

# Special Use Permit Application North Valley Geothermal Development Project

Submitted to Washoe County  
June 15, 2020

Prepared for

ORNI 36, LLC  
6140 Plumas Street  
Reno, NV 89519

Prepared by



**WOOD RODGERS**

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## Table of Contents

### Section 1

- ❖ Washoe County Special Use Permit Application
  - Owner Affidavits
  - List of Property Owners & APN's
  - Proof of Property Tax (original/electronic copy)

### Section 2

- ❖ Project Description
  - Executive Summary
  - Background
  - Washoe County Master Plan and Zoning
  - Site Characteristics
  - Project Request
  - Project Description
  - Major Grading and Special Use Permit
  - Hazardous Materials
  - Project Access and Circulation
  - Traffic
  - Utilities
  - Landscaping
  - Lighting
  - Fencing
  - Development Statistics
- ❖ Special Use Permit Findings
- ❖ Development of Natural Resource Special Use Permit Findings
- ❖ Hazardous Materials Special Use Permit Findings

### Section 3

- ❖ Maps
  - Vicinity Map
  - Aerial Map (North and South)
  - Master Plan Map (North and South)
  - Zoning Map (North and South)

### Section 4

- ❖ Geotechnical Due Diligence
- ❖ Site Control/Federal Lease Agreements (original/electronic copy)
- ❖ Site Plans (reduced)

### Map Pocket

- ❖ Site Plans (full size)

# Section 1

## 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.

<b>Project Information</b>		Staff Assigned Case No.: _____	
Project Name: ORNI 36, LLC North Valley Geothermal Development Project			
Project Description: Construction of two 24 mega watt (mW) geothermal power plants with 21.6 miles of transmission line approximately 14.1 miles south of Empire, NV.			
Project Address: The project is located in two portions of Washoe County. The power plant is 14.1 miles south of Empire			
Project Area (acres or square feet): The geothermal plant will incorporate 189.9 acres with 21.6 miles of transmission line			
Project Location (with point of reference to major cross streets <b>AND</b> area locator): The geothermal plant is located approximately 6.2 miles southwest of the intersection of Highway 447 and Rodeo Creek Rd.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
See the attached list of APN's			
<b>Indicate any previous Washoe County approvals associated with this application:</b> Case No.(s). N/A			
<b>Applicant Information</b> (attach additional sheets if necessary)			
<b>Property Owner:</b>		<b>Professional Consultant:</b>	
Name: Multiple (See attached owners list)		Name: Wood Rodgers, Inc.	
Address:		Address: 1361 Corporate Blvd	
Zip:		Zip: 89502	
Phone:	Fax:	Phone: 775.823.4068	Fax: 823.4066
Email:		Email: adurling@woodrogers.com	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person: Andy Durling	
<b>Applicant/Developer:</b>		<b>Other Persons to be Contacted:</b>	
Name: ORNI 36, LLC		Name: N/A	
Address: 6140 Plumas Street		Address:	
Reno, NV      Zip: 89519		Zip:	
Phone: 356-9029 xt 32288      Fax:		Phone:      Fax:	
Email: mwendt@ormat.com		Email:	
Cell: 775-399-0906	Other:	Cell:	Other:
Contact Person: Melissa Wendt		Contact Person:	
<b>For Office Use Only</b>			
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 Project includes the construction and operation of up to two energy generation facilities, 25 geothermal fluid production and injection wells and well pads, access roads, 7.6 miles of geothermal fluid pipelines, 21.6 miles of electrical transmission line and ancillary support facilities.

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 the attached site plans.

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

Drilling will occur as soon as possible. Construction of the two generation facilities will occur in two phases. Construction would begin upon acquisition of all required permits and would take approx. 9 months to complete the first power plant. Due to the nature of the project, the construction schedule is anticipated to take 3 years to complete.

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?

This is a new facility in an area with an existing and operating geothermal plant, San Emidio, which is owned and operated by USG Nevada LLC (Ormat), located within the San Emidio Geothermal Unit, which comprises both public and privately leased lands. The project includes several federal geothermal leases. The transmission line will be completely contained within an existing energy corridor.

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

Once completed the project will help the State of Nevada meet its clean energy goals of providing 50% renewable Energy by 2030 and will provide the region with more efficient energy production.

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

The proposed facility is surrounded by federal land in an area already identified for the lease of geothermal energy production. The applicant is undergoing an Environmental Review that will be reviewed and approved by the BLM to insure the project is not detrimental to the area. Very little negative impacts to the surrounding communities is anticipated.

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.

Of the disturbed land, 60.9 acres will be re-seeded with a native shrub mix to blend with the natural setting of the surrounding area. Where proposed, lighting will follow dark sky standards to minimize impacts to the surrounding neighbors. Buildings and utilities proposed will be painted in colors that will help them to blend into the landscape. See project description for further detail.

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	Septic System
b. Electrical Service	Ormat
c. Telephone Service	At&T
d. LPG or Natural Gas Service	N/A
e. Solid Waste Disposal Service	N/A
f. Cable Television Service	N/A
g. Water Service	Private wells

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 #	79899, 79900, 66946, & 69320	acre-feet per year	
i. Certificate #	21223, 21224, 21221, & N/A	acre-feet per year	104.8, 470.4, 5, & 361.985
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).

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10. Community Services (provided and nearest facility):

a. Fire Station	Washoe County Fire Station 242; 8.5 miles north
b. Health Care Facility	Banner Health Center; 78 miles south (Fernley)
c. Elementary School	N/A
d. Middle School	N/A
e. High School	N/A
f. Parks	N/A
g. Library	N/A
h. Citifare Bus Stop	N/A

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

1. What is the purpose of the grading?

A majority of the grading is associated with the pads for the 25 proposed wells, the pad for the two power generation facilities, the new and improved roads to access the wells, and for the pipeline. An existing borrow pit adjacent to the San Emidio plant, will be the source of cover for the roads and pads.

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

300,000 cubic yards

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

194.9 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?

An existing borrow pit within the site will be expanded by up to 5 acres to provide materials for the cover for the roads and pads.

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

No, the project is too large of scale to not trigger the SUP.

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.)

Yes, there are roads and borrow pit from a previous geothermal project that will be incorporated into this project to reduce the required amount of grading. Furthermore, a majority of the project will utilize existing roads.

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

No, minor disturbance will be required for each of the new power poles that will support the transmission line. These are within an existing energy corridor with an existing access road that will help to minimize the disturbance. Very minor grading activities are anticipated.

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

Yes, however, this is an extremely rural location surrounded by federal land. Visual impacts will be minimal as a majority of the project is utility infrastructure and will be painted using tones and colors that will help to blend with the surrounding area.

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)?

The roads are only intended to service the wells, pipeline, power generation facility, and transmission lines. They are not intended to serve any other properties. Roads leading into the power generation facility will be fenced and gated.

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?

Areas that are temporarily disturbed will be revegetated where possible. The pads and roads will be covered with gravel and maintained throughout their life to help prevent erosion

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 will be required.

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

Refer to Project Description in Section 2 for specific information.

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

No trees have been identified on site.

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?

The type seed mix and the method used will be chosen by the BLM to be within compliance of their policies for successful revegetation.



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

Water used for dust control would be obtained under an existing water right at a hydrant in the existing geothermal facility.

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

The project is being reviewed by the BLM and their requirements for revegetation will be met.

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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**List of Owners and Parcel APN's**

APN	OWNER/LASTNAME	Proposed Improvements
079-170-02	CERESOLA BROTHERS LLC	Transmission Line
079-180-02	CERESOLA BROTHERS LLC	Transmission Line
079-180-12	CERESOLA BROTHERS LLC	Transmission Line
079-180-45	CERESOLA BROTHERS LLC	Transmission Line
079-570-01	CERESOLA BROTHERS LLC	Transmission Line
079-570-07	CERESOLA BROTHERS LLC	Transmission Line
079-570-13	CERESOLA BROTHERS LLC	Transmission Line
079-320-12	GM GABRYCH FAMILY LTD PTSP	Transmission Line
079-320-18	GM GABRYCH FAMILY LTD PTSP	Transmission Line
071-070-13	KOSMOS COMPANY	Power Generation Facility
071-070-09	KOSMOS COMPANY	Wells, Well Pads & Pipeline
071-070-12	KOSMOS COMPANY	Wells, Well Pads & Pipeline
071-070-16	KOSMOS COMPANY	Wells, Well Pads & Pipeline
071-070-18	KOSMOS COMPANY	Wells, Well Pads & Pipeline
079-320-04	NEW NEVADA LANDS LLC	Transmission Line
071-030-06	UNITED STATES OF AMERICA	Power Generation Facility
071-060-18	UNITED STATES OF AMERICA	Wells, Well Pads & Pipeline
071-030-07	UNITED STATES OF AMERICA	Wells, Well Pads & Pipeline
079-170-39	UNITED STATES OF AMERICA	Transmission Line
079-180-34	UNITED STATES OF AMERICA	Transmission Line
079-180-37	UNITED STATES OF AMERICA	Transmission Line
079-180-44	UNITED STATES OF AMERICA	Transmission Line
079-320-42	UNITED STATES OF AMERICA	Transmission Line
079-320-47	UNITED STATES OF AMERICA	Transmission Line
079-320-52	UNITED STATES OF AMERICA	Transmission Line
079-320-55	UNITED STATES OF AMERICA	Transmission Line
079-570-02	UNITED STATES OF AMERICA	Transmission Line
079-570-06	UNITED STATES OF AMERICA	Transmission Line
079-570-12	UNITED STATES OF AMERICA	Transmission Line
071-070-19	US GEOTHERMAL INC	Wells, Well Pads & Pipeline

# Property Owner Affidavit

**Applicant Name:** ORNI 36, LLC (as leasholder for Kosmos Company)

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA       )  
  )  
COUNTY OF WASHOE    )

I, Connie Stechman, as secretary of ORNI 36, LLC  
(please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

**(A separate Affidavit must be provided by each property owner named in the title report.)**

Assessor Parcel Number(s): 071-070-09, 071-070-12, 071-070-13, 071-070-16, 071-070-18

Printed Name Connie Stechman

Signed Connie Stechman

Address 6140 PLUMAS ST.

RENO, NV 89519

Subscribed and sworn to before me this 12 day of June, 2020 by Connie Stechman (Notary Stamp)

[Signature]  
Notary Public in and for said county and state

My commission expires: 1-17-2021



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

# Property Owner Affidavit

**Applicant Name:** US Geothermal Inc.

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA     )  
                                  )  
COUNTY OF WASHOE    )

I, Connie Stechman  
(please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

**(A separate Affidavit must be provided by each property owner named in the title report.)**

Assessor Parcel Number(s): 071-070-19

Printed Name Connie Stechman

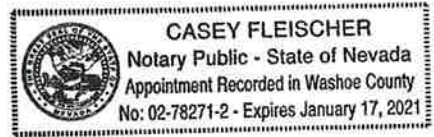
Signed Connie Stechman

Address 6140 PLUMAS Street  
RENO, NV 89519

Subscribed and sworn to before me this 18 day of June, 2020 by Connie Stechman (Notary Stamp)

[Signature]  
Notary Public in and for said county and state

My commission expires: 1-17-2021



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

# Property Owner Affidavit

**Applicant Name:** Ceresola Brothers LLC

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA       )  
                                  )  
COUNTY OF WASHOE    )

I, BRENT KOLVET FOR CERESOLA BROS. LLC  
(please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

**(A separate Affidavit must be provided by each property owner named in the title report.)**

Assessor Parcel Number(s): 079-170-02, 079-180-02, 079-180-12, 079-180-45, 079-570-01, 079-570-07, 079-570-13

Printed Name Brent Kolvet

Signed [Signature]

Address 735 Miller Ln

Fernley NV

Subscribed and sworn to before me this 18 day of June, 2020 by Brent Kolvet (Notary Stamp)

[Signature]  
Notary Public in and for said county and state

My commission expires: 1-17-2021



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

# Property Owner Affidavit

**Applicant Name:** ORNI 36, LLC (as Agent under easement from GM Gabrych Family LTD PTSP)

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA     )  
                                  )  
COUNTY OF WASHOE   )

I, Connie Stechman  
(please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

**(A separate Affidavit must be provided by each property owner named in the title report.)**

Assessor Parcel Number(s): 079-320-12, 079-320-18

Printed Name Connie Stechman

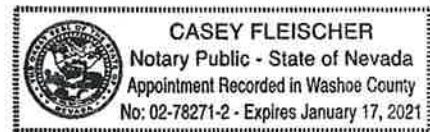
Signed Connie Stechman

Address 6140 Plumas Street  
Reno, NV 89519

Subscribed and sworn to before me this 18 day of June, 2020 by Connie Stechman (Notary Stamp)

[Signature]  
Notary Public in and for said county and state

My commission expires: 1-17-2021



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

DOC #5012921

03/23/2020 01:32:22 PM

Electronic Recording Requested By  
FIRST AMERICAN TITLE INSURANCE C

Washoe County Recorder

Kalie M. Work

Fee: \$43.00 RPTT: \$0

Page 1 of 13

RECORDED AT THE REQUEST OF  
AND WHEN RECORDED RETURN TO:

ORNI 36 LLC  
6140 Plumas St  
Reno, Nevada 89519  
Attn: Land Department

---

Assessor's Parcel Numbers:079-320-12 and 079-320-18

The undersigned declares that this document does not grant, assign, transfer, convey or vest title to real property within the meaning of Section 11911 of the California Revenue and Taxation Code, and hence NO DOCUMENTARY TRANSFER TAX IS DUE.

### EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT (this "Agreement") is made and entered into as of March 16<sup>th</sup>, 2020 (the "Effective Date"), by and between GM Gabrych Family Limited Partnership ("Grantor"), whose address is 2006 Old Highway 395 Fallbrook CA 92028, and ORNI 36 LLC, a Delaware limited liability company as to a 50% interest and ORNI 49 LLC a Delaware limited liability company as to a 50% interest as joint tenants ("Grantee"), whose address is 6140 Plumas St Reno Nevada 89519; with reference to the following recitals:

### RECITALS

A. Grantor owns the real property described on Exhibit "A" attached hereto and incorporated herein by this reference (the "Property").

B. Grantee desires to obtain an easement over the Property on all of the terms and conditions set forth herein.

### AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, Grantor and Grantee (each, a "Party", and together, the "Parties") hereby agree as follows:

## SECTION 1 - GRANT OF RIGHTS

1.1 Grant of Easement. Grantor hereby irrevocably and unconditionally grants and conveys to Grantee and its successors and assigns the easement hereinafter described (the "Easement"). The Easement shall be a blanket easement over the Property, shall be for the term set forth below, shall be non-exclusive, and shall be located in, upon, over, across, along, above and under the Property.

1.2 Purposes of Easement. The Easement is for the following purposes and activities (collectively, "Operations"): (a) *[vehicular and pedestrian ingress, egress and access on, over and across the Property by means of roads and lanes thereon if existing, or otherwise by such roads as Grantee may construct from time to time]*, (b) constructing, reconstructing, erecting, installing, improving, rebuilding, upgrading, replacing, relocating and removing from time to time, and maintaining, repairing, using and operating, (i) *[overhead and underground electrical transmission, collection, distribution and interconnection facilities, including, without limitation, footings, towers, poles, crossarms, guy lines, anchors, conduit, fiber, cables, wires, transformers, switching facilities and other utility installations, (ii) substations, (iii) overhead and underground control, communications, data and radio relay systems, including without limitation, conduit, fiber, cables and wires, (iv) roads, bridges, culverts and drainage facilities, (v) temporary staging and laydown areas associated with any of the foregoing]* and (vi) any improvements, facilities, structures, fixtures, appurtenances, appliances, machinery, materials and equipment that are related to or connected with any of the foregoing (all of the above, collectively, the "Facilities"); and (c) undertaking any other activities, whether accomplished by Grantee or a third party authorized by Grantee, that Grantee determines are necessary, helpful, appropriate or convenient in connection with, incidental to or to accomplish any of the foregoing purposes.

1.3 Term of Easement. This Agreement (and for purposes of clarity, the Easement) shall commence on the Effective Date and shall continue in full force and effect until the first to occur of the following, at which time this Agreement (and the Easement) shall automatically expire: (a) the date on which Grantee or Grantee's assignees or successors-in-interest have ceased to utilize or maintain Improvements within the Easement Area for a period of five (5) consecutive years; or (b) the date on which the Improvements cease to be required, in Grantee's sole and absolute discretion, for the commercial development or continued operation of Grantee's energy generating facility; or (c) the date on which Grantee chooses to terminate this Agreement. In the event Grantee terminates this Agreement pursuant to clause-(d), Grantee will provide Grantor with sixty (60) days written notice prior to the Effective Date of such termination. In the event the easement and/or any portion of the easement expires or is terminated, the Grantee agrees to record, within 30 days of such expiration or termination, a quitclaim deed conveying the expired and/or terminated portion of the easement back to the Grantor. Said quitclaim deed shall



require Grantee to execute and cause said quitclaim deed to be acknowledged and recorded, in the official records of the county or counties in which the Property is located. Said quitclaim deed shall describe with particularity the portion of the Easement so quitclaimed.

1.4 Payment of Consideration. Within thirty (30) days after the Memorandum (as defined below) is recorded in the official records of Washoe County, Nevada (the "*Official Records*"), the Grantee Parties shall (in the aggregate) pay to Grantor the single lump sum of Fifty Thousand Dollars (\$50,000.00) as payment in full for the Easement. Once said sum has been paid, no further consideration shall be due or payable by either Grantee Party in connection with this Agreement or the Easements.

## SECTION 2 - MISCELLANEOUS RIGHTS AND OBLIGATIONS

2.1 Indemnity. Grantee shall indemnify and hold Grantor and its heirs, successors and assigns harmless from and against any losses, damages, expenses and liabilities proximately caused by Grantee's Operations on the Property, (a) except to the extent caused by Grantor or its heirs, successors, assigns, agents, employees, contractors, invitees or licensees and (b) except for losses or damages of or to any flora (including grasses, crops or trees), as a result of Operations conducted, or any Facilities installed or constructed, in a commercially reasonable manner pursuant to this Agreement.

2.2 Restoration. Within twelve (12) months after Grantee has permanently ceased Operations on the Property, Grantee shall (a) remove from the Property any Facilities owned, installed or constructed by Grantee thereon, except for any roads and (b) leave the surface of the Property free from debris; provided, however, that with regard to any Facilities located beneath the surface of the land (including footings and foundations), Grantee shall only be required to remove the same to four (4) feet below the surface of the land.

2.3 Ownership of Improvements. Grantor shall have no ownership or other interest in any Facilities installed or placed on the Property, and Grantee may remove any or all of the Facilities at any time and from time to time.

2.4 Remedy Limited to Damages. Notwithstanding any other provision of this Agreement or any rights or remedies that Grantor might otherwise have at law or in equity, Grantor shall not (and hereby waives the right to) commence any action or proceeding in which termination, cancellation, rescission or reformation of this Agreement is sought as a remedy, and Grantor shall be limited to seeking damages in the event of any failure by Grantee to perform its obligations hereunder.

2.5 Right To Assign and Encumber. Grantee may, at any time and from time to time, without obtaining Grantor's consent, (a) transfer, assign, alienate, license or grant all or any portion of its right, title or interest under the Easement or this Agreement to any person or entity (including, without limitation, by grant of cotenancy interest or grant of

subeasement); and/or (b) hypothecate, mortgage or pledge all or any portion of its right, title or interest under the Easement or this Agreement to any person or entity as security for the repayment of any indebtedness and/or the performance of any obligation (a "Lien"). In the event of any such transfer, assignment, alienation, license, grant, hypothecation, mortgage or pledge, Grantor shall, within ten (10) days after Grantee so requests, and for no additional consideration, execute and deliver any such documents and instruments as Grantee may reasonably request in connection therewith.

2.6 Certifications. Without limiting the generality of the foregoing, Grantor shall, upon not less than ten (10) days prior written notice from time to time given by Grantee, execute, acknowledge and deliver to Grantee, for the benefit of Grantee and any other person or entity specified in such notice, a written statement (a) certifying that the Easement and this Agreement are unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that the Easement and this Agreement, as so modified, are in full force and effect), and (b) certifying that there are not, to Grantor's knowledge, any uncured defaults hereunder, or describing with particularity each such uncured default if any are claimed. Any such statements may be conclusively relied upon by Grantee and any such other person or entity.

### SECTION 3 - GENERAL PROVISIONS

3.1 Notices. Any notices, statements, demands, correspondence or other communications given in connection with this Agreement shall (a) be in writing, (b) be deemed given (i) when personally delivered to the recipient, (ii) five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested or (iii) three (3) days after delivery to a reputable courier for overnight delivery (provided receipt is obtained and charges prepaid by the delivering Party) and (c) be addressed to the address of the recipient Party set forth in the preamble hereof, except that each Party may change its address for receipt of notices by sending notice of such change to the other Party in the manner specified in this Section.

3.2 No Abandonment or Overburdening. No act or failure to act on the part of Grantee or any other person or entity shall be deemed to constitute an abandonment of the Easement or any portion thereof, except upon recordation by Grantee of a quitclaim deed specifically conveying the Easement (or such portion thereof) back to Grantor pursuant to this Section 3.2. Without limiting the generality of the foregoing, nonuse of any portion of the Easement by Grantee shall not prevent Grantee in the future from using the entire width and scope of the Easement in the event the same is needed. No use of or improvement to the Property or any other lands, no transfer of all or any portion of Grantee's interest hereunder, and no use or improvement of the Property or any other lands resulting from any such transfer, shall, separately or in the aggregate, constitute an overburdening of the Easement. Grantee may, at any time and from time to time during the term hereof, quitclaim to Grantor all or any portion of the Easement by executing and causing to be acknowledged and recorded, in the official records of the county or counties in which the Property is located, a quitclaim deed describing with particularity the portion of the Easement so quitclaimed.

3.3 Cooperation. Grantor shall fully support and cooperate with Grantee in the conduct of its Operations and the exercise of its rights hereunder, and in carrying out and otherwise giving full force and effect to the purpose and intent of this Agreement, including, without limitation, in Grantee's efforts to obtain from any governmental authority or any other person or entity any permit, entitlement, approval, authorization or other rights necessary or convenient in connection with Operations; and Grantor shall, without demanding additional consideration therefor, promptly execute, and, if appropriate, allow Grantee to cause to be acknowledged and recorded, any map, application, document or instrument that is reasonably requested by Grantee or any governmental authority in connection therewith. Without limiting the generality of the foregoing, Grantor shall promptly execute, allow Grantee to cause to be acknowledged and deliver to Grantee any amendment to this Agreement that Grantee may reasonably request for the purpose of (a) correcting an error in this Agreement, (b) reasonably amending the legal description(s) attached hereto (including by replacing said legal description(s) with revised description(s) prepared or provided by Grantee's surveyor or title company) or (c) providing that the Easement is and shall be appurtenant to specifically-described lands or fee or leasehold estates upon which Grantee has constructed or intends to construct one or more geothermal electrical generating projects.

3.4 Successors and Assigns. The Property shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Agreement, which covenants, terms and provisions shall run with the Property and each portion thereof and interest therein, and shall be binding upon and inure to the benefit of the Parties and each other person and entity having any interest therein during their ownership thereof, and their respective grantees, heirs, successors and assigns.

3.5 Miscellaneous. The covenants contained herein are made solely for the benefit of the Parties, and shall not be construed as benefiting any person or entity that is not a Party to this Agreement. If Grantor consists of more than one person or entity, then (a) each reference herein to "Grantor" shall include each person and entity signing this Agreement as or on behalf of Grantor and (b) the liability of each such person and entity shall be joint and several. In the event that this Agreement is not executed by one or more of the persons or entities having an ownership interest in the Property, then this Agreement shall nonetheless be effective, and shall bind all those persons and entities who have signed this Agreement. No modification, waiver, amendment, discharge or change of this Agreement shall be valid unless the same is in writing and signed by the Party against whom the enforcement thereof is sought. In the event that any term or provision hereof is held to be invalid, void or otherwise unenforceable by any court of competent jurisdiction, then the same shall not affect the validity or enforceability of any other term or provision hereof, it being specifically agreed that the terms and provisions hereof are severable for purposes of this Section 3.5. This Agreement, including any Exhibits attached hereto, contains the entire agreement between the Parties in connection with any matter mentioned or contemplated herein, and all prior or contemporaneous proposals, agreements, understandings and representations, whether oral or written, are

merged herein and superseded hereby. The use of the neuter gender includes the masculine and feminine, and the singular number includes the plural, and vice versa, whenever the context so requires. Any rule of construction to the effect that ambiguities are to be resolved in favor of either Party shall not be employed in the interpretation of this Agreement and is hereby waived; and this Agreement shall be construed equally as between and against the Parties. This Agreement shall be governed by and construed in accordance with the laws of the state in which the Property is located. Captions used herein are for convenience of reference only and do not affect the meaning or intent hereof. This Agreement may be executed in multiple counterparts, all of which shall constitute one and the same Agreement.

***[SIGNATURES ON NEXT PAGE]***

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Grantor: \_\_\_\_\_

Name: GM Gabrych Family Limited Partnership

By: Eugene Gabrych

Its: Partner Eugene Gabrych

ORNI 36 LLC, a Delaware limited liability company

Grantee: \_\_\_\_\_

Name: Connie Stechman

Title: Secretary

ORNI 49 LLC, a Delaware limited liability company

Grantee: \_\_\_\_\_

Name: Connie Stechman

Title: Secretary

ACKNOWLEDGMENTS

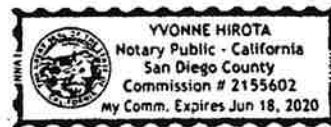
STATE OF California )  
COUNTY OF San Diego )

On Mar. 16, 2020, before me, Yvonne Hirota, a notary public, personally appeared Eugene Gabrych, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity (ies) and that by his/her/their signature(s) on the instrument the person(s) or the entity on behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Yvonne Hirota



STATE OF Nevada )  
COUNTY OF Washoe )

On March 18, 2020, before me, Casey Fleischer, a notary public, personally appeared Connie Steckman, Secretary ORATE 36 LLC personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity on behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Nevada that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Casey Fleischer

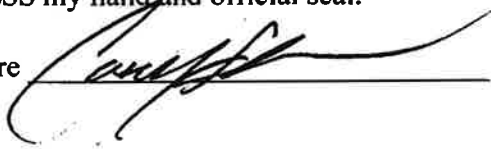


STATE OF Nevada )  
 )  
COUNTY OF Washoe )

On March 18, 2020, before me, Casey Fleischer, a notary public, personally appeared Connie Steinhorn, Secretary ORATE 49 LLC, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity on behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Nevada that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature 





UTILITY SOLUTIONS. ENGINEERED.

---

5418 Longley Lane, Suite A - Reno, NV 89511 Phone 775.336.1300 Fax 775.336.1306 www.trisage.com

**EXHIBIT "A"**  
**EASEMENT - LEGAL DESCRIPTION**

**Owner: GM Gabrych Limited Partnership**  
**Portion of APN: 079-320-12 & 18**  
**Washoe County, Nevada**

**Parcel 1**

A portion of Section 25, Township 23 North, Range 24 East, M.D.M., Washoe County, Nevada; situated within that Parcel of land described in Document No. 4338072 on March 25, 2014, Official Records of Washoe County, Nevada

A strip of land, 100 feet in width, lying 50 feet on each side of the following described centerline:

**Commencing** at a Found U. S. Government Land Office Brass Cap at the South quarter corner of said section from which a Found U. S. Government Land Office Brass Cap at the southwest corner of said section bears North 89°21'15" West, 2636.90 feet.

Thence along the southerly line of said Section North 89°21'15" West, 859.57 feet to the **Point of Beginning**:

Thence leaving said boundary North 12°36'11" West, 1614.30 feet;

Thence North 09°42'19" East, 3763.95 feet to the north line of said Section and the terminus of this parcel.

The sidelines of said easement are to be extended or truncated as to terminate on the Northerly and Southerly boundary lines of the Grantor.

Together with the right to install guy and anchor facilities at poles required, to support said poles. Said facilities to extend not more than 100 feet from poles so supported.

Said Parcel containing 545,556 square feet more or less.

Basis of Bearings: The aforementioned bearing between said Found Section Corners.

*All as shown on Exhibit "B" attached hereto, and by this reference, made a part thereof.*

**Parcel 2**

A portion of Section 13, Township 23 North, Range 24 East, M.D.M., Washoe County, Nevada; situated within that Parcel of land described in Document No. 4338084 on March 25, 2014, Official Records of Washoe County, Nevada



A strip of land, 100 feet in width, lying 50 feet on each side of the following described centerline:

**Commencing** at a Found Scribed Stone with 3 notches on the South side next to a stone mound at the Southeast corner of said section from which a Found U. S. Government Land Office Brass Cap at the south quarter corner of said section bears North 89°24'41" West, 2645.97 feet.

Thence along the southerly line of said Section North 89°24'41" West, 2428.82 feet to the **Point of Beginning**:

Thence leaving said boundary North 09°42'19" East, 5354.47 feet to the north line of said Section and the terminus of this parcel.

The sidelines of said easement are to be extended or truncated as to terminate on the Northerly and Southerly boundary lines of the Grantor.

Together with the right to install guy and anchor facilities at poles required, to support said poles. Said facilities to extend not more than 100 feet from poles so supported.

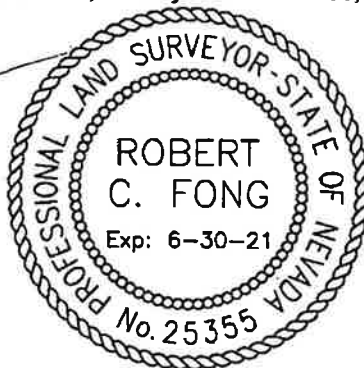
Said Parcel containing 535,578 square feet more or less.

Basis of Bearings: The aforementioned bearing between said Found Section Corners.

*All as shown on Exhibit "B" attached hereto, and by this reference, made a part thereof.*

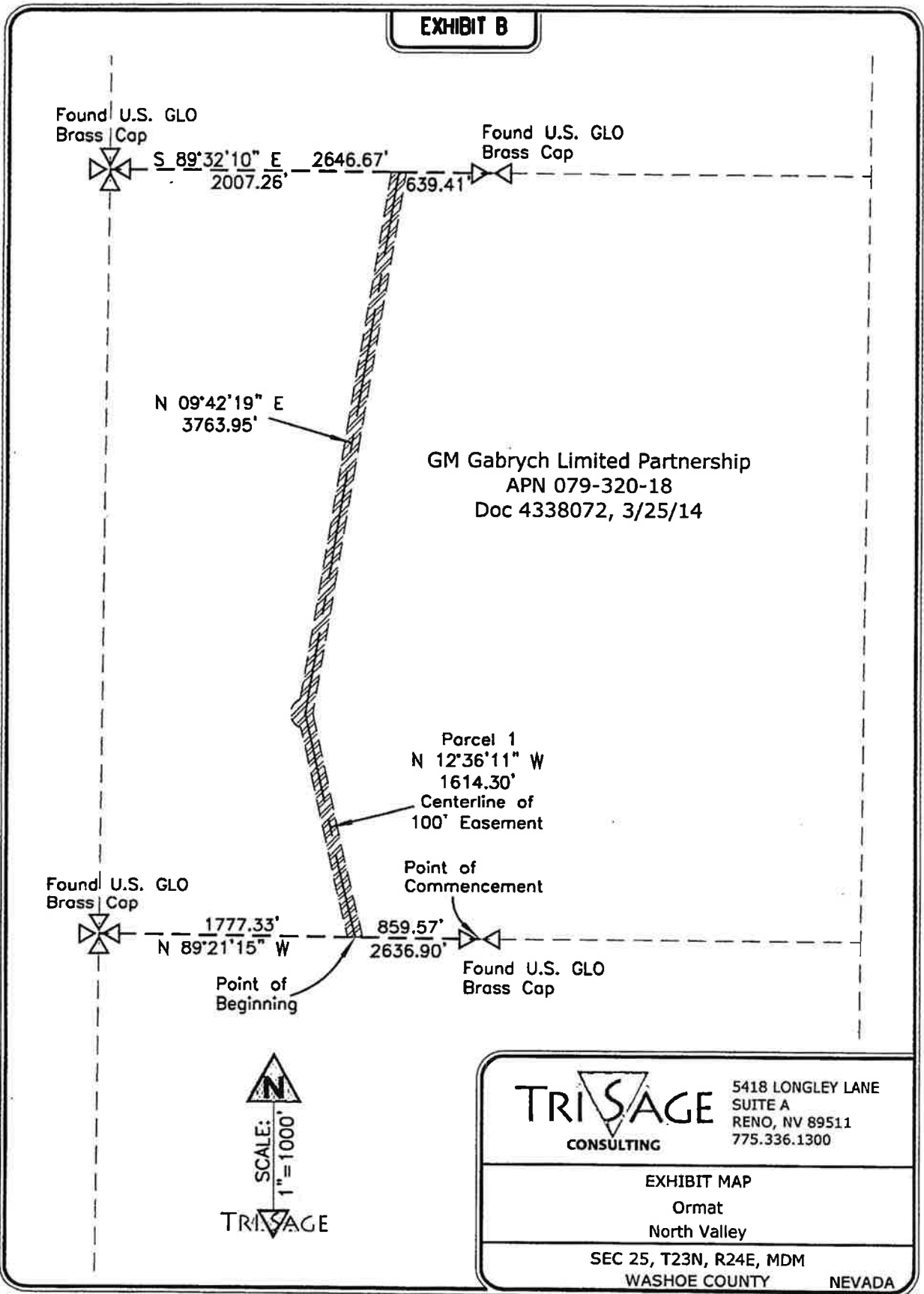
Prepared by:

  
Robert C. Fong, PLS

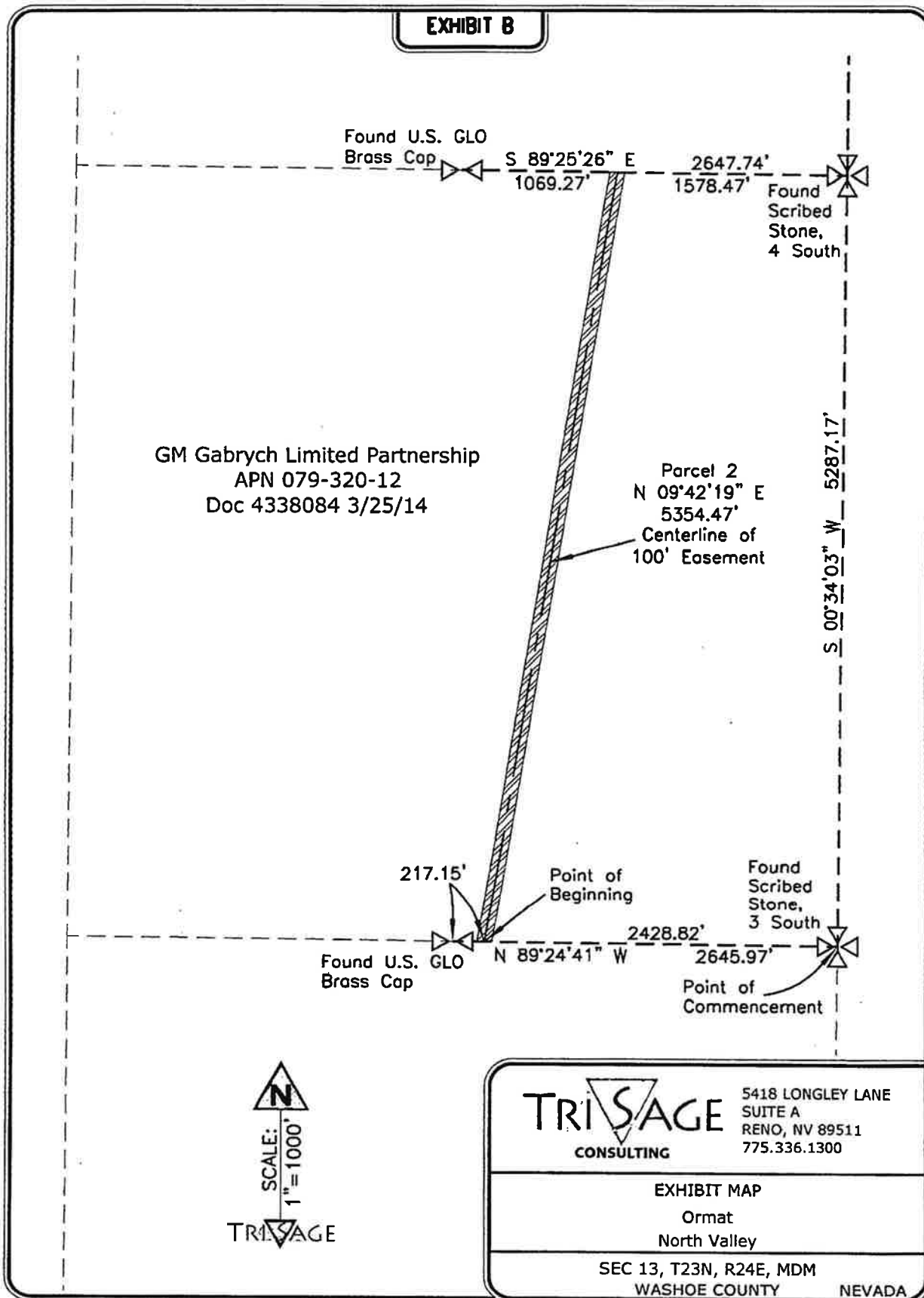


9/26/19  
Date

EXHIBIT B



**EXHIBIT B**



# Property Owner Affidavit

**Applicant Name:** ORNI 36, LLC (as Agent under easement from New Nevada Lands LLC)

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA     )  
                                  )  
COUNTY OF WASHOE    )

I, Connie Stechman  
(please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

**(A separate Affidavit must be provided by each property owner named in the title report.)**

Assessor Parcel Number(s): 079-320-04

Printed Name Connie Stechman

Signed Connie Stechman

Address 6140 PLUMAS STREET  
RENO, NV 89519

Subscribed and sworn to before me this 18 day of June, 2020 by Connie Stechman (Notary Stamp)

[Signature]  
Notary Public in and for said county and state

My commission expires: 1-17-2021



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

DOC #5002469  
02/20/2020 08:46:58 AM  
Electronic Recording Requested By  
FIRST AMERICAN TITLE INSURANCE C  
Washoe County Recorder  
Kalie M. Work  
Fee: \$43.00 RPTT: \$0  
Page 1 of 10

RECORDED AT THE REQUEST OF  
AND WHEN RECORDED RETURN TO:

ORNI 36 LLC  
6140 Plumas St  
Reno, Nevada 89519  
Attn: Land Department

---

Assessor's Parcel Numbers:079-320-04

The undersigned declares that this document does not grant, assign, transfer, convey or vest title to real property within the meaning of Section 11911 of the California Revenue and Taxation Code, and hence NO DOCUMENTARY TRANSFER TAX IS DUE.

#### EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT (this "Agreement") is made and entered into as of February 11, 2020 (the "Effective Date"), by and between New Nevada Lands a Mississippi limited liability company ("Grantor"), whose address is PO Box 805 Destin FL 32540, and ORNI 36 LLC a limited liability company ("Grantee"), whose address is 6140 Plumas St Reno Nevada 89519; with reference to the following recitals:

#### RECITALS

- A. Grantor owns the real property described on Exhibit "A" attached hereto and incorporated herein by this reference (the "Property").
- B. Grantee desires to obtain an easement over the Property on all of the terms and conditions set forth herein.

#### AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, Grantor and Grantee (each, a "Party", and together, the "Parties") hereby agree as follows:

SECTION 1 - GRANT OF RIGHTS

1.1 Grant of Easement. Grantor hereby irrevocably and unconditionally grants and conveys to Grantee and its successors and assigns the easement hereinafter described (the "Easement"). The Easement shall be a blanket easement, shall be for the term set forth below, shall be non-exclusive, and shall be located in, upon, over, across, along, above and under the Property.

1.2 Purposes of Easement. The Easement is for the following purposes and activities (collectively, "Operations"): (a) *[vehicular and pedestrian ingress, egress and access on, over and across the Property by means of roads and lanes thereon if existing, or otherwise by such roads as Grantee may construct from time to time]*, (b) constructing, reconstructing, erecting, installing, improving, rebuilding, upgrading, replacing, relocating and removing from time to time, and maintaining, repairing, using and operating, (i) *[overhead and underground electrical transmission, collection, distribution and interconnection facilities, including, without limitation, footings, towers, poles, crossarms, guy lines, anchors, conduit, fiber, cables, wires, transformers, switching facilities and other utility installations, (ii) substations, (iii) overhead and underground control, communications, data and radio relay systems, including without limitation, conduit, fiber, cables and wires, (iv) roads, bridges, culverts and drainage facilities, (v) temporary staging and laydown areas associated with any of the foregoing]* and (vi) any improvements, facilities, structures, fixtures, appurtenances, appliances, machinery, materials and equipment that are related to or connected with any of the foregoing (all of the above, collectively, the "Facilities"); and (c) undertaking any other activities, whether accomplished by Grantee or a third party authorized by Grantee, that Grantee determines are necessary, helpful, appropriate or convenient in connection with, incidental to or to accomplish any of the foregoing purposes.

1.3 Term of Easement. This Agreement (and for purposes of clarity, the Easement) shall commence on the Effective Date and shall continue in full force and effect until the first to occur of the following, at which time this Agreement (and the Easement) shall automatically expire: (a) the date on which Grantee or Grantee's assignees or successors-in-interest have ceased to utilize or maintain Improvements within the Easement Area for a period of five (5) consecutive years; or (b) the date on which the Improvements cease to be required, in Grantee's sole and absolute discretion, for the commercial development or continued operation of Grantee's geothermal energy generating facility; or (c) the date on which Grantee chooses to terminate this Agreement. In the event Grantee terminates this Agreement pursuant to clause-(d), Grantee will provide Grantor with sixty (60) days written notice prior to the Effective Date of such termination.

1.4 Payment of Consideration. Within thirty (30) days after the Memorandum (as defined below) is recorded in the official records of Washoe County, Nevada (the "**Official Records**"), the Grantee Parties shall (in the aggregate) pay to Grantor the single lump sum of Fourteen thousand five hundred five dollars (\$14,505.00) as payment in full for the Easements. Once said sum has been paid, no further consideration shall be due or payable by either Grantee Party in connection with this Agreement or the Easements.

## SECTION 2 - MISCELLANEOUS RIGHTS AND OBLIGATIONS

2.1 Indemnity. Grantee shall indemnify and hold Grantor and its heirs, successors and assigns harmless from and against any losses, damages, expenses and liabilities proximately caused by Grantee's Operations on the Property, (a) except to the extent caused by Grantor or its heirs, successors, assigns, agents, employees, contractors, invitees or licensees and (b) except for losses or damages of or to any flora (including grasses, crops or trees), as a result of Operations conducted, or any Facilities installed or constructed, in a commercially reasonable manner pursuant to this Agreement.

2.2 Restoration. Within twelve (12) months after Grantee has permanently ceased Operations on the Property, Grantee shall (a) remove from the Property any Facilities owned, installed or constructed by Grantee thereon, except for any roads and (b) leave the surface of the Property free from debris; provided, however, that with regard to any Facilities located beneath the surface of the land (including footings and foundations), Grantee shall only be required to remove the same to four (4) feet below the surface of the land.

2.3 Ownership of Improvements. Grantor shall have no ownership or other interest in any Facilities installed or placed on the Property, and Grantee may remove any or all of the Facilities at any time and from time to time.

2.4 Remedy Limited to Damages. Notwithstanding any other provision of this Agreement or any rights or remedies that Grantor might otherwise have at law or in equity, Grantor shall not (and hereby waives the right to) commence any action or proceeding in which termination, cancellation, rescission or reformation of this Agreement is sought as a remedy, and Grantor shall be limited to seeking damages in the event of any failure by Grantee to perform its obligations hereunder.

2.5 Right To Assign and Encumber. Grantee may, at any time and from time to time, without obtaining Grantor's consent, (a) transfer, assign, alienate, license or grant all or any portion of its right, title or interest under the Easement or this Agreement to any person or entity (including, without limitation, by grant of cotenancy interest or grant of subeasement); and/or (b) hypothecate, mortgage or pledge all or any portion of its right, title or interest under the Easement or this Agreement to any person or entity as security for the repayment of any indebtedness and/or the performance of any obligation (a "Lien"). In the event of any such transfer, assignment, alienation, license, grant, hypothecation, mortgage or pledge, Grantor shall, within ten (10) days after Grantee so requests, and for no additional consideration, execute and deliver any such documents and instruments as Grantee may reasonably request in connection therewith.

2.6 Certifications. Without limiting the generality of the foregoing, Grantor shall, upon not less than ten (10) days prior written notice from time to time given by Grantee, execute, acknowledge and deliver to Grantee, for the benefit of Grantee and any other person or entity specified in such notice, a written statement (a) certifying that the

Easement and this Agreement are unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that the Easement and this Agreement, as so modified, are in full force and effect), and (b) certifying that there are not, to Grantor's knowledge, any uncured defaults hereunder, or describing with particularity each such uncured default if any are claimed. Any such statements may be conclusively relied upon by Grantee and any such other person or entity.

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3.1 Notices. Any notices, statements, demands, correspondence or other communications given in connection with this Agreement shall (a) be in writing, (b) be deemed given (i) when personally delivered to the recipient, (ii) five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested or (iii) three (3) days after delivery to a reputable courier for overnight delivery (provided receipt is obtained and charges prepaid by the delivering Party) and (c) be addressed to the address of the recipient Party set forth in the preamble hereof, except that each Party may change its address for receipt of notices by sending notice of such change to the other Party in the manner specified in this Section.

3.2 No Abandonment or Overburdening. No act or failure to act on the part of Grantee or any other person or entity shall be deemed to constitute an abandonment of the Easement or any portion thereof; except upon recordation by Grantee of a quitclaim deed specifically conveying the Easement (or such portion thereof) back to Grantor pursuant to this Section 3.2. Without limiting the generality of the foregoing, nonuse of any portion of the Easement by Grantee shall not prevent Grantee in the future from using the entire width and scope of the Easement in the event the same is needed. No use of or improvement to the Property or any other lands, no transfer of all or any portion of Grantee's interest hereunder, and no use or improvement of the Property or any other lands resulting from any such transfer, shall, separately or in the aggregate, constitute an overburdening of the Easement. Grantee may, at any time and from time to time during the term hereof, quitclaim to Grantor all or any portion of the Easement by executing and causing to be acknowledged and recorded, in the official records of the county or counties in which the Property is located, a quitclaim deed describing with particularity the portion of the Easement so quitclaimed.

3.3 Cooperation. Grantor shall fully support and cooperate with Grantee in the conduct of its Operations and the exercise of its rights hereunder, and in carrying out and otherwise giving full force and effect to the purpose and intent of this Agreement, including, without limitation, in Grantee's efforts to obtain from any governmental authority or any other person or entity any permit, entitlement, approval, authorization or other rights necessary or convenient in connection with Operations; and Grantor shall, without demanding additional consideration therefor, promptly execute, and, if appropriate, cause to be acknowledged and recorded, any map, application, document or instrument that is reasonably requested by Grantee or any governmental authority in connection therewith. Without limiting the generality of the foregoing, Grantor shall promptly execute, cause to be acknowledged and deliver to Grantee any amendment to



this Agreement that Grantee may request for the purpose of (a) correcting an error in this Agreement, (b) amending the legal description(s) attached hereto (including by replacing said legal description(s) with revised description(s) prepared or provided by Grantee's surveyor or title company) or (c) providing that the Easement is and shall be appurtenant to specifically-described lands or fee or leasehold estates upon which Grantee has constructed or intends to construct one or more geothermal electrical generating projects.

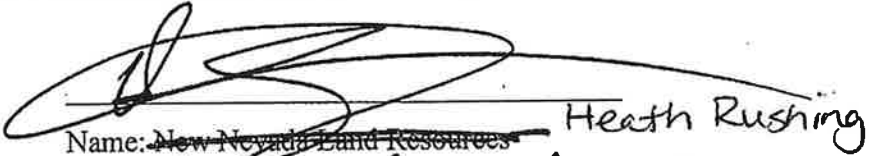
3.4 Successors and Assigns. The Property shall be held, conveyed, assigned, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in this Agreement, which covenants, terms and provisions shall run with the Property and each portion thereof and interest therein, and shall be binding upon and inure to the benefit of the Parties and each other person and entity having any interest therein during their ownership thereof, and their respective grantees, heirs, successors and assigns.

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***[SIGNATURES ON NEXT PAGE]***

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Grantor:

  
Name: ~~New Nevada Land Resources~~ Heath Rushing  
New Nevada Lands, LLC

Grantee:

  
US Geothermal Inc. a Delaware corporation

Name: Connie Stechman

Title: Secretary

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Grantor: \_\_\_\_\_

Name: New Nevada Land Resources

Grantee: \_\_\_\_\_

*Connie Stechman*  
ORNI 36 LLC, a limited liability corporation  
*Company*

Name: Connie Stechman

Title: Secretary

ACKNOWLEDGMENTS

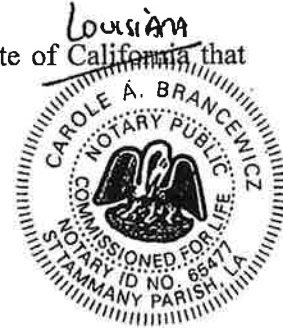
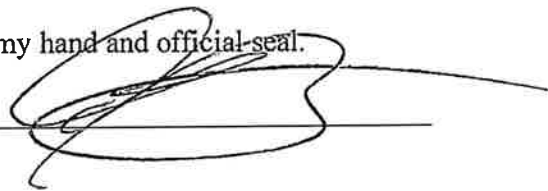
STATE OF Louisiana )  
COUNTY OF St Tammany Parish )

On Jan. 29 <sup>2020</sup> ~~2019~~, before me, Carole A. Brancevicz, a notary public, personally appeared Heath A. Lushine, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity on behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of ~~California~~ <sup>Louisiana</sup> that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_



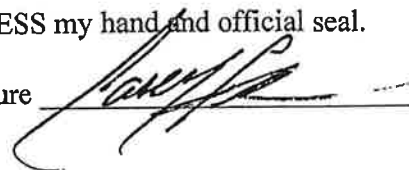
STATE OF Nevada )  
COUNTY OF Washoe )

On February 11 <sup>2020</sup> ~~2019~~, before me, Casey Fleischer, a notary public, personally appeared Connie Stechman, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity on behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Nevada that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_





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**EXHIBIT "A"**  
**EASEMENT - LEGAL DESCRIPTION**

**Owner: New Nevada Lands**  
**Portion of APN: 079-320-04**  
**Washoe County, Nevada**

A portion of Section 1, Township 23 North, Range 24 East, M.D.M., Washoe County, Nevada; situated within that Parcel of land described in Document No. 4062934 on December 1, 2011, Official Records of Washoe County, Nevada.

A strip of land, 100 feet in width, lying 50 feet on each side of the following described centerline:

**Commencing** at a Found U. S. Government Land Office Brass Cap at the South quarter corner of said section from which a Found Scribed Stone at the southeast corner of said section bears South 89°44'41" East, 2635.44 feet.

Thence along the southerly line of said Section South 89°44'41" East, 1923.75 feet to the **Point of Beginning**:

Thence leaving said boundary North 09°50'18" East, 3161.97 feet;

Thence North 17°27'45" East, 982.51 feet to the east line of said Section and the terminus of this description.

The sidelines of said easement are to be extended or truncated as to terminate on the Easterly and Southerly boundary lines of the Grantor.

Together with the right to install guy and anchor facilities at poles required, to support said poles. Said facilities to extend not more than 100 feet from poles so supported.

Said Parcel containing 421,194 square feet more or less.

Basis of Bearings: The aforementioned bearing between said Found Section Corners.

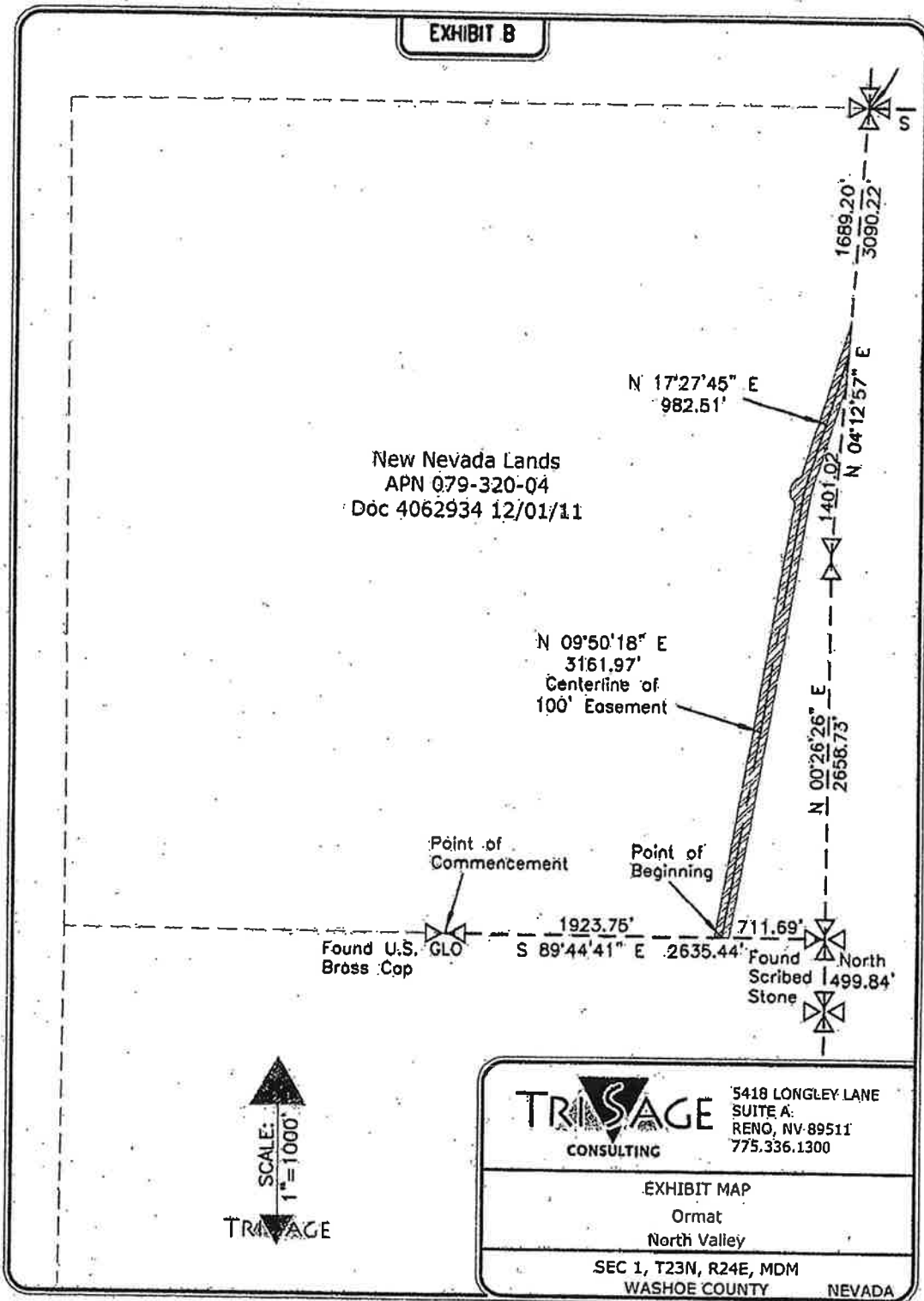
*All as shown on Exhibit "B" attached hereto, and by this reference, made a part thereof.*

Prepared by:

  
Robert C. Fong, PLS



9/26/19  
Date



Washoe County Treasurer  
 Tammi Davis

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07103006	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA

**SITUS:**  
 55555 STATE ROUTE 447

NONE  
 RENO, NV 00000

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

**Disclaimer**

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**Mailing Address:**  
 P.O. Box 30039  
 Reno, NV 89520-3039

**Overnight Address:**  
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 Reno, NV 89512-2845

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 **Installment Date Information**

 **Assessment Information**

Washoe County Treasurer  
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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07103007	Active	6/8/2020 2:12:15 AM
<b>Current Owner:</b> UNITED STATES OF AMERICA  NONE RENO, NV 00000		<b>SITUS:</b> 0 UNSPECIFIED WCTY NV
<b>Taxing District</b> 9000	<b>Geo CD:</b>	

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07106018	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 19 FARM DISTRICT RD  
 WASHOE COUNTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107009	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 KOSMOS COMPANY  
 601 UNION ST STE 3900  
 SEATTLE, WA 98101

**Taxing District**  
 9000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$126.72	\$126.72	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$120.92	\$120.92	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$116.05	\$116.05	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$113.11	\$113.11	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$112.88	\$112.88	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107012	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 KOSMOS COMPANY  
 601 UNION ST STE 3900  
 SEATTLE, WA 98101

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$132.53	\$132.53	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$126.46	\$126.46	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$121.36	\$121.36	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$118.28	\$118.28	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$118.04	\$118.04	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

[Change of Address](#)

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107013	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 KOSMOS COMPANY  
 601 UNION ST STE 3900  
 SEATTLE, WA 98101

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$130.08	\$130.08	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$124.12	\$124.12	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$119.12	\$119.12	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$116.10	\$116.10	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$115.87	\$115.87	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107016	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 KOSMOS COMPANY  
 601 UNION ST STE 3900  
 SEATTLE, WA 98101

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$56.32	\$56.32	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$56.32	\$56.32	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$67.59	\$73.67	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$67.58	\$73.66	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$67.58	\$67.58	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107018	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 KOSMOS COMPANY  
 601 UNION ST STE 3900  
 SEATTLE, WA 98101

**SITUS:**  
 0 STATE ROUTE 447  
 WASHOE COUNTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$97.54	\$97.54	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$93.07	\$93.07	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$89.32	\$97.36	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$87.06	\$94.90	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$86.89	\$86.89	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07107019	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 US GEOTHERMAL INC  
 C/O ORMAT TECHNOLOGIES INC TAX DEPT  
 6140 PLUMAS ST  
 RENO, NV 89519

**SITUS:**  
 56555 STATE ROUTE 447

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$21,411.03	\$21,606.89	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$19,732.01	\$19,732.01	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$18,978.71	\$18,978.71	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$18,524.20	\$18,524.20	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$17,968.05	\$17,968.05	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07917002	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC

PO BOX 1674  
 FERNLEY, NV 89408

**Taxing District**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$55.22	\$55.22	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$52.69	\$52.69	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$50.57	\$50.57	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$49.29	\$49.29	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$49.19	\$49.19	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07917039	Active	6/8/2020 2:12:15 AM
<b>Current Owner:</b> UNITED STATES OF AMERICA  NONE RENO, NV 00000		<b>SITUS:</b> 0 UNSPECIFIED WCTY NV
<b>Taxing District</b> 4000	<b>Geo CD:</b>	

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918002	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC  
 PO BOX 1674  
 FERNLEY, NV 89408

**Taxing District**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$56.03	\$56.03	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$53.46	\$53.46	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$51.30	\$51.30	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$50.00	\$50.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$49.90	\$49.90	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Mailing Address:**  
 P.O. Box 30039  
 Reno, NV 89520-3039

**Overnight Address:**  
 1001 E. Ninth St., Ste D140  
 Reno, NV 89512-2845

 **Payment Information**

 **Special Assessment District**

 **Installment Date Information**

 **Assessment Information**

Washoe County Treasurer  
 Tammi Davis

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918012	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC

PO BOX 1674  
 FERNLEY, NV 89408

**Taxing District**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$88.53	\$88.53	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$84.48	\$84.48	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$81.08	\$81.08	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$79.03	\$79.03	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$78.87	\$78.87	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918034	Active	6/8/2020 2:12:15 AM
<b>Current Owner:</b> UNITED STATES OF AMERICA  NONE RENO, NV 00000		<b>SITUS:</b> 0 UNSPECIFIED WCTY NV
<b>Taxing District</b> 4000	<b>Geo CD:</b>	

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

**Disclaimer**

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**Overnight Address:**  
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 **Special Assessment District**

 **Installment Date Information**

 **Assessment Information**

Washoe County Treasurer  
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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918037	Active	6/8/2020 2:12:15 AM
<b>Current Owner:</b> UNITED STATES OF AMERICA  NONE RENO, NV 00000		<b>SITUS:</b> 0 UNSPECIFIED WCTY NV
<b>Taxing District</b> 4000	<b>Geo CD:</b>	

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Overnight Address:**  
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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918044	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**Taxing District:**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07918045	Active	6/15/2020 1:40:13 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC  
  
 PO BOX 1674  
 FERNLEY, NV 89408

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 4000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$44.91	\$44.91	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$45.17	\$45.17	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$43.35	\$43.35	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$42.25	\$42.25	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$42.17	\$42.17	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932004	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 NEW NEVADA LANDS LLC  
 PO BOX 805  
 DESTIN, FL 32540

**Taxing District:**  
 9000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$51.02	\$51.02	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$48.68	\$48.68	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$46.72	\$46.72	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$45.54	\$45.54	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$45.45	\$45.45	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932012	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 GM GABRYCH FAMILY LTD PTSP  
 2006 OLD HIGHWAY 395  
 FALLBROOK, CA 92028

**Taxing District:**  
 9000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$520.19	\$520.19	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$496.36	\$496.36	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$476.35	\$476.35	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$464.28	\$464.28	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$463.35	\$463.35	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Overnight Address:**  
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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932018	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 GM GABRYCH FAMILY LTD PTSP  
 2006 OLD HIGHWAY 395  
 FALLBROOK, CA 92028

**Taxing District:**  
 9000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$520.19	\$520.19	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$496.36	\$496.36	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$476.35	\$476.35	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$464.28	\$464.28	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$463.35	\$463.35	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Overnight Address:**  
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[Back to Account Detail](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932042	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Overnight Address:**  
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 **Installment Date Information**

 **Assessment Information**

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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932047	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 COYOTE CANYON RD  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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 Reno, NV 89520-3039

**Overnight Address:**  
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 Reno, NV 89512-2845

 **Payment Information**

 **Special Assessment District**

 **Installment Date Information**

 **Assessment Information**

Washoe County Treasurer  
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[Back to Account Detail](#)

[Change of Address](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932052	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 COYOTE CANYON RD  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Overnight Address:**  
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 Reno, NV 89512-2845

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[Back to Account Detail](#)

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**CollectionCart**

Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

**Pay Online**

No payment due for this account.

**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07932055	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 COYOTE CANYON RD  
 WCTY NV

**Taxing District**  
 9000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	Items	Total	<a href="#">Checkout</a>	<a href="#">View</a>
Collection Cart	0	\$0.00		

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07957001	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC  
 PO BOX 1674  
 FERNLEY, NV 89408

**Taxing District**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$65.88	\$65.88	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$62.86	\$62.86	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$60.33	\$60.33	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$58.80	\$58.80	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$58.68	\$58.68	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	0	\$0.00		

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07957002	Active	6/8/2020 2:12:15 AM
<b>Current Owner:</b> UNITED STATES OF AMERICA  NONE RENO, NV 00000		<b>SITUS:</b> 0 UNSPECIFIED WCTY NV
<b>Taxing District</b> 4000	<b>Geo CD:</b>	

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	0	\$0.00		

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07957006	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 4000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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Collection Cart	0	\$0.00		

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07957007	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 CERESOLA BROTHERS LLC

PO BOX 1674  
 FERNLEY, NV 89408

**Taxing District**  
 4000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$63.17	\$63.17	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$60.28	\$60.28	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$57.85	\$57.85	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$56.39	\$56.39	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$56.27	\$56.27	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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**Washoe County Parcel Information**

Parcel ID	Status	Last Update
07957012	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
 UNITED STATES OF AMERICA  
 NONE  
 RENO, NV 00000

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 4000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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07957013	Active	6/8/2020 2:12:15 AM

**Current Owner:**  
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 PO BOX 1674  
 FERNLEY, NV 89408

**SITUS:**  
 0 UNSPECIFIED  
 WCTY NV

**Taxing District**  
 4000

**Geo CD:**

**Tax Bill (Click on desired tax year for due dates and further details)**

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
<a href="#">2019</a>	\$50.89	\$50.89	\$0.00	\$0.00	\$0.00
<a href="#">2018</a>	\$48.56	\$48.56	\$0.00	\$0.00	\$0.00
<a href="#">2017</a>	\$46.60	\$46.60	\$0.00	\$0.00	\$0.00
<a href="#">2016</a>	\$45.41	\$45.41	\$0.00	\$0.00	\$0.00
<a href="#">2015</a>	\$45.32	\$45.32	\$0.00	\$0.00	\$0.00
<b>Total</b>					<b>\$0.00</b>

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# Section 2



**PROJECT DESCRIPTION**

**Executive Summary**

Commission District #: 5, Jeanne Herman  
 Applicant: ORNI 36, Inc.  
 APN Numbers: **Energy Generation Facility:** 071-070-13 &071-030-06.

**Wells and Well Pads/Pipeline:** 071-030-07, 071-060-18, 071-070-09, 071-070-12, 071-070-16, 071-070-18, 071-070-19, & 079-170-02.

**Transmission line:** 079-170-39, 079-180-02, 079-180-12, 079-180-34, 079-180-37, 079-180-44, 079-180-45, 079-320-04, 079-320-12, 079-320-18, 079-320-42, 079-320-47, 079-320-52, 079-320-55, 079-570-01, 079-570-02, 079-570-06, 079-570-07, 079-570-12, & 079-570-13.

Request: A request has been made for special use permits to:

- 1) allow for the “Renewable Energy Production” and the “Development of Natural Resources” per Articles 302/810
- 2) allow for “Major Grading” per Article 438
- 3) allow for a Project of Regional Significance per Article 812
- 4) allow for the use of “Hazardous Material” per NRS 459.3816 and Article 810

Location: The 189.9± acre site is located approximately 6.2-miles southwest of State Highway 447 and Rodeo Creek Road in the High Desert and Truckee Canyon Planning Areas.

**Background**

The project is located in an area that has natural resources that have historically been used in the production of renewable energy and is identified as the San Emidio Desert Hot Springs, a geothermal unit specified within the Washoe County High Desert Area Plan. The unit covers federal geothermal leases and is comprised of both public and privately leased lands. The proposed transmission line will be constructed within an already existing Department of Homeland Security/Bureau of Land Management (BLM) energy corridor and existing easement. The transmission line will span across Washoe, Pershing, Churchill, and Lyon County.

The applicant has submitted a Plan of Development and right-of-way application to the BLM. In addition, an Environmental Assessment is being prepared to analyze the environmental impacts of the Project by the BLM, and is expected to be completed by the end of July 2020. A copy of the draft EA is available here: [https://eplanning.blm.gov/public\\_projects/1503204/200352910/20019390/250025594/North%20Valley%20Geothermal%20Public%20Draft%20EA\\_508.pdf](https://eplanning.blm.gov/public_projects/1503204/200352910/20019390/250025594/North%20Valley%20Geothermal%20Public%20Draft%20EA_508.pdf)

**Washoe County Master Plan and Zoning**

The project will include 30 parcels within Washoe County with a project footprint of 189.9 acres of land (project area). The project area is broken into two portions; a northern portion which will be the location of the power generation plants, supporting facilities, and well fields, and the southern portion which will only contain the transmission line. The entire project area has a master plan designation of Rural (R) and a zoning designation of General Rural (GR) and is located within the High Desert and Truckee Canyon Area Plans, *(Refer to Vicinity Map, Site Aerial, Existing Master Plan Map, and Existing Zoning Map in Section 3 of this submittal packet).*

### **Site Characteristics**

The proposed project impact area totals 2,414 acres of which only approximately 189.9 acres are expected to be disturbed. A majority of the development will occur in the northern portion where the overall North Valley Geothermal Power Plant complex is proposed. Due to the location, this area is an extremely rural and predominately utilized by the production of renewable energy. Although there is some topography the slopes are relatively gentle with no slopes greater than 30%. The main access to the site will utilize the existing access route off of State Highway 447. The route uses Rodeo Creek Road, approximately 8.5 miles south of Empire, NV, which accesses the project area from the north. The project is expected to utilize the existing maintenance roads where possible.

The southern portion, as identified in the Vicinity Map in Section 3, will only include the transmission line, will utilize the existing maintenance road that runs parallel to the proposed transmission line, generally running north to south. Ground cover contains bare earth, mixed with vegetation including sagebrush, grasses and weeds.

### **Project Request**

Included with this application are special use permits to allow for (1) the renewable energy production and the development of natural resources associated with a new geothermal power generating facility, (2) major grading, (3) a Project of Regional Significance, and (4) the use of hazardous materials. The project will include a two geothermal energy production plants, well fields and pipelines, and 21.6 miles of transmission line that will span a project area of approximately 189.9 acres, (*see the Parcel List included in Section 3 of this submittal packet*).

### **Project Description:**

The applicant is proposing two, 24-megawatt (MW) binary design geothermal energy generation facilities, substation, geothermal fluid production and injection wells and well pads, access roads, geothermal fluid pipelines, an electrical overhead transmission line, and ancillary support facilities.

Specifically, geothermal energy will be produced using a binary cycle power plant design. The hot brine (geothermal fluid) is pumped up through production wells and fed into a heat exchanger. The heat from the water is absorbed by pentane, a secondary motive fluid, which is a flammable but non-toxic hydrocarbon that circulates in a closed loop. The pentane vapor is used to drive the turbine, producing electricity. The pentane is then condensed back to its liquid state using air-cooled condensers that range between 28 – 35 feet in height. The condensed motive fluid would then be pumped back to the heat exchangers for reheating and vaporization, and the geothermal fluid is injected back into the geothermal reservoir, completing the closed cycle.

The whole process is in a closed loop system in which the pentane and the geothermal brine never come into contact with each other. The geothermal fluid, after travelling through the heat exchangers, would be pumped under pressure to the injection wells through the injection pipelines and back into the geothermal reservoir, minimizing the loss of water. There will be no emissions of pentane to the atmosphere during normal plant operations.

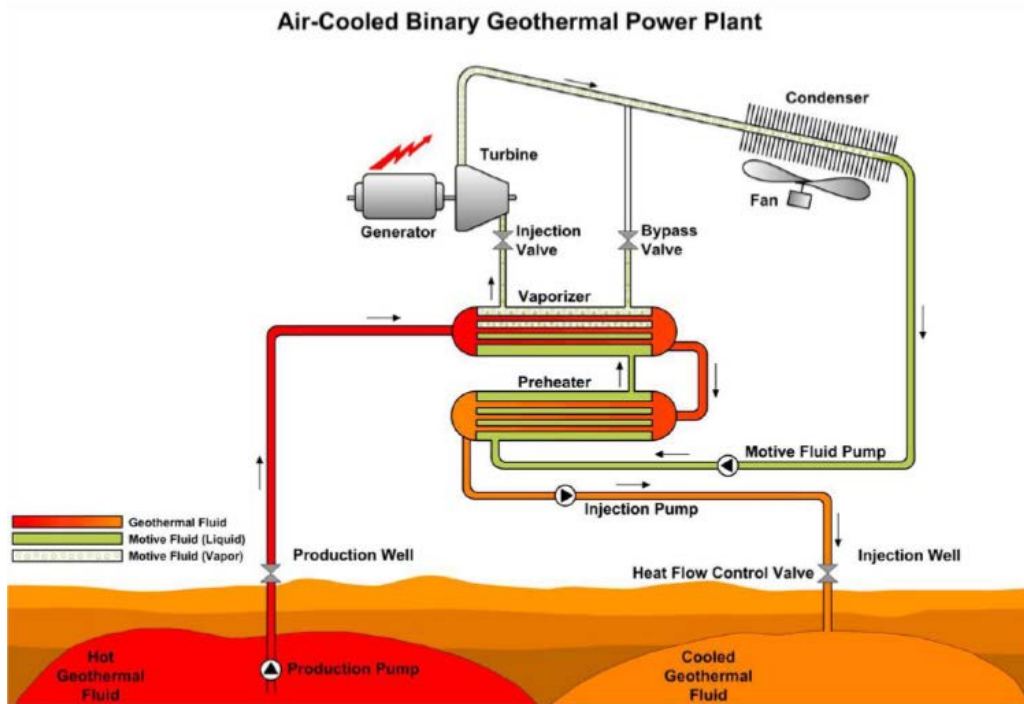


Figure 1 - Binary Plant Operations

In addition to the power plant, an approximately one half-acre substation used to transform low voltage energy to the higher voltage needed for the transmission line, will be constructed within the northern energy plant boundary (refer to site plan in Section 4).

The rest of the plant is an array of pipes and a small building to house electrical equipment. The perimeter of the site will be fenced with an 8-foot chain-link fence topped with barbed wire to prevent unwarranted access to the facility by the public and the entering of wildlife into the facility/electrical generation area. The chain link fence is equipped with controlled-entry gates to allow vehicle egress/ingress as necessary.

Ancillary facilities and energy plant components that will be constructed on the energy plant sites include offices, restrooms, the electrical room and control room, maintenance building, condensing fan equipment, electrical substation and other smaller ancillary structures. All buildings housing the offices, electrical room, control room and auxiliary buildings will be a rigid, steel-frame, pre-engineered structure with steel panel walls and a steel roof. The exterior of the buildings will be painted using colors consistent to blend in with surrounding areas, as stated within the High Desert Area Plan and as approved by BLM.

The project also includes two 500-gallon diesel fuel and one 500-gallon unleaded gas, aboveground storage tanks within each power plant footprint. The diesel tanks are used to backup generators and the gasoline tanks are used for fueling equipment. These tanks will be double-walled construction and placed in concrete secondary containment basins. As required and authorized by BLM, the Applicant will prepare a spill prevention, control and countermeasure plan for on-site storage of diesel and gasoline.





*Figure 2 - Typical Geothermal Facility (Note: top of air coolers 40' above grade)*

In addition to the two power plants, the applicant is proposing up to 25 production and injection wells, all located on public lands managed by the BLM. A system of geothermal fluid production and injection pipelines will be constructed from the wells to the plant. The pipelines will bring the geothermal fluid from the production wells to the energy plant and deliver the cooled geothermal fluid from the energy plant to the injection wells, respectively. Approximately 7.6 miles of production and injection pipeline are proposed. Depending on the well(s) being served, pipelines will be between 8 and 30 inches in diameter. The production and injection pipeline routes generally follow the shortest distance from each well pad to the next well pad or the production plant in order to maximize efficiency and to minimize the amount of ground disturbance. In addition, the proposed pipeline routes generally follow existing or proposed roads to facilitate ongoing monitoring and future maintenance. The pipelines and wellheads will be painted using colors consistent to blend in with surrounding areas, as stated within the High Desert Area Plan and as approved by BLM.

The proposed geothermal plants will connect the electrical substations to the electrical grid via a 61-mile transmission line within the 368 energy corridor and will span four County's. Specifically, 21.6 miles of the transmission line is located within Washoe County generally running north to south within an existing easement and will utilize an existing maintenance road. The line runs from the plants southeast into Pershing County, from Pershing County the line then enters Churchill County and from here, it re-enters Washoe County from Churchill County approximately 33.2 miles to the south of the proposed plants where it continues to run in the north south direction until it enters Lyon County (see *Aerial Map and Vicinity Maps in Section 3 of this submittal packet*).

In terms of water use, approximately 50,000 gallons per day will be used during the first 2 months of construction for compaction and dust control and 5,000 gallons per day will be used for dust control thereafter for approximately 6 months. This water will be supplied from geothermal fluid, the Sweetwater Well that

provides cooling water to the existing geothermal plant, a private ranch source, or one or more shallow water wells drilled from one or more of the proposed drill sites.

Once operating, the facility will use up to approximately 325 gallons per day, or 0.37 acre-feet per year. This water is anticipated to be obtained from the Sweetwater Well via existing pipeline from the well to the project site. It is worth noting that in an effort to reduce usage from the Sweetwater Well, the Applicant will provide drinking water from a commercial water source for the employees. Additionally, it is not feasible to drill a local well for domestic use because the shallow aquifer near the project area is very hot and would require significant effort to treat to drinking water quality.

In terms of employees, during construction we anticipate up to 50 workers, with an average of 3-4 workers after grading and excavation. Once operating, the Project will have approximately 15 – 20 total employees with 1-2 employees onsite at any given time. Additional facility/complex support staff would continue to work out of the existing San Emidio control room and administrative offices.

Construction of the new power plant is anticipated to start in the 4th quarter of 2020, with commercial operation being planned for August 2021.

#### **Major Grading Special Use Permit**

A special use permit is required to address grading since the estimated disturbed land is estimated at approximately 189.9 acres, exceeding the thresholds outlined in Article 438.35 of the Washoe County Development Code. Cuts and Fills will be minimized to reduce visual impacts from the surrounding areas and to utilize and mimic the natural topography of the land, as described within the High Desert Area Plan.

Grading activities include clearing of the ground for new roads, well pads, plant pads, pipelines, improvements to the existing road, and the placement of power poles for the transmission line. Subsequently, cutting of slopes would be required where necessary. Total project disturbance, prior to interim reclamation, will be approximately 189.9 acres. Total project disturbance after interim reclamation will be approximately 129 acres.

As much as possible, native materials (derived from grading to balance cut and fill) will be used for site and road building materials. Approximately 100,000 cubic yards of surfacing material may be needed for energy plant and pipeline construction. Material will be obtained from an existing pit previously used for the San Emidio Geothermal Facility (located on APN 071-070-09), which is within the project area. This existing pit is anticipated to be expanded by up to five acres (*refer to Plan Sheet G2*).

A majority of the disturbance will be for the power generation facility pads and for the injection wells. Temporary surface disturbance for the 25 proposed well pads would be 4.2 acres per pad, or 105 acres in total. After interim reclamation, there would be 2.5 acres of permanent disturbance at each well pad, or 62.5 acres in total.

Drill pad preparation activities would include clearing, earthwork, drainage and other improvements necessary for efficient and safe operation and for fire prevention. Only those drill pads scheduled to be drilled would be cleared. Clearing would include removal of organic material, stumps, brush and slash, which would be either be removed and taken to an appropriate dump site, or left onsite. Topsoil would be stripped (typically to the rooting depth) and salvaged during the construction of all pads, as feasible. Salvaged topsoil would be stockpiled on the pads for use during subsequent reclamation of the disturbed areas.

Each drill pad would be prepared to create a level pad for the drill rig and a graded surface for the support equipment. Storm water runoff from undisturbed areas around the constructed drill pads would be directed into ditches surrounding the drill pad and back onto undisturbed ground, consistent with best management practices for storm water. The site would be graded to prevent the movement of storm water from the pad off of the constructed site, and has been designed for a 100-year storm.

In addition to grading for the plant facilities and well pads, disturbance associated with the pipelines is anticipated to occur during construction. Temporary surface disturbance associated with the pipelines will be approximately 36.8 acres (40,055 ft. x 40 ft. width of disturbance). After interim reclamation is performed, the permanent disturbance would be approximately 18.4 acres (20 ft. disturbance width).

Other major grading activities include new roads and/or improvements to existing roads providing access to the well pads. The total estimated area of surface disturbance required for new access road construction, assuming a 25-foot wide area of disturbance will be about 12.8 acres. Due to the presence of existing project facilities in the vicinity, less than one mile of existing access roads may need to be improved (i.e. widened, graded or bladed) to maintain a drivable roadbed to access the project area. The total estimated area of surface disturbance associated with road improvement activities is approximately 0.3 acres.

#### **Hazardous Materials**

The proposed project will utilize pentane as the motive fluid. Pentane is used at numerous applicant owned-and operated geothermal power plants across Nevada, and at hundreds of geothermal plants worldwide. Pentane gas (motive fluid) is flammable but non-toxic and, as such, requires advanced permitting through the State and County (including the requested special use permit). As designed, the project site is anticipated to contain up to 720,000 pounds of pentane in the system at any given time. Specifically, each power plant is anticipated to contain up to 360,000 pounds of pentane in the system at any given time. During operation, pentane is pumped from the motive fluid storage tanks into the closed-loop system (*refer to Figure 1 – Binary Plant Operation*). During planned or unplanned facility maintenance, the pentane is pumped back in to and sealed off from the system to allow for safe working conditions and prevent pentane losses. There will be no disposal of pentane as it is used continuously in a completely sealed, closed-loop process. Minor pentane losses that do occur will be due to the escape of this working fluid from rotating seals and flanges on the heat exchangers and during maintenance on the binary power plant units. All of these losses, estimated to average about 12 tons per year, requires increased safety and monitoring protocols.

As pentane is a potentially hazardous material, the Applicant is required to obtain Chemical Accident Prevention Program (CAPP) permits and Class II Operating Permit through the Nevada Division of Environmental Protection (NDEP). The CAPP permits require the Applicant to coordinate with Washoe County Emergency Management and local emergency responders to develop an approved Emergency Action Plan (EAP) for the facility. In addition to the EAP, Standard Operating Procedures for the safe handling of pentane are developed and coordinated with NDEP for each generation facility under the CAPP permits. These protocols are currently being utilized in the other geothermal energy production facilities operated by the Applicant, whom has a stellar safety record to rely on. A copy of the Safety Data Sheet for n-pentane is provided in Section 4 of this application package.

### **Project Access and Circulation**

The main access to the site will utilize the existing Rodeo Creek Road, which connects to State Highway 447, approximately 14.1 miles south of Empire, NV, and provides access to the project area from the north. Due to the other geothermal energy production plant already in the area, existing maintenance roads will be utilized as much as possible to access the proposed new facilities with minor improvements to the roads where necessary.

In total, approximately 4.2 miles of new roads are anticipated to access the wells/well pads and to maintain the pipeline. These are proposed 20-foot-wide roads. The transmission line will utilize the existing maintenance road within the corridor with minimal to no improvements anticipated.

### **Traffic and Circulation**

Minimal traffic is anticipated once operations are complete. A majority of the traffic will occur during construction. During construction, up to 50 workers may be on-site, with an average of 3-4 workers on-site after grading and excavation. Once operating, the facility will have 15-20 employees with the power plant having 1-2 employees onsite at any given time. Once complete, the project is estimated to generate a maximum of 22 weekday peak hour trips, well below the thresholds required to provide a traffic analysis. A majority of the trips will be generated during the construction of the project. However, since the access is utilizing an already existing paved road, and since the area is so remote, any impacts are anticipated to be minimal.

As a part of the project, the Applicant is requesting to eliminate requirements associated with parking and maneuvering areas being paved. The applicant is requesting that this requirement be waived since paved parking is generally intended for the urban environment and the location of the project is very remote and does not include services like storm water utilities including curb and gutter which are generally included with the installation of pavement. A letter requesting this waiver has been included with this application.

### **Utilities**

Following construction, facility water needs will include fire suppression and general maintenance water and is estimated to need approximately 0.37-acre feet per year (approximately 325 gallons per day). This water will be used primarily for septic purposes and obtained from a shallow water well(s) drilled from one or more of the proposed drill sites or other sources as approved by the BLM and noted in the Utilization Plan.

### **Landscaping**

Of the 189.9 acres of disturbed land that is proposed, 129.0 acres will be developed and the other 60.9 acres will be revegetated with a native seed mix. This is proposed in an attempt to support the Character Management Area of the High Desert as outlined in the High Desert Area Plan, specifically Goal 2 which states:

*“All landscape designs will emphasize the use of native and low water requirement vegetation, with non-native and atypical vegetation integrated sparingly into any landscaped area.”*

Following this goal, the proposed landscape will attempt to keep the area looking natural and undisturbed. Efforts in grading when clearing the land including preserving the topsoil, as previously discussed, will help to ensure the success of re-establishing the native vegetation after it has been disturbed by grading processes. No formal landscaping is proposed as it will not reflect the character of the High Desert Planning Area.

As a part of the project, the Applicant is requesting that the requirements associated with landscaping and screening be waived in accordance to help the project meet the Character Statement outlined in the High Desert Area Plan. Several policies, including Policy HD.16.5 encourage the use of native drought tolerant plants to be

## North Valley Geothermal Development Project

### Special Use Permit – Project Description

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used in the landscape. This is consistent with what the Applicant is proposing in accordance with the Bureau of Land Management (BLM) standards. This is proposed along areas where temporary grading has occurred and does not include roads, and maintenance areas around building. Proposing formal landscaping including trees and screening shrubs in accordance with Section 110.412 would have a negative visual impact on the area and take away from the character of the area since the native vegetation does not include plant types typically found in more formal landscaping, including the use of trees.

In terms of fencing, as noted previously, the Applicant is proposing the use of 8-foot tall chain-link fence topped with barbed wire. This fence type will keep the area secure from the public and wildlife as well as have less visual impact on the surrounding properties. A letter requesting this waiver has been included with this application.

#### **Lighting**

Except for lighting needed for periodic maintenance activities, exterior perimeter lighting within the North Valley Power Plant site will comply with Dark Skies and will be pointed downwards and shielded to minimize off-site glare in accordance to the High Desert Area Plan. Motion sensors will also be used so that lights are only on as-needed.

#### **Fencing**

The only fencing proposed within the project is 8-foot-tall chain-link fence topped with barbed wire. This will mainly be focused around the perimeter of the plant pads to prevent unwarranted access to any facilities by the public and the entering of wildlife. As noted previously, a letter requesting relief on fencing requirements has been included with this application.

# North Valley Geothermal Development Project

## Special Use Permit – Project Description

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### Development Statistics

Project Parcels:	30 Parcels
Power Generation Facility APN's:	071-070-13
	071-030-06
Wells and Well Pads/Pipeline APN's:	071-030-07
	071-060-18
	071-070-09
	071-070-12
	071-070-16
	071-070-18
	071-070-19
	079-170-02
Transmission line APN's:	079-170-39
	079-180-02
	079-180-12
	079-180-34
	079-180-37
	079-180-44
	079-180-45
	079-320-04
	079-320-12
	079-320-18
	079-320-42
	079-320-47
	079-320-52
	079-320-55
	079-570-01
	079-570-02
	079-570-06
	079-570-07
	079-570-12
	079-570-13
Potential Project Impact Area:	2,414.0± acres
Project Area:	189.9± acres
Landscape/Re-Vegetation Area:	60.9± acres

## **Findings**

### **General Special Use Permit Findings**

Prior to approving an application for a special use permit, the Planning Commission, Board of Adjustment or a hearing examiner shall find that all of the following are true:

**(a) Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan;**

Response: The entire project area is designated as Rural and in accordance with Washoe County Development Code, renewable energy production is an allowed use through the approval of a special use permit. Furthermore, this specific location is identified within the High Desert Area Plan as the San Emidio Desert Hot Springs, an area identified as a geothermal area, a fact that is supported by the presence of an already existing geothermal power plant within the area. The proposed project has been designed to meet goals and policies within the area plan; specifically, goal fourteen which states that Washoe County will support the development of geothermal energy production.

**(b) Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;**

Response: The majority of the roads needed for the project are already existing with minor improvements proposed. However, new roads totaling approximately 4.2 miles, are proposed where existing roads cannot serve the new facilities. Minimal utility services are proposed. Following construction, facility water needs will include fire suppression and general maintenance water and is estimated to need approximately 0.37-acre feet per year (approximately 325 gallons per day).

It is worth noting that in an effort to reduce usage from the Sweetwater Well, the Applicant will provide drinking water from a commercial water source for the employees. It is not feasible to drill a local well for domestic use because the shallow aquifer near the project area is very hot and would require significant effort to treat to drinking water quality.

**(c) Site Suitability. The site is physically suitable for the type of development and for the intensity of development;**

Response: As previously stated, the project site is located in an area previously identified by the County as an area of geothermal activity, therefore suggesting it is physically suitable for this type of development. Furthermore, adjacent properties are already utilizing the geothermal resources using similar methods to the proposed project. As noted previously, the majority of the project (in the northern section) is relatively flat and contains no slopes greater than 30%. The 21.6 miles of transmission line are in an existing energy corridor and will follow an existing power line and maintenance road.

**(d) Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; and**

Response: The approval of the special use permit will help the State of Nevada meet the goals of providing 50% renewable energy production within the state by 2030. Generally, renewable energy is favored over the burning of fossil fuels due to its low impact on the land, air, and water quality. When done properly, as the Applicant has a history of doing so, it is not detrimental to the public health. Often providing a benefit, by serving the surrounding community with clean energy that emits very little greenhouse gases.

**(e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.**

Response: N/A

#### **Development of Natural Resources Special Use Permit Findings:**

All natural resources development shall require a special use permit reviewed by the Board of Adjustment. Natural resources development includes energy production, mining operations, petroleum gas extraction, and forest products production. In addition to the findings required in other sections of this article, issuance of a special use permit for development of natural resources shall be contingent on the Board of Adjustment making the following findings:

**(a) That the proposed development is not unduly detrimental to surrounding properties, land uses and the environment in general;**

Response: The proposed project is within an area already being utilized in the production of geothermal energy and is located within an extremely rural portion of the County. The project will utilize a majority of the existing roads and utilize grading standards that minimize cuts and fills and take into account the natural contours of the land. To minimize impacts of the land and to maximize efficiency, the pipelines are arranged to minimize disturbance of the land. The proposed process of geothermal energy production produces minimal emissions and has very little impact on the environment. A draft Environmental Assessment prepared and pending approval by the BLM will ensure mitigation and monitoring programs are met so that the project is not detrimental to the surrounding properties, land uses and the environment.

**(b) That the proposed development will not unduly block scenic views or degrade any surrounding scenic resources; and**

Response: The grading will be minimal as discussed earlier to minimize the disturbance area and to utilize the natural contours of the project area. Furthermore, the proposed pipelines are located along the ground and will have very little visual impacts. The two plants will be the most visible structures throughout the project area. In an effort to maintain a natural appearance, no landscaping or screening is proposed. However, the well heads, pipelines, buildings, and power plant components will be painted a BLM approved color to blend with the surrounding area and minimize visibility. Where reclamation of disturbed areas is proposed, a native seed mix will help to blend in with the natural setting and will minimize any impacts from the surrounding scenic resources.



**(c) That the proposed development will reclaim the site and all affected areas at the conclusion of the operation**

Response: The Applicant has a long history of reclamation on several other projects throughout the area. Reclamation of the site will be provided in accordance with all Federal, State, and Local regulations.

**Hazardous Materials Special Use Permit Findings:**

Prior to recommending approval of the special use permit application, the Planning Commission shall find that:

**(1) Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan;**

Response: The use of pentane, a hazardous material for renewable energy production is allowed through the approval of a special use permit within the Rural master plan. The entire project area is designated as Rural. Furthermore, this specific location is identified within the High Desert Area Plan as the San Emidio Desert Hot Springs, an area identified as a geothermal area. A fact that is supported by the presence of an already existing geothermal power plant within the area. The proposed project will meet a majority of the goals and policies within the area plan; specifically, goal fourteen which states that Washoe County will support the development of geothermal energy production.

Specifically, the pentane gas is flammable but non-toxic and, as such, requires advanced permitting through the State and County (including the requested special use permit). As designed, the project site is anticipated to contain up to 720,000 pounds of pentane in the system at any given time, split between the two power plants. There will be no disposal of pentane as it is used continuously in a completely sealed, closed-loop process, resulting in minimal losses. Losses that do occur will be due to the escape of binary working fluid from rotating seals and flanges on the heat exchangers and during maintenance on the binary power plant units. All of these losses, estimated to average about 12 tons per year requires increased safety and monitoring protocols.

**(2) Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.;**

Response: The majority of the roads needed for the project are already existing with minor improvements proposed. However, new roads totaling approximately 4.2 miles, are proposed where existing roads cannot serve the new facilities. Minimal utility services are proposed. Following construction, facility water needs will include fire suppression and general maintenance water and is estimated to need approximately 0.37-acre feet per year (approximately 325 gallons per day). To minimize impacts on the existing shallow aquifer in the area, the Applicant will utilize a septic tank and drinking water will be made available for employees from a commercial bottled water source.

**(3) Site Suitability. The site is physically suitable for the type of development and for the intensity of development; and**

Response: As previously stated, this is in an area identified by the County as an area of geothermal activity, adjacent properties are already utilizing the geothermal resources utilizing methods much similar to the proposed project. The majority of the project in the northern section is in an area that is relatively flat and contains no slopes greater than 30%. The 21.6 miles of transmission line are in an existing energy corridor and will follow an existing power line and maintenance road. The site is ideally located for the storage of hazardous materials as the remote location makes this an ideal use for this type of development.

**(4) Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.**

Response: The approval of the special use permit will help the State of Nevada meet the goals of providing 50% renewable energy production within the state by 2030. Generally, renewable energy is favored over the burning of fossil fuels due to its low impact on the land, air, and water quality. When done properly, as the Applicant has a history of doing so, it is not detrimental to the public health. Often providing a benefit, by serving the surrounding community with clean energy that emits very little greenhouse gases.

The project is a conforming use and is designed to safely store pentane, a hazardous material that is flammable, but non-toxic. As designed, each power plant is anticipated to have two storage tanks for up to 360,000 lbs. of pentane, per plant, for a total of up to 720,000 lbs. on site. There will be no disposal of pentane as it is used continuously in the process.

The company has a responsibility to follow all Local, State, and Federal regulations. All employees will be trained to properly handle, store, and dispose of hazardous waste in accordance with EPA regulations 49CFR and 40CFR.

Furthermore, as stated earlier, the storage of hazardous material requires the oversight of state and federal environmental protection agencies. This type of monitoring will ensure that the pentane gas is stored a safe and proper manner during the life of the plant, and that any emissions are not detrimental to the safety and welfare of the public.

**(5) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the safety, security, location, purpose or mission of the military installation.**

Response: N/A



# WOOD RODGERS

June 29, 2020

Dan Cahalane  
Planner  
Community Services Department – Planning & Building Division  
1001 E. Ninth St., Bldg A.  
Reno, NV 89512

**RE: Response to Comments for Ormat Geothermal WSUP20-0013 request for a variance regarding Article 410 and 412 landscape standards (Via Email)**

Dear Dan,

Wood Rodgers, Inc. received a request for additional information on June 24, 2020, regarding WSUP20-0013– A Special Use Permit request to allow for development of a geothermal energy production site located 6.2 miles southwest of State Highway 447 and Rodeo Creek Road in the High Desert and Truckee Canyon Planning Areas. Please see the following responses to the requested information:

1. *Article 410 – Requires all parking and maneuvering spaces to be paved. Please send me a letter requesting to vary this standard if you do not want to pave all required parking spaces.*

**Response:** The applicant is requesting that this standard be considered as a Variance as part of the SUP request since paved parking is generally intended for the urban environment. The location of the project is very remote and does not include services like storm water utilities including curb and gutter which are generally included with the installation of pavement.

2. *Article 412 – Varying landscaping standards – Please send me a letter requesting to vary the screening, landscaping, and fencing standards that you’ve included in your application.*

**Response:** According to Section 110.412.10 (d), “...the provisions of this article may be waived during the approval process for use types classified under energy production...” As part of this SUP the applicant is requesting that the landscape standards be waived in accordance with the section above to help the project meet the Character Statement outlined in the High Desert Area Plan.

Several policies, including Policy HD.16.5 encourage the use of native drought tolerant plants to be used in the landscape. This is consistent with what the applicant is proposing in accordance with the Bureau of Land Management (BLM) standards. This is proposed along areas where temporary grading has occurred and does not include roads, well pads, and maintenance areas around building. Proposing formal landscaping including trees and screening shrubs in accordance with Section 110.412 would have a negative visual impact on the area and take away from the character of the area since the native vegetation does not include plant types typically found in more formal landscaping, including the use of trees. Furthermore, the client is proposing the use of chain-link fence. This too will have less of a visual impact from the surrounding properties while still keeping the area secure from the public and wildlife.

*SUP – Ormat North Valley Geothermal Project  
Response to Comments  
June 29, 2020  
Page 2 of 2*

If you have any questions or need anything else for this project, please do not hesitate to contact me.

Thank you,



Andrew D. Durling, AICP, LEED AP  
Vice President - Planning

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 1 of 7

## Pentane

### SECTION 1 : Identification of the substance/mixture and of the supplier

**Product name :** Pentane

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25457

**Recommended uses of the product and uses restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific  
9 Barnhart Drive, Hanover, PA 17331

**Supplier Details:**

Fisher Science Education  
15 Jet View Drive, Rochester, NY 14624

**Emergency telephone number:**

Fisher Science Education Emergency Telephone No.: 800-535-5053

### SECTION 2 : Hazards identification

**Classification of the substance or mixture:**



**Flammable**

Flammable liquids, category 2



**Health hazard**

Aspiration hazard, category 1



**Irritant**

Specific target organ toxicity following single exposure, category 3



**Environmentally Damaging**

Chronic hazards to the aquatic environment, category 2

Flam. Liq. 2

Asp. Tox. 1

STOT SE3

Aquatic Chronic 2

**Signal word :**Danger

**Hazard statements:**

Highly flammable liquid and vapour

May be fatal if swallowed and enters airways

May cause drowsiness or dizziness

Toxic to aquatic life with long lasting effects

**Precautionary statements:**

If medical advice is needed, have product container or label at hand

Keep out of reach of children

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 2 of 7

## Pentane

Read label before use

Keep away from heat/sparks/open flames/hot surfaces. No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/light/equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Wear protective gloves/protective clothing/eye protection/face protection

Avoid release to the environment

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

In case of fire: Use ... for extinction

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Collect spillage

Store in a well ventilated place. Keep cool

Store locked up

Dispose of contents and container to an approved waste disposal plant

### Other Non-GHS Classification:

#### WHMIS

B2



#### NFPA/HMIS



NFPA SCALE (0-4)

Health	1
Flammability	4
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3 : Composition/information on ingredients

#### Ingredients:

CAS 109-66-0

n-Pentane

100 %

Percentages are by weight

### SECTION 4 : First aid measures

#### Description of first aid measures

**After inhalation:** Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if

## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 3 of 7

### Pentane

cough or other symptoms appear.

**After skin contact:** Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:** Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:** Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person.

#### Most important symptoms and effects, both acute and delayed:

Irritation. Headache. Nausea. Shortness of breath.;

#### Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

### SECTION 5 : Firefighting measures

#### Extinguishing media

**Suitable extinguishing agents:** Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**For safety reasons unsuitable extinguishing agents:**

#### Special hazards arising from the substance or mixture:

Carbon oxides. Thermal decomposition can lead to release of irritating gases and vapors.

#### Advice for firefighters:

**Protective equipment:** Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):** Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

### SECTION 6 : Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

#### Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

#### Methods and material for containment and cleaning up:

Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

#### Reference to other sections:

### SECTION 7 : Handling and storage

#### Precautions for safe handling:

Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

#### Conditions for safe storage, including any incompatibilities:

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 4 of 7

## Pentane

### SECTION 8 : Exposure controls/personal protection



**Control Parameters:**

109-66-0, Pentane, NIOSH TWA 350 mg/m<sup>3</sup>  
109-66-0, Pentane, ACGIH TLV TWA 600 ppm  
109-66-0, Pentane, OSHA PEL TWA 1000 ppm

**Appropriate Engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

### SECTION 9 : Physical and chemical properties

<b>Appearance (physical state,color):</b>	Clear, colorless liquid.	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not Determined Not Determined
<b>Odor:</b>	Gasoline-like odor	<b>Vapor pressure:</b>	573 mbar @ 20°C
<b>Odor threshold:</b>	Not Determined	<b>Vapor density:</b>	2.5 (Air = 1)
<b>pH-value:</b>	Not Determined	<b>Relative density:</b>	0.626
<b>Melting/Freezing point:</b>	- 130 ° C / - 202°F	<b>Solubilities:</b>	Material is slightly water soluble.
<b>Boiling point/Boiling range:</b>	36 ° C / 96.8°F	<b>Partition coefficient (n-octanol/water):</b>	Not Determined
<b>Flash point (closed cup):</b>	- 49°C / - 56.2°F	<b>Auto/Self-ignition temperature:</b>	Not Determined
<b>Evaporation rate:</b>	28.6	<b>Decomposition temperature:</b>	Not Determined



## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 5 of 7

### Pentane

<b>Flammability (solid,gaseous):</b>	Very flammable	<b>Viscosity:</b>	a. Kinematic:Not Determined b. Dynamic: Not Determined
<b>Density:</b> Not Determined			

### SECTION 10 : Stability and reactivity

**Reactivity:**Nonreactive under normal conditions.

**Chemical stability:**Stable under normal conditions.

**Possible hazardous reactions:**None under normal processing.

**Conditions to avoid:**Incompatible materials.Ignition sources, excess heat.

**Incompatible materials:**Strong oxidizing agents.

**Hazardous decomposition products:**Oxides of carbon.

### SECTION 11 : Toxicological information

<b>Acute Toxicity:</b>		
<b>Oral:</b>	5,000 mg/kg	LD50 mouse
<b>Inhalation:</b>	4 h - 364,000 mg/m3	LC50 rat
<b>Dermal:</b>	3,000 mg/kg	LD50 rabbit
<b>Chronic Toxicity:</b> No additional information.		
<b>Corrosion Irritation:</b> No additional information.		
<b>Sensitization:</b>	No additional information.	
<b>Single Target Organ (STOT):</b>	No additional information.	
<b>Numerical Measures:</b>	No additional information.	
<b>Carcinogenicity:</b>	No additional information.	
<b>Mutagenicity:</b>	No additional information.	
<b>Reproductive Toxicity:</b>	No additional information.	

### SECTION 12 : Ecological information

#### Ecotoxicity

**EC50 - Daphnia magna (Water flea):** 9.74 mg/l - 48 h

**Persistence and degradability:**

**Bioaccumulative potential:**

**Mobility in soil:**

**Other adverse effects:**

### SECTION 13 : Disposal considerations

#### Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material.Dispose of empty containers as unused product.It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine

## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 6 of 7

### Pentane

whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

#### SECTION 14 : Transport information

**UN-Number**

1465

**UN proper shipping name**

Pentanes

**Transport hazard class(es)****Class:**

3 Flammable liquids

**Packing group:**II**Environmental hazard:****Transport in bulk:****Special precautions for user:**

#### SECTION 15 : Regulatory information

**United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

Chronic, Fire

**SARA Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed

**RCRA (hazardous waste code):**

None of the ingredients is listed

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

None of the ingredients is listed

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients is listed

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed

**Canada****Canadian Domestic Substances List (DSL):**

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%):**

## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 02.10.2015

Page 7 of 7

### Pentane

None of the ingredients is listed

#### Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

### SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

#### GHS Full Text Phrases:

#### Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods  
PNEC: Predicted No-Effect Concentration (REACH)  
CFR: Code of Federal Regulations (USA)  
SARA: Superfund Amendments and Reauthorization Act (USA)  
RCRA: Resource Conservation and Recovery Act (USA)  
TSCA: Toxic Substances Control Act (USA)  
NPRI: National Pollutant Release Inventory (Canada)  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
WHMIS: Workplace Hazardous Materials Information System (Canada)  
DNEL: Derived No-Effect Level (REACH)

Effective date : 02.10.2015

Last updated : 03.19.2015

# Section 3

**Project Area North:  
Geothermal Plant**



**PERSHING  
COUNTY**

*Pyramid  
Lake*

447

446

**Project Area South:  
Transmission Line**



**CHURCHILL  
COUNTY**

445

395

SPARKS

80

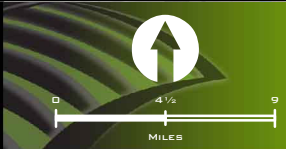
RENO

580

**STOREY  
COUNTY**

**LYON  
COUNTY**

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Vicinity Map

**Ormat North Valleys Geothermal Plant**

May 2020



**WOOD RODGERS**  
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME  
1361 Corporate Boulevard Reno, NV 89502  
Tel: 775.823.4068 Fax: 775.823.4066

APN  
071-060-18

APN 071-070-16

APN  
071-070-09

APN  
071-070-18

APN  
071-070-19




APN  
071-070-12


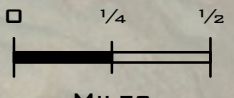
APN  
071-070-13

APN  
071-030-06

PERSHING COUNTY  
APN 071-030-07

**Legend**

-  Parcels
-  Project Boundary
-  County Boundary

MILES

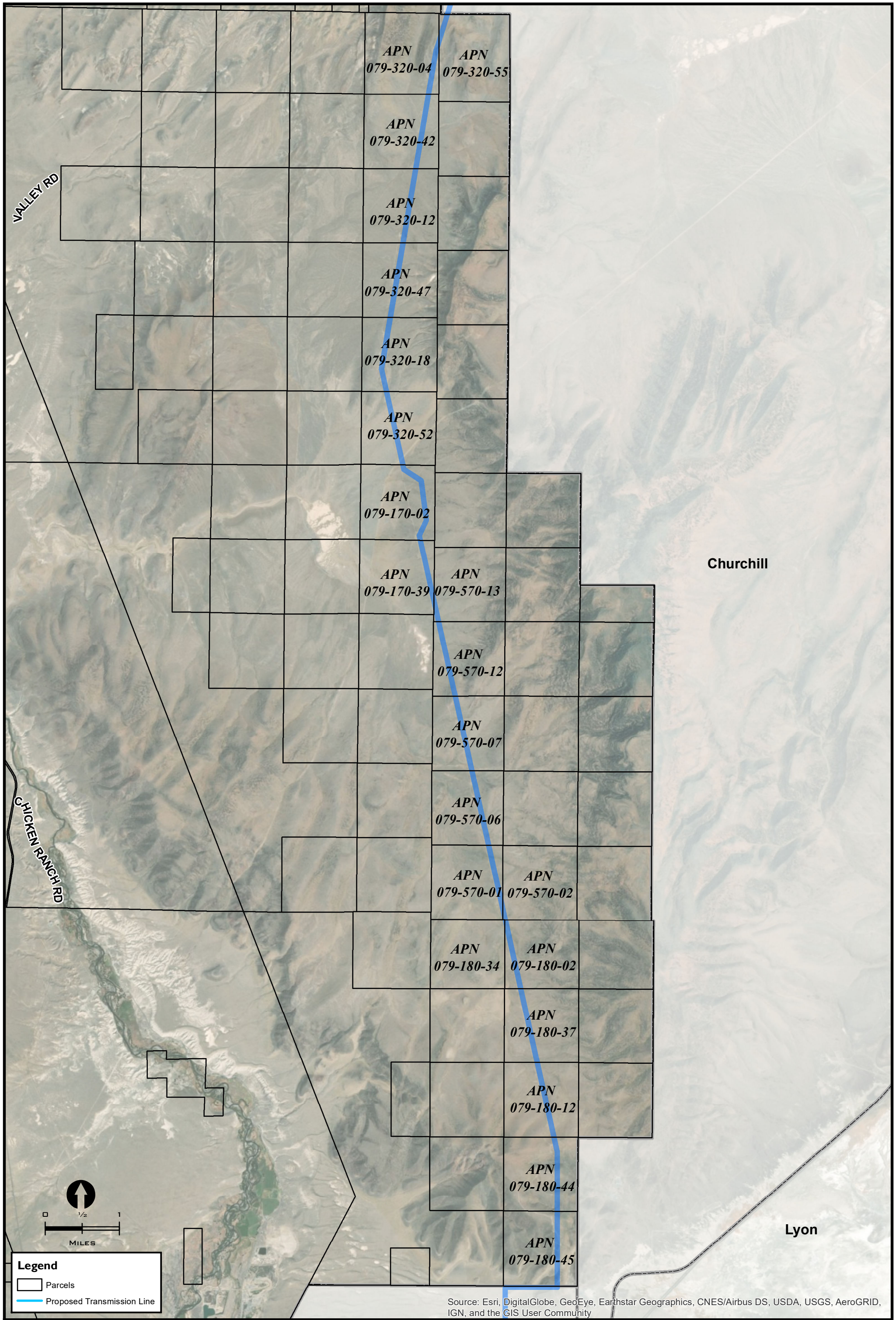
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area North Aerial Map

Washoe County, July, 2020



**WOOD RODGERS**  
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1361 Corporate Boulevard Tel: 775.823.4068  
Reno, NV 89502 Fax: 775.823.4066



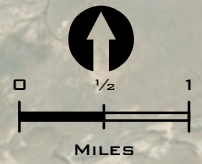
VALLEY RD

CHICKEN RANCH RD

Churchill

Lyon

APN 079-320-04 APN 079-320-55  
 APN 079-320-42  
 APN 079-320-12  
 APN 079-320-47  
 APN 079-320-18  
 APN 079-320-52  
 APN 079-170-02  
 APN 079-170-39 APN 079-570-13  
 APN 079-570-12  
 APN 079-570-07  
 APN 079-570-06  
 APN 079-570-01 APN 079-570-02  
 APN 079-180-34 APN 079-180-02  
 APN 079-180-37  
 APN 079-180-12  
 APN 079-180-44  
 APN 079-180-45



**Legend**

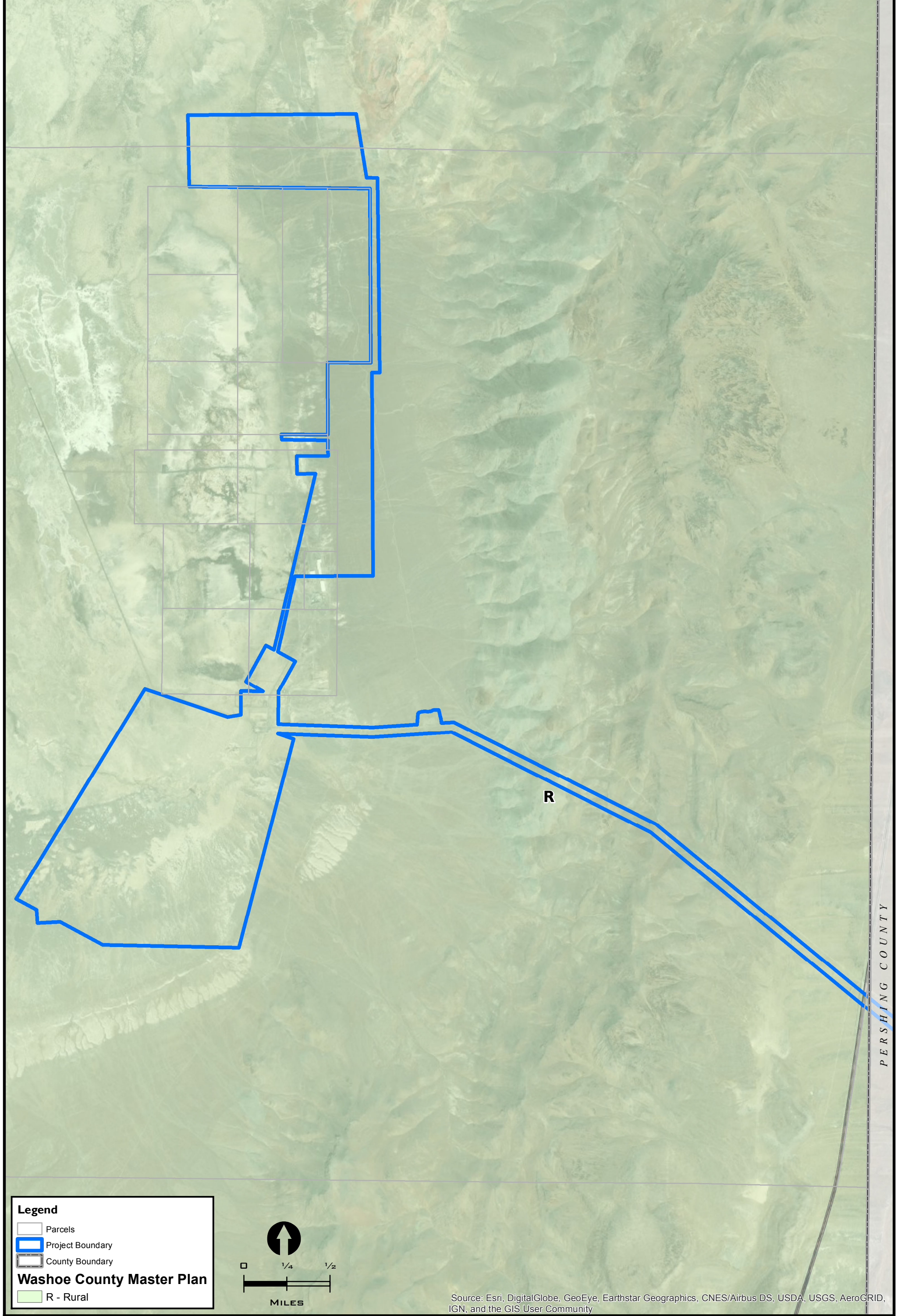
- Parcels
- Proposed Transmission Line

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area South Aerial Map

Washoe County, May 2020

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 Reno, NV 89502 Fax: 775.823.4066

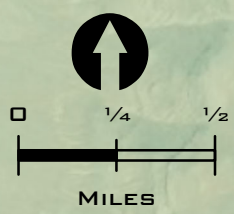


**Legend**

- Parcels
- Project Boundary
- County Boundary

**Washoe County Master Plan**

- R - Rural



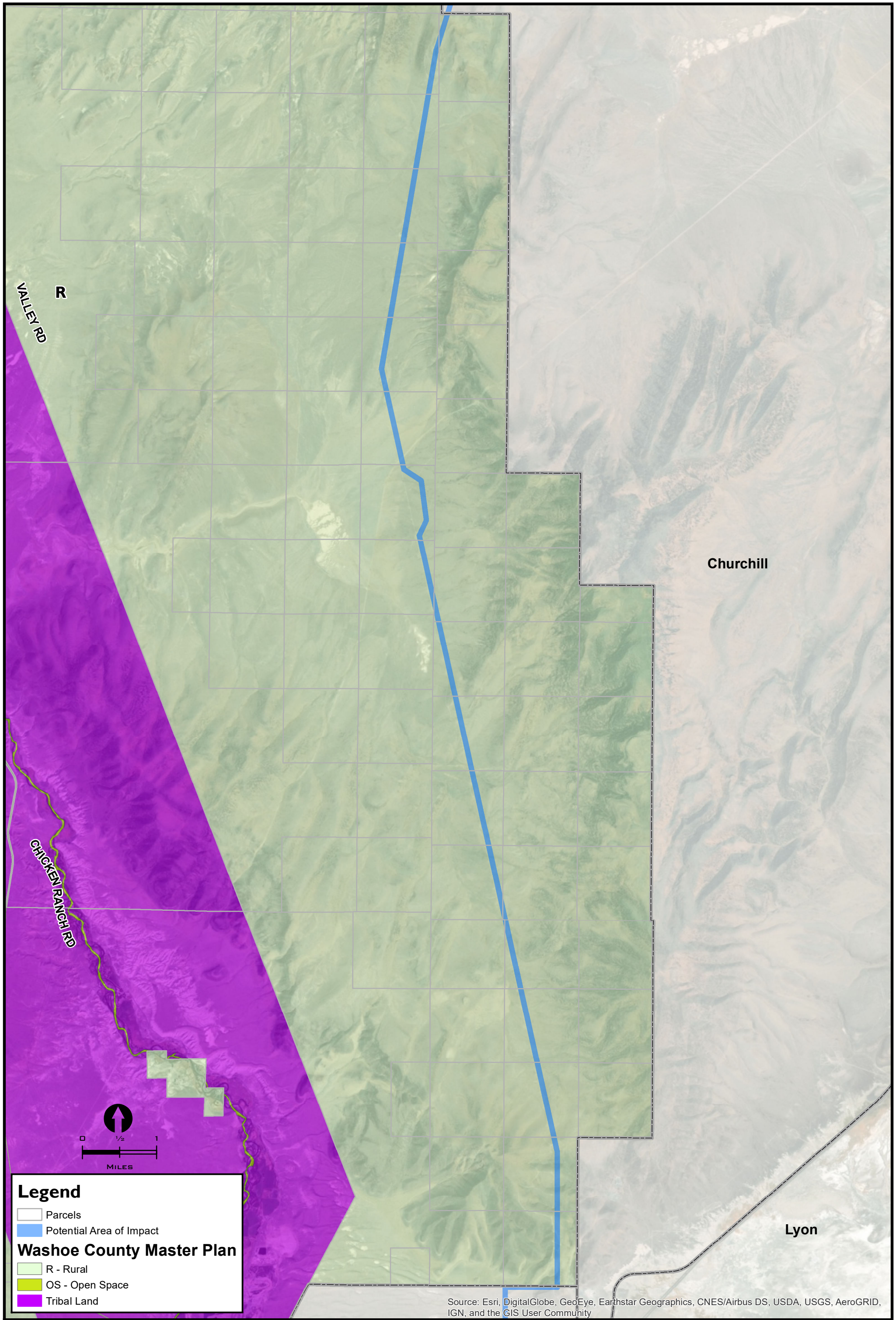
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area North Master Plan

Washoe County, July, 2020

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 Reno, NV 89502                      Fax: 775.823.4066





**Legend**

- Parcels
- Potential Area of Impact
- Washoe County Master Plan**
- R - Rural
- OS - Open Space
- Tribal Land

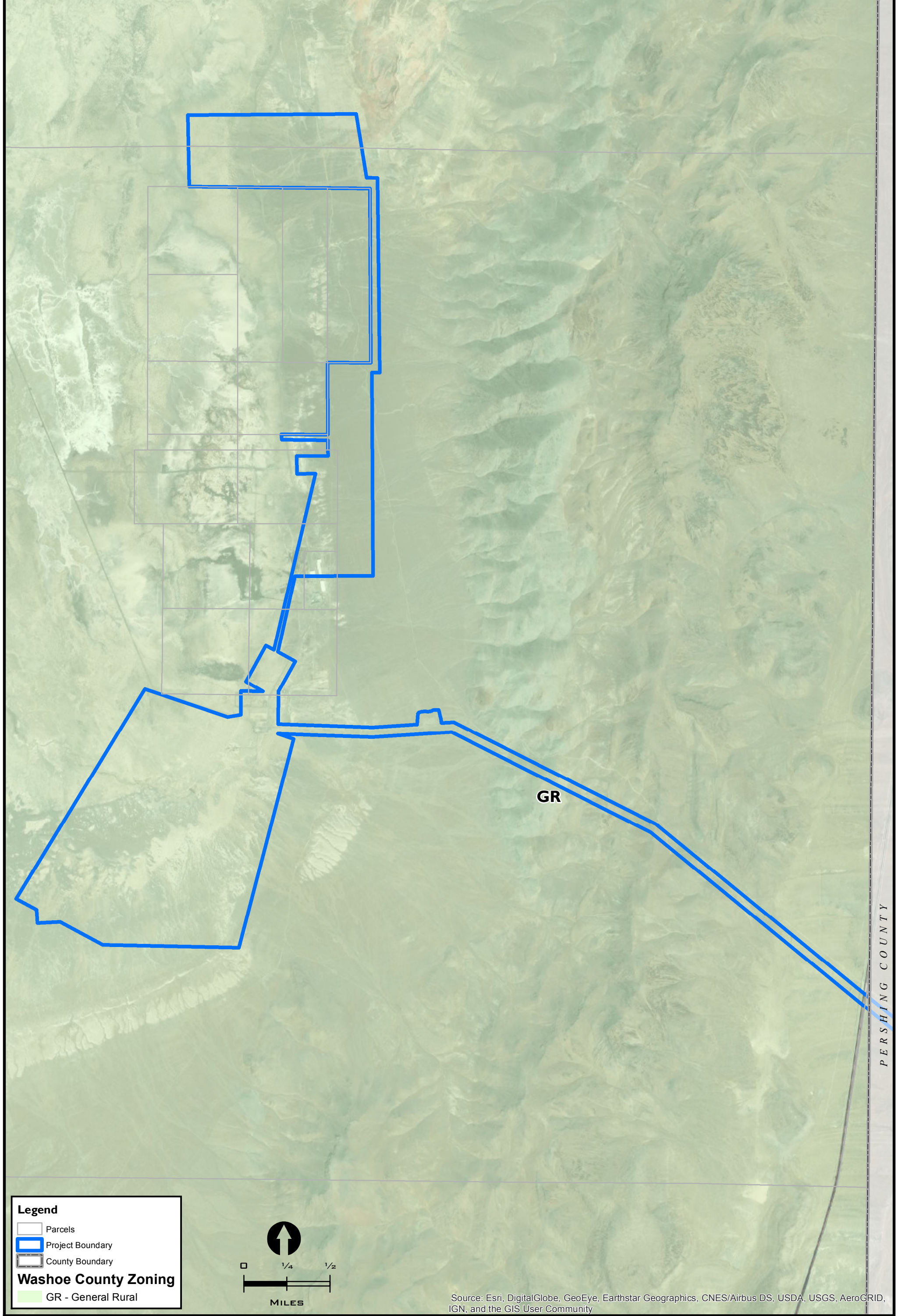
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area South Master Plan

Washoe County, May 2020



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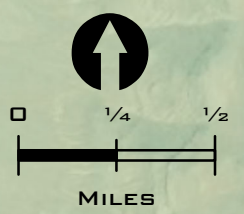


**Legend**

- Parcels
- Project Boundary
- County Boundary

**Washoe County Zoning**

- GR - General Rural

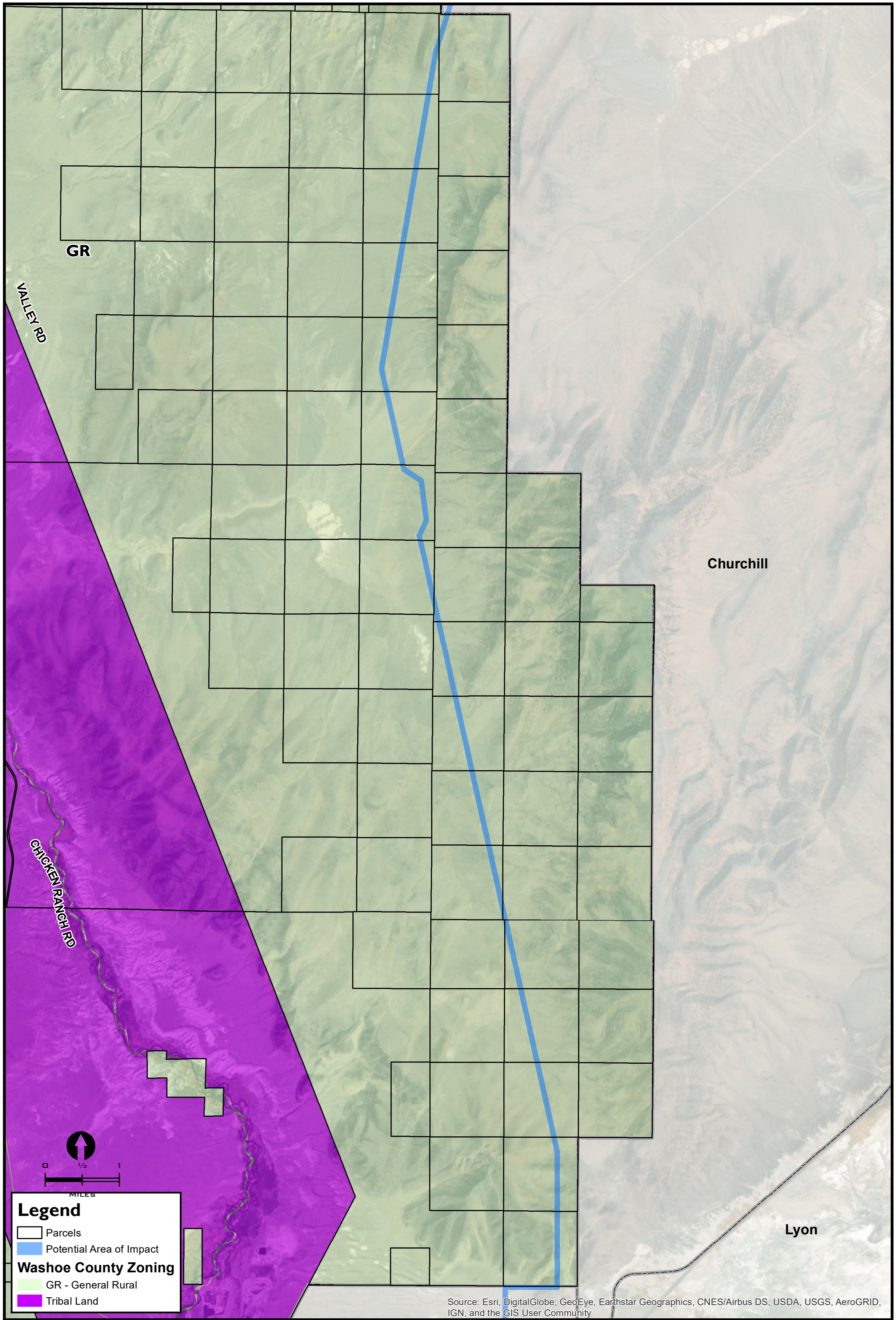


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area North Zoning

Washoe County, July, 2020

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1361 Corporate Boulevard Reno, NV 89502  
Tel: 775.823.4068 Fax: 775.823.4066



**Legend**

- Parcels
- Potential Area of Impact

**Washoe County Zoning**

- GR - General Rural
- Tribal Land

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

# Ormat North Valley Geothermal: Project Area South Zoning

Washoe County, May 2020



**WOOD RODGERS**  
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME  
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 Reno, NV 89502 Fax: 775.823.4066

# Section 4



June 15, 2020  
Project No. 1707005

Re: Geotechnical Due Diligence  
Ormat North Valleys Geothermal Plant Project  
Washoe County, Nevada

Ref: International Building Code 2018, *International Code Council*. (2018 IBC)

Minimum Design Loads for Buildings and Other Structures, ASCE Standard 7-16, *American Society of Civil Engineers*. (ASCE 7-16)

Standard Specifications for Public Works Construction, Regional Transportation Commission of Washoe County, 2016, Revision No. 9

We are pleased to present our due diligence review letter for the referenced project located in Washoe County, Nevada. The purpose of our due diligence review is to provide a summary of geotechnical considerations that could potentially impact the development of the property and has been based on review of readily available published documents.

#### **PROJECT DESCRIPTION**

The project consists of developing a large scale geothermal power plant facility. Site improvements will consist of geothermal wells and well pads, up to two  $\pm 20$  megawatt energy generation facilities, geothermal fluid pipelines, access roads, an electrical transmission line, and ancillary support structures.

The development's grading will likely include cut to fill. Cuts and fills are anticipated to approach  $\pm 7$ -feet.

#### **SITE DESCRIPTION**

The development area, located in Washoe County, Nevada, has a central latitude and longitude of 40.3743°N and -119.4050°E, respectively (Google Earth). The Vicinity Map is presented in Figure 1; the Site Map is presented in Figure 2.

Per Google Earth, existing development within the area of interest includes the U.S. Geothermal San Emidio Geothermal Plant approximately 0.4 miles northeast of the power generation facilities. Bordering the project site is the Wind Mountain mining operation to the north and open land to the west, east, and south. Several unpaved access roads are located across the site.

#### **GEOLOGIC AND GENERAL SOIL AND GROUNDWATER RESEARCH**

Based on Preliminary geologic map of the northern Lake Range, San Emidio geothermal area, Washoe County, Nevada (Rhodes, Faulds, and Ramelli 2011), the site is mapped in an area of Quaternary alluvial

deposits (Qfy), playa deposits (Qpf & Qp), fresh water lakebeach deposits (Qb), Tertiary volcanic units including tuffaceous rocks (Tpts), basaltic andesite (Tbp'), and various metasediments (TrJn). The geologic map is shown in Figure 3A; the Geologic Map Legend is presented in Figure 3B.

In addition to our review of the NBMG geologic map, soil survey maps prepared by the United States' Department of Agriculture's (USDA) Natural Resource Conservation Service (NRCS) were reviewed. NRCS characterizes the site as consisting of silt (ML) and silty sand (SM), medium to high plasticity clays (CL/CH), and nonplastic to low plasticity gravel (GC-GM) to a depth of approximately 5-feet. Bedrock is mapped at approximately 2-feet below the ground surface where the transmission line extends east of the power plants.

Nevada Division of Water Resources (NDWR) well logs indicate the static water level in the area of the project varies between 6 and 46-feet below the existing ground surface.

### **CORROSIVITY CONSIDERATIONS**

NRCS has identified the area of interest to present a low to high corrosion potential to concrete and high corrosion potential to uncoated steel elements. The USDA's NRCS information containing the Soil Map, Engineering Properties, and Corrosion Potential are attached in Appendix B of this report.

### **SEISMIC HAZARDS**

The area lies within the Basin and Range physiographic province. The Basin and Range province is characterized by a series of valleys bounded by north/south trending mountain ranges. The Basin Range is defined as the seismically active zones between the Wasatch Front in Utah and the Sierra Nevada Mountains along the California/Nevada border. Faulting and seismic activity are integral to the formation of this series of alternating valleys and mountain ranges. As a consequence, the presence of faults, active and inactive, is common throughout the province.

#### *Surface Rupture*

The criteria for evaluating earthquake faults has been formulated by a professional committee for the State of Nevada Earthquake Safety Council. The guidelines present that faults with evidence of movement within the past 10,000 years (Holocene time) are considered Holocene Active for routine residential and commercial projects. Faults with evidence of displacement within the last 130,000 years are considered Late Quaternary Active and faults with movement within the last 1.6 million years are considered Quaternary Active. The USGS U.S. Quaternary Faults was accessed to review the proximity of any active faults as previously characterized, and is presented in Figure 4. Several Undifferentiated Quaternary aged faults, that are part of the San Emidio fault zone, are mapped approximately 0.3 miles east of the power generation facilities but do transect some northern well pads. These faults will require a more detailed investigation during the design level geotechnical report.

### *Liquefaction*

Liquefaction is a loss of soil shear strength that can occur during a seismic event, as excessive pore water pressure, between the soil grains, is induced by cyclic shear stresses. This phenomenon is limited to poorly consolidated (Standard Penetration Test less than 30, overburden stress corrected shear wave velocity less than 700 fps) clean to silty sand/sandy silt lying below the ground water table (typically less than 50 feet deep).

A 50-foot liquefaction boring(s) utilizing mud rotary drilling techniques should be considered during the design level geotechnical investigation in order to more definitively assess the liquefaction potential. An alternative method to analyzing the liquefaction potential may utilize shear wave velocity measurements via geophysical testing.

### *Slope Instability*

The site and surrounding topography are such that the potential for slope instability at the site due to seismic activity is considered remote.

### **PRELIMINARY SOIL PROFILE TYPE AMPLIFICATION FACTORS**

In accordance with ASCE 7-16 and the Northern Nevada Amendments of the 2018 IBC, Site Class D (default) has been assigned to the project. The correct Site Classification will be determined during the design level geotechnical investigation. Preliminary seismic design values for this due diligence study were determined based on a representative latitude and longitude of 40.3743°N and -119.4050°E, respectively. Per ASCE 7-16, the site's modified Peak Ground Acceleration to be used for engineering analyses is equal to 0.494g. Risk Category III and IV have been presented for the structural engineer's consideration. The ASCE 7 Hazards Reports are presented in Appendix C.

### **GRADING CONSIDERATIONS AND PRELIMINARY RECOMMENDATIONS**

All vegetation and topsoil should be cleared and grubbed from structural areas. Clearing and grubbing depths are anticipated to generally range from two to six inches. Localized deeper removal may be required in areas of large brush and trees, if encountered. Vegetation and organic debris should be disposed of offsite or placed in designated non-structural areas with the owner's permission.

The site will likely be graded cut to fill. Structural fill is defined as any material placed below structural elements and includes foundations, concrete slabs-on-grade, pavements, or any structure that derives support from the underlying soil. Depending on the proposed grading plan and index properties of the native soils providing structural support, as determined from the design level geotechnical investigation, imported structural fill, or structural fill mined from a nearby source, will likely be required to create a separation layer between structural improvements and clay/fine grained soils. The extent of the clay/fine grained soil will be determined during the design level geotechnical investigation; however, based on public data, clay/fine-grained soils are anticipated to be encountered in the area where the majority of the proposed site improvements are located. An on-site source of structural fill should be investigated in the

higher pediment areas during the design level investigation which may result in limiting the amount of imported soil necessary. Typical separation thicknesses for the anticipated clay soils will likely be two to three-feet below foundations and up to one and a half feet below slabs-on-grade and site improvements, not including the base course section. Expansive soils may require placement in designated non-structural areas or off-hauling during grading activities.

Mass grading will require part-time observation and testing services of a qualified materials testing and inspection firm.

Grading of underground utilities should be completed with ordinary heavy duty construction equipment. Fine grained soils present in the project area will not be suitable for use as bedding and backfill. Importation of pipe bedding and trench backfill will likely be required. Wet trench conditions are not anticipated to be encountered on-site for shallow utilities. Deep manholes or trenches greater than approximately 6 feet below the existing surface may encounter groundwater or the effects therefrom. Verification of groundwater and seasonal high groundwater should be addressed by the design level geotechnical investigation and report.

Groundwater could be encountered at relatively shallow depths according to Nevada Division of Water Resources (NDWR) well logs (i.e. 6-feet). Excavations for the underground storage tanks or utility trenches that approach groundwater or that extend to within the zone of influence of groundwater will have a greater tendency to slough or cave and must be adequately considered and planned for by the contractor. If underground storage tanks are placed within the groundwater depth, then tie down anchors or other methods may be required to counteract hydrostatic pressure acting on the tank when at low fill volumes.

#### **FOUNDATION ALTERNATIVES**

Suitable foundation systems will hinge of the findings of the design level geotechnical report; however, standard spread foundations should perform adequately for the well pads if competent material is encountered or where structural fill separation layers are incorporated. Mat foundations, standard spread foundations, drilled shafts, or a combination thereof will likely be recommended for the power plant buildings and related structures; drilled shafts, micro-piles or large concrete mat foundations will likely be necessary for the transmission line support structures.

Due to the potentially corrosive nature of the site's soils, Type V concrete will likely be required.

#### **ACCESS ROAD CONSIDERATIONS**

Surface gravel sections for temporary access roads will likely consist of 4 to  $\pm 6$ -inches Type 2 Class B aggregate base. Permanent access roads will likely require from 6 to  $\pm 10$ -inches of aggregate base. The alternative surface gravel design section thicknesses should be addressed in the design level geotechnical report.



June 15, 2020

Page 5 of 5

**SUMMARY**

Although the site presents some constraints that bear closer scrutiny, the site does not present geotechnical conditions that cannot be reasonably mitigated. We appreciate the opportunity to provide this due diligence geotechnical letter. Please note that this document has been prepared based on published data. Varying conditions, and conditions not yet identified, may come to light or may be encountered during development of a design-level geotechnical report. Please contact our office if you have any related questions.


Wood Rodgers can provide both civil engineering support and full service construction testing and special inspection support for the project. We would be happy to provide a proposal for those services at the appropriate time. Thank you for the opportunity to be of service.

Sincerely,

**WOOD RODGERS, INCORPORATED**

Justin M. McDougal, PE  
Associate  
RE Number: 24474  
Expires 12/31/2021




  
Gary C. Luce, PE  
Sr. Geotechnical Engineer

Enclosures

06/15/2020

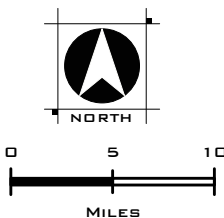
- Appendix A: Figures
  - Figure 1 - Vicinity Map
  - Figure 2 - Site Map
  - Figure 3 - Geologic Map
  - Figure 4 - Quaternary Fault Map
- Appendix B: USDA NRCS Information
- Appendix C: Preliminary Seismic Design Values



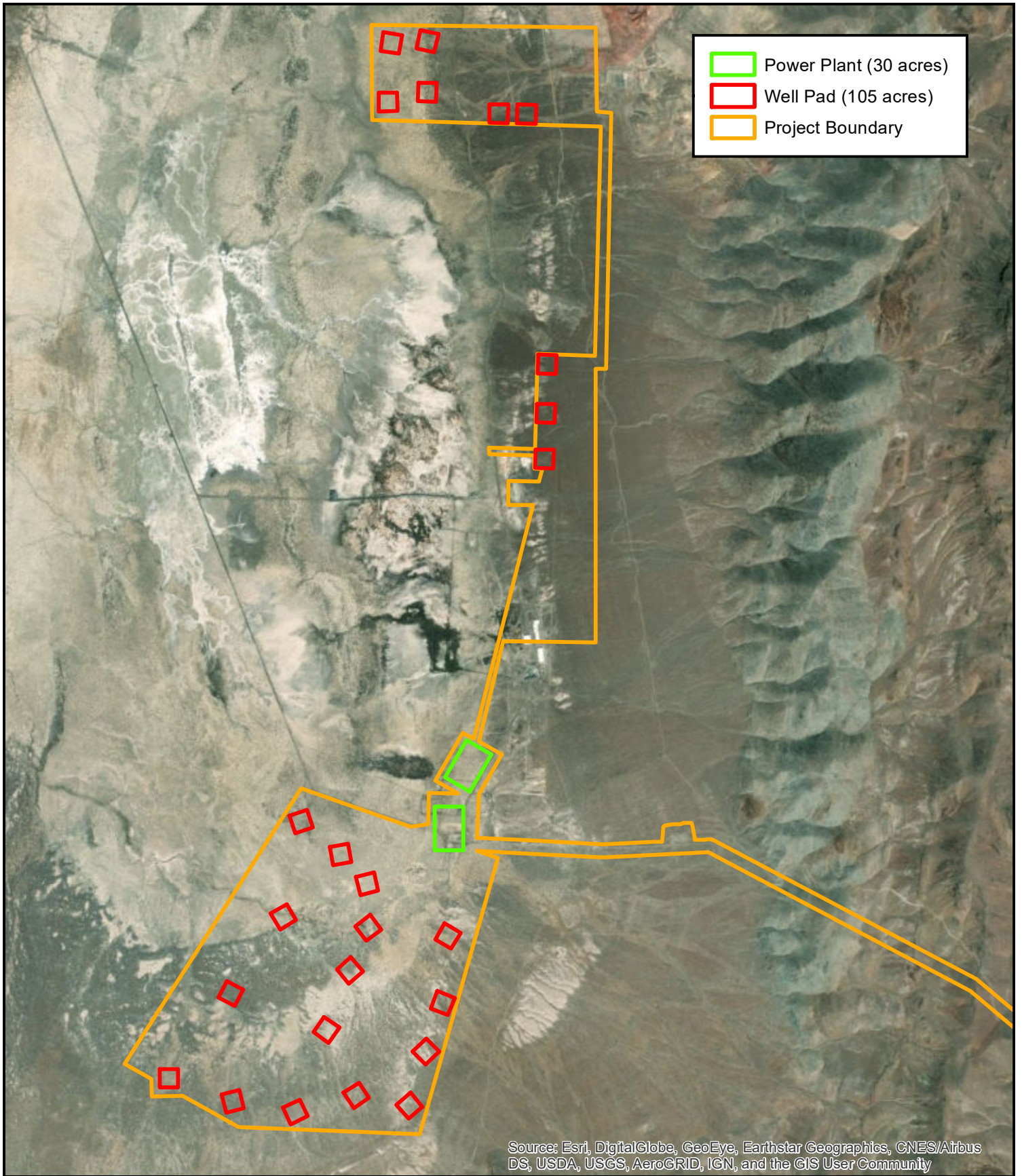
APPENDIX A  
FIGURES



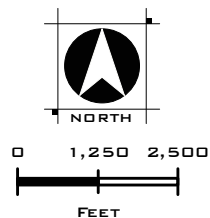
**FIGURE 1 - VICINITY MAP**  
**ORMAT NORTH VALLEYS GEOTHERMAL PLANT**  
**WASHOE COUNTY, NV**  
**JUNE 2020**



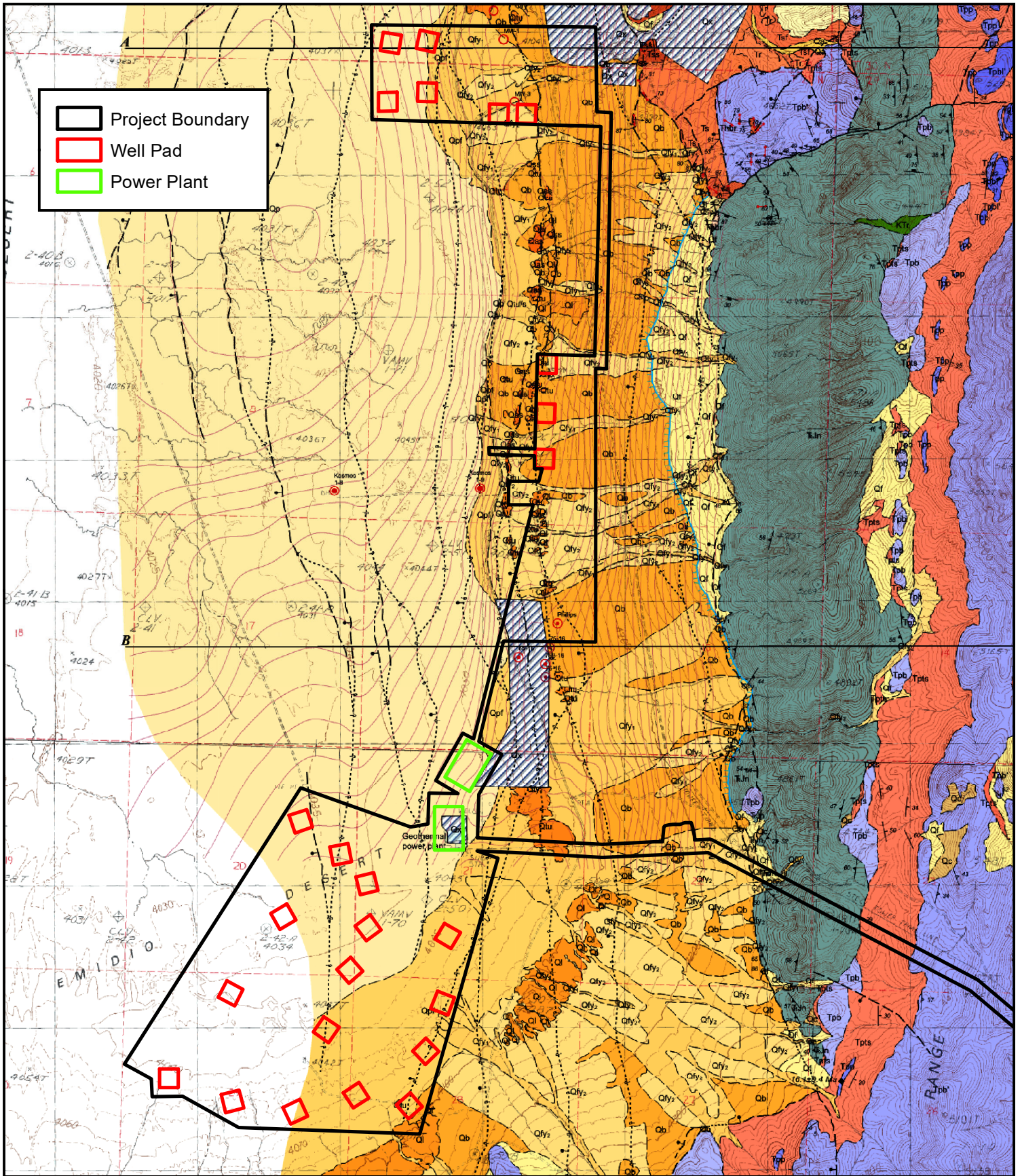
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 1361 Corporate Boulevard Tel: 775.823.4068  
 Reno, NV 89502 Fax: 775.823.4066



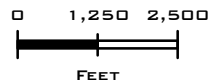
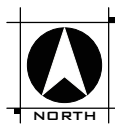
**FIGURE 2 - SITE MAP**  
 ORMAT NORTH VALLEYS GEOTHERMAL PLANT  
 WASHOE COUNTY, NV  
 JUNE 2020



  
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**FIGURE 3A - GEOLOGIC MAP**  
 ORMAT NORTH VALLEYS GEOTHERMAL PLANT  
 WASHOE COUNTY, NV  
 JUNE 2020



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**Anthropogenic Features and Deposits**

 Disturbed and modified areas

**Playa and Related Deposits**

 Playa deposits (latest Holocene to late Pleistocene)

 Playa fringe deposits (Holocene to late Pleistocene)

**Hillslope Deposits**

 Colluvium (Holocene to Pleistocene)

**Alluvial Deposits**

 Young alluvium, undivided (Holocene to late Pleistocene)


 Young active fan alluvium and recently abandoned active alluvial surfaces (Holocene)

 Young active fan alluvium (late Holocene)

 Young fan alluvium, undivided (Holocene to late Pleistocene)

 Fan alluvium, undivided (Holocene to late Pleistocene)

 Intermediate fan alluvium, undivided (late to middle Pleistocene)

 Old fan alluvium, (middle to early Pleistocene)

 Silicified alluvium, undivided (Holocene to Pleistocene)

 Acid-sulfate altered alluvium, undivided (Holocene to Pleistocene)

 Acid-sulfate altered fanglomerate (Holocene to Pleistocene)

 Terrace gravels, undivided (late Holocene to Pleistocene)

 Basin fill alluvium, undivided (late Holocene to late Tertiary) (In cross section only)

**Quaternary Lacustrine Deposits**

 Subaqueous spring-related tufa deposits (middle Holocene to late Pleistocene)

 Subaqueous spring-related tufa and siliceous sinter deposits (middle Holocene to late Pleistocene)

 Shallow lake sediments (middle Holocene to late Pleistocene)


 Beach deposits (middle Holocene to late Pleistocene)

**Tertiary Rocks**

 Fault related gypsum and calcite deposits

 Fault related sheeted calcite veins

 Non-indurated sedimentary rocks and fan alluvium

 Silicified sedimentary rocks

 Rhyolitic tuff

 Sedimentary rocks (late Miocene to Pliocene)

 Clay-rich sedimentary rocks

 Hydrothermally altered lower Pyramid sequence volcanic rocks

 Hydrothermal breccia

**Pyramid Sequence**

 Dacite

 Tuffaceous sedimentary and volcanoclastic rocks

 Sparsely porphyritic basaltic andesite

 Tuffaceous sedimentary and volcanoclastic rocks

 Tuffaceous sedimentary and volcanoclastic rocks, undivided (In cross section only)

 Sparsely porphyritic basaltic andesite

 Porphyritic basaltic andesite

 Basalt

**Lower Miocene Volcanic Rocks**

 Dacite

**Cretaceous Intrusions**





 Flow-banded rhyolite dikes

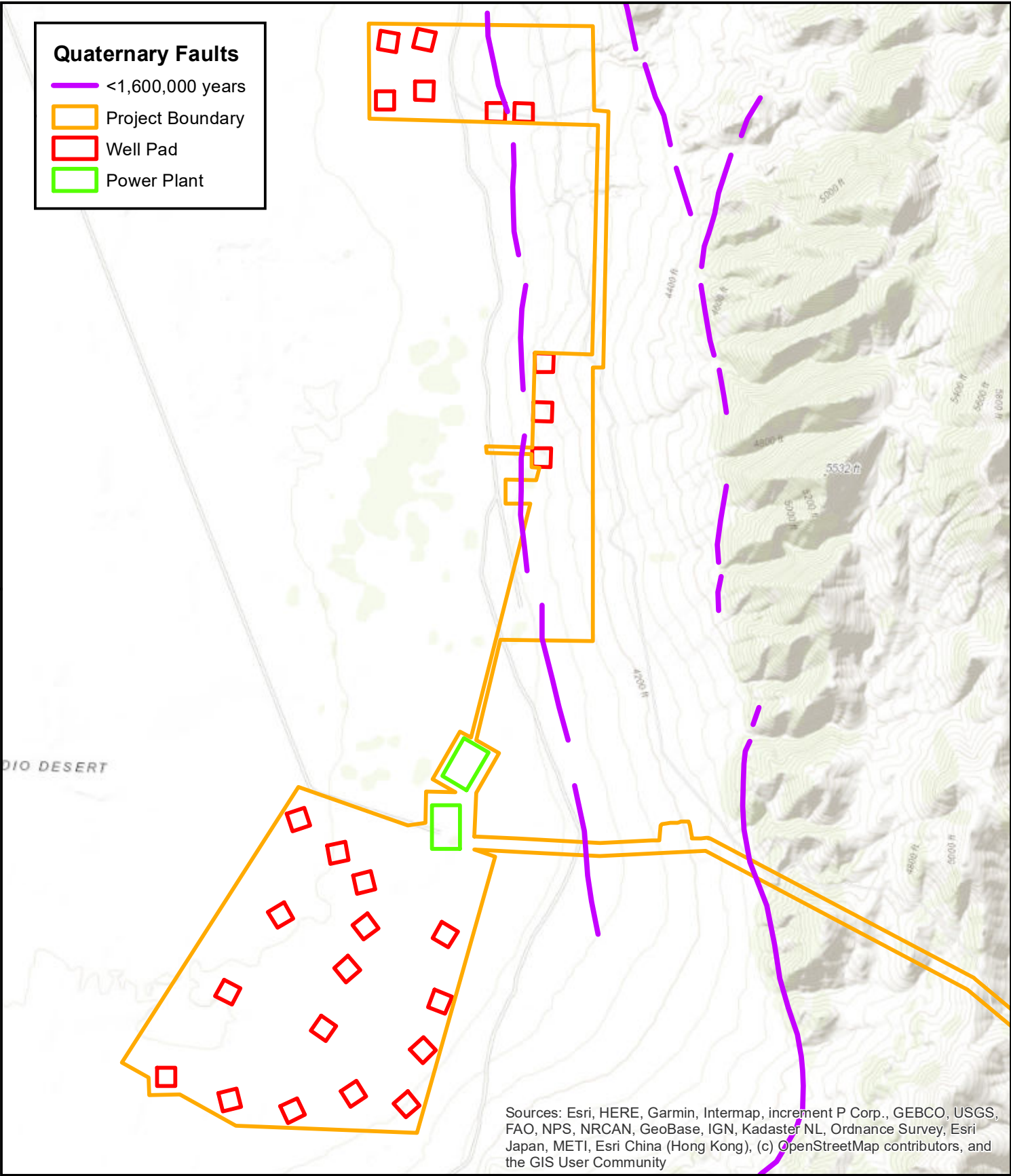
**Triassic and Jurassic Nightingale Formation**

 Metasediments including phyllite, quartzite, and marble

**FIGURE 3B - GEOLOGIC MAP LEGEND**  
ORMAT NORTH VALLEYS GEOTHERMAL PLANT  
WASHOE COUNTY, NV  
JUNE 2020

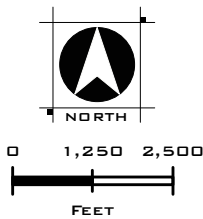
**Quaternary Faults**

-  <1,600,000 years
-  Project Boundary
-  Well Pad
-  Power Plant



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

**FIGURE 4 - QUATERNARY FAULT MAP**  
 ORMAT NORTH VALLEYS GEOTHERMAL PLANT  
 WASHOE COUNTY, NV  
 JUNE 2020



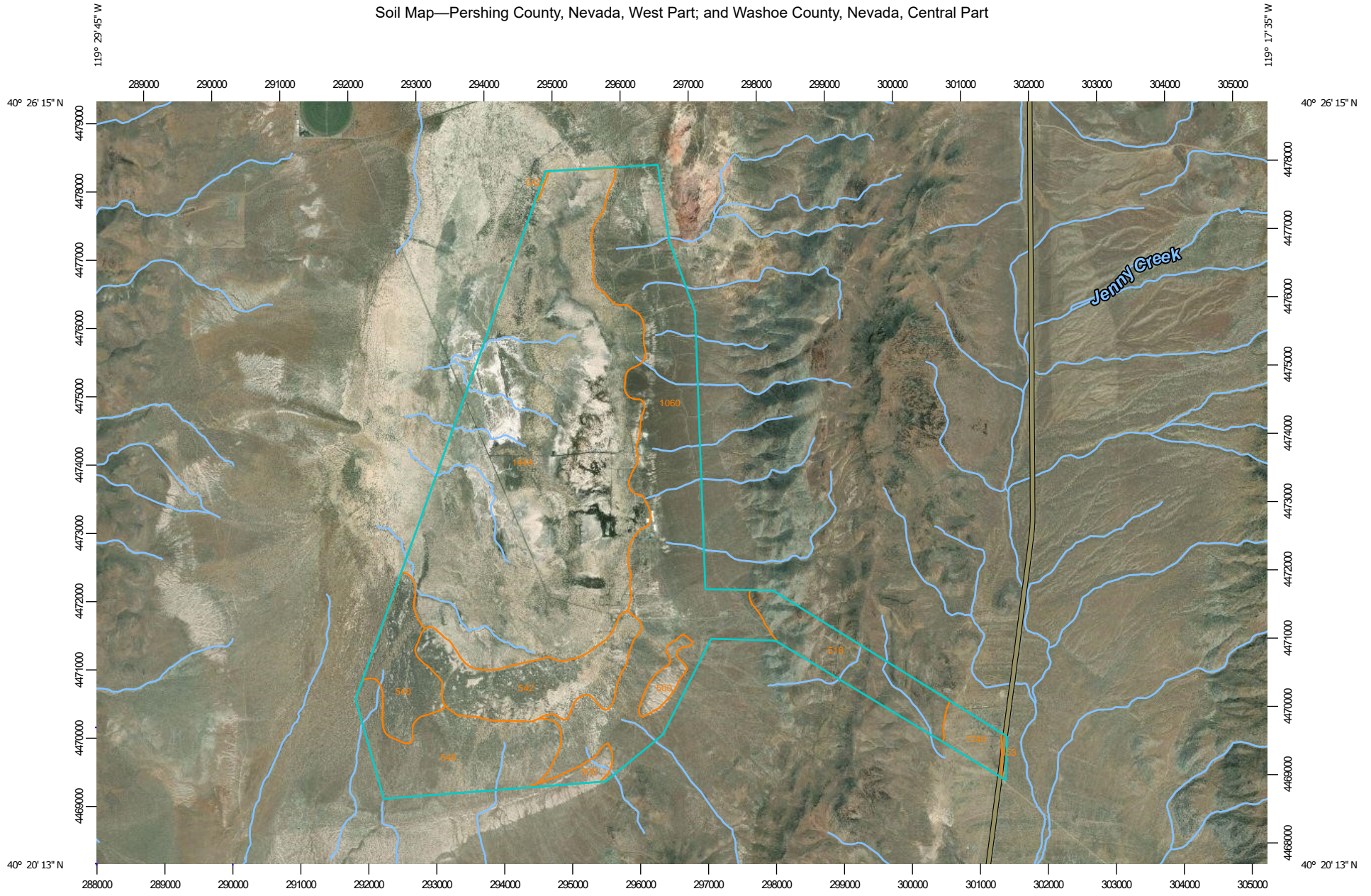

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APPENDIX B  
USDA NRCS INFORMATION



Soil Map—Pershing County, Nevada, West Part; and Washoe County, Nevada, Central Part



Map Scale: 1:78,700 if printed on A landscape (11" x 8.5") sheet.

0 1000 2000 4000 6000 Meters


0 3500 7000 14000 21000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pershing County, Nevada, West Part

Survey Area Data: Version 15, Sep 16, 2019

Soil Survey Area: Washoe County, Nevada, Central Part

Survey Area Data: Version 11, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 11, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
653	Labkey-Mazuma association	10.5	0.1%
<b>Subtotals for Soil Survey Area</b>		<b>10.5</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>		<b>8,967.3</b>	<b>100.0%</b>

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
500	Smaug very fine sandy loam, 2 to 8 percent slopes	153.3	1.7%
518	Bucklake-Pickup-Wylo association	467.2	5.2%
540	Mazuma complex, 0 to 4 percent slopes	366.7	4.1%
542	Mazuma-Ragtown association	628.5	7.0%
546	Mazuma association	741.0	8.3%
1060	Trocken-Mazuma association	2,309.4	25.8%
1240	Labkey-Mazuma association	136.8	1.5%
1444	Umberland silty clay loam, ponded	4,154.1	46.3%
<b>Subtotals for Soil Survey Area</b>		<b>8,956.8</b>	<b>99.9%</b>
<b>Totals for Area of Interest</b>		<b>8,967.3</b>	<b>100.0%</b>

## Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Hydrologic soil group* is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

*Group A.* Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

*Group B.* Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

*Group C.* Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

*Group D.* Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Percentage of rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

## Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "\*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties—Pershing County, Nevada, West Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
653—Labkey-Mazuma association														
Labkey	55	A	0-4	Gravelly sandy loam	SM	A-2, A-1	0- 0- 0	0- 0- 0	80-90-100	55-65-75	35-45-55	20-28-35	16-20-25	NP
			4-12	Gravelly coarse sandy loam, gravelly sandy loam	SM	A-1, A-2	0- 0- 0	0- 0- 0	80-90-100	50-60-70	25-35-45	15-23-30	16-20-25	NP
			12-60	Stratified extremely gravelly coarse sand to gravelly sandy loam	SM, SP-SM	A-1	0- 0- 0	0- 0- 0	60-70-80	25-35-45	10-18-25	5-10-15	0-17-21	NP
Mazuma	30	A	0-6	Fine sandy loam	SM	A-4, A-2	0- 0- 0	0- 0- 0	95-98-100	85-93-100	70-78-85	30-40-50	20-23-25	NP-3 -5
			6-60	Stratified gravelly coarse sand to silt loam	SM	A-4	0- 0- 0	0- 0- 0	95-98-100	75-88-100	70-80-90	35-43-50	20-23-25	NP-3 -5

Engineering Properties--Washoe County, Nevada, Central Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
500--Smaug very fine sandy loam, 2 to 8 percent slopes														
Smaug	85	C	0-10	Very fine sandy loam	ML	A-4, A-5	0- 0- 0	0- 0- 0	95-98-100	90-95-100	80-85-90	50-58-65	30-40-50	NP
			10-60	Silt loam, very fine sandy loam	ML	A-4, A-5	0- 0- 0	0- 0- 0	98-100-100	95-98-100	95-98-100	70-85-100	30-40-50	NP-3 -5



Engineering Properties--Washoe County, Nevada, Central Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
518--Bucklake-Pickup-Wylo association														
Bucklake	35	D	0-8	Very stony loam	CL, CL-ML, SC, SC-SM	A-4, A-6	25-25-45	10-15-35	70-83-90	65-75-80	55-63-70	40-48-55	25-30-35	5-10-15
			8-12	Gravelly clay loam	CL, GC	A-6	0- 0- 0	0- 2- 8	60-66-80	55-58-70	45-55-65	40-48-55	30-35-40	10-15-20
			12-24	Gravelly clay, gravelly clay loam	CL, CH, GC	A-7	0- 0- 0	0- 8- 10	60-76-90	55-68-80	45-55-65	40-50-60	40-50-60	20-28-35
			24-34	Bedrock	—	—	—	—	—	—	—	—	—	—
Pickup	30	D	0-2	Very stony loam	GC, GC-GM	A-2	10-15-25	10-15-20	50-56-65	45-48-55	30-38-45	20-28-35	25-30-35	5-10-15
			2-8	Very gravelly loam	GC, GC-GM	A-2	0- 0- 5	0- 0- 5	45-53-60	40-45-50	30-38-45	20-28-35	25-30-35	5-10-15
			8-34	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0- 0- 5	0- 3- 25	35-56-60	30-48-50	25-43-45	20-35-40	45-53-60	20-25-30
			34-44	Bedrock	—	—	—	—	—	—	—	—	—	—
Wylo	20	D	0-4	Very cobbly loam	GC, GC-GM, GM, SC	A-2, A-4	8- 8- 15	15-25-30	60-65-75	50-53-60	40-45-55	30-40-50	25-30-35	5-8 -10
			4-15	Gravelly clay, gravelly clay loam, cobbly clay	GC, SC	A-7	0- 2- 5	10-28-30	65-78-95	60-70-85	50-60-70	35-43-50	40-45-50	15-20-25
			15-25	Bedrock	—	—	—	—	—	—	—	—	—	—

Engineering Properties--Washoe County, Nevada, Central Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	
540--Mazuma complex, 0 to 4 percent slopes														
Mazuma	60	A	0-10	Loamy fine sand	SM	A-2, A-4	0- 0- 0	0- 0- 0	95-98-100	85-93-100	75-85-95	30-40-50	0-0 -0	NP
			10-60	Stratified gravelly coarse sand to silt loam	SM	A-4	0- 0- 0	0- 0- 0	95-98-100	75-88-100	70-80-90	35-43-50	20-23 -25	NP-3 -5
Mazuma	25	A	0-8	Fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	70-80-90	30-40-50	20-23 -25	NP-3 -5
			8-30	Sandy loam, fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	90-95-100	30-40-50	20-23 -25	NP-3 -5
			30-60	Stratified gravelly coarse sand to silt loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	75-88-100	70-78-85	50-63-75	25-40-55	20-23 -25	NP-3 -5
542--Mazuma-Ragtown association														
Mazuma	55	B	0-8	Silt loam	ML	A-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	90-95-100	70-75-80	20-23 -25	NP-3 -5
			8-30	Sandy loam, fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	90-95-100	30-40-50	20-23 -25	NP-3 -5
			30-60	Stratified gravelly coarse sand to silt loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	75-88-100	70-78-85	50-63-75	25-40-55	20-23 -25	NP-3 -5
Ragtown	30	C	0-10	Silty clay loam	CL, ML	A-7	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	95-98-100	80-85-90	40-45 -50	15-18-20
			10-23	Stratified sandy clay loam to silty clay loam	CL	A-6, A-7	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	80-88-95	50-63-75	35-40 -45	15-18-20
			23-60	Stratified silty clay loam to clay	CH, CL, MH	A-7	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	90-95-100	75-80-85	40-48 -55	20-23-25

Engineering Properties--Washoe County, Nevada, Central Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	
546--Mazuma association														
Mazuma	55	B	0-8	Very fine sandy loam	ML	A-4	0- 0- 0	0- 0- 0	95-98-100	85-93-100	70-80-90	50-58-65	20-23-25	NP-3 -5
			8-60	Stratified gravelly coarse sand to silt loam	SM	A-4	0- 0- 0	0- 0- 0	95-98-100	75-88-100	70-80-90	35-43-50	20-23-25	NP-3 -5
Mazuma	30	A	0-8	Fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	70-80-90	30-40-50	20-23-25	NP-3 -5
			8-30	Sandy loam, fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	90-95-100	30-40-50	20-23-25	NP-3 -5
			30-60	Stratified gravelly coarse sand to silt loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	75-88-100	70-78-85	50-63-75	25-40-55	20-23-25	NP-3 -5
1060--Trodden-Mazuma association														
Trodden	60	B	0-3	Very gravelly sandy loam	GM, SM	A-1	0- 0- 0	0- 5- 10	45-55-65	35-43-50	25-33-40	10-15-20	15-20-25	NP-3 -5
			3-60	Stratified very cobbly loam to extremely gravelly coarse sandy loam	GC, GC-GM, GW-GC	A-1, A-2	0- 0- 5	5- 8- 35	35-53-70	20-35-50	15-28-40	10-15-20	15-20-25	2-5 -10
Mazuma	25	A	0-8	Fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	70-80-90	30-40-50	20-23-25	NP-3 -5
			8-30	Sandy loam, fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	90-95-100	30-40-50	20-23-25	NP-3 -5
			30-60	Stratified gravelly coarse sand to silt loam	ML, SM	A-2, A-4	0- 0- 0	0- 0- 0	75-88-100	70-78-85	50-63-75	25-40-55	20-23-25	NP-3 -5

Engineering Properties--Washoe County, Nevada, Central Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
1240—Labkey-Mazuma association														
Labkey	55	A	0-4	Gravelly sandy loam	SM	A-1, A-2	0- 0- 0	0- 0- 0	80-90-95	55-65-75	35-45-55	20-28-35	15-18-20	NP-2 -5
			4-14	Gravelly sandy loam, gravelly coarse sandy loam	SM	A-1, A-2	0- 0- 0	0- 0- 0	85-90-90	55-65-70	25-35-45	15-23-30	15-18-20	NP-2 -5
			14-60	Stratified extremely gravelly coarse sand to gravelly sandy loam	SM, SP-SM	A-1	0- 0- 0	0- 0- 0	60-70-80	25-35-45	10-18-25	5-10- 15	0-0 -0	NP
Mazuma	30	A	0-8	Fine sandy loam	SM	A-2, A-4	0- 0- 0	0- 0- 0	95-98-100	85-93-100	70-78-85	30-40-50	20-23-25	NP-3 -5
			8-60	Stratified gravelly coarse sand to silt loam	SM	A-4	0- 0- 0	0- 0- 0	95-98-100	75-88-100	70-80-90	35-43-50	20-23-25	NP-3 -5
1444—Umbreland silty clay loam, ponded														
Umbreland	90	D	0-5	Silty clay loam	CL	A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	85-93-100	40-45-50	20-23-25
			5-60	Silty clay loam, silty clay	CH, CL	A-7	0- 0- 0	0- 0- 0	100-100-100	100-100-100	95-98-100	85-93-100	40-48-55	25-28-30

## Data Source Information

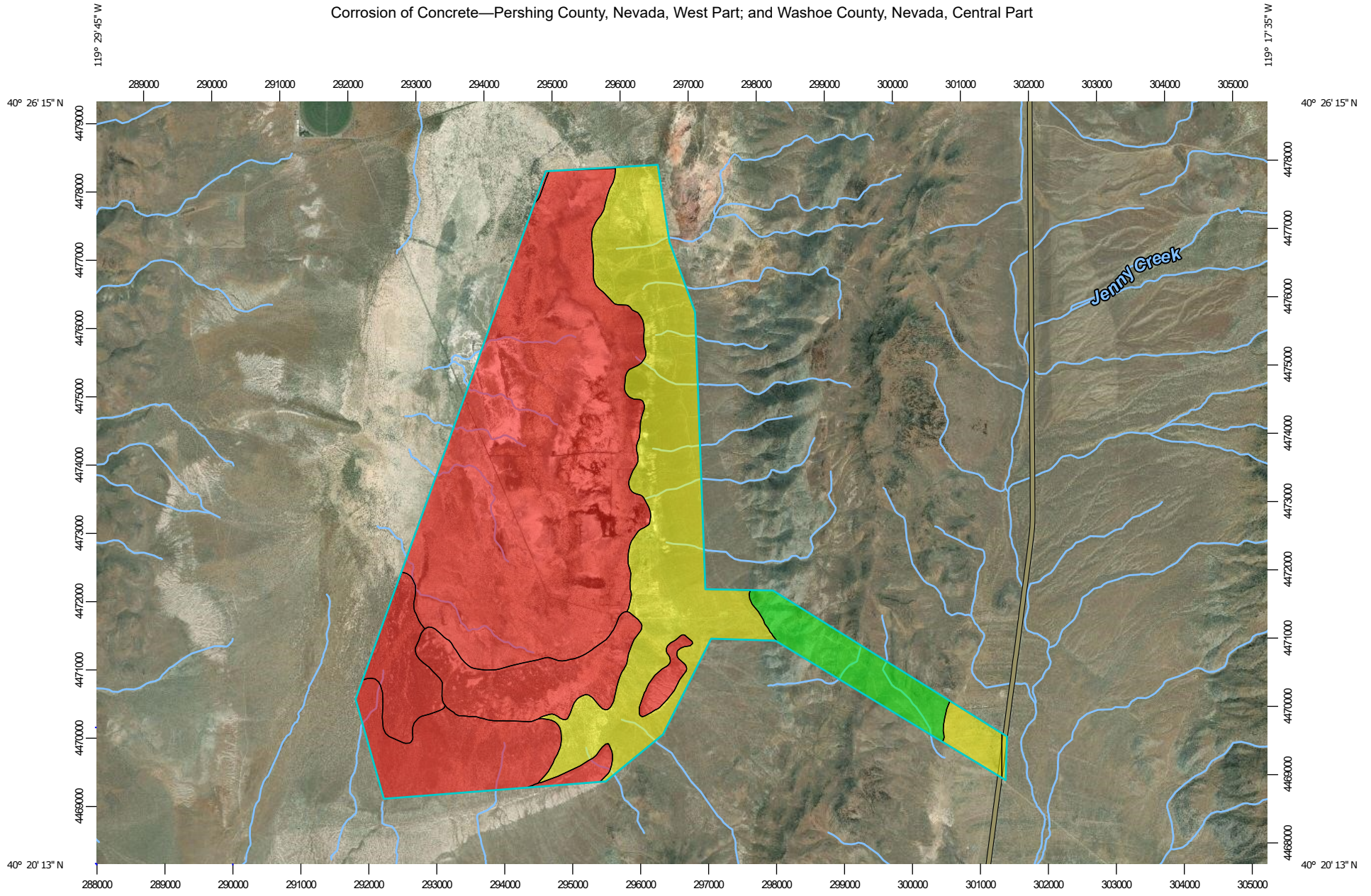
Soil Survey Area: Pershing County, Nevada, West Part

Survey Area Data: Version 15, Sep 16, 2019

Soil Survey Area: Washoe County, Nevada, Central Part

Survey Area Data: Version 11, Sep 16, 2019

Corrosion of Concrete—Pershing County, Nevada, West Part; and Washoe County, Nevada, Central Part























Map Scale: 1:78,700 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



## MAP LEGEND

<b>Area of Interest (AOI)</b>	<b>Background</b>
 Area of Interest (AOI)	 Aerial Photography
<b>Soils</b>	
<b>Soil Rating Polygons</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Soil Rating Lines</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Soil Rating Points</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Water Features</b>	
 Streams and Canals	
<b>Transportation</b>	
 Rails	
 Interstate Highways	
 US Routes	
 Major Roads	
 Local Roads	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pershing County, Nevada, West Part  
 Survey Area Data: Version 15, Sep 16, 2019

Soil Survey Area: Washoe County, Nevada, Central Part  
 Survey Area Data: Version 11, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 11, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Corrosion of Concrete

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
653	Labkey-Mazuma association	Moderate	10.5	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>10.5</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>8,967.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
500	Smaug very fine sandy loam, 2 to 8 percent slopes	High	153.3	1.7%
518	Bucklake-Pickup-Wylo association	Low	467.2	5.2%
540	Mazuma complex, 0 to 4 percent slopes	High	366.7	4.1%
542	Mazuma-Ragtown association	High	628.5	7.0%
546	Mazuma association	High	741.0	8.3%
1060	Trocken-Mazuma association	Moderate	2,309.4	25.8%
1240	Labkey-Mazuma association	Moderate	136.8	1.5%
1444	Umberland silty clay loam, ponded	High	4,154.1	46.3%
<b>Subtotals for Soil Survey Area</b>			<b>8,956.8</b>	<b>99.9%</b>
<b>Totals for Area of Interest</b>			<b>8,967.3</b>	<b>100.0%</b>

## Description

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the concrete in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

## Rating Options

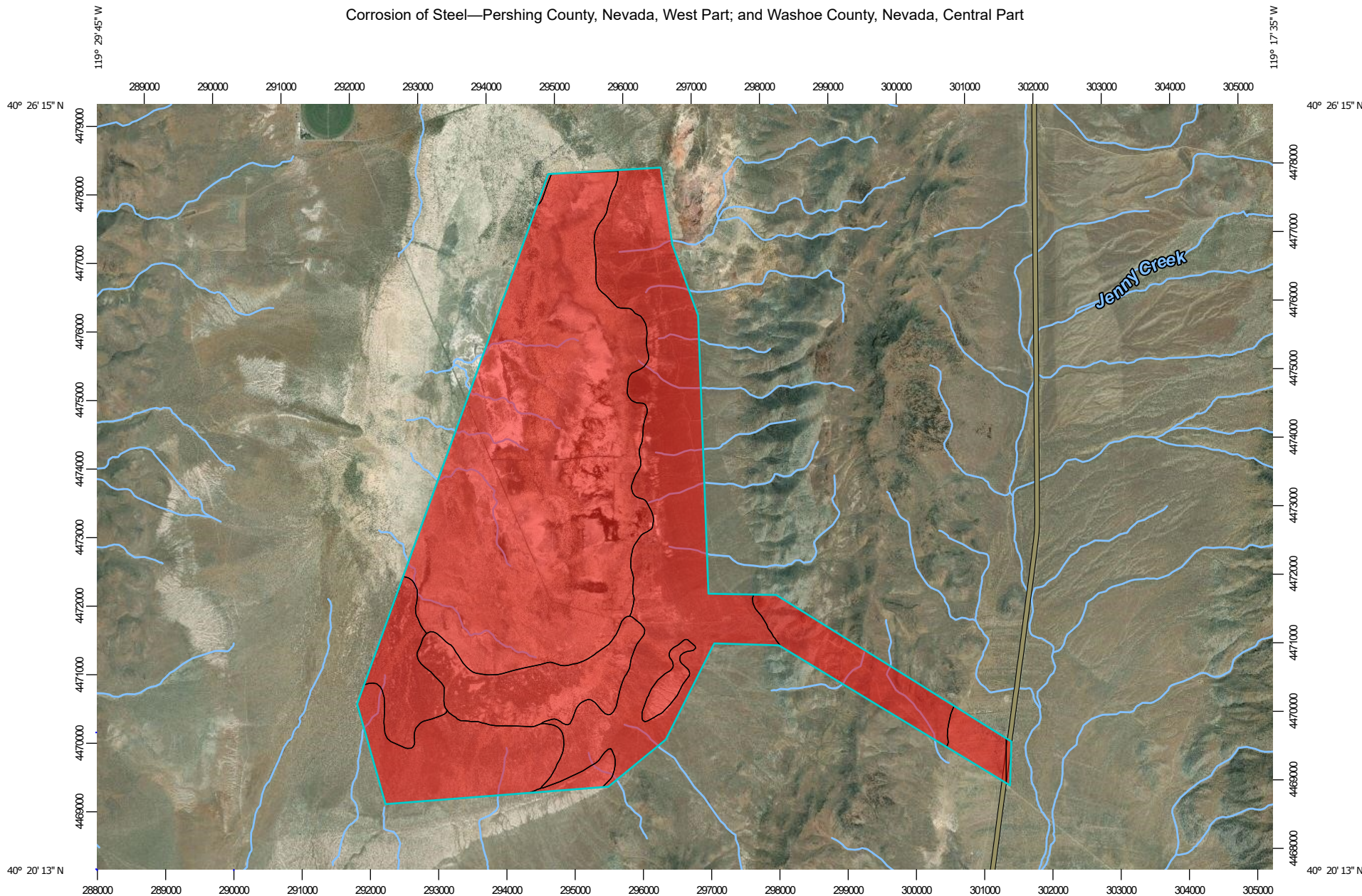
*Aggregation Method:* Dominant Condition



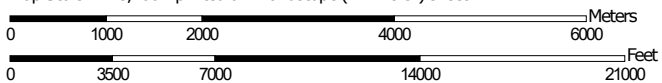
*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*

Corrosion of Steel—Pershing County, Nevada, West Part; and Washoe County, Nevada, Central Part























Map Scale: 1:78,700 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



## MAP LEGEND

<b>Area of Interest (AOI)</b>	<b>Background</b>
 Area of Interest (AOI)	 Aerial Photography
<b>Soils</b>	
<b>Soil Rating Polygons</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Soil Rating Lines</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Soil Rating Points</b>	
 High	
 Moderate	
 Low	
 Not rated or not available	
<b>Water Features</b>	
 Streams and Canals	
<b>Transportation</b>	
 Rails	
 Interstate Highways	
 US Routes	
 Major Roads	
 Local Roads	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pershing County, Nevada, West Part  
 Survey Area Data: Version 15, Sep 16, 2019

Soil Survey Area: Washoe County, Nevada, Central Part  
 Survey Area Data: Version 11, Sep 16, 2019

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 11, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Corrosion of Steel

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
653	Labkey-Mazuma association	High	10.5	0.1%
<b>Subtotals for Soil Survey Area</b>			<b>10.5</b>	<b>0.1%</b>
<b>Totals for Area of Interest</b>			<b>8,967.3</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
500	Smaug very fine sandy loam, 2 to 8 percent slopes	High	153.3	1.7%
518	Bucklake-Pickup-Wylo association	High	467.2	5.2%
540	Mazuma complex, 0 to 4 percent slopes	High	366.7	4.1%
542	Mazuma-Ragtown association	High	628.5	7.0%
546	Mazuma association	High	741.0	8.3%
1060	Trocken-Mazuma association	High	2,309.4	25.8%
1240	Labkey-Mazuma association	High	136.8	1.5%
1444	Umberland silty clay loam, ponded	High	4,154.1	46.3%
<b>Subtotals for Soil Survey Area</b>			<b>8,956.8</b>	<b>99.9%</b>
<b>Totals for Area of Interest</b>			<b>8,967.3</b>	<b>100.0%</b>

## Description

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*



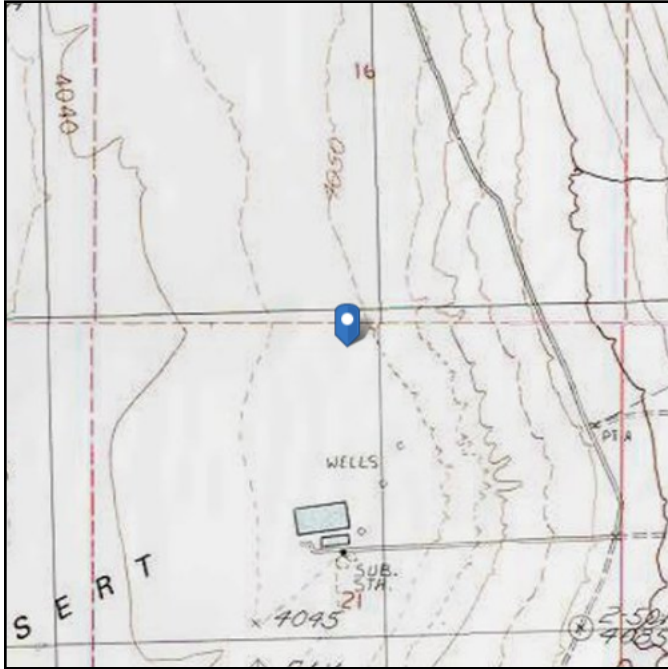
**APPENDIX C**  
**PRELIMINARY SEISMIC DESIGN VALUES**

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** III  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 4051.97 ft (NAVD 88)  
**Latitude:** 40.3743  
**Longitude:** -119.405



**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	0.938	$S_{D1}$ :	N/A
$S_1$ :	0.325	$T_L$ :	6
$F_a$ :	1.2	PGA :	0.412
$F_v$ :	N/A	PGA <sub>M</sub> :	0.494
$S_{MS}$ :	1.126	$F_{PGA}$ :	1.2
$S_{M1}$ :	N/A	$I_e$ :	1.25
$S_{DS}$ :	0.75	$C_v$ :	1.269

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Tue May 26 2020

**Date Source:** [USGS Seismic Design Maps](#)



The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

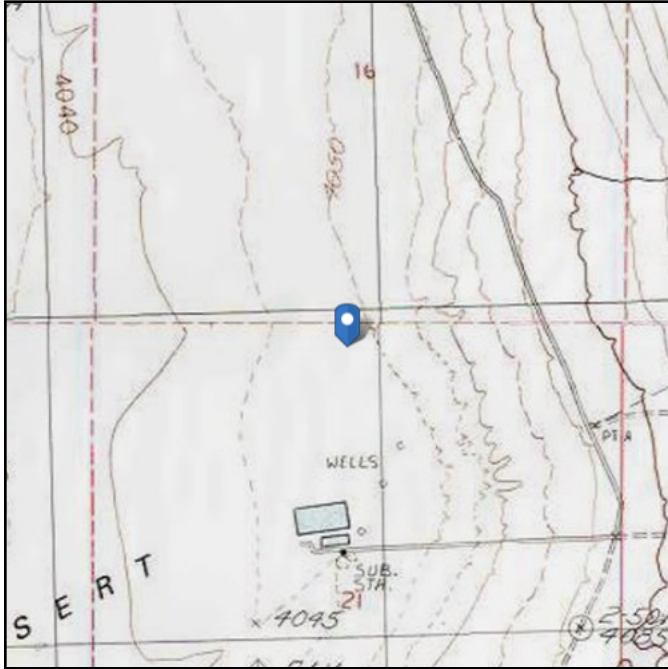
In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** IV  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 4051.97 ft (NAVD 88)  
**Latitude:** 40.3743  
**Longitude:** -119.405



**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	0.938	$S_{D1}$ :	N/A
$S_1$ :	0.325	$T_L$ :	6
$F_a$ :	1.2	PGA :	0.412
$F_v$ :	N/A	PGA <sub>M</sub> :	0.494
$S_{MS}$ :	1.126	$F_{PGA}$ :	1.2
$S_{M1}$ :	N/A	$I_e$ :	1.5
$S_{DS}$ :	0.75	$C_v$ :	1.269

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

**Data Accessed:** Tue May 26 2020

**Date Source:** [USGS Seismic Design Maps](#)

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Serial No.  
NVN098636

**OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES  
(For New Leases Issued Under the Energy Policy Act of 2005 [August 5, 2005])**

The undersigned (see page 2) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970, as amended (30 U.S.C. 1001-1025).

**READ INSTRUCTIONS BEFORE COMPLETING**

1. Name Ormat Nevada Inc		1a. Street 6140 Plumas St	
1b. City Reno		1c. State NV	1d. Zip Code 89519

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project: \_\_\_\_\_

Legal description of land requested (segregate by public domain and acquired lands): Enter T., R., Meridian, State and County

Future rental payments must be made on or before the anniversary date to:  
Office of Natural Resources Revenue (ONRR)  
<http://www.onrr.gov/ReportPay/payments.htm>

Total Acres Applied for \_\_\_\_\_

Percent U.S. interest \_\_\_\_\_

Amount remitted: Processing Fee \$ \_\_\_\_\_ Rental Fee \$ \_\_\_\_\_ Total \$ \_\_\_\_\_

**DO NOT WRITE BELOW THIS LINE**

3. Land included in lease: Enter T., R., Meridian, State and County

T.0290N, R.0230E, 21 MDM, NV Sec. 004 LOTS 1-4; 005 LOTS 1-7; 005 S2NW,SW;	T.0290N, R.0230E, 21 MDM, NV Sec. 008 LOTS 1-4; 008 W2; 009 LOTS 2-4;
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Total Acres in Lease 1227.820

Rental Retained \$ 2456.00

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years and subsequent extensions thereof in accordance with 43 CFR subpart 3207. Rights granted are subject to: applicable laws; the terms, conditions, and attached stipulations of this lease; the Secretary of the Interior's regulations and formal orders in effect as of lease issuance; and, when not inconsistent with the provisions of this lease, regulations and formal orders hereafter promulgated.

Type of Lease:

- Competitive
- Noncompetitive
- Noncompetitive direct use (43 CFR subpart 3205)

Comments:

NV-19-09-056

THE UNITED STATES OF AMERICA

BY

*Kemba K. Anderson*

(Signing Official)

*Kemba K. Anderson*

(Printed Name)

Chief, Branch of Mineral Resources, Fluids

(Title)

**OCT 16 2019**

(Date)

EFFECTIVE DATE OF LEASE 11/01/2019

Check if this is a converted lease

EFFECTIVE DATE OF LEASE CONVERSION \_\_\_\_\_

(Continued on page 2)

**LESSEE**

4. (a) The undersigned certifies that:
- (1) The offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR part 3200 and the authorizing Act; (3) The offeror's chargeable interests, direct and indirect, do not exceed those allowed under the Act; and (4) The offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.
  - (b) The undersigned agrees that signing this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which the offeror has been given notice. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations or if it is not accompanied by the required payments. Title 18 U.S.C. § 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

(Printed Name of Lessee or Attorney-in-fact)

(Signature of Lessee or Attorney-in-fact)

#### LEASE TERMS

**Sec. 1. Rentals**—Rentals must be paid to the proper office of the lessor in advance of each lease year. Annual rental rates per acre or fraction thereof, as applicable, are:

(a) Noncompetitive lease (includes post-sale parcels not receiving bids, a direct use lease or a lease issued to a mining claimant) \$1.00 for the first 10 years; thereafter \$5.00; or

(b) Competitive lease: \$2.00 for the first year, \$3.00 for the second through tenth year; thereafter \$5.00.

Annual rental is always due by the anniversary date of this lease (43 CFR 3211.13), regardless of whether the lease is in a unit or outside of a unit, the lease is in production or not, or royalties or direct use fees apply to the production.

Rental may only be credited toward royalty under 43 CFR 3211.15 and 30 CFR 218.303. Rental may not be credited against direct use fees. Failure to pay annual rental timely will result in late fees and will make the lease subject to termination in accordance with 43 CFR 3213.14.

**Sec. 2. (a) Royalties**—Royalties must be paid to the proper office of the lessor. Royalties are due on the last day of the month following the month of production. Royalties will be computed in accordance with applicable regulations and orders. Royalty rates for geothermal resources produced for the commercial generation of electricity but not sold in an arm's length transaction are: 1.75 percent for the first 10 years of production and 3.5 percent after the first 10 years. The royalty rate is to be applied to the gross proceeds derived from the sale of electricity in accordance with 30 CFR part 206 subpart H.

The royalty rate for byproducts derived from geothermal resource production that are minerals specified in section 1 of the Mineral Leasing Act (MLA), as amended (30 U.S.C. 181), is 5 percent, except for sodium compounds, produced between September 29, 2006 and September 29, 2011 (Pub. L. No. 109-338, §102; note to 30 U.S.C. 362) for which the royalty rate is 2 percent. No royalty is due on byproducts that are not specified in 30 U.S.C. § 181. (43 CFR 3211.19)

If this lease or a portion thereof is committed to an approved communitization or unit agreement and the agreement contains a provision for allocation of production, royalties must be paid on the production allocated to this lease.

(b) Arm's length transactions—The royalty rate for geothermal resources sold by you or your affiliate at arm's length to a purchaser is 10 percent of the gross proceeds derived from the arm's-length sale (43 CFR 3211.17, 3211.18).

(c) Advanced royalties—In the absence of a suspension, if you cease production for more than one calendar month on a lease that is subject to royalties and that has achieved commercial production, your lease will remain in effect only if you make advanced royalty payments in accordance with 43 CFR 3212.15(a) and 30 CFR 218.305.

(d) Direct use fees—Direct use fees must be paid in lieu of royalties for geothermal resources that are utilized for commercial, residential, agricultural, or other energy needs other than the commercial production or generation of electricity, but not sold in an arm's length transaction (43 CFR 3211.18; 30 CFR 206.356). This requirement applies to any direct use of federal geothermal resources (unless the resource is exempted as described in 30 CFR 202.351(b) or the lessee is covered by paragraph (e), below) and is not limited to direct use leases. Direct use fees are due on the last day of the month following the month of production.

(e) If the lessee is a State, tribal, or local government covered by 43 CFR 3211.18(a)(3) and 30 CFR 206.366, check here: . A lessee under this paragraph is not subject to paragraph (d), above. In lieu of royalties, the lessee under this paragraph must pay a nominal fee of \$\_\_\_\_\_.

**Sec. 3. Bonds**—A bond must be filed and maintained for lease operations as required by applicable regulations.

**Sec. 4. Work requirements, rate of development, unitization, and drainage**—Lessee must perform work requirements in accordance with applicable regulations (43 CFR 3207.11, 3207.12), and must prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves the right to specify rates of development and production and to require lessee to commit to a communitization or unit agreement, within 30 days of notice, if in the public interest. Lessee must drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in the amount determined by lessor. Lessor will exempt lessee from work requirements only where the lease overlies a mining claim that has an approved plan of operations and where BLM determines that the development of the geothermal resource on the lease would interfere with the mining operation (43 CFR 3207.13).

**Sec. 5. Documents, evidence, and inspection**—Lessee must file with the proper office of the lessor, not later than (30) days after the effective date thereof, any contract or evidence of other arrangement for the sale, use, or disposal of geothermal resources, byproducts produced, or for the sale of electricity generated using geothermal resources produced from the lease. At such times and in such form as lessor may prescribe, lessee must furnish detailed statements and all documents showing (a) amounts and quality of all geothermal resources produced and used (either for commercial production or generation of electricity, or in a direct use operation) or sold; (b) proceeds derived therefrom or from the sale of electricity generated using such resources; (c) amounts that are unavoidably lost or reinjected before use, used to generate plant parasitic electricity (as defined in 30 CFR 206.351) or electricity for lease operations, or otherwise used for lease operations related to the commercial production or generation of electricity; and (d) amounts and quality of all byproducts produced and proceeds derived from the sale or disposition thereof. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest.

In a format and manner approved by lessor, lessee must: keep a daily drilling record, a log, and complete information on well surveys and tests; keep a record of subsurface investigations; and furnish copies to lessor when required.

Lessee must keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee must maintain copies of all contracts, sales agreements, accounting records, billing records, invoices, gross proceeds and payment data regarding the sale, disposition, or use of geothermal resources, byproducts produced, and the sale of electricity generated using resources produced from the lease, and all other information relevant to determining royalties or direct use fees. All such records must be maintained in lessee's accounting offices for future audit by lessor and produced upon request by lessor or lessor's authorized representative or agent. Lessee must maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

**Sec. 6. Conduct of operations**—Lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with leased rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses will be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee. Prior to disturbing the surface of the leased lands, lessee must contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessor may require lessee to complete minor inventories or short term special studies under guidelines provided by lessor. If, in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee must immediately contact lessor. Lessee must cease any operations that are likely to affect or take such species, or result in the modification, damage or destruction of such habitats or objects.

**Sec. 7. Production of byproducts**—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

**Sec. 8. Damages to property**—Lessee must pay lessor for damage to lessor's improvements, and must save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

**Sec. 9. Protection of diverse interests and equal opportunity**—Lessee must maintain a safe working environment in accordance with applicable regulations and standard industry practices, and take measures necessary to protect public health and safety. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. Lessee must comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor may maintain segregated facilities.

**Sec. 10. Transfer of lease interests and relinquishment of lease**—As required by regulations, lessee must file with lessor any assignment or other transfer of an interest in this lease. Subject to the requirements of 43 CFR subpart 3213, lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which will be effective as of the date BLM receives it, subject to the continued obligation of the lessee and surety to be responsible for: paying all accrued rentals and royalties; plugging and abandoning all wells on the relinquished land; restoring and reclaiming the surface and other resources; and complying with 43 CFR 3200.4.

**Sec. 11. Delivery of premises**—At such time as all or portions of this lease are returned to lessor, lessee must place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

**Sec. 12. Proceedings in case of default**—If lessee fails to comply with any provisions of this lease or other applicable requirements under 43 CFR 3200.4, and the noncompliance continues for 30 days after written notice thereof, this lease will be subject to termination in accordance with the Act and 43 CFR 3213. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy or action, including waiver of the default. Any such remedy, waiver, or action will not prevent later termination for the same default occurring at any other time. Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or other applicable requirements under 43 CFR 3200.4, and immediate action is required, the lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the lessee's expense.

**Sec. 13. Heirs and successors-in-interest**—Each obligation of this lease will extend to and be binding upon, and every benefit hereof will inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

## INSTRUCTIONS

### A. General

1. Items 1 and 2 need to be completed only by parties filing for a noncompetitive lease. The BLM will complete the front of the form for other types of leases. The BLM may use the "Comments" space under Item 3 to identify when: the lessee has elected to make all lease terms subject to the Energy Policy Act of 2005 under 43 CFR 3200.7(a)(2) or 43 CFR 3200.8(b) (box labeled "converted lease" must also be checked); the lease is being issued noncompetitively to a party who holds a mining claim on the same lands as is covered by the lease under 43 CFR 3204.12; the lease is a direct use lease issued to a State, local, or tribal government (box at section 2(e) under Lease Terms must also be checked); the lease is a competitive lease with direct-use-only stipulations attached; or other special circumstances exist. A lessee who seeks to convert only the royalty rate of a lease under 43 CFR 3212.25 or who qualifies for a case-by-case royalty rate determination under 43 CFR 3211.17(b)(1)(i) should not use this form, but should instead use an addendum to the existing lease.
2. Entries must be typed or printed plainly in ink. The offeror must sign the form (Item 4) in ink.
3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.10 for office locations.
4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

### B. Specific

Item 1—Enter the offeror's name and billing address.

Item 2—Indicate the agency managing the surface use of the land and the name of the unit or project of which the land is a part. The offeror may also provide other information that will assist in establishing status of the lands. The description of land must conform to 43 CFR 3203.10. Total acres applied for must not exceed that allowed by regulations (43 CFR 3203.10; 43 CFR 3206.12).

Payments: For noncompetitive leases, the amount remitted must include the processing fee for noncompetitive lease applications (43 CFR 3204.10; 43 CFR 3000.12) and the first year's rental at the rate of \$1 per acre or fraction thereof. If the United States owns only a fractional interest in the geothermal resources, you must pay a prorated rental under 43 CFR 3211.11(d). The BLM will retain the processing fee even if the offer is completely rejected or withdrawn. To maintain the offeror's priority, the offeror must submit rental sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact acreage of which is not known to the offeror, rental should be submitted on the assumption that each such lot or quarter-quarter section contains 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the BLM will return the rental remitted for the parts withdrawn or rejected.

The BLM will fill in the processing fee for competitive lease applications (43 CFR 3203.17; 43 CFR 3000.12) and the first year's rental at the rate of \$2 per acre or fraction thereof.

Item 3—The BLM will complete this space.

## NOTICES

The Privacy Act of 1974 and the regulation at 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this geothermal lease application.

AUTHORITY: 30 U.S.C. 1000 et seq.

PRINCIPAL PURPOSE—The information is to be used to process geothermal lease applications.

ROUTINE USES: (1) The adjudication of the lessee's rights to the land or resources. (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting uses or rights in public lands or resources. (4) Transfer to the appropriate Federal, State, local, or foreign agencies, when relevant to civil, criminal, or regulatory investigations or prosecutions.

**BLM Nevada Standard Lease Notices  
(NV-B,C,E,L,W-00-A-LN)**

These stipulations and notices apply to all parcels ALL LANDS and represent standard Best Management Practices for ensuring compliance with extant Federal Laws and resource protection.

**T&E, Sensitive and Special Status Species**

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. §1531 et seq., including completion of any required procedure for conference or consultation.

**Migratory Birds**

The Operator is responsible for compliance with provisions of the Migratory Bird Treaty Act by implementing measures to prevent take of migratory birds. Operators should be aware that any ground clearing or other disturbance (such as creating cross-country access to sites, drilling, and/or construction) during the migratory bird (including raptors) nesting season (March 1 -July 31) risks a violation of the Migratory Bird Treaty Act. Disturbance to nesting migratory birds should be avoided by conducting surface disturbing activities outside the migratory bird nesting season.

If surface disturbing activities must be implemented during the nesting season, a preconstruction survey for nesting migratory birds should be performed by a qualified wildlife biologist, during the breeding season (if work is not completed within a specified time frame, then additional surveys may be needed). If active nests are found, an appropriately-sized no surface disturbance buffer determined in coordination with the BLM biologist should be placed on the active nest until the nesting attempt has been completed. If no active nests are found, construction activities must occur within the survey validity time frame specified in the conditions of approval.

**Cultural Resources and Tribal Consultation**

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, Executive Order 13007, or other statutes and executive orders. The BLM will not approve any ground-disturbing activities that may affect any such properties or resources until it completes its obligations (e.g., State Historic Preservation Officer (SHPO) and tribal consultation) under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized, or mitigated.

**Fossils**

This area has low to moderate potential for vertebrate paleontological resources, unless noted to have higher potential in a separate stipulation. This area may contain vertebrate paleontological resources. Inventory and/or on-site monitoring during disturbance or spot checking may be required of the operator. In the event that previously undiscovered paleontological resources are discovered in the performance of any surface disturbing activities, the item(s) or condition(s) will be left intact and immediately brought to



the attention of the authorized officer of the BLM. Operations within 250 feet of any such discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operations.

### **Water**

The Operator is responsible for compliance with provisions of the Clean Water Act, Safe Drinking Water Act, and applicable State laws and regulations regarding protection of state water resources. Operators should contact Nevada Division of Water Resources and Nevada Division of Environmental Protection regarding necessary permits and compliance measures for any construction or other activities.

### **Mining Claims**

This parcel may contain existing mining claims and/or mill sites located under the 1872 Mining Law. To the extent it does, the geothermal lessee must conduct its operations, so far as reasonably practicable, to avoid damage to any known deposit of any mineral for which any mining claim on this parcel is located, and should not endanger or unreasonably or materially interfere with the mining claimant's operations, including any existing surface or underground improvements, workings, or facilities which may have been made for the purpose of mining operations. The provisions of the Multiple Mineral Development Act (30 U.S.C. 521 et seq.) shall apply on the leased lands.

### **Fire**

The following precautionary measures should be taken to prevent wildland fires. In the event your operations should start a fire, you could be held liable for all suppression costs.

- All vehicles should carry fire extinguishers and a minimum of 10 gallons of water.
- Adequate fire-fighting equipment i.e. shovel, pulaski, extinguisher(s) and a minimum 10 gallons of water should be kept at the drill site(s).
- Vehicle catalytic converters should be inspected often and cleaned of all brush and grass debris.
- When conducting welding operations, they should be conducted in an area free from or mostly free from vegetation. A minimum of 10 gallons water and a shovel should be on hand to extinguish any fires created from the sparks. Extra personnel should be at the welding site to watch for fires created by welding sparks.
- Report wildland fires immediately to the BLM Sierra Front Interagency Dispatch Center (SFIDC) at (775) 883-5995, or to the BLM Central Nevada Interagency Dispatch Center (CNIDC) at (775) 623-3444. Helpful information to reported is location (latitude and longitude if possible), what's burning, time started, who/what is near the fire and direction of fire spread.
- When conducting operations during the months of May through September, the operator must contact the BLM Carson City District Office, Division of Fire and Aviation at (775) 885-6000, BLM Ely District Office, Division of Fire and Aviation at (775) 289-1800, BLM Winnemucca District Office, Division of Fire and Aviation at (775) 623-1500, or the BLM Battle Mountain District Office, Division of Fire and Aviation at (775) 635-4000 To find out about any fire restrictions in place for the area of operation and to advise this office of approximate beginning and ending dates for your activities.

**Sites Eligible for National Register of Historic Places  
(NV-W-07-C-NSO)**

**Stipulation:** No surface occupancy (NSO) in areas containing NRHP eligible, listed and unevaluated sites and TCPs. To accomplish this, any quarter-quarter-quarter section (10-acre parcel) within or intersected by the site would be subject to NSO. For development and production phases, surface occupancy may be limited to a specific distance or precluded at hot springs, pending conclusion of the National Historic Preservation Act (NHPA) requirements and Native American consultation process. Additional lands outside of the designated boundaries of sites may be added to the NSO restriction to the extent necessary to protect values where the setting and integrity is critical to their designation or eligibility (see WD RMP Action D-MR 4.1.3).

**Objective:** Protection of National Register of Historic Places Sites

**Exception:** The Authorized Officer may grant an exception if through the NHPA requirements, it is determined that the action, as proposed, does not adversely affect the long-term integrity or use of the TCP or the integrity of the site, or if the adverse effect can be mitigated. For TCPs, an exception may also be granted if the proponent, BLM, and the affected Tribe or tribal members negotiate mitigation that would satisfactorily offset the anticipated negative impacts.

**Modification:** The Authorized Officer may modify the size and shape of the restricted area if the NHPA requirements and/or Native American consultation indicate the site differs from that described in the original stipulation. Modifications may be made to allow for an increasing level of environmental protection when changing circumstances warrant stronger measures to meet goals, objectives, and outcomes identified in this RMP and any future amendments (see WO IM- 2010-117 [Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews]).

**Waiver:** The restriction may be waived if it is determined that the described lands are not, in fact, part of a National Register of Historic Places eligible or listed site. This determination would be made as a part of the NHPA requirements and in consultation with the affected tribes.

<b>Parcel #</b>	<b>Legal Land Description</b>
NV-19-09-028	T. 26 N., R 38 E., 21 MDM, NV Sec. 32 L1, L2, L7, L8, N2SE, SESE
NV-19-09-029	T. 26 N., R 38 E., 21 MDM, NV Sec. 28 W2SW, NWSE Sec. 29 L1, SWSW
NV-19-09-037	T. 25 N., R 38 E., 21 MDM, NV Sec. 14 SWSW Sec. 15 SESE Sec. 16 W2SE
NV-19-09-040	T. 25 N., R 38 E., 21 MDM, NV Sec. 22 NENE Sec. 23 NENE

NV-19-09-051 T. 36 N., R 34 E., 21 MDM, NV  
Sec. 28 S2S2

NV-19-09-054 T. 22 N., R 28 E., 21 MDM, NV  
Sec. 1 L1, L2, L4, SWSW  
Sec. 2 L1-L3, E2SW, SWNE, SENW  
Sec. 10 E2NE, NESE  
Sec. 12 S2SW

NV-19-09-055 T. 22 N., R 28 E., 21 MDM, NV  
Sec. 24 W2SW, NWSW  
Sec. 28 NESW

NV-19-09-056 T. 29 N., R 23 E., 21 MDM, NV  
Sec. 4 L1-L3  
Sec. 8 L4  
Sec. 9 L2, L4

NV-19-09-059 T. 30 N., R 23 E., 21 MDM, NV  
Sec. 7 SESW, SWSE

NV-19-09-060 T. 32 N., R 23 E., 21 MDM, NV  
Sec. 22 SWNW  
Sec. 23 NWNW  
Sec. 29 S2NW, NENW, NWSW, N2NE, SWNE  
Sec. 30 L4, SESW, SE, NWNE  
Sec. 31 E2NW

NV-19-09-061 T. 32 N., R 23 E., 21 MDM, NV  
Sec. 32 SENW, SWNE  
Sec. 34 NENW

NV-19-09-062 T. 321 N., R 23 E., 21 MDM, NV  
Sec. 11 SESE  
Sec. 12 N2SW, SWSW, NWSE, S2NE, NENE

NV-19-09-063 T. 32 N., R 23 E., 21 MDM, NV  
Sec. 14 SENW, NESW, W2NE, NENE  
Sec. 16 W2W2, E2SW  
Sec. 17 NENW, SWNW, E2SE, SESW  
Sec. 18 L3, L4, SESW, W2SE, SWNE  
Sec. 19 SE, SENE  
Sec. 20 W2SW, SESE, SENW, W2NE, NENE  
Sec. 21 NE, NWSE, E2SW, SWSW

NV-19-09-064 T. 33 N., R 23 E., 21 MDM, NV  
Sec. 31 L7

NV-19-09-066	T. 21 N., R 26 E., 21 MDM, NV Sec. 24 E2SE
NV-19-09-073	T. 27 N., R 27 E., 21 MDM, NV Sec. 21 S2SW
NV-19-09-075	T. 27 N., R 27 E., 21 MDM, NV Sec. 28 N2NW, SENW
NV-19-09-078	T. 44 N., R 27 E., 21 MDM, NV Sec. 1 L5, L19
NV-19-09-081	T. 21 N., R 28 E., 21 MDM, NV Sec. 16 S2SE Sec. 18 L1, NENW
NV-19-09-084	T. 22 N., R 28 E., 21 MDM, NV Sec. 28 NESW Sec. 32 SWSE
NV-19-09-118	T. 21 N., R 25 E., 21 MDM, NV Sec. 22 NWNW
NV-19-09-121	T. 21 N., R 27 E., 21 MDM, NV Sec. 24 NWNW
NV-19-09-122	T. 21 N., R 27 E., 21 MDM, NV Sec. 2 L5, NWSE, SENW, SWNE
NV-19-09-123	T. 22 N., R 27 E., 21 MDM, NV Sec. 10 S2SE, E2SW
NV-19-09-124	T. 31 N., R 33 E., 21 MDM, NV Sec. 32 SESW
NV-19-09-125	T. 32 N., R 33 E., 21 MDM, NV Sec. 30 L2
NV-19-09-126	T. 23 N., R 27 E., 21 MDM, NV Sec. 21 S2NW, N2SW, SWSW, SWNE Sec. 24 SE, NENE
NV-19-09-130	T. 30 N., R 33 E., 21 MDM, NV Sec. 8 SENE, N2SE, SWSE Sec. 10 NWSW, SWSE
NV-19-09-131	T. 31 N., R 32 E., 21 MDM, NV Sec. 12 ALL Sec. 24 W2NW

NV-W-07-C-NSO

NV-19-09-141

T. 21 N., R 27 E., 21 MDM, NV  
Sec. 12 E2SE, SENE  
Sec. 14 NW, NWSW, SESE

NV-19-09-150

T. 31 N., R 33 E., 21 MDM, NV  
Sec. L2, SENE  
Sec. 14 L2, L2  
Sec. 22 L10

**NV-W-07-C-NSO**

**Notice to Lessee - Wild Horse and Burro  
(NV-B,C,W-05-A-NTL)**

**Objective:** Protection of Wild Horses and Burros

Wild horse or burro herds are known to use some or all of the proposed lease area. If proposed fluid mineral activities are to occur in a herd management area (HMA) or a Herd Area (HA) the BLM Authorized Officer may identify mitigation measures necessary for reducing adverse impacts to wild horses and/or burros. These measures would be designed in a manner that does not hinder the wild and free-roaming behavior of the horses and burros and may include, but are not limited to, providing alternative water sources for horses of equal quality and quantity as well as fencing to prevent access to project area. Additional specific measures to protect horses and burros may be developed during review of proposals.

<b><u>Parcel #</u></b>	<b><u>Legal Description</u></b>
NV-19-09-027	ALL LANDS
NV-19-09-028	T. 26 N., R 38 E., 21 MDM, NV Sec. 30 ALL Sec. 31 ALL
NV-19-09-029	T. 26 N., R 38 E., 21 MDM, NV Sec. 19 SE Sec. 20 ALL Sec. 21 ALL Sec. 22 N2, SW, NWSE Sec. 28 NW, SWNE, N2NE Sec. 29 LOTS 1-2 Sec. 29 N2, N2SW
NV-19-09-030	ALL LANDS
NV-19-09-031	ALL LANDS
NV-19-09-034	ALL LANDS
NV-19-09-035	ALL LANDS
NV-19-09-036	ALL LANDS
NV-19-09-037	T. 25 N., R 38 E., 21 MDM, NV Sec. 12 SE, S2SW Sec. 13 W2 Sec. 14 ALL Sec. 15 S2S2, SENE, NESE

**NV-B,C-05-A-NTL**

NV-19-09-039	T. 25 N., R 38 E., 21 MDM, NV Sec. 6 LOTS 1-7 Sec. 6 SENW, E2SW, S2NE, NWSE, Sec. 7 LOT 1 Sec. 11 SESW, S2SE
NV-19-09-040	T. 25 N., R 38 E., 21 MDM, NV Sec. 21 SE, SESW, E2NE Sec. 22 N2, N2SW Sec. 23 N2N2, SWNW
NV-19-09-052	ALL LANDS
NV-19-09-056	ALL LANDS
NV-19-09-059	ALL LANDS
NV-19-09-060	T. 32 N., R 23 E., 21 MDM, NV Sec. 26 SWNE, SWSW, ESW Sec. 35 NW, E2SW
NV-19-09-072	ALL LANDS
NV-19-09-078	T. 44 N., R 27 E., 21 MDM, NV Sec. 2 LOTS 6-10, 16 Sec. 3 ALL Sec. 4 ALL T. 45 N., R 27 E., 21 MDM, NV Sec. 34 ALL Sec. 35 ALL
NV-19-09-079	ALL LANDS
NV-19-09-083	T. 40 N., R 27 E., 21 MDM, NV Sec. 15 W2NW
NV-19-09-090	ALL LANDS
NV-19-09-151	ALL LANDS
NV-19-09-152	ALL LANDS

**Resource: Raptor Nest Sites  
(NV-W-06-B-TL)**

**Stipulation:** Timing Limitation. Bald or Golden eagles or other raptors or their habitat may be present in the lease area or within the vicinity of the lease area. These species will be managed in accordance with FLPMA, the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Action (MBTA). The following timing restrictions apply.

Species	Location	Distance of Spatial Buffer Zone/Type of Restriction	Restriction Dates
Bald eagle	Nests	1/4 mile non-los and 1/2 mile los and 1 mile blasting	Jan 1 - Aug 31
	Winter roosts	1/2 mile	Dec. 1 - April 1
Northern goshawk	Nests (occupied)	1/4 mile	Feb 1 - Aug 31
	Previous Years Nests	1/2 mile los	Feb 1 - Aug 31
Golden eagle	Nests	1/4 mile non-los, 1/2 mile los	Feb 1 - Aug 31
Ferruginous hawk	Nests	1/4 mile non-los, 1/2 mile los	Mar. 1 - August 31
Red-tailed hawk	Nests	1/4 mile	Mar 1 - August 31
Swainson's hawk	Nests	1/4 mile non-los, 1/2 mile lose	Mar. 1 - August 31
Prarie falcon	Nests	1/4 mile	Mar. 1 - August 31
Burrowing owl	Nests	1/4 mile- Permanent disturbance or occupancy, 260 feet temporary disturbance	Mar. 1 - August 31
Flammulated owl	Nests	1/4 mile	April 1 0 Sept. 30.

**Objective** [Purpose]: To protect raptor nesting activities necessary to maintaining the critical life stages of existing raptor populations.

**Exception:** The Authorized Officer may grant an exception if an environmental review determines that the action, as proposed or otherwise restricted, does not adversely affect raptor nest sites being protected by the restriction. An exception may also be granted if the proponent, BLM, and other affected interests, in consultation with Nevada Department of Wildlife, negotiate mitigation that would satisfactorily offset the anticipated impacts. An exception may be granted for actions designed to enhance the long-term utility or availability of the habitat.



**Modification:** The boundaries of the stipulated area may be modified if the Authorized Officer, in consultation with Nevada Department of Wildlife, determines that portions of the area can be occupied without adversely affecting raptor nesting activity. The dates for the timing restriction may be modified if new information indicates the dates are not valid for the leasehold.

**Waiver:** The stipulation may be waived if the authorized officer, in consultation with Nevada Department of Wildlife determines that the entire leasehold no longer contains raptor nest sites.

<u>Parcel #</u>	<u>Legal Land Description</u>
NV-19-09-001	ALL LANDS
NV-19-09-002	ALL LANDS
NV-19-09-028	ALL LANDS
NV-19-09-029	ALL LANDS
NV-19-09-037 THRU	ALL LANDS
NV-19-09-040	
NV-19-09-051	ALL LANDS
NV-19-09-053 THRU	ALL LANDS
NV-19-09-070	
NV-19-09-073 THRU	ALL LANDS
NV-19-09-081	
NV-19-09-083 THRU	ALL LANDS
NV-19-09-086	
NV-19-09-109	ALL LANDS
NV-19-09-118 THRU	ALL LANDS
NV-19-09-127	
NV-19-09-129 THRU	ALL LANDS
NV-19-09-131	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0034  
Expires: October 31, 2004

**ASSIGNMENT OF RECORD TITLE INTEREST IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES**

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C. 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)

Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

Lease Serial No.  
N 42707

Lease Effective Date  
(Anniversary Date)

New Serial No.

**Type or print plainly in ink and sign in ink.**

**PART A: ASSIGNMENT**

Assignee\* USG Nevada LLC  
Street 1505 Tyrell Lane,  
City, State, ZIP Code Boise, ID 83706

\*If more than one assignee, check here  and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper.

This record title assignment is for: (Check one)  Oil and Gas Lease, or  Geothermal Lease

Interest conveyed: (Check one or both, as appropriate)  Record Title,  Overriding Royalty, payment out of production or other similar interests or payments

**2. This assignment conveys the following interest:**

Land Description <small>Additional space on reverse, if needed. Do not submit documents or agreements other than this form; such documents or agreements shall only be referenced herein.</small>						Percent of Interest			Percent of Overriding Royalty Similar Interests	
						Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
a						b	c	d	e	f
Meridian	Township	Range	Section	STyp	Subdivision	100%	100%	0		
21	29N	23E	16	LOTS	1-4;					
21	29N	23E	17	ALIQ	SWNE,W2,W2SE;					
21	29N	23E	17	LOTS	1-4;					
21	29N	23E	20	ALIQ	NWNE,S2NE,W2,SE;					
21	29N	23E	20	LOTS	1;					
21	29N	23E	21	ALIQ	S2N2,S2;					
21	29N	23E	21	LOTS	1-4;					
Washoe County										

**FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE**

UNITED STATES OF AMERICA

This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease.

Assignment approved for above described lands;

Assignment approved for attached land description

Assignment approved effective JUL - 1 2008

Assignment approved for land description indicated on reverse of this form.

By ATANDA CLARK  
(Authorized Officer)

Chief, Branch of Minerals Acquisition JUN 19 2008  
(Title) (Date)

(Continued on reverse)

**PART B - CERTIFICATION AND REQUEST FOR APPROVAL**

1. The Assignor certifies as owner if an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above.
2. Assignee certifies as follows: (a) Assignee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR-A leases, assignee is a citizen, national, or resident alien of the United States or association of such citizens, nationals, resident aliens or private, public or municipal corporations, (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located; (c) Assignee's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920, or 51,200 acres in any one State if this is a geothermal lease; (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts; (e) Assignee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (f) Assignee is not in violation of sec. 41 of the Mineral Leasing Act.
3. Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein.

For geothermal assignments, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241).

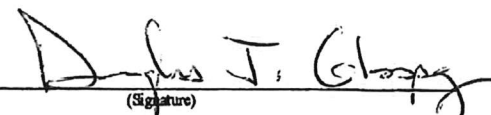
I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this 19 day of March 20 08

Executed this 22 day of April 20 08

Name of Assignor as shown on current lease Empire Geothermal Power, LLC

Assignor  (Please type or print)  
(Signature)

Assignee   
(Signature)

Attorney-in-fact \_\_\_\_\_  
(Signature)

Attorney-in-fact \_\_\_\_\_  
(Signature)

P.O. Box 40  
(Assignor's Address)

Empire NV 89405  
(City) (State) (Zip Code)

Public reporting burden for this form is estimated to average 30 minutes per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0034), Bureau Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C Street, N.W., Washington, D.C. 20240.

Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0034  
Expires: October 31, 2004

**ASSIGNMENT OF RECORD TITLE INTEREST IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES**

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)

Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

Lease Serial No.  
NVN 63004

Lease Effective Date  
(Anniversary Date)

New Serial No.

Type or print plainly in ink and sign in ink.

**PART A: ASSIGNMENT**

Assignee\* USG Nevada LLC  
Street 1505 Tyrell Lane  
City, State, ZIP Code Boise, ID 83706

\*If more than one assignee, check here  and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper.

This record title assignment is for: (Check one)  Oil and Gas Lease, or  Geothermal Lease

Interest conveyed: (Check one or both, as appropriate)  Record Title,  Overriding Royalty, payment out of production or other similar interests or payments

**2. This assignment conveys the following interest:**

Land Description					Percent of Interest			Percent of Overriding Royalty Similar Interests	
					Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
Additional space on reverse, if needed. Do not submit documents or agreements other than this form; such documents or agreements shall only be referenced herein.					b	c	d	e	f
a									
Meridian	Township	Range	Section	Subdivision	100%	100%	0		
21	29N	23E	15	Entire Section					
21	29N	23E	21	Entire Section					
1280.00 Acres  Washoe County									
Sec 22 Not 21									

**FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE**

UNITED STATES OF AMERICA

This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease.

Assignment approved for above described lands;

Assignment approved for attached land description

Assignment approved effective JUL - 1 2008

Assignment approved for land description indicated on reverse of this form.

By ATINIA CLARK  
(Authorized Officer)

Chief, Branch of Minerals Adjudication JUN - 8 2008  
(Title) (Date)

(Continued on reverse)

Part A (Continued): ADDITIONAL SPACE for . . . and addresses of additional assignees in Item No. 1, if needed, or for Land Description in Item No. 2, if needed.

**PART B - CERTIFICATION AND REQUEST FOR APPROVAL**

1. The Assignor certifies as owner if an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above.
2. Assignee certifies as follows: (a) Assignee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR-A leases, assignee is a citizen, national, or resident alien of the United States or association of such citizens, nationals, resident aliens or private, public or municipal corporations. (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located; (c) Assignee's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920, or 51,200 acres in any one State if this is a geothermal lease; (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts; (e) Assignee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (f) Assignee is not in violation of sec. 41 of the Mineral Leasing Act.
3. Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein.

For geothermal assignments, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241).

I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this 19 day of March 20 08

Executed this 22 day of April 20 08

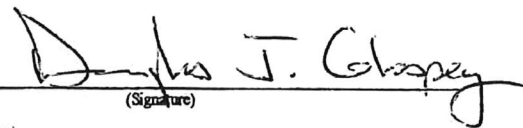
Name of Assignor as shown on current lease Empire Geothermal Power, LLC

Assignor  (Please type or print)  
(Signature)

Attorney-in-fact \_\_\_\_\_  
(Signature)

P.O. Box 40  
(Assignor's Address)

Empire NV 89405  
(City) (State) (Zip Code)

Assignee   
(Signature)

Attorney-in-fact \_\_\_\_\_  
(Signature)

Public reporting burden for this form is estimated to average 30 minutes per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0034), Bureau Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C Street, N.W., Washington, D.C. 20240.

Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**ASSIGNMENT OF RECORD TITLE INTEREST IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES**

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C. 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)  
Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

FORM APPROVED  
OMB NO. 1004-0034  
Expires: October 31, 2004

Lease Serial No.  
NVN 63007

Lease Effective Date  
(Anniversary Date)

New Serial No.

**Type or print plainly in ink and sign in ink.**

**PART A: ASSIGNMENT**

Assignee\* USG Nevada LLC  
Street 1505 Tyrell Lane  
City, State, ZIP Code Boise, ID 83706

\*If more than one assignee, check here  and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper.

This record title assignment is for: (Check one)  Oil and Gas Lease, or  Geothermal Lease

Interest conveyed: (Check one or both, as appropriate)  Record Title,  Overriding Royalty, payment out of production or other similar interests or payments

**2. This assignment conveys the following interest:**

Land Description Additional space on reverse, if needed. Do not submit documents or agreements other than this form; such documents or agreements shall only be referenced herein.					Percent of Interest			Percent of Overriding Royalty Similar Interests	
					Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
a					b	c	d	e	f
Meridian	Township	Range	Section	Subdivision	100%	100%	0		
21	29N	23E	27	Entire Section					
21	29N	23E	28	Entire Section					
21	29N	23E	29	Entire Section					
Washoe County									

**FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE**

UNITED STATES OF AMERICA

This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease.

Assignment approved for above described lands;

Assignment approved for attached land description

Assignment approved effective JUL - 7 2008

Assignment approved for land description indicated on reverse of this form.

By ADRIAN CLARK  
(Authorized Officer)

Chief, Branch of Minerals Adjudication JUN - 8 2008  
(Title) (Date)

(Continued on reverse)

**PART B - CERTIFICATION AND REQUEST FOR APPROVAL**

1. The Assignor certifies as owner if an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above.
2. Assignee certifies as follows: (a) Assignee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR-A leases, assignee is a citizen, national, or resident alien of the United States or association of such citizens, nationals, resident aliens or private, public or municipal corporations, (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located; (c) Assignee's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920, or 51,200 acres in any one State if this is a geothermal lease; (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts; (e) Assignee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (f) Assignee is not in violation of sec. 41 of the Mineral Leasing Act.
3. Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein.

For geothermal assignments, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241).

I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

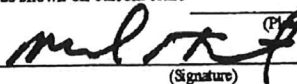
Executed this 19 day of March 20 08

Executed this 22 day of April 20 08

Name of Assignor as shown on current lease Empire Geothermal Power, LLC

(Please type or print)

Assignor



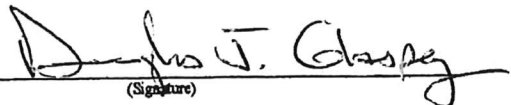
(Signature)

or

Attorney-in-fact

(Signature)

Assignee



(Signature)

or

Attorney-in-fact

(Signature)

P.O. Box 40  
(Assignor's Address)

Empire NV 89405  
(City) (State) (Zip Code)

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0034  
Expires: October 31, 2004

**ASSIGNMENT OF RECORD TITLE INTEREST IN A  
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES**

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)

Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

Lease Serial No.  
N 74196

Lease Effective Date  
(Anniversary Date)

New Serial No.

**Type or print plainly in ink and sign in ink.**

**PART A: ASSIGNMENT**

**REC'D - BLM - NSO**

Assignee\* USG Nevada LLC  
Street 1505 Tyrell Lane  
City, State, ZIP Code Boise, ID 83706

**9:00 AM APR 09 2008**

\*If more than one assignee, check here  and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper.

This record title assignment is for: (Check one)  Oil and Gas Lease, or  Geothermal Lease

Interest conveyed: (Check one or both, as appropriate)  Record Title,  Overriding Royalty, payment out of production or other similar interests or payments

**2. This assignment conveys the following interest:**

Land Description <small>Additional space on reverse, if needed. Do not submit documents or agreements other than this form; such documents or agreements shall only be referenced herein.</small>	Percent of Interest			Percent of Overriding Royalty Similar Interests	
	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
	b	c	d	e	f
a  Meridian Township Range Section Subdivision 21 30N 23E 33 Entire Section  Washoe County	100%	100%	0		

**FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE**

UNITED STATES OF AMERICA

**This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease.**

Assignment approved for above described lands;

Assignment approved for attached land description

Assignment approved effective JUN - 1 2008

Assignment approved for land description indicated on reverse of this form.

By ATANDA CLARK  
(Authorized Officer)

Chief, Branch of Minerals Adjudication  
(Title) (Date)

(Continued on reverse)



Part A (Continued): ADDITIONAL SPACE for Names and addresses of additional assignees in Item No. 1, if needed, or for Land Description in Item No. 2, if needed.

REC'D - BLM - NSO

9:00 A.M. APR 09 2008

**PART B - CERTIFICATION AND REQUEST FOR APPROVAL**

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I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this 19 day of March 20 08

Executed this 3 day of April 20 08

Name of Assignor as shown on current lease Empire Geothermal Power, LLC

Assignor *[Signature]* (Please type or print) MAAOPRA  
(Signature)

or Attorney-in-fact \_\_\_\_\_  
(Signature)

Assignee *[Signature]*  
(Signature)

or Attorney-in-fact \_\_\_\_\_  
(Signature)

P.O. Box 40  
(Assignor's Address)  
Empire NV 89405  
(City) (State) (Zip Code)

Public reporting burden for this form is estimated to average 30 minutes per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0034), Bureau Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C Street, N.W., Washington, D.C. 20240.

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0034  
Expires: October 31, 2004

**ASSIGNMENT OF RECORD TITLE INTEREST IN A  
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Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)  
Act for Acquired Lands of 1947 (30 U.S.C. 351-359)  
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)

Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

Lease Serial No.  
NVN 75552

Lease Effective Date  
(Anniversary Date)

New Serial No.

Type or print plainly in ink and sign in ink.

**PART A: ASSIGNMENT**

Assignee\* USG Nevada LLC  
Street 1505 Tyrell Lane  
City, State, ZIP Code Boise, ID 83706

REC'D - BLM - NSO

9:00 AM APR 09 2008

\*If more than one assignee, check here  and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper.

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	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
	b	c	d	e	f
Meridian Township Range Section Subdivision	100%	100%	0		
21 30N 23E 27 Entire Section					
21 30N 23E 29 Entire Section					
21 30N 23E 32 Entire Section					
21 30N 23E 34 Entire Section					
Washoe County					

**FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE**

UNITED STATES OF AMERICA

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Assignment approved for above described lands;

Assignment approved for attached land description

Assignment approved effective JUN - 1 2008

Assignment approved for land description indicated on reverse of this form.

By ATARI  
(Authorized Officer)

JUN - 1 2008  
Chief, Branch of Minerals Adjudication  
(Title) (Date)

(Continued on reverse)

Part A (Continued): ADDITIONAL SPACE for Names and addresses of additional assignees in Item No. 1, if needed, or for Land Description in Item No. 2, if needed.

REC'D - BLM - NSO  
9:00 A.M. APR 09 2008

**PART B - CERTIFICATION AND REQUEST FOR APPROVAL**

1. The Assignor certifies as owner if an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above.
2. Assignee certifies as follows: (a) Assignee is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR-A leases, assignee is a citizen, national, or resident alien of the United States or association of such citizens, nationals, resident aliens or private, public or municipal corporations, (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located; (c) Assignee's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920, or 51,200 acres in any one State if this is a geothermal lease; (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts; (e) Assignee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (f) Assignee is not in violation of sec. 41 of the Mineral Leasing Act.
3. Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein.

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I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this 19 day of March 20 08 Executed this 3 day of April 20 08

Name of Assignor as shown on current lease Empire Geothermal Power, LLC

Assignor *[Signature]* (Please type or print) MAWASAR  
or (Signature)  
Attorney-in-fact \_\_\_\_\_ (Signature)

Assignee *[Signature]*  
or (Signature)  
Attorney-in-fact \_\_\_\_\_ (Signature)

P.O. Box 40  
(Assignor's Address)  
Empire NV 89405  
(City) (State) (Zip Code)

Public reporting burden for this form is estimated to average 30 minutes per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0034), Bureau Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C Street, N.W., Washington, D.C. 20240.

Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



23/8313  
89/08/1999 01:59F  
1 of 3

Form 3100-24  
(November 1984)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OPI 15030-104  
Expires January 31, 1986

OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No.

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

Read Instructions Before Completing

1. Name Empire Energy/Amor 11

Street P.O. Box 40

City, State, Zip Code Empire, NV 89405

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project Lease # N 47763

Legal description of land requested (segregate by public domain and acquired lands):

T. 29N R. 23E Meridian Mount Diablo State Nevada County Washoe

Sec. 15 & 21 (all)

I CERTIFY THIS PAGE BEARING THE BUREAU OF LAND MANAGEMENT SEAL IS A TRUE COPY OF A DOCUMENT ON FILE IN THE STATE OFFICE, RENO, NEVADA.

DATE: September 8, 1999 Josephine Leone  
CERTIFYING OFFICER

RCVD HSO BLM  
98 OCT 23 PM 2:20

Total acres applied for 1,280.00  
Percent U.S. interest 100  
Total \$ \_\_\_\_\_

Amount remitted: Filing fee \$ 75.00 Rental fee \$ \$1,280

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. R. Meridian State County

T. 29 N., R. 23 E., MDM, Nevada  
sec. 15, all;  
sec. 22, all.

containing 1280.00 acres

rental fee \$1280.00

Washoe County

Record Posted	Date	By
MT Plat	_____	_____
OG Plat	_____	_____
USE Plat	<u>1/5/99</u>	<u>MS KB</u>
HI Plat	_____	_____
CDI Filing	_____	_____

Total acres in lease \_\_\_\_\_  
Rental retained \$ \_\_\_\_\_

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when not inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

ORIGINAL

THE UNITED STATES OF AMERICA  
by [Signature]

Type of lease:

- Noncompetitive
- Competitive
- Other \_\_\_\_\_

Deputy State Director, Mineral Management  
(Title)

DEC 28 1999  
(Date)

EFFECTIVE DATE OF LEASE

JAN 01 1999

N630004

09/08/1998 01:58P  
2 of 3

## 4. (a) Undersigned certifies that:

(1) Offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR 3200 and the authorizing Act; (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.

(b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payment. Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this 02 day of October, 1998.

Deshaun Young (agent)  
(Signature of Lessee or Attorney-in-fact)

## LEASE TERMS

Sec. 1. Rentals—Rentals shall be paid to proper office of lessor in advance of each lease year until there is production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessor reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

Sec. 3. Bonds—Lessee shall file and maintain any bond required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection—Lessee shall file with proper office of lessor, not later than (30) days, after effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs.

In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted such measures may include, but are not limited to, modification to siting or design of facilities timing of operations; and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-ways. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessees.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease an operations that would result in the destruction of such species or objects.

Sec. 7. Production of byproducts—If the production, use, or conversion of geothermal resource from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

Sec. 8. Damages to property—Lessee shall pay lessor for damage to lessor's improvements and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 9. Protection of diverse interests and equal opportunity—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor shall maintain segregated facilities.

Sec. 10. Transfer of lease interests and relinquishment of lease—As required by regulations lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

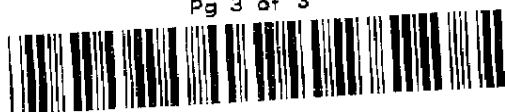
Sec. 11. Delivery of premises—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

Sec. 12. Proceedings in case of default—If lessee fails to comply with any provisions of this lease, and the non-compliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

Sec. 13. Heirs and successors-in-interest—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

**DOC # 2378313**  
09/08/1999 01:59P Fee:9.00  
LS BK1  
Requested By FIRST AMERICAN TITLE  
Washoe County Recorder  
Kathryn L. Burke - Recorder  
Pg 3 of 3



Form 3200-24  
(November 1984)

N6300  
N 6300'



09/98/1998 01:59P  
1 3

FORM APPROVED  
OBM NO. 1004-0038  
Expires January 31, 1996

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No.

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

Read Instructions Before Completing

1. Name Empire Energy/Amor 11  
Street P.O. Box 40  
City, State, Zip Code Empire, NV 89405

I CERTIFY THIS PAGE BEARING THE BUREAU OF LAND MANAGEMENT SEAL IS A TRUE COPY OF A DOCUMENT ON FILE IN THE STATE OFFICE, RENO, NEVADA.

DATE: September 8, 1999 Joseph Leare  
CERTIFYING OFFICER

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project Lease # N 47361

Legal description of land requested (segregate by public domain and acquired lands):

T. 29N R. 23E Meridian Mount Diablo State Nevada County Washoe

Sec. 27, 28 & 29 (all)

Record Posted	Date	By
MT Plat		
OG Plat	<u>1/29/98</u>	<u>MS</u>
USE Plat		
HI Plat		
CDI Filing		

RCV'D NSO BLM  
98 OCT 23 PM 2:20

Total acres applied for \$1,920.00

Percent U.S. interest 100

Amount remitted: Filing fee \$ \$75.00

Rental fee \$ \$1,920

Total \$ \_\_\_\_\_

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. \_\_\_\_\_ R. \_\_\_\_\_ Meridian \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_

T. 29 N., R. 23 E., MDM, Nevada  
sec. 27, all;  
sec. 28, all;  
sec. 29, all.

Record Posted	Date	By
MT Plat		
OG Plat		
USE Plat	<u>1/5/99</u>	<u>MS KB</u>
HI Plat		
CDI Filing		

containing 1920.00 acres

rental fee \$1920.00

Washoe County

Total acres in lease \_\_\_\_\_

Rental retained \$ \_\_\_\_\_

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when not inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

ORIGINAL

THE UNITED STATES OF AMERICA

by [Signature] (Signing Officer)

Type of lease:

- Noncompetitive
- Competitive
- Other \_\_\_\_\_

Deputy State Director, Minerals Management

DEC 23 1998 (Date)

EFFECTIVE DATE OF LEASE JAN 01 1999



## 4. (a) Undersigned certifies that:

- (1) Offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR 3200 and the authorizing Act; (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.
- (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payment Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this 02 day of October, 19 98.

Desrat. Yamp. (agent)  
(Signature of Lessee or Attorney-in-fact)

## LEASE TERMS

Sec. 1. Rentals—Rentals shall be paid to proper office of lessor in advance of each lease year until there is production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessor reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

Sec. 3. Bonds—Lessee shall file and maintain any bond required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection—Lessee shall file with proper office of lessor, not later than (30) days, after effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs.

In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations; and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-ways. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessees.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threaten or endangered species, objects of historic or scientific interest, or substantial unanticipated or environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease all operations that would result in the destruction of such species or objects.

Sec. 7. Production of byproducts—If the production, use, or conversion of geothermal resource from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

Sec. 8. Damages to property—Lessee shall pay lessor for damage to lessor's improvements and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 9. Protection of diverse interests and equal opportunity—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor shall maintain segregated facilities.

Sec. 10. Transfer of lease interests and relinquishment of lease—As required by regulations lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 11. Delivery of premises—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

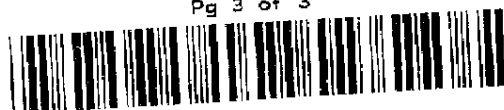
Sec. 12. Proceedings in case of default—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor or any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

Sec. 13. Heirs and successors-in-interest—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.



**DOC # 2378315**  
09/08/1998 01:59P Fee:9.00  
LS BK1  
Requested By FIRST AMERICAN TITLE  
Washoe County Recorder  
Kathryn L. Burke - Recorder  
Pg 3 of 3



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OBM NO. 1004-0038  
Expires January 31, 1986

OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No. 474196

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

Read Instructions Before Completing

RECEIVED  
Bur of Land Management

1. Name Michael B. Stewart

7:30  
A.M. JAN 12 2000

Street P.O. Box 40

NEVADA STATE OFFICE  
RENO, NEVADA

City, State, Zip Code Empire, NV 89405

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project San Emidio

Legal description of land requested (segregate by public domain and acquired lands):

T. 30N R. 23E Meridian MDM State NV County Washoe

Sec. 33

Record Posted	Date	By
MT Plat	_____	_____
OG Plat	_____	_____
USE Plat	<u>11/7/01</u>	<u>MS</u>
HI Plat	_____	_____
CDI Filing	_____	_____

Total acres applied for 640

Percent U.S. interest 100%

Amount remitted: Filing fee \$ 75

Rental fee \$ 640

Total \$ 715

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. \_\_\_\_\_ R. \_\_\_\_\_ Meridian \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_

T. 30 N., R. 23 E., MDM, Nevada Washoe  
sec. 33, all.

RECEIVED

APR 17 2002

Empire Farms LLC

Total acres in lease 640.00

Rental retained \$ \$640.00

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when not inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

THE UNITED STATES OF AMERICA

by [Signature] (Signing Officer)

Deputy State Director, Minerals Management Apr 12, 2002

(Title) (Date)

Type of lease:

Noncompetitive

Competitive

Other \_\_\_\_\_

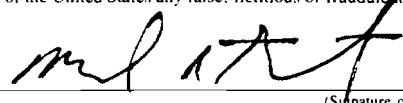
EFFECTIVE DATE OF LEASE May 1, 2002

4 (a) Undersigned certifies that:

(1) Offeror is a citizen of the United States, an association of such citizens, a municipality, or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR 3200 and the authorizing Act; (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.

(b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this 12 day of January, 2001  (Signature of Lessee or Attorney-in-fact)

### LEASE TERMS

Sec. 1. Rentals—Rentals shall be paid to proper office of lessor in advance of each lease year until there is production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

Sec. 2. Royalties—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessor reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

Sec. 3. Bonds—Lessee shall file and maintain any bond required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection—Lessee shall file with proper office of lessor, not later than (30) days, after effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs.

In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-ways. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessees.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

Sec. 7. Production of byproducts—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

Sec. 8. Damages to property—Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 9. Protection of diverse interests and equal opportunity—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor shall maintain segregated facilities.

Sec. 10. Transfer of lease interests and relinquishment of lease—As required by regulations, lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 11. Delivery of premises—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

Sec. 12. Proceedings in case of default—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor or any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

Sec. 13. Heirs and successors-in-interest—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

## STIPULATION FOR GEOTHERMAL LEASING WITHIN WINNEMUCCA FIELD OFFICE

The Bureau of Land Management has reviewed existing information and planning documents and, except as noted in other attached stipulations, knows of no reason why normal development, subject to the controls of applicable laws and regulations and the lease terms and conditions, can not proceed on the leased lands. However, specific development activities could not be identified prior to lease issuance since the nature and extent of geothermal resources were not known and specific operations have not been proposed. The lessee is hereby made aware that consistent with 43 CFR 3200.4, all post lease operations will be subject to appropriate environmental review and may be limited or denied only if unmitigatable and significant impacts on other land uses or resources would result.

### **Sage Grouse Stipulations for Geothermal Operations**

These additional stipulations are based on the Interim Sage grouse Management Guidelines for Nevada and are not included in the original Management Framework Plan decisions. In all cases these refer to known habitat except as noted.

#### **Known Breeding habitat and Leks: February through June, but may vary on site specific basis**

Avoid all activity within 3.3 km. (2 miles) of known leks during the mating season B March through May, or as determined by Field Office and Wildlife Personnel. NSO within 1km (0.6 mile) of known leks all times.

#### **Nesting Habitat and Broodrearing habitats: (April through August per Interim NV Guidelines) Within 6 miles of lek, maximum of 12 miles per guidelines:**

##### **Known:**

Avoid all development or exploration activity during the nesting and broodrearing season with 1 km (0.6 mile) of known habitat. Where possible, NSO of any sort on such sites during the specified period..

##### **Potential:**

Avoid permanent occupancy of potential habitat where possible.

#### **Winter Habitats: (October through March)**

##### **Known:**

Avoid all development or exploration activity during the winter range season with 1 km (0.6 mile) of known habitat. Where possible, NSO of any sort on such sites during the specified period.

##### **Potential:**

Avoid permanent occupancy of potential habitat where possible.

#### **General Sage Grouse Stipulations:**

Prior to entry on any lease areas which include known or potential habitat, the lessee (operator) shall contact the appropriate BLM Authorized Officer to discuss any proposed activities. All power poles and potential raptor perches will be designed or retrofitted to eliminate use by raptors. All surface disturbance occurring in potential or known habitat shall be reclaimed as soon as possible in such a way as to result in conditions suitable for sage grouse habitat.

#### **Vegetation**

All areas of disturbance will be regraded and reseeded by appropriate methods as quickly as possible, using a diverse native perennial seed mix as specified in the Nevada Final Guidelines for Successful Revegetation in order to reduce erosion and deter establishment of noxious weeds.

#### **Special Lands and Values**

The lessee/or operator is given notice that the lands within this lease may include special areas and that such areas may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Any surface use or occupancy within such special areas will be strictly controlled or, if absolutely necessary, excluded. The lessee may be required to demonstrate that use of the area is essential and will be required to submit plans of operations to the BLM, including modifications sufficient to protect special value and other uses for approval.

After the federal surface management agency has been advised of specific proposed surface use or occupancy on the leased lands prior to such use or occupancy and on request of the lessee/operator, the agency will furnish location of roads and trails, perennial and ephemeral water courses and bodies, floodplains and water supplies, sage grouse strutting grounds, essential habitat of state and federal sensitive species, crucial wildlife ranges and calving areas, buildings and structures, recreational areas and sites eligible for or designated as National Register sites, and on areas having restrictive off-road vehicle designations and slopes over 30%, or 20% on extremely erodable or slumping soils, or in areas of extreme soil sensitivity. Restrictions regarding activities on the leasehold that may affect any or all of the above may be imposed. An environmental analysis will be made by the BLM, for the purpose of insuring proper protection of the surface, the natural resources, the environment, existing improvements, and for assuring timely reclamation of disturbed lands. The lessee shall comply with the stipulations unless they are modified by mutual agreement of the lessee, the authorized officer, the supervisor, and, when appropriate, the authorized representative of the responsible surface management agency. The lessee in accepting this lease understands that the surface management agency has reviewed existing information and planning documents and except as otherwise noted in attached special stipulations, knows of no reason why normal development cannot proceed on the leased lands. However, specific development activities could not be considered prior to lease issuance since the nature and extent of the geothermal resources were not known and specific operations have not been proposed. The lessee is hereby made aware that, consistent with Federal Regulations, all post lease operations will be subject to appropriate environmental review and may be limited or denied, but only if unmitigatable and unacceptable impacts on other land uses or resources would result. The lessee is required to contact or meet with BLM representatives prior to submission of the initial proposal involving surface disturbance, to be apprised generally of submission requirements, operating rules and procedures, and any local variations or site-specific concerns that should be considered. If the lessee is required to provide a cultural resources statement to comply with section 18 of this lease, the statement must be acceptable to the authorized representative of the responsible surface management agency.

**Migratory Birds**

Appropriate inventories of migratory birds shall be conducted during analysis of actual site development. If nests are located, it may be necessary to exclude or restrict disturbance of certain areas to times when nests and nesting birds will not be disturbed. During development and production phases, if artificial ponds potentially detrimental to migratory birds are created, these shall be fitted with exclosure devices such as netting or floating balls.

**Noxious Weeds**

During all phases of exploration and development, the lessee will maintain a noxious weed control program consisting of monitoring and eradication for species listed on the Nevada Designated Noxious Weed List (NRS 555.010).



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Signature of Lessee or Agent

3-25-02

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Date

File: 141-706-33  
Copy: 5

Form 3200-24  
(May 1984)  
(Formerly 3200-8 & 3200-21)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OBM NO. 1004-0038  
Expires January 31, 1986

OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No. N-42707

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025).

Read Instructions Before Completing

1. Name Michael B. Stewart  
Street ~~402 Bridge Street~~ P.O. Box 1021  
City, State, Zip Code Yerington, NV 89447

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project \_\_\_\_\_

Legal description of land requested (segregate by public domain and acquired lands):

T. 29 N. R. 23 E. Meridian Mount Diablo State Nevada County Washoe  
sec. 16, lots 1, 2, 3, 4;  
sec. 17, lots 1, 2, 3, 4, SW $\frac{1}{4}$ NE $\frac{1}{4}$ , W $\frac{1}{2}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ ;  
sec. 20, lot 1, NW $\frac{1}{4}$ NE $\frac{1}{4}$ , S $\frac{1}{2}$ NE $\frac{1}{4}$ , W $\frac{1}{2}$ , SE $\frac{1}{4}$ ;  
sec. 21, lots 1, 2, 3, 4, S $\frac{1}{2}$ N $\frac{1}{2}$ , S $\frac{1}{2}$ .

Total acres applied for 1796.67  
Percent U.S. interest \_\_\_\_\_  
Total \$ 3594.00

Amount remitted: Filing fee \$ \_\_\_\_\_ Rental fee \$ 3594.00

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:  
T. \_\_\_\_\_ R. \_\_\_\_\_ Meridian \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_

SAME AS ITEM 2

Total acres in lease 1796.67  
Rental retained \$ 3594.00

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when no inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

Type of lease:  
 Noncompetitive  
 Competitive  
 Other \_\_\_\_\_

THE UNITED STATES OF AMERICA  
by Marla B. Bohl (Signing Officer)  
Chief, Branch of Lands & Minerals Operations  
DEC 20 1985 (Date)

EFFECTIVE DATE OF LEASE JAN 01 1986

4. (a) Undersigned certifies that:

(1) Offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR 3200 and the authorizing Act; (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.

(b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this 18 day of NOVEMBER, 19 85

  
(Signature of Lessee or Attorney-in-fact)

### LEASE TERMS

**Sec. 1. Rentals.**—Rentals shall be paid to proper office of lessor in advance of each lease year until there is production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

**Sec. 2. Royalties.**—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessor reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

**Sec. 3. Bonds.**—Lessee shall file and maintain any bond required under regulations.

**Sec. 4. Diligence, rate of development, unitization, and drainage.**—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

**Sec. 5. Documents, evidence, and inspection.**—Lessee shall file with proper office of lessor, not later than (30) days, after effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee shall be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs.

In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

**Sec. 5. Conduct of operations.**—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-ways. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessees.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

**Sec. 7. Production of byproducts.**—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

**Sec. 8. Damages to property.**—Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

**Sec. 9. Protection of diverse interests and equal opportunity.**—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor shall maintain segregated facilities.

**Sec. 10. Transfer of lease interests and relinquishment of lease.**—As required by regulations, lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

**Sec. 11. Delivery of premises.**—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

**Sec. 12. Proceedings in case of default.**—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor or any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

**Sec. 13. Heirs and successors-in-interest.**—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assignees of the respective parties hereto.

Form 3200-24  
(November 1984)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OBM NO. 1004-0038  
Expires January 31, 1986

OFFER TO LEASE AND LEASE FOR GEOTHERMAL RESOURCES

Serial No. **N75552**

The undersigned (see reverse) offers to lease all or any of the lands in item 2 that are available for lease pursuant to the Geothermal Steam Act of 1970 (30 U.S.C. 1001-1028).

Read Instructions Before Completing

RECEIVED  
Bur. of Land Management

7:30  
A.M. JAN 29 2002

NEVADA STATE OFFICE  
RENO, NEVADA

1. Name **Empire Energy, LLC**  
P.O. Box 40  
Street **Empire, NV 89405**

City, State, Zip Code

2. Surface managing agency if other than BLM: \_\_\_\_\_ Unit/Project **San Emidio**

Legal description of land requested (segregate by public domain and acquired lands):

T. **30N** R. **23E** Meridian **MD&M** State **Nevada** County **Washoe**

**sections 27, 29, 32 and 34**

Total acres applied for 2,560  
Percent U.S. interest 100%  
Total \$ 2,635

Amount remitted: Filing fee \$ 75 Rental fee \$ 2560

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T. \_\_\_\_\_ R. \_\_\_\_\_ Meridian \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_  
NVN-75552  
T. 30 N., R. 23 E., MDM, Nevada  
sec. 27, all;  
sec. 29, all;  
sec. 32, all;  
sec. 34, all.

Washoe County

Total acres in lease 2560.00  
Rental retained \$2560.00

Described lands were not within a  
~~100~~/KGRA as of OCT 23 2002  
Larry L. Steward  
Acting Deputy State Director, Minerals Management

Total acres in lease \_\_\_\_\_  
Rental retained \$ \_\_\_\_\_

In accordance with the above offer, or the previously submitted competitive bid, this lease is issued granting the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the geothermal resources in the lands described in item 3 together with the right to build and maintain necessary improvements thereupon, for a primary term of 10 years. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance and, when not inconsistent with lease rights granted or specific provisions of this lease, regulations and formal orders hereafter promulgated.

Type of lease:

- Noncompetitive
- Competitive
- Other \_\_\_\_\_

THE UNITED STATES OF AMERICA

by Larry L. Steward (Signing Officer)

Acting Deputy State Director, Minerals Management OCT 23 2002  
(Title) (Date)

EFFECTIVE DATE OF LEASE NOV 01 2002



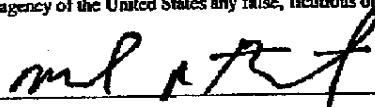
## 4. (a) Undersigned certifies that:

(1) Offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States, any State or the District of Columbia; (2) All parties holding an interest in the offer are in compliance with 43 CFR 3200 and the authorizing Act; (3) Offeror's chargeable interests, direct and indirect, do not exceed that allowed under the Act; and (4) Offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located.

(b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms, conditions and stipulations of which offeror has been given notice, and any amendment or separate lease that may cover any land described in this offer open to lease application at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or part, unless the withdrawal is received by the BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford the offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments. Title 18 U.S.C. Sec. 1001 makes it a crime for any person knowingly and willfully to make to any Department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Duly executed this 28 day of January, 2002



(Signature of Lessee or Attorney-in-fact)

## LEASE TERMS

**Sec. 1. Rentals**—Rentals shall be paid to proper office of lessor in advance of each lease year until there is production in commercial quantities from the leased lands. Annual rental rates per acre or fraction thereof are: \$1 for noncompetitive leases and \$2 for competitive leases.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties shall be paid on the production allocated to this lease. However, annual rentals shall continue to be due for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) shall automatically terminate this lease by operation of law. Rentals may be suspended by the Secretary upon a sufficient showing by lessee.

**Sec. 2. Royalties**—Royalties shall be paid to proper office of lessor. Royalties shall be computed in accordance with regulations and orders. Royalty rates on production are: 10 percent for steam, heat, or energy; 5 percent for byproducts; and 5 percent for demineralized water.

Lessor reserves the right to establish reasonable minimum values on production after giving lessee notice and an opportunity to be heard. Royalties shall be due and payable on the last day of the month following the month in which production occurred.

A minimum royalty shall be due for any lease year beginning on or after the commencement of production in commercial quantities in which royalty payments aggregate less than \$2 per acre. Lessee shall pay such difference at the end of lease year. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

**Sec. 3. Bonds**—Lessee shall file and maintain any bond required under regulations.

**Sec. 4. Diligence, rate of development, unitization, and drainage**—Lessee shall perform diligent exploration as required by regulations and shall prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of the area, field, or pool embracing these leased lands. Lessee shall drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

**Sec. 5. Documents, evidence, and inspection**—Lessee shall file with proper office of lessor, not later than (30) days, after effective date thereof, any contract or evidence of other arrangement for the sale or disposal of production. At such times and in such form as lessor may prescribe, lessee shall furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plans and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs.

In the form prescribed by lessor, lessee shall keep a daily drilling record, a log, and complete information on well surveys and tests and keep a record of subsurface investigations and furnish copies to lessor when required. Lessee shall keep open at all reasonable times for inspection by any authorized officer of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee shall maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that support costs claimed as manufacturing, preparation, and/or transportation costs. All such records shall be maintained in lessee's accounting offices for future audit by lessor. Lessee shall maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section shall be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

**Sec. 6. Conduct of operations**—Lessee shall conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee shall take reasonable measures deemed necessary by

lessor to accomplish the intent of this section. To the extent consistent with leased rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-ways. Such uses shall be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessees.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee shall immediately contact lessor. Lessee shall cease any operations that would result in the destruction of such species or objects.

**Sec. 7. Production of byproducts**—If the production, use, or conversion of geothermal resources from these leased lands is susceptible of producing a valuable byproduct or byproducts, including commercially demineralized water for beneficial uses in accordance with applicable State water laws, lessor may require substantial beneficial production or use thereof by lessee.

**Sec. 8. Damages to property**—Lessee shall pay lessor for damage to lessor's improvements, and shall save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

**Sec. 9. Protection of diverse interests and equal opportunity**—Lessee shall maintain a safe working environment in accordance with standard industry practices and take measures necessary to protect the health and safety of the public. Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly.

Lessee shall comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractor shall maintain segregated facilities.

**Sec. 10. Transfer of lease interests and relinquishment of lease**—As required by regulations, lessee shall file with lessor, any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which shall be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

**Sec. 11. Delivery of premises**—At such time as all or portions of this lease are returned to lessor, lessee shall place all wells in condition for suspension or abandonment, reclaim the land as specified by lessor, and within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells or continued protection of the environment.

**Sec. 12. Proceedings in case of default**—If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease shall be subject to cancellation in accordance with the Act. However, if this lease includes land known to contain a well capable of production in commercial quantities, it may be cancelled only by judicial proceedings. This provision shall not be construed to prevent the exercise by lessor or any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver shall not prevent later cancellation for the same default occurring at any other time.

Whenever the lessee fails to comply in a timely manner with any of the provisions of the Act, this lease, the regulations, or formal orders, and immediate action is required, the Lessor may enter on the leased lands and take measures deemed necessary to correct the failure at the expense of the Lessee.

**Sec. 13. Heirs and successors-in-interest**—Each obligation of this lease shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Serial Number N-75552

**Cultural Resources NSO Stipulation for Leasing Geothermal Resources  
Managed by the Winnemucca Field Office CR NSO Winn Stip)**

No surface occupancy within the setting of S-1 National Register eligible sites where integrity of setting is critical to their eligibility.

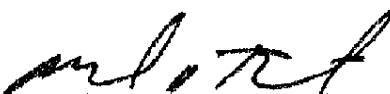
Applicable to the following lands:

T. 30 N., R. 23 E., MDM, Nevada  
sec. 27, all;  
sec. 34, all.

RECORDED  
Bureau of Land Management

7:30 AM OCT 03 2002

NEVADA STATE OFFICE  
RENO, NEVADA



\_\_\_\_\_  
Signature of Lessee, Agent, or Attorney in Fact

9/21/02

\_\_\_\_\_  
Date

RECEIVED  
BLM, OFFICE OF LAND MANAGEMENT7:30  
A.M. OCT 9 2002

RECEIVED

Serial Number N-75552

## **General Stipulations for Leasing Geothermal Resources Managed by the Winnemucca Field Office (Winn Stip)**

### **General Sage Grouse Stipulation**

Prior to entry on any lease areas which include known or potential habitat, the lessee (operator) shall contact the appropriate BLM Field Office to discuss any proposed activities.

### **Other Biota**

Prior to site development, a survey for invertebrates will be conducted on areas where geothermal surface expressions occur.

### **Controlled Or Limited Surface Use (Avoidance and/or Mitigation Measures To Be Developed)**

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modifications of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act, 16 U.S.C. 1531, as amended, including completion of any required procedure for conference or consultation.

### **Wild Horse and Burros**

If wild horse or burro populations are located on sites proposed for development, it may be necessary to avoid or develop mitigation measures to reduce adverse impacts to horses. These measures may include providing alternative water sources for horses of equal quality and quantity.

### **Migratory Birds**

Surface disturbing activities during the migratory bird nesting season (March to July) may be restricted in order to avoid potential violation of the Migratory Bird Act. Appropriate inventories of migratory birds shall be conducted during analysis of actual site development. If active nests are located, the proponent shall coordinate with BLM to establish appropriate protection measures for the nesting sites which may include avoidance or restricting or excluding development during certain areas to times when nests and nesting birds will not be disturbed. During development and production phases, if artificial ponds potentially detrimental to migratory birds are created, these shall be fitted with exclusion devices such as netting or floating balls.

### **Vegetation**

All areas of exploration and or development disturbance will be reclaimed including re-contouring disturbed areas to blend with the surrounding topography and using appropriate methods to seed with a diverse perennial seed mix. The seed mix used to reclaim disturbed areas would be "certified" weed free.

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### **Riparian Arcas**

No surface occupancy within 650 feet (horizontal measurement) of any surface water bodies, riparian areas, wetlands, playas or 100-year floodplains to protect the integrity of these resources (as indicated by the presence of riparian vegetation and not actual water). Exceptions to this restriction may be considered on a case-by-case basis if the BLM determines at least one of the following conditions apply: 1) additional development is proposed in an area where current development has shown no adverse impacts, 2) suitable off-site mitigation will be provided if habitat loss is expected, or 3) BLM determines development proposed under any plan of operations ensures adequate protection of the resources.

### **Noxious Weeds**

During all phases of exploration and development, the lessee shall maintain a noxious weed control program consisting of monitoring and eradication for species listed on the Nevada Designated Noxious Weed List (NRS 555.010).

### **Cultural Resources**

#### **Controlled Or Limited Surface Use (Avoidance and/or Mitigation Measures To Be Developed).**

All surface disturbing activities proposed after issuance of the lease are subject to compliance with Section 106 of the National Historic Protection Act (NHPA) and its implementation through the protocol between the BLM Nevada State Director and the Nevada State Historic Preservation Officer.

### **Native American**

#### **No Surface Occupancy**

No surface occupancy within the setting of National Register eligible Traditional Cultural Properties (TCPs) where integrity of the setting is critical to their eligibility. For development and production phases, surface occupancy may be limited to a specific distance or precluded at hot springs, pending conclusion of the Native American consultation process. All development activities proposed under the authority of this lease are subject to the requirement for Native American consultation prior to BLM authorizing the activity. Depending on the nature of the lease developments being proposed and the resources of concerns to tribes potentially effected, Native American consultation and resulting mitigation measures to avoid significant impacts may extend time frames for processing authorizations for development activities, as well as, change in the ways in which developments are implemented.

### **Paleontological Resources**

Where significant paleontological resources are identified, mitigating measures such as data recovery, restrictions on development, and deletion of some areas from development may be required on a case by case basis.

### **Water Resources**

As exploration and development activities commence, the operator shall institute a hydrologic monitoring program. The details of the monitoring programs will be site specific and the intensity shall be commensurate with the level of exploration. For example, if the proponent will be conducting seismic studies the monitoring would be limited to the identification of water resources to be monitored as activities continue; if a drilling program were to be undertaken the number of aquifers encountered, their properties, their quality, and their saturated thickness would be documented.

The information collected will be submitted to the Bureau of Land Management and will be used to support future NEPA documentation as development progresses. Adverse impacts to surface expressions of the geothermal reservoir (hot springs), and Threatened and Endangered Species habitat are not acceptable. The leasee will monitor the quality, quantity, and temperature of any hot springs or other water resource within the project area whenever they are conducting activities which have the potential to impact those resources. If adverse impacts do occur, BLM will require the lessee to take corrective action to mitigate the impact. Corrective action may include shutting down the operation.

These are in addition to the other stipulations. These are LEASE stipulations, not operational, the information gathered under the monitoring stipulation will be used to identify future impacts at the operational stage.

**Lands & Realty**

No drilling, including exploration or development activities within linear Rights-of-Way.

**Hazardous Materials**

Prior to exploration and development, an emergency response plan will developed that include contingencies for hazardous material spills and disposal.

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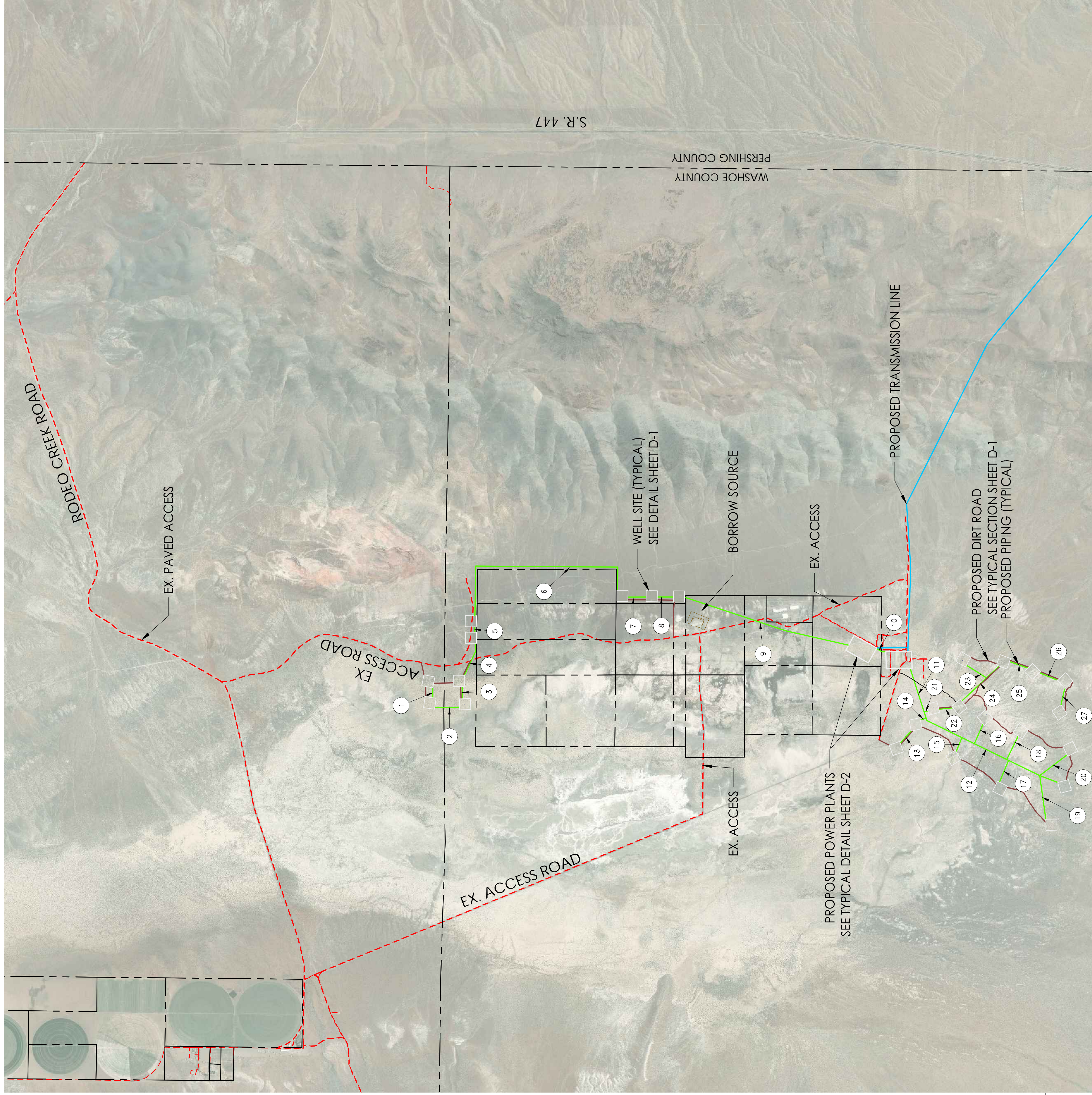
\_\_\_\_\_  
 Signature of Lessee, Agent, or Attorney in Fact

\_\_\_\_\_  
 Date



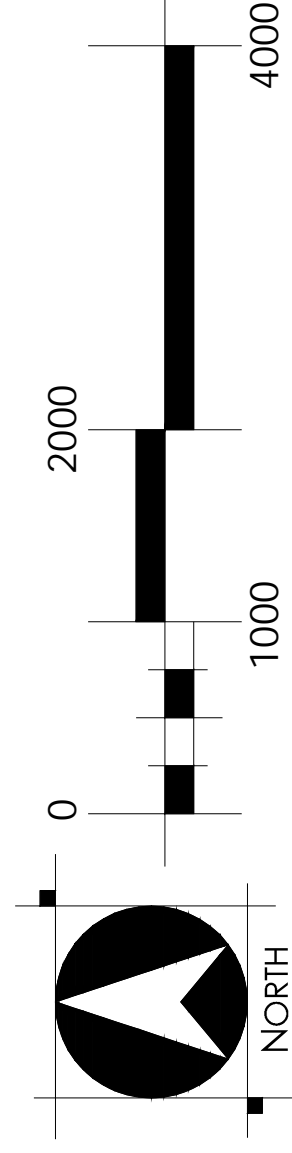
# NORTH VALLEY GEOTHERMAL DEVELOPMENT

## SPECIAL USE PERMIT SITE & UTILITY PLAN



### LEGEND

- PARCEL LINE
- - - EX. DIRT ROAD
- - - PROPOSED WATER LINE
- PROPOSED TRANSMISSION LINE
- PROPOSED DIRT ROAD



### UTILITY NOTES

- 1 380 LF WATER PIPE
- 2 955 LF WATER PIPE
- 3 474 LF WATER PIPE
- 4 1324 LF WATER PIPE
- 5 210 LF WATER PIPE
- 6 7796 LF WATER PIPE
- 7 700 LF WATER PIPE
- 8 625 LF WATER PIPE
- 9 6562 LF WATER PIPE
- 10 400 LF WATER PIPE
- 11 2107 LF WATER PIPE
- 12 5578 LF WATER PIPE
- 13 633 LF WATER PIPE
- 14 232 LF WATER PIPE
- 15 583 LF WATER PIPE
- 16 831 LF WATER PIPE
- 17 911 LF WATER PIPE
- 18 1000 LF WATER PIPE
- 19 1699 LF WATER PIPE
- 20 1317 LF WATER PIPE
- 21 151 LF WATER PIPE
- 22 541 LF WATER PIPE
- 23 918 LF WATER PIPE
- 24 1973 LF WATER PIPE
- 25 753 LF WATER PIPE
- 26 758 LF WATER PIPE
- 27 646 LF WATER PIPE

## NORTH VALLEY GEOTHERMAL DEVELOPMENT SITE & UTILITY PLAN



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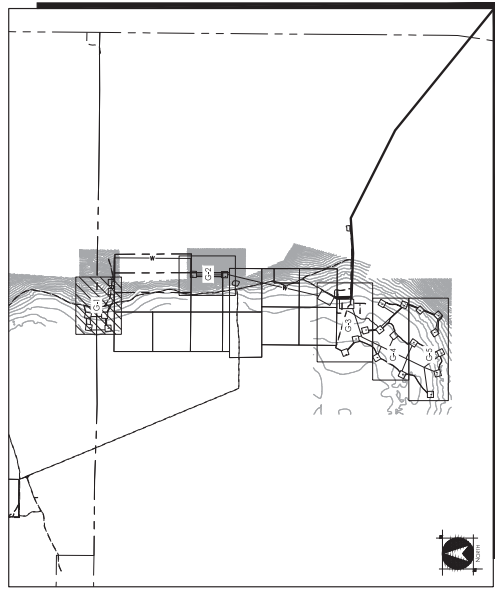
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SHEET **S-1 OF 9**

JUNE 2020

# NORTH VALLEY GEOTHERMAL DEVELOPMENT

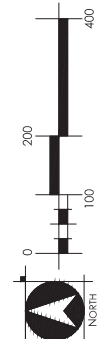
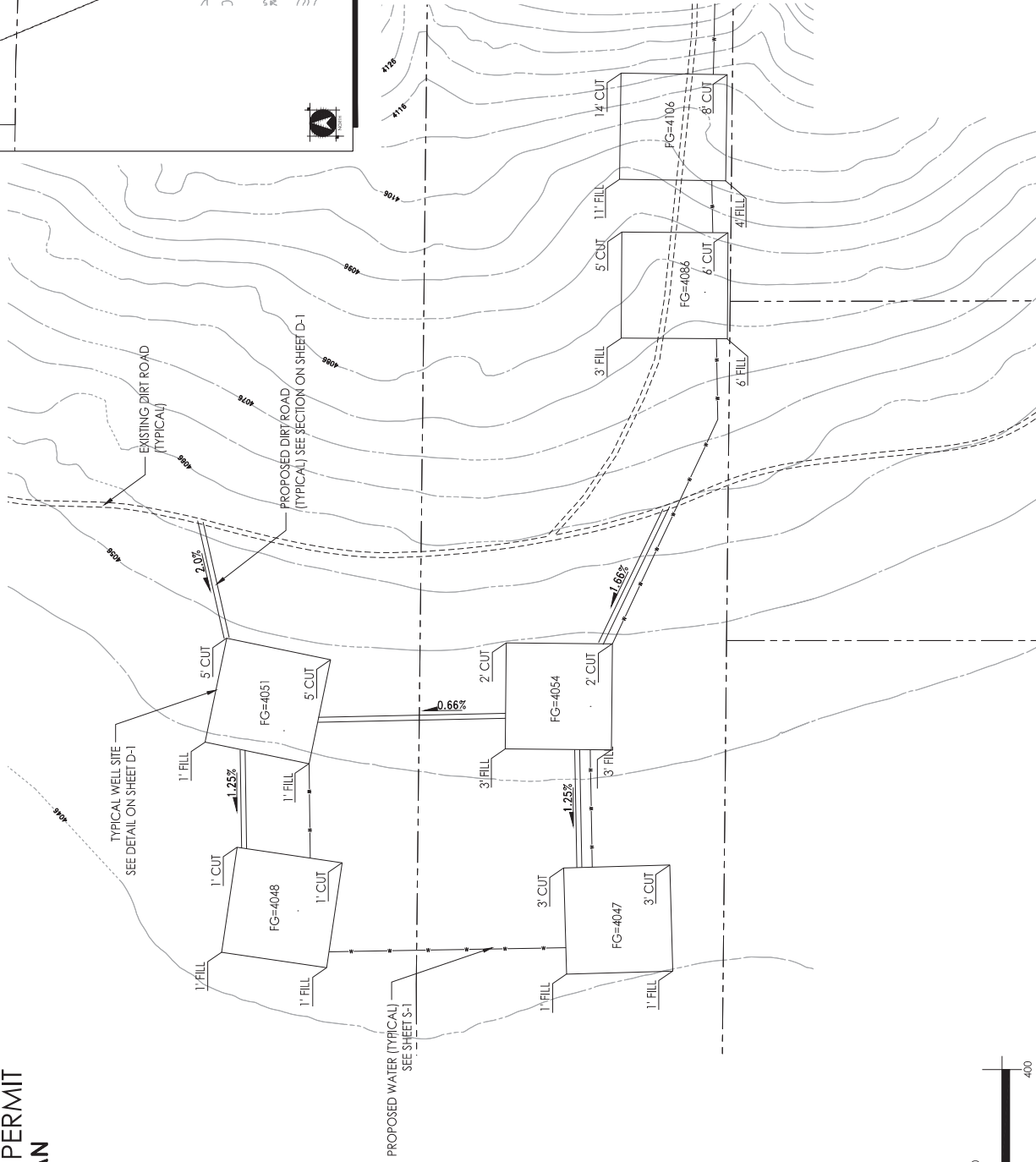
## SPECIAL USE PERMIT GRADING PLAN



KEY MAP  
NOT TO SCALE

### LEGEND

- PARCEL LINE
- - - EX. DIRT ROAD
- - - PROPOSED WATER LINE
- PROPOSED TRANSMISSION LINE
- PROPOSED DIRT ROAD



NORTH VALLEY  
GEOTHERMAL DEVELOPMENT  
GRADING PLAN

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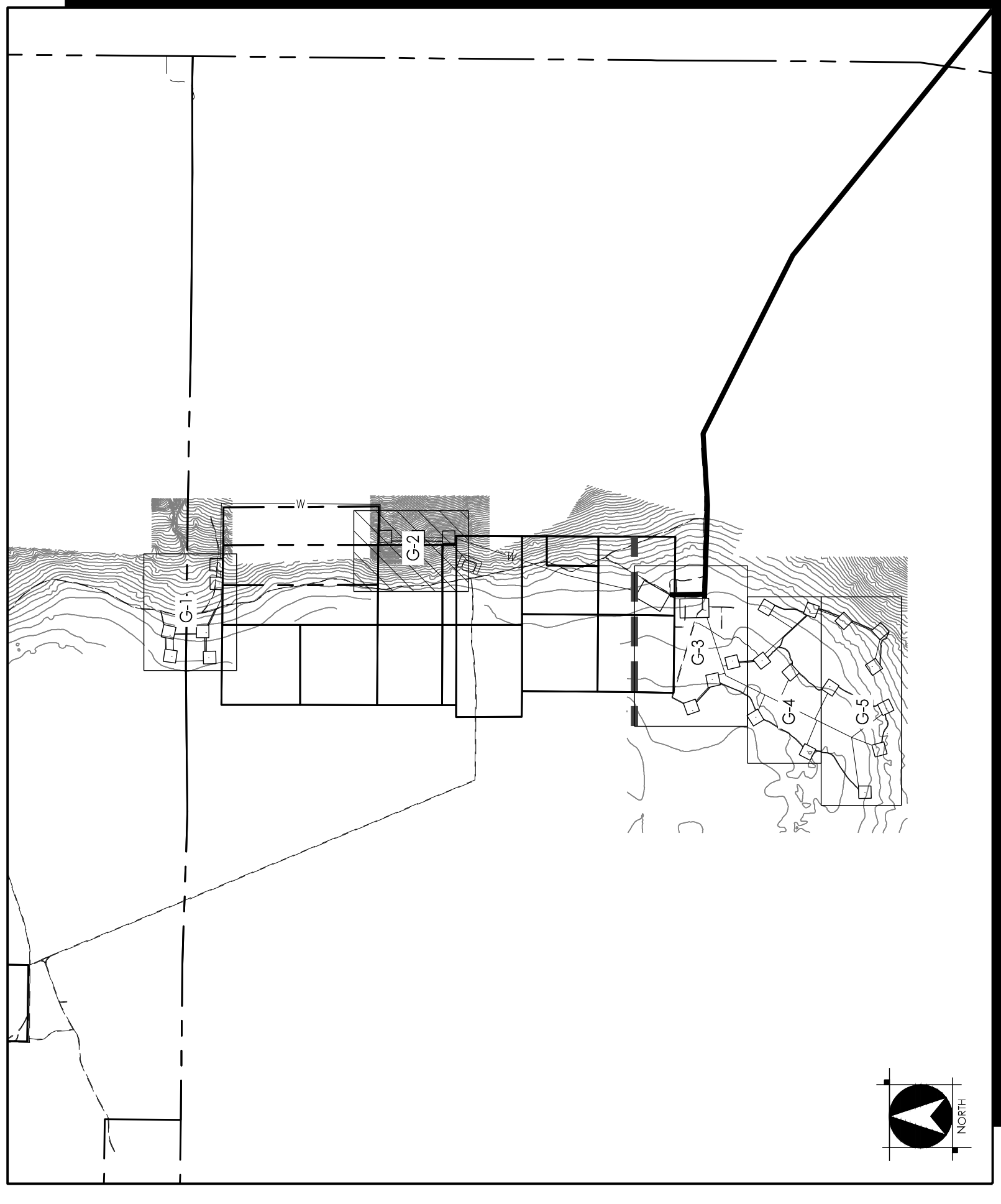
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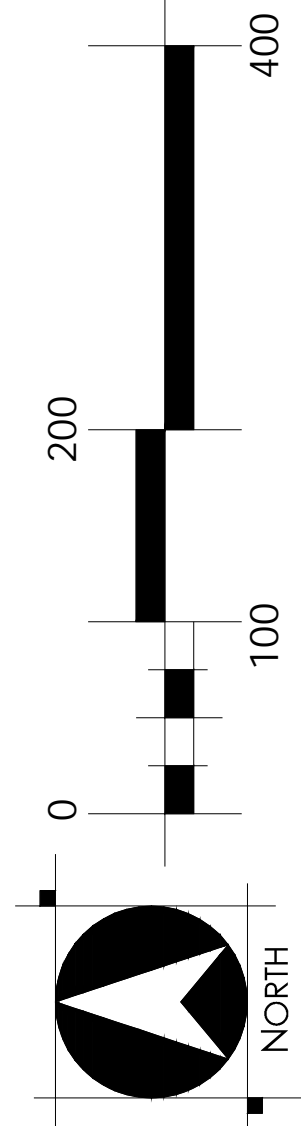
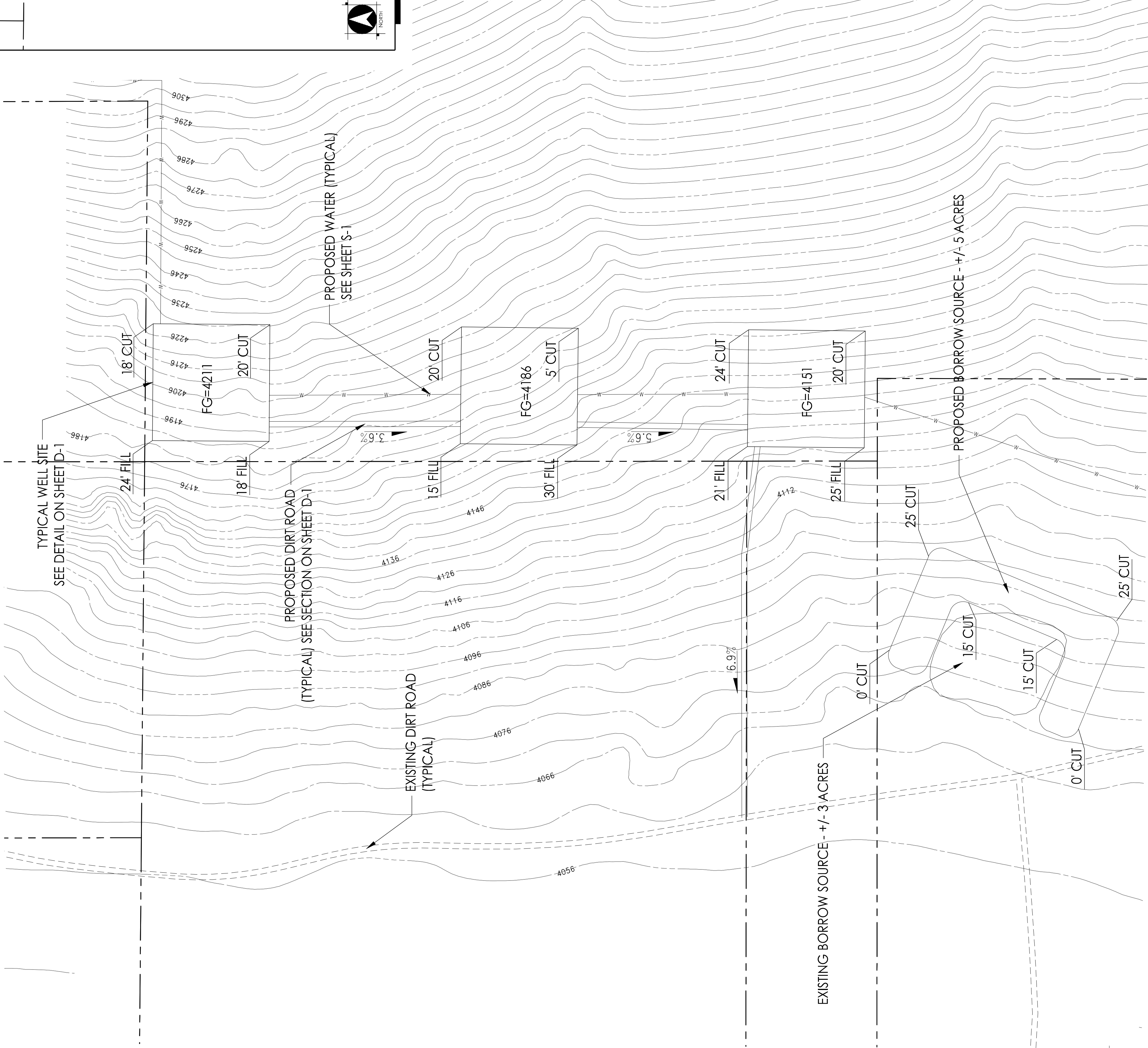
# NORTH VALLEY GEOTHERMAL DEVELOPMENT

## SPECIAL USE PERMIT GRADING PLAN



### LEGEND

- PARCEL LINE
- - - EX. DIRT ROAD
- - - PROPOSED WATER LINE
- ==== PROPOSED TRANSMISSION LINE
- ==== PROPOSED DIRT ROAD



NORTH VALLEY  
GEOTHERMAL DEVELOPMENT  
GRADING PLAN



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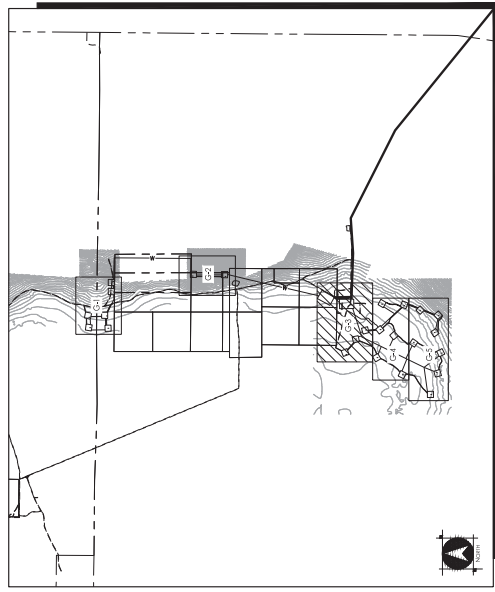
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SHEET **G-2 OF 9**

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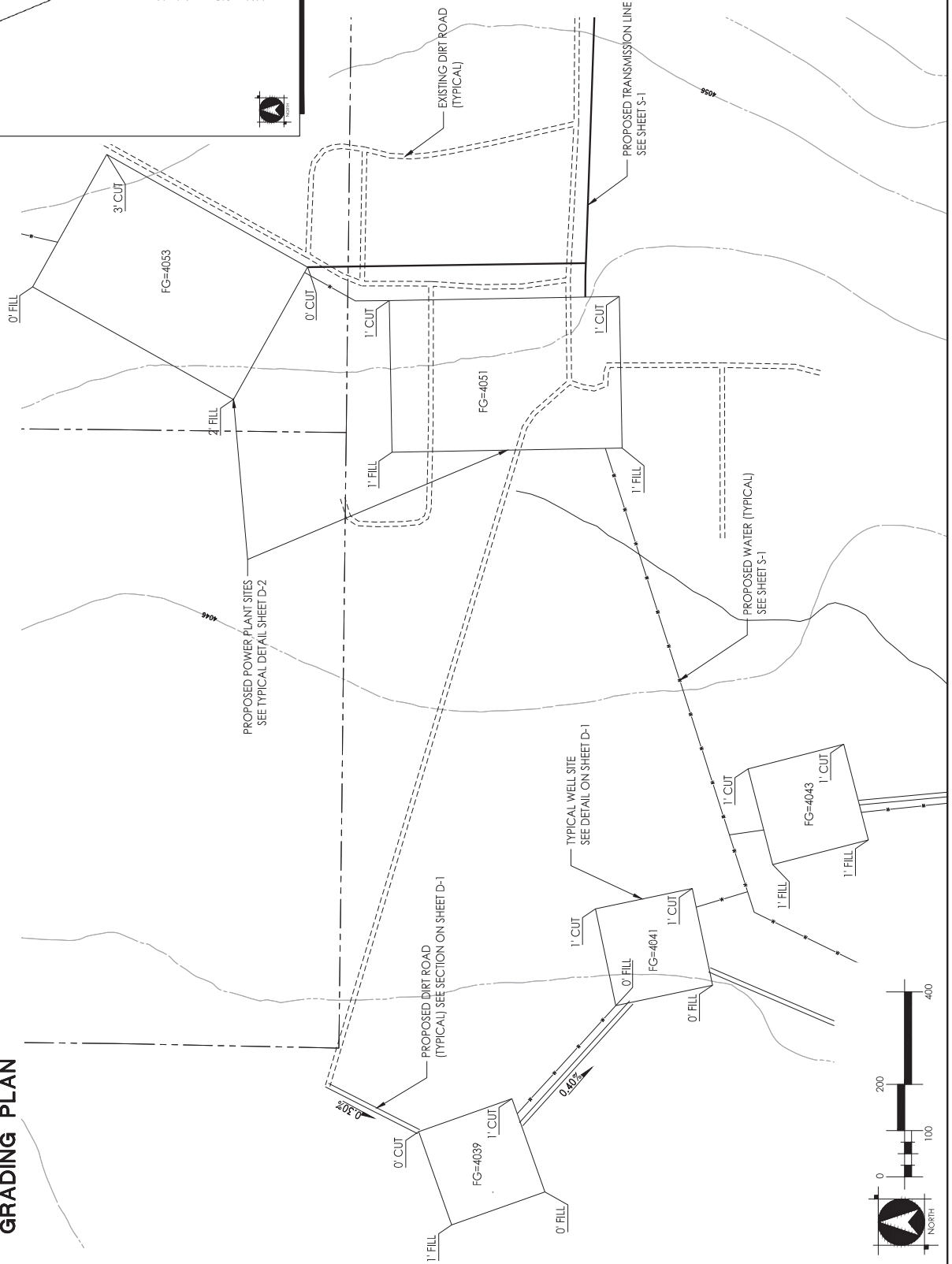
# NORTH VALLEY GEOTHERMAL DEVELOPMENT SPECIAL USE PERMIT GRADING PLAN



**KEY MAP**  
NOT TO SCALE

## LEGEND

- PAVEMENT LINE
- - - EX. DIRT ROAD
- - - PROPOSED WATER LINE
- - - PROPOSED TRANSMISSION LINE
- - - PROPOSED DIRT ROAD



NORTH VALLEY  
GEOTHERMAL DEVELOPMENT  
GRADING PLAN



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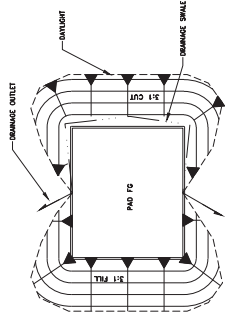
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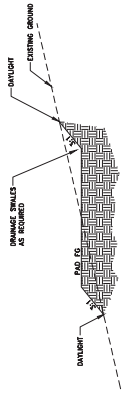


# NORTH VALLEY GEOTHERMAL DEVELOPMENT

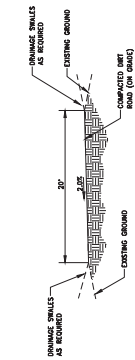
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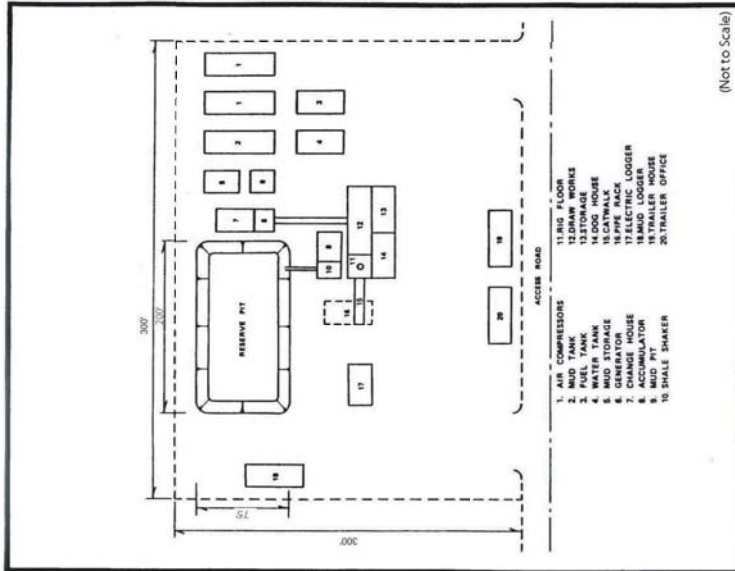
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TYPICAL PAD GRADING SECTION  
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TYPICAL ROAD SECTION  
NOT TO SCALE



TYPICAL GEOTECHNICAL WELL PAD LAYOUT  
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NORTH VALLEY  
GEOTHERMAL DEVELOPMENT  
DETAIL SHEET



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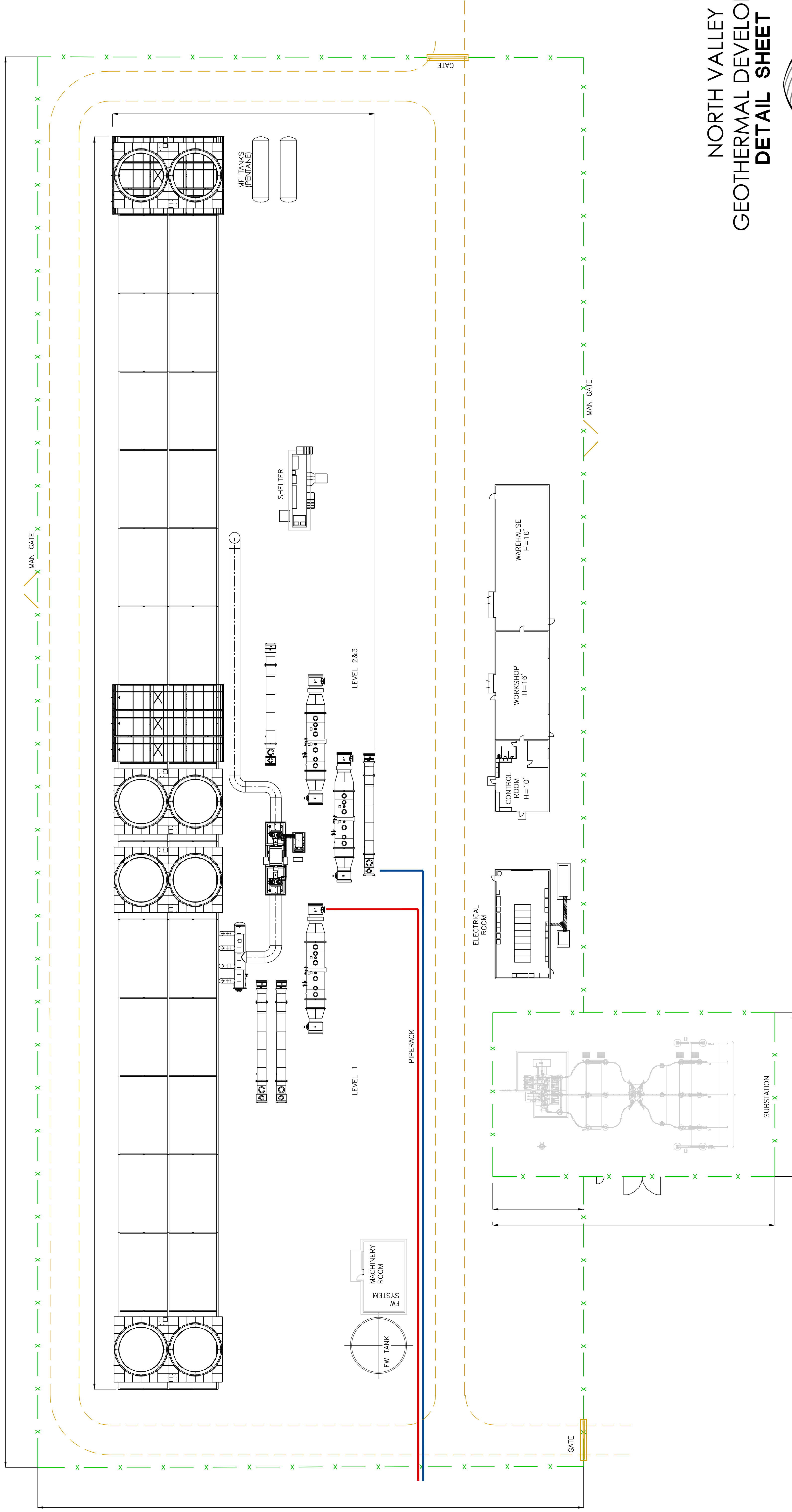
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# NORTH VALLEY GEOTHERMAL DEVELOPMENT

## SPECIAL USE PERMIT DETAIL SHEET



TYPICAL POWER PLANT  
(NTS)

NORTH VALLEY  
GEOTHERMAL DEVELOPMENT  
DETAIL SHEET



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