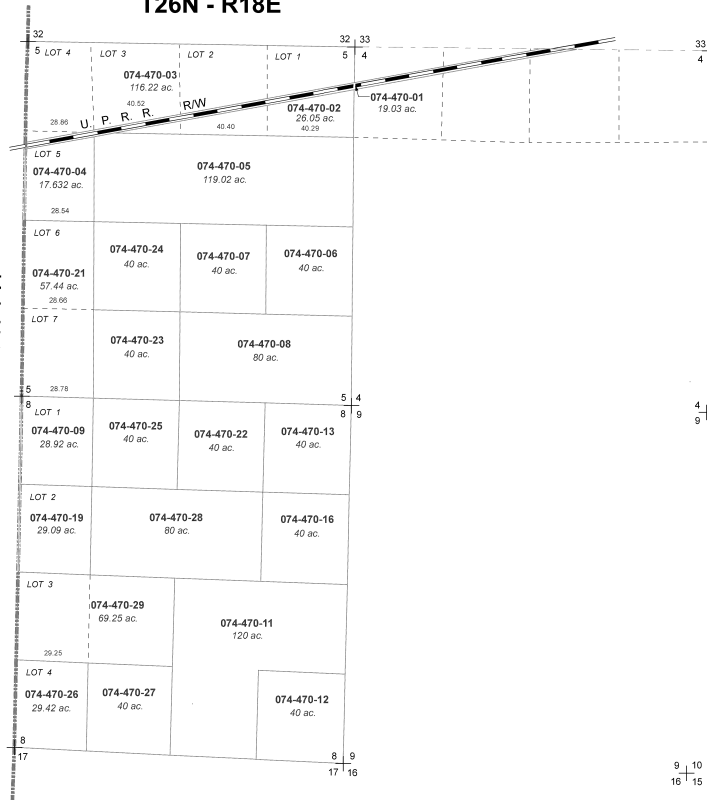
NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

4 3
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**SECTIONS 5 & 8
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4 3
9 10

9 10
16 15

Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire, NV 89405

Inquiry Number: 6363661.2s
February 10, 2021

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

074-470-03, 074-470-02, 074-470-04, AND 074-470-05
EMPIRE, NV 89405

COORDINATES

Latitude (North): 40.1551710 - 40° 9' 18.61"
Longitude (West): 119.9886350 - 119° 59' 19.08"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 245443.0
UTM Y (Meters): 4449053.0
Elevation: 3998 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 6721610 FLANIGAN, NV
Version Date: 2014

Northwest Map: 5603620 CALNEVA LAKE, CA
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140723, 20150612
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
074-470-03, 074-470-02, 074-470-04, AND 074-470-05
EMPIRE, NV 89405

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
--------	-----------	---------	-------------------	--------------------	----------------------------

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

NV SHWS..... Sites Database

State and tribal landfill and/or solid waste disposal site lists

NV SWF/LF..... Landfill List
CA SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

NV LUST..... Sites Database
CA LUST..... Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
NV UST..... Underground Storage Tank List
CA UST..... Active UST Facilities
NV AST..... Aboveground Storage Tank List
CA AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

NV VCP..... Voluntary Cleanup Program Sites
CA VCP..... Voluntary Cleanup Program Properties
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

NV BROWNFIELDS..... Project Tracking Database
CA BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

NV SWRCY..... Recycling Information Listing
CA SWRCY..... Recycler Database
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

EXECUTIVE SUMMARY

ODI..... Open Dump Inventory
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
ABANDONED MINES..... Abandoned Mines
FINDS..... Facility Index System/Facility Registry System
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
ECHO..... Enforcement & Compliance History Information
UXO..... Unexploded Ordnance Sites

EXECUTIVE SUMMARY

FUELS PROGRAM.....	EPA Fuels Program Registered Listing
NV AIRS.....	Permitted Airs Facility Listing
NV COAL ASH.....	Coal Ash Disposal Sites
CA EMI.....	Emissions Inventory Data
NV Financial Assurance.....	Financial Assurance Information Listing
CA Financial Assurance.....	Financial Assurance Information Listing
CA HAZNET.....	Facility and Manifest Data
NV HMRI.....	Hazardous Materials Repository Information Data
NV NPDES.....	Permitted Facility Listing
CA NPDES.....	NPDES Permits Listing
MINES MRDS.....	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

NV RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
NV RGA LF.....	Recovered Government Archive Solid Waste Facilities List
CA RGA LF.....	Recovered Government Archive Solid Waste Facilities List
NV RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank
CA RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

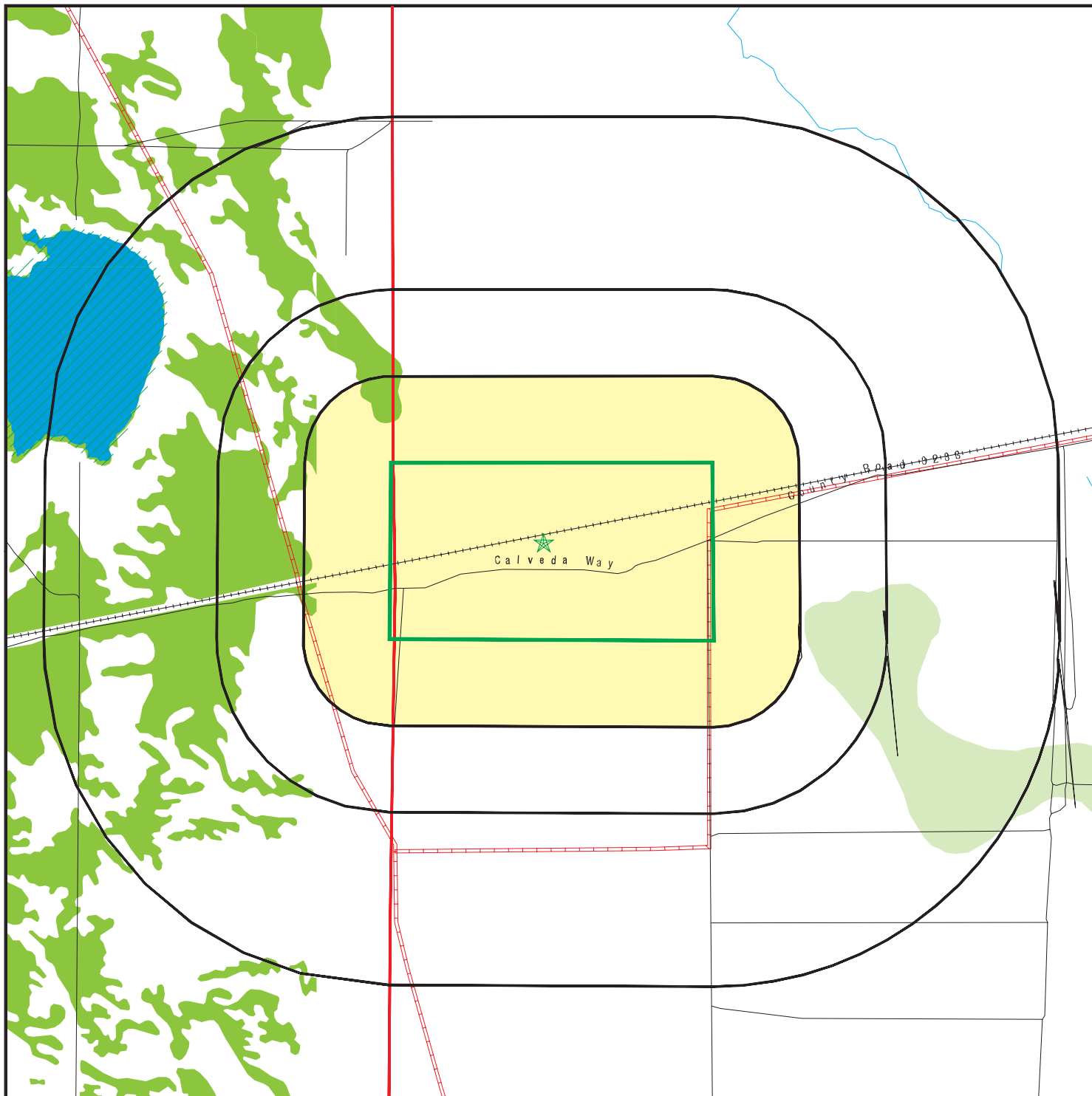
Surrounding sites were not identified.







Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY








There were no unmapped sites in this report.

OVERVIEW MAP - 6363661.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  National Priority List Sites
-  Dept. Defense Sites



-  Indian Reservations BIA
-  County Boundary
-  Pipelines
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands

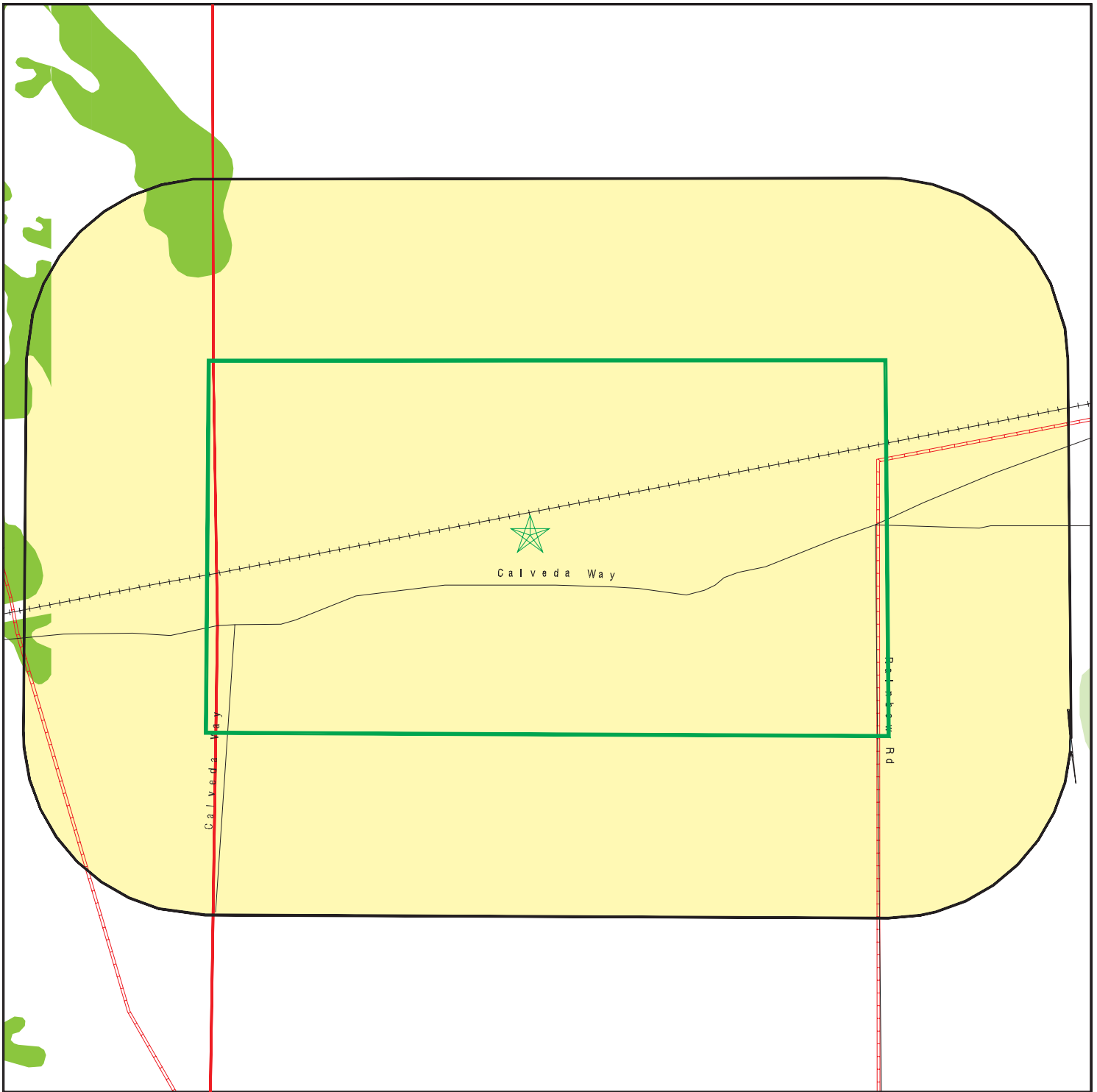









This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.








SITE NAME: Praana II Washoe
 ADDRESS: 074-470-03, 074-470-02, 074-470-04, and 074-470-05
 Empire NV 89405
 LAT/LONG: 40.155171 / 119.988635

CLIENT: Sierra Geotech, DVBE, Inc.
 CONTACT: Austin K Moore
 INQUIRY #: 6363661.2s
 DATE: February 10, 2021 3:41 pm

DETAIL MAP - 6363661.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  County Boundary
-  Pipelines
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Praana II Washoe
 ADDRESS: 074-470-03, 074-470-02, 074-470-04, and 074-470-05
 Empire NV 89405
 LAT/LONG: 40.155171 / 119.988635

CLIENT: Sierra Geotech, DVBE, Inc.
 CONTACT: Austin K Moore
 INQUIRY #: 6363661.2s
 DATE: February 10, 2021 3:42 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	0.001		0	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
NV SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
NV SWF/LF	0.500		0	0	0	NR	NR	0
CA SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
NV LUST	0.500		0	0	0	NR	NR	0
CA LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0
NV UST	0.250		0	0	NR	NR	NR	0
CA UST	0.250		0	0	NR	NR	NR	0
NV AST	0.250		0	0	NR	NR	NR	0
CA AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
NV VCP	0.500		0	0	0	NR	NR	0
CA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
NV BROWNFIELDS	0.500		0	0	0	NR	NR	0
CA BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
NV SWRCY	0.500		0	0	0	NR	NR	0
CA SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS 2	0.001		0	NR	NR	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS	0.001		0	NR	NR	NR	NR	0
<i>Other Ascertainable Records</i>								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
NV AIRS	0.001		0	NR	NR	NR	NR	0
NV COAL ASH	0.500		0	0	0	NR	NR	0
CA EMI	0.001		0	NR	NR	NR	NR	0
NV Financial Assurance	0.001		0	NR	NR	NR	NR	0
CA Financial Assurance	0.001		0	NR	NR	NR	NR	0
CA HAZNET	TP		NR	NR	NR	NR	NR	0
NV HMRI	0.001		0	NR	NR	NR	NR	0
NV NPDES	0.001		0	NR	NR	NR	NR	0
CA NPDES	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

NV RGA HWS	0.001		0	NR	NR	NR	NR	0
------------	-------	--	---	----	----	----	----	---

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NV RGA LF	0.001		0	NR	NR	NR	NR	0
CA RGA LF	0.001		0	NR	NR	NR	NR	0
NV RGA LUST	0.001		0	NR	NR	NR	NR	0
CA RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/30/2020	Source: EPA
Date Data Arrived at EDR: 01/14/2021	Telephone: N/A
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 01/14/2021
Number of Days to Update: 26	Next Scheduled EDR Contact: 04/12/2021
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/30/2020	Source: EPA
Date Data Arrived at EDR: 01/14/2021	Telephone: N/A
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 01/14/2021
Number of Days to Update: 26	Next Scheduled EDR Contact: 04/12/2021
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/14/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/28/2020	Source: EPA
Date Data Arrived at EDR: 11/05/2020	Telephone: 800-424-9346
Date Made Active in Reports: 11/25/2020	Last EDR Contact: 01/14/2021
Number of Days to Update: 20	Next Scheduled EDR Contact: 04/26/2021
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/14/2020	Source: EPA
Date Data Arrived at EDR: 12/17/2020	Telephone: 800-424-9346
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/14/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/17/2020	Telephone: (415) 495-8895
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/17/2020	Telephone: (415) 495-8895
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/14/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/17/2020	Telephone: (415) 495-8895
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/17/2020	Telephone: (415) 495-8895
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/11/2020	Source: Department of the Navy
Date Data Arrived at EDR: 11/17/2020	Telephone: 843-820-7326
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 02/08/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/24/2021
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/28/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/05/2020	Telephone: 703-603-0695
Date Made Active in Reports: 11/18/2020	Last EDR Contact: 11/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/08/2021
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/28/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/05/2020	Telephone: 703-603-0695
Date Made Active in Reports: 11/18/2020	Last EDR Contact: 11/05/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/08/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/15/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 7

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

NV SHWS: Sites Database

A listing of correction action sites.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/16/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 85

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

NV SWF/LF: Landfill List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

CA SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/09/2020
Date Data Arrived at EDR: 11/10/2020
Date Made Active in Reports: 01/14/2021
Number of Days to Update: 65

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/09/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

NV LUST: Sites Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/16/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 85

Source: Department of Conservation and Natural Resources
Telephone: 775-687-5872
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/08/2020	Telephone: see region list
Date Made Active in Reports: 11/30/2020	Last EDR Contact: 12/04/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Quarterly

CA LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

CA LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

CA LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

CA LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

CA LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001	Source: California Regional Water Quality Control Board North Coast (1)
Date Data Arrived at EDR: 02/28/2001	Telephone: 707-570-3769
Date Made Active in Reports: 03/29/2001	Last EDR Contact: 08/01/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

CA LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

CA LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: No Update Planned

CA LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

CA LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020	Source: EPA Region 10
Date Data Arrived at EDR: 05/20/2020	Telephone: 206-553-2857
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/29/2020	Source: EPA Region 1
Date Data Arrived at EDR: 05/20/2020	Telephone: 617-918-1313
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020	Source: EPA, Region 5
Date Data Arrived at EDR: 05/20/2020	Telephone: 312-886-7439
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020	Source: EPA Region 4
Date Data Arrived at EDR: 05/26/2020	Telephone: 404-562-8677
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/20/2020	Telephone: 415-972-3372
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020	Source: EPA Region 8
Date Data Arrived at EDR: 05/20/2020	Telephone: 303-312-6271
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020	Source: EPA Region 7
Date Data Arrived at EDR: 05/20/2020	Telephone: 913-551-7003
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020	Source: EPA Region 6
Date Data Arrived at EDR: 05/20/2020	Telephone: 214-665-6597
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 07/21/2020	Source: FEMA
Date Data Arrived at EDR: 09/03/2020	Telephone: 202-646-5797
Date Made Active in Reports: 11/25/2020	Last EDR Contact: 01/04/2021
Number of Days to Update: 83	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: Varies

NV UST: Underground Storage Tank List

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/14/2020	Source: Department of Conservation and Natural Resources
Date Data Arrived at EDR: 09/16/2020	Telephone: 775-687-5872
Date Made Active in Reports: 12/10/2020	Last EDR Contact: 12/11/2020
Number of Days to Update: 85	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Semi-Annually

CA UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/03/2020	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/08/2020	Telephone: 916-327-7844
Date Made Active in Reports: 12/03/2020	Last EDR Contact: 12/08/2020
Number of Days to Update: 86	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Varies

CA UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/08/2020	Source: SWRCB
Date Data Arrived at EDR: 09/08/2020	Telephone: 916-341-5851
Date Made Active in Reports: 11/30/2020	Last EDR Contact: 12/04/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Semi-Annually

CA MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 09/08/2020	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/08/2020	Telephone: 866-480-1028
Date Made Active in Reports: 11/30/2020	Last EDR Contact: 12/04/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Varies

NV AST: Aboveground Storage Tank List

Registered Aboveground Storage Tanks.

Date of Government Version: 01/25/2018	Source: Department of Conservation and Natural Resources
Date Data Arrived at EDR: 03/21/2018	Telephone: 775-687-5872
Date Made Active in Reports: 04/23/2018	Last EDR Contact: 12/09/2020
Number of Days to Update: 33	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 12/09/2020
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020	Source: EPA Region 7
Date Data Arrived at EDR: 05/20/2020	Telephone: 913-551-7003
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020	Source: EPA Region 9
Date Data Arrived at EDR: 05/20/2020	Telephone: 415-972-3368
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020	Source: EPA Region 10
Date Data Arrived at EDR: 05/20/2020	Telephone: 206-553-2857
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/15/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020	Source: EPA, Region 1
Date Data Arrived at EDR: 05/20/2020	Telephone: 617-918-1313
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020	Source: EPA Region 8
Date Data Arrived at EDR: 05/20/2020	Telephone: 303-312-6137
Date Made Active in Reports: 08/13/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 85	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020	Source: EPA Region 4
Date Data Arrived at EDR: 05/26/2020	Telephone: 404-562-9424
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020	Source: EPA Region 5
Date Data Arrived at EDR: 05/20/2020	Telephone: 312-886-6136
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020	Source: EPA Region 6
Date Data Arrived at EDR: 05/20/2020	Telephone: 214-665-7591
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 12/16/2020
Number of Days to Update: 84	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

NV VCP: Voluntary Cleanup Program Sites

The Voluntary Cleanup Program provides relief from liability to owners who undertake cleanups of contaminated properties under the oversight of the Nevada Division of Environmental Protection.

Date of Government Version: 09/14/2020	Source: Department of Conservation & Natural Resources
Date Data Arrived at EDR: 09/16/2020	Telephone: 775-687-9381
Date Made Active in Reports: 12/10/2020	Last EDR Contact: 12/11/2020
Number of Days to Update: 85	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Semi-Annually

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/15/2020
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/26/2020

Date Data Arrived at EDR: 10/26/2020

Date Made Active in Reports: 01/13/2021

Number of Days to Update: 79

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 01/26/2021

Next Scheduled EDR Contact: 05/10/2021

Data Release Frequency: Quarterly

State and tribal Brownfields sites

NV BROWNFIELDS: Project Tracking Database

Brownfields sites included in the Project Tracking Database. The term "brownfields" is used to describe abandoned, idled, or underused industrial or commercial properties taken out of productive use because of real or perceived risks from environmental contamination. The State of Nevada has initiated Brownfields, a land-recycling program, to provide an opportunity to redevelop these undesirable properties and revitalize communities.

Date of Government Version: 09/14/2020

Date Data Arrived at EDR: 09/16/2020

Date Made Active in Reports: 12/10/2020

Number of Days to Update: 85

Source: Division of Environmental Protection

Telephone: 775-687-9384

Last EDR Contact: 12/11/2020

Next Scheduled EDR Contact: 03/29/2021

Data Release Frequency: Semi-Annually

CA BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2020

Date Data Arrived at EDR: 09/22/2020

Date Made Active in Reports: 12/11/2020

Number of Days to Update: 80

Source: State Water Resources Control Board

Telephone: 916-323-7905

Last EDR Contact: 12/17/2020

Next Scheduled EDR Contact: 04/05/2021

Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/14/2020

Date Data Arrived at EDR: 09/15/2020

Date Made Active in Reports: 12/10/2020

Number of Days to Update: 86

Source: Environmental Protection Agency

Telephone: 202-566-2777

Last EDR Contact: 12/11/2020

Next Scheduled EDR Contact: 03/29/2021

Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

NV SWRCY: Recycling Information Listing

A listing of recycling facilities in Nevada.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/04/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 84

Source: Department of Environmental Protection
Telephone: 775-687-9463
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

CA SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/25/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/29/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

CA CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

CA PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

CA UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Annually

CA SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 11/05/2020
Date Data Arrived at EDR: 11/06/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 81

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 02/01/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/19/2020	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2020	Telephone: 916-323-2514
Date Made Active in Reports: 01/07/2021	Last EDR Contact: 01/20/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/28/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/05/2020	Telephone: 202-564-6023
Date Made Active in Reports: 11/25/2020	Last EDR Contact: 01/14/2021
Number of Days to Update: 20	Next Scheduled EDR Contact: 04/12/2021
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/20/2020	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 09/22/2020	Telephone: 202-366-4555
Date Made Active in Reports: 12/14/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/14/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/17/2020	Telephone: (415) 495-8895
Date Made Active in Reports: 12/22/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 09/29/2020	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 11/17/2020	Telephone: 202-528-4285
Date Made Active in Reports: 01/25/2021	Last EDR Contact: 11/17/2020
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/01/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2021
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/26/2021
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 01/07/2021
Number of Days to Update: 574	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 02/09/2021
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/24/2021
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/21/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/22/2020	Telephone: 202-566-1917
Date Made Active in Reports: 12/14/2020	Last EDR Contact: 12/17/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 04/05/2021
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 02/02/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 05/17/2021
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 02/05/2021
Number of Days to Update: 73	Next Scheduled EDR Contact: 05/17/2021
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 06/17/2020	Telephone: 202-260-5521
Date Made Active in Reports: 09/10/2020	Last EDR Contact: 12/18/2020
Number of Days to Update: 85	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018	Source: EPA
Date Data Arrived at EDR: 08/14/2020	Telephone: 202-566-0250
Date Made Active in Reports: 11/04/2020	Last EDR Contact: 02/02/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/01/2021
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/19/2020	Source: EPA
Date Data Arrived at EDR: 10/19/2020	Telephone: 202-564-4203
Date Made Active in Reports: 01/04/2021	Last EDR Contact: 01/21/2021
Number of Days to Update: 77	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/28/2020	Source: EPA
Date Data Arrived at EDR: 11/05/2020	Telephone: 703-416-0223
Date Made Active in Reports: 11/25/2020	Last EDR Contact: 01/14/2021
Number of Days to Update: 20	Next Scheduled EDR Contact: 03/15/2021
	Data Release Frequency: Annually

RMP: Risk Management Plans

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/12/2020	Telephone: 202-564-8600
Date Made Active in Reports: 01/25/2021	Last EDR Contact: 01/19/2021
Number of Days to Update: 74	Next Scheduled EDR Contact: 05/03/2021
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020	Source: EPA
Date Data Arrived at EDR: 05/06/2020	Telephone: 202-564-6023
Date Made Active in Reports: 06/09/2020	Last EDR Contact: 01/14/2021
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/17/2021
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019	Source: EPA
Date Data Arrived at EDR: 10/11/2019	Telephone: 202-566-0500
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 01/08/2021
Number of Days to Update: 70	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 12/30/2020
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/30/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/05/2021
Next Scheduled EDR Contact: 05/17/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/27/2021
Next Scheduled EDR Contact: 05/10/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/08/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 88

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014	Source: USGS
Date Data Arrived at EDR: 07/14/2015	Telephone: 202-208-3710
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 01/08/2021
Number of Days to Update: 546	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017	Source: Department of Energy
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-586-3559
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 02/02/2021
Number of Days to Update: 3	Next Scheduled EDR Contact: 05/17/2021
	Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019	Source: Department of Energy
Date Data Arrived at EDR: 11/15/2019	Telephone: 505-845-0011
Date Made Active in Reports: 01/28/2020	Last EDR Contact: 11/20/2020
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/01/2021
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/30/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/14/2021	Telephone: 703-603-8787
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 01/14/2021
Number of Days to Update: 26	Next Scheduled EDR Contact: 04/12/2021
	Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/30/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/24/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 63

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/04/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/03/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/08/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/15/2021
Next Scheduled EDR Contact: 04/26/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 01/25/2021
Number of Days to Update: 73

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

NV AIRS: Permitted Airs Facility Listing

A listing of permitted Airs facilities and their associated emissions information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/06/2019
Date Data Arrived at EDR: 03/22/2019
Date Made Active in Reports: 06/10/2019
Number of Days to Update: 80

Source: Division of Environmental Protection
Telephone: 775-687-9359
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

NV COAL ASH: Coal Ash Disposal Sites A listing of coal ash plants.

Date of Government Version: 09/25/2018
Date Data Arrived at EDR: 09/28/2018
Date Made Active in Reports: 11/07/2018
Number of Days to Update: 40

Source: Division of Environmental Protection
Telephone: 775-687-9477
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

CA EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

NV Financial Assurance 1: Financial Assurance Information Listing

Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 101

Source: Department of Environmental Protection
Telephone: 775-687-9465
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

CA Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/22/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

NV Financial Assurance 2: Financial Assurance Information

Solid waste facility financial assurance information.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Division of Environmental Protection
Telephone: 775-687-9477
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

CA Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 11/13/2020
Date Made Active in Reports: 01/29/2021
Number of Days to Update: 77

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/08/2021
Next Scheduled EDR Contact: 05/24/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 04/15/2020	Telephone: 916-255-1136
Date Made Active in Reports: 07/02/2020	Last EDR Contact: 01/05/2021
Number of Days to Update: 78	Next Scheduled EDR Contact: 04/19/2021
	Data Release Frequency: Annually

NV HMRI: Hazardous Materials Repository Information Data

Emergency Planning and Community Right-to-Know Act (EPCRA) required facilities which store or manufacture hazardous materials to prepare and submit a chemical inventory report by March 1st of each year to the State Emergency Response Commission (SERC), LEPC and the local fire department. The inventory form must include information on all hazardous chemicals present at the facility during the previous calendar year in amounts that meet or exceed thresholds.

Date of Government Version: 08/05/2008	Source: State Emergency Response Commission
Date Data Arrived at EDR: 08/05/2008	Telephone: 775-687-6973
Date Made Active in Reports: 08/13/2008	Last EDR Contact: 02/08/2021
Number of Days to Update: 8	Next Scheduled EDR Contact: 05/24/2021
	Data Release Frequency: Semi-Annually

NV NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 12/21/2020	Source: Department of Environmental Protection
Date Data Arrived at EDR: 12/22/2020	Telephone: 775-687-9414
Date Made Active in Reports: 12/31/2020	Last EDR Contact: 12/18/2020
Number of Days to Update: 9	Next Scheduled EDR Contact: 03/29/2021
	Data Release Frequency: Varies

CA NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/09/2020	Source: State Water Resources Control Board
Date Data Arrived at EDR: 11/10/2020	Telephone: 916-445-9379
Date Made Active in Reports: 01/27/2021	Last EDR Contact: 02/09/2021
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/24/2021
	Data Release Frequency: Quarterly

CA UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 09/08/2020	Source: State Water Resource Control Board
Date Data Arrived at EDR: 09/08/2020	Telephone: 866-480-1028
Date Made Active in Reports: 11/30/2020	Last EDR Contact: 12/04/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Varies

CA MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 09/08/2020	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/08/2020	Telephone: 866-480-1028
Date Made Active in Reports: 11/30/2020	Last EDR Contact: 12/04/2020
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/22/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA PROJECT: Project Sites (GEOTRACKER) Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

CA WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

CA CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

CA CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/20/2021
Next Scheduled EDR Contact: 05/03/2021
Data Release Frequency: Varies

CA NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

CA OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

CA PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

CA SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

CA WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 01/19/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

NV RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Conservation and Natural Resources in Nevada.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/26/2013
Number of Days to Update: 178

Source: Department of Conservation and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

NV RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Conservation and Natural Resources in Nevada.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/16/2014
Number of Days to Update: 199

Source: Department of Conservation and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

CA RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

NV RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Conservation and Natural Resources in Nevada.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/26/2013
Number of Days to Update: 178

Source: Department of Conservation and Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

CA RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

WASHOE COUNTY:

NV UST - WASHOE: Underground Storage Tank in Washoe County

A listing of underground storage tank sites located in Washoe County.

Date of Government Version: 08/03/2020

Date Data Arrived at EDR: 08/05/2020

Date Made Active in Reports: 08/11/2020

Number of Days to Update: 6

Source: Washoe County Department of Environmental Health

Telephone: 775-328-2493

Last EDR Contact: 11/25/2020

Next Scheduled EDR Contact: 03/08/2021

Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020

Date Data Arrived at EDR: 10/20/2020

Date Made Active in Reports: 11/02/2020

Number of Days to Update: 13

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375

Last EDR Contact: 11/09/2020

Next Scheduled EDR Contact: 02/22/2021

Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019

Date Data Arrived at EDR: 04/29/2020

Date Made Active in Reports: 07/10/2020

Number of Days to Update: 72

Source: Department of Environmental Conservation

Telephone: 518-402-8651

Last EDR Contact: 01/29/2021

Next Scheduled EDR Contact: 05/10/2021

Data Release Frequency: Quarterly

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List

Source: Department of Human Resources

Telephone: 775-684-1100

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Natural Heritage Program

Telephone: 775-684-2900

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PRAANA II WASHOE
074-470-03, 074-470-02, 074-470-04, AND 074-470-05
EMPIRE, NV 89405

TARGET PROPERTY COORDINATES

Latitude (North):	40.155171 - 40° 9' 18.62"
Longitude (West):	119.988635 - 119° 59' 19.09"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	245443.0
UTM Y (Meters):	4449053.0
Elevation:	3998 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6721610 FLANIGAN, NV
Version Date:	2014
Northwest Map:	5603620 CALNEVA LAKE, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
32031C2125E	FEMA Q3 Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
0600921150B	FEMA Q3 Flood data
06035C2550D	FEMA FIRM Flood data
0600921200B	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
FLANIGAN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

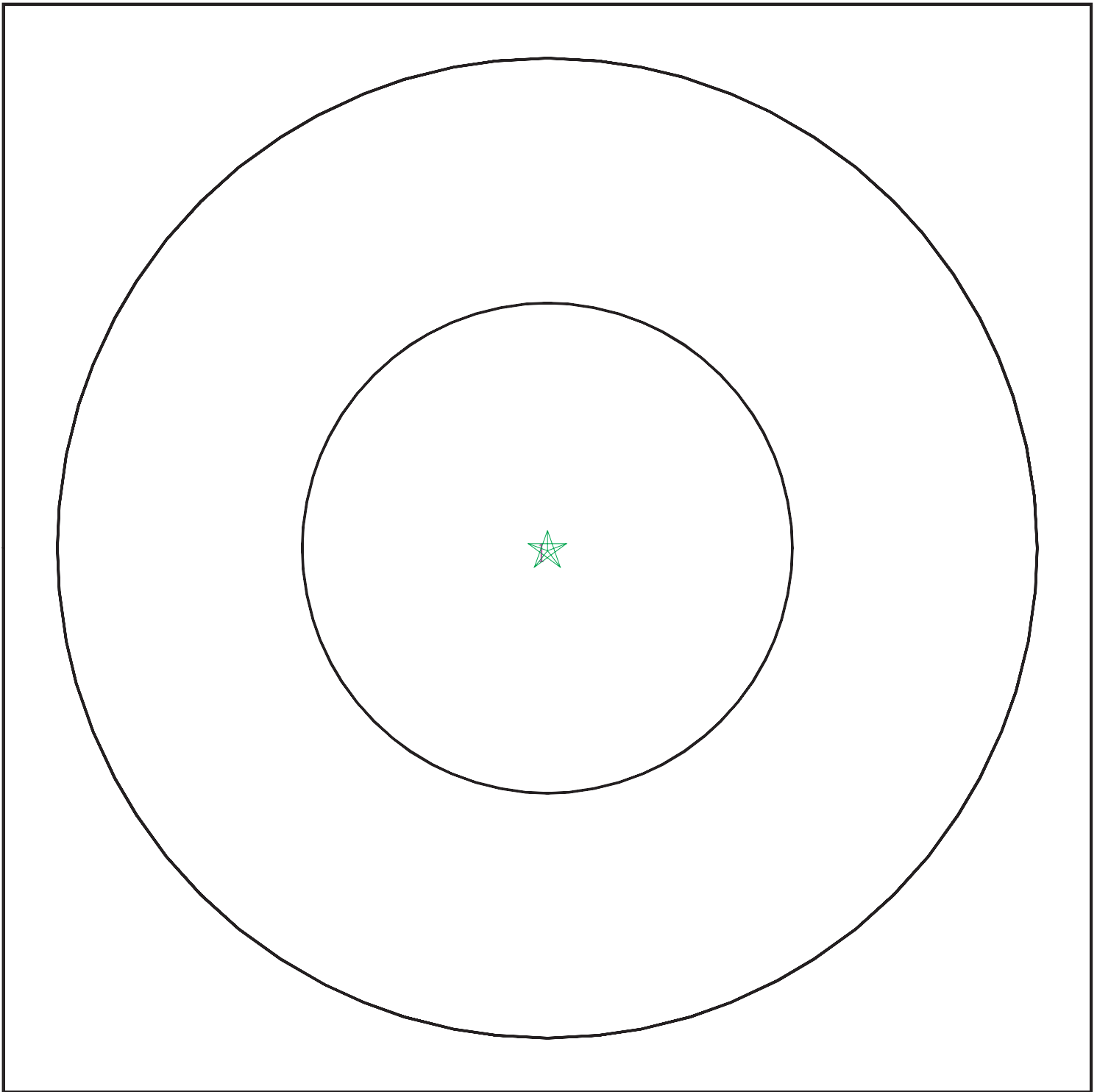
Era: Cenozoic
System: Quaternary
Series: Quaternary
Code: Q (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

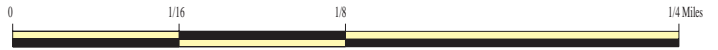
Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6363661.2s



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water



SITE NAME: Praana II Washoe
ADDRESS: 074-470-03, 074-470-02, 074-470-04, and 074-470-05
Empire NV 89405
LAT/LONG: 40.155171 / 119.988635

CLIENT: Sierra Geotech, DVBE, Inc.
CONTACT: Austin K Moore
INQUIRY #: 6363661.2s
DATE: February 10, 2021 3:43 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Chuckles

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 8.5
2	5 inches	14 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 8.5
3	14 inches	33 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 8.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
4	33 inches	59 inches	stratified very fine sandy loam to silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 9 Min: 8.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

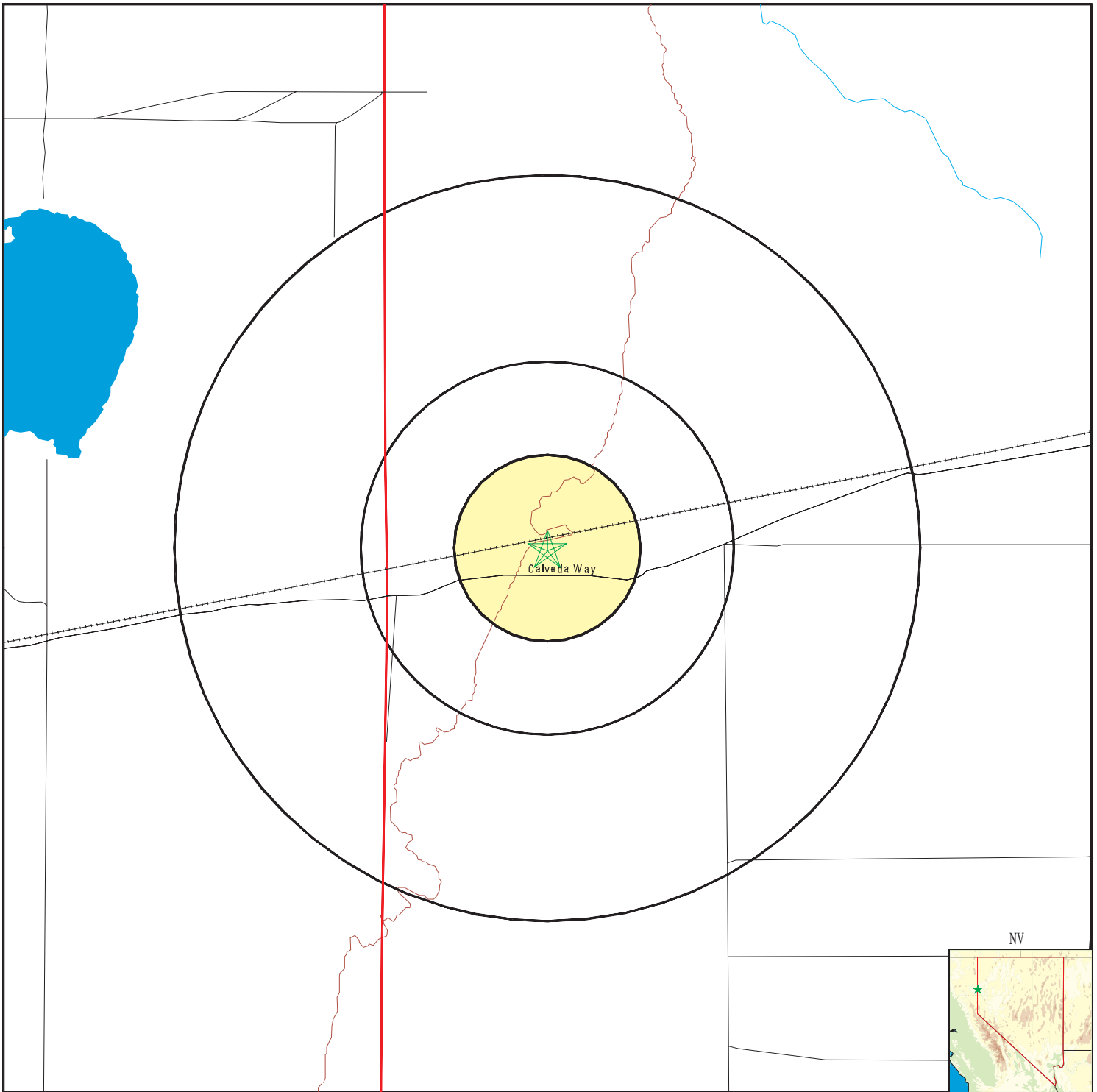
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 6363661.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons



- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: Praana II Washoe
 ADDRESS: 074-470-03, 074-470-02, 074-470-04, and 074-470-05
 Empire NV 89405
 LAT/LONG: 40.155171 / 119.988635

CLIENT: Sierra Geotech, DVBE, Inc.
 CONTACT: Austin K Moore
 INQUIRY #: 6363661.2s
 DATE: February 10, 2021 3:43 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: NV Radon

Radon Test Results

# Tests	# < 4 pCi/L	# > 4 pCi/L	% > 4 pCi/L	Average	Max
2	2	0	0	1.3	1.3

Federal EPA Radon Zone for WASHOE County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for WASHOE COUNTY, NV

Number of sites tested: 132

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.454 pCi/L	94%	6%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	7.815 pCi/L	41%	48%	11%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Natural Heritage Program

Telephone: 775-684-2900

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Nevada Well Log Database

Source: Dept of Conservation and Natural Resources, Division of Water Resources

Telephone: 775-687-4380

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database

Source: Nevada Bureau of Mines and Geology

Telephone: 775-784-6691

Oil and gas well locationS in the state of Nevada.

RADON

State Database: NV Radon

Source: State Health Division

Telephone: 775-687-7531

Radon Test Results By Zip Code

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05

Empire, NV 89405

Inquiry Number: 6363661.3

February 10, 2021

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

02/10/21

Site Name:

Praana II Washoe
074-470-03, 074-470-02, 074-4
Empire, NV 89405
EDR Inquiry # 6363661.3

Client Name:

Sierra Geotech, DVBE, Inc.
4470 Yankee Hill Suite 110
Rocklin, CA 95677
Contact: Austin K Moore



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Sierra Geotech, DVBE, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 8E4F-4D75-9D78

PO # NA

Project Praana II Washoe Phase I ESA

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 8E4F-4D75-9D78

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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Praana II Washoe

074-470-03, 074-470-02, 074-470-04, and 074-470-05

Empire, NV 89405

Inquiry Number: 6363661.4

February 10, 2021

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

02/10/21

Site Name:

Praana II Washoe
074-470-03, 074-470-02, 074-4
Empire, NV 89405
EDR Inquiry # 6363661.4

Client Name:

Sierra Geotech, DVBE, Inc.
4470 Yankee Hill Suite 110
Rocklin, CA 95677
Contact: Austin K Moore



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Sierra Geotech, DVBE, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	40.155171 40° 9' 19" North
Project:	Praana II Washoe Phase I ES,	Longitude:	-119.9886 -119° 59' 19" West
		UTM Zone:	Zone 11 North
		UTM X Meters:	245452.73
		UTM Y Meters:	4449263.07
		Elevation:	3998.00' above sea level

Maps Provided:

2012, 2014
1981
1974
1964

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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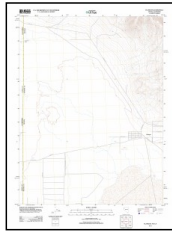
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012, 2014 Source Sheets

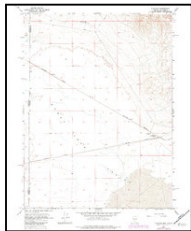


Calneva Lake
2012
7.5-minute, 24000

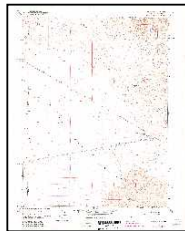


Flanigan
2014
7.5-minute, 24000

1981 Source Sheets

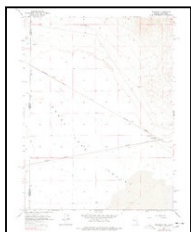


Flanigan
1981
7.5-minute, 24000
Aerial Photo Revised 1980



FLANIGAN
1981
7.5-minute, 24000

1974 Source Sheets

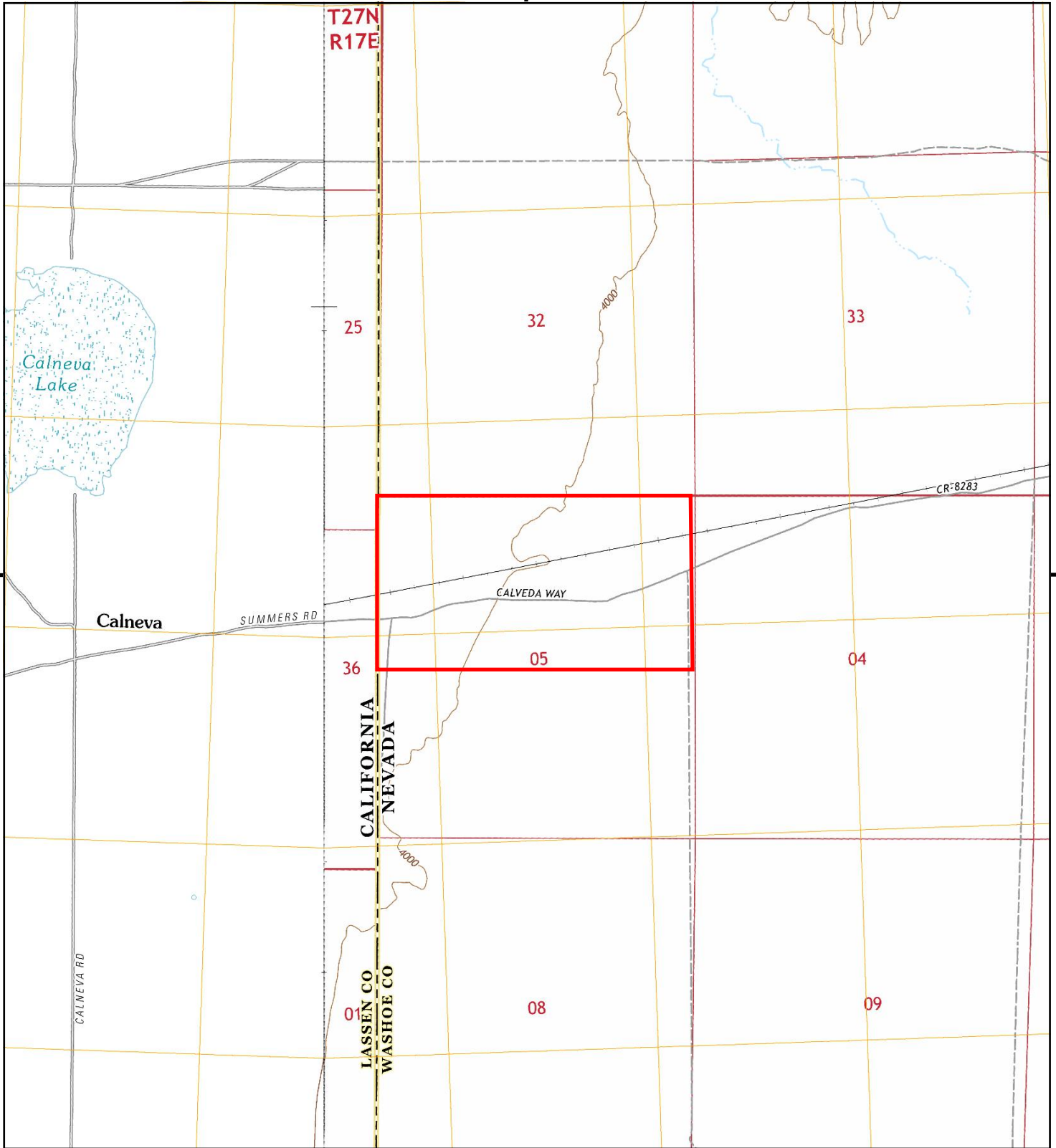


Flanigan
1974
7.5-minute, 24000
Aerial Photo Revised 1962

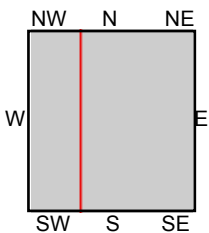
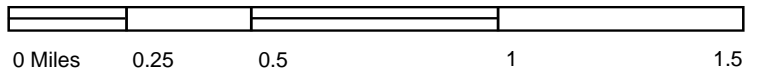
1964 Source Sheets



Flanigan
1964
7.5-minute, 24000
Aerial Photo Revised 1962



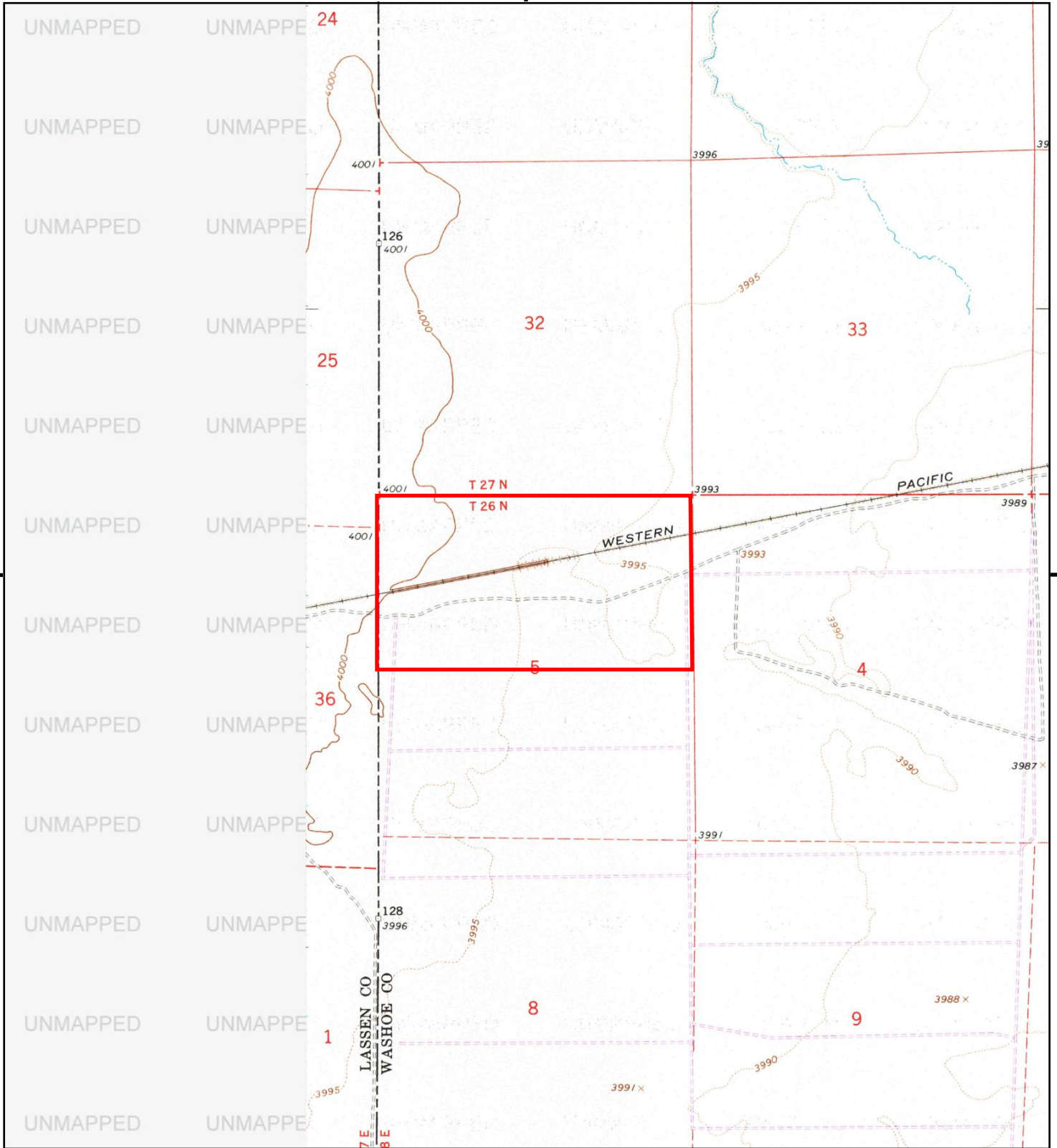
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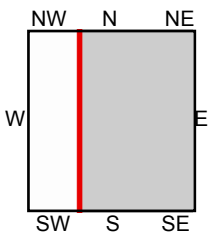
TP, Flanigan, 2014, 7.5-minute
 NW, Calneva Lake, 2012, 7.5-minute

SITE NAME: Praana II Washoe
 ADDRESS: 074-470-03, 074-470-02, 074-470-04, and
 Empire, NV 89405
 CLIENT: Sierra Geotech, DVBE, Inc.





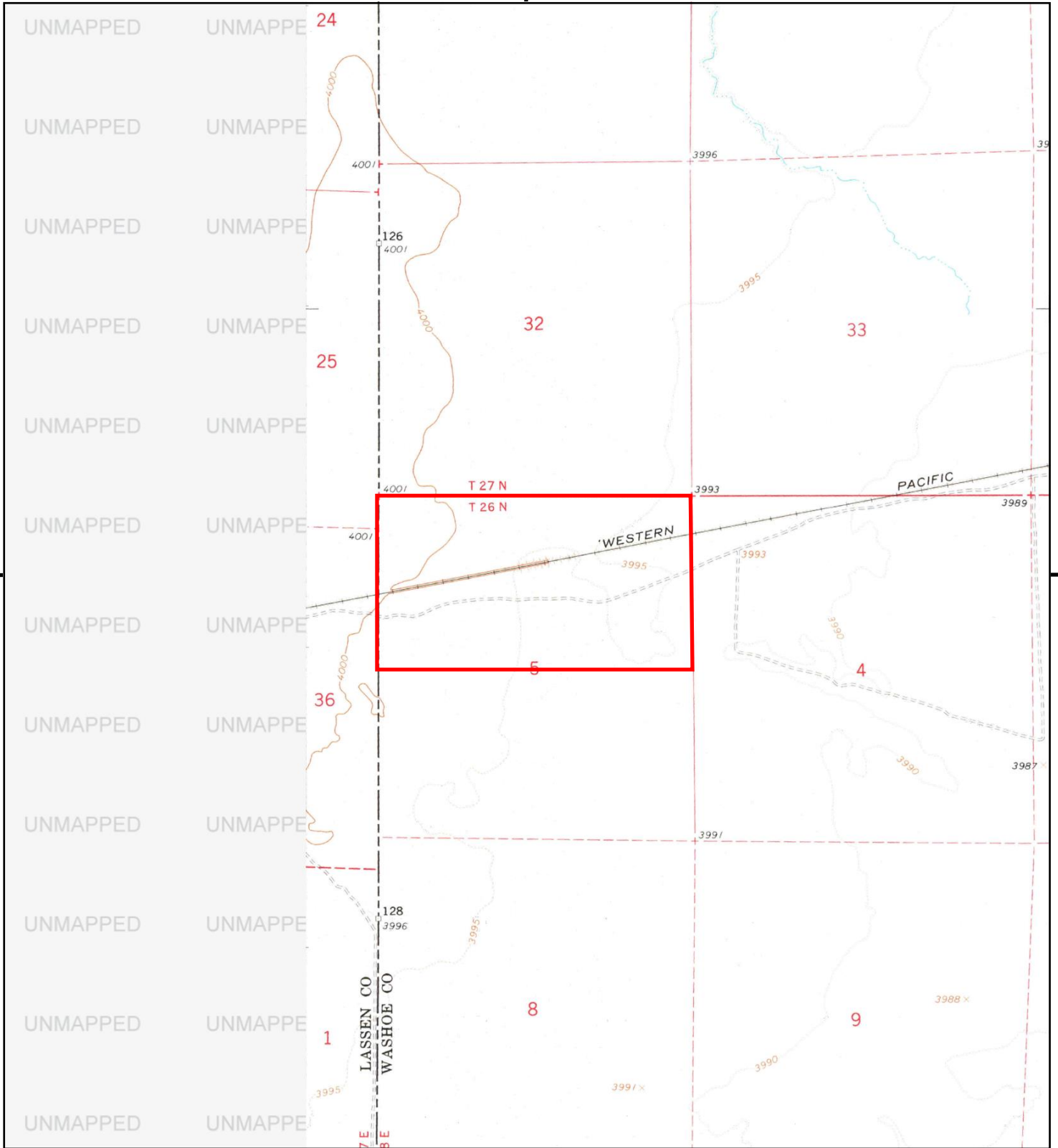
This report includes information from the following map sheet(s).



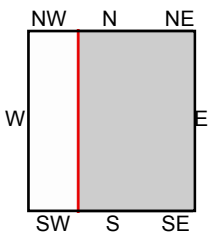
TP, Flanigan, 1981, 7.5-minute
 TP, FLANIGAN, 1981, 7.5-minute

SITE NAME: Praana II Washoe
ADDRESS: 074-470-03, 074-470-02, 074-470-04, and
 Empire, NV 89405
CLIENT: Sierra Geotech, DVBE, Inc.





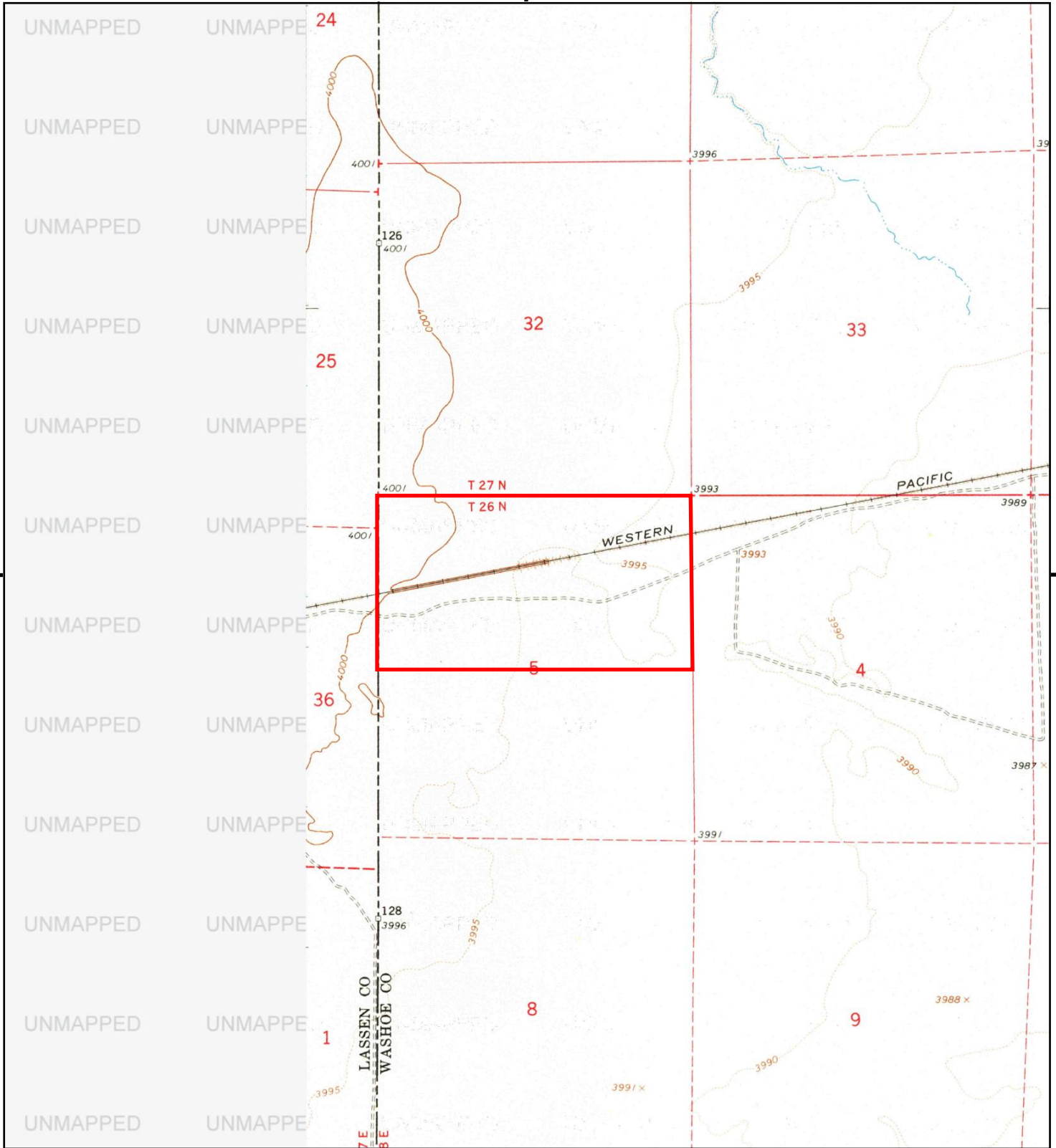
This report includes information from the following map sheet(s).



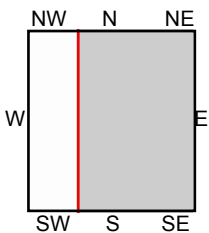
TP, Flanigan, 1974, 7.5-minute

SITE NAME: Praana II Washoe
ADDRESS: 074-470-03, 074-470-02, 074-470-04, and
 Empire, NV 89405
CLIENT: Sierra Geotech, DVBE, Inc.





This report includes information from the following map sheet(s).



TP, Flanigan, 1964, 7.5-minute

SITE NAME: Praana II Washoe
ADDRESS: 074-470-03, 074-470-02, 074-470-04, and
 Empire, NV 89405
CLIENT: Sierra Geotech, DVBE, Inc.



Appendix E

Reconnaissance Checklist



PHASE I ENVIRONMENTAL SITE ASSESSMENT
EXTERIOR OBSERVATIONS CHECKLIST

PROPERTY NAME: Praana Two Washoe BESS/PSES Project Site INSPECTOR: Brent L. Moore, CEP

DATE: April 22, 2021 TIME: 7:25 AM

Table with 4 columns: Item Number, Description, Yes/No, and Comments. Contains 23 rows of observations such as 'Vegetation', 'Wooded Area', 'Stressed, Discolored or Stained Vegetation', etc.



- 24) Water Wells Yes **No** _____
- 25) Monitoring Wells Yes **No** _____
- 26) Soil Borings Yes **No** _____
- 27) Underground Storage Tanks (vent pipes?) Yes **No** _____
- 28) Aboveground Storage Tanks Yes **No** _____
- 29) Hazardous substance containers and unidentified substance containers (Drums present) Yes **No** _____
- 30) Transformers Yes **No** _____
- 31) Indications of PCBs, PCB-containing equipment Yes **No** _____
- 32) Hazardous substances in connection with identified uses (if yes, is migration of substance a concern) Yes **No** _____
- 33) Patched asphalt or concrete Yes **No** _____
- 34) Backup Electric Generator Yes **No** _____
- 35) Paint Booth, Spray Rig Yes **No** _____
- 36) Storage of Pesticides/Herbicides Yes **No** _____
- 37) Farm Waste, Feed Lot Spoils, or Manure Stockpile Yes **No** _____
- 38) Any evidence of discharges of leachate, migration or run-off of potential contaminants to the site from an off-site source? Yes **No** _____
- 39) Site Condition Healthy Great Basin Sagebrush lands. Property is clean and well kept. _____

- 40) Building condition No improved buildings on property _____

- 41) Describe Adjacent Land Use – include addresses
 North Great Basin Sagebrush lands vacant _____
 South Great Basin Sagebrush lands vacant _____
 East Great Basin Sagebrush lands vacant _____
 West Great Basin Sagebrush lands vacant _____
- 42) Photograph Log (site photos, adjacent prop photos, potential environmental concerns)
 - a) See Photo Log in Phase I ESA report g).
 - b) h)
 - c) i)
 - d) j)
 - e) k)
 - f) l)



43) Other Comments or Concerns Property is very isolated with only a railroad running through the center of the parcels.
All properties surrounding the subject property for miles are vacant sagebrush lands with no activity.



**PHASE I ENVIRONMENTAL SITE ASSESSMENT
INTERIOR OBSERVATIONS CHECKLIST**

PROPERTY NAME: Not Applicable No Buildings INSPECTOR: Brent L. Moore, CEP

PROJECT NUMBER: _____ DATE: _____ TIME: _____

1) Is there a facility layout plan? Yes No

2) What is the size of the site and buildings?

3) What is the date of construction and renovations?

4) List the number of rooms/areas

5) Are there industrial or manufacturing activities at the site? Yes No

Describe each process, raw materials used, solid, special or hazardous waste generated, where it is disposed, and handling of solid waste and liquid waste

6) Does the facility have any environmental permits?

(If yes, which type?)

RCRA _____ Yes No

NPDES _____ Yes No

Air Emission _____ Yes No

Hazardous Waste Disposal _____ Yes No

Other _____ Yes No

7) Are there UST fill pipes inside the building? Yes No

8) Are there USTs inside the building? Yes No

(If yes)

How many? _____

What are the ages? _____

What products are stored? _____

Is the UST system 1998 compliant? Yes No

9) Are there above-ground storage tanks inside the building? Yes No

10) Is there a drum storage area? Yes No

If yes, describe material present in quantities > 5 gallons,

- | | | |
|---|-----|----|
| Any secondary containment? | Yes | No |
| Are waste manifests available? | Yes | No |
| Any evidence of leaking/staining in storage area? | Yes | No |
| MSDS available? | Yes | No |
| 11) Are any transformers present? | Yes | No |
| Are transformers labeled PCB-free? | Yes | No |
| 12) Are there floor drains? | Yes | No |
| (If yes) explain where the drains discharge _____ | | |
| _____ | | |
| 13) Are there hydraulic lifts or elevators? | Yes | No |
| If yes, describe location, age, evidence of leakage, potential for PCBs _____ | | |
| _____ | | |
| 14) Is the facility kept clean (interior)? | Yes | No |
| 15) Describe the heating and cooling system. | | |
| _____ | | |
| _____ | | |
| 16) Any unusual odors? | Yes | No |
| 17) Photograph Log | | |
| a) | g) | |
| b) | h) | |
| c) | i) | |
| d) | j) | |
| e) | k) | |
| f) | l) | |
| 18) Other Notes | | |

EXHIBIT H

Public Notice

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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**BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT A UTILITY
FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT**

Praana Renewables Energy, LLC (“Praana” or the “Applicant”) is submitting, pursuant to the Nevada Utility Environmental Protection Act (“UEPA”), an application to the Public Utilities Commission of Nevada (“PUCN”) for a permit to construct a 345 kilovolt (“kV”) substation (“Project Substation”); an approximately 5-mile-long, 345 kV overhead generation-tie line (“Gen-Tie”); and associated facilities, including a 65 megawatt (“MW”) solar photovoltaic (“PV”) generating facility (“Generating Facility”) and a battery energy storage system (“BESS”) with a capacity of up to 125 MW, in Washoe County, Nevada (the “Project”) pursuant to Nevada Revised Statutes Chapter 704.820 through .900, inclusive, and Nevada Administrative Code Chapter 703.415 through .427, inclusive (the “Application”). The Project will provide renewable energy to the electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company d/b/a NV Energy (“SPPCo”). The Project will consist of five basic components: (1) a 345 kV Project Substation; (2) a 345 kV overhead Gen-Tie which will travel roughly 5 miles south from the Project Substation to the existing SPPCo Fort Sage Substation; (3) a 65 MW alternating current solar PV Generating Facility; (4) an up to 125 MW capacity BESS; and (5) associated facilities and components, including access roads and fencing.

The Project will be located on approximately 291 acres of private land in Washoe County, Nevada, about 45 miles north of the City of Reno and approximately 8 miles east of Herlong, California. The Project site consists of the following: (1) a lease area, which is comprised of a series of four adjoining parcels totaling approximately 279 acres; and (2) 5.5 linear miles (approximately 12 acres) of private access and utility easement extending south from the Project lease area along Rainbow Way to the Fort Sage Substation. The Project will result in the disturbance of approximately 291 acres of land in total, and construction will last up to approximately 10 months and take place in four phases. Sierra Geotech conducted an environmental review of the Project and prepared an Environmental Statement which is included with the Application.

NOTICE OF THE APPLICATION FOR A PERMIT TO CONSTRUCT UNDER UEPA FOR A 345 kV PROJECT SUBSTATION, 345 kV GEN-TIE, 65 MW SOLAR PV GENERATING FACILITY, AN UP TO 125 MW CAPACITY BESS, AND ASSOCIATED FACILITIES.

Notice is hereby given to persons residing in the municipalities in which any portion of the Project will be located and constructed: Praana will request a permit to construct the Project, which will consist of a 345 kV Project Substation, a 345 kV Gen-Tie, a 65 MW solar PV Generating Facility, an up to 125 MW BESS, and associated facilities, including fencing and access roads, to be located within Washoe County, NV.

The contents of the Application to be submitted to the PUCN for the Project will include but are not limited to:

1. A description of the Project, including general and detailed descriptions of the location of the Project, appropriately scaled site plan and layout drawings, vicinity maps, and

routing maps; a description of the size and nature of the Project; and a description of the natural resources that will be used during the construction and operation of the Project;

2. A copy and summary of the Environmental Statement prepared by Sierra Geotech with respect to the environmental impact of the Project; an explanation of the nature of the probable effect of the Project on the environment; and a description of the current environmental characteristics of the Project area, the environmental impacts that the construction and operation of the Project would have on the Project area before mitigation, and the environmental impacts that the construction and operation of the Project will have on the Project area after mitigation;
3. A description of any reasonable alternate locations for the Project, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the Project;
4. An explanation of the extent to which the Project is needed to ensure reliable utility service to customers in this State of Nevada, including a description of the extent to which the Project will provide and enhance utility service to customers in Nevada;
5. An explanation of how the need for the Project balances any adverse effects on the environment, and how the Project represents the minimum adverse effect on the environment;
6. An explanation of how the location of the Project conforms to applicable federal, state, and local laws and regulations; and
7. An explanation of how the Project will serve the public interest, including the economic benefits that the Project will bring to the state, and the nature of the probable effect on the public health, safety, and welfare of the residents of the state if the Project is constructed.

A copy of the Application will be available on the PUCN's website following Applicant's filing of the Application. Additional information about the UEPA process and a person's right to participate in that process can be found in Nevada Revised Statutes Chapter 704 and Nevada Administrative Code Chapter 703. Protests and written comments about the Application and the Project must be filed with the PUCN as provided by law. DATED this 25th day of August, 2022 by Praana Renewables Energy, LLC.

EXHIBIT I

Affidavit of Publication

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**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

PROOF OF
PUBLICATION

STATE OF WISCONSIN SS.
COUNTY OF BROWN

HOLLAND & HART LLP
5441 KIETZKE LN FL 2


RENO NV 89511

Being first duly sworn, deposes and says: That as the legal clerk of the Reno Gazette-Journal, a daily newspaper of general circulation published in Reno, Washoe County, State of Nevada, that the notice referenced below has published in each regular and entire issue of said newspaper issue dated between: 08/30/2022 - 08/30/2022, for exact publication dates please see last line of Proof of Publication below.

08/30/2022


Legal Clerk

Subscribed and sworn before me this
30th of August 2022.


NOTARY PUBLIC RESIDING
AT STATE OF WISCONSIN
COUNTY OF BROWN

Notary Expires: 8-25-23

Ad#:0005391617
P O : Legal
of Affidavits 1

This is not an invoice

SHELLY HORA
Notary Public
State of Wisconsin

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT A
UTILITY
FACILITY UNDER THE UTILITY ENVIRONMENTAL
PROTECTION ACT

Praana Renewables Energy, LLC ("Praana" or the "Applicant") is submitting, pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application to the Public Utilities Commission of Nevada ("PUCN") for a permit to construct a 345 kilovolt ("kV") substation ("Project Substation"); an approximately 5-mile-long, 345 kV overhead generation-tie line ("Gen-Tie"); and associated facilities, including a 65 megawatt ("MW") solar photovoltaic ("PV") generating facility ("Generating Facility") and a battery energy storage system ("BESS") with a capacity of up to 125 MW, in Washoe County, Nevada (the "Project") pursuant to Nevada Revised Statutes Chapter 704.820 through .900, inclusive, and Nevada Administrative Code Chapter 703.415 through .427, inclusive (the "Application"). The Project will provide renewable energy to the electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company d/b/a NV Energy ("SPPCo"). The Project will consist of five basic components: (1) a 345 kV Project Substation; (2) a 345 kV overhead Gen-Tie which will travel roughly 5 miles south from the Project Substation to the existing SPPCO Fort Sage Substation; (3) a 65 MW alternating current solar PV Generating Facility; (4) an up to 125 MW capacity BESS; and (5) associated facilities and components, including access roads and fencing. The Project will be located on approximately 291 acres of private land in Washoe County, Nevada, about 45 miles north of the City of Reno and approximately 8 miles east of Herlong, California. The Project site consists of the following: (1) a lease area, which is comprised of a series of four adjoining parcels totaling approximately 279 acres; and (2) 5.5 linear miles (approximately 12 acres) of private access and utility easement extending south from the Project lease area along Rainbow Way to the Fort Sage Substation. The Project will result in the disturbance of approximately 291 acres of land in total, and construction will last up to approximately 10 months and take place in four phases. Sierra Geotech conducted an environmental review of the Project and prepared an Environmental Statement which is included with the Application.

NOTICE OF THE APPLICATION FOR A PERMIT TO CONSTRUCT
UNDER UEPA FOR A 345 KV PROJECT SUBSTATION, 345 KV
GEN-TIE, 65 MW SOLAR PV GENERATING FACILITY, AN UP TO
125 MW CAPACITY BESS, AND ASSOCIATED FACILITIES.

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1. A description of the Project, including general and detailed descriptions of the location of the Project, appropriately scaled site plan and layout drawings, vicinity maps, and routing maps; a description of the size and nature of the Project; and a description of the natural resources that will be used during the construction and operation of the Project;
2. A copy and summary of the Environmental Statement prepared by Sierra Geotech with respect to the environmental impact of the Project; an explanation of the nature of the probable effect of the Project on the environment; and a description of the current environmental characteristics of the Project area, the environmental impacts that the construction and operation of the Project would have on the Project area before mitigation, and the environmental impacts that the construction and operation of the Project will have on the Project area after mitigation;
3. A description of any reasonable alternate locations for the Project, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the Project;
4. An explanation of the extent to which the Project is needed to ensure reliable utility service to customers in this State of Nevada, including a description of the extent to which the Project will provide and enhance utility service to customers in Nevada;
5. An explanation of how the need for the Project balances any adverse effects on the environment, and how the Project represents the minimum adverse effect on the environment;
6. An explanation of how the location of the Project conforms to applicable federal, state, and local laws and regulations; and
7. An explanation of how the Project will serve the public interest, including the economic benefits that the Project will bring to the state, and the nature of the probable effect on the public health, safety, and welfare of the residents of the state if the Project is constructed.

A copy of the Application will be available on the PUCN's website following Applicant's filing of the Application. Additional information about the UEPA process and a person's right to participate in that process can be found in Nevada Revised Statutes Chapter 704 and Nevada Administrative Code Chapter 703. Protests and written comments about the Application and the Project must be filed with the PUCN as provided by law. DATED this 25th day of August, 2022 by Praana Renewables Energy, LLC.

19688583_v1
No. 5391617 August 30, 2022

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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EXHIBIT J
Proof of Submission

1 **CERTIFICATE OF SERVICE**

2 I hereby certify that I am an employee of Holland & Hart LLP and on August 31, 2022, I
3 caused to be served a true and correct copy of the foregoing document to the following:
4

5 **ELECTRONIC MAIL**

6 Nevada State Clearinghouse
7 Department of Conservation & Natural
8 Resources, Division of State Lands
9 901 S. Stewart Street, Ste. 5003
10 Carson City, NV 89701
11 nevadaclearinghouse@lands.nv.gov

ELECTRONIC MAIL

Greg Lovato
Nevada Division of Environmental
Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
glovato@ndep.nv.gov

9 **ELECTRONIC MAIL**

10 Staff Counsel Support
11 Public Utilities Commission of Nevada
12 1150 E. William Street
13 Carson City, NV 89701-3109
14 Pucn.sc@puc.nv.gov

ELECTRONIC MAIL

Ernest Figueroa, Esq.
Nevada State Consumer Advocate
Bureau of Consumer Protection
100 N. Carson Street
Carson City, NV 89701
bcpserv@ag.nv.gov

14 **U.S. MAIL TRANSMITTAL:**

15 Washoe County Clerk
16 1001 E 9th Street
17 Reno, NV 89512

18 /s/Cecilia Martin
19 Cecilia Martin, Legal Secretary
20 an employee of Holland & Hart LLP
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HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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EXHIBIT K
Permits and Approvals

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PHASE 1: SITE GRADING & TEMPORARY CONSTRUCTION FACILITIES		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit and Major Grading approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit (Temporary Construction Water Tank)	Nevada Department of Environmental Protection	Q2 2023
PHASE 2: GENERATING FACILITY & ACCESS ROADS		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit and Major Grading approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit	Nevada Department of Environmental Protection	Q2 2023
Building and Grading Permit	Washoe County	Q1 2023
PHASE 3: PROJECT SUBSTATION & BESS		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit and Major Grading approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
Water Discharge Permit	Nevada Department of Environmental Protection	Q2 2023
Building and Grading Permit	Washoe County	Q1 2023
PHASE 4: 345 kV Gen-Tie		
REQUIRED PERMIT	ISSUING AGENCY	ESTIMATED APPROVAL
Special Use Permit approvals	Washoe County	Q1 2023
Dust Permit	Washoe County	Q1 2023

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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Fugitive Dust Permit	Nevada Department of Environmental Protection	Q2 2023
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EXHIBIT L

Draft Notice

**HOLLAND & HART LLP
5441 KIETZKE LANE, SUITE 200
RENO, NV 89511-2094**

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1 PUBLIC UTILITIES COMMISSION OF NEVADA

2 DRAFT NOTICE

3 (Applications, Tariff Filings, Complaints, and Petitions)

4
5 Pursuant to Nevada Administrative Code (“NAC”) 7013.162, the Commission requires that a
6 draft notice be included with all applications, tariff filings, complaints and petitions. Please
7 complete and include **ONE COPY** of this form with your filing. (Completion of this form may
8 require the use of more than one page.)

9 A title that generally describes the relief requested (see NAC 703.1605(4)(a)):

10 *Application for a Permit to Construct a 345 kV project substation; a 345 kV generation-tie*
11 *line; and associated facilities, including a 65 MW solar photovoltaic generating facility and a*
12 *battery energy storage system with a capacity of up to 125 MW, in Washoe County, NV, under*
13 *the Utility Environmental Protection Act.*

14 The name of the applicant, complainant, petitioner or the name of the agent of the applicant,
15 complainant or petitioner (see NAC 703.160(4)(b)):

16 *Praana Renewables Energy, LLC (“Praana”).*

17 A brief description of the purpose of the filing or proceeding, including, without limitation, a
18 clear and concise introductory statement that summarizes the relief requested or the type of
19 proceeding scheduled **AND** the effect of the proceeding upon customers (see NAC
20 703.160(4)(c)).

21 *Praana files this application pursuant to the Utility Environmental Protection Act for a permit*
22 *to construct utility facilities to be known as the Praana Two Washoe BESS/PSES Project (the*
23 *“Project”). The Project includes development of approximately 291 acres of private land in*
24 *Washoe County, NV. The Project will consist of a 345 kV project substation; an approximately*
25 *5-mile-long, 345 kV overhead generation-tie line; and associated facilities, including a 65 MW*
26 *solar PV generating facility and a battery energy storage system with a capacity of up to 125*
27 *MW. Also on-site will be plant auxiliary systems, fencing, and access roads. The Project will*
28 *provide renewable energy to the electrical transmission grid via the existing Fort Sage*
Substation, which is owned and operated by Sierra Pacific Power Company d/b/a NV Energy.

The application is filed pursuant to the requirements of NRS 704.820 to 704.900 and NAC
703.415 to 703.427.

A statement indicating whether a consumer session is required to be held pursuant to Nevada
Revised Statute (“NRS” 704.069(1)).

A consumer session is not required by NRS 704.069.

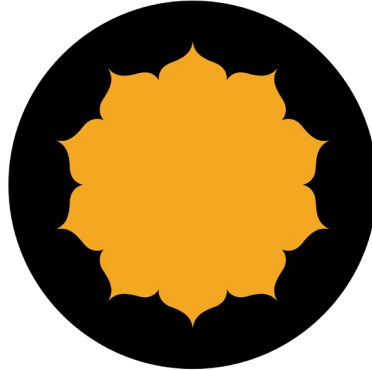
If the draft notice pertains to a tariff filing, please include the tariff number **AND** the section
number(s) of the schedule number(s) being revised.

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This application does not pertain to a tariff filing.

19286246_v8

Attachment E: Vegetation Management Plan



Praana Energy



Vegetation Management Plan

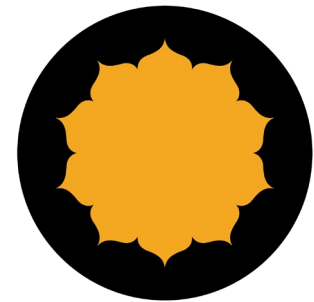
for

Praana Two Washoe, LLC Project

Washoe County, Nevada
July 2022

Prepared for:

Praana Renewables Energy, LLC (Praana Energy)
5150 Mae Anne Ave
Suite 405, #5130
Reno, NV 89523
Phone: (916) 917-6673



Praana Energy

Prepared by:

Sierra Geotech DBE, Inc
4470 Yankee Hill Drive, Suite 110
Rocklin, CA 95677
916-712-9707



SIERRA GEOTECH



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1. Introduction

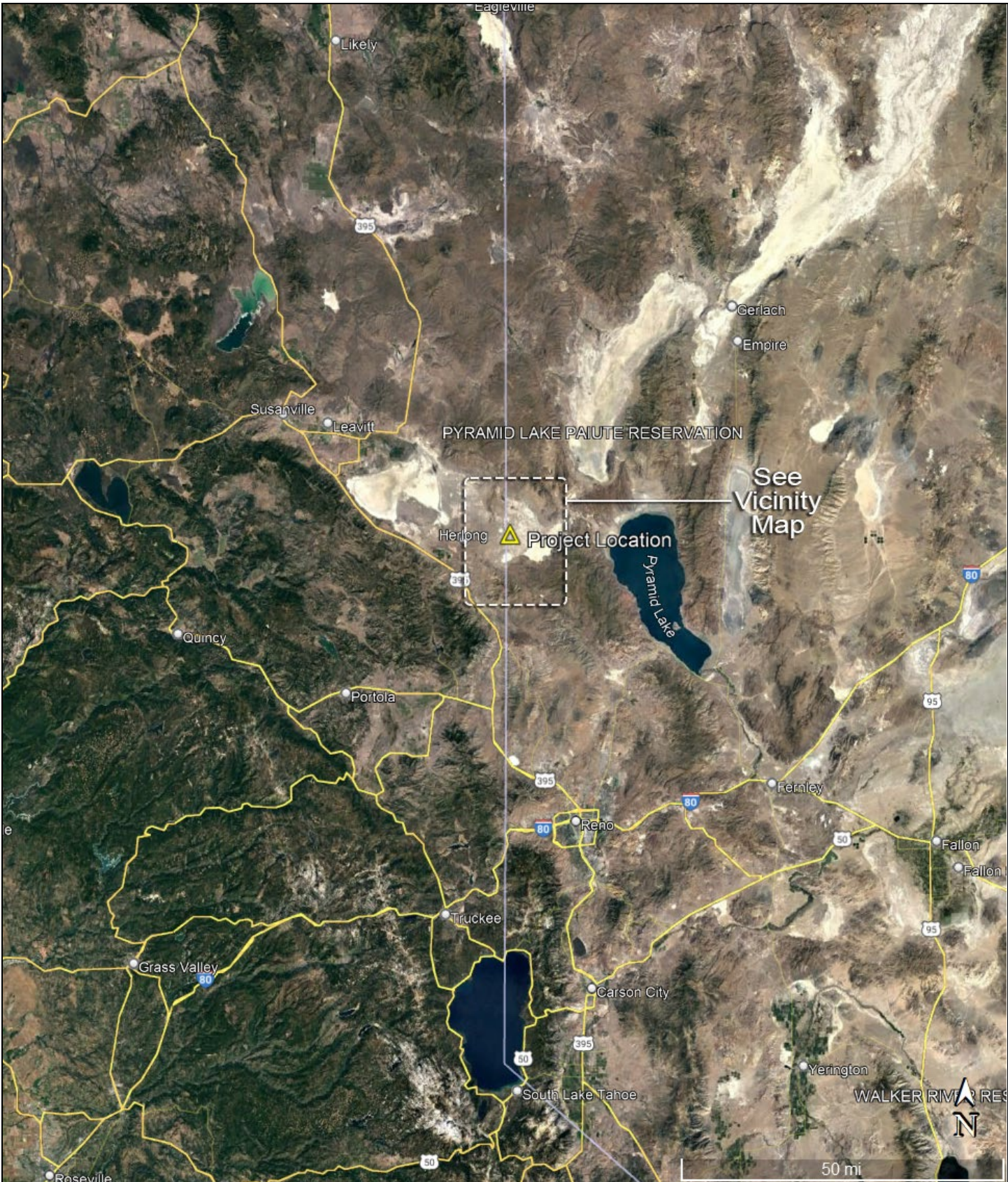
Praana Renewables Energy, LLC (Praana Energy) proposes to construct and operate the Praana Two Washoe LLC Project (Project). Sierra Geotech DBE, Inc (Sierra) have developed the Vegetation Management Plan in support of the requested Special Use Permit from Washoe County and the request from the Washoe County Fire Department to have a Vegetation Management Plan (VMP) to reduce fire hazards.

1.1 PROJECT DESCRIPTIONS

The Project is situated approximately eleven (11) miles northeast of Doyle, California and US Highway 395 on the California and Nevada Border in Washoe County and five (5) miles north of NV Energy's Fort Sage Substation via Rainbow Way (Private Roadway). See *Figure 1.1: Regional Map and Site Location*. The Project Site Control Boundary (278.92 acres within Washoe County Assessor's Parcel Numbers (APNs) 074-470-02 (26.05 acres); 074-470-03 (116.22 acres); 074-470-04 (17.632 acres) and 074-470-05 (119.02 acres)) is defined as the total of the leased areas and easements for the Project. See *Figure 1.2: APN Map of Lease Area Within the Project Site Control Boundary*, a defined area for biological, cultural, geotechnical/soils and physical resource surveys were conducted which provides a basis for this Vegetation Management Plan. The Maximum Project Extent (MPE) is defined as the area that contains the Project Footprint and additional construction areas. The larger extent of the MPE will allow for the shifting of project components, known as micro-siting, based on a final approved project design.

The Project will use solar photovoltaic panels organized in arrays and aggregated to an injection capacity limited to 65 megawatts of alternating current solar capacity at the point of interconnection to the electric power grid. It will interconnect through a 345 kV gen-tie line to the NV Energy's Fort Sage Substation via Rainbow Way private utility easement which is five (5) miles south of the Project. A security fence will be installed within 20 feet of the final approved locations of the panel arrays. The exact fence line location will be micro-sited based on the final approved design for the Project and final survey of the project lease area boundaries.

A Battery Energy Storage System (BESS) is required for the Project. The BESS system will store energy from the Project, which will be supplied to the electrical grid when needed. The BESS on the Project will be located within the eight (8) acre area of the substation on the southeast corner of the Project lease area.



Sierra Geotech, Inc.
 4470 Yankee Hill Road, #110
 Rocklin, CA 95677

SIERRA GEOTECH

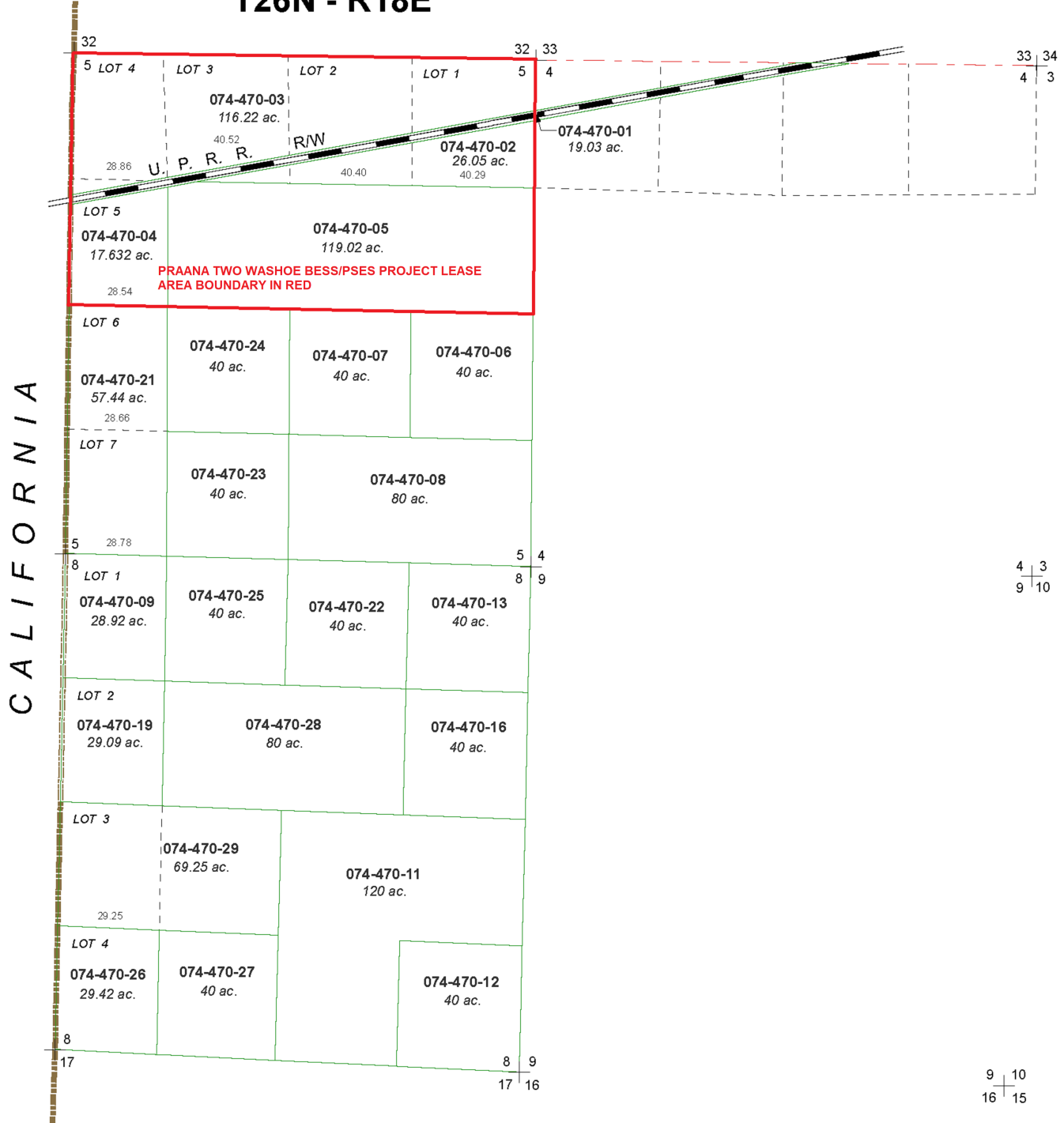
Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**
 Environmental
 Statement

Scale: As Shown

Project
 Location Map

**SECTIONS 5 & 8
T26N - R18E**



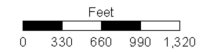
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074-47

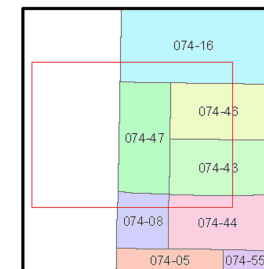
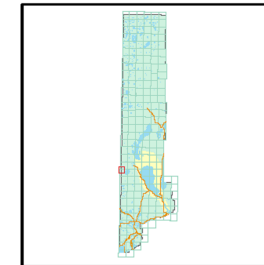
STATE OF NEVADA
**WASHOE COUNTY
ASSESSOR'S OFFICE**

Joshua G. Wilson, Assessor

1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231



1 inch = 1,320 feet



created by: TWT 1/6/2011

last updated: _____

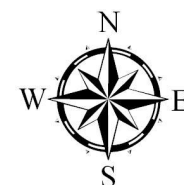
area previously shown on map(s) _____

NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

PROJECT: PRAANA TWO WASHOE BESS/PSES

Washoe County, NV

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



**APN Map and Lease Area Within
Project Site Control Boundary**

DATE: **07-27-2022**

SCALE: **As Shown**

BY: **AKM**

FIGURE: 1-2





2. Purpose of this Vegetation Management Plan

The Vegetation Management Plan (VMP) has been prepared to avoid or mitigate impacts to vegetation resources and reduce fire hazards in the MPE and Project Footprint anticipated to result from construction and operation of the Project. The VMP provides best management practices (BMPs) and objectives for the construction and operation activities. The VMP also includes noxious weed control methods to be implemented to comply with Nevada Revised Statutes (NRS) 555.170 and NRS 555.180.

This VMP is developed to guide site preparation, vegetation installation, and long-term management of overall vegetation on the Project lease area of the project parcel boundaries, both within and outside of the facility fence line. The vegetation success will be achieved by including proper initial installation, management of invasive species and noxious weeds, and the control of erosion and sedimentation. The VMP is developed to ensure establishment and maintenance of stable vegetative cover that facilitates efficient Project operation, provides ecological benefits, and complies with all Washoe County, Nevada, and Federal regulations and required permits.

The revegetation and mitigation strategy developed for the Project lease area restores ecological function to the lease area after construction. Site conditions affecting vegetation are variable (Half Project Lease Area is alkaline and supports no vegetation). The VMP is a dynamic document that will be evaluated and updated in response to changing environmental conditions.



3. Existing Project Conditions

3.1 SURROUNDING LAND USES

Adjacent to the Project lease area, are the following properties and associated land uses:

- North: On the California side 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. On the Nevada side a 160-acre parcel, 10-acre parcel, and 20-acre parcel all of which are privately owned.
- South: On the California side is vacant open rangeland with two privately owned 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. On the Nevada side are two privately owned parcels that about the southern boundary, one parcel is 40 acres, and the other parcel is 40 acres.
- West: On the California side 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 project lease area one being 275.4 +/- acres in size and the other being 170.1 +/- acres in size. On the Nevada side is the Praana One Calneva BESS/PSES project and the California/Nevada state border.
- East: On the California side is the Praana Two Washoe BESS/PSES project and the California/Nevada state border. On the Nevada side is Rainbow Way easement and then vacant range land. Three privately owned parcels border the eastern half of the project lease area one being 139.76 acres, and two being 10 acres each.

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 Project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Rainbow Way border where the elevation is approximately 4,000 feet asl on the Project's southeastern boundary. The railroad tracks have an elevation of approximately 4012 feet asl.

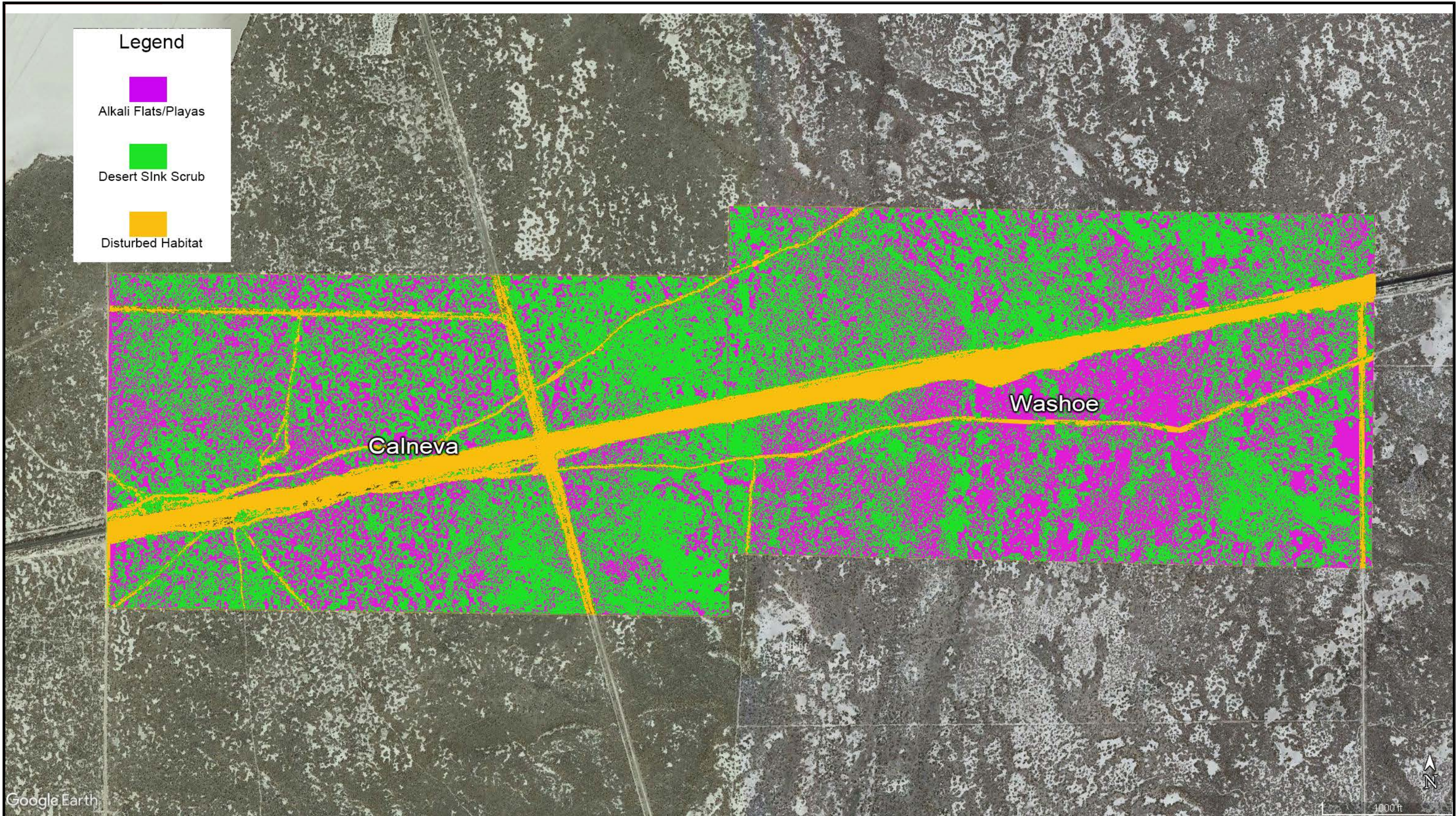
3.2 PROJECT AREA SOIL TYPE (EPOT-RAGTOWN PLAYAS COMPLEX SOILS)

United States Department of Agriculture, Natural Resources and Conservation Service (USDA NRCS) soils survey designate the entire Project Lease Area as Epot-Ragtown Playas complex soils. The Sierra Geotech DBE, Inc., geotechnical report dated April 8, 2020, with boring logs, and laboratory testing results which analyzes the soils of the Project Lease 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 Project lease 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 Project lease area displays large amounts of cracking in the soils due to salinization, which is the precipitation of salts in the Project lease area soils and is found mostly in desert soils such as the Epot-Ragtown Playas complex soils of the Project lease 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 Project lease 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 Project lease area. Salinized soils with no vegetation makes



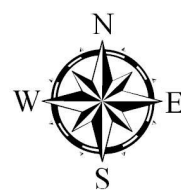
up approximately half of the Project lease area. See *Figure 3-1: Habitat Characterization Map* which depicts the areas of the Project lease area that does not support any vegetation.



PROJECT: CALNEVA/WASHOE BESS/PSES

Calneva, CA and Washoe County, NV

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



Habitat Characterization Map

DATE: 03-02-2021	SCALE: As Shown
BY: AKM	FIGURE: 2





3.3 PLANT COMMUNITIES

Plant communities and habitat types were mapped on the Praana Two Washoe Project lease area.

Figure 3-1: Habitat Characterization Map shows the habitat characterization of the Project lease area (*Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*). *Figure 3-1: Habitat Characterization Map* shows the areas of alkali basins/flats/playas which are barren and void of all vegetation, and the Alkali Desert Scrub plant community areas between the alkali basins/flats/playas which can support vegetation. *Figure 3-2: Changing and Various Habitat Characterization of Gen-Tie Line Corridor and Project Lease Area* shows the changing and various habitat characterization of the Gen-Tie Line corridor down Rainbow Way from the Praana Two Washoe Project lease area to the NV Energy Fort Sage substation (*Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*).

The habitat characterization types that were identified in the project action areas are described in detail below.

Alkali Flats/Playas (AFP)

Alkali basins/flats/playas which are barren and void of all vegetation. These areas contain high concentrations of precipitated dry, glistening salts. These areas are a salty basin landform. Rainwater drains to these basins and collects in areas where it cannot penetrate the soil due to a layer of clay or caliche. When the water evaporates, it leaves behind increasing amounts of salts in the soil. Playas are among the flattest known landforms. Their slopes are generally less than 0.2 meter per kilometer. Alkali flats/playas are mostly found within the project lease area and limited locations on the Rainbow Way private utility easement.

Alkali Desert Scrub (ASC)

The ASC habitat type in the project action area is characterized as extremely dry, with highly alkaline silt originating from an ancient lakebed. Open, silty regions bereft of vegetation (“playas”) are interspersed with regions that are stabilized by the roots of low growing shrubs adapted to this harsh environment. ASC is by far the most extensive habitat type in the project action area. The observed understory vegetation in the ASC habitat type is limited to infrequent, annual nonnative species, such as *Bromus tectorum*, *Halogeton glomeratus*, and *Lepidium perfoliatum*. Woody vegetation is dominated by *Sarcobatus vermiculatus*, *Atriplex confertifolius*, and *Picrothamnus desertorum*. *Artemisia tridentata*, *Grayia spinosa*, *Tetradymia glabrata*, *Tetradymia spinosa*, and *Neokochia americana* are woody species that occur infrequently.

Alkali Desert Scrub with Saltgrass (ASC/SG)

The ASC/SG habitat type is very similar to the ASC habitat type but supports a slightly different plant community. Most significantly, as ASC intergrades into ASC/SG in the project action area, *Distichlis spicata* (Saltgrass) is abundant in the understory. The overstory vegetation is dominated by *Sarcobatus vermiculatus* and supports moderate abundance of *Artemisia tridentata*, *Ericameria nauseosa*, and *Tetradymia glabrata*. Additional herbaceous species appear moderately in this habitat type, such as *Bromus tectorum*, *Lepidium perfoliatum*. Other herbaceous species, such as *Astragalus filipes*, *Eriocoma hymenoides*, and *Tragopogon dubius* occur infrequently.

Big Sagebrush (BGS)

The BGS habitat type occurs at slightly higher elevation than ASC and ASC/SG in the project action area. The understory vegetation consists of moderate abundance of *Distichlis spicata* as well as moderate occurrences of *Bromus tectorum*, and *Lepidium perfoliatum* and infrequent occurrences of *Astragalus*



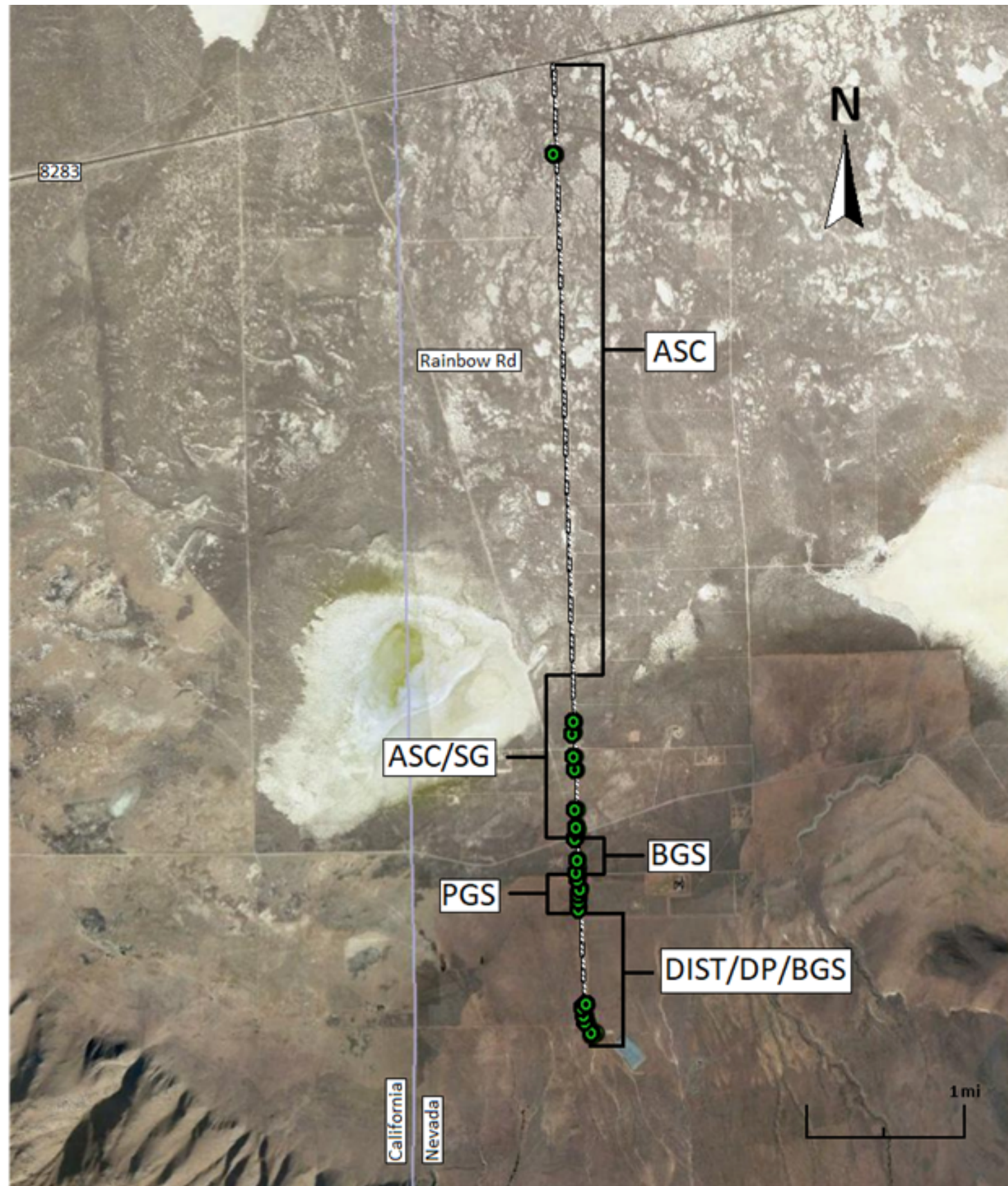
filipes. The overstory vegetation is dominated by *Artemisia tridentata*, and supports moderate abundance of *Ericameria nauseosa*, *Chrysothamnus viscidiflorus*, and *Tetradymia canescens*.

Disturbed Habitat/Desert peach/Big Sagebrush (DIST/DP/BGS)

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 areas that cross the project lease areas and the Rainbow Way easement. The DIST/DP/BGS habitat type in the project action area is associated with the margin of the Bitterbrush/Desert Peach/Big Sagebrush habitat type, but its close proximity to the road and associated disturbance limits the abundance of *Purshia tridentata* (bitterbrush, only one individual present in the project action area) and increases the abundance of ruderal plant species. DIST/DP/BGS supports the highest diversity of herbaceous understory plant species, with a mixture of native and non-native vegetation. Additionally, DIST/DP/BGS areas represented the highest number of plant species in flower or fruit among the various habitat types found within the project action area. *Amsinckia tessellata*, *Ambrosia acanthicarpa*, *Pleiacanthus spinosus*, and *Eriogonum baileyi* are the most abundant herbaceous understory species, with several others occurring at moderate to infrequent abundance. The overstory shrub vegetation is dominated by *Prunus andersonii*, and *Chrysothamnus viscidiflorus*, with moderate abundance of *Artemisia tridentata* and *Tetradymia canescens*, and infrequent *Ericameria nauseosa*.

Perennial grassland (PGS)

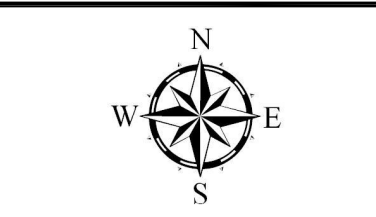
The PGS is an open and sparsely vegetated habitat type occurs in a small region in the project action area south of Fort Sage Road for a very short distance along the Rainbow Way easement. *Elymus cinereus* and *Iva axillaris* are dominant herbaceous species, with *Lepidium perfoliatum* and *Bromus tectorum* occurring infrequently. The woody *Artemisia tridentata* and *Tetradymia canescens* occur moderately in the overstory.



Habitat types along Rainbow Way/Road (black and white striped line) are bracketed and tagged. Green circles are individual plant observations represented digitally on <http://www.inaturalist.org>.

PROJECT: PRAANA TWO WASHOE BESS/PSES
 Washoe County, NV

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



Changing and Various Habitat Characterization of Gen-Tie Line Corridor
 DATE: 07-27-2022
 BY: AKM
 SCALE: As Shown
 FIGURE: 3-2





3.4 NOXIOUS WEEDS

Noxious weeds are regulated pursuant to the Plant Protection Act (Pub. L. 106-224; superseded Federal Noxious Weed Act of 1974); Federal Executive Order 13751; Nevada Revised Statutes 555.130; 555.150; and 555.160. Nevada definition of “noxious weed” is “*Any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate*” Washoe County has not adopted an ordinance specific to the regulation of “weeds”, such as limitations on height, land area coverage, location, or a definition of what is considered a weed. Nevada state law has required the abatement of noxious weeds since 1917 and delegated to the Nevada Department of Agriculture in 1997 to administer and enforce the state noxious weed program which lists 47 weeds as noxious and requires control (see www.agri.nv.gov).

The Nevada Department of Agriculture Noxious Weed Program categorizes noxious weed species into three classes; Class A, Class B, and Class C. Class A noxious weeds (totaling 30 species) are non-native species whose distribution in Nevada State is still limited. Active exclusion and eradication wherever found in state is carried out.

Class B noxious weeds (totaling 9 species) are non-native species whose distribution is limited to portions of Nevada State but may be widespread in other parts. Class B noxious weeds are designated for mandatory control in regions where they are not yet widespread. Prevention of new infestations in these areas is the primary goal. In regions where a Class B species is already abundant, control is decided at the local level. Containment of these weeds is the primary goal so that they do not spread into uninfested regions. The Nevada State Noxious Weed Program Board can designate a Class B noxious weed for mandatory control.

Class C noxious weeds (totaling 8 species) are either already widespread in Nevada or are of special interest to the agricultural industry. The Class C status allows a county to enforce control if it is beneficial to that county, whereas other counties may choose to provide education or technical support for the removal or control of these weeds. Control is defined as the prevention of the dispersal of all propagating parts capable of forming new plants, including seeds. If the landowner does not control noxious weeds after receiving several notifications, the Nevada State Quarantine Officer may control the weeds and bill the landowner or issue a civil infraction in cooperation with the County Commissioners for the County. NRS 555.180 allows the Nevada State Quarantine Officer to lien the private property in the event the owner does not pay for the weed abatement. Nevada Department of Agriculture noxious weed enforcement relies on local involvement.

The Nevada State Department of Agriculture Noxious Weed Program require that noxious weeds are actively managed on private lands. Species present in the MPE were recorded during the rare plant surveys. Based on the list of species observed, one invasive species was observed within the MPE: scotch thistle (*onopordum acanthium*, Class B). Scotch thistle is present throughout disturbed areas of the MPE, but predominantly is found along the railroad right of way and gas line easements.

3.5 PLANT SPECIES OBSERVED DURING FOCUSED SURVEYS

The flora identified during the surveys is typical of the Basin and Range and the Terrestrial Natural Communities of California and Nevada which include: Habitat Characterization of the Project Lease Areas - *Alkali Desert Scrub (ASC)*, *Alkali Flats/Playas (AFP)* and *Disturbed Habitat (DH)*; Habitat Characterization of the Gen-Tie Line Corridor between the Project lease area and NV Energy Fort Sage substation along Rainbow Way - *Alkali Desert Scrub with Saltgrass (ASC/SG)*, *Big Sagebrush (BGS)*, *Disturbed Habitat/Desert Peach/Big Sagebrush (DIST/DP/BGS)*, and *Perennial grassland (PGS)*. All the plants associated with the Project lease area or Gen-Tie line corridor are locally common. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the Project lease area.



Approximately 53% or 148 +/- acres of the Project lease area are comprised of Alkali basins/flats/playas which are barren and lack any vegetation. Approximately 18% or 50 +/- acres of the Project lease area are characterized as disturbed habitat. The disturbed habitat consists mostly of bare dirt and is associated with access roads, natural gas pipelines, cattle trails, recreational vehicles trails, and the railroad. The disturbed areas was the only place where noxious weeds were observed. The remaining areas of the Project lease area which represents approximately 29% or 80 +/- acres is associated with the plant community known as *Alkali Desert Scrub (ASC)* which can support limited plant life.

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 *Alkali Desert Scrub (ASC)* plant community within the Project lease area. 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 within the Project lease area.

- **Big sagebrush (*Artemisia tridentata*)**. was most abundant in the southern portion of the project lease areas and comprised approximately 20% of the plant community.
- **Spiny sagebrush (*Picrothamnus desertorum*)** 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 areas.
- **Saltlover (*Halogeton glomeratus*)**. was locally observed along a disturb areas within the project lease areas 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 (*Salsola 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 areas.
- **Black greasewood (*Sarcobatus vermiculatus*)** was very abundant and comprised approximately 25% of the plant community of the Project Lease Areas.
- **Littleleaf horsebrush (*Tetradymia glabrata*)** Littleleaf horsebrush was locally abundant and comprised approximately 10% of the plant community within the project lease areas.
- **Shortspine horsebrush (*Tetradymia spinosa*)**. Shortspine horsebrush was locally abundant within the project lease areas.
- **Goatsbeard (*Tragopogon dubius*)**. Was observed in the southern ends along disturbed areas of the project lease areas.
- **Green Molly (*Neokochia americana*)**. Was observed at low density throughout the project lease areas.

Almost no understory of vegetation was found within the *Alkali Desert Scrub (ASC)* plant community within the Project lease area.

The following plant species were observed on the focused special status plant surveys along the Gen-Tie Line corridor on Rainbow Way between the Project lease area and NV Energy's Fort Sage Substation. Plant surveys were conducted within 200 feet on each side of the center line of the private utility easement (PUE) dedicated along the section line of approximately 55 parcels. The following habitat types were identified in the Gen-Tie Line corridor on Rainbow Way: (See *Figure 3-2: Changing and Various Habitat Characterization of Gen-Tie Line Corridor and Project Lease Area*, for locations of habitat types along Gen-Tie Line corridor and Project Lease Area) *Alkali Desert Scrub (ASC)*; *Alkali Desert Scrub with Saltgrass (ASC/SG)*; *Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)*; *Perennial grassland (PGS)*; and *Big Sagebrush (BGS)*.

Alkali Desert Scrub (ASC)

Artemisia tridentata (Big sagebrush)
Atriplex confertifolia (Shadscale)
Bromus tectorum (Downy brome)
Grayia spinosa (Hop sage)
Halogeton glomeratus (Saltlover)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Picrothamnus desertorum (Spiny sagebrush)
Salsola tragus (Prickly Russian thistle)
Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)
Tetradymia spinosa (Shortspine horsebrush)
Tragopogon dubius (Goatsbeard)

Alkali Desert Scrub with Saltgrass (ASC/SG)

Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Distichlis spicata (Saltgrass)
Ericameria nauseosa (Rubber rabbitbrush)
Grayia spinosa (Hop sage)
Lepidium perfoliatum (Clasping pepperweed)
Neokochia americana (Green molly)
Salsola tragus (Prickly Russian thistle)
Sarcobatus vermiculatus (Black greasewood)
Tetradymia glabrata (Littleleaf horsebrush)

Disturbed/Desert peach/Big Sagebrush (DIST/DP/BGS)

Ambrosia acanthicarpa (Annual bursage)
Amsinckia tessellata (Bristly fiddleneck)
Argemone munita (Flatbud pricklypoppy)
Artemisia tridentata (Big sagebrush)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)
Eriastrum sparsiflorum (Great basin woollystar)
Ericameria nauseosa (Rubber rabbitbrush)
Eriogonum baileyi (Bailey's buckwheat)
Lupinus argenteus (Silvery lupine)
Mentzelia albicaulis (Whitestem blazingstar)
Onopordum acanthium (Scotch thistle)
Pleiacanthus spinosus (Thorn skeletonweed)
Prunus andersonii (Desert peach)
Purshia tridentata (Bitterbrush)



Salsola tragus (Prickly Russian thistle)
Sisymbrium altissimum (Tumble mustard)

Perennial grassland (PGS)

Bromus tectorum (Downy brome)
Elymus cinereus (Great basin wild rye)
Iva axillaris (Death weed)
Lepidium perfoliatum (Clasping pepperweed)
Tetradymia canescens (Gray horsebrush)

Big Sagebrush (BGS)

Agropyron cristatum (Crested wheatgrass)
Artemisia tridentata (Big sagebrush)
Astragalus filipes (Basalt milkvetch)
Bromus tectorum (Downy brome)
Chrysothamnus viscidiflorus (Yellow rabbitbrush)
Ericameria nauseosa (Rubber rabbitbrush)
Eriocoma hymenoides (Indian rice grass)
Salsola tragus (Prickly Russian thistle)
Tetradymia canescens (Gray horsebrush)
Tetradymia glabrata (Littleleaf horsebrush)



4.0 Vegetation Management

4.1 CONSTRUCTION

Actions will be taken to minimize impacts during construction including implementing best management practices (BMPs) and erosion control measures. Grading will be restricted to access roads (as needed), concrete pads, and facility footprints. Vegetation will be mowed in the MPE with a John Deere Ag Tractor 6130 and John Deere 115 Flail Shredder Mower implement. Organic material from mowing will be mulched in left in place. Vegetation mowing will allow for existing vegetation communities to regrow and to minimize surface disturbance. Erosion control measures will be implemented to avoid, minimize, or mitigate effects from surface-disturbing activities. Once surface disturbance activities have been completed, permanent stabilization measures will be initiated. To the extent feasible, construction will maintain existing topography, natural drainage patterns and infiltration across the MPE. To restore the temporarily disturbed areas because of construction activities, reclamation measures will be implemented. If required, disturbed areas will be re-seeded with a native seed mix developed in consultation with Nevada Department of Agriculture and Nevada Department of Wildlife. Timing of reseeded will be dependent on the seed mix, site conditions, and weather. Additional reclamation measures will be determined at the end of construction and will be dependent on-site conditions.

4.2 OPERATIONS AND MAINTENANCE

Vegetation management during (O&M) will be minimal and will predominantly consist of vegetation clearing. Vegetation clearing including mowing or stripping will be conducted in areas of permanent disturbance including the access roads, concrete pads for inverters and transformers, and facility foundations. Vegetation clearing timing will be determined by the weather, season, and site conditions and will seek to eliminate shading of the panels, vegetation touching the panels, maintain internal access for O&M, and emergency response, limit fire risk around transformers, inverters, and collectors, and promote native vegetation communities as feasible. O&M staff will routinely monitor the vegetation on site and determine the clearing schedule, noxious weed management timing, and vegetation restoration success. To additionally minimize fire risks, the following BMPs will be implemented:

- Exposed electrical wires will run under the solar panels at the midpoint or higher than the center of the panel, and
- Gravel will be placed around the concrete pads under the inverters and transformers.

Additional fire minimization BMPs will be identified in consultation with the Washoe County Fire Marshal. Noxious weed species will be controlled as described in Section 3.4 Noxious Weed Management.

4.3 NOXIOUS WEED MANAGEMENT

An integrated approach to noxious weed management is critically important to the effective control of noxious weeds. Praana Energy will use an integrated noxious weed management strategy, using a combination of cultural, mechanical, and chemical controls throughout all phases of Project implementation, as applicable. Focus will be preventing the spread of noxious weeds as this most effective measure in controlling weed infestations. Appropriate species and site specific treatments will be implemented in accordance with Nevada Department of Agriculture Noxious Weed Program, and landowner agreements. The following preventive measures will be implemented during construction to minimize the spread and establishment of noxious weeds:



- Project construction personnel will undergo training on the identification of common noxious weeds in the region, weed management measures, and the importance of prevention prior to beginning work on the Project.
- Noxious weed locations will be marked prior to the start of Project vegetation clearing activities.
- Cleared vegetation will not be placed or stored within known noxious weed locations.
- Stabilization and/or reclamation of disturbed ground will be implemented immediately after construction, or as soon as practicable during construction.
- Chemical or mechanical weed control measures may be implemented prior to construction, during construction, following surface disturbance, or during operation based on the noxious weed species and its associated growth habit and phenology.
- Appropriate species- and site-specific treatments will be implemented in accordance with Nevada Department of Agriculture Noxious Weed Program requirements and recommendations and landowner agreements.

4.4 CULTURAL WEED CONTROLS

Cultural weed controls refer to any technique that involves maintaining field conditions such that noxious weeds are less likely to become established or spread. Cultural controls include soil stabilization, maintaining good soil fertility, selection of native seed mixes appropriate for various site conditions (including selection of well-adapted competitive forage species), over-seeding of desirable species, avoiding over-grazing to the extent practicable, and quarantines for identified noxious weed locations

4.5 MECHANICAL WEED CONTROLS

Mechanical weed controls refer to physical measures to remove noxious weeds, including mowing, chopping, and discing. These are effective as short-term measures for controlling noxious weeds and are especially effective when used repeatedly and in concert with other measures. Implementing mechanical controls early in the growing season may prevent certain species from going to seed and spreading. Areas treated with mechanical controls may be subsequently treated with herbicide to ensure the species does not recolonize before native species can become established.

4.6 CHEMICAL WEED CONTROLS

Chemical weed controls refer to herbicide application. There are many types of herbicides and no one herbicide treatment is effective for all weed species. Selection of the appropriate chemical treatment methods must take the species life cycle and timing of treatment into account. In general, herbicide treatments tailored for specific species are most effective for controlling noxious weeds, especially when integrated with other weed control methods. Praana Energy will select herbicides and treatment strategies that will be most effective against noxious weeds and least detrimental to desirable species. The herbicides used will follow recommendations and guidance from the U.S. Environmental Protection Agency, Nevada Department of Agriculture, and the Washoe County. The following BMPs will be implemented for herbicide application.

- Herbicide application will be conducted by a certified pesticide applicator.
- Herbicide application will not occur during precipitation or when a precipitation event is forecasted within 24 hours.
- No herbicide spraying will occur when winds are greater than 15 miles an hour.



- Praana Energy will consider impacts of herbicide application on sensitive areas, such as those containing suitable habitat for special status species and may elect to use mechanical control methods in these areas to provide additional short term weed control and limit the establishment of noxious weed populations.

Monitoring of noxious weeds will also be conducted as part of ongoing operation inspections. Operations personnel will be trained in noxious weed identification and will document observations of noxious weeds during normal operations and maintenance inspections. Monitoring will be conducted at least every three months. Identified noxious weed populations will be treated consistently with those measures applied post-construction.



5.0 References

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_____. 2022. Consulted Nevada Department of Agriculture, Nevada Noxious Weed List website, https://agri.nv.gov/Plant/Noxious_Weeds/Noxious_Weed_List

_____. 2022. Consulted United States Department of Agriculture, Federal Noxious Weed List website, https://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/weedlist.pdf

Nevada Revised Statutes, Section 555.130, *Designation of Noxious Weeds*, [Part 1:174:1929; NCL 414](NRS A 1997, 479)

Nevada Revised Statutes, Section 555.150, *Eradication of Noxious Weeds by Owner or Occupant of Land*, [Part 1:174:1929; NCL 414](NRS A 1961, 524; 1987, 1728; 1997, 480)

Nevada Revised Statutes, Section 555.160, *State Quarantine Officer to investigate noxious weeds; notice to owner or occupant of land where noxious weeds are found*, [3:174:1929; NCL 416](NRS A 1961, 524; 1993, 1711; 1997, 480; 1999, 3642)

Nevada Revised Statutes, Section 555.170, *Neglect of owner or occupant to eradicate weeds after notice; action by county commissioners; payment of costs by county*, [4:174:1929; NCL 417](NRS A 1961, 524)

Nevada Revised Statutes, Section 555.180, *County treasurer to mail itemized statement of costs to owner or occupant; objections and hearing; costs constitute lien on land*, [5:174:1929; NCL 418](NRS A 1961, 525)

Nevada Revised Statutes, Chapter 586, *Nevada Pesticides Act*, [1:269:1955]—(NRS A 1971, 1133; 1975, 187; 2015, 3631)

Nevada Revised Statutes, Chapter 588, *Commercial Fertilizers and Agricultural Minerals*, [Part 2:203:1951] — (NRS A 1975, 359; 1977, 187; 1993, 1791; 1999, 3733; 2003, 413)

7 United States Code, 7702, Section 403 (10) Federal Noxious Weed Definition.

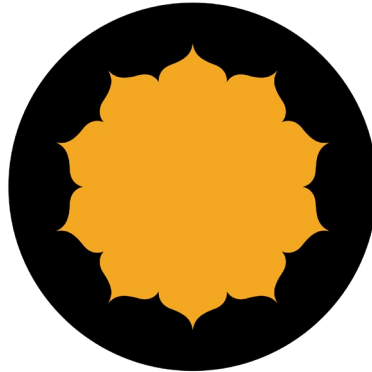


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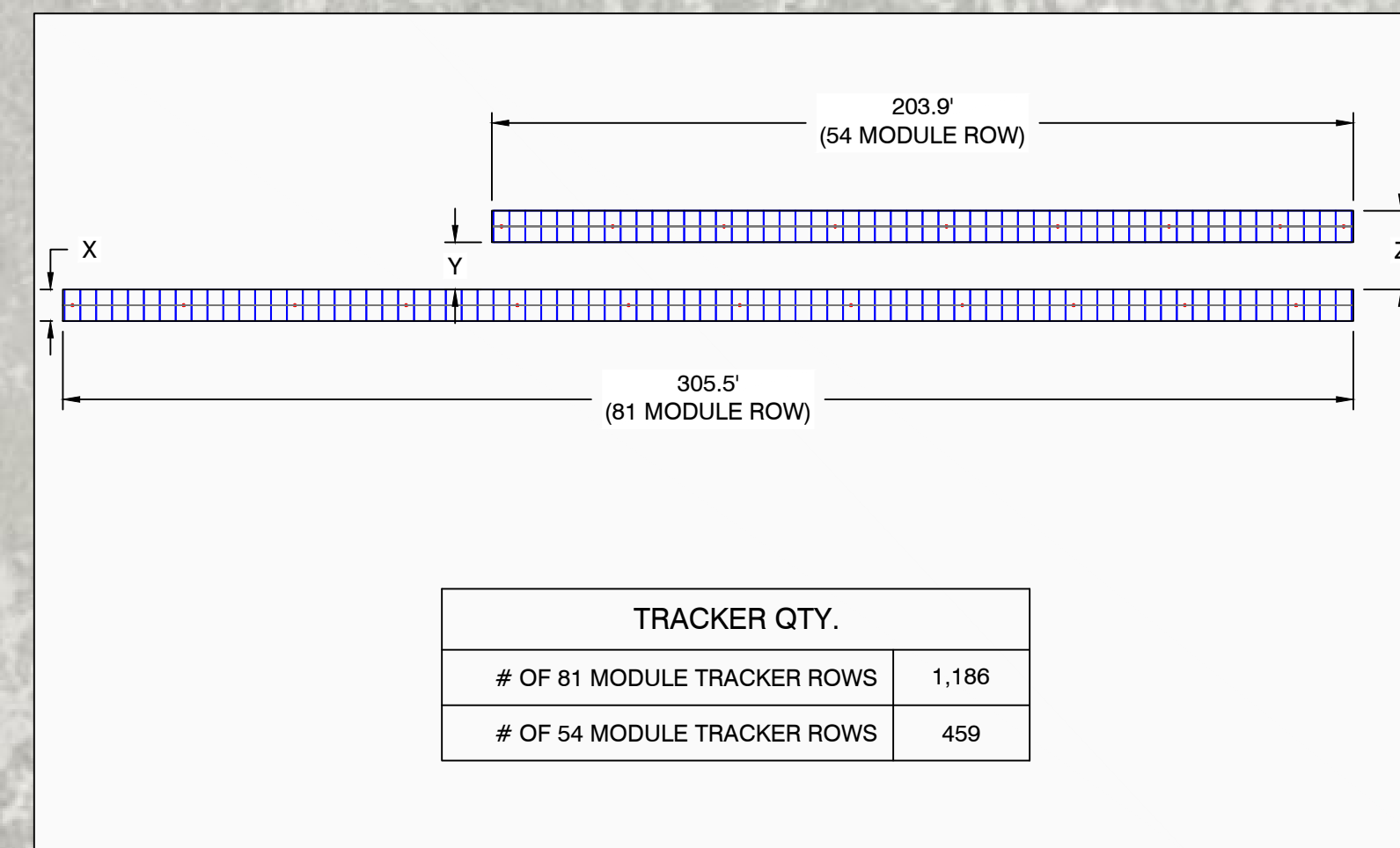
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Zamudio, K. 1999. letter on draft status reports for *Ivesia aperta* var. *aperta* and *Ivesia webberi*. Letter to USDA Forest Service, Humboldt-Toiyabe National Forest.

Attachment F: Site Plan

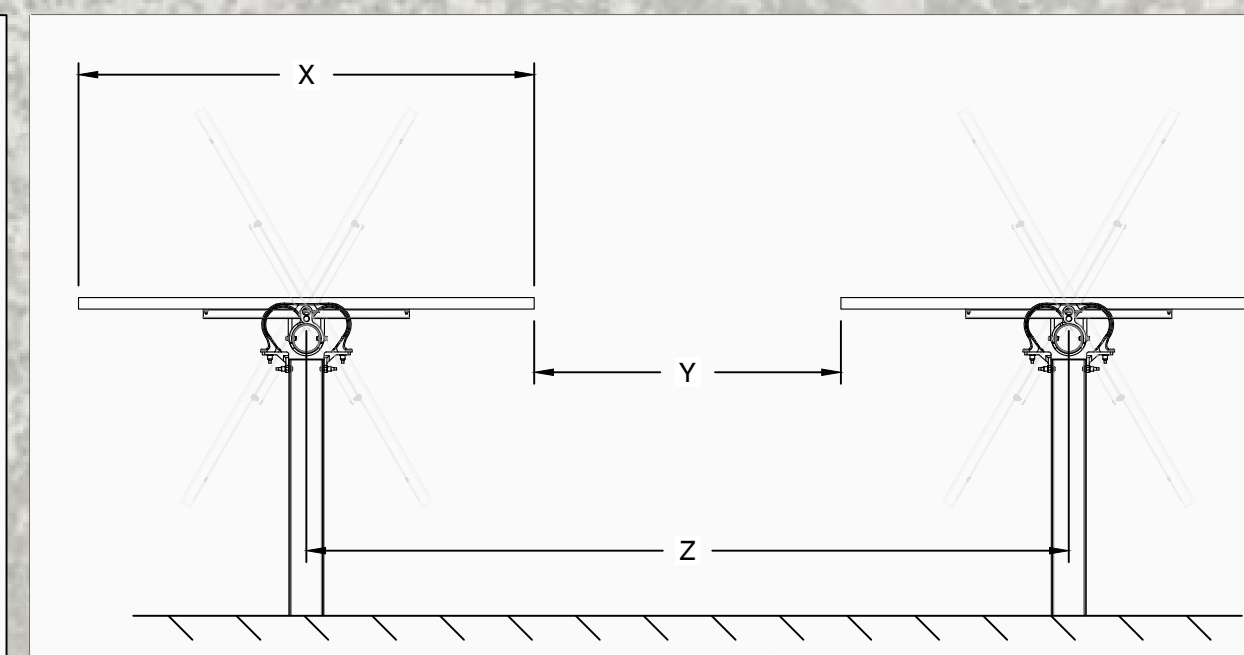


Praana Energy



TRACKER QTY.	
# OF 81 MODULE TRACKER ROWS	1,186
# OF 54 MODULE TRACKER ROWS	459

2 TYP. TRACKER ROWS
G-101 Scale: NTS

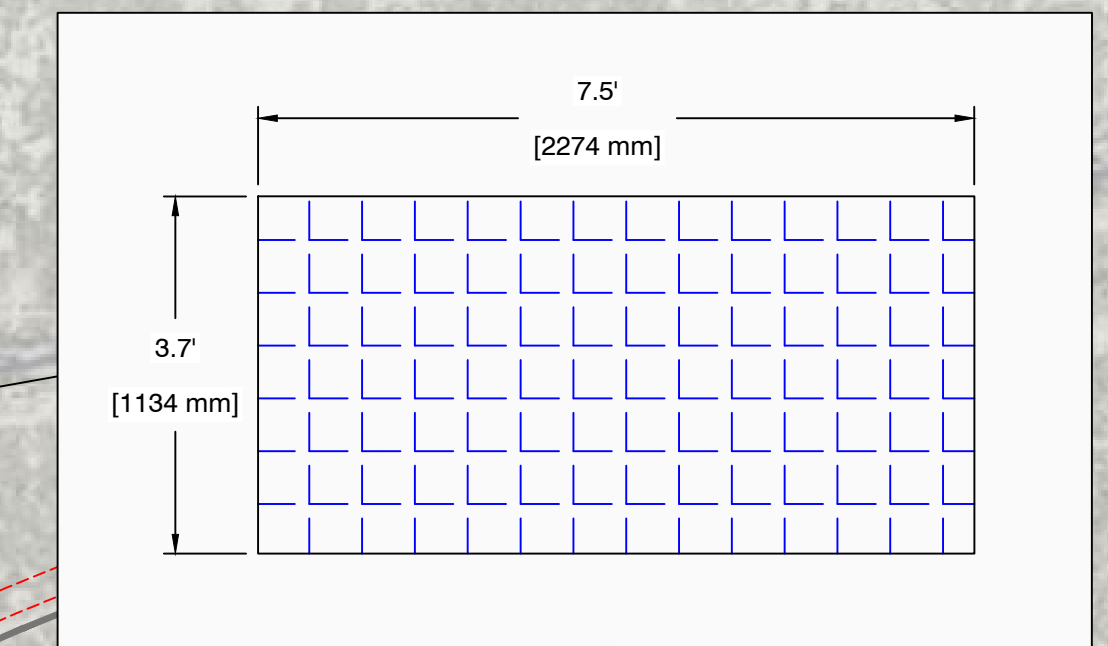


GCR TABLE			
	FEET	METER	
X	7.46	2.27	MODULE WIDTH
Y	12.17	3.71	AISLE WIDTH
Z	19.63	5.98	PITCH
GCR	38.0%		$= X/Z = (Z-Y)/Z$

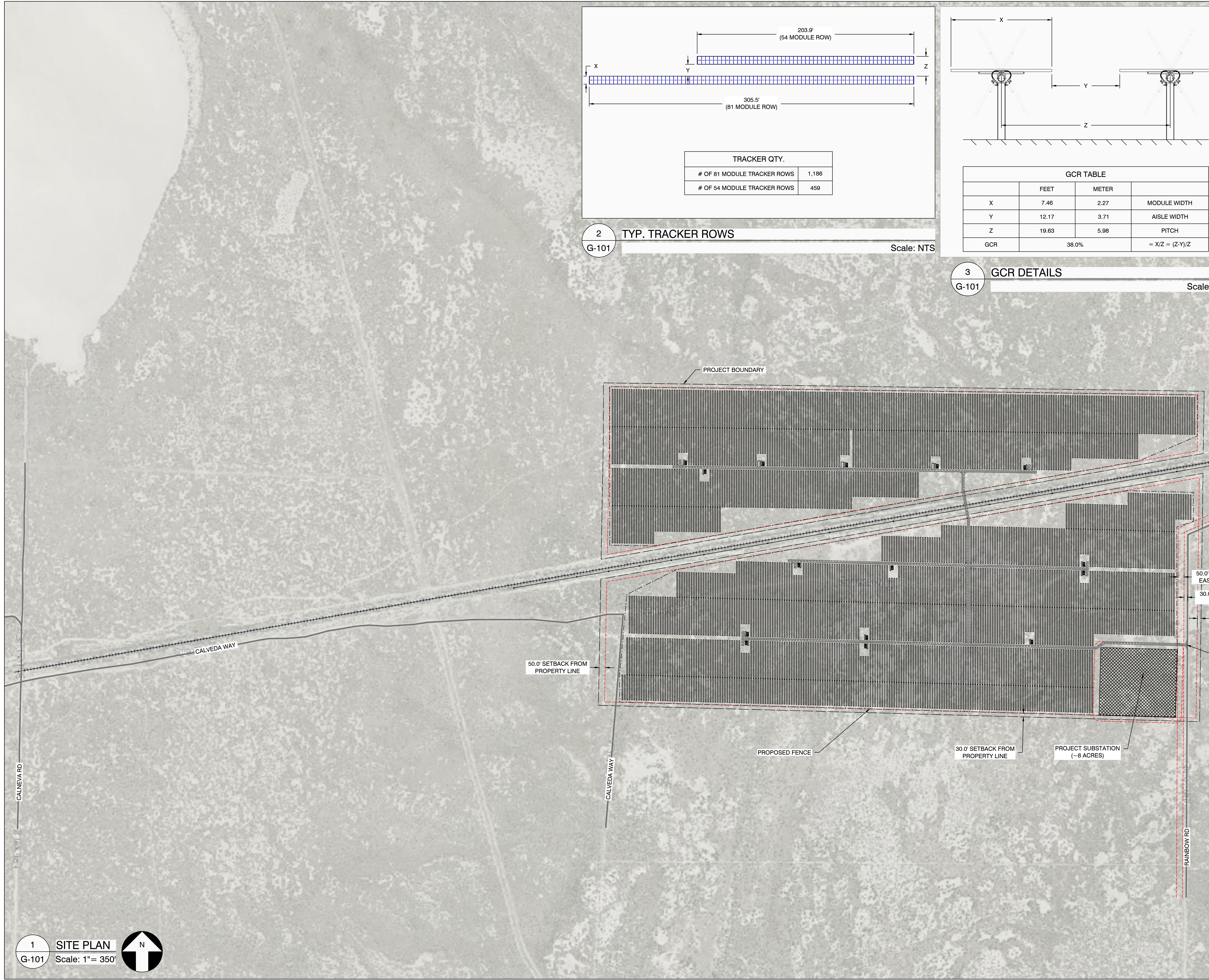
3 GCR DETAILS
G-101 Scale: NTS

SYSTEM SPECIFICATIONS	
SYSTEM SIZE DC	65,260.08 kW
SYSTEM SIZE AC	54,000.00 kW
SYSTEM SIZE AC @ POI	51,000.00 kW
DC/AC RATIO @ POI	1.28
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	120,852
MODULES PER STRING	27
TOTAL NO. OF STRINGS	4,476
INVERTER MODEL	SUNGROW SG3600UD-MV
INVERTER RATING	3,600 kW
INVERTER QTY	15
STEP-UP TRANSFORMER	(15) 3.6MVA, 34.5kV/0.63kV
RACKING TYPE	ATI HSAT
TILT	0°
AZIMUTH	180°
PROPERTY AREA	286.68 Ac
FENCED AREA	255.4 Ac

LEGEND	
	81 MODULE ATI ROW
	54 MODULE ATI ROW
	POWER STATION EQUIPMENT PAD + BESS
	(N) PROJECT SITE SECURITY FENCE
	(E) OVERHEAD LINES
	20' GRAVEL ACCESS ROAD
	SETBACK
	PROPERTY LINE
	RAILWAY TRACK
	(E) PUBLIC ROAD



4 JINKO 540W MODULE DIMENSION
G-101 Scale: NTS



**PRELIMINARY
NOT FOR
CONSTRUCTION**

REV	DESCRIPTION	BY	CHK	DATE
0	PRELIMINARY LAYOUT	LR	SS	06/28/2022

SITE PLAN **G-101**

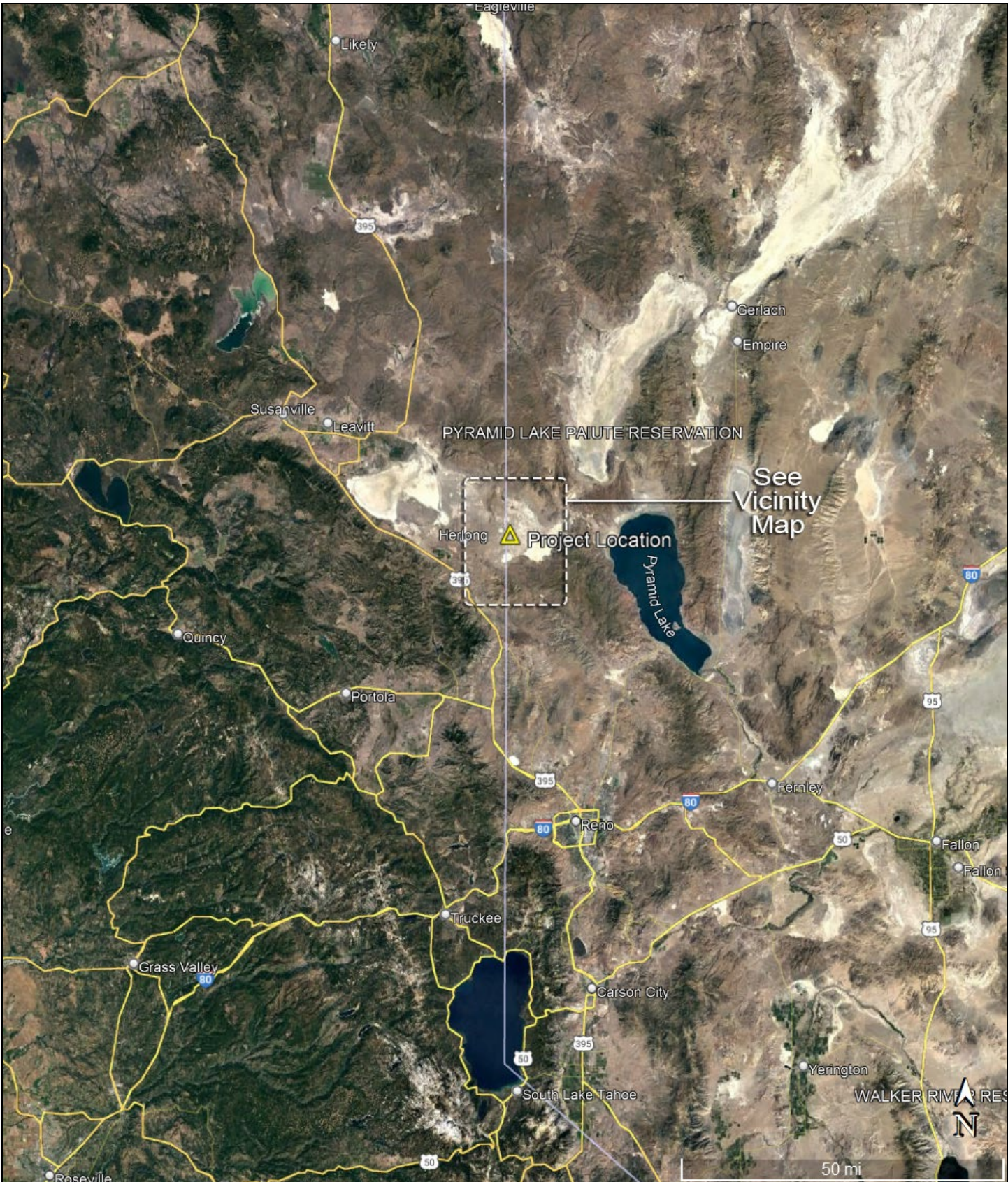
PRAANA 2 SOLAR

CALVEDA WAY, RENO, NV 389510 LAT: 40.154808° / LON: -119.987879°

DATE: 06/28/2022 DFT: LAKIR RAMBHA

SCALE: AS SHOWN CHKD: STEPHEN SMITH

PAPER SIZE: 24" X 36" ENGR: ENGR



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 4470 Yankee Hill Road, #110
 Rocklin, CA 95677

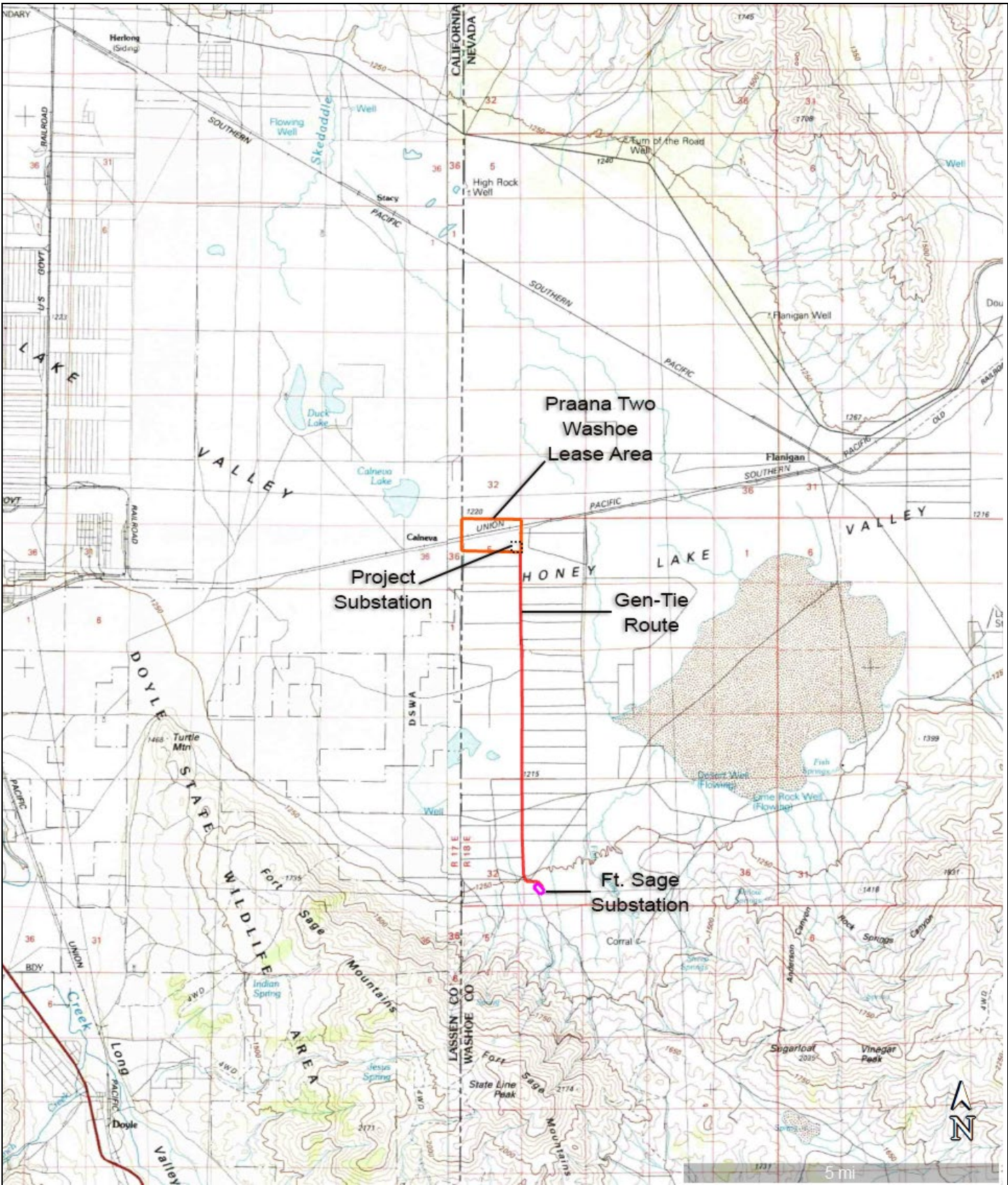
SIERRA GEOTECH

Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**

Scale: As Shown

**Project
 Location Map**



5 mi



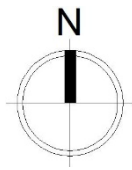
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 Rocklin, CA 95677

SIERRA GEOTECH

Published:
 July 14, 2022

**Praana Two:
 Washoe PSES/BESS**

Scale: As Shown



Project
 Vicinity Map



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 Rocklin, CA 95677

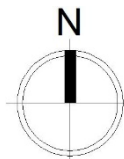


SIERRA GEOTECH

Published:
 July 14, 2022

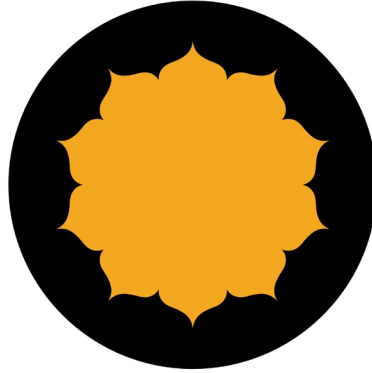
**Praana Two:
 Washoe PSES/BESS**
 Environmental
 Statement

Scale: As Shown



Routing
 Map

Attachment G: Fire Management Plan



Praana Energy

Praana Washoe Two Battery Energy Storage System (BESS) Photovoltaic Solar Energy System (PSES) and Gen-Tie Line Project

Fire Management Plan

For Building of the BESS/PSES and Gen-Tie Line on Rainbow Way PUE
Located 7.5 miles N/E of Doyle, Lassen County, CA

Prepared For
Praana Two Washoe, LLC BESS/PSES Project
Praana Renewables Energy, LLC (Praana Energy)
5150 Mae Anne Ave
Suite 405, #5130
Reno, NV 89523
Phone: (916) 917-6673

Prepared 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

July 30, 2022

Fire Management Plan

Introductory Template for the Praana Two Washoe LLC, 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 on the California/Nevada border and is defined as the area within the BLM, Washoe Rural Fire District, Skedaddle Creek Fireshed, or on the California side of the border it is defined as California State Wildfire Protection Areas (SRA) in the jurisdiction of CALFIRE and within private land access and public utility easement “unpaved” “Unmaintained” private road (Rainbow Way) used for construction purposes.

Contractor shall, both independently and in cooperation with the agency of fire jurisdiction of Washoe County and 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” include:

A. Tools and Equipment

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 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 one ax / Pulaski (two pound or larger).

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 one eight-ounce chemical pressurized fire extinguisher. Contractor shall also furnish, if applicable, any other tools called for elsewhere in the agreement.

2. Equipment: Upon request the contractor shall furnish a list of equipment used on the project.

3. Manpower:

Praana Two Washoe BESS/PSES, Gen-Tie Line Fire Management Plan

A. Upon request the contractor shall furnish a list of supervisory personnel and amount of total personnel available and working on the project.

B. General Provisions

1. Fire Prevention

(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 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. Smoking, except within an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three (3) feet in diameter that is barren or cleared of all flammable material. (36 C.F.R. § 261.52(d))

2. Campfires are only allowed in designated campgrounds.

D. Requirements imposed during Red Flag Warnings:

1. All personnel must smoke in a vehicle with the doors closed and windows up.

2. No campfires are allowed on BLM or USFS or Skedaddle Fireshed Area, California State Wildfire Protection Areas (SRA) CALFIRE Lands under any Stage II or III restriction orders.

3. A serviced, and functioning fire extinguisher will be located in each vehicle.

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4. When working on activities which generate flame, spark or flammable material, a skid mount 1000-gallon water tank and pump with fire hose, operated by a Basic Wildland Firefighter trained person must be on site. 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.

5. A water tender with operator, water pump and hoses will be in place during operations.

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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 Nevada Revised Statutes relating to required spark arrestors, fire extinguishers, and other due diligence sections of said code.

A) 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

within highly flammable vegetation such as thousands of acres of Sagebrush and Cheatgrass, in this specific location.

B) 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 precisely 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.

C) 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.

D) 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 Manager/Project Fire Safety Officer*** 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 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:

- At least 10 years of full- time wildland firefighting and fire prevention experience at a rank of at least fire captain with an acknowledged wildland firefighting agency or an agency with dual wildland firefighting and structure firefighting responsibilities.
- Preferred Experience would include wildland fire inspection experience and fire training experience.
- 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 Driver's License.
- Able to pass a thorough background check.
- Able to pick up to 50 pounds of weight, unassisted.
- Corrected Hearing
- Corrected Vision
- Ability work well with people and outside fire agencies.

1.1 Pre-inspection of Equipment

1.1.1 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.

1.1.2 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.

1.2 Safety Tailgate Meeting to Include at least the Following Fire Protocols:

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.

1.2.1 At the beginning of each construction project a full, all hands Safety Meeting must be made to cover wildfires and their mitigation. Minimum 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 to put out a fire:

- The McCleod Tool
- The Long Handle Shovel to throw dirt
- The Back Pump
- How to make a fire hose connection and manipulate a fire hose nozzle
- Fire Weather indicators of High to Extreme
- Predictions of 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

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safety nomex pants and shirt, goggles, fire gloves, lugged high top leather boots.

1.3 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 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.

1.4 Emergency Notifications of Appurtenant 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 USFS Ranger Station Phone Number	(530) 257-2151
Nearest BLM Ranger Station Phone Number	(775) 885-6000
Sierra Army Depot Fire Department	(530) 827-4323
CALFIRE Lassen-Modoc Unit	(530) 257-3778
Cold Springs Volunteer Fire Department	(775) 785-4629

[Note: To be accomplished by PM/Project Fire Safety Officer]

1.5 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 local fire agencies

CALFIRE (Lassen Unit-Susanville Phone	(530)257-3778
---------------------------------------	---------------

2.0 Fire Prevention

2.1 Notification to Local Fire (see 1.4 above)

2.2 Require Necessary Permits and Requests:

From local fire jurisdiction of authority:

- Burn Permits
- Request for a Fire Prevention Inspection
- Fire Prevention related questions
- [PM/Project Fire Safety Officer responsibility]

2.3 Equipment Fueling Area

Use of gasoline, diesel, propane requires fueling only in the designated fueling area.

(See attached addendum attached)

[PM/Project Fire Safety Officer responsibility to Supervise and Enforce]

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 space 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.

[Project Fire Safety Officer responsibility]

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:

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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 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 Washoe BESS/PSES contractor. [PM/Project Fire Safety Officer responsibility to make daily hourly inspections for cut sagebrush and cheatgrass and enforcement of standards of care.]

2.4.4 **Clear all vegetation around Stationary Engine** and other portable equipment, i.e., generator, water pump, hydraulic pump to 10 ft from the engine. Have fire extinguisher.

2.5 Fire Water Source Locations – (Possible Sources)

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 US Army Herlong Fire Department

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 area as noted below per Project Manager:

3.0 Fire Suppression Equipment and Specs.

3.1 Proper Fire Extinguishing Equipment

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

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- hydrant wrench and spanner,
- three, 1 1/2" x 100 ft. fire hose
- two 1 1/2" shut off spray nozzles,
- one hydrant fill-hose 2.5"x 25'NH.
- 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 road work
- equipment per DOT

3.1.2 **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.

3.1.3 **Designated Fire Pumper Vehicle (3/4-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 1/2" hose for nursing from a water tender
- two (2) long handle shovels
- one (1) Mcleod tool
- one (1) Pulaski tool

3.1.4 **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

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/>

- 3.1.5 **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.

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 of fire requires very quick reaction with the right suppressant. Dry fire extinguishers work great – however in tight areas of engine compartments, the dry chemical may not completely suppress the fire. Therefore, it is of great importance to have a CAFS unit on or next to the equipment. CAFS will reach 30 to 40 feet and must be sprayed into the compartments through any opening. The foam will work it way throughout the compartment. Work from both sides of the equipment if necessary.

5.2 Gas and Oil Fire in Fueling Area

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.

5.3 Wildfire Suppression

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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 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" are 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 move 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 to 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**

One 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 waters remaining in your water truck or tanks, notify the firefighter about the water and other suppression equipment on Site.

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 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 wattage are sufficient to cover that distance. Note: a higher than 1 Watt system 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 5 with and 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 Washoe County and Doyle FPD Fire Chief.

6.2 Company/Personnel List with Phone Numbers

6.2.1 Washoe BESS/PSES

- Dr. Charles Hooper, DO, Property Owner 530-514-0135

6.2.2 Blue Mountain Limited

- Steve Bowman, Wildfire Consultant 916-715-6571

- Roy Pike, Fire Mngt Mitigation Consultant 707-696-3025

7.0 SAFEGUARDS AND CONTROL OF FIRES - PM/PFSO's Duty and Responsibility to maintain:

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 PM/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. The Motto: **"Fire Safety is Everyone's Business"** should be posted on signage with black lettering at least 6" high with a ¾ stroke with a safety yellow background.

7.1.2 The Contractor, with the aid of the PM/PFSO shall incorporate THE STANDARDS OF CARE with BEST MANAGEMENT PRACTICES implement same to prevent starting any fire, including but not limited to forbidding:

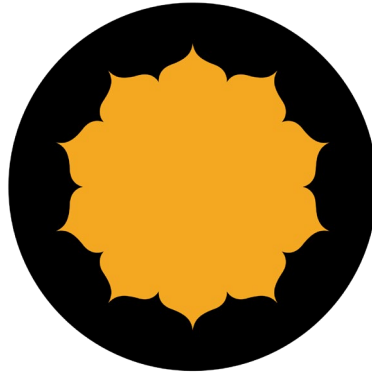
- (1) open warming or cooking fires
- (2) smoking in non-approved areas or while working on an open and moving piece of equipment
- (3) operating small engine equipment such as, chain saws, ATV's, air compressors, welders, handheld air blowers, etc., without first ensuring that an approved spark arrestor is properly installed and maintained.

7.1.3 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 ensuring that a USFS approved spark arrestor is installed on said equipment.

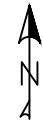
Praana Two Washoe BESS/PSES, Gen-Tie Line Fire Management Plan

7.1.4 **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.

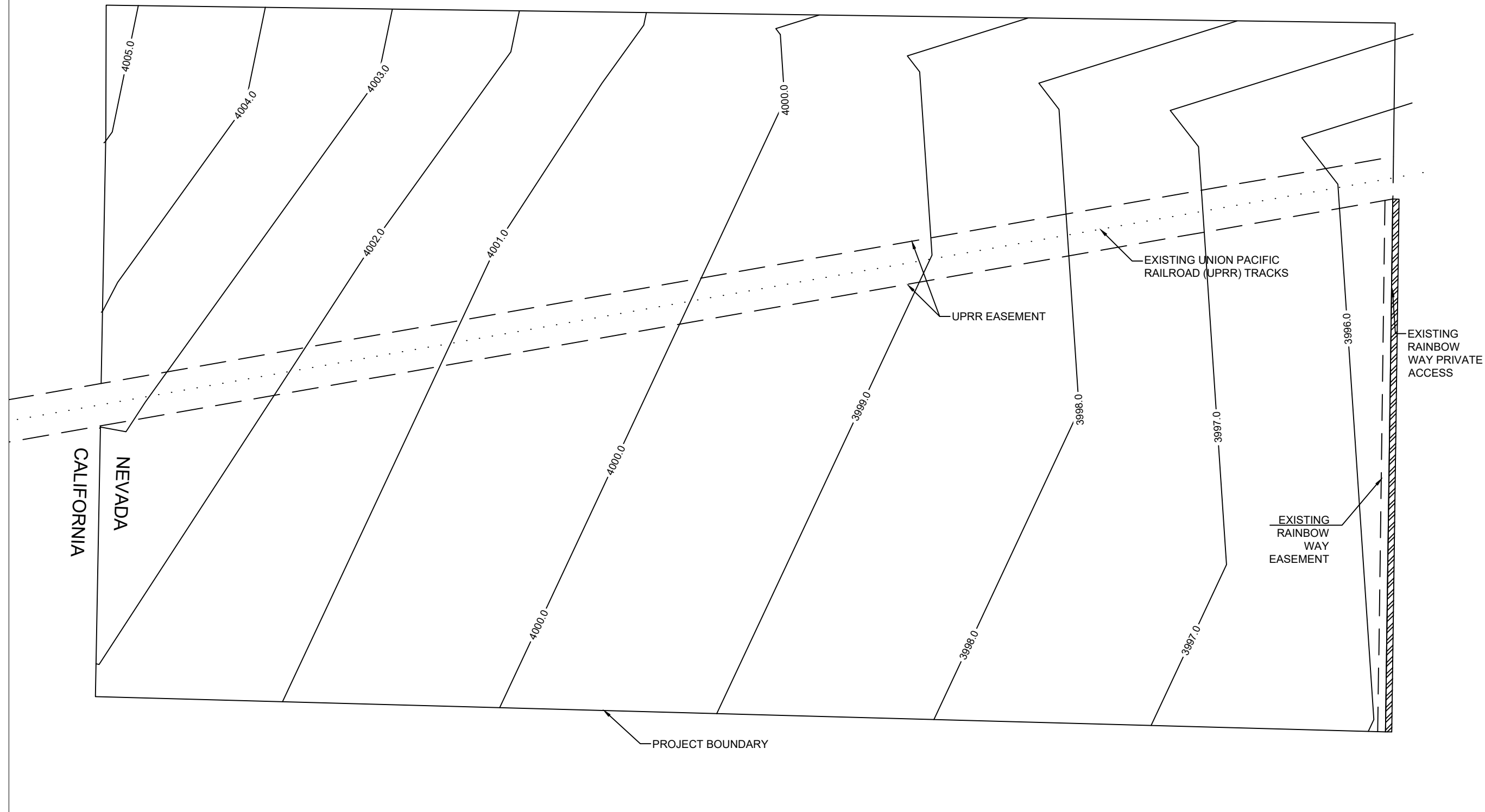
Attachment H: Grading Plan



Praana Energy



NOTES:
 1. SURVEY PERFORMED ON
 12/17/2020 BY ERIK LEE WITH
 BATTLE BORN VENTURES, LLC
 LOCATED AT 600 GLEESON WAY,
 SPARKS, NV 89431. NV LICENSE #
 017078



1" = 400'
 WHEN PRINTED ON 11"x17"

DRAWING SCALE
 0 1 INCH
 IF THIS BAR IS LESS THAN ONE
 INCH,
 IT IS A REDUCED PRINT.
 SCALE REDUCED SHEET
 ACCORDINGLY.

REVISIONS		
NO.	BY.	DATE

DESIGNED BY:	RN	11-14-2022			
DRAWN BY:	RN	11-14-2022			
CHECKED BY:	SV	11-14-2022			
APPROVED BY:	SV	11-14-2022			



EXISTING CONDITIONS

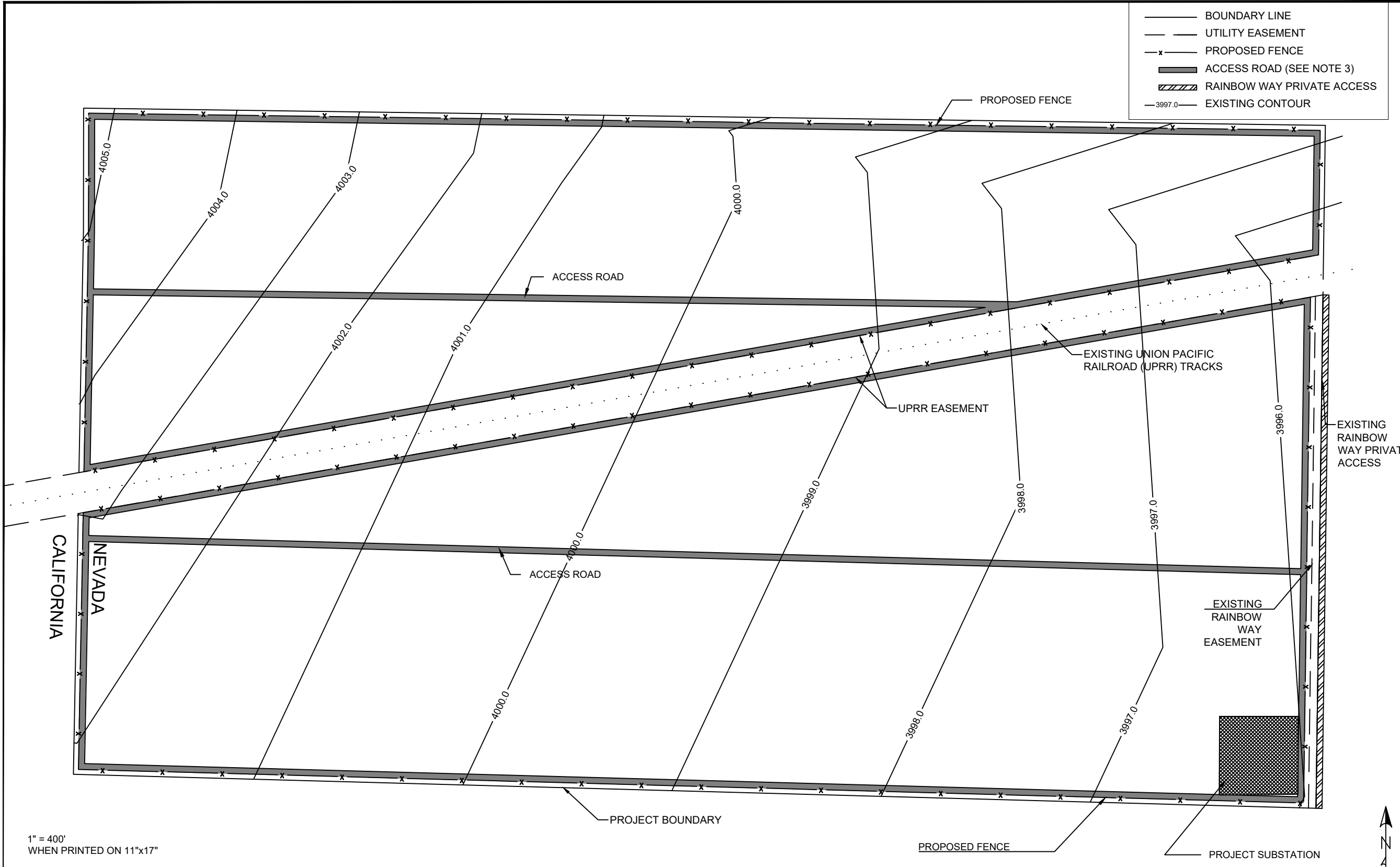
PRAANA RENEWABLES ENERGY, LLC

JOB NO. DB22121	
CONTRACT/TASK ORDER NO.	
DWG NO. 1	SHEET 1 OF 2

——— BOUNDARY LINE
 - - - UTILITY EASEMENT
 -x- PROPOSED FENCE
 █ ACCESS ROAD (SEE NOTE 3)
 ▨ RAINBOW WAY PRIVATE ACCESS
 -3997.0- EXISTING CONTOUR

NOTES:

1. SURVEY PERFORMED ON 12/17/2020 BY ERIK LEE WITH BATTLE BORN VENTURES, LLC LOCATED AT 600 GLEESON WAY, SPARKS, NV 89431. NV LICENSE # 017078
2. GRADING OPERATIONS GRADING OPERATIONS WILL CONSIST OF PLOWING THE GROUND TO TURN UNDER EXISTING VEGETATION OF THE ENTIRE PROJECT LEASE AREA, TO SUPPORT INSTALLATION OF PILING SUPPORTS, TRACKERS AND SOLAR ARRAYS. NO EXCAVATIONS (CUTS OR FILLS) ARE PLANNED. ALL GROUND DISTURBANCE ASSOCIATED WITH THIS SPECIAL USE PERMIT SHALL COMPLY WITH THE STANDARDS WITHIN WASHOE COUNTY CODE SECTION 110.438.45. A VEGETATION MANAGEMENT PLAN (VMP) HAS BEEN PREPARED WHICH PROVIDES BEST MANAGEMENT PRACTICES (BMPs) AND OBJECTIVES FOR THE CONSTRUCTION AND OPERATION ACTIVITIES. THE VMP ALSO INCLUDES NOXIOUS WEED CONTROL METHODS TO BE IMPLEMENTED TO COMPLY WITH NEVADA REVISED STATUTES (NRS) 555.170 AND NRS 555.180. THE VMP IS DEVELOPED TO GUIDE SITE PREPARATION, VEGETATION INSTALLATION, AND LONG-TERM MANAGEMENT OF OVERALL VEGETATION ON THE PROJECT LEASE AREA OF THE PROJECT PARCEL BOUNDARIES, BOTH WITHIN AND OUTSIDE OF THE FACILITY FENCE LINE.
3. ALL ACCESS ROADS WILL BE GRADED WITH COMPACTED GRAVEL TO SUPPORT FIRE VEHICLES 80,000 GROSS.



Earthwork Volumes for Praana Energy Washoe Solar Project			
AREA	CUT Cubic Yards (CY)	FILL Cubic Yards (CY)	TOTAL ACREAGE DISTURBED (Acres)
24' Access Road (Rainbow Way)	-	-	1.5
Project Substation and Battery Energy Storage Pad	-	-	2.5
Grading for Tracker Installation	-	-	261
Grading for Access Road	-	-	18.5
TOTAL (RAW)	-	-	283.5
TOTAL (10% SHRINKAGE)	-	-	-

1" = 400'
WHEN PRINTED ON 11"x17"

DRAWING SCALE

0 1 INCH

IF THIS BAR IS LESS THAN ONE INCH, IT IS A REDUCED PRINT. SCALE REDUCED SHEET ACCORDINGLY.

REVISIONS		DATE	
NO.	BY	DATE	DESCRIPTION

DESIGNED BY:	RN	11-14-2022
DRAWN BY:	RN	11-14-2022
CHECKED BY:	SV	11-14-2022
APPROVED BY:	SV	11-14-2022



PRAANA TWO WASHOE BESS/PSES

PRAANA RENEWABLES ENERGY, LLC

JOB NO. DB22121
CONTRACT/TASK ORDER NO.

DWG NO. 2 SHEET 2 OF 2