CONTACT FILER REGARDING IMAGE CLARITY

STATE OF NEVADA
PUBLIC UTILITIES COMMISSION OF NEVADA
9075 W. Diablo Drive
Suite 250
Las Vegas, Nevada 89148-7674

LV 02564

RECEIPT

RECEIVED FROM: Date 6-17-26

Bullen Law LLC
8635 W. Sahara Ave 454
Las Vegas, NV 89117

AMOUNT: $ 200 | 00

Two hundred dollars AND zero /100 DOLLARS

How Paid:	Cash	Check	Money Order	Draft
		1599		

Type of Receipt	Filing Fee	TDD	Copy Service	RAIL	Mill Assessment	Other
	X					

Account	Paid in Full	On Account
	X	
Amount of Account	$ 200	00
Account Paid	$ 200	00
Balance Due	$ 0	00

MEMO
New Filing
Hand delivered

Received by Brigitte Cooley

(NSPO Rev. 5-11)

(O) 5265

BULLEN LAW, LLC
8635 W. Sahara Ave. #454
Las Vegas, NV 89117

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2026 JUN 17 AM8:36

Linda M. Bullen
702-279-4040
linda@bullenlaw.com

June 17, 2026

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

Re: Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities

Dear Ms. Osborne:

Enclosed for filing, please find the Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities. Included with this filing is the $200 filing fee.

If you have any questions about this filing, please do not hesitate to contact me at (702) 279-4040.

Best Regards,

/s/ Linda M. Bullen
Linda M. Bullen
Attorney for Nexus Fulcrum LLC.

LIST OF ENCLOSURES

Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities

June 2026

This Application includes the following:

A) $200 Filing Fee
B) UEPA Amended Application, comprised of the following:
   1) Table of Contents
   2) List of Exhibits
   3) Introduction
   4) Legal Authority
   5) Allegations of Material Fact
   6) Responses to Required Disclosures
   7) Description of the Location of the Proposed Utility Facility
   8) General Description of the Proposed Facility
   9) Studies of Environmental Impact
   10) Alternative Locations for Proposed Facility
   11) Public Notice
   12) Proof of Service
   13) Explanation of Probable Effect on Environment
   14) Ensuring Reliable Utility Service to Customers of State
   15) Balancing Adverse Effects
   16) Minimum Adverse Effect on Environment
   17) Conformance with Law and Regulation
   18) Serving the Public Interest
   19) Conclusion and Request for Relief
   20) Exhibits A-J

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities	**Docket No. 26-_____**

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LIST OF EXHIBITS

A. Site Location Map
B. Regional Map
C. Legal Description of Proposed Facility
D. Scaled Diagrams
E. Facility Layout Diagram
F. Environmental Statement
G. Proof of Publication
H. Proof of Service to County Clerk, Nevada State Clearinghouse and Other Agencies
I. NDOW Energy Planning and Conservation Fund Application for Energy Projects
J. Draft Notice

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities	**Docket No. 26-_____**

APPLICATION OF NEXUS FULCRUM LLC UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT TO CONSTRUCT ASR-IX, A 510 MW NATURAL GAS-FUELED ELECTRIC GENERATION PLANT AND ANCILLARY FACILITIES

INTRODUCTION

Nexus Fulcrum LLC ("Nexus Fulcrum" or "Applicant") submits this Application (the "Application") to the Public Utilities Commission of Nevada (the "Commission") under the Utility Environmental Protection Act ("UEPA") (NRS 704.820 to 704.900, and NAC 703.415 to 703.427) for a Permit to Construct ASR-IX, a nominal 510 megawatt ("MW") natural gas-fueled electric generation plant and ancillary facilities (the "Project"). The Project will be constructed on the previously disturbed site of the former Sierra Biofuels Refinery within the Tahoe Reno Industrial Center ("TRIC") complex.

LEGAL AUTHORITY

The Project is located entirely on non-federal land, and therefore, no environmental analysis is required by a federal agency. Accordingly, this Application is filed pursuant to the requirements of NRS 704.870 and NAC 703.423.

INFORMATION REGARDING THE APPLICANT

Nexus Fulcrum's principal place of business and mailing address are:

Nexus Fulcrum, LLC
155 Federal Street

Boston, MA 02110

All correspondence related to this Application should be directed to:

Linda M. Bullen
Bullen Law, LLC
8635 W. Sahara Ave. #454
Las Vegas, NV 89117
linda@bullenlaw.com
702-279-4040

RESPONSES TO REQUIRED DISCLOSURES

The information required by NAC 703.421 and 703.423 is provided below.

1. **A description of the location of the proposed utility facility as required by subsection 1 of NRS 704.870 including:**

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

See Exhibit A, Site Location Map. A Regional Map showing the location of the Project is attached as Exhibit B.

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

A Legal Description of the Project site is attached as Exhibit C.

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

Scaled Diagrams of the Project are included in Exhibit D.

2. **A general description of the proposed utility facility. (NAC 703.423(2))**

(a) The size and nature of the proposed utility facility. (NAC 703.423(2)(a))

The proposed facility is a nominal 510 MW, natural gas-fueled electrical generation facility consisting of natural gas combustion turbines operated in simple-cycle mode, a diesel emergency generator, a diesel fire pump, and associated ancillary facilities. The Project will be located within the approximately 20-acre footprint of the previously disturbed site.

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

Natural resources that will be used during the construction and operation of the Project include cement, aggregate, and steel and water for dust suppression, metals such as copper and steel and natural gas. It is anticipated that approximately 10,000 – 20,000 gallons of water per day, for a total of 15 acre feet of water, will be used during construction. One hundred forty-five acre feet of water per year is expected to be used during operation. All water for the Project will be provided by the TRIC General Improvement District ("GID").

(c) Layout diagrams of the proposed utility facility and its associated equipment. (NAC 703.423(2)(c))

A Layout Diagram of the facility is attached as Exhibit E.

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

Scaled Diagrams of the Project are included in Exhibit D.

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

The Project is an electric generating plant and uses natural gas to generate power. Natural gas is not a renewable source of energy.

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

An Environmental Statement for the Project is attached as Exhibit F. The Environmental Statement analyzes air quality, cultural, paleontological. water, and visual resources, along with geology, soils, vegetation, special status species, wildlife habitat and existing and planned use. The Environmental Statement concludes that no significant unmitigated environmental impacts will result from the construction and operation of the project. *See* Exhibit F.

4. **A description of any reasonable alternate locations for the proposed utility facility, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the proposed utility facility as required by subsection 1 of NRS 704.870. (NAC 703.423(4))**

The Applicant based its selection of the site on the following key project requirements:

- Generally flat land of sufficient size to accommodate the required generation capacity;
- Access to water, wastewater, natural gas and electrical infrastructure;
- Proximity to the expected power offtake; and
- Sites with appropriate zoning, distance from sensitive receptors and sites with previous disturbance in order to minimize environmental impacts.

The TRIC and surrounding area are home to several existing and planned industrial and commercial electrical loads. It has existing access roads, natural gas, water and wastewater and electrical infrastructure. The project site was previously used as a biofuels refinery, and the entire site has been disturbed.

No other sites in the geographic area meet all of the project criteria, making the proposed site the preferred alternative.

5. **A copy of the public notice of the application and proof of publication of the public notice, as required by subsection 4 of NRS 704.870. (NAC 703.423(5))**

A summary of this Application has appeared in a newspaper that is published and distributed in the area where the Project is planned. *See* Exhibit G. A copy of this Application has been filed with the clerk of the local government in the area in which the Project is to be located. *See* Exhibit H.

6. Proof that a copy of the application or amended application has been submitted to the Nevada State Clearinghouse within the State Department of Conservation and Natural Resources. (NAC 703.423(6))

A copy of this Application has been submitted to the Nevada State Clearinghouse within the State Department of Conservation and Natural Resources. *See* Exhibit H.

7. An explanation of the nature of the probable effect on the environment. (NAC 703.423(7))

(a) A reference to any studies described in subsection 3, if applicable. (NAC 703.423(7)(a))

A detailed environmental analysis of the Project is contained in the Environmental Statement as Exhibit F. The Environmental Statement analyzes the direct, indirect and cumulative environmental impacts from the construction and operation of the Project.

(b) An environmental statement that includes:

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

A list of persons responsible for the preparation of the Environmental Statement is included in the Environmental Statement, Exhibit F, Section 5.

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

A list of persons consulted in preparation of the Environmental Statement is included in Section 4 of the Environmental Statement, Exhibit F, Section 6.

(3) A bibliography of materials used in the preparation of the environmental statement. (NAC 703.423(7)(b)(3))

A bibliography of materials is provided in the Environmental Statement, Exhibit F, Section 7.

(4) A description of the following: (NAC 703. 423(7)(b)(4))

I. The environmental characteristics of the project area existing at the time the application is filed with the Commission.

The environmental characteristics of the geologic/soil resources, water resources, air quality, biological resources including vegetation, habitats and wildlife, cultural resources, visual resources and socioeconomic resources are discussed in detail in Section 2 of the Environmental Statement, Exhibit F.

The Project setting is a previously disturbed site within the TRIC in rural Storey County. The Project site was previously developed as a biofuels production facility and is zoned for heavy industrial use in the Storey County code. The Project is in Hydrographic Area ("HA") 083, also referred to as Basin HA083 or Tracy Segment, which is designated as attainment/unclassifiable for all criteria pollutants with respect to the National Ambient Air Quality Standards. A review of national cultural resource databases did not identify any listed resources within the Project site or a one-mile buffer area around the site.

The land surrounding the Project site has been determined to be unlikely to contain paleontological resources under the Bureau of Land Management Potential Fossil Yield Classification system. Based on the Project site soil characteristics, the site is not suitable as

prime farmland and does not have a hydric rating. No bodies of water are within one mile of the Project site; the nearest body of water is the Truckee River, approximately 2.7 miles north of the Project site. The site is heavily disturbed and developed with an existing biofuel facility does not contain native vegetation due to the existing development within the site. No special status plant or animal species were identified onsite, and the site is fully fenced, preventing wildlife from entering the site.

II. The environmental impacts that the construction and operation of the proposed utility facility will have on the project area before mitigation.

A detailed description of the environmental impacts that construction and operation of the Project will have on the environment before mitigation is provided in the Environmental Statement. *See* Section 3 of Exhibit F. Because the Project site is a disturbed industrial site, construction of the Project will not impact previously undisturbed land. During construction, there is potential for fugitive dust to occur during ground disturbing activities. No impact to cultural, paleontological, geological and visual resources is anticipated. Construction of the Project is unlikely to affect special status species due to the developed nature of the Project site and the lack of special status flora and fauna species currently on the Project site. The Project site is highly disturbed and does not contain any suitable wildlife habitat due to its current development as a biofuel facility. However, the presence of natural vegetation in the Project vicinity may provide suitable nesting and foraging habitat for migratory birds and raptors.

III. The environmental impacts that the construction and operation of the proposed utility facility will have on the project area after mitigation.

A detailed description of the mitigation and environmental protection measures that will be undertaken for the project is provided in Section 4 of the Environmental Statement, Exhibit F to this Application.

The following measures will be implemented to minimize impacts to air quality:

- A Class 1 Operating Permit to Construct will be obtained for the Project prior to commencement of construction.
- A Surface Area Disturbance Permit will be obtained prior to commencement of construction.
- Areas subject to ground disturbance will be watered to control dust and minimize wind transmission of loosened soil.
- Driving speeds will be limited on unpaved roads.
- Public streets will be swept if visible soil material is tracked onto them by construction vehicles and equipment.
- Excavation and grading activities will be suspended when winds and instantaneous gusts exceed 50 mph, and visible dust plumes are observed leaving the site.

The Project will implement several mitigation measures to lessen impacts to special status and wildlife resources including:

- Excavations left overnight will be covered or fenced to prevent livestock or wildlife from falling in. Covers will be secured in place to prevent livestock or wildlife from falling in.
- Preconstruction bird nesting surveys will be conducted prior to construction activities to identify any potential nesting sites, nesting behavior, and active nests.

The following mitigation measures will protect water resources and water quality:

- An individual National Pollutant Discharge Elimination System Permit will be obtained prior to Project operation.
- A Construction Stormwater General Permit will be obtained prior to Project construction.

Site vegetation will be protected by implementation of the following mitigation measures:

- Gravel, fill, and erosion control materials shall be certified as weed-free.
- Off-road equipment will be cleaned of mud, dirt, and plant parts prior to equipment entering the Project site.

As the result of implementation of the mitigation measures stated above and obtaining and conforming with all applicable permits and authorizations, the Project will have little or no unmitigated impact on the environment.

8. <u>An Explanation of the Extent to Which the Proposed Utility Facility is Needed to Ensure Reliable Utility Service to Customers in this State</u>. (NAC 703.423(8))

(a) If the proposed utility facility was approved in a resource plan or an amendment to a resource plan or an amendment to a resource plan, a reference to the previous approval by the Commission; or (NAC 703.423(8)(a))

(b) If the proposed utility facility was not approved in a resource plan or an amendment to a resource plan, a description of the extent to which the proposed utility facility will: (NAC 703.423(8)(b))

(1) Provide utility service to customers in this State. (NAC 703.423(8)(b)(1))

The purpose of the Project is to provide electric power to one offtaker located within the TRIC. It is not anticipated that the Project will provide utility service to any other electric customers in the State.

(2) Enhance the reliability of utility service in this State. (NAC 703.423(8)(b)(2))

The Project is anticipated to enhance the reliability of utility service in Nevada by providing needed generation to serve on offtaker within TRIC. The presence of multiple generation units in close proximity to the load will increase reliability and reduce the potential adverse impacts of any transmission outages.

(3) Achieve interstate benefits by the proposed construction or modification of transmission facilities in this State. (NAC 703.423(8)(b)(3))

The Project does not involve the construction or modification of any transmission facilities and therefore will not achieve any interstate benefits from such construction or modification.

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

As stated in paragraph 7 above and detailed in the Environmental Statement, the Project will not have any significant unmitigated impacts on the environment.

10. An explanation of how the proposed utility facility represents the minimum adverse effect on the environment, including:

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

The project proposes to use modern gas combustion turbines equipped with emission control systems. This equipment will be installed on a site that has been previously disturbed, is remote from sensitive receptors and is zoned for heavy industrial use. Construction of the Project and its subsequent operation will use the best available technology and will incorporate design measures to minimize water use.

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

Other electrical generation technologies were considered but natural gas combustion turbines provide the most efficient technology to achieve the Project's objectives and are able to fit within the disturbed area footprint.

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

The Project must be capable of generating approximately 500 MW of electric power and be located in proximity to the electrical infrastructure in order to serve potential customers in an economically viable manner. As discussed elsewhere in this application, the project site that was selected based on these and other criteria is approximately 20-acres in size. Natural gas combustion turbines are the most economic of any potential generation technology which can be accommodated by this site.

The proposed site is previously disturbed and is in the process of being decommissioned and cleared by the site owner. Use of a cleared brownfield site will reduce construction costs when compared to other sites, making the proposed site the most economical alternative.

11. An explanation of how the location of the proposed utility facility conforms to applicable state and local laws and regulations, including a list of all permits, licenses and approvals the applicant has obtained, including copies thereof. (NAC 703.423(11)(a))

Permit/Authorization	Approving Agency	Date Obtained or Anticipated Date To Obtain
No Hazard Determination	Federal Aviation Administration	November 2026
Class I Air Quality Operating Permit to Construct	Nevada Division of Environmental Protection	October 31, 2026
Surface Area Disturbance Permit	Nevada Division of Environmental Protection	January 2027
Construction Stormwater General Permit	Nevada Division of Environmental Protection	January 2027
Stormwater General Permit	Nevada Division of Environmental	January 2027

	Protection	
Individual National Pollutant Discharge Elimination System Permit	Nevada Division of Environmental Protection	January 2027
AB 307 Energy Planning and Conservation Fund Compliance	Nevada Department of Wildlife	May 2026
Special Use Permit	Storey County	October 2026
Building Permit	Storey County	December 2026
Commercial/Industrial Permit	Storey County	December 2026
Excavation Permit	Storey County	December 2026
Encroachment Permit	Storey County	December 2026
Fire Plan Review/Permit	Storey County	December 2026

12. <u>An explanation of how the proposed utility facility will serve the public interest</u>. (NAC 703.423 (12))

(a) The economic benefits that the proposed utility facility will serve the public interest. (NAC 703.423(12)(a))

The economic benefits of the Project include employment of approximately 250 workers during peak construction of the Project as well as property and sales and use taxes and direct and indirect benefits to local businesses from the Project's construction and operation.

(b) The nature of the probable effect on the environment in this state if the proposed utility facility is constructed. (NAC 703.423 (12)(b))

The Project will have little impact on the environment of the state. Construction impacts will be short-lived and minimal given the limited geographic scope of the Project. All applicable

state and local environmental permits will be obtained and adhered to, resulting in the minimum possible impact to the environment.

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

As detailed above, the Project will obtain and comply with all necessary permits and approvals and will not result in any significant unmitigated impacts to the environment. As such, The project is not expected to pose a risk to public health, safety and welfare.

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

The Project is not a proposed electric transmission facility and therefore is not expected to achieve any interstate benefits.

CONCLUSION AND REQUEST FOR RELIEF

The Applicant respectfully requests that the Commission proceed in the manner required by law, and, in accordance with NRS 704.820 to 704.900 and NAC 703.415 to 703.427, issue an order that:

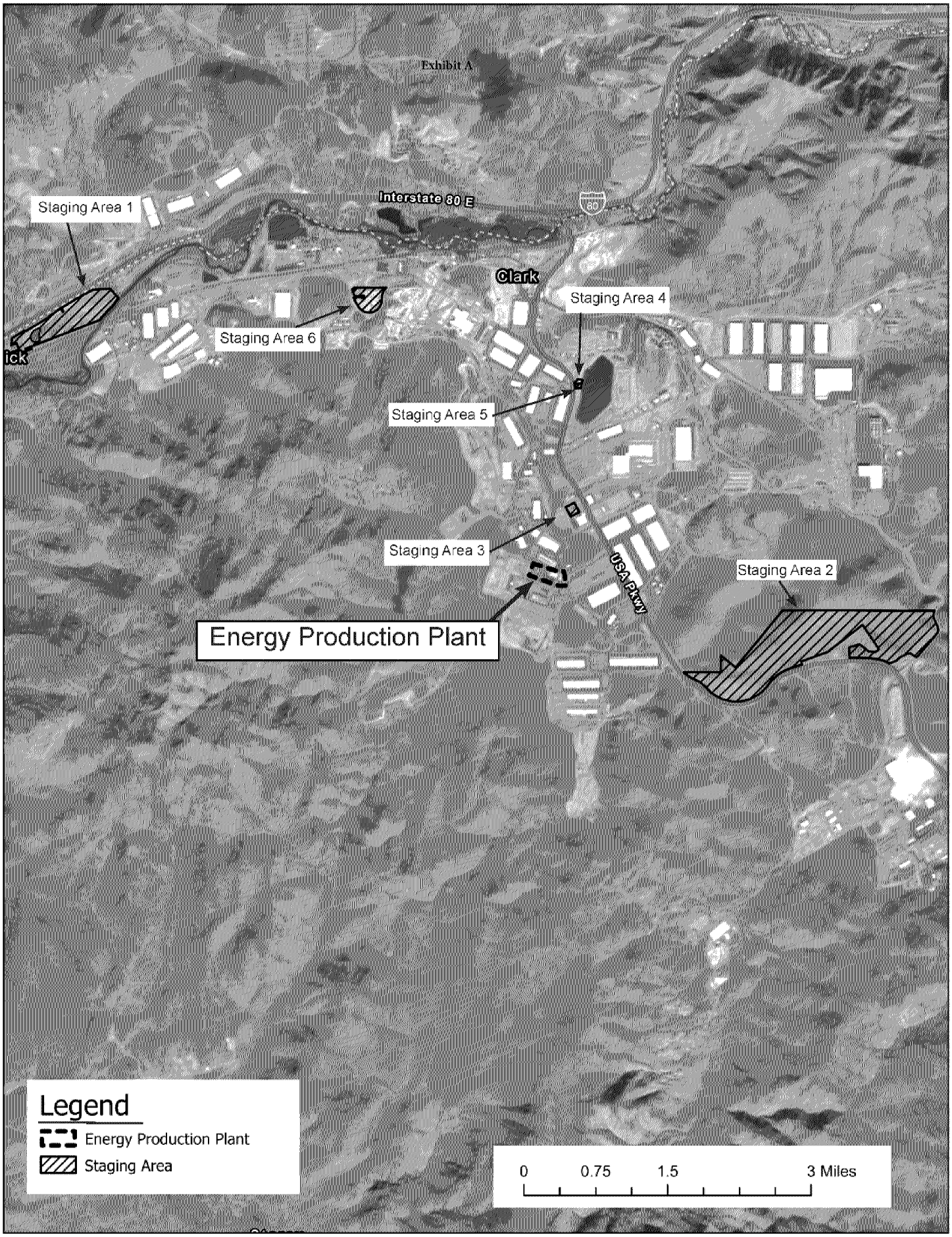
1. Grants one or more Permits to Construct the Proposed Facility, as described in this Application;
2. Grants such conditions and modifications that may allow for the issuance of the UEPA Permit to Construct or a compliance order with the condition that the Company may file any outstanding required permits, licenses or approvals with the Commission prior to commencing construction of the Project;
3. Grants such deviations from the Commission's regulations as may be in the public interest; and

4. Grants the Applicant such other and further relief as the Commission may find reasonable and appropriate under the circumstances.

Respectfully submitted on June 17, 2026.

Nexus Fulcrum LLC

By: *Linda M. Bullen*
Linda M. Bullen
Bullen Law, LLC
8635 W Sahara Ave #454
Las Vegas, NV 89117

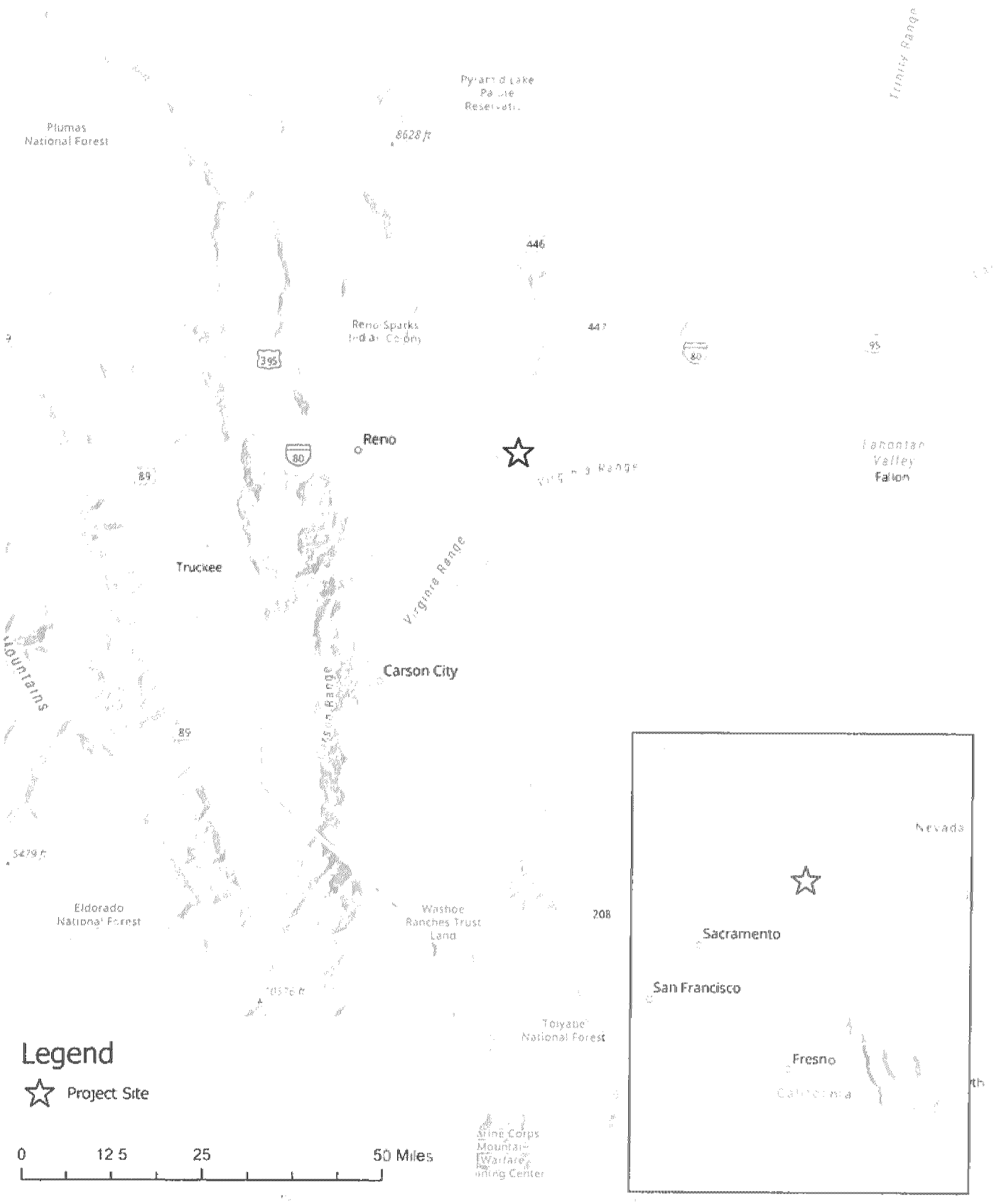


Source: ESRI, 2026

Figure 2: Project Location Map

Not to scale

Kimley»Horn



Source: ESRI, 2026

Figure 1: Regional Location Map

Not to scale

Fulcrum Natural Gas Generation Project

Kimley»Horn

Commitment No. NCS-2E4KNV01-NRG File No. NCS-2E4KNV01-NRG

EXHIBIT A

The Land referred to herein below is situated in the County of Storey, State of Nevada, and is described as follows:

Parcel 2014-22 of record of Survey Map No. 120788, filed in the office of the County Recorder of Storey County, State of Nevada on August 13, 2014, as File No. 120788, of official records, being more particularly described as follows:

All that certain parcel situate within portions of the East one-half (e 1/2) of Section Ten (10) and the West one-half (w 1/2) of Section Eleven (11), Township Nineteen (19) North, Range Twenty-Two (22) East, and being portions of Parcels 2009-3 and 2009-4 as shown on record of Survey Map, File No. 110832 in the official records of Storey County, Nevada, said parcel being more particularly described as follows:

Commencing at the South 1/4 corner of said section 10;
Thence North 39° 28' 59" East, 2902.42 feet to the Northwest corner of said Parcel 2009-4;
Thence along the Northerly line of said parcel 2009-4, South 70° 13' 20" East, 820.46 feet to the Point of Beginning;
Thence continuing along said Northerly line and along the Northerly line of said parcel 2009-3, South 70° 13' 20" East, 1100.17 feet to the beginning of a tangent curve to the left;
Thence 230.92 feet along the arc of a 605.00 foot radius curve, through a central angle of 21° 52' 09" to the Westerly right-of-way line of Peru drive, and being the Northeast corner of said Parcel 2009-3;
Thence along the Easterly line of said Parcel 2009-3 being coincident with the Westerly right-of-way line of Peru drive, South 10° 38' 47" East, 571.63 feet to the Southeast corner of said Parcel 2009-3;
Thence leaving said Westerly right-of-way line, along the Southerly line of said parcel 2009-3, South 79° 21' 13" West, 70.45 feet to the beginning of a tangent curve to the right;
Thence continuing along said Southerly line, 307.98 feet along the arc of a 580.00 foot radius curve, through a central angle of 30° 25' 27";
Thence continuing along said Southerly line and the Southerly line of said Parcel 2009-4, North 70° 13' 20" West, 1260.54 feet;
Thence leaving the Southerly line of said Parcel 2009-4, North 19° 46' 40" East, 564.92 feet to the Point of Beginning.

Note: The above metes and bounds legal description appeared previously in that certain document recorded August 13, 2014 as Document No. 120789 of official records.

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Exhibit "A"

All that certain parcel situate within a portion of the North ½ of Section 2 of Township 19 North, Range 22 East, M.D.M., Storey County, Nevada, and being a portion of Parcel 2005-1A1 as shown on Record of Survey Map, File No. 101463 in the Official Records of Storey County, Nevada, said Parcel being more particularly described as follows:

Beginning at a point on the Westerly line of said Parcel 2005-1A1 from which the West ¼ corner of said Section 2, Township 19 North, Range 22 East, M.D.M., bears South 46°21'41" West, 2,351.96 feet;

Thence from the Point of Beginning, leaving said Westerly line, North 78°44'52" East, 309.66 feet;

Thence South 11°43'52" West, 223.74 feet;

Thence South 85°43'41" West, 234.86 feet to a point on a non-tangent curve to the left, said point being on the Westerly line of said Parcel 2005-1A1;

Thence from a tangent which bears North 04°16'19" West, along said Westerly line, 177.87 feet along the arc of a 1,460.00 foot radius curve, through a central angle of 06°58'50" to the Point of Beginning.

Said land is also shown as Parcel 2005-1A1C of Record of Survey Map No. 101973, filed in the Office of the County Recorder of Storey County, State of Nevada on September 13, 2005, as File No. 101973 of Official Records.

The above metes and bounds description appeared previously in that certain document recorded September 15, 2005, as Document No. 101991.

Exhibit B

All that certain parcel situate within a portion of the North ½ of Section 2 of Township 19 North, Range 22 East, M.D.M., Storey County, Nevada, and being a portion of Parcel 2005-1A1 as shown of Record of Survey Map, File No. 101463 in the Official Records of Storey County, Nevada, said Parcel being more particularly described as follows:

Beginning at a point on the Westerly line of said Parcel 2005-1A1 from which the West ¼ corner of said Section 2, Township 19 North, Range 22 East, M.D.M., bears South 46°21'41" West, 2,351.96 feet;

Thence from the Point of Beginning, along said Westerly line the following three (3) courses and distances:

1) from a tangent which bears North 11°15'08" West, 70.28 feet along the arc of a 1,460.00 foot radius curve, through a central angle of 02°45'29" to the point of reverse curvature;

2) 30.75 feet along the arc of a 20.00 foot radius curve, through a central angle of 88°05'42";

3) 195.89 feet along the arc of a 180.00 foot radius curve, through a central angle of 62°21'13";

Thence leaving said Westerly line, South 78°16'08" East, 208.85 feet;

Thence South 11°43'52" West, 128.96 feet;

Thence South 78°44'52" West, 309.66 feet to the Point of Beginning.

Said land is also shown as Parcel 2005-1A1B of Record of Survey Map No. 101973, filed in the Office of the County Recorder of Storey County, State of Nevada on September 13, 2005, as File No 101973 of Official Records.

The above metes and bounds description appeared previously in that certain document recorded September 15, 2005, as Document No. 101991.

EXHIBIT 'A'

PARCEL 1:

PARCEL C OF PARCEL MAP 3900 FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA ON AUGUST 20, 2002 AS FILE NO. 2724291 OF OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.

PARCEL 2:

PARCEL E OF PARCEL MAP 3901 FILED IN THE OFFICE OF THE COUNTY RECORDER OF WASHOE COUNTY, STATE OF NEVADA ON AUGUST 20, 2002 AS FILE NO. 2724292 OF OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.

PARCEL 3:

COMMENCING AT THE WEST ONE-QUARTER CORNER OF SECTION 6, TOWNSHIP 19 NORTH, RANGE 22 EAST, MARKED BY A BRASS CAP R.L.S. 2522 IN A MOUND OF STONE, NORTH 06°34'56" EAST, A DISTANCE AT 2561.41 FEET TO THE POINT AT BEGINNING;

THENCE SOUTH 71°42'56" WEST, A DISTANCE OF 453.04 FEET;

THENCE NORTH 25°47'23" WEST, A DISTANCE OF 249.92 FEET;

THENCE NORTH 64°56'31" EAST, A DISTANCE OF 476.24 FEET;

THENCE SOUTH 20°41'24" EAST, A DISTANCE OF 304.22 FEET TO THE POINT OF BEGINNING.

CONTAINED ENTIRELY WITHIN THE SOUTHWEST QUARTER OF SECTION 31, TOWNSHIP 20 NORTH, RANGE 22 EAST, AND SOUTHEAST QUARTER OF SECTION 36, TOWNSHIP 20 NORTH, RANGE 21 EAST AND NORTHEAST QUARTER OF SECTION 1, TOWNSHIP 19 NORTH, RANGE 21 EAST, AND THE NORTHWEST QUARTER OF SECTION 6, TOWNSHIP 19 NORTH, RANGE 22 EAST, M.D.B.&M.

NOTE: THE ABOVE METES AND BOUNDS LEGAL DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JUNE 12, 1998 IN BOOK 5272, PAGE 230 AS INSTRUMENT NO. 2220492, OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.

PARCEL 4:

Exhibit "A"

All that certain parcel situate within a portion of the North ½ of Section 2 of Township 19 North, Range 22 East, M.D.M., Storey County, Nevada, and being a portion of Parcel 2005-1A1 as shown on Record of Survey Map, File No. 101463 in the Official Records of Storey County, Nevada, said Parcel being more particularly described as follows:

Beginning at a point on the Westerly line of said Parcel 2005-1A1 from which the West ¼ corner of said Section 2, Township 19 North, Range 22 East, M.D.M., bears South 46°21'41" West, 2,351.96 feet;

Thence from the Point of Beginning, leaving said Westerly line, North 78°44'52" East, 309.66 feet;

Thence South 11°43'52" West, 223.74 feet;

Thence South 85°43'41" West, 234.86 feet to a point on a non-tangent curve to the left, said point being on the Westerly line of said Parcel 2005-1A1;

Thence from a tangent which bears North 04°16'19" West, along said Westerly line, 177.87 feet along the arc of a 1,460.00 foot radius curve, through a central angle of 06°58'50" to the Point of Beginning.

Said land is also shown as Parcel 2005-1A1C of Record of Survey Map No. 101973, filed in the Office of the County Recorder of Storey County, State of Nevada on September 13, 2005, as File No. 101973 of Official Records.

The above metes and bounds description appeared previously in that certain document recorded September 15, 2005, as Document No. 101991.

Exhibit B

All that certain parcel situate within a portion of the North ½ of Section 2 of Township 19 North, Range 22 East, M.D.M., Storey County, Nevada, and being a portion of Parcel 2005-1A1 as shown of Record of Survey Map, File No. 101463 in the Official Records of Storey County, Nevada, said Parcel being more particularly described as follows:

Beginning at a point on the Westerly line of said Parcel 2005-1A1 from which the West ¼ corner of said Section 2, Township 19 North, Range 22 East, M.D.M., bears South 46°21'41" West, 2,351.96 feet;

Thence from the Point of Beginning, along said Westerly line the following three (3) courses and distances:

1) from a tangent which bears North 11°15'08" West, 70.28 feet along the arc of a 1,460.00 foot radius curve, through a central angle of 02°45'29" to the point of reverse curvature;

2) 30.75 feet along the arc of a 20.00 foot radius curve, through a central angle of 88°05'42";

3) 195.89 feet along the arc of a 180.00 foot radius curve, through a central angle of 62°21'13";

Thence leaving said Westerly line, South 78°16'08" East, 208.85 feet;

Thence South 11°43'52" West, 128.96 feet;

Thence South 78°44'52" West, 309.66 feet to the Point of Beginning.

Said land is also shown as Parcel 2005-1A1B of Record of Survey Map No. 101973, filed in the Office of the County Recorder of Storey County, State of Nevada on September 13, 2005, as File No 101973 of Official Records.

The above metes and bounds description appeared previously in that certain document recorded September 15, 2005, as Document No. 101991.

EXHIBIT A – Legal Description

PARCEL 2017-26 of Record of Survey Map No. 126405, filed in the Office of the County Recorder of Storey County, State of Nevada on September 19, 2017, as File No. 126405, of Official Records, more particularly described as follows:

All that certain parcel situate within a portion of the Northwest One quarter (NW 1/4) of Section Eleven (11), Township Nineteen (19) North, Range Twenty-Two (22) East, Mount Diablo Meridian, Storey County, Nevada, being portions of Parcels 2010-11 and 2010-12 as shown on Record of Survey Map, File No. 114147 in the Official records of Storey County, Nevada and Parcel 2017-4 as shown on Record of Survey Map, File No. 125592 in the Official Records of Storey County, Nevada, said parcel being more particularly described as follows:

Beginning at the Northeast Corner of said Parcel 2010-11, from which the North 1/4 corner of said Section 11 bears North 53°21'12" East, 1207.54 Feet;

Thence along the Easterly line of said Parcel 2010-11, coincident with the Westerly line of Parcel 2007-82 as shown on Record of Survey Map, File No. 107555, South 27°22'45" East, 452.46 feet to the Southeast corner of said Parcel 2010-11, being on the Northerly line of said Parcel 2010-12;

Thence along the Southerly line of said Parcel 2010-11 and the prolongation thereof, South 62°37'15" West, 413.94 feet;

Thence North 27°22'45" West, 452.45 feet to the Northerly line of said Parcel 2017-4, being on the Southerly line of Parcel 2005-4A as shown on Record of Survey Map, File No. 99905 in the Official Records of Storey County, Nevada;

Thence along said Northerly line and the Northerly line of said Parcel 2010-11, coincident with said Southerly Line, North 62°37'15" East, 413.94 feet to the POINT OF BEGINNING.

NOTE: The above Metes and Bounds legal description appeared previously in that certain document recorded September 19, 2017 as Instrument No. 126404.

APN: 005-061-50

EXHIBIT 'A'

PARCEL 1:

PARCEL 2017-33 OF RECORD OF SURVEY MAP NO. 127016, FILED IN THE OFFICE OF THE COUNTY RECORDER OF STOREY COUNTY, STATE OF NEVADA ON JANUARY 9, 2018, AS FILE NO. 127016, OF OFFICIAL RECORDS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

ALL THAT CERTAIN PARCEL SITUATE WITHIN PORTIONS OF SECTIONS THIRTEEN (13), FOURTEEN (14), FIFTEEN (15), TWENTY-ONE (21), TWENTY-TWO (22), TWENTY-THREE (23) AND TWENTY-FOUR (24), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-TWO (22) EAST, MOUNT DIABLO MERIDIAN AND PORTIONS OF SECTIONS EIGHTEEN (18), NINETEEN (19), AND THIRTY (30), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-THREE (23) EAST, MOUNT DIABLO MERIDIAN, STOREY COUNTY, NEVADA, BEING A PORTION OF PARCEL 2017-31 AS SHOWN ON RECORD OF SURVEY MAP NO. 127014 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, AND A PORTION OF PARCEL 2017-13 AS SHOWN ON RECORD OF SURVEY MAP NO. 126223 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTH 1/4 CORNER OF SAID SECTION 22, BEING ON THE SOUTHERLY LINE OF SAID PARCEL 2017-31;

THENCE ALONG SAID SOUTHERLY LINE OF PARCEL 2017-31, NORTH 89°19'56" WEST, 964.25 FEET;

THENCE LEAVING SAID SOUTHERLY LINE, NORTH 36°20'47" WEST, 4581.42 FEET;

THENCE NORTH 66°16'40" EAST, 1256.89 FEET;

THENCE NORTH 47°38'52" EAST, 4628.47 FEET;

THENCE NORTH 22°29'42" WEST, 566.19 FEET TO A POINT ON THE NORTHERLY LINE OF SAID PARCEL 2017-31;

THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL 2017-31 THE FOLLOWING TWENTY-EIGHT (28) COURSES AND DISTANCES:

1) NORTH 90°00'00" EAST, 1302.79 FEET;

2) SOUTH 20°39'13" EAST, 412.51 FEET;

3) SOUTH 08°07'48" WEST, 424.26 FEET;

4) SOUTH 00°51'37" EAST, 566.06 FEET;

5) SOUTH 05°44'37" EAST, 344.73 FEET;

6) SOUTH 35°33'37" EAST, 1032.57 FEET;

7) SOUTH 06°27'06" EAST, 992.28 FEET;

8) SOUTH 80°51'05" EAST, 871.08 FEET;

9) SOUTH 17°14'29" EAST, 865.39 FEET;

10) SOUTH 08°48'04" EAST, 277.77 FEET;

11) SOUTH 07°00'44" WEST, 630.72 FEET;

12) SOUTH 43°04'16" WEST, 546.20 FEET;

13) SOUTH 64°27'27" WEST, 1679.11 FEET;

14) SOUTH 14°03'39" EAST, 565.96 FEET;

15) NORTH 70°47'20" EAST, 1284.00 FEET;

16) NORTH 88°41'23" EAST, 2143.06 FEET;

17) NORTH 45°39'37" EAST, 552.29 FEET;

18) NORTH 66°20'22" EAST, 684.00 FEET;

19) NORTH 00°45'27" EAST, 643.06 FEET;

20) NORTH 49°14'53" WEST, 577.53 FEET;

21) NORTH 08°43'28" WEST, 906.49 FEET;

22) NORTH 01°53'33" EAST, 514.78 FEET;

23) NORTH 14°13'29" WEST, 663.34 FEET;

24) NORTH 49°27'42" EAST, 395.41 FEET;

25) NORTH 10°56'16" EAST, 498.05 FEET;

26) NORTH 90°00'00" EAST, 2519.83 FEET;

27) NORTH 00°00'00" EAST, 1747.53 FEET AND;

28) NORTH 01°25'02" EAST, 367.69 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF USA PARKWAY AS DEDICATED IN DOCUMENT NO. 121150 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID POINT BEING THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT, FROM WHICH THE RADIUS BEARS NORTH 51°58'17 EAST;

THENCE ALONG SAID NORTHERLY LINE AND SAID SOUTHERLY RIGHT-OF-WAY LINE

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THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

1) 867.91 FEET ALONG THE ARC OF A 1794.87 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 27°42'20" TO A POINT OF REVERSE CURVATURE;

2) 576.89 FEET ALONG THE ARC OF A 1375.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 24°02'20" TO A POINT OF REVERSE CURVATURE;

3) 3453.07 FEET ALONG THE ARC OF A 1925.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 102°46'38" TO A POINT OF REVERSE CURVATURE;

4) 942.94 FEET ALONG THE ARC OF A 1544.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 34°59'28" TO A POINT OF COMPOUND CURVATURE;

THENCE CONTINUING ALONG SAID NORTHERLY LINE AND A PORTION OF THE NORTHERLY LINE OF SAID PARCEL 2017-13, 1957.03 FEET ALONG THE ARC OF A 7875.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 14°14'19";

THENCE LEAVING SAID NORTHERLY LINE AND SAID SOUTHERLY RIGHT-OF-WAY LINE, SOUTH 12°14'58" EAST, 1197.57 FEET;

THENCE SOUTH 38°25'53" EAST, 765.11 FEET;

THENCE SOUTH 03°13'38" WEST, 1010.08 FEET;

THENCE SOUTH 74°38'35" WEST, 855.36 FEET;

THENCE SOUTH 21°29'15" WEST, 2062.36 FEET;

THENCE NORTH 62°58'52" EAST, 1388.97 FEET;

THENCE NORTH 84°04'42" EAST, 1380.10 FEET TO THE EASTERLY LINE OF SAID PARCEL 2017-31, BEING THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT FROM WHICH THE RADIUS BEARS NORTH 53°19'27" WEST;

THENCE ALONG SAID EASTERLY LINE, 581.42 FEET ALONG THE ARC OF A 1500.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 22°12'31";

THENCE, CONTINUING ALONG SAID EASTERLY LINE, SOUTH 71°06'35" WEST, 1588.09 FEET;

THENCE CONTINUING ALONG SAID EASTERLY LINE, SOUTH 31°06' 27" EAST, 335.93 FEET TO THE NORTHEAST CORNER OF PARCEL 2011-02 AS SHOWN ON RECORD OF SURVEY MAP NO. 114785 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, BEING ON THE SOUTHERLY LINE OF SAID PARCEL 2017-33;

THENCE ALONG SAID SOUTHERLY LINE OF PARCEL 2017-33 AND THE NORTHERLY LINE OF SAID PARCEL 2011-02, SOUTH 58°53'32" WEST, 2035.05 FEET TO THE NORTHWEST CORNER OF SAID PARCEL 2011-02 TO THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT, FROM WHICH THE RADIUS BEARS SOUTH 87°27'26" WEST;

THENCE CONTINUING ALONG SAID SOUTHERLY LINE OF PARCEL 2017-31 AND ALONG THE WESTERLY LINE OF SAID PARCEL 2011-02 THE FOLLOWING EIGHT (8) COURSES AND DISTANCES:

1) 362.88 FEET ALONG THE ARC OF A 460.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 45°11'55";

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2) SOUTH 42°39'22" WEST, 131.11 FEET TO THE BEGINNING OF A CURVE TO THE LEFT;

3) 54.61 FEET ALONG THE ARC OF A 40.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 78°13'35";

4) SOUTH 35°34'14" EAST, 248.84 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT;

5) 280.13 FEET ALONG THE ARC OF A 360.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 44°35'03"

6) SOUTH 09°00'50" WEST, 510.50 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT;

7) 236.48 FEET ALONG THE ARC OF A 460.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 29°27'17";

8) AND SOUTH 38°28'07" WEST, 471.84 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL 2011-02, BEING ON THE NORTHERLY LINE OF PARCEL 2016-30 AS SHOWN ON RECORD OF SURVEY MAP, FILE NO. 125489 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA;

THENCE CONTINUING ALONG SAID SOUTHERLY LINE OF PARCEL 2017-31 AND ALONG SAID NORTHERLY LINE, NORTH 89°34'20" WEST, 68.49 FEET TO THE INTERSECTION WITH THE WESTERLY LINE OF THE ABOVE MENTIONED SECTION 30;

THENCE CONTINUING ALONG SAID SOUTHERLY LINE OF PARCEL 2017-31 THE FOLLOWING SIX (6) COURSES AND DISTANCES:

1) NORTH 00°25'40" EAST, 183.39 FEET;

2) NORTH 89°43'18" WEST, 2634.95 FEET;

3) NORTH 89°30'25" WEST, 2639.33 FEET;

4) NORTH 89°13'11" WEST, 2632.47 FEET;

5) NORTH 89°13'12" WEST, 2630.45 FEET;

6) NORTH 89°20'30" WEST, 2654.49 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL:

ALL THAT CERTAIN PARCEL SITUATE WITHIN A PORTION OF SECTION TWENTY-FOUR (24), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-TWO (22) EAST, MOUNT DIABLO MERIDIAN, BEING A PORTION OF PARCEL 2017-31 AS SHOWN ON RECORD OF SURVEY MAP NO. 127014 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 24;

THENCE SOUTH 58°12'52" WEST, 425.29 FEET TO THE POINT OF BEGINNING;

THENCE FROM THE POINT OF BEGINNING, SOUTH 24°39'36" EAST, 410.39 FEET;

THENCE SOUTH 65°20'24" WEST, 425.40 FEET;

THENCE NORTH 24°39'36" WEST, 410.39 FEET;

THENCE NORTH 65°20'24" EAST, 425.40 FEET TO THE POINT OF BEGINNING.

NOTE: THE ABOVE METES AND BOUNDS DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JANUARY 9, 2018, AS DOCUMENT NO. 127015 OF OFFICIAL RECORDS.

PARCEL 2:

PARCEL 2017-36 OF RECORD OF SURVEY MAP NO. 127016, FILED IN THE OFFICE OF THE COUNTY RECORDER OF STOREY COUNTY, STATE OF NEVADA ON JANUARY 9, 2018, AS FILE NO. 127016, OF OFFICIAL RECORDS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

ALL THAT CERTAIN PARCEL SITUATE WITHIN A PORTION OF SECTION EIGHTEEN (18), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-THREE (23) EAST, MOUNT DIABLO MERIDIAN, STOREY COUNTY, NEVADA, BEING A PORTION OF PARCEL 2017-13 AS SHOWN ON RECORD OF SURVEY MAP NO. 126223 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 18;

THENCE NORTH 54°36'47" EAST, 5013.11 FEET TO THE POINT OF BEGINNING, BEING ON THE NORTHERLY LINE OF SAID PARCEL 2017-13 AND THE SOUTHERLY RIGHT-OF-WAY LINE OF USA PARKWAY AS DEDICATED IN DOCUMENT NO. 121150 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID POINT BEING THE BEGINNING OF A NON-TANGENT CURVE TO THE RIGHT, FROM WHICH THE RADIUS BEARS SOUTH 13°37'20" WEST;

THENCE ALONG SAID NORTHERLY PARCEL LINE AND SAID SOUTHERLY RIGHT-OF-WAY LINE, 652.85 FEET ALONG THE ARC OF A 1444.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 25°54'14" TO THE NORTHEAST CORNER OF SAID PARCEL 2017-13;

THENCE LEAVING SAID SOUTHERLY RIGHT-OF-WAY LINE, ALONG THE EASTERLY LINE OF SAID PARCEL 2017-13, SOUTH 49°57'21" WEST, 280.51 FEET TO THE BEGINNING OF A CURVE TO THE LEFT;

THENCE CONTINUING ALONG SAID EASTERLY LINE, 248.44 FEET ALONG THE ARC OF A 511.29 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 27°50'26";

THENCE CONTINUING ALONG SAID EASTERLY LINE, SOUTH 10°03'16" WEST, 819.78 FEET TO THE BEGINNING OF A CURVE TO THE LEFT;

THENCE CONTINUING ALONG SAID EASTERLY LINE, 293.93 FEET ALONG THE ARC OF A 1500.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 11°13'38";

THENCE LEAVING SAID EASTERLY LINE, NORTH 01°44'09" WEST, 1769.56 FEET TO THE POINT OF BEGINNING.

NOTE: THE ABOVE METES AND BOUNDS DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JANUARY 9, 2018, AS DOCUMENT NO. 127015 OF OFFICIAL RECORDS.

PARCEL 3:

PARCEL 2017-37 OF RECORD OF SURVEY MAP NO. 127018, FILED IN THE OFFICE OF THE COUNTY RECORDER OF STOREY COUNTY, STATE OF NEVADA ON JANUARY 9, 2018, AS FILE NO. 127018, OF OFFICIAL RECORDS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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ALL THAT CERTAIN PARCEL SITUATE WITHIN A PORTION OF SECTIONS THIRTEEN (13), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-TWO (22) EAST, MOUNT DIABLO MERIDIAN AND PORTIONS OF SECTIONS SEVENTEEN (17) AND EIGHTEEN (18), TOWNSHIP NINETEEN (19) NORTH, RANGE TWENTY-THREE (23) EAST, MOUNT DIABLO MERIDIAN, STOREY COUNTY, NEVADA, BEING A PORTION OF PARCEL 2016-20 AS SHOWN ON RECORD OF SURVEY MAP NO. 125044 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 18;

THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL 2016-20, COINCIDENT WITH THE NORTH LINE OF SAID SECTION 18, SOUTH 89°35'28" EAST, 2507.60 FEET TO THE NORTH 1/4 CORNER OF SAID SECTION 18;

THENCE CONTINUING ALONG SAID NORTH LINES, SOUTH 88°58'51" EAST, 2650.89 FEET TO THE NORTHEAST CORNER OF SAID SECTION 18, BEING THE NORTHWEST CORNER OF SAID SECTION 17;

THENCE CONTINUING ALONG SAID NORTHERLY PARCEL LINE, COINCIDENT WITH THE NORTH LINE OF SAID SECTION 17, SOUTH 89°50'29" EAST, 1314.42 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT, FROM WHICH THE RADIUS BEARS SOUTH 62°50'06" EAST, BEING THE NORTHEAST CORNER OF SAID PARCEL 2016-20;

THENCE LEAVING SAID NORTH SECTION LINE, ALONG SAID EASTERLY PARCEL LINE, 400.22 FEET ALONG THE ARC OF A 450.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 50°57'28";

THENCE CONTINUING ALONG SAID EASTERLY PARCEL LINE, SOUTH 23°47'34" EAST, 346.26 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT;

THENCE CONTINUING ALONG SAID EASTERLY PARCEL LINE, 281.68 FEET ALONG THE ARC OF A 250.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 64°33'24";

THENCE CONTINUING ALONG SAID EASTERLY PARCEL LINE, SOUTH 40°45'50" WEST, 1162.92 FEET TO THE BEGINNING OF A CURVE TO THE RIGHT;

THENCE CONTINUING ALONG SAID EASTERLY PARCEL LINE, 120.34 FEET ALONG THE ARC OF A 750.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 09°11'36";

THENCE CONTINUING ALONG SAID EASTERLY PARCEL LINE, SOUTH 49°57'21" WEST, 54.71 FEET;

THENCE LEAVING SAID EASTERLY PARCEL LINE, NORTH 56°25'19" WEST, 312.99 FEET;

THENCE SOUTH 76°36'14" WEST, 135.68 FEET;

THENCE SOUTH 66°37'49" WEST, 171.78 FEET;

THENCE SOUTH 62°21'31" WEST, 199.66 FEET;

THENCE SOUTH 46°08'10" WEST, 189.50 FEET;

THENCE SOUTH 69°29'12" WEST, 297.23 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT, FROM WHICH THE RADIUS BEARS SOUTH 29°33'59" WEST, BEING ON THE SOUTHERLY LINE OF SAID PARCEL 2016-20, ALSO BEING ON THE NORTHERLY RIGHT-OF-WAY LINE OF USA PARKWAY AS DEDICATED IN DOCUMENT NO. 121150 IN

THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA;

THENCE ALONG THE SOUTHERLY LINE OF SAID PARCEL 2016-20, COINCIDENT WITH SAID NORTHERLY RIGHT-OF-WAY LINE, 672.29 FEET ALONG THE ARC OF A 1694.00 FOOT RADIUS CURVE, THROUGH A CENTRAL ANGLE OF 22°44'19" TO A POINT OF COMPOUND CURVATURE;

THENCE CONTINUING ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 1070.78 FEET ALONG THE ARC OF A 8125.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE
OF 7°33'03";

THENCE LEAVING SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, NORTH 00°43'23" WEST, 429.36 FEET;

THENCE NORTH 72°41'15" EAST, 456.04 FEET;

THENCE SOUTH 51°59'21" EAST, 512.01 FEET;

THENCE SOUTH 84°53'13" EAST, 268.67 FEET;

THENCE NORTH 54°56'49" EAST, 194.11 FEET;

THENCE NORTH 33°24'53" WEST, 1254.50 FEET;

THENCE SOUTH 52°56'13" WEST, 1895.03 FEET;

THENCE SOUTH 70°38'58" WEST, 1176.49 FEET;

THENCE SOUTH 15°07'23" EAST, 137.97 FEET TO THE BEGINNING OF A NON-TANGENT CURVE TO THE LEFT, FROM WHICH THE RADIUS BEARS SOUTH 15°07'23" EAST, BEING ON THE ABOVE MENTIONED SOUTHERLY LINE OF SAID PARCEL 2016-20, ALSO BEING ON THE NORTHERLY RIGHT-OF-WAY LINE OF USA PARKWAY AS DEDICATED IN DOCUMENT NO. 121150 IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA;

THENCE ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 618.07 FEET ALONG THE ARC OF A 8125.00 FOOT CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 04°21'30" TO A POINT OF COMPOUND CURVATURE;

THENCE CONTINUING ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 1095.61 FEET ALONG THE ARC OF A 1794.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 34°59'28" TO A POINT OF REVERSE CURVATURE;

THENCE CONTINUING ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 3004.62 FEET ALONG THE ARC OF A 1675.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 102°46'38" TO A POINT OF REVERSE CURVATURE;

THENCE CONTINUING ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 681.78 FEET ALONG THE ARC OF A 1625.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 24°02'20" TO A POINT OF REVERSE CURVATURE;

THENCE CONTINUING ALONG SAID SOUTHERLY PARCEL LINE AND SAID NORTHERLY RIGHT-OF-WAY LINE, 535.12 FEET ALONG THE ARC OF A 1544.87 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 19°50'47" TO THE SOUTHWEST CORNER OF SAID PARCEL 2016-20;

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0127090 Book: 0 Page: 0

THENCE LEAVING SAID NORTHERLY RIGHT-OF-WAY LINE, ALONG THE WESTERLY LINE OF SAID PARCEL 2016-20, SOUTH 89°17'09" EAST, 1572.83 FEET;

THENCE CONTINUING ALONG SAID WESTERLY PARCEL LINE, NORTH 00°35'46" EAST, 730.53 FEET;

THENCE CONTINUING ALONG SAID WESTERLY PARCEL LINE, SOUTH 49°45'03" EAST, 821.33 FEET;

THENCE CONTINUING ALONG SAID WESTERLY PARCEL LINE, NORTH 40°15'14" EAST, 3145.10 FEET TO THE POINT OF BEGINNING.

NOTE: THE ABOVE METES AND BOUNDS DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JANUARY 9, 2018, AS DOCUMENT NO. 127017 OF OFFICIAL RECORDS.

PARCEL 4:

AN EASEMENT FOR INGRESS AND EGRESS AS SET FORTH IN THAT CERTAIN ACCESS AND UTILITY EASEMENT RECORDED OCTOBER 28, 2014 AS DOCUMENT NO. 121151.

PARCEL 5:

DELETED INTENTIONALLY

PARCEL 6: (APPURTENANT TO PARCEL 3)

A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS AS SET FORTH IN THAT CERTAIN ACCESS AND UTILITY EASEMENT AGREEMENT RECORDED OCTOBER 28, 2014 AS DOCUMENT NO. 121161.

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01/18/2018
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Exhibit A

Legal Description

PARCEL 1:

ADJUSTED LOT 99-32

ALL THAT CERTAIN REAL PROPERTY SITUATED WITHIN THE SOUTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 20 NORTH, RANGE 22 EAST, M.D.M., COUNTY OF STOREY, STATE OF NEVADA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER OF SECTION 33;

THENCE ALONG THE NORTH LINE OF SAID SOUTHEAST ONE-QUARTER, SOUTH 89°22'43" EAST, 2,556.19 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, AT THE NORTHEAST CORNER OF LOT 99-34A AS SHOWN ON THAT CERTAIN RECORD OF SURVEY MAP FOR TRI CENTER, LLC, RECORDED ON JANUARY 23, 2001 AS FILE NO. 88849 OF THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA;

THENCE LEAVING SAID NORTH LINE AND FOLLOWING THE EASTERLY LINE OF SAID LOT 99-34A, ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT WITH A RADIAL BEARING OF SOUTH 43°26'37" EAST, HAVING A RADIUS OF 610.00 FEET, THROUGH A CENTRAL ANGLE OF 40°38'36" A DISTANCE OF 432.71 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, AT THE SOUTHEAST CORNER OF SAID LOT 99-34A BEING THE TRUE POINT OF BEGINNING OF THIS DESCRIBED TRACT OF LAND;

THENCE CONTINUING ALONG SAID ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 610.00 FEET, THROUGH A CENTRAL ANGLE OF 02°34'10" A DISTANCE OF 27.35 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE SOUTH 03°20'37" WEST, 127.37 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 542.63 FEET, THROUGH A CENTRAL ANGLE OF 108°02'34" A DISTANCE OF 1,023.23 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE NORTH 01°21'25" WEST, 602.40 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE NORTH 58°07'35" WEST, 10.70 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT WITH A RADIAL BEARING OF NORTH 58°07'35" WEST, HAVING A RADIUS OF 55.00 FEET, THROUGH A CENTRAL ANGLE OF 31°15'08", A DISTANCE OF 30.00 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE SOUTH 89°22'42" EAST, 764.32 FEET TO THE TRUE POINT OF BEGINNING OF THIS DESCRIBED TRACT OF LAND.

THE BASIS OF BEARINGS FOR THIS DESCRIPTION IS THE NORTH LINE OF SAID SOUTHEAST ONE-QUARTER OF SECTION 33 AS SHOWN ON THAT CERTAIN MAP ENTITLED "FIRST PARCEL MAP OF LOTS 99-31, 99-32, 99-33 & 99-34 FOR TRI CENTER, LLC" RECORDED ON NOVEMBER 18, 1999 AS FILE NO. 86434 FILED IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA.

PARCEL 2:

ADJUSTED LOT 99-33

ALL THAT CERTAIN REAL PROPERTY SITUATED WITHIN THE SOUTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 20 NORTH, RANGE 22 EAST, M.D.M., COUNTY OF STOREY, STATE OF NEVADA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE SAID SOUTHEAST ONE-QUARTER OF SECTION 33;

THENCE ALONG THE NORTH LINE OF SAID SOUTHEAST ONE-QUARTER, SOUTH 89°22'43" EAST, 2,556.19 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685 AT THE NORTHEAST CORNER OF LOT 99-34A AS SHOWN ON THAT CERTAIN RECORD OF SURVEY MAP FOR TRI CENTER, LLC RECORDED ON JANUARY 23, 2001 AS FILE NO. 88849 OF THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA;

THENCE LEAVING SAID NORTH LINE AND FOLLOWING THE EASTERLY LINE OF SAID LOT 99-34A, ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT WITH A RADIAL BEARING OF SOUTH 43°26'37" EAST, HAVING A RADIUS OF 610.00 FEET, THROUGH A CENTRAL ANGLE OF 40°38'36" A DISTANCE OF 432.71 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, AT THE SOUTHEAST CORNER OF SAID LOT 99-34A;

THENCE ALONG THE SOUTH LINE OF SAID LOT 99-34A, NORTH 89°22'42" WEST, 764.32 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE LEAVING SAID SOUTH LINE FOLLOWING THE ARC OF A NON-TANGENT CURVE TO THE RIGHT WITH A RADIAL BEARING OF NORTH 89°22'42" WEST, HAVING A RADIUS OF 55.00 FEET, THROUGH A CENTRAL ANGLE OF 31°15'08" A DISTANCE OF 30.00 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, BEING THE TRUE POINT OF BEGINNING OF THIS DESCRIBED TRACT OF LAND;

THENCE SOUTH 58°07'35" EAST, 10.70 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE SOUTH 01°21'25" EAST, 602.40 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT WITH A RADIAL BEARING OF NORTH 21°23'11" EAST, HAVING A RADIUS OF 542.63 FEET, THROUGH A CENTRAL ANGLE OF 38°51'25" A DISTANCE OF 368.00 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE NORTH 29°45'24" WEST, 176.05 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 1,370.00 FEET, THROUGH A CENTRAL ANGLE OF 10°41'26" A DISTANCE OF 255.62 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE SOUTH 89°22'42" EAST, 322.17 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685;

THENCE ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 40.00 FEET, THROUGH A CENTRAL ANGLE OF 50°50'00" A DISTANCE OF 35.49 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, BEING A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 55.00 FEET, THROUGH A CENTRAL ANGLE OF 109°34'52" A DISTANCE OF 105.19 FEET TO A 5/8 INCH DIAMETER REBAR WITH PLASTIC CAP MARKED: PLS 12685, BEING THE TRUE POINT OF BEGINNING OF THIS DESCRIBED TRACT OF LAND.

THE BASIS OF BEARINGS FOR THIS DESCRIPTION IS THE NORTH LINE OF SAID SOUTHEAST ONE-QUARTER OF SECTION 33 AS SHOWN ON THAT CERTAIN MAP ENTITLED "FIRST PARCEL MAP OF LOTS 99-31, 99-32, 99-33 & 99-34 FOR TRI CENTER, LLC" RECORDED ON NOVEMBER 18, 1999 AS FILE NO. 86434, FILED IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA. SAID LOTS ALSO KNOWN AS: ADJUSTED LOTS 99-32 AND 99-33 AS SHOWN ON THAT CERTAIN RECORD OF SURVEY FOR TRI CENTER, LLC RECORDED IN THE OFFICE OF THE COUNTY RECORDER OF STOREY COUNTY ON OCTOBER 25, 2000 AS FILE NO. 88383 OF THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, AS AMENDED BY THAT

CERTAIN CERTIFICATE OF AMENDMENT RECORDED IN BOOK 140, PAGES 258 AND 259 ON JANUARY 23, 2001 AS FILE NO. 88851 FILED IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA.

THE ABOVE METES AND BOUNDS DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JUNE 22, 2001 IN BOOK 143, PAGE 193 AS DOCUMENT NO. 89653 OF OFFICIAL RECORDS.

PARCEL 3:

ALL THAT CERTAIN REAL PROPERTY SITUATED WITHIN THE SOUTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 20 NORTH, RANGE 22 EAST, M.D.M., COUNTY OF STOREY, STATE OF NEVADA, BEING A PORTION OF ADJUSTED LOT 99-34 OF RECORD OF SURVEY, FILE NO. 88383, RECORDED IN THE OFFICIAL RECORDS OF STOREY COUNTY, NEVADA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER OF SECTION 33;

THENCE SOUTH 89°22'43" EAST, ALONG THE NORTH LINE OF SAID SOUTHEAST ONE- QUARTER, 1,165.07 FEET TO THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION;

THENCE SOUTH 89°22'43" EAST, CONTINUING ALONG SAID NORTH LINE, 1,391.12 FEET; THENCE LEAVING SAID NORTH LINE ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT WITH A RADIAL BEARING OF SOUTH 43°26'37" EAST, HAVING A RADIUS OF 610.00 FEET, THROUGH A CENTRAL ANGLE OF 40°38'36" A DISTANCE OF 432.71 FEET;

THENCE NORTH 89°22'42" WEST, 764.32 FEET;

THENCE ALONG THE ARC OF A NON-TANGENT CURVE TO THE LEFT WITH A RADIAL BEARING OF NORTH 89°22'42" WEST, HAVING A RADIUS OF 55.00 FEET, THROUGH A CENTRAL ANGLE OF 140°50'00" A DISTANCE OF 135.19 FEET TO A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 40.00 FEET, THROUGH A CENTRAL ANGLE OF 50°50'00" A DISTANCE OF 35.49 FEET;

THENCE NORTH 89°22'42" WEST, 235.11 FEET;

THENCE ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT, HAVING A RADIUS OF 69.50 FEET, THROUGH A CENTRAL ANGLE OF 70°38'55" A DISTANCE OF 85.70 FEET;

THENCE NORTH 18°43'48" WEST, 225.74 FEET;

THENCE ALONG THE ARC OF A TANGENT CURVE TO THE LEFT, HAVING A RADIUS OF 513.00 FEET, THROUGH A CENTRAL ANGLE OF 03°29'04" A DISTANCE OF 31.20 FEET; THENCE SOUTH 89°22'42" EAST, 71.68 FEET;

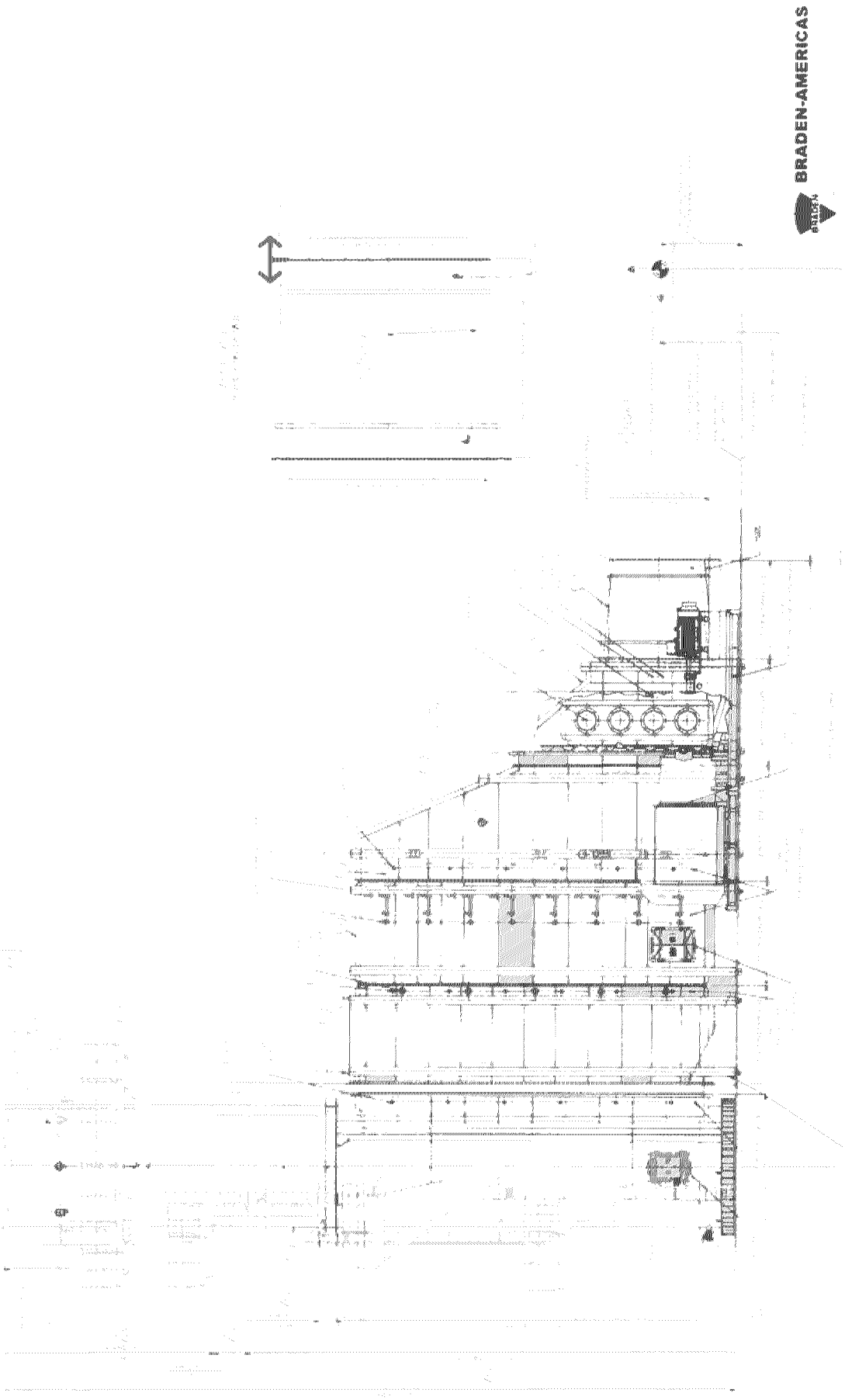
THENCE NORTH 00°39'21" EAST, 73.51 FEET TO THE TRUE POINT OF BEGINNING.

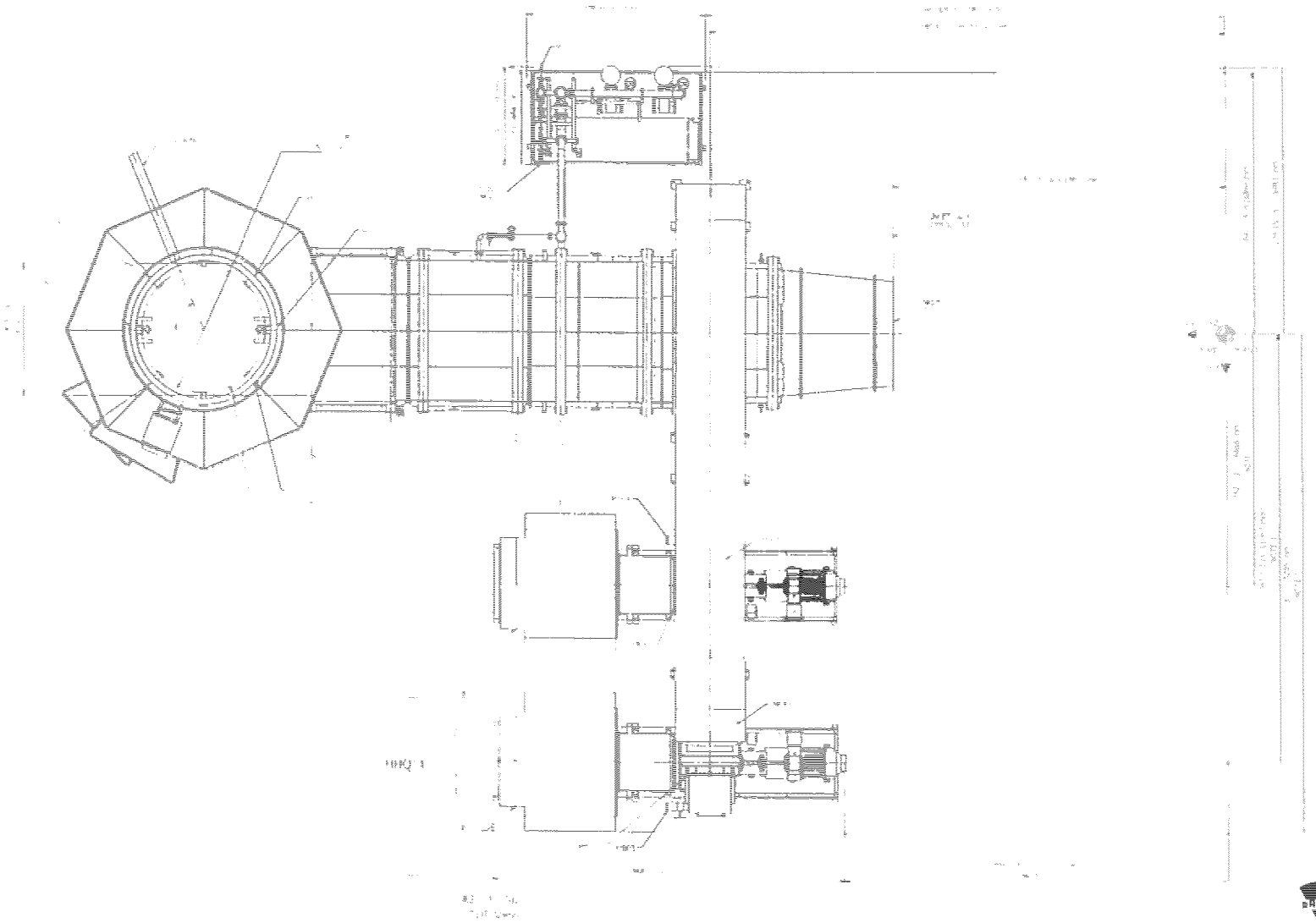
THE ABOVE METES AND BOUNDS DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED JANUARY 23, 2001 IN BOOK 140, PAGE 270 AS DOCUMENT NO. 88854 OF OFFICIAL RECORDS.

PARCEL 4:

AN EASEMENT FOR ACCESS AND DRAINAGE FACILITIES AS SET FORTH IN THAT CERTAIN "ACCESS AND DRAINAGE EASEMENT", RECORDED JANUARY 23, 2001 IN BOOK 140, PAGE 275, AS FILE NO. 88855 OF STOREY COUNTY, OFFICIAL RECORDS.

Exhibit D





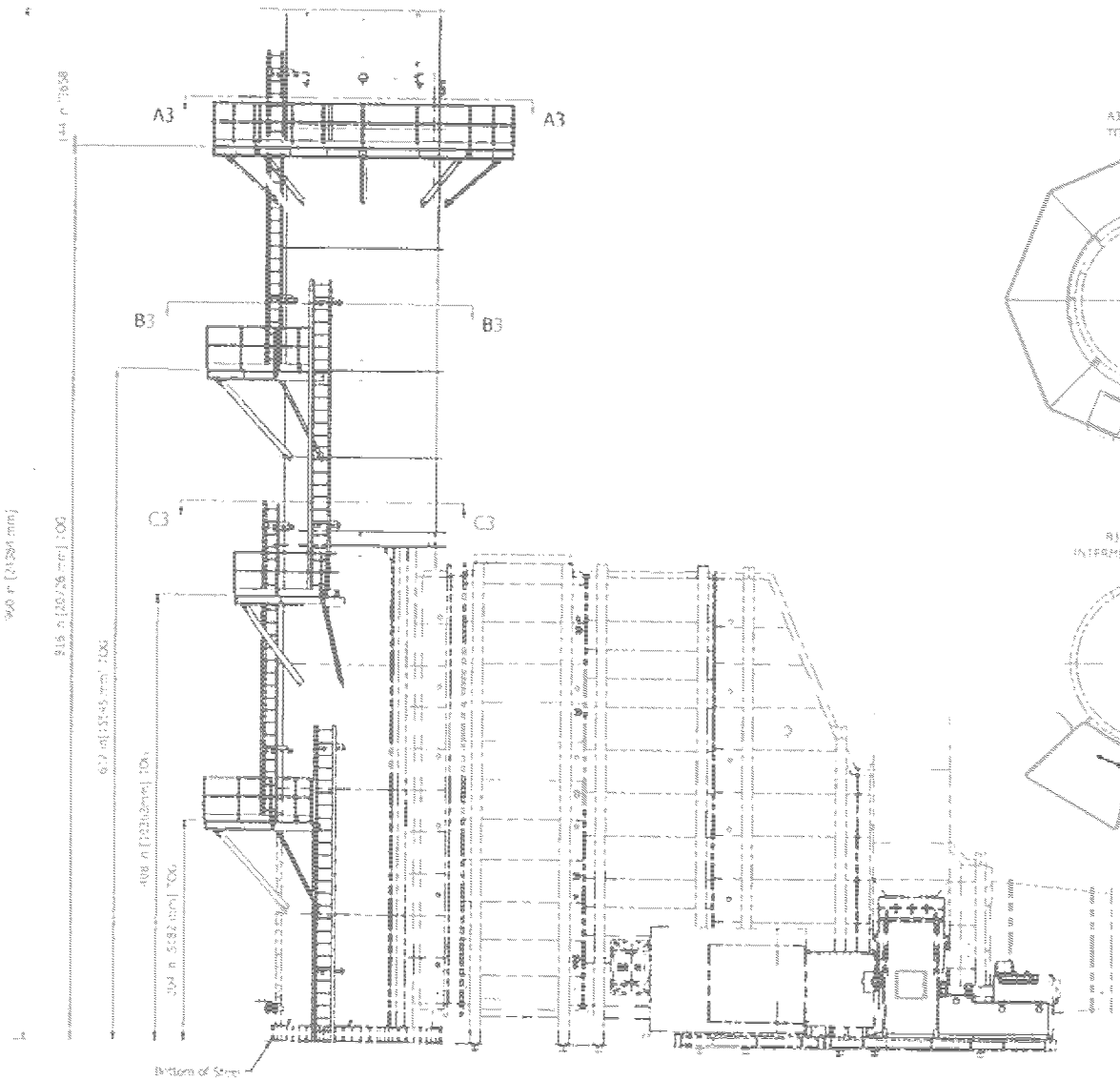
BRADEN-AMERICAS

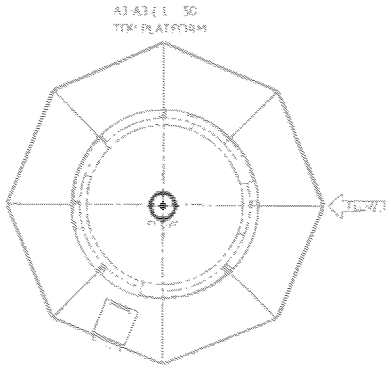
SIEMENS ENERGY

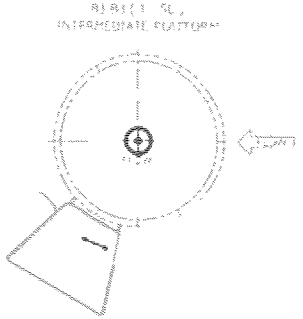
GENERAL ARRANGEMENT - PLAN VIEW

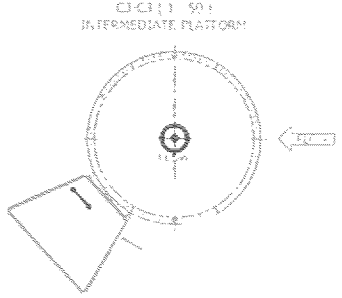
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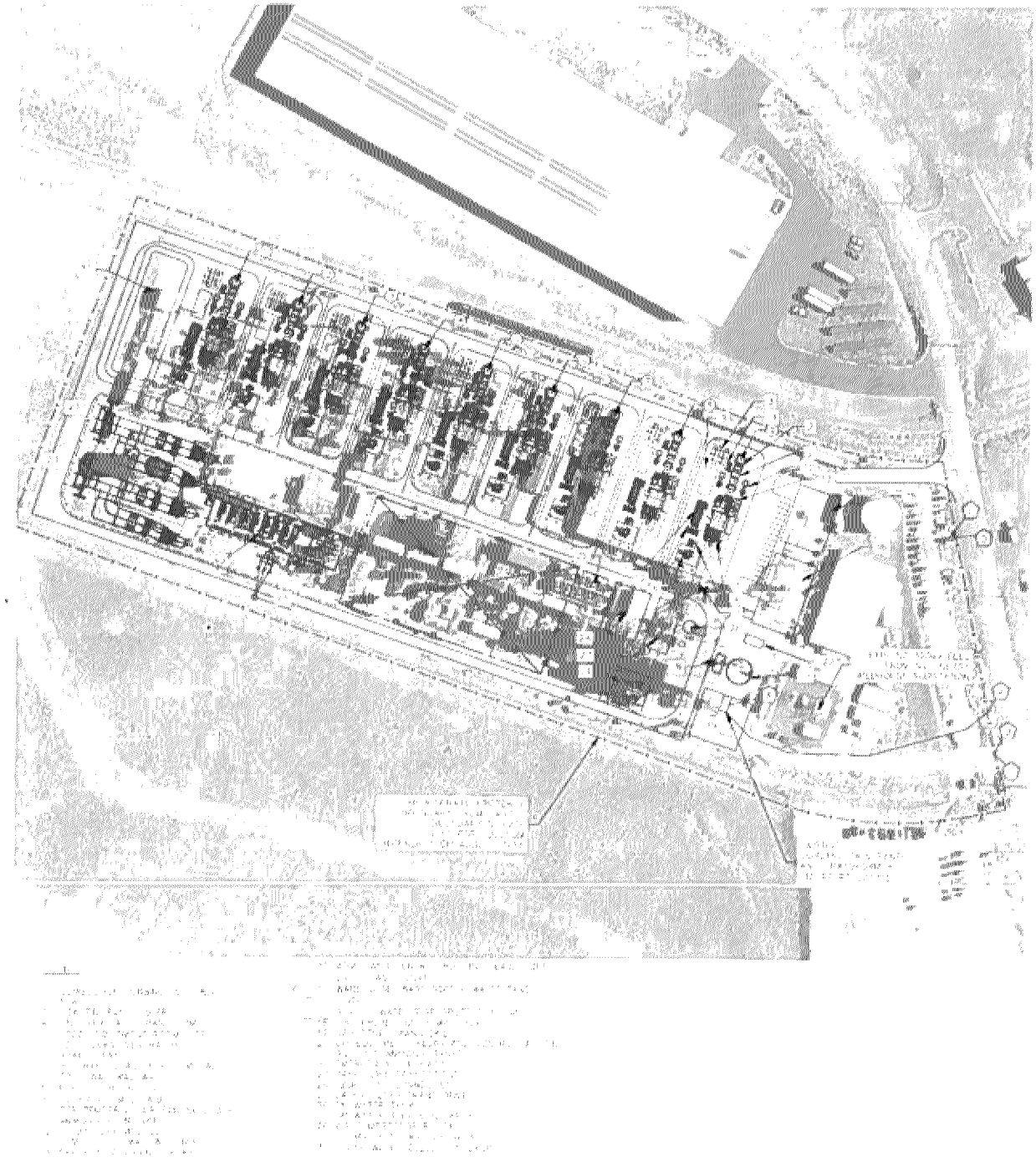


BRADEN-AMERICAS

SIEMENS ENERGY

25855-001

Exhibit E



Source: Sargent and Lundy, 2025

Figure 3: General Arrangement

Not to scale

Kimley»Horn

Exhibit F

Nexus Fulcrum, LLC

ASR-IX Natural Gas Generation Project

UEPA Environmental Statement

Prepared for:
Nexus Fulcrum, LLC
2777 Allen Parkway, Suite 1225
Houston, TX 77019

Prepared by:
Kimley-Horn and Associates
7900 Rancharrah Parkway, Suite 100
Reno, Nevada, 89511

June 2026

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LIST OF ACRONYMS/ABBREVIATED TERMS

Amsl	Above mean sea level
APN	Assessor's Parcel Number
BMP	Best Management Practice
CO	Carbon Monoxide
CFR	Code of Federal Regulations
GHG	Greenhouse Gas Emissions
HA	Hydrographic Area
HAP	Hazardous Air Pollutants
I-80	Interstate 80
IPaC	Information for Planning and Consultation
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NBMG	Nevada Bureau of Mines and Geology
NDEP	Nevada Division of Environmental Protection
NDNH	Nevada Division of Natural Heritage
NDOW	Nevada Division of Wildlife
NDWR	Nevada Division of Water Resources
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NVAAQS	Nevada Ambient Air Quality Standards
NVCRIS	Nevada Cultural Resource Information System
OPTC	Operating Permit to Construct
PFYC	Potential Fossil Yield Classification
PM_{10}	Particulate Matter less than 10 micrometers
$PM_{2.5}$	Particulate Matter less than 2.5 micrometers
PSD	Prevention of Significant Deterioration
SCR	Selective Catalytic Reduction System
SO_2	Sulfur Dioxide
SR 439	State Route 439
SWPPP	Stormwater Pollution Prevention Plan
TRI GID	Tahoe Reno Industrial General Improvement District
TRIC	Tahoe Reno Industrial Center
USDA	United States Department of Agriculture
USFWS	United State Fish and Wildlife Service
USGS	United State Geological Survey
VOC	Volatile Organic Compound

1.0 INTRODUCTION

1.1 Project Overview

Nexus Fulcrum, LLC ("Applicant") proposes to develop, construct, and operate a natural gas-fired electrical generation facility and associated equipment on a previously disturbed site in the boundaries of the Tahoe-Reno Industrial Center ("TRIC") ("Project"). Figure 1 shows the general project location and Figure 2 shows the site location within the TRIC.

1.2 Project Description

The Project is a nominal 510-megawatt ("MW") natural gas-fired electrical generation facility and associated equipment on a 20-acre site which was the previous site of the former Sierra Biofuels Refinery. The Sierra Biofuels Refinery has been decommissioned, and all major equipment is in the process of being removed. The entire Project will be located within the boundaries of the previously disturbed site.

The proposed electrical generation facility is needed to support expanded development, including data centers, within the TRIC.

The Project consists of the following major or similar components:

- Six (6) Siemens SGT-800 B5 natural gas combustion turbines, each with a nominal rating of 57 MW and three (3) Siemens SGT-800 B4 natural gas combustion turbines, each with a nominal rating of 56 MW
- The combustion turbines will be operated in simple-cycle mode and will each have a Selective Catalytic Reduction System ("SCR") stack to reduce facility emissions. The SCR stack has an approximate height of 80 feet.
- One (1) CAT G3520H or equivalent natural gas emergency generator with a nominal rating of 3,735 horsepower
- One (1) Clarke JW6H-UFAAM8 or equivalent diesel-fired fire pump with a nominal rating of 373 horsepower
- SGT-800 natural gas combustion turbines contain emissions control equipment consisting of SCR and a carbon monoxide oxidation catalyst
- Associated power distribution and conditioning equipment
- Electrical transformers
- Electric-powered natural gas compressors

Natural gas will be supplied to the site from an interconnection with a new lateral to the Great Basin Pipeline system. Great Basin will construct the lateral pipeline. Water and wastewater services will be provided by the Tahoe Reno Industrial General Improvement District ("TRI GID"). The site General Arrangement is shown on Figure 3.

Figure 1 Regional Location

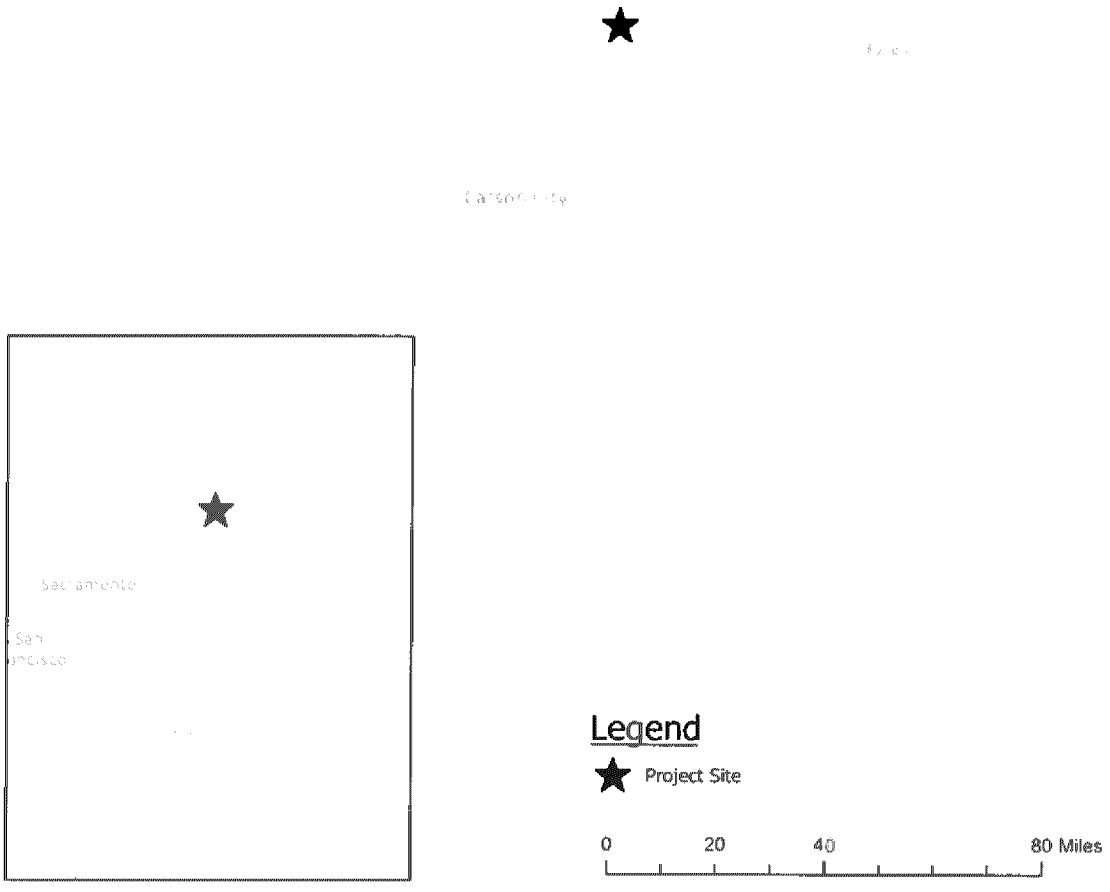


Figure 1: Regional Location Map

Not to scale

Kimley»Horn

Figure 2 Project Location

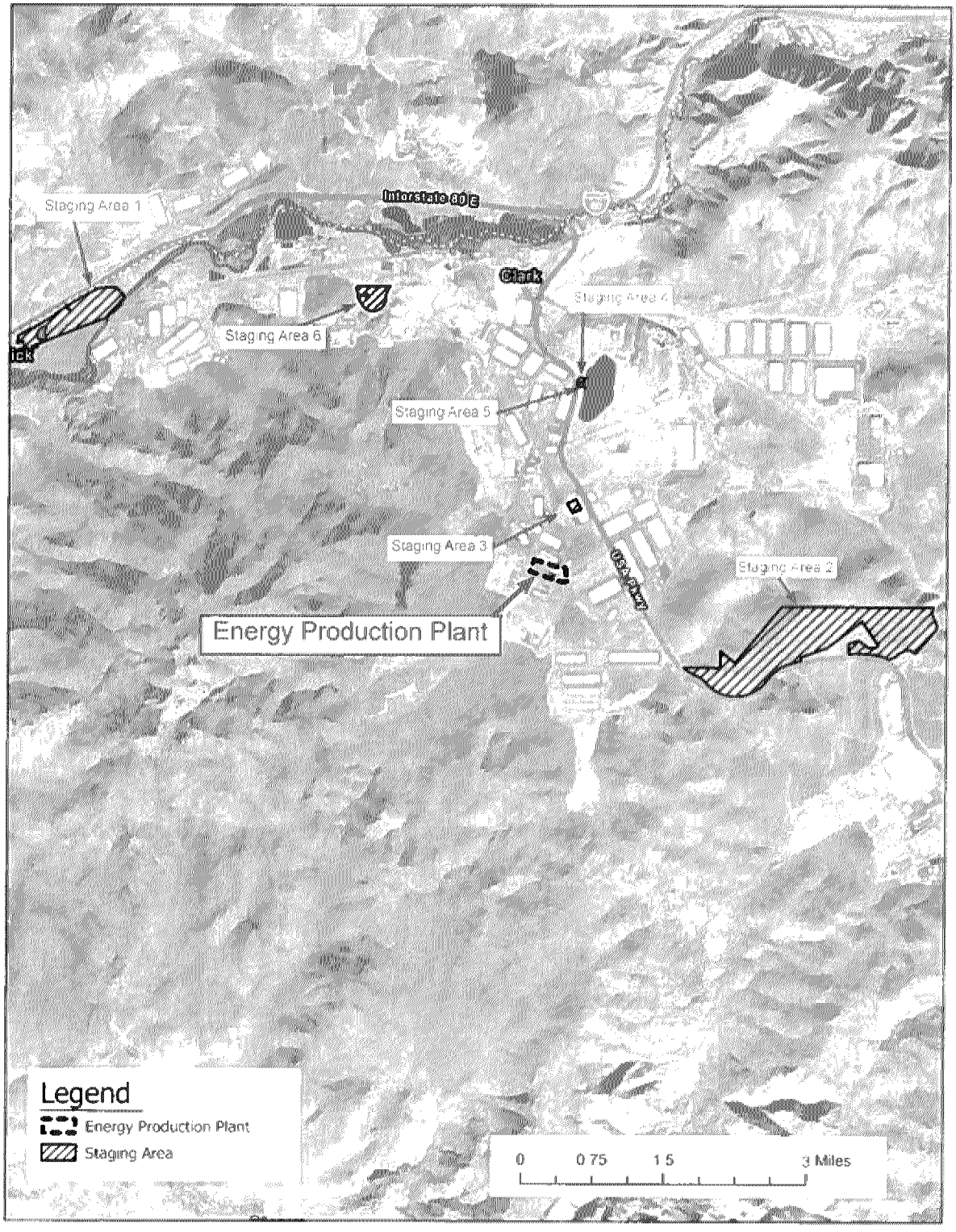


Figure 2: Project Location Map

Not to scale

Kimley »Horn

Figure 3 General Arrangement



Source: Sargent and Lundy, 2025

Figure 3: General Arrangement

Not to scale

Kimley »Horn

1.3 Access Roads

The site has existing access and a driveway that will be used for the Project off Peru Drive, which is accessible from State Route 439 ("SR 439") and Interstate 80 ("I-80"). Access roads to staging areas are shown in Table 1. No access road modifications are anticipated to be required for the Project.

1.4 Staging Areas

Staging and laydown of construction materials and equipment will take place at temporary work site(s) located near the Project site, as shown in Figure 2. Six potential staging areas have been identified within the TRIC within 4 miles of the Project site. These existing sites have been used for other recent construction projects in the Project area. Assessors Parcels Numbers ("APNs") and access associated with these five staging areas are shown in Table 1.

Table 1 Staging Areas

Staging Area	APN	Existing Site Access
1	005-121-02	I-80 and Waltham Way
2	005-011-83	SR 439 and Electric Avenue
3	005-061-50	SR 439 and Germany Circle
4	005-051-32	SR 439 and Pittsburg Avenue
5	005-051-31	SR 439 and Pittsburg Avenue
6	005-031-04, 005-031-05, 005-031-06	Amsterdam Court

1.5 Project Construction

Project construction will consist of the following steps:

- Pre-construction surveys and staking
- Mobilization and staging
- Site Preparation
- Equipment installation
- Establishment of electrical, natural gas, water, and wastewater disposal connections
- Testing and commissioning
- Restoration of any temporary construction areas

Following demolition of the Sierra Biofuels Refinery, the site preparation required for the proposed Project will be minimal. All structures on site will be removed during demolition and underground utilities/piping within 42 inches of the surface will also be removed. Site preparation will consist of spot grading as needed and establishment of concrete foundations for equipment. The site security fencing will be installed at this time.

Once site preparation has been completed, the installation of equipment will commence. Equipment and materials will be delivered to the site via truck (including some deliveries requiring heavy load provisions). Watering for dust control will be used as needed.

Following placement of the major equipment, cabling and conduit will be placed in trenches and the electrical connections will be completed. Connections to the natural gas supply, water supply, and wastewater discharge infrastructure will also be completed.

1.6 Construction Schedule

Construction is scheduled to commence in Quarter 1, 2027 and be completed in Quarter 4, 2029. Following completion of construction, the facility will undergo testing and commissioning and enter commercial operation.

1.7 Permits Needed to Commence Construction

As the Project is located entirely on privately owned land, federal environmental review is not required. However, the following permits may still apply:

- Nevada Division of Environmental Protection ("NDEP") Class I / Class II Air Quality Operating Permit to Construct ("OPTC")
- NDEP Surface Area Disturbance Permit (SAD)
- NDEP Construction Stormwater General Permit
- NDEP Stormwater General Permit
- NDEP Individual National Pollutant Discharge Elimination System ("NPDES")
- Storey County Community Development Building Permit: Commercial/Industrial Permit
- Storey County Department of Public Works ("SCDPW") Excavation Permit
- SCDPW Encroachment Permit
- Storey County Fire Protection District Fire Plan Review/Permit

2.0 EXISTING ENVIRONMENTAL CHARACTERISTICS

2.1 Project Setting

2.1.1 Physiographic Setting

The Project is located within the Basin and Range physiographic province in Storey County, Nevada within the TRIC, as shown in Figure 1. The TRIC is situated within a high desert environment consisting of arid, open land and heavy industrial uses approximately 9 miles east of Reno, Nevada and south of I-80. The Project site is largely graded and relatively flat. The entire Project site has been previously developed as a biofuels production facility, as shown in Figure 2. The potential staging areas are located in mostly disturbed areas and are relatively flat. Staging Area 3 includes one existing building associated with the FLSmidth - RENO Service Center. Staging Area 6 is partially developed with an existing generation peaking facility. The Project site is located within a valley approximately 4,672 feet above mean sea level ("amsl").

2.1.2 Land Use and Zoning

The Project site has an I2-Heavy Industrial zoning designation as shown in Figure 4.[1] This zoning category is intended to enable the development of industrial, distribution, and manufacturing uses which are not compatible with other, lower intensity uses. The allowed uses for I2-Heavy Industrial zones include commercial energy production from natural gas, according to the Storey County Zoning Ordinance Section 17.35.030(FF). Zoning designations for staging areas are as follows:

- Staging Area 1: F-Forestry Zone
- Staging Area 2: I2/A – Heavy Industrial/Agriculture
- Staging Areas 3 and 6: I2- Heavy Industrial
- Staging Areas 4 and 5: I2/C-Heavy Industrial/Commercial

The Project site was previously developed and operated as the Sierra BioFuels refinery. Operations have ceased and the facility is being decommissioned, including removal of structures and equipment to grade level, and utilities and piping within 42 inches of the ground surface.

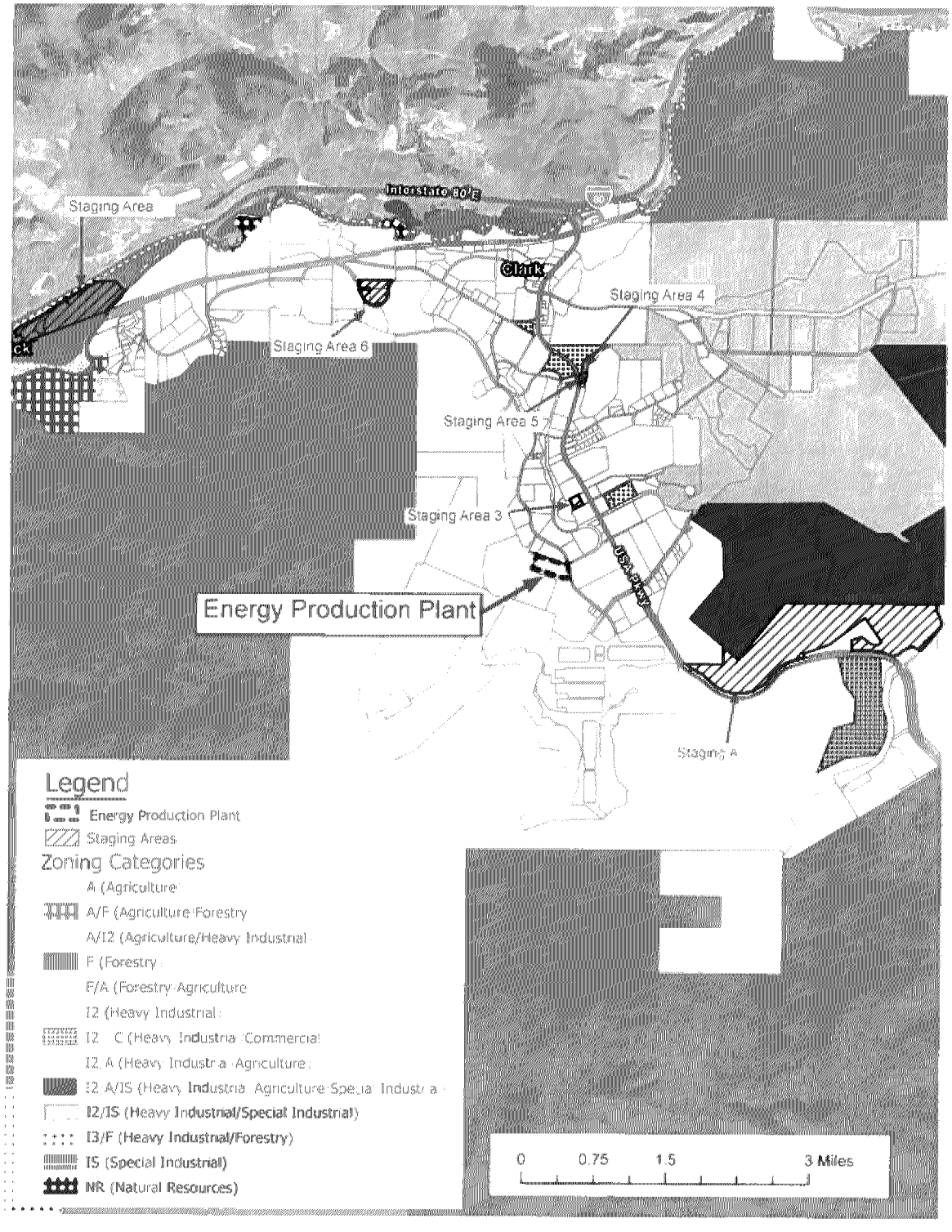
2.2 Air Quality

The Project site is located within Storey County where the NDEP has jurisdiction for air quality and permitting. The Project is in Hydrographic Area ("HA") 083, also referred to as Basin HA083 or Tracy Segment, which is designated as attainment/unclassifiable for all criteria pollutants with respect to the National Ambient Air Quality Standards ("NAAQS").[2] Based on anticipated emissions levels which would be generated by the Project, a Class I OPTC will be required from NDEP. The Applicant has submitted a permit application to NDEP, which was deemed complete and is currently under review by NDEP.

[1] Storey County. 2015. Plate #7 McCarran Official Storey Couty Zoning Map. Retrieved from: https://www.storeycounty.org/DocumentCenter/View/8381/McCarran-Plate-7-PDF (Accessed on March 13, 2026)

[2] Trinity Consultants. 2025. Application For A Class I Operating Permit To Construct. Page 3. Trinity Consultants: Reno, NV

Figure 4 Zoning Map



Source: Sidney County, 2015

Figure 4: Zoning Map

Not to scale

Kimley»Horn

2.3 Cultural Resources

A Class I Cultural Resources Report was prepared for the Project and staging areas, which included a review of the Nevada Cultural Resource Information System ("NVCRIS"), as well as the National Register of Historic Places ("NRHP"), National Historic Landmarks database, and National Trail System, to identify any cultural resources investigations previously completed, and/or cultural resources previously recorded, within the Project site, staging areas, or the one-mile buffer.[3] A review of national databases did not identify any listed resources within the Project site, staging areas, or buffer area. The NVCRIS records research indicated that five (5) cultural resources investigations have been conducted within the Project site, staging areas, and buffer area and two (2) previously recorded non-eligible cultural resources were identified within the boundary of Staging Area 1 (see Appendix A).

Staging Area 2 has never been developed and has a low potential for archaeological sensitivity as it is underlain by rhyolitic, diatomite, and sandstone formations. Based on the geomorphology, the Project site and Staging Areas 3, 4, and 5 are highly disturbed but have a moderate archaeological sensitivity. Staging Areas 1 and 6 have a high sensitivity for both surface and buried archaeological resources based on their natural setting.

A review of aerial imagery was conducted for the Project site and staging areas. Staging Area 2 is currently undeveloped and appears to have no history of development or disturbance based on the historical aerial review. Development in the broader area started in the late 1990s/early 2000s with additional development, such as graded pads, structures, and paved/dirt roads, appearing in the imagery of the next two decades. The Project site was graded by 2013 and fully developed somewhere between 2017 and 2019. Staging Areas 3, 4, and 5 also appear highly disturbed in the aerial imagery. As such, the Project site and Staging Areas 3, 4, and 5 have little to no archaeological sensitivity in their current state. While Staging Areas 1 and 6 have high sensitivity for surface and buried archaeological resources, both areas have been subject to extensive disturbance. In the 1990s, the entirety of Staging Area 1 was subject to disturbance. The northern half of Staging Area 6 was developed by 2006. However, the southern half of Staging Area 6 is undeveloped and does not appear to have been developed at any point in time. Therefore, the likelihood of archaeological materials remains high at Staging Area 6.

2.4 Paleontological Resources

Based on a review of the Project site using the United States Department of Agriculture ("USDA"), Natural Resources Conservation Service ("NRCS") database, the Project site is composed of a conglomeration of gravelly clay and sandy loam soils. Further research on the Stewart and Carlson's Geologic Map of Nevada showed that the Project site exists entirely within the Qal geologic unit.[4] Qa geologic units represent quaternary alluvium deposits which are generally composed of clay, silt, sand, gravel, and some caliche. Staging Area 1 is located within the Qa geologic unit and Staging Area 2 is within the Qa and Ta3 geologic units. Staging Areas 3 through 5 are located within the QTa

[3] Kimley-Horn and Associates, Inc. 2026. Class I Cultural Resources Report for the Fulcrum Advanced Power Generation Site within the Tahoe-Reno Industrial Center (TRIC) in Storey County, Nevada.
[4] Nevada Bureau of Mines and Geology. 2026. Stewart and Carlson's Geologic Map of Nevada. Retrieved from: https://gisweb.unr.edu/NevadaGeology/ (Accessed March 13, 2026)

geologic units. Staging Area 6 is entirely within the Ta3 geologic unit. QTa geologic units represent Miocene to quaternary andesite flows and breccias that consist of igneous, volcanic, mafic-volcanic, and andesite rocks. Ta3 geologic units represent late Miocene to middle Miocene andesite flows and breccias that consist of igneous, volcanic, felsic-volcanic, and dacite rocks. These geologic units are often from the Quaternary era, implying a relatively young formation.[5] As such, these formations are unlikely to hold paleontologically significant materials. Further, the geology of parts of the Wadsworth and Churchill Butte quadrangles published by Nevada Bureau of Mines and Geology ("NBMG") in 1969, classifies the geologic unit underlying the Project site as Qal.[6] Qal geologic units represent Quaternary alluvium deposits which are generally composed of clay, silt, sand (mostly quartz), gravel, and organic matter. These geologic units are often from the Holocene era, also a relatively young formation similar to those from the Quaternary era.[7]

While the Project is located entirely on private land, a review of the Bureau of Land Management ("BLM") Potential Fossil Yield Classification ("PFYC") system indicates that the Project site is located within an unknown PFYC area.[8] Staging Area 1 is located within an unknown and Class 2 PFYC area. Staging Area 2 is located within an unknown and Class 1 PFYC area. Staging Areas 3 through 5 are located within PFYC Class 1 areas. Staging Area 6 is entirely located within a Class 2 PFYC area. The BLM PFYC classifications are used to make initial assessments of paleontological resources on public lands or during the environmental review process. Sites classified Class U: Unknown Potential are often sites which have not received a PFYC assignment due to a lack of assessment of the site. While the site classification is unknown, the Project site and staging areas are surrounded by PFYC Class 1 and 2 areas. PFYC Class 1: Very Low indicates areas have been determined to be unlikely to contain paleontological resources. These represent the lowest level of paleontological resource potential.[9] PFYC Class 2: Low indicates geologic units that are not likely to contain paleontological resources.

2.5 Geology

The Project site and staging areas are located in the northern portion of the Virginia Range, which is a portion of the drainage divided between the Truckee River to the north and the Carson River to the south. The Virginia Range generally consists of northwest-trending parallel mountain ranges and valleys. As stated in Section 2.4, the geologic composition of the Project site is relatively young, likely formed during the Quaternary and Holocene eras, both relatively young formations. Geologically young faults and associated fissures transect the valleys and generally have subtle surface expression. Rock deposits that are visible from the surface are generally associated with alluvial

[5] United States Geological Survey. 2005. Geologic Unit Descriptions. Retrieved from: https://pubs.usgs.gov/of/2005/1231/GeoUnitDesc.htm (Accessed March 13, 2026)
[6] Nevada Bureau of Mines and Geology (NBMG). 1969. Geology of parts of the Wadsworth and Churchill Butte quadrangles, Nevada. Retrieved from: https://data.nbmg.unr.edu/public/freedownloads/geospatial-pdf/b071_plate.pdf (Accessed April 2, 2026)
[7] United States Geological Survey. 2005. Geologic Unit Descriptions. Retrieved from: https://pubs.usgs.gov/of/2005/1231/GeoUnitDesc.htm (Accessed March 13, 2026)
[8] Bureau of Land Management. 2026. BLM National PFYC Map. Retrieved from: https://www.arcgis.com/apps/mapviewer/index.html?url=https://gis.test.blm.gov/arcgis/rest/services/geophysical/BLM_Natl_PFYC/MapServer&source=sd (Accessed April 2, 2026)
[9] Bureau of Land Management. 2016. Potential Fossil Yield Classification System. Retrieved from: https://www.blm.gov/sites/default/files/uploads/IM2016-124_att1.pdf (Accessed April 2, 2026)

deposition. Furthermore, the Development Handbook prepared for the TRIC notes that the Project area has low seismic activity and would not require special construction techniques.[10]

2.6 Soils

Based on data provided by the NRCS, the Project site and potential staging areas contain five map units, the Grumblen-Ceejay Dorkiss association and the Fulstone-Reno complex as summarized in Table 2 below.

Table 2 Soil Unit Summary

Map Unit No.	Map Unit Ref.	Map Unit	Map Unit Type	Soil Profile	Farmland Type	Hydric Rating
800	2rbrq	Grumblen-Ceejay Dorkiss	Association	Very gravelly loam, very gravelly clay, bedrock	Not prime farmland	No
3140	2ttw3	Fulstone-Reno	Complex	Cobbly loam, clay, cemented material, very cobbly sandy loam	Not prime farmland	No
060	J2s9	Cleaver-Stingdorn	Association	Very gravelly sandy loam, gravelly clay loam, cemented material, extremely gravelly loamy sand	Not prime farmland	No
213	2tfnk	Theon-Old	Association	Very gravelly sandy loam, very gravelly clay loam, bedrock	Not prime farmland	No
7040	2n9zx	Doorkiss-Ister-Ceejay	Association	Very gravelly loam, very gravelly clay loam, bedrock	Not prime farmland	No
055	2nb8s	Old Camp-Aldax-Rock outcrop association	Association	Very stony sandy loam, extremely stony clay loam, very cobbly fine sandy loam, extremely stony fine sandy loam, bedrock	Not prime farmland	No
170	J2t1	Saralegui-Isolde association	Association	Sand, sandy loam, fine sand	Not prime farmland	No

Source: USDA NRCS. 2026. Custom Soil Resource Report for Storey County Area, Nevada. Pages 13-18. NRCS: Washington DC. See Appendix B (Accessed on March 13, 2026)

[10] County of Storey. 2000. Development Handbook Tahoe-Reno Industrial Center Storey County, Nevada. Page 5. Retrieved from: https://storeycounty.org/DocumentCenter/View/22169/Exhibit-C-Design-Development-Handbook (Accessed April 3, 2026)

These soils are generally composed of cobbly loam, clay, cemented material, very cobbly sandy loam, very gravelly loam, very gravelly clay, and bedrock. This is indicative of a generally developed and graded site, such as the Project site.

Based on the soil characteristics, the Project site and staging areas are not suitable as prime farmland and do not have a hydric rating. The custom soil resource reports prepared for the Project are included as Appendix B.

2.7 Water Resources

A search of the United States Geological Survey ("USGS") National Water Dashboard generated no major bodies of water within one mile of the Project site. The nearest major watercourse is the Truckee River, approximately 2.7 miles north of the Project site.[11] In addition, review of the United States Fish and Wildlife Service ("USFWS") National Wetlands Inventory showed that intermittent riverine streambed resources are located approximately 650 feet west of the Project site, as shown in Figure 5. Aerial photography shows that this drainage is dry with inconsistent water flows.[12]

[11] United States Geological Survey (USGS). 2025. National Water Dashboard. Retrieved from: https://dashboard.waterdata.usgs.gov/app/nwd/en/?aoi=default (Accessed March 13, 2026)
[12] United States Fish and Wildlife Service (USFWS). 2026. National Wetlands Inventory. Retrieved from: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/ (Accessed March 13, 2026)

Figure 5 Hydrologic Resources Map (1 of 2)

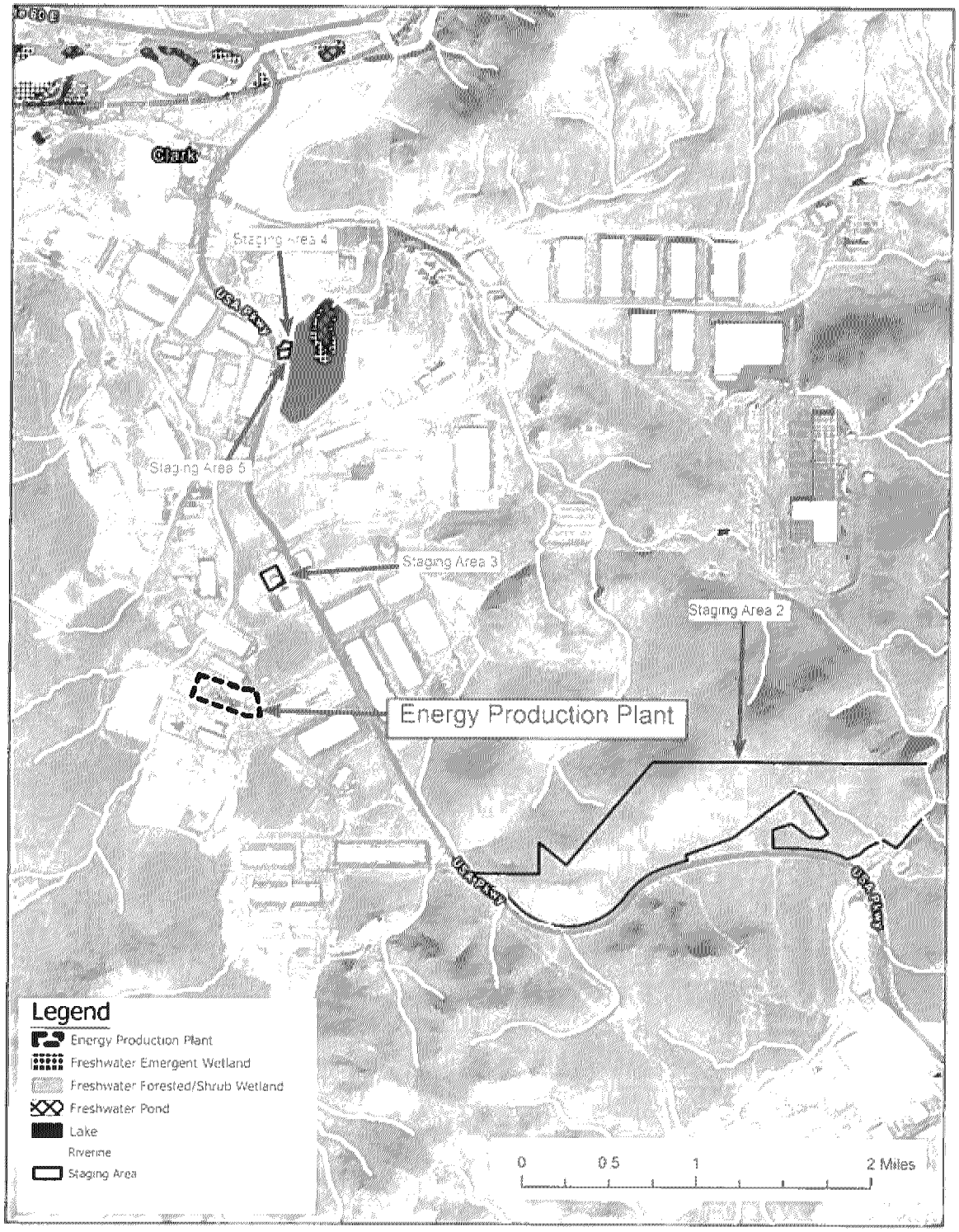


Figure 5: Hydrologic Resources Map (1 of 2)

Not to scale

Kimley »Horn

Figure 6 Hydrologic Resources Map (2 of 2)



Figure 6: Hydrologic Resources Map (2 of 2)

Not to scale

Kimley »Horn

Staging Area 1 is located adjacent to the Truckee River, and one freshwater pond is west of the staging area boundary, as shown in Figure 6. A riverine feature also traverses the southeast portion of Staging Area 2. No streams or watercourses traverse Staging Areas 3 through 6. However, a freshwater pond is located directly east of Staging Areas 4 and 5.

The Tracy Segment aquifer underlies the Project area and staging areas and serves as a water source for public water systems in Storey County. The Tracy Segment is a portion of Nevada Division of Water Resources Hydrographic Basin 6-083.[13]

TRI GID provides water service to the Project site. TRI GID's water system uses groundwater and seven commercial wells to provide water service.[14] TRI GID also operates storage tanks, distribution lines, and pump stations. Approximately 5,290-acre feet of groundwater is currently owned by TRI GID. Other water resources used by TRI GID include wastewater from TRI GID's wastewater treatment plant, the Truckee River, and the Truckee Meadows Water Reclamation Facility TMWRF pipeline. A total of 10,000-acre feet of water is allocated by TRI GID for industrial use.

Groundwater depth in Storey County varies significantly, from the surface of the Truckee and Carson Rivers to hundreds of feet below ground surface on the upper portions of alluvial fans along the mountain fronts. The shallow aquifer systems are generally unconfined, but semi-confined conditions occur due to local geology. The regional groundwater flow generally follows the topography, moving from areas of higher elevation to areas of lower elevation. Based on the ground surface slope, groundwater is assumed to trend northward, toward the Truckee River.

The EDR Radius Map Report well data and the Nevada Division of Water Resources ("NDWR") Nevada Hydrology Mapping Application were reviewed to determine geologic and groundwater conditions for the vicinity of the subject property.[15] Two wells, identified as well logs 129036 and 79671, are mapped in the general vicinity of subject property. Groundwater was encountered at approximately 542 to 759 feet below ground surface (bgs).

2.8 Visual Resources

The Project site is within a relatively flat canyon surrounded by hills and mountains. The Truckee River is approximately 2.7 miles north of the Project site. The Project is located on a developed parcel within the TRIC and surrounded by a developed parcel to the north, and undeveloped parcels to the east, south, and west. The Project site is currently occupied by an existing biofuel facility that is in the process of being demolished. Additional site improvements include private roadways, storage facilities, and fences. Adjacent uses include freight rail facilities, warehousing, and data centers.

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[13] Storey County Source Water Protection Local Planning Team. 2024. Community Source Water Protection Plan for Public Water Systems in Storey County, Nevada. Page 4. Retrieved from: https://storeycounty.org/DocumentCenter/View/21177/1-2024-05-23-Draft-Storey-Cnty-CSWPP-Body

[14] TRI GID. 2020. Service Plan for Water and Sewer Service. Available at https://www.tri-gid.org/rulesandrates (Accessed on April 6, 2026)

[15] Nevada Division of Water Resources (NDWR). 2026. Nevada Hydrology Mapping Application. Retrieved from: http://webgis.water.nv.gov/Html5Viewer/Index.html?configBase=http://webgis.water.nv.gov/Geocortex/Essentials/REST/sites/Hydrology/viewers/NV_Hydrology/virtualdirectory/Resources/Config/Default (Accessed April 3, 2026).

The nearest visual sensitive receptors to the Project site are McCarran Ranch Preserve approximately 3.9 miles northwest of the Project site, and residences in the community of Lockwood approximately 7.8 miles west of the Project site.

The staging areas are primarily located on disturbed parcels within the TRIC. None of the staging areas are within the vicinity of visual resources, except for Staging Area 1 and 6. The southeastern side of Staging Area 1 is adjacent to the Truckee River, and the McCarran Ranch Preserve is located approximately 0.1 miles south of the site. Staging Area 6 is approximately 0.4 miles south of the Truckee River.

2.9 Vegetation

The Project site is heavily disturbed and developed with an existing biofuel facility that will be demolished prior to construction of the Project. The south and west sides of site appear to be surrounded by native vegetation; however, the site itself does not contain native vegetation due to the existing development within the site. Following demolition of the existing biofuel facility, the site will be devoid of vegetation.

The potential staging areas are also heavily disturbed but remain mostly undeveloped with unpaved access roads, except for Staging Area 3 and 6, which contain existing structures. Native vegetation is dispersed throughout Staging Areas 1, 2, and 6.

2.10 Special Status Species

Database information from the NatureServe Explorer and USFWS Information for Planning and Consultation ("IPaC") was utilized to identify sensitive species that may occur on and around the Project site and staging areas, as well as consultation with the Nevada Division of Natural Heritage ("NDNH") and Nevada Division of Wildlife ("NDOW") (see Appendix C).

2.10.1 NatureServe Explorer Results

The Project site and staging areas were reviewed using the NatureServe Explorer for the presence of sensitive plant species. Five special status plant species were identified less than 10 miles from the site:

- Churchill Narrows Buckwheat (*Eriogonum diatomaceum*)
- Steamboat Buckwheat (*Eriogonum ovalifolium var. williamsiae*)
- Webber Ivesia (*Ivesia webberi*)
- Tahoe Yellowcress (*Rorippa subumbellata*)
- Whitebark Pine (*Pinus albicaulis*)

2.10.2 IPaC Results

- Four special status species were identified in the IPaC query and are summarized in Table 3 below. No designated critical habitat is located within the vicinity of the Project site.

Table 3 IPaC Special Status Species

Species Name	Listing Status
Northwestern Pond Turtle (*Actinemys marmorata)*	Proposed Threatened
Cui-ui (*Chasmistes cujus)*	Endangered
Monarch Butterfly (*Danaus plexippus)*	Proposed Threatened
Lahontan Cutthroat Trout (*Oncorhynchus clarkii henshawi*)	Threatened

Source: United States Fish and Wildlife Service (USFWS). 2026. Endangered species. Retrieved from: https://ipac.ecosphere.fws.gov/location/XSIRSAIXHNDUVN4LYCAP5BQQTU/resources (Accessed March 13, 2026)

Northwestern Pond Turtle

Northwestern pond turtles are found in permanent and temporary waters of rivers, creeks, small lakes and ponds, marshes, irrigation ditches, and reservoirs. In Nevada, northwestern pond turtles are confirmed near the Truckee and Carson Rivers.[16] Due to the distance of the Project site and Staging Areas 2 through 6 from the Truckee River, northwestern pond turtle does not have the potential to occur at these locations. Staging Area 1 is adjacent to the Truckee River and a freshwater pond. As a result, northwestern pond turtle has the potential to occur within the Staging Area.

Special-Status Fish

Cui-ui and Lahontan cutthroat trout are fish species generally found within Pyramid Lake and Truckee River. The Project site and Staging Areas 2 through 6 are not located near the Truckee River and do not contain suitable aquatic habitat for Cui-ui or the Lahontan cutthroat trout. Staging Area 1 is adjacent to the Truckee River but does not contain suitable aquatic habitat for Cui-ui or the Lahontan cutthroat trout.

Monarch Butterfly

The monarch butterfly is found throughout Nevada during the summer months and breeds on milkweed plants. The Project site and Staging Areas 3 through 5 are heavily disturbed and do not contain suitable habitat for milkweed and monarch butterfly. However, Staging Areas 1, 2, and 6 do contain undeveloped areas with native vegetation that could provide suitable habitat for milkweed and monarch butterfly.

2.10.3 NDNH Results

A data request was made with the NDNH to identify endangered, threatened, candidate, and/or at-risk plant and animal species on or near the Project site. The search included the Project site, staging areas, and surrounding habitat. The NDNH identified the bank swallow (*Riparia riparia*), northwestern pond turtle, Gila River water-hyssop (*Bacopa eisenii*), golden eagle (*Aquila chrysaetos*), and tiehm peppercress (*Lepidium tiehmii*) as at-risk species within the study area, as shown in Table *4*. The sand cholla (*Opuntia pulchella*) and speckled dace (*Rhinichthys osculus*) were also identified within the study area but are not at-risk species tracked by the NDNH. The NDNH

[16] Nevada Department of Wildlife. 2026. Western Pond Turtle. Retrieved from: Western Pond Turtle - Nevada Department of Wildlife (accessed April 6, 2026.)

identified suitable habitat for the golden eagle within the study area, which is protected under the Bald and Golden Eagle Protection Act ("BGEPA") (see Appendix D).

Table 4 NHDH Special Status Species

Species Name	Listing Status
Bank swallow (Riparia riparia)	BLM-S, NDOW SGCN, NatureServe S2B
Northwestern Pond Turtle (*Actinemys marmorata*)	USFWS PT. NV-P, BLM-S, NDOW SGCN, USFS-S, NatureServe S2
Gila River water-hyssop (*Bacopa eisenii*)	NatureServe S2
golden eagle (*Aquila chrysaetos*)	BLM-S, NDOW SGCN, NV-SB, NatureServe S4
Tiehm peppercress (*Lepidium tiehmii*)	BLM-S, NatureServe S2
Sand cholla (*Opuntia pulchella*)	BLM-S, NV-P, USFS-S, NatureServe S3
Speckled dace (*Rhinichthys osculus*)	NatureServe S5

BLM-S: BLM Sensitive Species
NDOW SGCN: NDOW Species of Greatest Conservation Need
NatureServe S2: Imperiled
NatureServe S2B: Imperiled Breeding
NatureServe S3: Vulnerable
NatureServe S4: Apparently Secure
NatureServe S5: Secure
NV-P: State of Nevada Protected Species
NV-SB: State of Nevada Sensitive Bird
USFS-S: United States Forest Service Sensitive (Region 5)
USFWS PT: Proposed Threatened

Source: Nevada Division of Natural Heritage, 2026, Nevada Natural Heritage At-Risk and Watch List Geodatabase Source Features.

2.10.4 NDOW Results

A search of the NDOW database included either a 4-mile buffer or a 10-mile buffer around the Project site (see Appendix E). The NDOW query identified the following wildlife habitats within the study area:

- Occupied mule deer distribution within the Project site, the six potential staging areas, and within 4 miles of the site.
- Pronghorn antelope distribution within the 4-mile buffer for the Project site and Staging Areas 1, 3, 4, 5, and 6. No pronghorn antelope distribution areas exist within the Project site or Staging Area 2.
- Occupied bighorn sheep distribution within Staging Areas 1, 2, and 6 and within the 4-mile buffer of the Project site. No bighorn sheep distribution areas exist on the Project site or Staging Areas 3 through 5.
- There is no greater sage-grouse habitat areas within the Project site or any of the Staging Areas. Greater sage-grouse habitat is located within the 4-mile buffer of Staging Areas 1, 3, 4, 5, and 6 to the north of the Truckee River and I-80. Priority, general, and other greater sage-grouse habitat is located within the 4-mile buffer of Staging Areas 1, 4, 5, and 6. General and other greater sage-grouse habitat are within the 4-mile buffer of Staging Area 3 and the Project site. There is no greater sage-grouse habitat designation within the 4-mile buffer area

of Staging Area 2. No recorded tracking locations or sage-grouse leks are within the Project site, staging areas, or within the 4-mile buffer.

The NDOW database did not identify any recorded raptor sightings within the Project area or Staging Areas 2 through 5. Golden eagle was observed at Staging Area 1, but no nesting has been recorded.

2.11 Wildlife Habitat

The Project site and most staging areas are disturbed and located within an industrial area. The Project site includes existing biofuel production uses that are in the process of being demolished. Due to the scale of human disturbance on site and lack of natural vegetation and habitat, encountering wildlife (common or sensitive species) would be unlikely within the site. However, the Project site is surrounded by native vegetation on two sides that may provide suitable foraging and nesting habitat for migratory birds and raptors. Staging Areas 1, 2, and 6 contain native vegetation that could provide suitable habitat for wildlife.

2.12 Existing and Planned Use

The Project site is located within an industrialized portion of the County in the TRIC. As described in Section 2.1.2 above, the Project site and Staging Areas 2 through 6 are currently zoned as I2-Heavy Industrial. This designation allows industrial uses which would be consistent with energy generation facilities such as the Project. Additionally, the site has been previously developed for energy generation purposes. Staging Area 1 is zoned as F-Forestry Zone, but the site would be used for temporary vehicle and equipment staging, and no permanent development would occur on the site.

3.0 NATURE OF PROBABLE EFFECT AND IMPACTS TO THE ENVIRONMENT – PRIOR TO IMPLEMENTATION OF STANDARD MITIGATION MEASURES

3.1 Air Quality

Probable Effect: The Prevention of Significant Deterioration ("PSD") permitting rules in 40 Code of Federal Regulations ("CFR") 52.21 are referenced in Nevada Administrative Code ("NAC") 445B.221 and under these rules, the major source threshold is 250 tons per year ("tpy") unless a facility is listed specifically in 40 CFR 52.21(b)(1)(iii) as having a lower 100 tpy threshold. As the Project is not listed in 40 CFR 52.21(b)(ii), the Project would be required to meet the 250 tpy PSD threshold. Based on the analysis prepared for the NDEP air permit application, the Project was determined to exceed the 100 tpy NDEP Class 1 thresholds for both Nitrogen Oxide ("NO_X") and Carbon Monoxide ("CO") but does not exceed the PSD threshold for any regulated pollutant. The Applicant has applied for a Class 1 air quality permit and NDEP has deemed the application complete. NDEP's review is in progress.

Project operations would be expected to produce NO_X, CO, Particulate Matter less than 2.5 micrometers ("$PM_{2.5}$"), Particulate Matter less than 10 micrometers ("PM_{10}"), Volatile Organic Compounds ("VOCs"), Sulfur Dioxide ("SO_2"), Greenhouse Gases ("GHGs"), and Hazardous Air Pollutants ("HAPs"). The Project's potential to emit is listed in Table 5 below.

Table 5 Project Potential to Emit

Category	Annual Emissions (tpy)								
	NO_x	CO	VOC	SO_2	PM_{10}	$PM_{2.5}$	Total HAP	Single HAP	GHG
Turbine Emissions	146.37	248.10	57.60	13.85	75.39	75.39	6.00	2.38	2,137,185.11 (1,938,821.72)
Diesel Fire Pump Emissions	0.12	0.11	1.31E-02	2.26E-04	6.17E-03	6.17E-03	1.14E-02	7.28E-03	21.36 (19.37)
Natural Gas Generator Emissions	0.82	1.65	0.41	7.69E-04	0.03	0.03	0.77	0.54	192.94 (175.03)
Sitewide Annual Emissions[1]	147.32	249.85	58.03	13.85	75.42	75.42	6.78	2.92	2,137,399.4 (1,939,016.12)
Environmental Evaluation Threshold	25	25`	25	25	25	25	-	-	-
Environmental Evaluation Threshold Exceeded?	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	No
NDEP Class I Threshold[2]	100	100	100	100	100	100	25	10	-
NDEP Class I Threshold Exceeded?	**Yes**	**Yes**	No	No	No	No	No	No	No
PSD Threshold (tpy)[3,4]	250	250	250	250	250	250	-	-	82,673.35 (75,000)
PSD Threshold Exceeded?	No	No	No	No	No	No	No	No	See Footnote 5

Source: Trinity Consultants (2026). Table 3-1: Facility-Wide Potential to Emit.

1. Sitewide annual emissions includes emissions from the diesel fire pump, natural gas generator, and turbines.
2. Environmental evaluation thresholds defined per NAC 445B.310 as 25 tpy of a regulated air permit for a new facility.
3. The major source thresholds are defined in NAC 445B.094 as 100 tpy of any air contaminant and 10 tpy of any individual HAP or 25 tpy of combined HAP.
4. The PSD major source thresholds per 40 CFR 52.21(b)(1)(i). The Project is not on the list of 28 categorical sources and therefore the thresholds are 250 tpy for any New Source Review pollutant.
5. The 75,000 metric ton threshold for GHG is only triggered when another criteria pollutant exceeds the PSD threshold. GHG emissions are presented as tons (metric tons).

As shown in Table 5 above, NO_x, CO, VOC, PM_{10}, and $PM_{2.5}$ would exceed thresholds for environmental evaluation per NAC 445B.3363(4), with NO_x and CO exceeding NDEP Class 1 thresholds. As previously stated, a Class 1 OPTC is being prepared for the Project. Additionally, an environmental evaluation report is included as an appendix to the Class 1 OPTC due to exceedance of the 25 tpy threshold for NO_x, CO, VOC, PM_{10}, and $PM_{2.5}$.

Emissions sources assessed for the Project include the proposed nine natural gas-fired turbines, a natural gas generator, and a diesel fire pump. The nine turbines are modeled as individual point sources and the natural gas generator and diesel fire pump are modeled as capped point sources. The emission sources will incorporate emission controls as specified in the NDEP permit. All combustion emission sources proposed for the Project were modeled at their maximum capacity. Initial results showed that 24-hour PM_{10}, 1-hor NO_2, 24-hour $PM_{2.5}$ and 1-hour $PM_{2.5}$ exceeded Significant Impact Levels. As such, ambient impact modeling was conducted based on averaging periods for NAAQS and Nevada Ambient Air Quality Standards ("NVAAQS"). All modeled pollutants were subsequently found to be lower than the NAAQS/NVAAQS standards.

During construction, there is potential for fugitive dust to occur during ground disturbing activities and temporary use of staging areas. Fugitive dust is required to be controlled and minimized per NAC 445B.22037 and the Project will require a SAD. To minimize fugitive dust, several Best Management Practices ("BMPs") will be implemented, including the use of pre-watering of disturbed areas, use of low vehicle speeds (10-15 miles per hour [mph]), regular watering of material storage piles, and ceasing of operations during high wind events.

3.2 Cultural Resources

Probable Effect: The Class I Cultural Records Report identified two known cultural resources within Staging Area 1. The two known cultural resources were determined not eligible for listing on the NRHP. No known cultural resources were identified within the Project site or remaining staging areas. However, considering the land use history and prior disturbance of Staging Area 1, there is little potential for archaeological resources. The southern half of Staging Area 6 is undeveloped and retains archaeological sensitivity.

Since the Project site has been graded and developed, the Project site is unlikely to contain any in situ prehistoric archaeological materials. Furthermore, as the broader area was undeveloped until the early 2000s, the Project site has little to no sensitivity for historic archaeological resources or historic built environment resources.

Vehicle and equipment staging would be temporary, lasting only the duration of construction, and would avoid the two known resources within Staging Area 1 to the extent feasible. An Unanticipated Discovery Plan would also be prepared in the event unanticipated cultural materials are discovered during ground-disturbing activities. Therefore, no impacts to cultural resources are anticipated.

3.3 Paleontological Resources

Probable Effect: As discussed in Section 2.4 above, the Project would be developed on both previously disturbed land and geologic formations associated with the current Holocene era. As such, geologic formations around the Project site and staging areas are relatively young compared

to late quaternary formations, which have a higher chance of prehistoric material.[17] The Project site is located within an unknown PFYC area but is surrounded by PFYC Class 1 areas, which indicates that the Project site is unlikely to contain paleontological resources.[18] Additionally, the potential staging areas are located within unknown, Class 1, and Class 2 PFYC areas, which are unlikely to contain paleontological resources. No impacts to paleontological resources are anticipated.

3.4 Geology

Probable Effect: The Project would occupy an area previously developed with similar uses. As such, the Project would not impact previously undisturbed land. Vehicle and equipment staging would use existing disturbed areas and would not result in ground disturbance to a depth that would impact geologic resources. Additionally, Project implementation would not require land modifications that would disturb existing geologic features in the proximity of the Project site such as rock outcroppings or mineral deposits. No impacts to geologic resources are anticipated.

3.5 Soils

Probable Effect: As determined in Section 2.6 above, the soil composition of the site and staging areas is consistent with disturbed and developed areas. The Project site is currently developed with biofuel production uses, consistent with the assumed soil composition described in the Project Soil Survey.[19] Demolition of the biofuel site is underway, and the site will be left in accordance with the Final Site Conditions document. Redevelopment of the site for the Project may involve soil removal and regrading. Temporary use of the potential staging areas may also require ground disturbance that could lead to erosion of soil and sedimentation. The Project would be required to comply with SAD requirements which, while intended to reduce fugitive dust, would require BMPs that would also reduce soil loss due to wind and water. The Project will also require a construction stormwater general permit, individual NPDES permit, and associated implementation of a Stormwater Pollution Prevention Plan ("SWPPP") and BMPs to minimize the potential for offsite soil erosion and sedimentation.

3.6 Water Resources and Quality

Probable Effect: During construction, water consumption is estimated to average about 10,000 gallons of water per day, primarily for office trailers, dust-prevention water trucks, and other miscellaneous uses. Peak water use may reach about 60,000 gallons per day during commissioning activities, tank filling, and pipe pressure testing operations.

It is anticipated that the local water utility, TRI GID, will provide water service via an existing lateral to the site that previously served the biofuel facility; however, coordination to reach a service

[17] United States Geological Survey (USGS). 2005. Geologic Unit Descriptions. Retrieved from: https://pubs.usgs.gov/of/2005/1231/GeoUnitDesc.htm (Accessed March 13, 2026)
[18] Bureau of Land Management (BLM). 2026. BLM National PFYC Map. Retrieved from: https://www.arcgis.com/apps/mapviewer/index.html?url=https://gis.test.blm.gov/arcgis/rest/services/geophysical/BLM_Natl_PFYC/MapServer&source=sd (Accessed April 2, 2026)
[19] United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). 2026. Custom Soil Resource Report for Storey County Area, Nevada. Pages 13-18. Retrieved from: https://websoilsurvey.sc.egov.usda.gov/WssProduct/pfvmxsk0yuu3s1pnimuqo3jm/GN_00000/20260313_02294602289_1_Soil_Report.pdf (Accessed on March 13, 2026)

agreement is ongoing and details about any potential water use restrictions have yet to be determined.

Once plant construction is complete, operational water consumption is estimated to be 90 gallons per minute, with more demand in the summer for evaporative cooling to maintain electric power generation levels, and less demand during colder months. As discussed above, TRI GID has indicated they have adequate water supply for the Project. Two wells are located near the Project site and would not be impacted by the Project.

The potential for water quality impacts and stormwater runoff was evaluated based on the Project's proximity to nearby water sources. No watercourses or streams traverse the Project site. However, a riverine feature traverses Staging Area 2 and a freshwater pond is adjacent to Staging Area 1. All staging activities would occur outside of streams and watercourses. While no direct impacts to water resources or quality are anticipated, the Project will require a construction stormwater general permit, individual NPDES permit, and associated implementation of a Stormwater Pollution Prevention Plan (SWPPP) and BMPs to minimize the potential for stormwater flows and erosion and sedimentation offsite.

3.7 Visual Resources

Probable Effect: The Project would redevelop the existing decommissioned biofuels refinery with a new natural gas generation facility. As such, the Project would not introduce any new development that would result in changes to the visual landscape. Vehicle and equipment staging during Project construction would be temporary and would not result in permanent visual alterations to the broader landscape. No impact to visual resources are anticipated.

3.8 Vegetation

Probable Effect: The Project site is largely developed with industrial uses. Some native plants exist in the undisturbed areas west and south of the Project site. However, the Project site is heavily disturbed and does not include native vegetation or landscaped areas. The staging areas are mostly disturbed and devoid of native vegetation. While Staging Areas 1, 2, and 6 contain native vegetation, vehicle and equipment staging would use existing disturbed areas to the extent feasible. Standard project mitigation measures are provided in Section 4 below.

3.9 Special Status Species

Probable Effect: Redevelopment of the Project site is unlikely to affect special status species due to the developed nature of the Project site and the lack of special status flora and fauna species documented on the Project site. No special status plant species were found to occur on the Project site or its immediate vicinity. As such, the redevelopment of the Project site or the use of surrounding properties as staging areas is unlikely to create significant effects on special status plant species. In order to minimize potential vegetative effects to the area, standard mitigation measures have been included in Section 4 below.

No special status wildlife species or designated critical habitat are known to occur on the Project site or Staging Areas 2 through 6. Golden eagle habitat and mule deer distribution was identified within the Project site. However, the Project site is developed, fenced, and suitable habitat for mule

deer and golden eagle is not present on the site. No impacts to sensitive species are anticipated due to lack of habitat on the Project site.

The NDOW database search recorded an observation of golden eagle at Staging Area 1. Mule deer, bighorn sheep, and pronghorn distribution areas were also found within or near the staging areas. Due to the proximity to the Truckee River and adjacent freshwater pond, the northwestern pond turtle has the potential to occur within Staging Area 1. Use of the staging areas during construction would be temporary, lasting only the duration of construction, and would be limited to previously disturbed areas within the sites to the extent feasible. To minimize potential effects on special status wildlife, standard mitigation measures have been included in Section 4 below.

3.10 Wildlife Habitat

Probable Effect: The Project site is highly disturbed and does not contain any suitable wildlife habitat due to its current development as a biofuel facility. As discussed above, most of the staging areas are developed or highly disturbed and do not contain suitable wildlife habitat. Staging Areas 1, 2, and 6 contain native vegetation that may provide suitable habitat for wildlife. The presence of natural vegetation to the west and south of the Project site and within Staging Areas 1, 2, and 6 may provide suitable nesting and foraging habitat for migratory birds and raptors. To minimize potential effects on wildlife movement around the Project site, standard mitigation measures have been included in Section 4 below.

3.11 Existing and Planned Use

Probable Effect: As a natural gas power generation facility, the Project would be consistent with Storey County's I2-Heavy Industrial zoning designation. The use of the potential staging areas would be temporary, and no changes to the existing use of the sites would occur. No impacts to land use are anticipated.

4.0 PROPOSED STANDARD MITIGATION MEASURES AND PROBABLE EFFECT TO THE ENVIRONMENT AFTER IMPLEMENTATION

The following includes the proposed standard Project mitigation measures that will be implemented by the Applicant to protect the resources described in this ES and applicable to the Project. This section also includes an analysis of the probable effect and impacts of the environment with the implementation of the standard project mitigation measures.

4.1 Proposed Mitigation Measures

4.1.1 Air Quality

- A Class 1 OPTC will be obtained for the Project prior to commencement of construction.
- A SAD Permit will be obtained prior to commencement of construction.
- Areas subject to ground disturbance will be watered to control dust and minimize wind transmission of loosened soil.
- Driving speeds will be limited to up to 15 mph on unpaved roads.
- Public streets will be swept if visible soil material is tracked onto them by construction vehicles and equipment.

- Excavation and grading activities will be suspended when winds and instantaneous gusts exceed 50 mph

Probable Effect After Implementation: During construction, impacts to air quality after implementation of the above measures will be negligible. Operational air impacts will be similar in nature to the previous land use and implementation of OPTC and SAD permits will minimize any long-term air quality impacts.

4.1.2 Cultural Resources

- If Staging Area 1 is utilized during construction, the two known cultural sites identified onsite will be avoided to the extent feasible.
- An Unanticipated Discovery Plan for Cultural Resources will be prepared in the event that unanticipated cultural materials are discovered during ground-disturbing activities. The plan will include discovery protocols and the methods to be used for resource protection, recording and treatment, evaluation, coordination, and reporting.

4.1.3 Probable Effect After Implementation:

During construction, all previously recorded ineligible cultural resources would be avoided to the extent feasible, and an Unanticipated Discovery Plan for Cultural Resources would be prepared in the event cultural resources were discovered during excavation activities. As such, the Project will not result in impacts to cultural resources.

4.1.4 Water Resources and Quality

- Staging and material laydown will be limited to upland areas, a sufficient distance from water features.
- A Construction Stormwater General Permit will be obtained prior to Project construction and a SWPPP and associated BMPs will be implemented during construction.
- An individual NPDES Permit will be obtained prior to Project operation.

Probable Effect after Implementation: Impacts to water resources and quality in the Project site and vicinity will be minimal due to the lack of surface waters within the Project site and the relatively deep groundwater table. Further, multiple permits will be sought which will require a SWPPP and BMPs during construction activities to minimize offsite erosion, sedimentation, and stormwater flows that could affect offsite waterways. As such, the Project will not result in impacts to water resources or water quality.

4.1.5 Vegetation

- Gravel, fill, and erosion control materials will be certified weed-free.
- Off-road equipment will be cleaned of mud, dirt, and plant parts prior to equipment entering the Project site.

Probable Effect after Implementation: Impacts to vegetation will be minimal due to the disturbed nature of the Project site. However, the above mitigation measures would further reduce potential

impacts to adjacent vegetation communities. As such, the Project will not result in impacts to vegetation.

4.1.6 Special Status Species

- Excavations left overnight will be covered, secured in place, or fenced to prevent livestock or wildlife from falling in.
- Preconstruction migratory bird and raptor surveys will be conducted prior to construction activities to identify any potential nesting sites, nesting behavior, and active nests.
- If Staging Area 1 is utilized for construction:
  - Staging and material laydown will be limited to upland areas, a sufficient distance from the adjacent freshwater pond.
  - Site fencing and silt fence or other similar BMPs will be installed around the work area to minimize the potential for special status wildlife from entering the site (e.g., northwestern pond turtle) and indirect impacts to the adjacent pond from erosion and sedimentation.

Probable Effect after Implementation: Impacts to special status species will be minimal due to the disturbed nature of the Project site and some staging areas. However, the above mitigation measures would further reduce potential impacts to identified special status species nearby. As such, the Project will not result in impacts to special status species.

4.1.7 Wildlife Habitat

- Excavations left overnight will be covered, secured in place, or fenced to prevent livestock or wildlife from falling in.
- Preconstruction migratory bird and raptor surveys will be conducted prior to construction activities to identify any potential nesting sites, nesting behavior, and active nests.

Probable Effect after Implementation: Impacts to wildlife will be minimal due to the disturbed nature of the Project site and some staging areas. However, the above mitigation measure would further reduce potential wildlife impacts. As such, the Project will not result in wildlife habitat impacts.

5.0 ENVIRONMENTAL STATEMENT PREPARERS

Table 6 List of Preparers

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Table 7 List of Reviewers

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Appendices

Appendix A

Class I Cultural Resources Report

Kimley»Horn

Kimley»Horn

MEMORANDUM

To:	Megan Peterson Kimley-Horn and Associates, Inc. 1300 Clay Street, St 900 Oakland, CA 94612
From:	Jessica Mauck, MA, RPA Christina Livingston, MA Kimley-Horn and Associates, Inc. 3801 University Avenue, Ste 300 Riverside, CA 92501
Date:	June 11, 2026
Subject:	Class I Cultural Resources Report for the ASR-IX Advanced Power Generation Site and Laydown Areas within the Tahoe-Reno Industrial Center (TRIC) in Storey County, Nevada (Non-Confidential)

Introduction

Kimley-Horn was contracted to complete a Class I Cultural Resources Report for the ASR-IX Advanced Power Generation Site and Laydown Staging Areas (Subject Property) within the Tahoe-Reno Industrial Center (TRIC) in Storey County, Nevada. Kimley-Horn cultural resources management staff reviewed the Nevada Cultural Resource Information System (NVCRIS), as well as the National Register of Historic Places (NRHP), National Historic Landmarks (NHL) database, and National Trail System (NTS), to identify any cultural resources investigations previously completed, and/or cultural resources previously recorded, within the Subject Property plus a one-mile buffer (Buffer Area). A review of historical aerial imagery and maps, as well as geological maps, was also conducted to identify the archaeological sensitivity of the Subject Property, which has been further categorized as the Generation Site/Energy Production Plant and Staging Areas 1, 2, 3, 4, 5, and 6 (Figure 1). This memorandum summarizes the results of the review effort. Maps of the NVCRIS record search results are confidential and, as such, are excluded from this memorandum.

Record Search

A review of the NRHP and NHL did not identify any listed resources within the Subject Property or Buffer Area. A review of NTS noted that a segment of the California National Historic Trail, which is associated with large-scale migration to the west in the mid-1800s for the California Gold Rush, runs through the southern portion of Staging Area 1 and just north of Staging Area 6. The NVCRIS database research indicated that five cultural investigations have been conducted within the Subject Property that resulted in the recordation of two (2) cultural resources within Staging Area 1, though neither appear to be associated with the California National Historic Trail. The review also identified 27 previously conducted investigations and 61 previously recorded cultural resources within the Buffer Area. Details of the studies and the resources within the Subject Property, including the NRHP eligibility status of each resource, is located below in Tables 1-2.

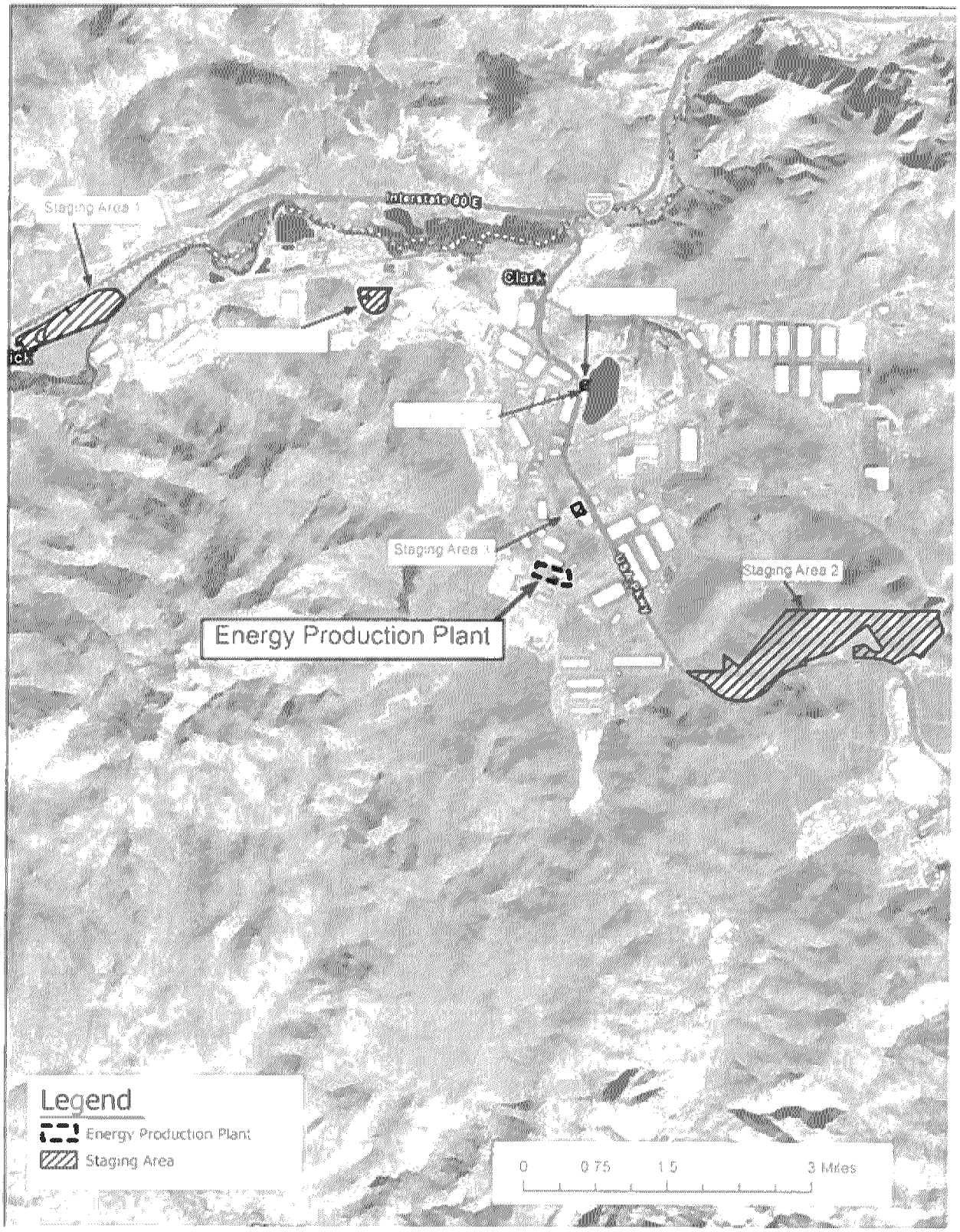


Figure 1: Locations of Subject Properties

Table 1: Previous Cultural Resource Investigations within the Subject Property

Report No.	Author	Year	Title
16-253	Bunch, James H.	1984	Cultural Resource Report: Betterment Along Ir-80 from 1.4 Miles West of Patrick to Painted Rock, E.A. 71168 (from NADB)
16-726	Burke, T.	1996	Previous Cultural Resources Investigations at the Proposed Interstate 80/Patrick Interchange: Summary and Recommendations
19531	Sanchez, Paul	2014	A Class III Cultural Resources Inventory of the USA Parkway Project, Storey and Lyon Counties, Nevada
3906	Simons, Dwight D et al.	2008	Cultural Resources Survey of Three Blocks Along The Truckee River Canyon Near Patrick, Washoe County, Nevada
3710	Simons, Dwight D et al.	2008	Cultural Resources Survey of Three Blocks Along The Truckee River Canyon Near Patrick, Washoe County, Nevada – Appendix D: Architectural Context.

Table 2: Previously Recorded Cultural Resources within the Staging Area 1

Resource No.	Type	Age	Description	NRHP Eligibility
WA8360	Site	Prehistoric	Lithic Scatter	Determined not eligible
WA8361	Site	Historic	Refuse scatter	Determined not eligible

Site Descriptions

WA8360

WA8360 is a prehistoric site consisting of a small lithic scatter located south of Interstate 80 and north of Truckee River. This site was recorded by N. Rhyme and M. Cook-Rhyne of Kautz Environmental Consultants, Inc. in 2008. Artifacts within the site include two biface flakes and one Humboldt Series projectile point base fragment. This site was evaluated and recommended not eligible for listing in the (NRHP).

WA8361

WA8361 is a historic refuse scatter site located north of the modern Southern Pacific Railroad line, north of Truckee River. This scatter site was recorded by D. Risse and crew of Kautz Environmental Consultants, Inc, in 2008. Artifacts within the scatter include over 50 glass fragments from bottles and insulators and over 10 fragments from metal tin cans. This site was evaluated and recommended not eligible for listing in the NRHP.

Imagery Review

Geological and topographic maps show the Generation Site and Staging Areas 3, 4, and 5 reside within Holocene and Pleistocene-aged alluvium surrounded by rhyolitic, diatomite, and sandstone formations. Several drainages from these outcrops/formations lead down into the vicinity of these portions of the Subject Parcels[1]. Staging Area 2 is almost entirely made up of rhyolitic, diatomite, and sandstone

[1] Crafford, A.E.J., 'Geologic terrane map of Nevada', 2010, Nevada Bureau of Mines and Geology, Open File Report 10-4, 1:500,000

formations, while Staging Areas 1 and 6 are underlain by Holocene and Pleistocene-aged alluvium[2]. Based on the geomorphology of these various areas, the Generation Site and nearby Staging Areas 3, 4, and 5 have moderate potential for surface and subsurface archaeological resources and Staging Areas 1 and 6, which are located along the Truckee River, have high potential for surface and subsurface archaeological sites. Conversely, Staging Area 2 has little to no potential for buried archaeological resources. It is possible that there are surface manifestations of archaeological sites related to lithic procurement and testing in the area, though the distance from the Truckee River, which is approximately 4.25 miles, minimizes this likelihood.

To identify previous disturbances and land use history within the Generation Site and staging areas, staff reviewed available historical imagery on HistoricAerials.com. Aerial imagery indicates that Staging Area 2 has never been developed and likely retains all native soils and formations, though, as noted above, has low archaeological sensitivity in its native state. Conversely, the Generation Site and Staging Areas 3, 4, and 5 were noted to have moderate archaeological sensitivity based on their geomorphology, though are highly disturbed. Development in the broader area seems to have started in the late 1990s/early 2000s, with additional development, such as graded pads, structures, and paved/dirt roads, visibly appearing in imagery over the next two decades. The Generation Site in particular appears to be graded by 2013 and was fully developed some time between 2017 and 2019. As such, the Generation Site and Staging Areas 3, 4, and 5 have little to no archaeological sensitivity in their current state. Additionally, while Staging Areas 1 and 6 were determined to have high sensitivity for both surface and buried archaeological resources based on their natural setting, both areas have been subject to disturbance. The entirety of Staging Area 1 appears to have been subject to development/disturbance by the 1990s, while the northern half of Staging Area 6 was developed by 2006. However, the southern half of Staging Area 6 does not appear to have been developed at any point in time. While there it is likely the perimeter of the south portion of Staging Area is disturbed due to the development in the north and railway development to the east, south, and west, the likelihood of surface and subsurface archaeological materials remains high.

Conclusion

Some areas within the Subject Properties, as well as the bulk of the Buffer Area, have never been surveyed for cultural resources. As such, record search data alone provides little insight into the archaeological sensitivity of the area. However, the presence of a lithic scatter identified within Staging Area 1 and near Staging Area 6, in combination with the natural landscape (i.e., Holocene-aged alluvium, nearby water and lithic sources, etc.), indicates Staging Areas 1 and 6 have high archaeological sensitivity. That said, when considering land use history and prior disturbance, only the southern portion of Staging Area 6 remains intact and retains high sensitivity. Additionally, as a result of this review, it was determined that the Generation Site and Staging Areas 2, 3, 4, and 5 all have little to no potential for archaeological resources based on a mix of their environmental context and land use history. As such, the only portion of the Subject Properties that retains archaeological sensitivity is the undeveloped acreage of Staging Area 6. Furthermore, as the broader area was undeveloped until the early 2000s, the Subject Properties have no sensitivity for historic built environment resources, as well as little sensitivity for significant historic archaeological resources. As such, this report concludes that the Subject Properties do not contain any previously identified eligible cultural resources, but maintain a high sensitivity for unrecorded cultural resources within the undeveloped portion of Staging Area 6.

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[2] Crafford, A.E.J., 'Geologic terrane map of Nevada', 2010, Nevada Bureau of Mines and Geology, Open File Report 10-4, 1:500,000

Appendix B

Custom Soil Resources Report

Kimley»Horn

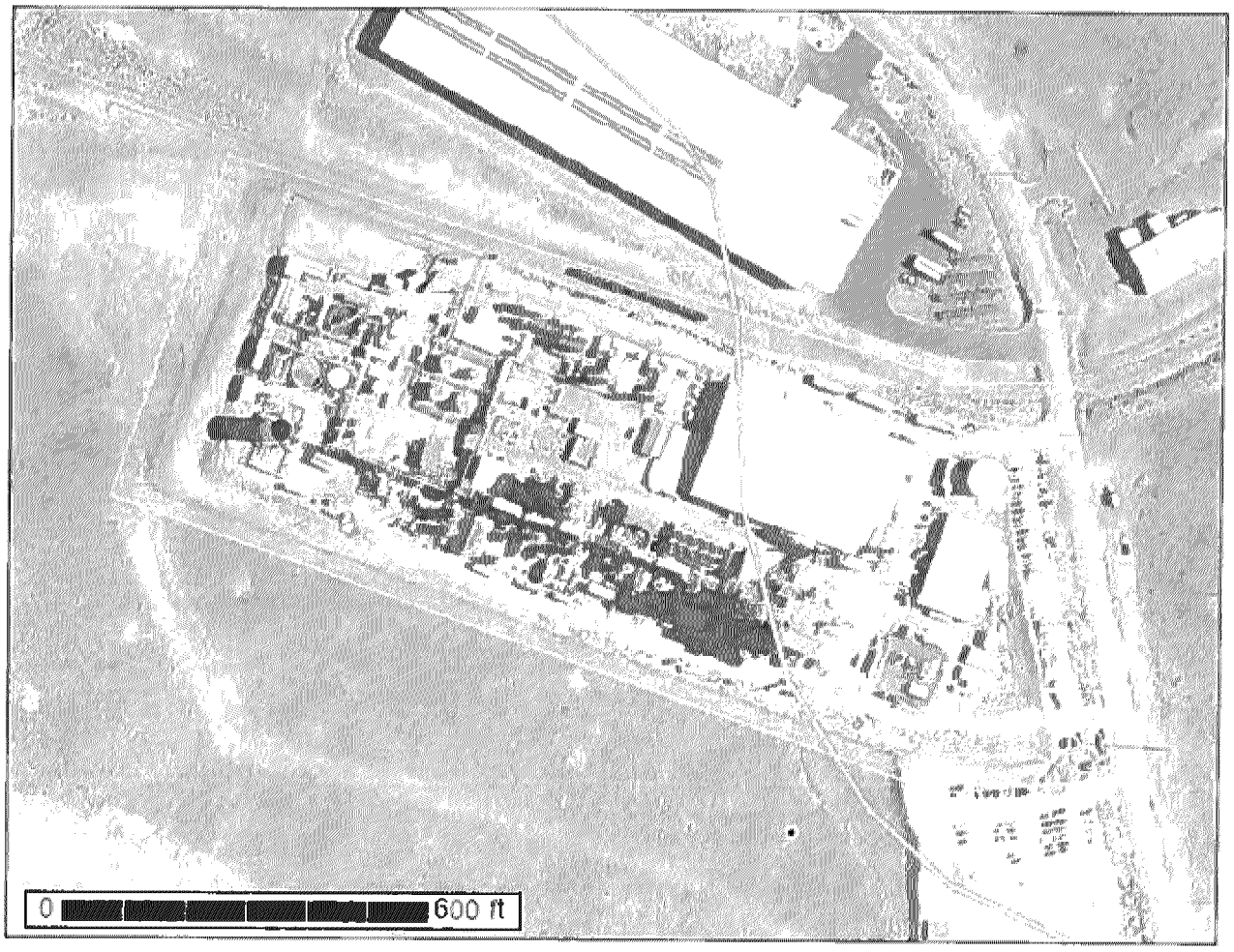
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Storey County Area, Nevada



March 13, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

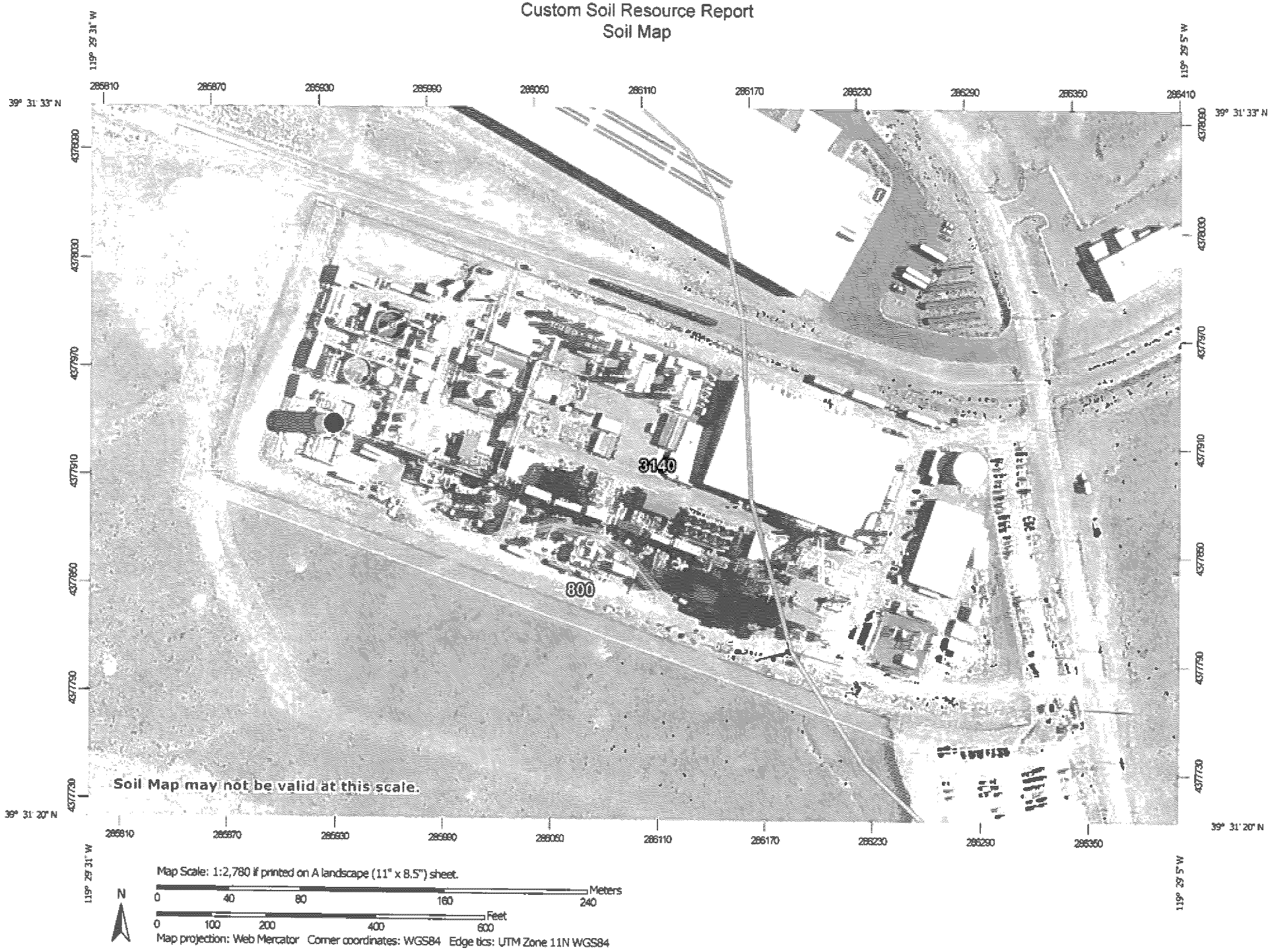
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,780 if printed on A landscape (11" x 8.5") sheet.

N

0 40 80 160 240 Meters

0 100 200 400 600 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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Storey County Area, Nevada
Survey Area Data: Version 25, Sep 2, 2025

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

Date(s) aerial images were photographed: Jun 10, 2022—Jun 14, 2022

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
800	Grumblen-Ceejay Dorkiss association	1.4	5.9%
3140	Fulstone-Reno complex, 2 to 30 percent slopes	21.7	94.1%
Totals for Area of Interest		**23.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Storey County Area, Nevada

800—Grumblen-Ceejay Dorkiss association

Map Unit Setting

National map unit symbol: 2rbrq
Landscape: Mountains
Elevation: 4,720 to 6,280 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 44 to 52 degrees F
Frost-free period: 90 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Grumblen and similar soils: 35 percent
Ceejay and similar soils: 30 percent
Doorkiss and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grumblen

Setting

Landscape: Mountains
Landform: Mountains
Landform position (two-dimensional): Backslope
Across-slope shape: Convex
Parent material: Colluvium and/or residuum

Typical profile

H1 - 0 to 4 inches: very gravelly loam
H2 - 4 to 8 inches: very gravelly clay
H3 - 8 to 18 inches: very gravelly clay
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY070NV - DROUGHTY CLAYPAN 8-10 P.Z.

Hydric soil rating: No

Description of Ceejay

Setting

Landscape: Mountains
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from andesite

Typical profile

A - 0 to 2 inches: very stony loam
Bt - 2 to 16 inches: cobbly clay loam
R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Surface area covered with cobbles, stones or boulders: 23.0 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY050NV - GRAVELLY CLAY 10-12 P.Z.
Other vegetative classification: GRAVELLY RIDGE 8-12 P.Z. (026XY050NV_3)
Hydric soil rating: No

Description of Doorkiss

Setting

Landscape: Mountains
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile

A - 0 to 4 inches: very cobbly sandy loam
Bt - 4 to 15 inches: very gravelly clay loam
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 8 to 30 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY041NV - GRAVELLY CLAY 8-10 P.Z.
Hydric soil rating: No

Minor Components

Old camp

Percent of map unit: 4 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Landscape: Mountains
Landform: Ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Reywat

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.
Hydric soil rating: No

Devada

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XY023NV - CLAYPAN 10-12 P.Z.
Hydric soil rating: No

Zephan

Percent of map unit: 2 percent
Landform: Mountains
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY017NV - LOAMY HILL 10-12 P.Z.

Hydric soil rating: No

3140—Fulstone-Reno complex, 2 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2ttw3
Landscape: Piedmonts
Elevation: 4,260 to 7,540 feet
Mean annual precipitation: 8 to 10 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 100 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Fulstone and similar soils: 45 percent
Reno and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fulstone

Setting

Landscape: Piedmonts
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium derived from igneous rock

Typical profile

A - 0 to 5 inches: cobbly loam
Bt - 5 to 18 inches: clay
Bkqm - 18 to 30 inches: cemented material
Bkq - 30 to 48 inches: very cobbly sandy loam

Properties and qualities

Slope: 2 to 30 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 14 to 20 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY041NV - GRAVELLY CLAY 8-10 P.Z.
Hydric soil rating: No

Description of Reno

Setting

Landscape: Piedmonts
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium over alluvium

Typical profile

A - 0 to 2 inches: extremely cobbly sandy loam
E - 2 to 8 inches: gravelly sandy loam
Bt1 - 8 to 16 inches: clay
Bt2 - 16 to 27 inches: gravelly sandy clay loam
Bk - 27 to 37 inches: very cobbly sandy loam
Bkqm - 37 to 44 inches: cemented material
2Bk - 44 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 2 to 30 percent
Surface area covered with cobbles, stones or boulders: 10.0 percent
Depth to restrictive feature: 20 to 39 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Minor Components

Hunewill

Percent of map unit: 6 percent
Landscape: Piedmonts
Landform: Inset fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Lapon

Percent of map unit: 5 percent
Landscape: Piedmonts
Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Head slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R027XY020NV - SHALLOW CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Veta

Percent of map unit: 4 percent
Landscape: Piedmonts
Landform: Drainageways
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R026XY024NV - DROUGHTY LOAM 8-10 P.Z.
Hydric soil rating: No

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the following National Soil Survey Handbook link: "National Soil Survey Handbook"

ABC soil

A soil having an A, a B, and a C horizon.

Ablation till

Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil

A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil

The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil

Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone

A semiconical type of alluvial fan having very steep slopes. It is higher, narrower, and steeper than a fan and is composed of coarser and thicker layers of material deposited by a combination of alluvial episodes and (to a much lesser degree) landslides (debris flow). The coarsest materials tend to be concentrated at the apex of the cone.

Alluvial fan

A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium

Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl

A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM)

The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions

Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon

A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo

The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in unconsolidated material. It is usually dry but can be transformed into a temporary watercourse or short-lived torrent after heavy rain within the watershed.

Aspect

The direction toward which a slope faces. Also called slope aspect.

Association, soil

A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity)

The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low: 0 to 3
Low: 3 to 6
Moderate: 6 to 9
High: 9 to 12
Very high: More than 12

Backslope

The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp

A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Badland

A landscape that is intricately dissected and characterized by a very fine drainage network with high drainage densities and short, steep slopes and narrow interfluves. Badlands develop on surfaces that have little or no vegetative cover overlying unconsolidated or poorly cemented materials (clays, silts, or sandstones) with, in some cases, soluble minerals, such as gypsum or halite.

Bajada

A broad, gently inclined alluvial piedmont slope extending from the base of a mountain range out into a basin and formed by the lateral coalescence of a series of alluvial fans. Typically, it has a broadly undulating transverse profile, parallel to the mountain front, resulting from the convexities of component fans. The term is generally restricted to constructional slopes of intermontane basins.

Basal area

The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation

The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology)

A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane

A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology)

from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system

A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock

The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography

A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace

A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum

Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout (map symbol)

A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed. The adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Borrow pit (map symbol)

An open excavation from which soil and underlying material have been removed, usually for construction purposes.

Bottom land

An informal term loosely applied to various portions of a flood plain.

Boulders

Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks

A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height

An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management

Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte

An isolated, generally flat-topped hill or mountain with relatively steep slopes and talus or precipitous cliffs and characterized by summit width that is less than the height of bounding escarpments; commonly topped by a caprock of resistant material and representing an erosion remnant carved from flat-lying rocks.

Cable yarding

A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil

A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche

A general term for a prominent zone of secondary carbonate accumulation in surficial materials in warm, subhumid to arid areas. Caliche is formed by both geologic and pedologic processes. Finely crystalline calcium carbonate forms a nearly continuous surface-coating and void-filling medium in geologic (parent) materials. Cementation ranges from weak in nonindurated forms to very strong in indurated forms. Other minerals (e.g., carbonates, silicate, and sulfate) may occur as accessory cements. Most petrocalcic horizons and some calcic horizons are caliche.

California bearing ratio (CBR)

The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy

The leafy crown of trees or shrubs. (See Crown.)

Canyon

A long, deep, narrow valley with high, precipitous walls in an area of high local relief.

Capillary water

Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena

A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation

An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity

The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps

See Terracettes.

Cement rock

Shaly limestone used in the manufacture of cement.

Channery soil material

Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment

Control of unwanted vegetation through the use of chemicals.

Chiseling

Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque

A steep-walled, semicircular or crescent-shaped, half-bowl-like recess or hollow, commonly situated at the head of a glaciated mountain valley or high on the side of a mountain. It was produced by the erosive activity of a mountain glacier. It commonly contains a small round lake (tarn).

Clay

As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions

See Redoximorphic features.

Clay film

A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clay spot (map symbol)

A spot where the surface texture is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser.

Claypan

A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community

The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil

Sand or loamy sand.

Cobble (or cobblestone)

A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material

Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility)

See Linear extensibility.

Colluvium

Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope

Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil

A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions

See Redoximorphic features.

Conglomerate

A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system

Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage

A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil

Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping

Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section

The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat)

A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology)

A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations)

Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop

A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management

Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system

Growing crops according to a planned system of rotation and management practices.

Cross-slope farming

Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown

The upper part of a tree or shrub, including the living branches and their foliage.

Cryoturbate

A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

Cuesta

An asymmetric ridge capped by resistant rock layers of slight or moderate dip (commonly less than 15 percent slopes); a type of homocline produced by differential erosion of interbedded resistant and weak rocks. A cuesta has a long, gentle slope on one side (dip slope) that roughly parallels the inclined beds; on the other side, it has a relatively short and steep or clifflike slope (scarp) that cuts through the tilted rocks.

Culmination of the mean annual increment (CMAI)

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave

The walls of excavations tend to cave in or slough.

Decreasers

The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing

Postponing grazing or resting grazing land for a prescribed period.

Delta

A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer

A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression, closed (map symbol)

A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage.

Depth, soil

Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement

A natural, residual concentration or layer of wind-polished, closely packed gravel, boulders, and other rock fragments mantling a desert surface. It forms where wind action and sheetwash have removed all smaller particles or where rock fragments have migrated upward through sediments to the surface. It typically protects the finer grained underlying material from further erosion.

Diatomaceous earth

A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Dip slope

A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace)

A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming

A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural)

Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained.* These classes are defined in the "Soil Survey Manual."

Drainage, surface

Runoff, or surface flow of water, from an area.

Drainageway

A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw

A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Drift

A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin

A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff

A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune

A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill

See Mine spoil.

Ecological site

An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation

The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation

A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit

Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream

A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation

A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion

The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated)

Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion (geologic)

Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion pavement

A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface

A land surface shaped by the action of erosion, especially by running water.

Escarpment

A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Escarpment, bedrock (map symbol)

A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.

Escarpment, nonbedrock (map symbol)

A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.

Esker

A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left

behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Extrusive rock

Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

Fallow

Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan remnant

A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil

The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat)

The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity

The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fill slope

A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil

Sandy clay, silty clay, or clay.

Firebreak

An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom

An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material

Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone

A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain

The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms

A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay

A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step

An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial

Of or pertaining to rivers or streams; produced by stream or river action.

Foothills

A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope

The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb

Any herbaceous plant not a grass or a sedge.

Forest cover

All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type

A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan

A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil

The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai

Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glaciofluvial deposits

Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits

Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil

Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping

Growing crops in strips that grade toward a protected waterway.

Grassed waterway

A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel

Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel pit (map symbol)

An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel.

Gravelly soil material

Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Gravelly spot (map symbol)

A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments.

Green manure crop (agronomy)

A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water

Water filling all the unblocked pores of the material below the water table.

Gully (map symbol)

A small, steep-sided channel caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage whereas a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock

Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim

Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan

A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology)

A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat)

Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops

Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill

A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope

A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil

A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon: An organic layer of fresh and decaying plant residue.

L horizon: A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon: The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon: The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon: The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon: The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon: Soft, consolidated bedrock beneath the soil.

R layer: Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

M layer: A root-limiting subsoil layer consisting of nearly continuous, horizontally oriented, human-manufactured materials.

W layer: A layer of water within or beneath the soil.

Humus

The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups

Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock

Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation

The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil

A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers

Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration

The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity

The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate

The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate

The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Very low: Less than 0.2
Low: 0.2 to 0.4
Moderately low: 0.4 to 0.75
Moderate: 0.75 to 1.25
Moderately high: 1.25 to 1.75
High: 1.75 to 2.5
Very high: More than 2.5

Interfluve

A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology)

A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream

A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders

On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions

See Redoximorphic features.

Irrigation

Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin: Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border: Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding: Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation: Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle): Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow: Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler: Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation: Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding: Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame

A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography)

A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll

A small, low, rounded hill rising above adjacent landforms.

Ksat

See Saturated hydraulic conductivity.

Lacustrine deposit

Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain

A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace

A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill (map symbol)

An area of accumulated waste products of human habitation, either above or below natural ground level.

Landslide

A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones

Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Lava flow (map symbol)

A solidified, commonly lobate body of rock formed through lateral, surface outpouring of molten lava from a vent or fissure.

Leaching

The removal of soluble material from soil or other material by percolating water.

Levee (map symbol)

An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.

Linear extensibility

Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit

The moisture content at which the soil passes from a plastic to a liquid state.

Loam

Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess

Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength

The soil is not strong enough to support loads.

Low-residue crops

Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl

An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Marsh or swamp (map symbol)

A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Not used in map units where the named soils are poorly drained or very poorly drained.

Mass movement

A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses

See Redoximorphic features.

Meander belt

The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar

A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll

One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment

Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil

Very fine sandy loam, loam, silt loam, or silt.

Mesa

A broad, nearly flat topped and commonly isolated landmass bounded by steep slopes or precipitous cliffs and capped by layers of resistant, nearly horizontal rocky material. The summit width is characteristically greater than the height of the bounding escarpments.

Metamorphic rock

Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine or quarry (map symbol)

An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines.

Mine spoil

An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil

Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage

Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area

A kind of map unit that has little or no natural soil and supports little or no vegetation.

Miscellaneous water (map symbol)

Small, constructed bodies of water that are used for industrial, sanitary, or mining applications and that contain water most of the year.

Moderately coarse textured soil

Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil

Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon

A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine

In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil

The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil

Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain

A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can

occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.

Muck

Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat

See Hemic soil material.

Mudstone

A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation

A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon

A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil

A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules

See Redoximorphic features.

Nose slope (geomorphology)

A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant

Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter

Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low: Less than 0.5 percent
Low: 0.5 to 1.0 percent
Moderately low: 1.0 to 2.0 percent
Moderate: 2.0 to 4.0 percent
High: 4.0 to 8.0 percent
Very high: More than 8.0 percent

Outwash

Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain

An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace

An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan

A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material

The unconsolidated organic and mineral material in which soil forms.

Peat

Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped

An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment

A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon

The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation

The movement of water through the soil.

Perennial water (map symbol)

Small, natural or constructed lakes, ponds, or pits that contain water most of the year.

Permafrost

Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

pH value

A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil

A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping

Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting

Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit

The moisture content at which a soil changes from semisolid to plastic.

Plasticity index

The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology)

A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Playa

The generally dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff. Playa deposits are fine grained and may or may not have a high water table and saline conditions.

Plinthite

The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan

A compacted layer formed in the soil directly below the plowed layer.

Ponding

Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded

Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings

See Redoximorphic features.

Potential native plant community

See Climax plant community.

Potential rooting depth (effective rooting depth)

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning

Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil

The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil

A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use

Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and

promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil

A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid: Less than 3.5
Extremely acid: 3.5 to 4.4
Very strongly acid: 4.5 to 5.0
Strongly acid: 5.1 to 5.5
Moderately acid: 5.6 to 6.0
Slightly acid: 6.1 to 6.5
Neutral: 6.6 to 7.3
Slightly alkaline: 7.4 to 7.8
Moderately alkaline: 7.9 to 8.4
Strongly alkaline: 8.5 to 9.0
Very strongly alkaline: 9.1 and higher

Red beds

Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations

See Redoximorphic features.

Redoximorphic depletions

See Redoximorphic features.

Redoximorphic features

Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix

See Redoximorphic features.

Regolith

All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief

The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material)

Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill

A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser

The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut

A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments

Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop (map symbol)

An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where "Rock outcrop" is a named component of the map unit.

Root zone

The part of the soil that can be penetrated by plant roots.

Runoff

The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil

A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Saline spot (map symbol)

An area where the surface layer has an electrical conductivity of 8 mmhos/cm more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm or less.

Sand

As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone

Sedimentary rock containing dominantly sand-sized particles.

Sandy spot (map symbol)

A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer.

Sapric soil material (muck)

The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat)

The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are:

Very high: 100 or more micrometers per second (14.17 or more inches per hour)

High: 10 to 100 micrometers per second (1.417 to 14.17 inches per hour)

Moderately high: 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour)

Moderately low: 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour)

Low: 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour)

Very low: Less than 0.01 micrometer per second (less than 0.001417 inch per hour).

To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation

Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification

The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock

A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum

A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil

A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Severely eroded spot (map symbol)

An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name.

Shale

Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion

The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short, steep slope (map symbol)

A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

Shoulder

The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell

The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune

A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology)

A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica

A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio

The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt

As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone

An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils

Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole (map symbol)

A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index

A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic)

Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slide or slip (map symbol)

A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces.

Slope

The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium

Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill

The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement

Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Sodic (alkali) soil

A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodic spot (map symbol)

An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less.

Sodicity

The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to $Ca^{++} + Mg^{++}$. The degrees of sodicity and their respective ratios are:

Slight: Less than 13:1

Moderate: 13-30:1

Strong: More than 30:1

Sodium adsorption ratio (SAR)

A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock

Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil

A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates

Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand: 2.0 to 1.0
Coarse sand: 1.0 to 0.5
Medium sand: 0.5 to 0.25
Fine sand: 0.25 to 0.10
Very fine sand: 0.10 to 0.05
Silt: 0.05 to 0.002
Clay: Less than 0.002

Solum

The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spoil area (map symbol)

A pile of earthy materials, either smoothed or uneven, resulting from human activity.

Stone line

In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones

Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony

Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stony spot (map symbol)

A spot where 0.01 to 0.1 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones.

Strath terrace

A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace

One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping

Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil

The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are:

Platy: Flat and laminated

Prismatic: Vertically elongated and having flat tops

Columnar: Vertically elongated and having rounded tops

Angular blocky: Having faces that intersect at sharp angles (planes)

Subangular blocky: Having subrounded and planar faces (no sharp angles)

Granular: Small structural units with curved or very irregular faces

Structureless soil horizons are defined as follows:

Single grained: Entirely noncoherent (each grain by itself), as in loose sand

Massive: Occurring as a coherent mass

Stubble mulch

Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil

Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling

Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum

The part of the soil below the solum.

Subsurface layer

Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow

The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit

The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer

The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil

The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus

Rock fragments of any size or shape (commonly coarse and angular) derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose broken rock formed chiefly by falling, rolling, or sliding.

Taxadjuncts

Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine

An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation)

An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field

generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology)

A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes

Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil

The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer

Otherwise suitable soil material that is too thin for the specified use.

Till

Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain

An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil

The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope

The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil

The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements

Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread

The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff

A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland

An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill

The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation

Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve

A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Very stony spot (map symbol)

A spot where 0.1 to 3.0 percent of the soil surface is covered by rock fragments that are more than 10 inches in diameter in areas where the surface of the surrounding soil is covered by less than 0.01 percent stones.

Water bars

Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering

All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded

Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wet spot (map symbol)

A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point)

The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow

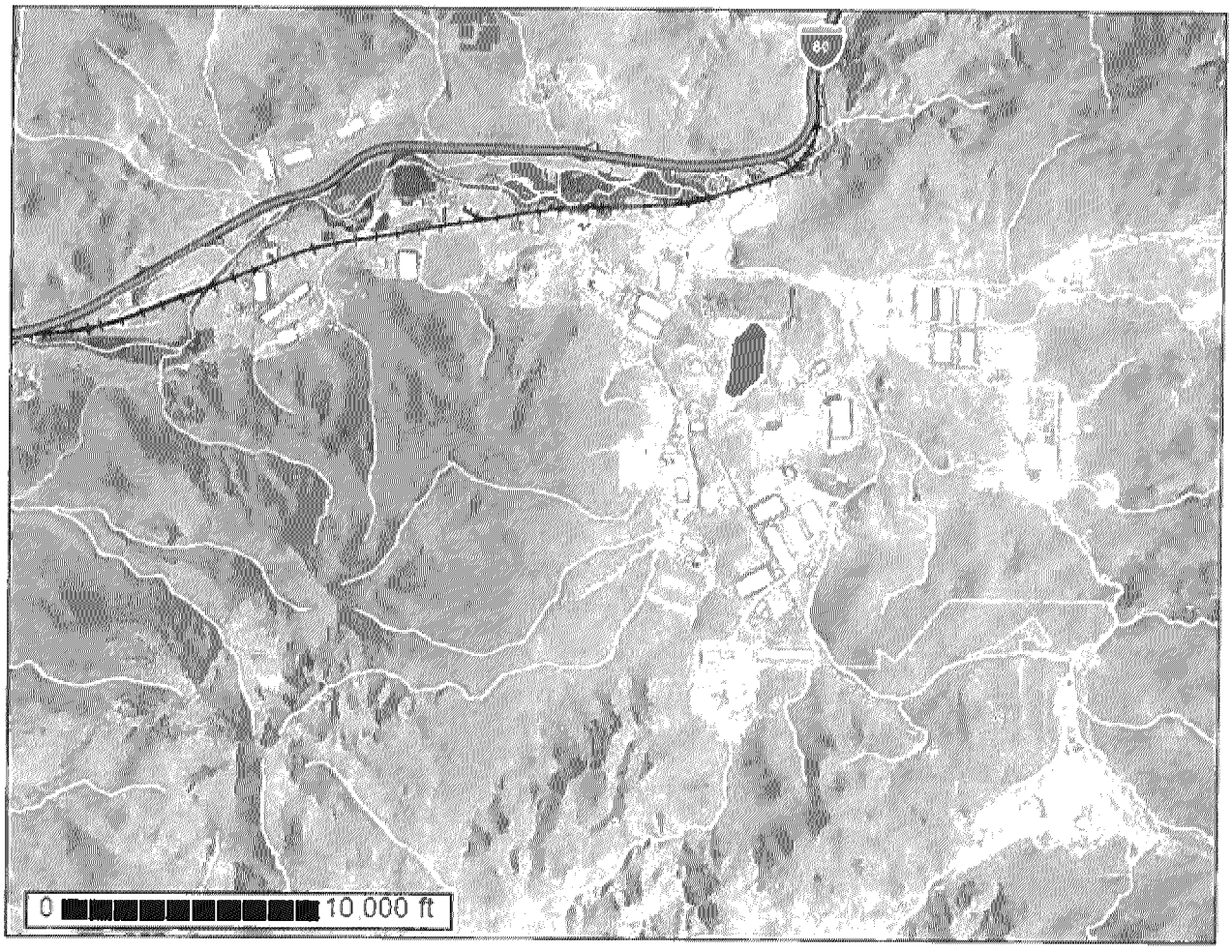
The uprooting and tipping over of trees by the wind.

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Storey County Area, Nevada; and Washoe County, Nevada, South Part



May 8, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

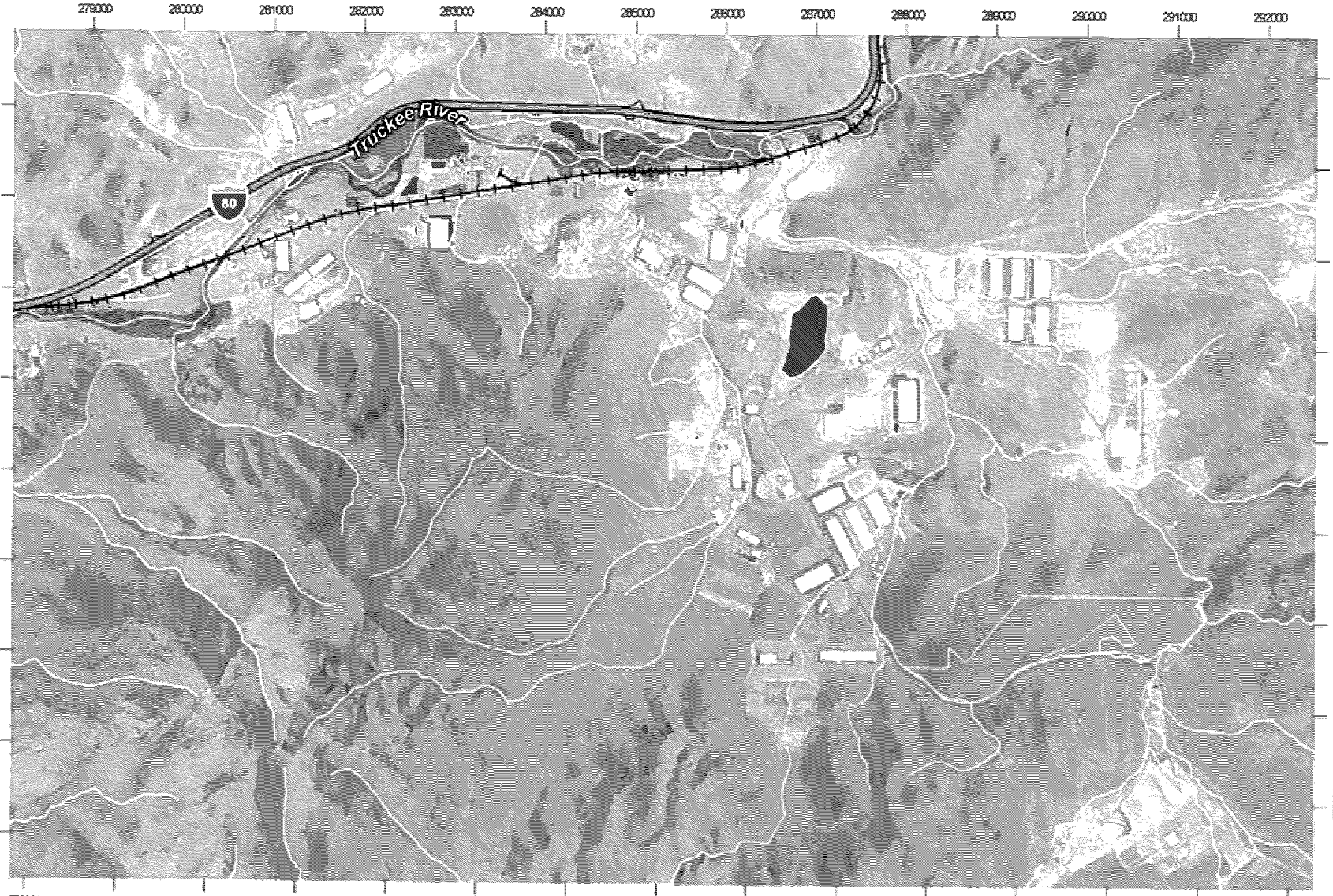
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:66,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 3000 6000 12000 18000

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: Storey County Area, Nevada
Survey Area Data: Version 25, Sep 2, 2025

Soil Survey Area: Washoe County, Nevada, South Part
Survey Area Data: Version 23, Aug 29, 2025

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: Jun 10, 2022—Jun 14, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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
060	Cleaver-Stingdorn association	6.0	1.1%
213	Theon-Old Camp association	2.9	0.6%
800	Grumblen-Ceejay Dorkiss association	0.6	0.1%
3140	Fulstone-Reno complex, 2 to 30 percent slopes	0.0	0.0%
7040	Doorkiss-Ister-Ceejay association	410.3	78.3%
Subtotals for Soil Survey Area		**419.9**	**80.2%**
Totals for Area of Interest		**523.8**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
360	Pits	94.5	18.0%
962	Kayo very stony sandy loam, 4 to 8 percent slopes	0.2	0.0%
1342	Isolde-Playas association	9.2	1.7%
1610	Water	0.0	0.0%
Subtotals for Soil Survey Area		**104.0**	**19.8%**
Totals for Area of Interest		**523.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a

particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Storey County Area, Nevada

060—Cleaver-Stingdorn association

Map Unit Setting

National map unit symbol: j2s9
Landscape: Piedmonts
Elevation: 4,400 to 4,800 feet
Mean annual precipitation: 5 to 7 inches
Mean annual air temperature: 49 to 51 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Cleaver and similar soils: 50 percent
Stingdorn and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cleaver

Setting

Landscape: Piedmonts
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 2 inches: very gravelly sandy loam
H2 - 2 to 11 inches: gravelly clay loam
H3 - 11 to 20 inches: cemented material
H4 - 20 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 2 to 15 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: 10 to 20 inches to duripan
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 30.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY018NV - GRAVELLY LOAM 4-8 P.Z.

Hydric soil rating: No

Description of Stingdorn

Setting

Landform: Pediments
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum

Typical profile

H1 - 0 to 7 inches: very cobbly loam
H2 - 7 to 15 inches: very gravelly clay loam
H3 - 15 to 20 inches: cemented material
R - 20 to 30 inches: bedrock

Properties and qualities

Slope: 4 to 15 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: 8 to 20 inches to lithic bedrock; 8 to 20 inches to duripan
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY018NV - GRAVELLY LOAM 4-8 P.Z.
Hydric soil rating: No

Minor Components

Veta

Percent of map unit: 8 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R027XY008NV - DROUGHTY LOAM 8-10 P.Z.
Other vegetative classification: GRAVELLY FAN 8-10 P.Z. (027XY029NV_1)
Hydric soil rating: No

Old camp

Percent of map unit: 5 percent
Landform: Pediments
Down-slope shape: Convex
Across-slope shape: Convex

Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Rock outcrop
Percent of map unit: 2 percent
Landform: Peaks
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

213—Theon-Old Camp association

Map Unit Setting
National map unit symbol: 2tfnk
Landscape: Hills
Elevation: 4,260 to 5,900 feet
Mean annual precipitation: 5 to 8 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 80 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition
Theon and similar soils: 50 percent
Old camp and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Theon

Setting
Landscape: Hills
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical profile
A - 0 to 2 inches: very gravelly sandy loam
Bt - 2 to 11 inches: very gravelly clay loam
R - 11 to 21 inches: bedrock

Properties and qualities
Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 1.0 percent
Depth to restrictive feature: 8 to 14 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Very low (about 0.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY019NV - STONY SLOPE 4-8 P.Z.
Hydric soil rating: No

Description of Old Camp

Setting

Landscape: Hills
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Colluvium and/or residuum

Typical profile

A - 0 to 2 inches: very gravelly loam
Bt - 2 to 6 inches: clay loam
2Btk - 6 to 14 inches: extremely stony clay loam
2R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY007NV - LOAMY SLOPE 8-10 P.Z.
Hydric soil rating: No

Minor Components

Singatse

Percent of map unit: 8 percent
Landscape: Hills
Landform: Hills
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R027XY027NV - BARREN GRAVELLY SLOPE 4-8 P.Z.
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Landscape: Hills
Landform: Ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Weena

Percent of map unit: 2 percent
Landscape: Hills
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R027XY027NV - BARREN GRAVELLY SLOPE 4-8 P.Z.
Hydric soil rating: No

800—Grumblen-Ceejay Dorkiss association

Map Unit Setting

National map unit symbol: 2rbrq
Landscape: Mountains
Elevation: 4,720 to 6,280 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 44 to 52 degrees F
Frost-free period: 90 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Grumblen and similar soils: 35 percent
Ceejay and similar soils: 30 percent
Doorkiss and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Grumblen

Setting

Landscape: Mountains
Landform: Mountains
Landform position (two-dimensional): Backslope
Across-slope shape: Convex
Parent material: Colluvium and/or residuum

Typical profile

H1 - 0 to 4 inches: very gravelly loam
H2 - 4 to 8 inches: very gravelly clay
H3 - 8 to 18 inches: very gravelly clay
R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R027XY070NV - DROUGHTY CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Description of Ceejay

Setting

Landscape: Mountains
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from andesite

Typical profile

A - 0 to 2 inches: very stony loam
Bt - 2 to 16 inches: cobbly clay loam
R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Surface area covered with cobbles, stones or boulders: 23.0 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY050NV - GRAVELLY CLAY 10-12 P.Z.
Other vegetative classification: GRAVELLY RIDGE 8-12 P.Z. (026XY050NV_3)
Hydric soil rating: No

Description of Doorkiss

Setting

Landscape: Mountains
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile

A - 0 to 4 inches: very cobbly sandy loam
Bt - 4 to 15 inches: very gravelly clay loam
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 8 to 30 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY041NV - GRAVELLY CLAY 8-10 P.Z.
Hydric soil rating: No

Minor Components

Old camp

Percent of map unit: 4 percent
Landform: Mountain slopes

Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Landscape: Mountains
Landform: Ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Reywat

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.
Hydric soil rating: No

Devada

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XY023NV - CLAYPAN 10-12 P.Z.
Hydric soil rating: No

Zephan

Percent of map unit: 2 percent
Landform: Mountains
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY017NV - LOAMY HILL 10-12 P.Z.
Hydric soil rating: No

3140—Fulstone-Reno complex, 2 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2ttw3
Landscape: Piedmonts
Elevation: 4,260 to 7,540 feet
Mean annual precipitation: 8 to 10 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 100 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Fulstone and similar soils: 45 percent
Reno and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fulstone

Setting

Landscape: Piedmonts
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium derived from igneous rock

Typical profile

A - 0 to 5 inches: cobbly loam
Bt - 5 to 18 inches: clay
Bkqm - 18 to 30 inches: cemented material
Bkq - 30 to 48 inches: very cobbly sandy loam

Properties and qualities

Slope: 2 to 30 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 14 to 20 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY041NV - GRAVELLY CLAY 8-10 P.Z.
Hydric soil rating: No

Description of Reno

Setting

Landscape: Piedmonts
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium over alluvium

Typical profile

A - 0 to 2 inches: extremely cobbly sandy loam
E - 2 to 8 inches: gravelly sandy loam
Bt1 - 8 to 16 inches: clay
Bt2 - 16 to 27 inches: gravelly sandy clay loam
Bk - 27 to 37 inches: very cobbly sandy loam
Bkqm - 37 to 44 inches: cemented material
2Bk - 44 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 2 to 30 percent
Surface area covered with cobbles, stones or boulders: 10.0 percent
Depth to restrictive feature: 20 to 39 inches to duripan
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Minor Components

Hunewill

Percent of map unit: 6 percent
Landscape: Piedmonts
Landform: Inset fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Head slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Lapon

Percent of map unit: 5 percent
Landscape: Piedmonts
Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Head slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R027XY020NV - SHALLOW CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Veta

Percent of map unit: 4 percent
Landscape: Piedmonts
Landform: Drainageways
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R026XY024NV - DROUGHTY LOAM 8-10 P.Z.
Hydric soil rating: No

7040—Doorkiss-Ister-Ceejay association

Map Unit Setting

National map unit symbol: 2n9zx
Landscape: Mountains
Elevation: 4,150 to 4,790 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 44 to 50 degrees F
Frost-free period: 90 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Doorkiss and similar soils: 40 percent
Ister and similar soils: 30 percent
Ceejay and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doorkiss

Setting

Landscape: Mountains
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile

H1 - 0 to 4 inches: very gravelly loam
H2 - 4 to 15 inches: very gravelly clay loam
R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY050NV - GRAVELLY CLAY 10-12 P.Z.
Hydric soil rating: No

Description of Ister

Setting

Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and/or residuum

Typical profile

A - 0 to 11 inches: very stony sandy loam
Bt1 - 11 to 24 inches: very stony sandy clay loam
Bt2 - 24 to 38 inches: very stony clay loam
R - 38 to 48 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent
Surface area covered with cobbles, stones or boulders: 8.0 percent
Depth to restrictive feature: 20 to 39 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: R026XY010NV - LOAMY 10-12 P.Z.
Hydric soil rating: No

Description of Ceejay

Setting

Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from andesite

Typical profile

A1 - 0 to 2 inches: gravelly sandy loam
Bt - 2 to 16 inches: cobbly clay loam

R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Surface area covered with cobbles, stones or boulders: 2.0 percent
Depth to restrictive feature: 14 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY050NV - GRAVELLY CLAY 10-12 P.Z.
Other vegetative classification: GRAVELLY RIDGE 8-12 P.Z. (026XY050NV_3)
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Landform: Ridges
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Reywat

Percent of map unit: 4 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.
Hydric soil rating: No

Mizel

Percent of map unit: 3 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY029NV - ERODED SLOPE 10-12 P.Z.
Hydric soil rating: No

Old camp

Percent of map unit: 2 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.

Hydric soil rating: No

Hefed

Percent of map unit: 1 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Washoe County, Nevada, South Part

360—Pits

Map Unit Setting

National map unit symbol: hxj5
Landscape: Piedmonts
Farmland classification: Not prime farmland

Map Unit Composition

Pits: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits

Setting

Landscape: Piedmonts
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile

H1 - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

962—Kayo very stony sandy loam, 4 to 8 percent slopes

Map Unit Setting

National map unit symbol: hxnv
Landscape: Piedmonts
Elevation: 4,400 to 5,200 feet
Mean annual precipitation: 8 to 10 inches
Mean annual air temperature: 48 to 51 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Kayo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kayo

Setting

Landscape: Piedmonts
Landform: Alluvial fans
Down-slope shape: Linear

Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 10 inches: very stony sandy loam
H2 - 10 to 25 inches: very gravelly sandy loam
H3 - 25 to 60 inches: very gravelly loamy coarse sand

Properties and qualities

Slope: 4 to 8 percent
Surface area covered with cobbles, stones or boulders: 8.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R026XY024NV - DROUGHTY LOAM 8-10 P.Z.
Hydric soil rating: No

Minor Components

Aladshi

Percent of map unit: 6 percent
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY024NV - DROUGHTY LOAM 8-10 P.Z.
Hydric soil rating: No

Indian creek

Percent of map unit: 4 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Stumble

Percent of map unit: 3 percent
Landform: Sand sheets
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R027XY009NV - SANDY 5-8 P.Z.
Hydric soil rating: No

Holbrook

Percent of map unit: 2 percent
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

1342—Isolde-Playas association

Map Unit Setting

National map unit symbol: hxf2
Landscape: Basins
Elevation: 3,900 to 5,000 feet
Mean annual precipitation: 4 to 6 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 110 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Isolde and similar soils: 70 percent
Playas: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Isolde

Setting

Landscape: Basins
Landform: Dunes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits

Typical profile

H1 - 0 to 6 inches: fine sand
H2 - 6 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R027XY023NV - DUNES 4-8 P.Z.
Hydric soil rating: No

Description of Playas

Setting

Landform: Playas
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Lacustrine deposite

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 1 percent
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydric soil rating: No

Minor Components

Toulon

Percent of map unit: 8 percent
Landform: Beach terraces
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R027XY018NV - GRAVELLY LOAM 4-8 P.Z.
Hydric soil rating: No

Bluewing

Percent of map unit: 7 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R027XY018NV - GRAVELLY LOAM 4-8 P.Z.

Hydric soil rating: No

1610—Water

Map Unit Setting

National map unit symbol: hxp9
Landscape: Basins
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landscape: Basins
Landform: Lake plains
Down-slope shape: Linear
Across-slope shape: Linear

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Storey County Area, Nevada



June 4, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

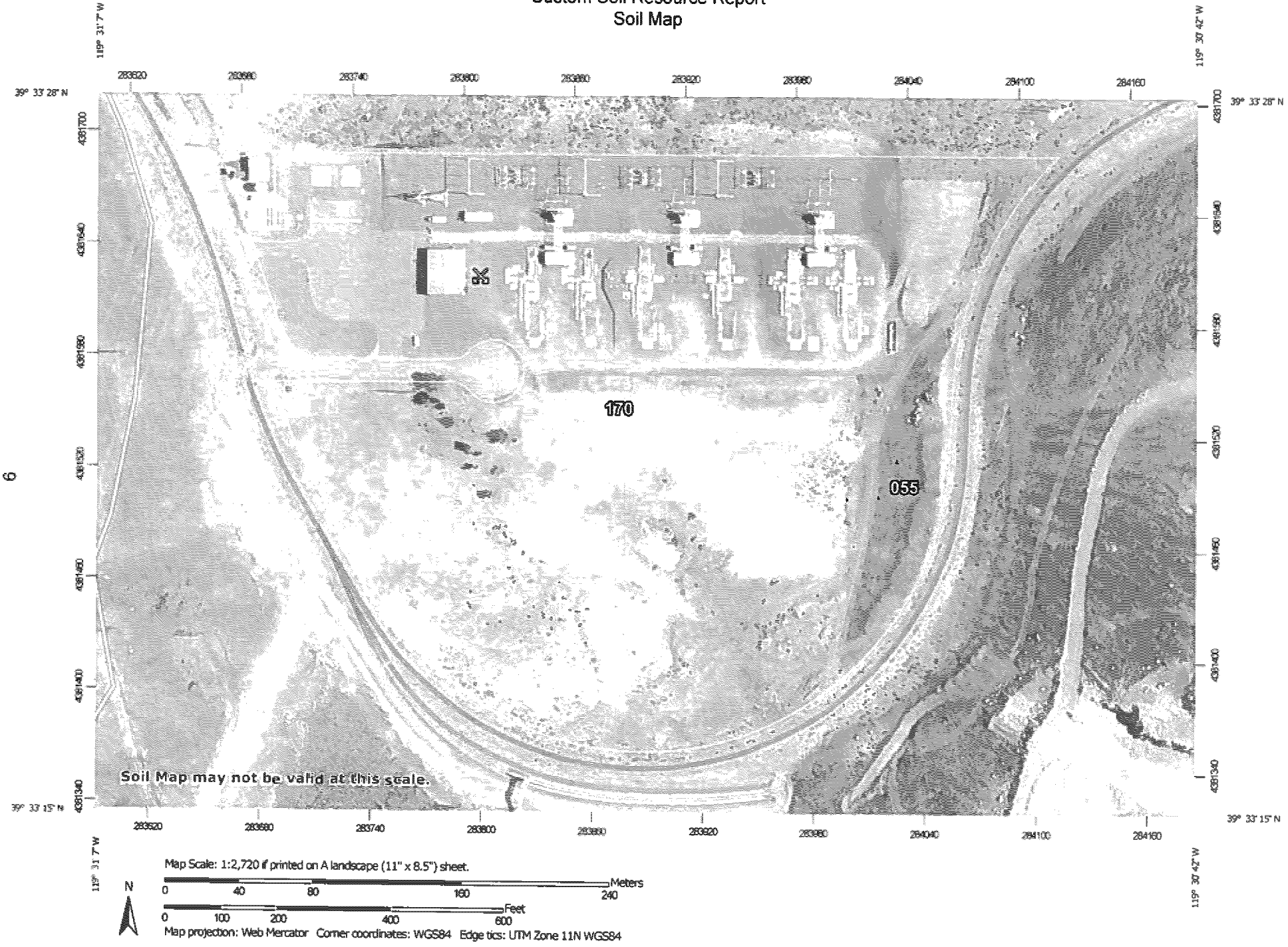
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,720 if printed on A landscape (11" x 8.5") sheet.

N

0 40 80 160 240 Meters

0 100 200 400 600 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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Storey County Area, Nevada
Survey Area Data: Version 25, Sep 2, 2025

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

Date(s) aerial images were photographed: Jun 10, 2022—Jun 14, 2022

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
055	Old Camp-Aldax-Rock outcrop association	1.5	6.1%
170	Saralegui-Isolde association	23.5	93.9%
Totals for Area of Interest		**25.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Storey County Area, Nevada

055—Old Camp-Aldax-Rock outcrop association

Map Unit Setting

National map unit symbol: 2nb8s
Landscape: Mountains
Elevation: 4,500 to 5,700 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Not prime farmland

Map Unit Composition

Old camp and similar soils: 40 percent
Aldax and similar soils: 35 percent
Rock outcrop: 10 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Old Camp

Setting

Landscape: Mountains
Landform: Mountains
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium and/or residuum

Typical profile

A - 0 to 2 inches: very stony sandy loam
H2 - 2 to 14 inches: extremely stony clay loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 30 to 75 percent
Surface area covered with cobbles, stones or boulders: 23.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Description of Aldax

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Colluvium derived from granite and/or residuum weathered from granite

Typical profile

A1 - 0 to 3 inches: very cobbly fine sandy loam
A2 - 3 to 14 inches: extremely stony fine sandy loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 30 to 75 percent
Surface area covered with cobbles, stones or boulders: 10.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY100NV - STONY SLOPE 10-12 P.Z.
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges
Down-slope shape: Convex
Across-slope shape: Convex

Minor Components

Fluvaquentic endoaquolls

Percent of map unit: 2 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R026XY055NV - DRY MEADOW
Hydric soil rating: Yes

Smocreek

Percent of map unit: 2 percent
Landform: Stream terraces
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: R026XY030NV - LOAMY BOTTOM 8-12 P.Z.
Hydric soil rating: No

Tristan

Percent of map unit: 2 percent
Landform: Mountains
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R026XY048NV - LOAMY SLOPE 12-14 P.Z.
Hydric soil rating: No

Rubble land

Percent of map unit: 2 percent
Landform: Mountains
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Ister

Percent of map unit: 2 percent
Landform: Mountains
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY010NV - LOAMY 10-12 P.Z.
Hydric soil rating: No

Ceejay

Percent of map unit: 2 percent
Landform: Mountains
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY050NV - GRAVELLY CLAY 10-12 P.Z.
Other vegetative classification: GRAVELLY RIDGE 8-12 P.Z. (026XY050NV_3)
Hydric soil rating: No

Cumulic haploxerolls

Percent of map unit: 1 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R026XY003NV - WET MEADOW 10-14 P.Z.
Hydric soil rating: No

Veta

Percent of map unit: 1 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R026XY034NV - WASH 8-12 P.Z.
Hydric soil rating: No

Carwalker

Percent of map unit: 1 percent
Landform: Flood plains

Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F026XY059NV - Sandy Flood Plain 8-10 P.Z
Hydric soil rating: No

170—Saralegui-Isolde association

Map Unit Setting

National map unit symbol: j2t1
Elevation: 4,300 to 5,200 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 49 to 51 degrees F
Frost-free period: 110 to 130 days
Farmland classification: Not prime farmland

Map Unit Composition

Saralegui and similar soils: 45 percent
Isolde and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saralegui

Setting

Landform: Stream terraces, Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 2 inches: sand
H2 - 2 to 32 inches: sandy loam
H3 - 32 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 6c
Hydrologic Soil Group: A
Ecological site: R026XY020NV - SANDY 8-10 P.Z.
Hydric soil rating: No

Description of Isolde

Setting

Landform: Dunes
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits

Typical profile

H1 - 0 to 3 inches: fine sand
H2 - 3 to 60 inches: fine sand

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R027XY023NV - DUNES 4-8 P.Z.
Hydric soil rating: No

Minor Components

Ackley

Percent of map unit: 8 percent
Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Badland

Percent of map unit: 7 percent
Landform: Stream terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Appendix C

IPaC Report

Kimley»Horn

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To:
Project Code: 2026-0053547
Project Name: Fulcrum Site

02/23/2026 19:14:46 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

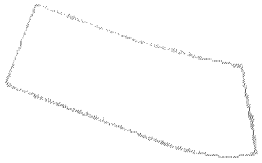
This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2026-0053547
Project Name: Fulcrum Site
Project Type: Power Gen - Other
Project Description: Species assessment
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.52422110000005,-119.48854388201577,14z



Counties: Storey County, Nevada

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME — STATUS

Northwestern Pond Turtle *Actinemys marmorata* — Proposed Threatened

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/1111

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/ZN5PDLDSGFEWXBMXHH4CAEI6IQ/documents/generated/11040.pdf

FISHES

NAME — STATUS

Cui-ui *Chasmistes cujus* — Endangered

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/456

INSECTS

NAME — STATUS

Monarch Butterfly *Danaus plexippus* — Proposed Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/9743

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/ZN5PDLDSGFEWXBMXHH4CAEI6IQ/documents/generated/11040.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [1] and the Migratory Bird Treaty Act (MBTA) [2]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [3] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Emily Rowe
Address:	11800 Ridge Pkwy
Address Line 2:	Suite 200
City:	Broomfield
State:	CO
Zip:	80021
Email	emily.rowe@kimley-horn.com
Phone:	7207228482

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To:
Project Code: 2026-0092663
Project Name: Fulcrum Natural Gas Plan

05/20/2026 16:15:16 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2026-0092663
Project Name: Fulcrum Natural Gas Plan
Project Type: Power Gen - Natural Gas
Project Description: The Project is a nominal 510-megawatt ("MW") natural gas-fired electrical generation facility and associated equipment on a 20-acre site which was the previous site of the former Sierra Biofuels Refinery. The Sierra Biofuels Refinery has been decommissioned, and all major equipment is in the process of being removed. The entire Project will be located within the boundaries of the previously disturbed site.

Project Location:

The approximate location of the project can be viewed in Google Maps: https: www.google.com maps/@39.5147338,-119.45325193305092,14z



Counties: Storey County, Nevada

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME — STATUS

Northwestern Pond Turtle *Actinemys marmorata* — Proposed Threatened

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/1...

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/45...documents/generated/11040.pdf

FISHES

NAME — STATUS

Cui-ui *Chasmistes cujus* — Endangered

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/456

Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi* — Threatened

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/3954

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/45...documents/generated/11040.pdf

INSECTS

NAME — STATUS

Monarch Butterfly *Danaus plexippus* — Proposed Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/9743

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/45...documents/generated/11040.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [1] and the Migratory Bird Treaty Act (MBTA) [2]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information

on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

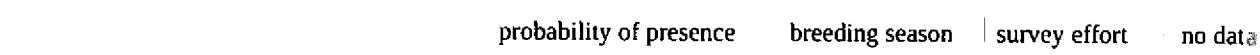
Probability of Presence ( )

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season ( )
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort ( )
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ( )
A week is marked as having no data if there were no survey events for that week.



SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable												
Golden Eagle Non-BCC Vulnerable												

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Avocet *Recurvirostra americana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11927	Breeds Apr 21 to Aug 10

NAME	BREEDING SEASON
American White Pelican *pelecanus erythrorhynchos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Forster's Tern *Sterna forsteri* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11953	Breeds Mar 1 to Aug 15
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15

NAME	BREEDING SEASON
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Rufous Hummingbird *Selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Sage Thrasher *Oreoscoptes montanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9433	Breeds Apr 15 to Aug 10
Western Grebe *Aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season ( )
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

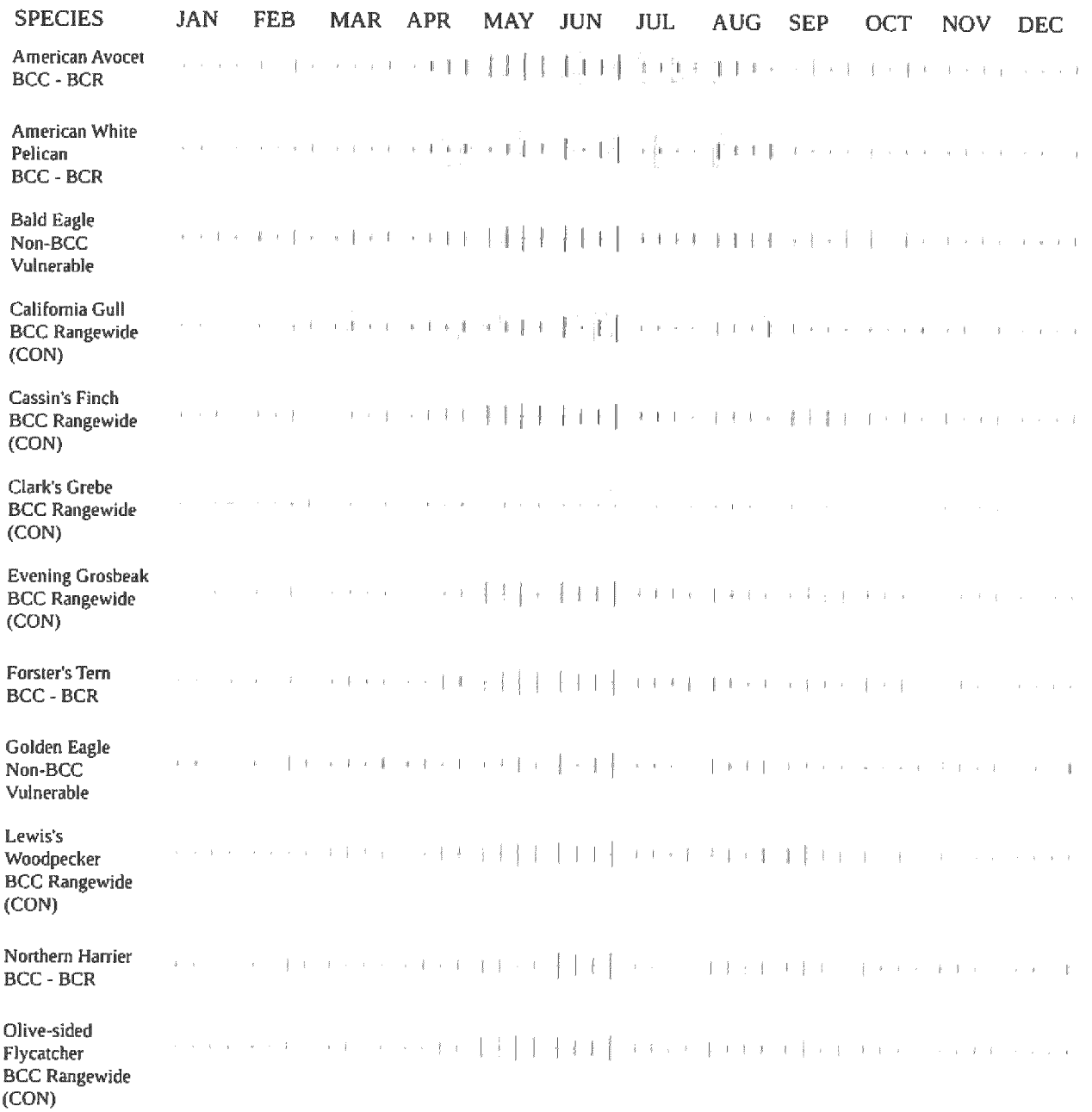
Survey Effort ( )

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ( )
A week is marked as having no data if there were no survey events for that week.

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probability of presence breeding season survey effort no data



SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Pinyon Jay BCC Rangewide (CON)												
Rufous Hummingbird BCC Rangewide (CON)												
Sage Thrasher BCC - BCR												
Western Grebe BCC Rangewide (CON)												
Willet BCC Rangewide (CON)												

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov program eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov library collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https: www.fws.gov media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Makena Bohannon
Address: 555 Capital Mall, Suite 300
City: Sacramento
State: CA
Zip: 95814
Email makena.bohannon@kimley-horn.com
Phone: 9168593621

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301

In Reply Refer To:
Project Code: 2026-0053550
Project Name: Naniwa Site

02/23/2026 19:17:30 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

PROJECT SUMMARY

Project Code: 2026-0053550
Project Name: Naniwa Site
Project Type: Power Gen - Other
Project Description: Species assessment
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.55594725,-119.51546883541057,14z



Counties: Storey County, Nevada

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

REPTILES

NAME — STATUS

Northwestern Pond Turtle *Actinemys marmorata* — Proposed Threatened

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/1111

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/4GKZ3UCXBF4ZEQPBNSRTILZRM/documents/generated/11040.pdf

FISHES

NAME — STATUS

Cui-ui *Chasmistes cujus* — Endangered

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/456

Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi* — Threatened

No critical habitat has been designated for this species.

Species profile: https://ecos.fws.gov/ecp/species/3964

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/4GKZ3UCXBF4ZEQPBNSRTILZRM/documents/generated/11040.pdf

INSECTS

NAME — STATUS

Monarch Butterfly *Danaus plexippus* — Proposed Threatened

There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.

Species profile: https://ecos.fws.gov/ecp/species/9743

General project design guidelines:

https://ipac.ecosphere.fws.gov/project/4GKZ3UCXBF4ZEQPBNSRTILZRM/documents/generated/11040.pdf

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [1] and the Migratory Bird Treaty Act (MBTA) [2]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information

on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

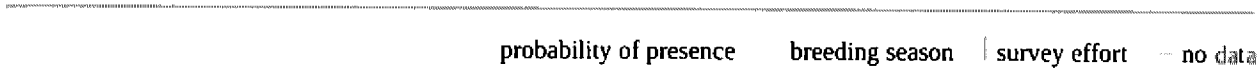
Probability of Presence ( )

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season ( )
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort ( )
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ( )
A week is marked as having no data if there were no survey events for that week.



SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Bald Eagle Non-BCC Vulnerable												
Golden Eagle Non-BCC Vulnerable												

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Avocet *Recurvirostra americana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11927	Breeds Apr 21 to Aug 10

NAME	BREEDING SEASON
American White Pelican *pelecanus erythrorhynchos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Sage Thrasher *Oreoscoptes montanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9433	Breeds Apr 15 to Aug 10
Western Grebe *Aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season ( )

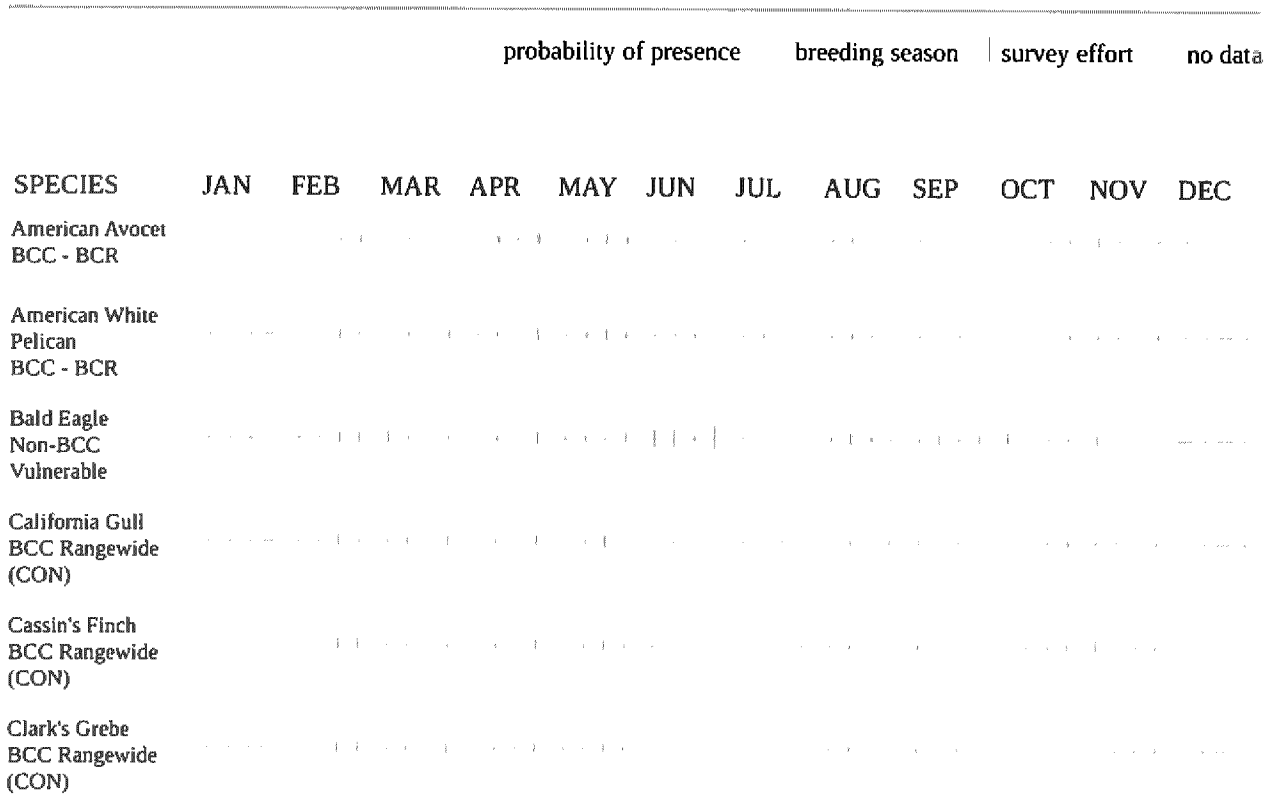
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort ( )

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ( )

A week is marked as having no data if there were no survey events for that week.



Golden Eagle
Non-BCC
Vulnerable

Lewis's
Woodpecker
BCC Rangewide
(CON)

Northern Harrier
BCC - BCR

Sage Thrasher
BCC - BCR

Western Grebe
BCC Rangewide
(CON)

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Emily Rowe
Address:	11800 Ridge Pkwy
Address Line 2:	Suite 200
City:	Broomfield
State:	CO
Zip:	80021
Email	emily.rowe@kimley-horn.com
Phone:	7207228482

Appendix D

NDNH Data Responses

Kimley»Horn

NEVADA
DIVISION OF
NATURAL HERITAGE

STATE OF NEVADA
Department of Conservation & Natural Resources
Joe Lombardo, Governor
James A. Settelmeyer, Director
James Bradshaw, Administrator

31 March 2026

Emily Rowe
Kimley-Horn and Associates
1300 Clay Street, Suite 900
Oakland, CA 94612

RE: Data request received 25 March 2026

Dear Ms. Rowe,

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at-risk plant and animal taxa recorded on or near the Fulcrum Natural Gas Generation Project Area in Storey County. We searched our database and maps around the shape file provided including a five-kilometer radius around:

Township 19N Range 22E Sections 10 and 11

There are no at-risk taxa recorded within the given area. However, habitat may be available for, the Golden Eagle, *Aquila chrysaetos*, a Nevada Bureau of Land Management Sensitive Species. The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact NDOW at (775) 688-1500, or NDOW data@ndow.org to obtain further information regarding wildlife resources within and near your area of interest. Removal or destruction of state protected flora species (NAC 527.010) requires a special permit from Nevada Division of Forestry (NRS 527.270).

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases, are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Aquatic Biologist/Data Manager

NEVADA
DIVISION OF
NATURAL HERITAGE

STATE OF NEVADA
Joe Lombardo, Governor
Vinson Guthreau, Director
Jamey McClinton, Administrator
901 S. Stewart Street, Suite 5003
Carson City, Nevada 89701
(775) 684-2900 • heritage.nv.gov

A Division of the Nevada Department of Conservation & Natural Resources

11 May 2026

Cate Medlock
Kimley-Horn & Associates
1300 Clay St., suite 900
Oakland, CA 94612

RE: Data request received 08 May 2026

Dear Cate,

Please find a shapefile set containing the recorded endangered, threatened, candidate, and At-Risk Plant and Animal elements (taxa) recorded for the Fulcrum Natural Gas Generation Project (assumed to be extant, unless mentioned otherwise) in your project zone. This data set is packaged in GIS ArcGIS PRO Format (projected, UTM Zone 11, NAD 1983). The files contain a data set which represents the recorded element source feature occurrence records within Nevada and their associated attributes. Please refer to the Biotics Metadata (in the xml files included) for explanations and interpretations of each data set along with its respective attributes.

The file set with the "DS" in the file name contains Data Sensitive record occurrences with general locational data in the form of 10 km tessellation cells. This represents Data Sensitive occurrences, for which precise locations are considered sensitive. Precise data may be supplied upon request if sufficient need can be demonstrated, and confidentiality can be guaranteed.

The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact NDOW at (775) 688-1500, or NDOWdata@ndow.org to obtain further information regarding wildlife resources within and near your area of interest. Removal or destruction of state protected flora species (NAC 527.010) requires a special permit from Nevada Division of Forestry (NRS 527.270).

Please note that your use of these data is contingent upon your acknowledgment of the enclosed DATA LIMITATIONS AND RESTRICTIONS (revised 10 March 2026). In particular, please be aware that we furnish data with the understanding that these data are privileged and are not to be provided to a third party without our consent. Products derived from our data should cite the Nevada Division of Natural Heritage as a source, along with the month and year in which we provided the data.

Many of our documents, including species lists and keys to our symbols, can be found on our website https://heritage.nv.gov. Please visit our website to learn more about our program and the sensitive species of Nevada.

Sincerely,

Eric S. Miskow
Aquatic Biologist/Data Manager

NEVADA
DIVISION OF
NATURAL HERITAGE

STATE OF NEVADA
Joe Lombardo, Governor
Vinson Guthreau, Director
Jamey McClinton, Administrator
901 S. Stewart Street, Suite 5002
Carson City, Nevada 89701
(775) 684-2900 • heritage.nv.gov

A Division of the Nevada Department of Conservation & Natural Resources

4 June 2026

Cate Medlock
Kimley-Horn & Associates
1300 Clay St., suite 900
Oakland, CA 94612

RE: Data request received 04 June 2026

Dear Cate,

Please find a shapefile set containing the recorded endangered, threatened, candidate, and At-Risk Plant and Animal elements (taxa) recorded for the Fulcrum Natural Gas Generation Project (assumed to be extant, unless mentioned otherwise) in your project zone. This data set is packaged in GIS ArcGIS PRO Format (projected, UTM Zone 11, NAD 1983). The files contain a data set which represents the recorded element source feature occurrence records within Nevada and their associated attributes. Please refer to the Biotics Metadata (in the xml files included) for explanations and interpretations of each data set along with its respective attributes.

The file set with the "DS" in the file name contains Data Sensitive record occurrences with general locational data in the form of 10 km tessellation cells. This represents Data Sensitive occurrences, for which precise locations are considered sensitive. Precise data may be supplied upon request if sufficient need can be demonstrated, and confidentiality can be guaranteed.

The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact NDOW at (775) 688-1500, or NDOWdata@ndow.org to obtain further information regarding wildlife resources within and near your area of interest. Removal or destruction of state protected flora species (NAC 527.010) requires a special permit from Nevada Division of Forestry (NRS 527.270).

Please note that your use of these data is contingent upon your acknowledgment of the enclosed DATA LIMITATIONS AND RESTRICTIONS (revised 10 March 2026). In particular, please be aware that we furnish data with the understanding that these data are privileged and are not to be provided to a third party without our consent. Products derived from our data should cite the Nevada Division of Natural Heritage as a source, along with the month and year in which we provided the data.

Many of our documents, including species lists and keys to our symbols, can be found on our website http://heritage.nv.gov. Please visit our website to learn more about our program and the sensitive species of Nevada.

Sincerely,

Eric S. Miskow
Aquatic Biologist/Data Manager

Appendix E

NDOW Data Responses

Kimley»Horn

DEPARTMENT OF WILDLIFE
[illegible]
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1595

March 25, 2026

Emily Rowe
Environmental Science Analyst
Kimley Horn and Associates
11800 Ridge Pkwy, Ste 200
Broomfield, Colorado 80021

Re: Fulcrum Natural Gas Generation Project Standard Data Request

Dear Emily Rowe,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Project located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on March 24, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer distribution exists within the project area and surrounding 4-mile buffer area. Occupied bighorn sheep distribution only exists within the 4-mile buffer area surrounding the project area and is not present within the project area. No known occupied elk or pronghorn antelope distributions exist within the project area or surrounding 4-mile buffer area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat within the project area or surrounding 4-mile buffer area has been classified as other and general habitat by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). As stipulated by Nevada State Regulation NAC 232.400 – 232.480, direct and indirect impacts to greater sage-grouse habitat must be mitigated using the Nevada Conservation Credit System. Please start this process by visiting sagebrusheco.nv.gov to contact the NV Sagebrush Ecosystem Technical Team. There are no recorded tracking locations

generated by radio-marked birds within the project area or surrounding 4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

There are no recorded raptor sightings within the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 31 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

The proposed project area may also be in the vicinity of abandoned mine workings, which often provide habitat for state and federally protected wildlife, especially bat species, many of which are protected under NAC 503.030. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http://minerals.state.nv.us/).

The information provided is based on data stored at our Reno Headquarters Office and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our regional offices to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of

appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

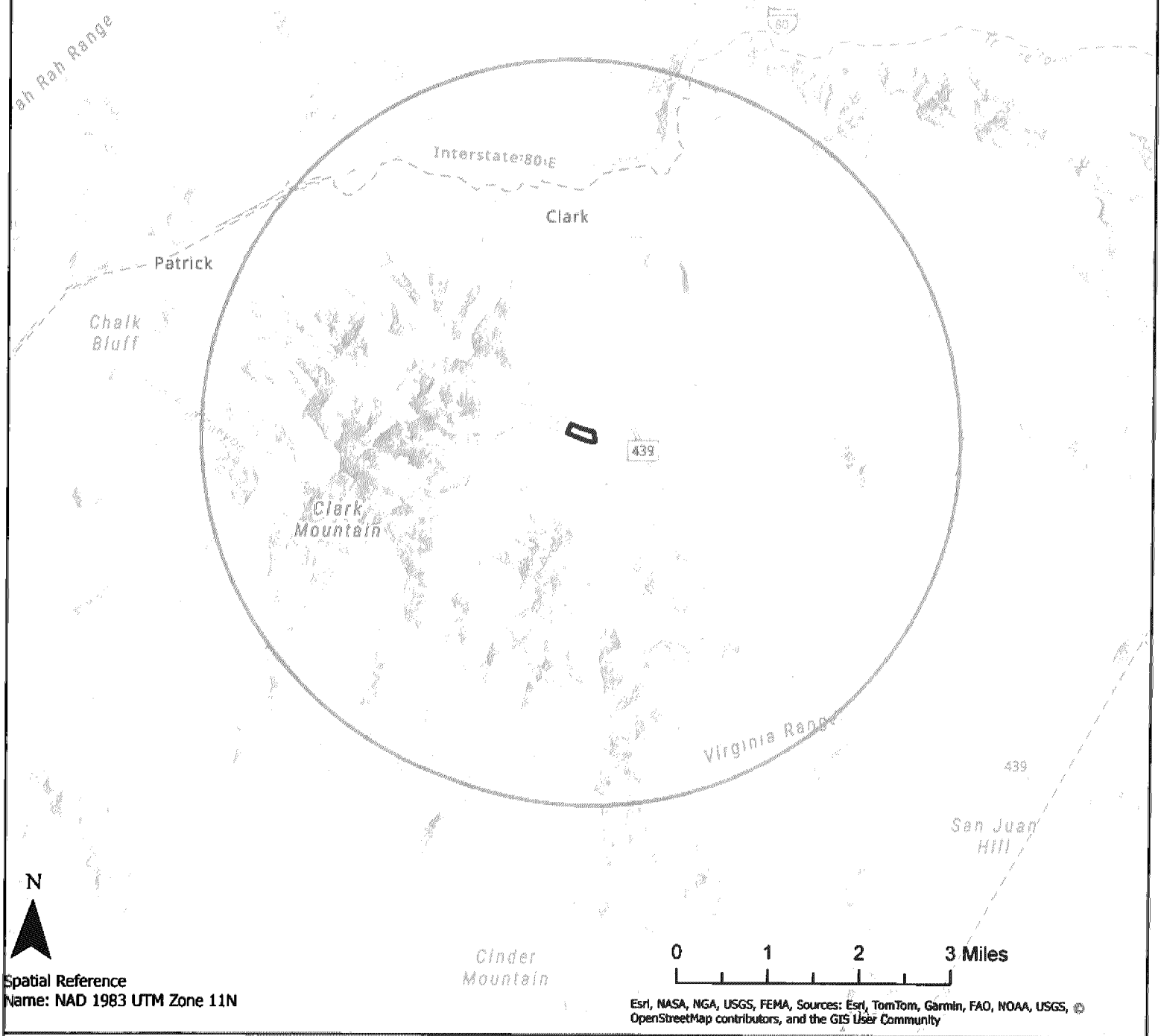
Federally listed Threatened and Endangered species are under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis, please do not hesitate to contact us as (775) 688-1500 or via email at NDOWdata@ndow.org.

Appendix A: Raptor Nest Table

Type	Probable Origin	Occupied Species	Township, Range, and Section	Last Visit	Status
stick nest	buteo/corvid	None	21 0200N 0220E 025	2014	Unoccupied
stick nest	buteo/corvid	None		2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 028	2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	buteo/corvid	None	21 0190N 0240E 008	2014	Unoccupied
stick nest	buteo/corvid	None	21 0190N 0240E 007	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 019	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle	None	21 0190N 0240E 017	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0220E 023	2014	Unoccupied
stick nest	eagle/buteo	None		2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0230E 036	2014	Unoccupied
stick nest	eagle/buteo	None	21 0190N 0240E 018	2014	Unoccupied
stick nest	eagle	golden eagle	21 0190N 0220E 022	2011	Occupied
None	eagle	golden eagle	21 0190N 0220E 005	2011	Occupied
stick nest	buteo/corvid	common raven	21 0180N 0220E 026	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 023	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 011	2011	Occupied
stick nest	eagle	golden eagle	21 0180N 0220E 033	2011	Occupied
None	eagle	golden eagle	21 0200N 0230E 020	2011	Unoccupied
scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 025	1976	Occupied

scrape	falcon	prairie falcon	21 0190N 0210E 035	1975	Occupied



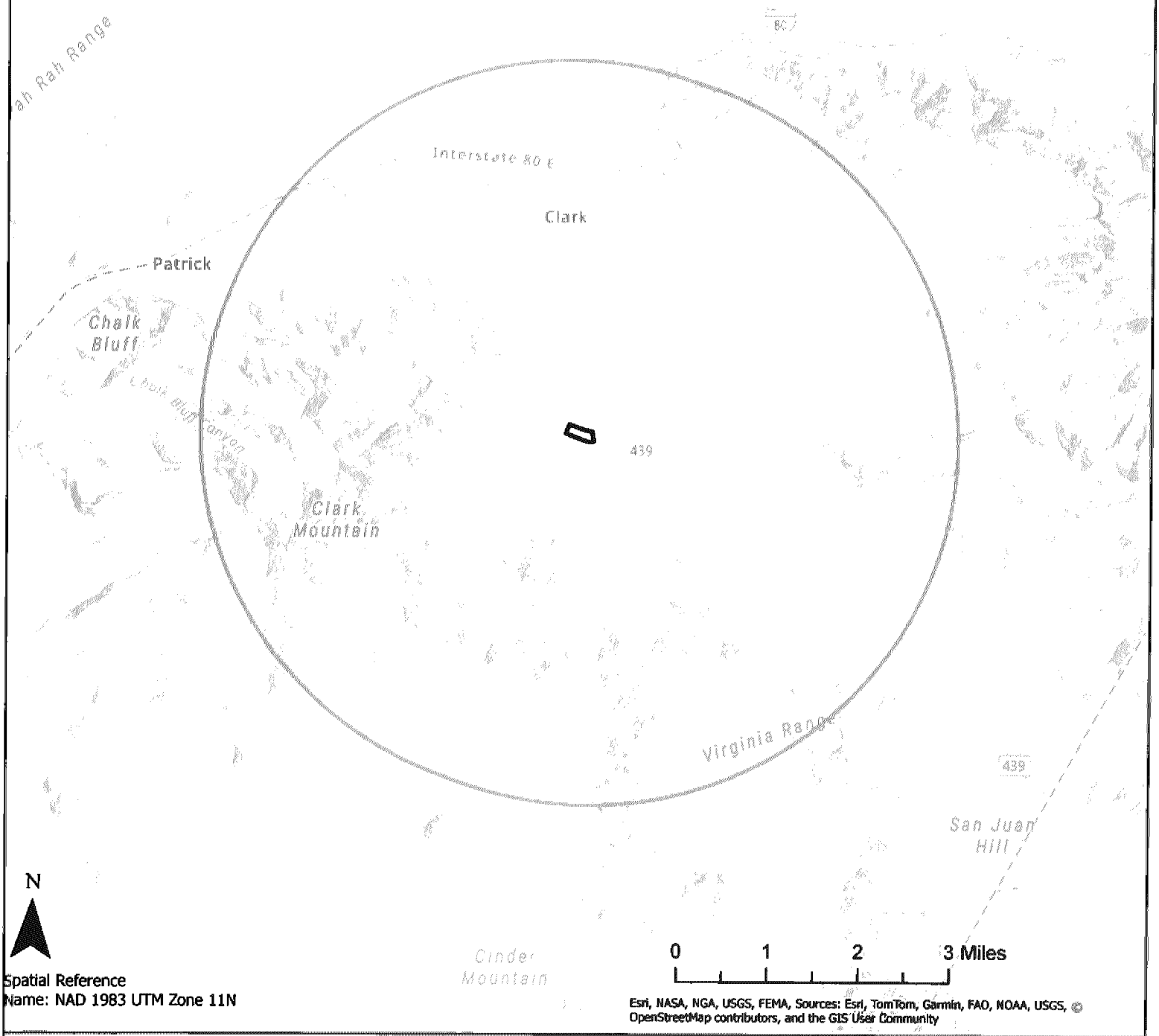
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

March 25, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



Spatial Reference
Name: NAD 1983 UTM Zone 11N

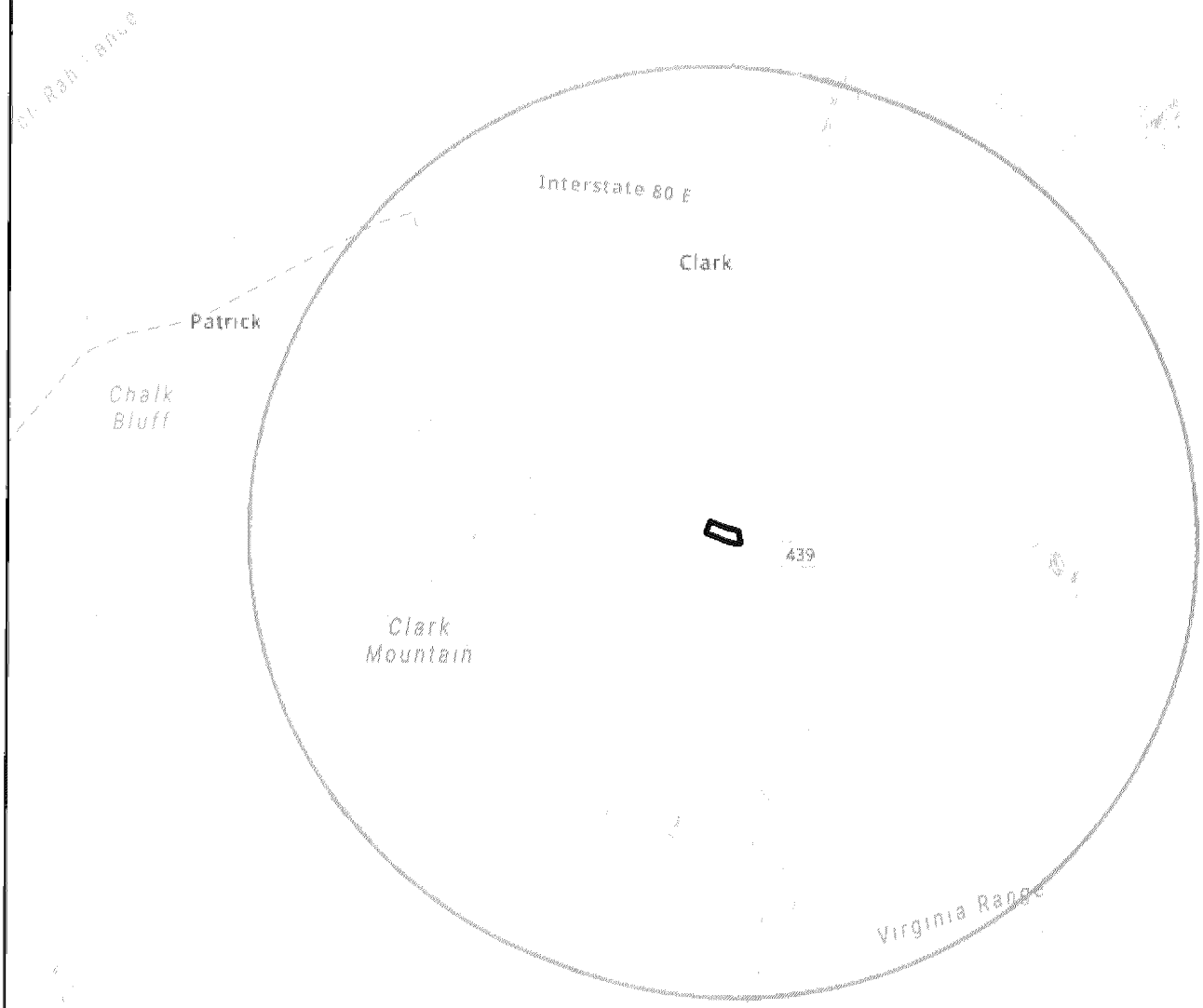
Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

March 25, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1 2 3 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

- Priority Habitat
- General Habitat
- Other Habitat
- Bi-State Habitat
- Project Area 4-mile Buffer
- Project Area

Greater Sage-Grouse Habitat near the Fulcrum Natural Gas Generation

March 25, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

DEPARTMENT OF WILDLIFE
[illegible]

May 12, 2026

Cate Medlock
Environmental Planner
Kimley-Horn and Associates
1300 Clay Street, Suite 900
Oakland, California 94612

Re: Fulcrum Natural Gas Generation Project Staging Area 1 Standard Data Request

Dear Cate Medlock,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Project Staging Area 1 located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on May 11, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer distribution exists within the project area and surrounding 4-mile buffer area. Occupied pronghorn antelope and bighorn sheep distributions only exist within the 4-mile buffer area surrounding the project area and are not present within the project area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat within the project area or surrounding 4-mile buffer area has been classified as other, general, and priority habitat by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). As stipulated by Nevada State Regulation NAC 232.400 – 232.480, direct and indirect impacts to greater sage-grouse habitat must be mitigated using the Nevada Conservation Credit System. Please start this process by visiting sagebrusheco.nv.gov to contact the NV Sagebrush Ecosystem Technical Team. There are no recorded tracking locations generated by radio-marked birds within the project area or surrounding

4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

The following raptor species have been directly observed within the project area.

Raptor Species Common Name		
Golden eagle		

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 22 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Type	**Probable Origin**	**Occupied Species**	**Township, Range, and Section**	**Last Visit**	**Status**
stick nest	buteo/corvid	None	21 0200N 0220E 025	2014	Unoccupied
stick nest	buteo/corvid	None		2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 028	2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 019	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0220E 023	2014	Unoccupied
stick nest	eagle/buteo	None		2014	Unoccupied
stick nest	eagle	golden eagle	21 0190N 0220E 022	2011	Occupied
None	eagle	golden eagle	21 0190N 0220E 005	2011	Occupied
stick nest	eagle	golden eagle	21 0210N 0220E 022	2011	Occupied

stick nest	buteo	red-tailed hawk	21 0180N 0220E 011	2011	Occupied
None	eagle	golden eagle	21 0200N 0230E 020	2011	Unoccupied
scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
stick nest	eagle	golden eagle	21 0190N 0200E 013	1979	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
scrape	falcon	prairie falcon	21 0190N 0210E 035	1975	Occupied

Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

The following wildlife species have been observed directly within the project area.

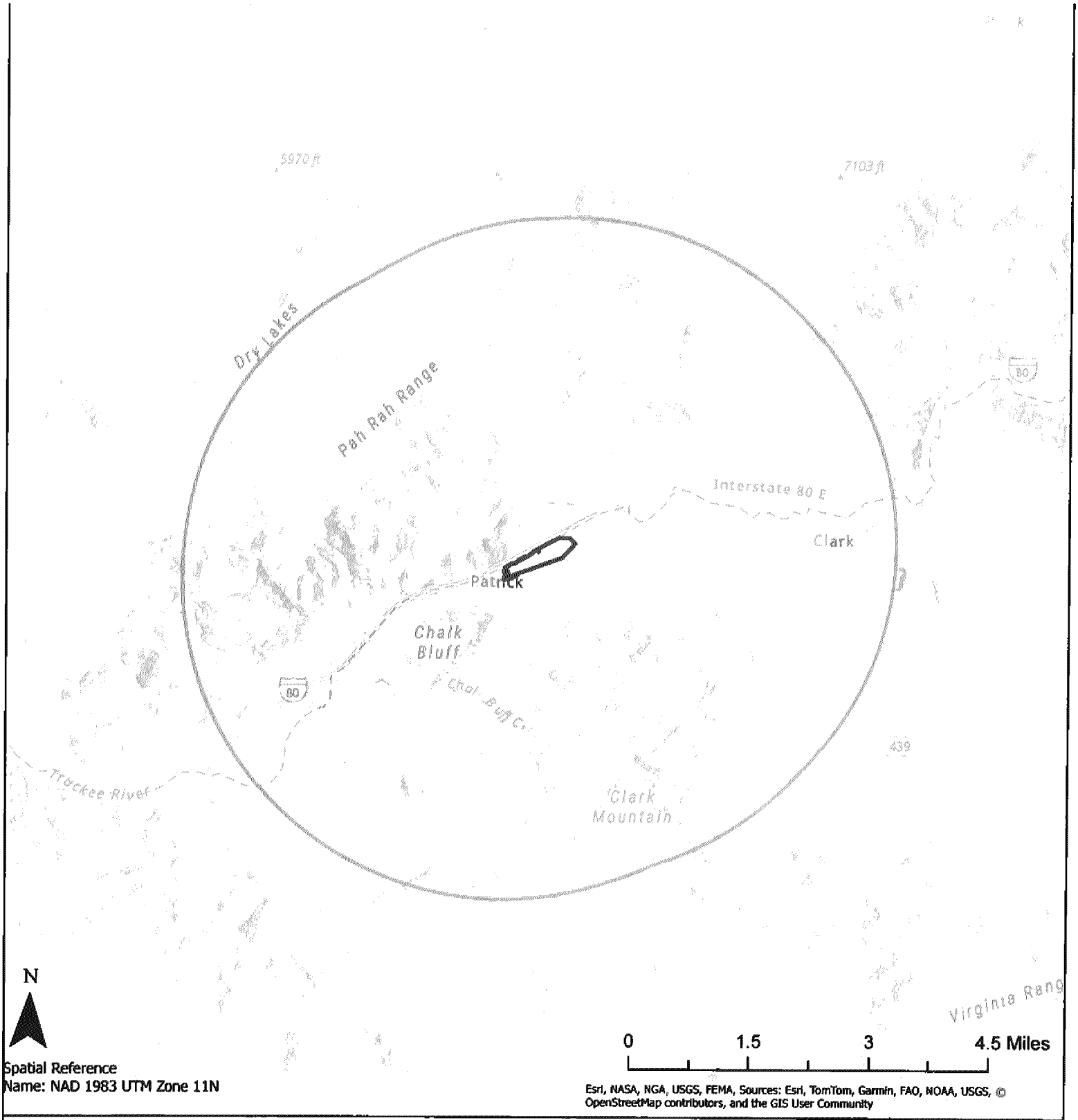
Common Name	**ESA**	**State**	**SWAP SoCP**
Golden eagle		Protected	Yes

The proposed project area may also be in the vicinity of abandoned mine workings, which often provide habitat for state and federally protected wildlife, especially bat species, many of which are protected under NAC 503.030. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http://minerals.state.nv.us).

The information provided is based on data stored at our Reno Headquarters Office and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our regional offices to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

Federally listed Threatened and Endangered species are under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis, please do not hesitate to contact us as (775) 688-1500 or via email at NDOWdata@ndow.org.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1.5 3 4.5 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

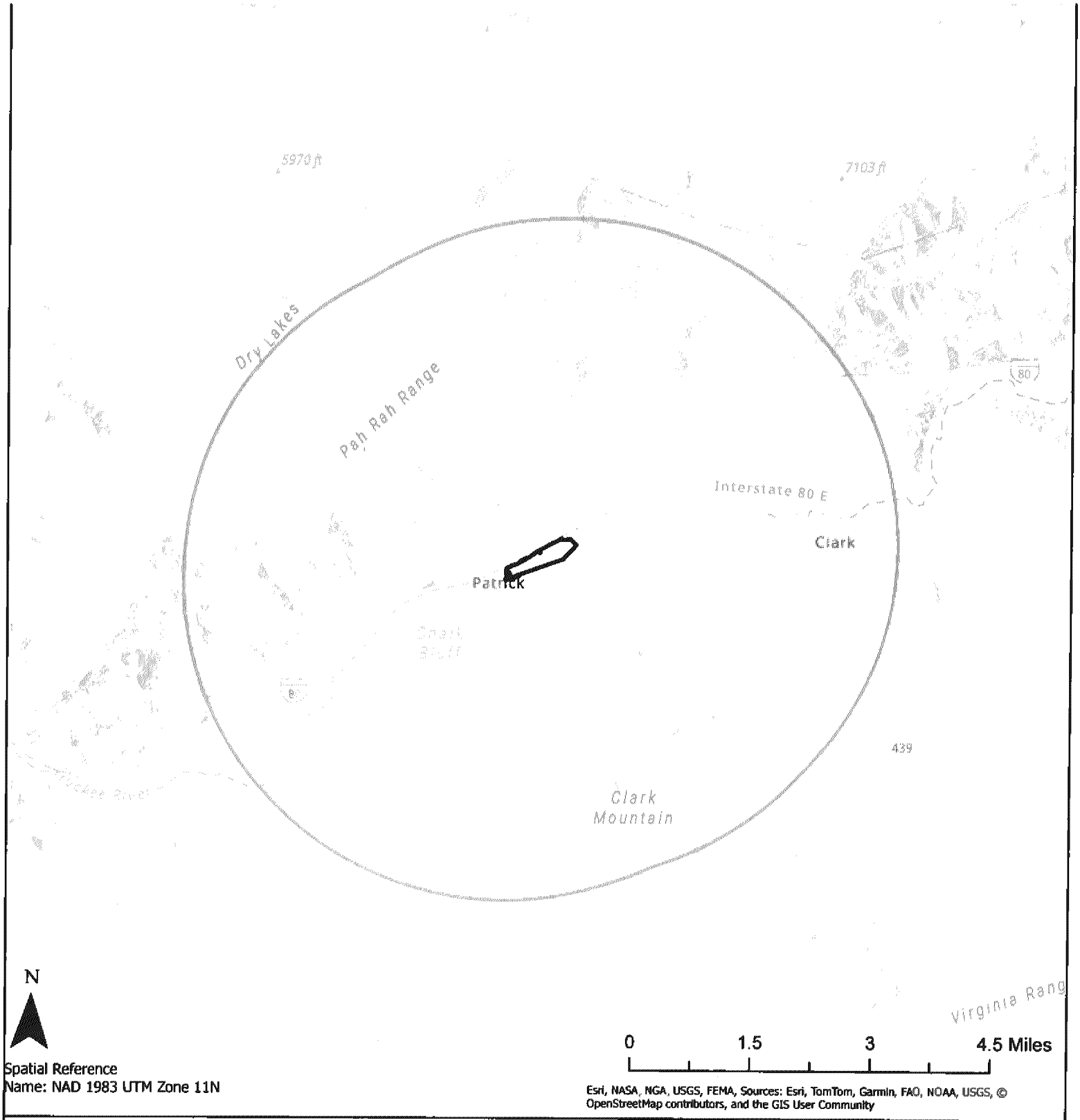
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1.5 3 4.5 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

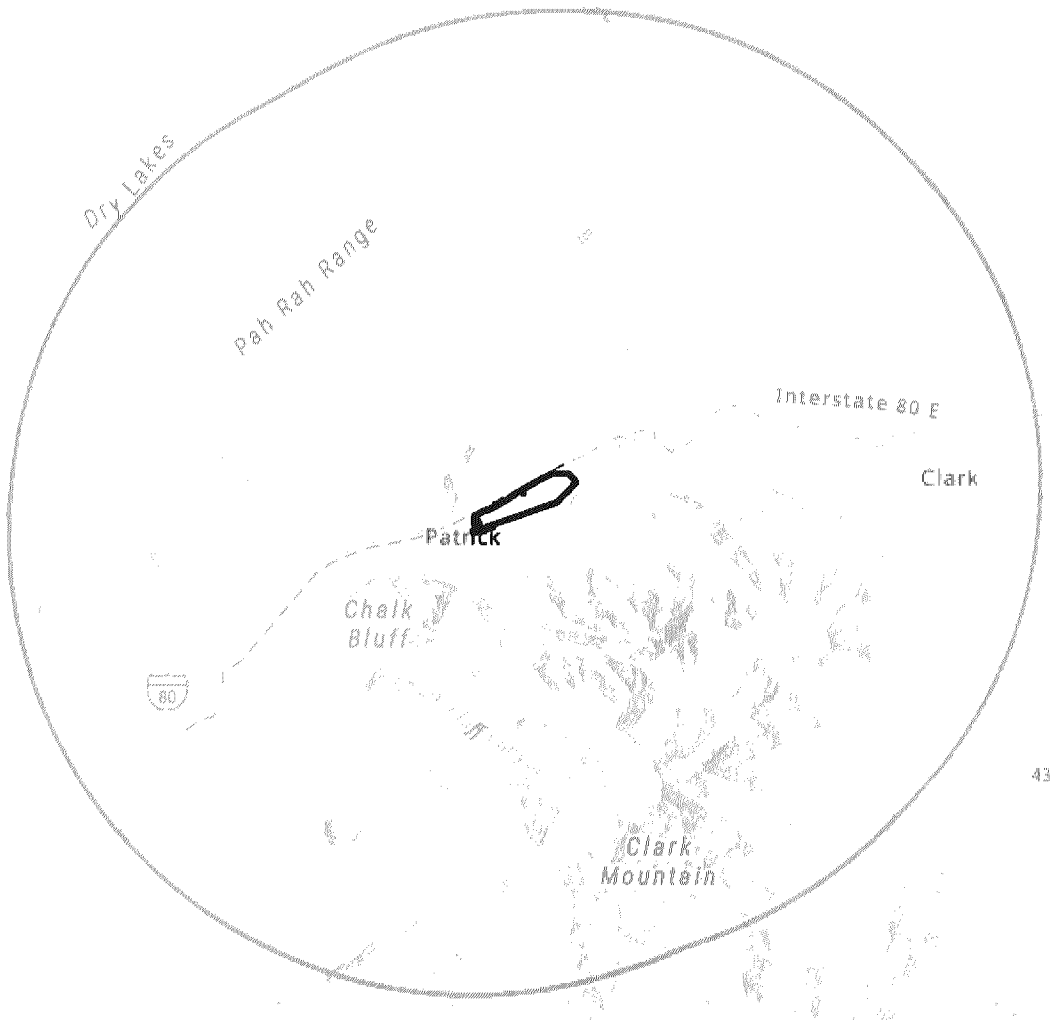
Legend

- Pronghorn Antelope Distribution
- Project Area 4-mile Buffer
- Project Area

Pronghorn Antelope Distribution near the Fulcrum Natural Gas

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1.5 3 4.5 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

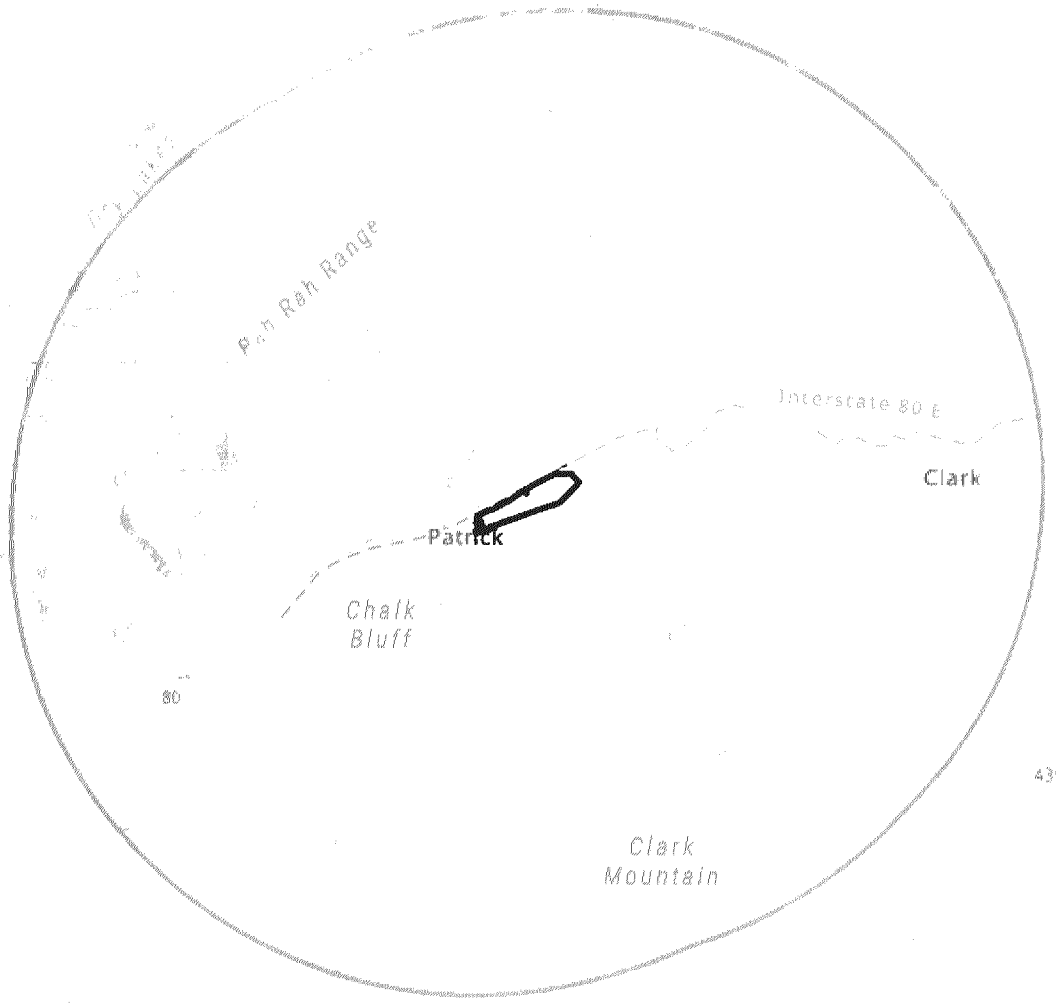
Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1.5 3 4.5 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

- Priority Habitat
- General Habitat
- Other Habitat
- Bi-State Habitat
- Project Area 4-mile Buffer
- Project Area

Greater Sage-Grouse Habitat near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

DEPARTMENT OF WILDLIFE
6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1595

May 12, 2026

Cate Medlock
Environmental Planner
Kimley-Horn and Associates
1300 Clay Street, Suite 900
Oakland, California 94612

Re: Fulcrum Natural Gas Generation Project Staging Area 2 Standard Data Request

Dear Cate Medlock,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Project Staging Area 2 located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on May 11, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer and bighorn sheep distributions exist within the project area and surrounding 4-mile buffer area. No known occupied elk or pronghorn antelope distributions exist within the project area or surrounding 4-mile buffer area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – There is no known greater sage-grouse habitat within the project area or surrounding 4-mile buffer as classified by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). There are no recorded tracking locations generated by radio-marked birds within the project area or surrounding 4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, golden eagle, great horned owl, long-eared owl, merlin,

northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

There are no recorded raptor sightings within the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 34 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

The proposed project area may also be in the vicinity of abandoned mine workings, which often provide habitat for state and federally protected wildlife, especially bat species, many of which are protected under NAC 503.030. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http: minerals.state.nv.us).

The information provided is based on data stored at our Reno Headquarters Office and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our regional offices to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

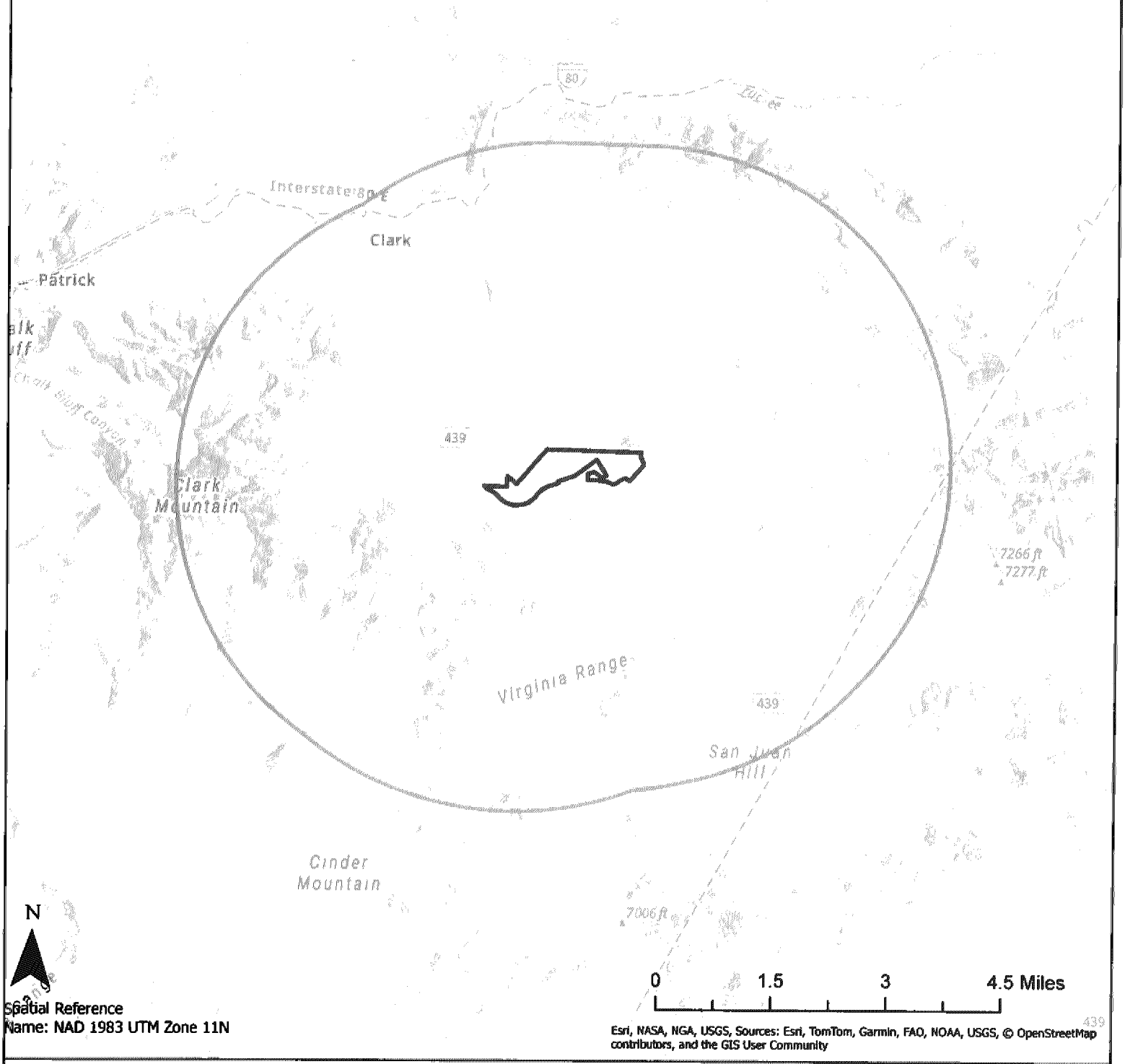
Federally listed Threatened and Endangered species are under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis, please do not hesitate to contact us as (775) 688-1500 or via email at NDOWdata@ndow.org.

Appendix A: Raptor Nest Table

Type	Probable Origin	Occupied Species	Township, Range, and Section	Last Visit	Status
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stick nest	buteo/corvid	None		2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 028	2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	buteo/corvid	None	21 0190N 0240E 008	2014	Unoccupied
stick nest	buteo/corvid	None	21 0190N 0240E 007	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 019	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle	None	21 0190N 0240E 017	2014	Unoccupied
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stick nest	eagle/buteo	None	21 0200N 0230E 036	2014	Unoccupied
stick nest	eagle/buteo	None	21 0190N 0240E 018	2014	Unoccupied
stick nest	eagle	golden eagle	21 0190N 0220E 022	2011	Occupied
None	eagle	golden eagle	21 0190N 0220E 005	2011	Occupied
stick nest	buteo/corvid	common raven	21 0180N 0220E 026	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 023	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 011	2011	Occupied
stick nest	eagle	golden eagle	21 0180N 0220E 033	2011	Occupied
None	eagle	golden eagle	21 0200N 0230E 020	2011	Unoccupied
stick nest	eagle/buteo	red-tailed hawk	21 0180N 0230E 033	2011	Unoccupied
scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
stick nest	eagle	None	21 0190N 0240E 034	1977	Unoccupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied

None	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 025	1976	Occupied
scrape	falcon	prairie falcon	21 0190N 0210E 035	1975	Occupied



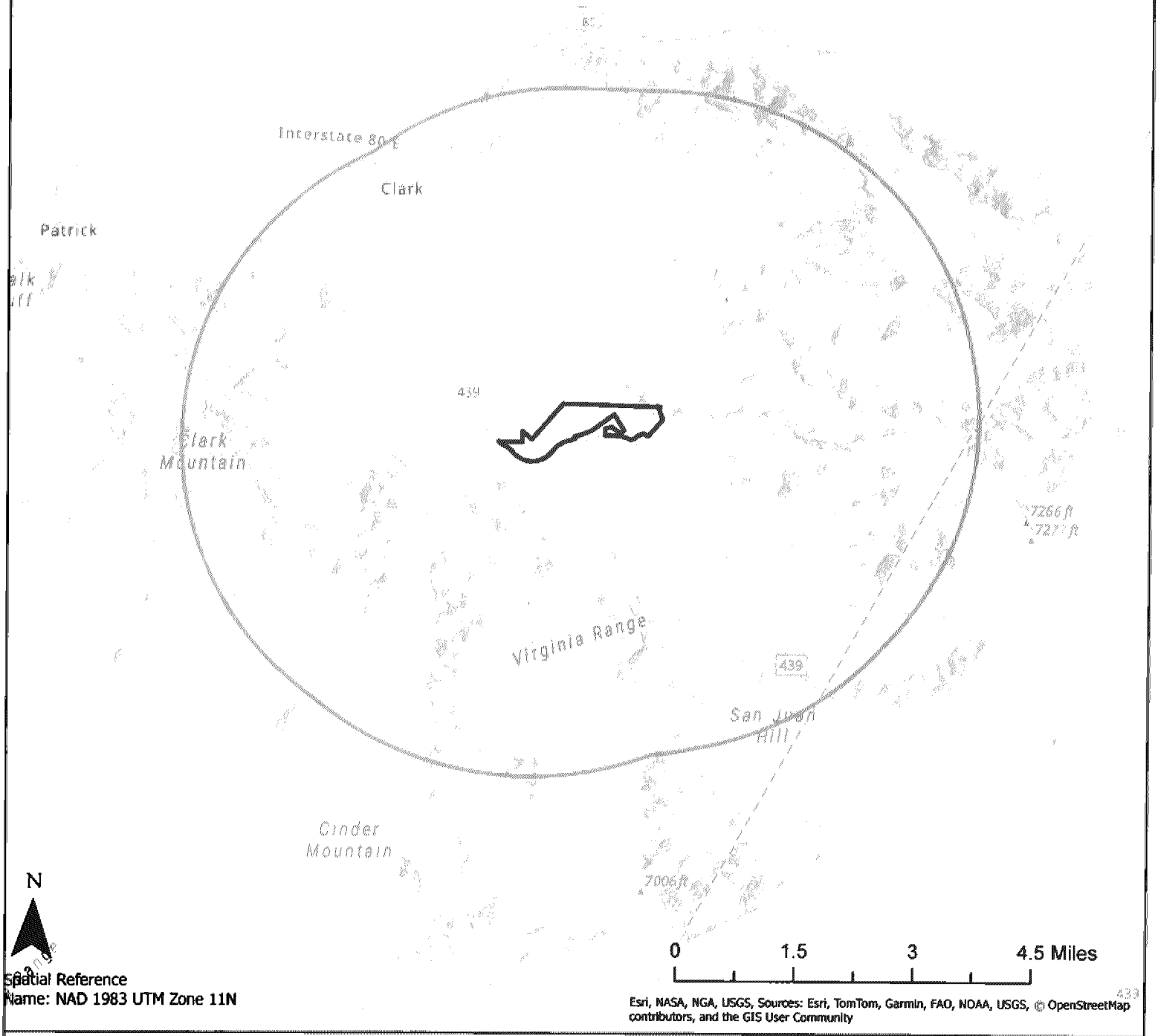
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

DEPARTMENT OF WILDLIFE
6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone: 775-688-1500 • Fax: 775-688-1595

May 12, 2026

Cate Medlock
Environmental Planner
Kimley-Horn and Associates
1300 Clay Street, Suite 900
Oakland, California 94612

Re: Fulcrum Natural Gas Generation Project Staging Area 3 Standard Data Request

Dear Cate Medlock,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Project Staging Area 3 located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on May 11, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer distribution exists within the project area and surrounding 4-mile buffer area. Occupied pronghorn antelope and bighorn sheep distributions only exist within the 4-mile buffer area surrounding the project area and are not present within the project area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat within the project area or surrounding 4-mile buffer area has been classified as other and general habitat by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). As stipulated by Nevada State Regulation NAC 232.400 – 232.480, direct and indirect impacts to greater sage-grouse habitat must be mitigated using the Nevada Conservation Credit System. Please start this process by visiting sagebrusheco.nv.gov to contact the NV Sagebrush Ecosystem Technical Team. There are no recorded tracking locations generated by radio-marked birds within the project area or surrounding 4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

There are no recorded raptor sightings within the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 32 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

The proposed project area may also be in the vicinity of abandoned mine workings, which often provide habitat for state and federally protected wildlife, especially bat species, many of which are protected under NAC 503.030. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http://minerals.state.nv.us).

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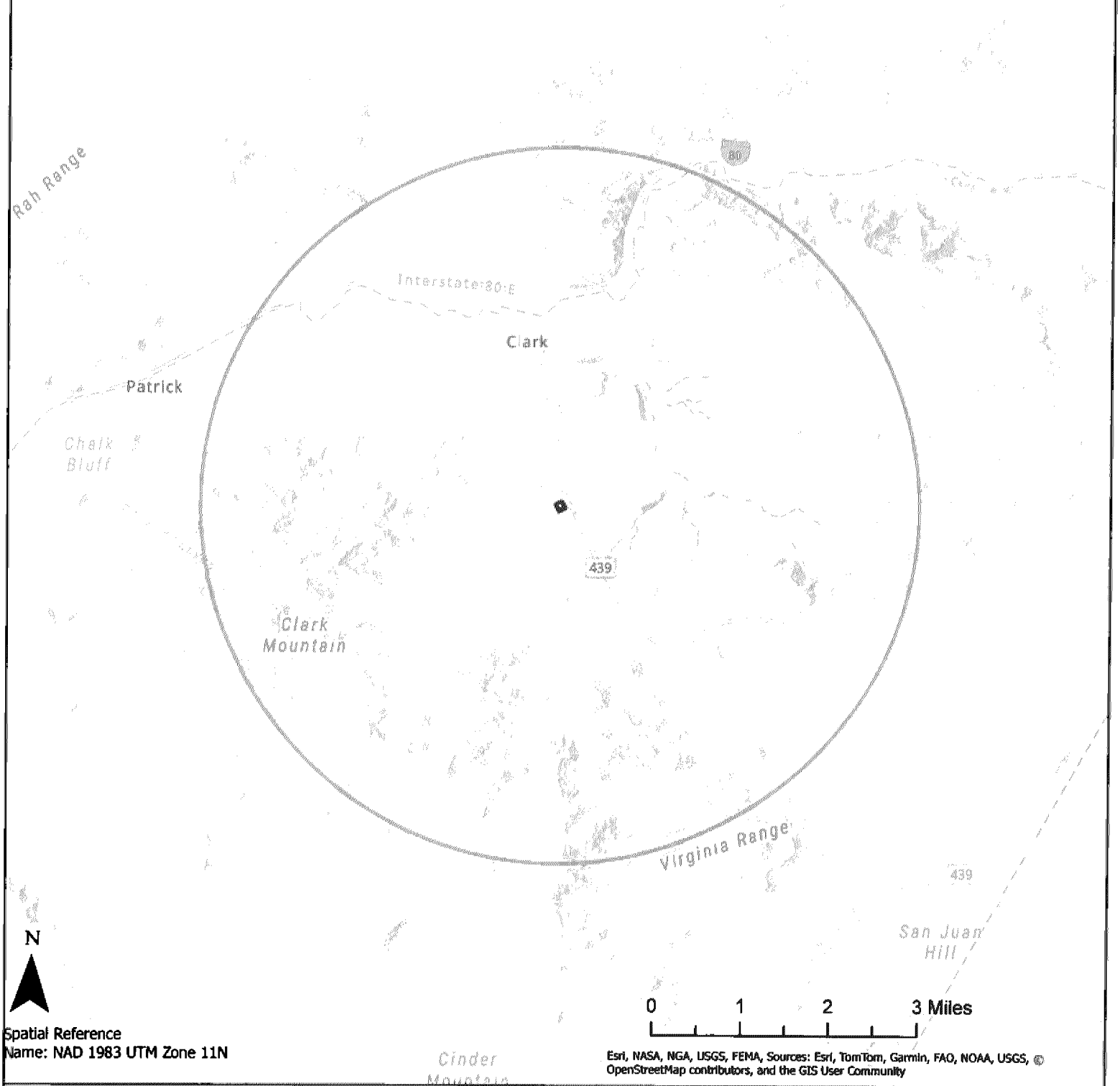
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stick nest	buteo/corvid	None	21 0190N 0240E 008	2014	Unoccupied
stick nest	buteo/corvid	None	21 0190N 0240E 007	2014	Unoccupied
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stick nest	eagle	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle	None	21 0190N 0240E 017	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0220E 023	2014	Unoccupied
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stick nest	eagle/buteo	None	21 0200N 0230E 026	2014	Unoccupied
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stick nest	eagle/buteo	None	21 0190N 0240E 018	2014	Unoccupied
stick nest	eagle	golden eagle	21 0190N 0220E 022	2011	Occupied
None	eagle	golden eagle	21 0190N 0220E 005	2011	Occupied
stick nest	eagle	golden eagle	21 0210N 0220E 022	2011	Occupied
stick nest	buteo/corvid	common raven	21 0180N 0220E 026	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 023	2011	Occupied
stick nest	buteo	red-tailed hawk	21 0180N 0220E 011	2011	Occupied
stick nest	eagle	golden eagle	21 0180N 0220E 033	2011	Occupied
None	eagle	golden eagle	21 0200N 0230E 020	2011	Unoccupied
scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
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stick nest	eagle	golden eagle	21 0200N 0230E 025	1976	Occupied

scrape	falcon	prairie falcon	21 0190N 0210E 035	1975	Occupied



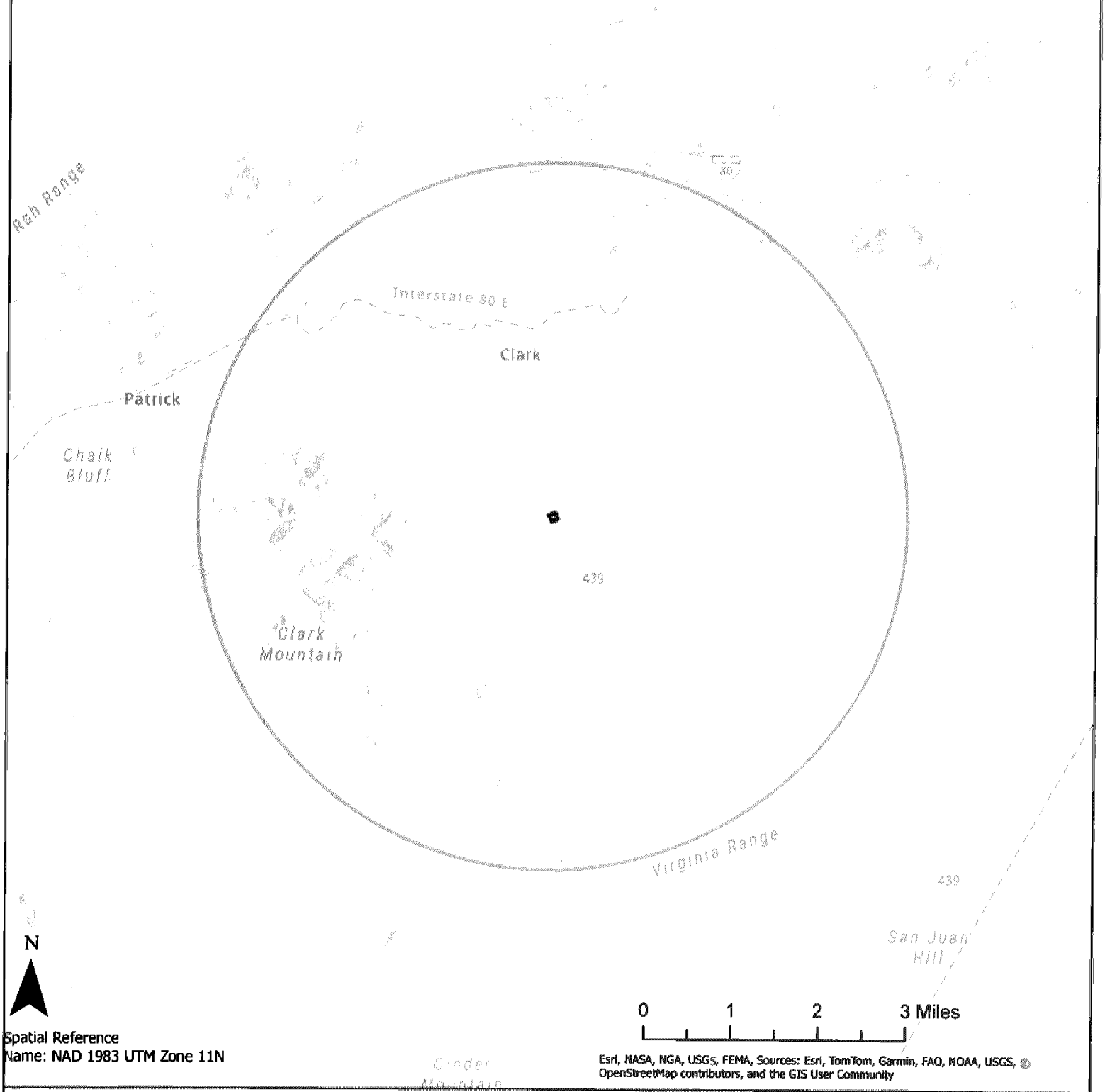
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



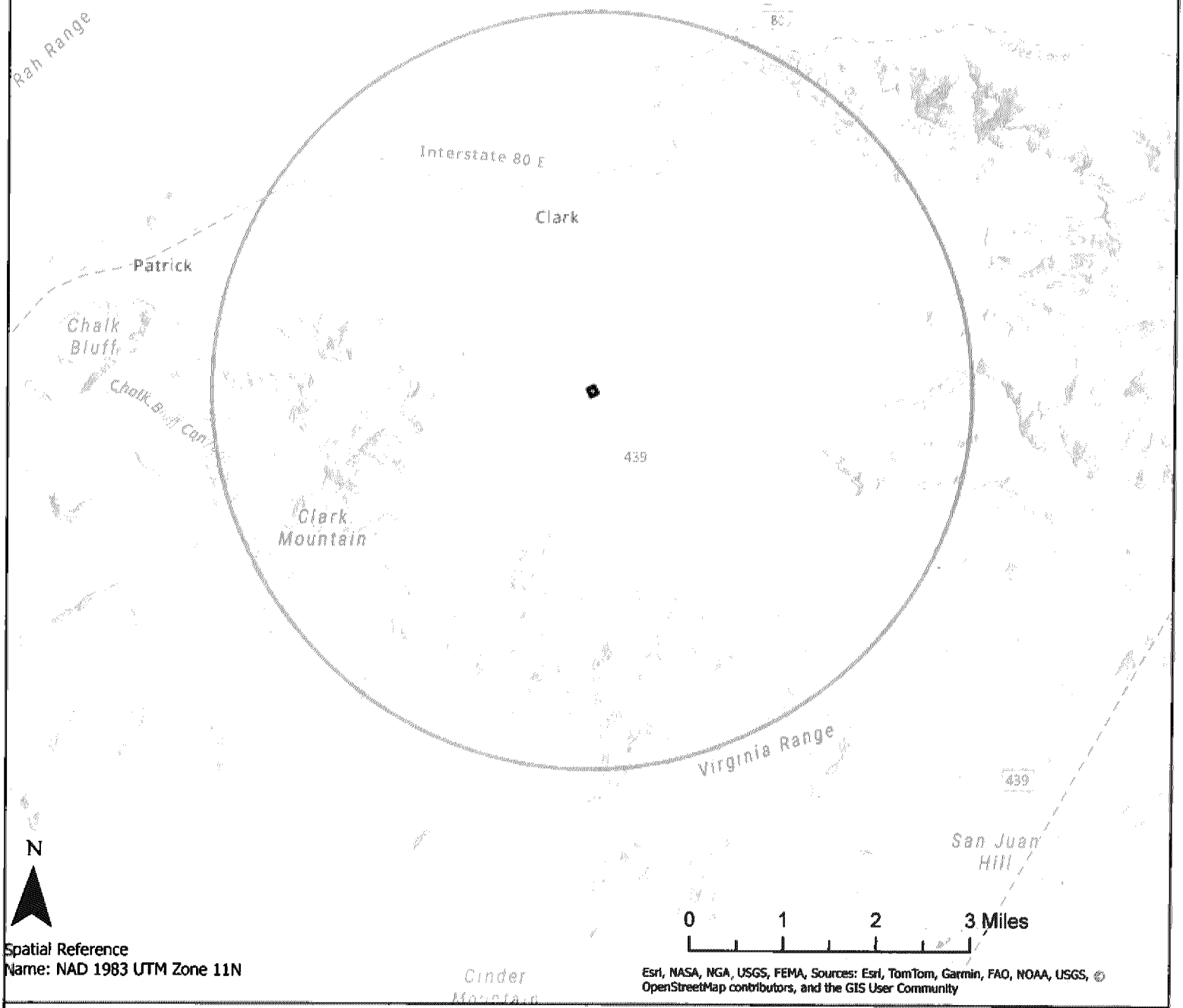
Legend

- Pronghorn Antelope Distribution
- Project Area 4-mile Buffer
- Project Area

Pronghorn Antelope Distribution near the Fulcrum Natural Gas

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



Spatial Reference
Name: NAD 1983 UTM Zone 11N

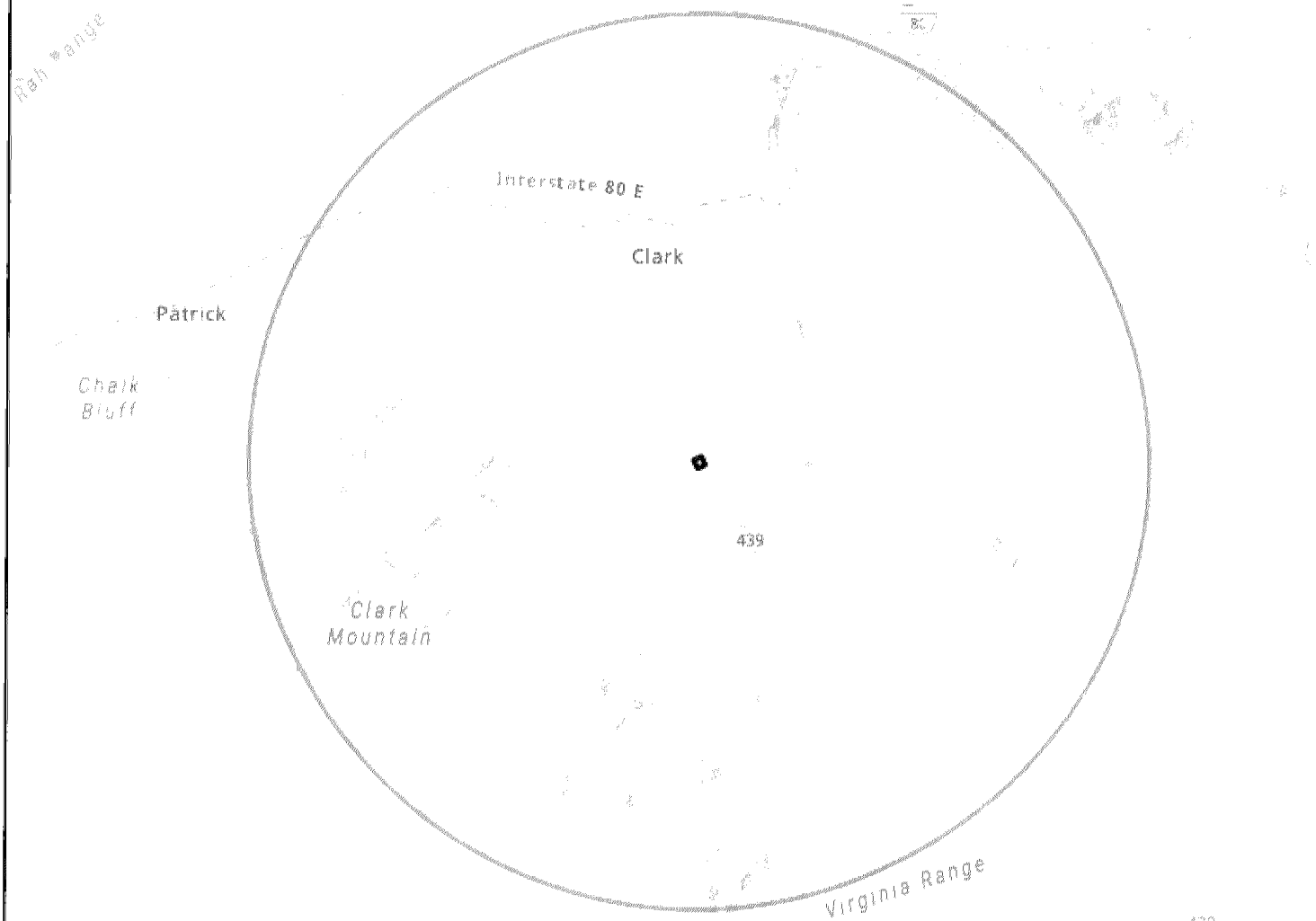
Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

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Spatial Reference
Name: NAD 1983 UTM Zone 11N

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

- Priority Habitat
- General Habitat
- Other Habitat
- Bi-State Habitat
- Project Area 4-mile Buffer
- Project Area

Greater Sage-Grouse Habitat near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

DEPARTMENT OF WILDLIFE
[illegible] Clear Parkway [illegible]
Reno, Nevada 89511
Phone: 775 [illegible] Fax: 775 688-1595

May 12, 2026

Cate Medlock
Environmental Planner
Kimley-Horn and Associates
1300 Clay Street, Suite 900
Oakland, California 94612

Re: Fulcrum Natural Gas Generation Plant Staging Area 4 and 5 Project Standard Data Request

Dear Cate Medlock,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Plant Staging Area 4 and 5 Project located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on May 11, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer distribution exists within the project area and surrounding 4-mile buffer area. Occupied pronghorn antelope and bighorn sheep distributions only exist within the 4-mile buffer area surrounding the project area and are not present within the project area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat within the project area or surrounding 4-mile buffer area has been classified as other, general, and priority habitat by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). As stipulated by Nevada State Regulation NAC 232.400 – 232.480, direct and indirect impacts to greater sage-grouse habitat must be mitigated using the Nevada Conservation Credit System. Please start this process by visiting sagebrusheco.nv.gov to contact the NV Sagebrush Ecosystem Technical Team. There are no recorded tracking locations generated by radio-marked birds within the project area or surrounding

4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

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Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 31 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

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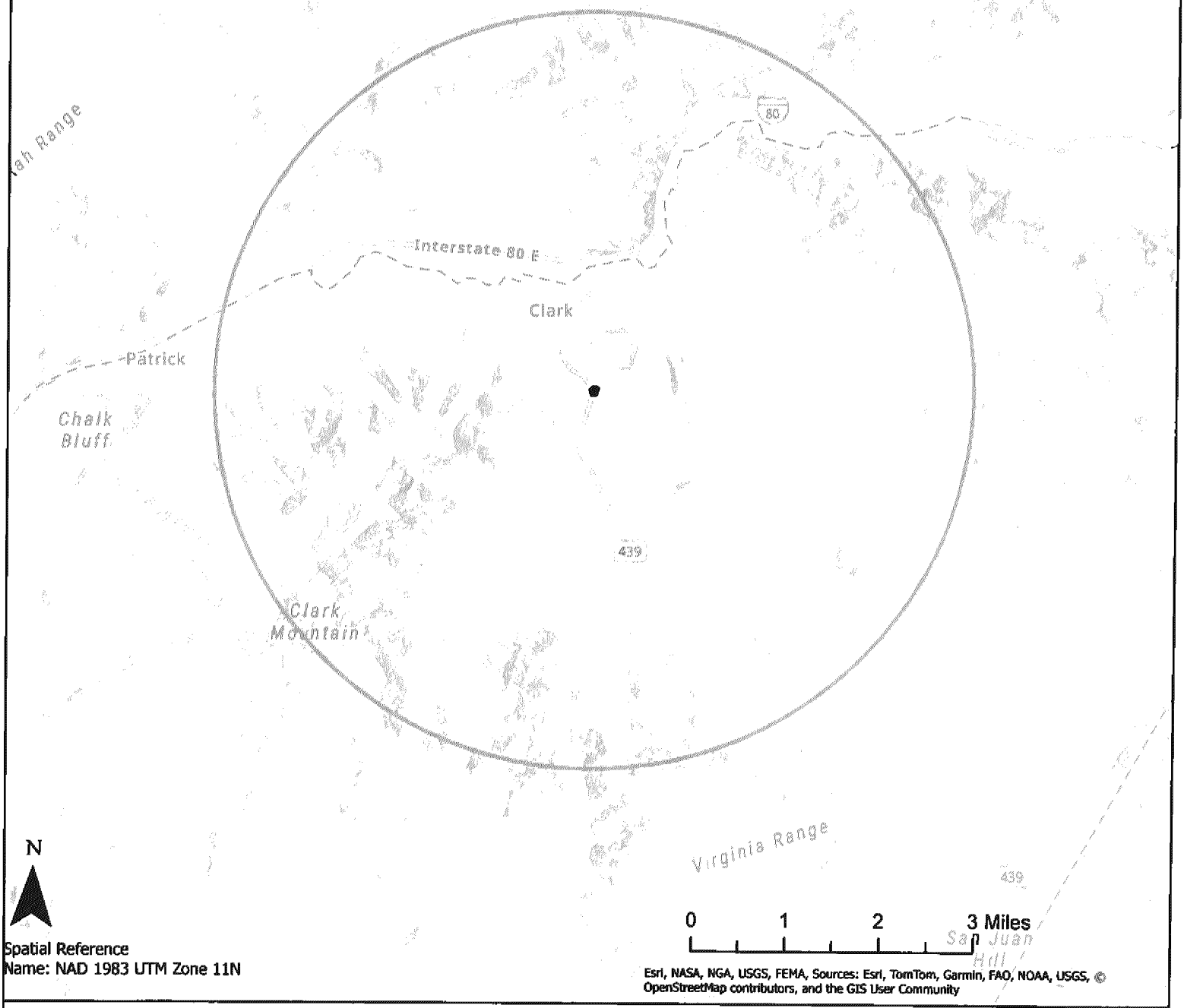
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stick nest	eagle/buteo	None	21 0190N 0240E 018	2014	Unoccupied
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scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
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scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
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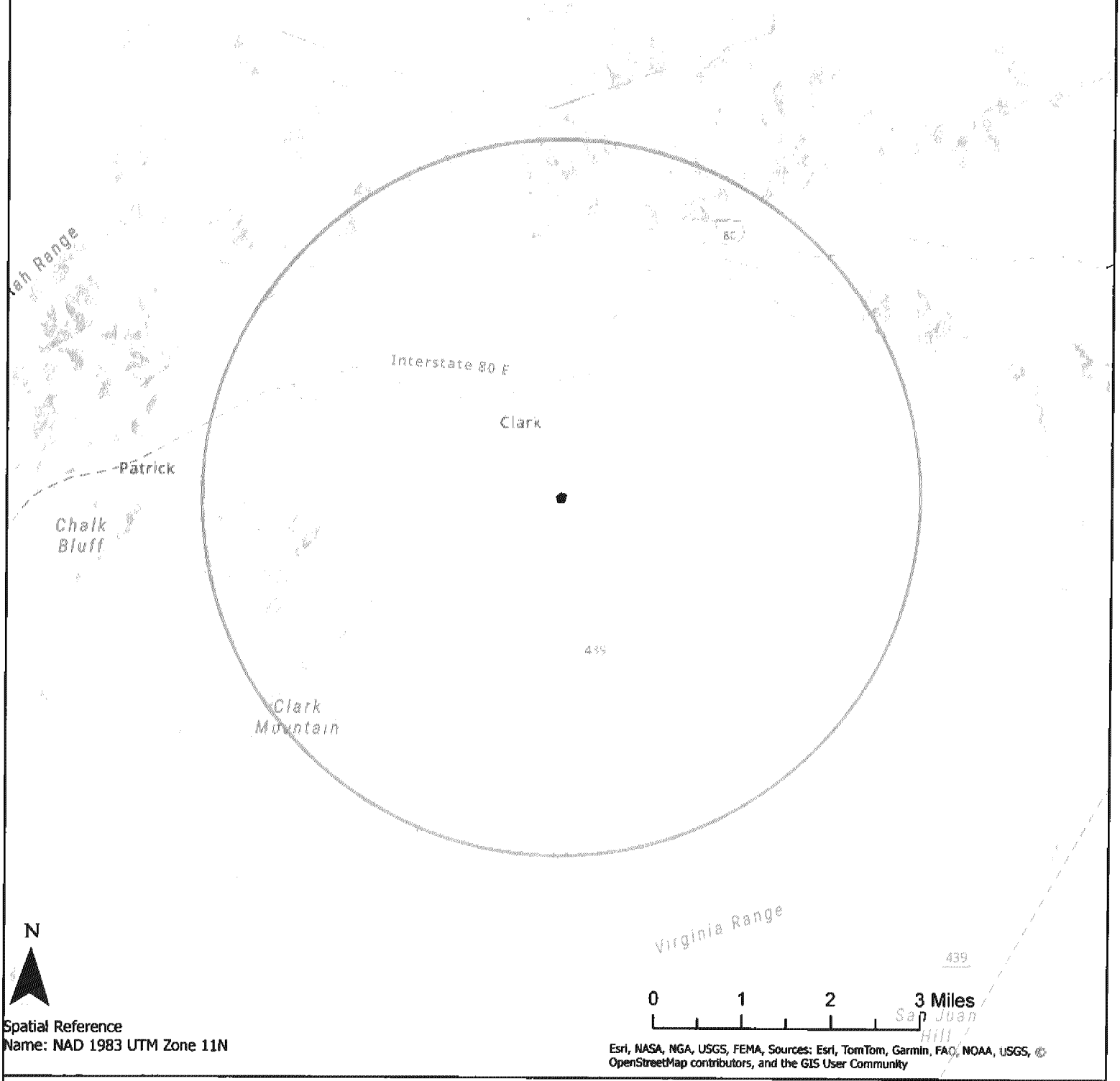
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

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Spatial Reference
Name: NAD 1983 UTM Zone 11N

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

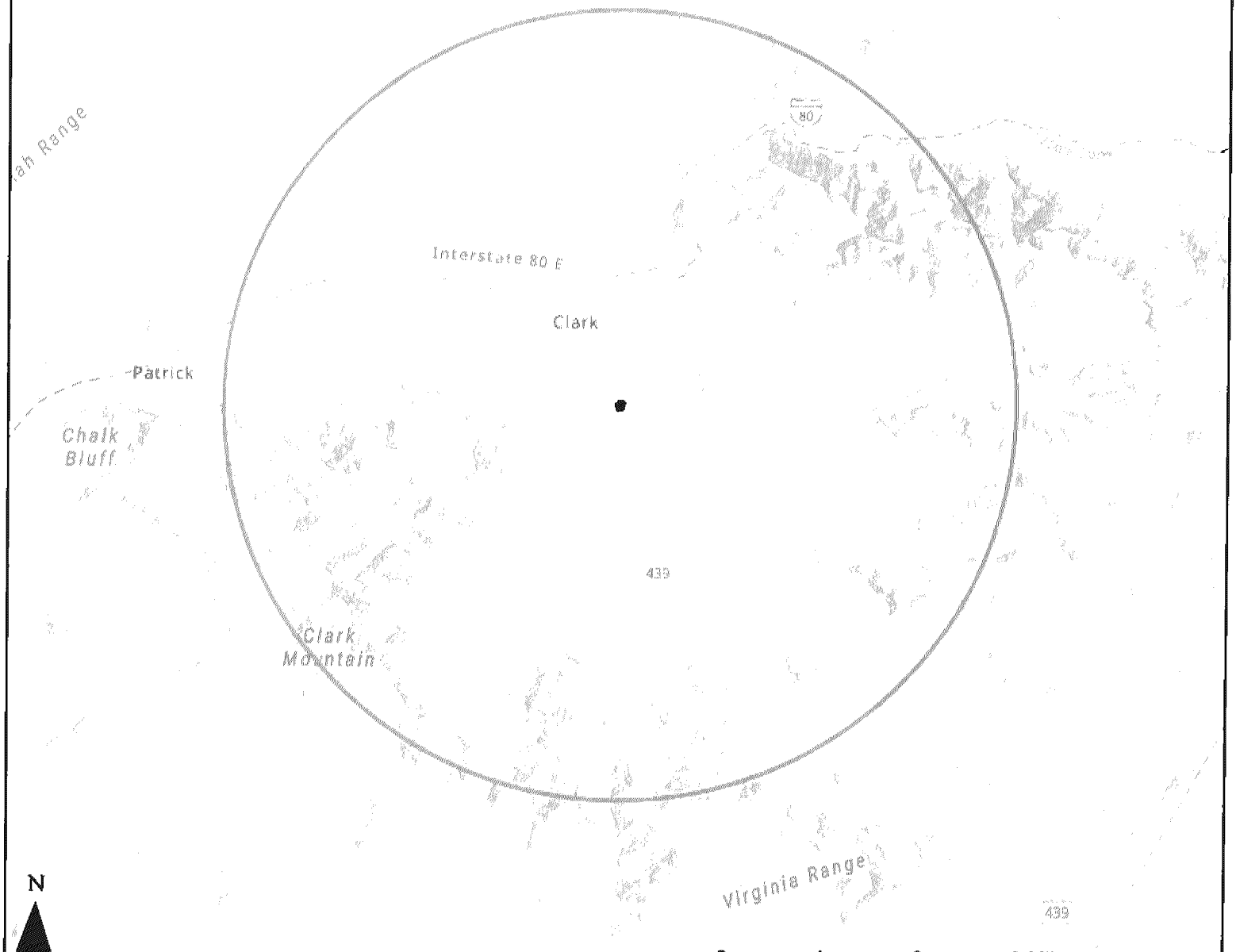
Legend

- Pronghorn Antelope Distribution
- Project Area 4-mile Buffer
- Project Area

Pronghorn Antelope Distribution near the Fulcrum Natural Gas

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1 2 3 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

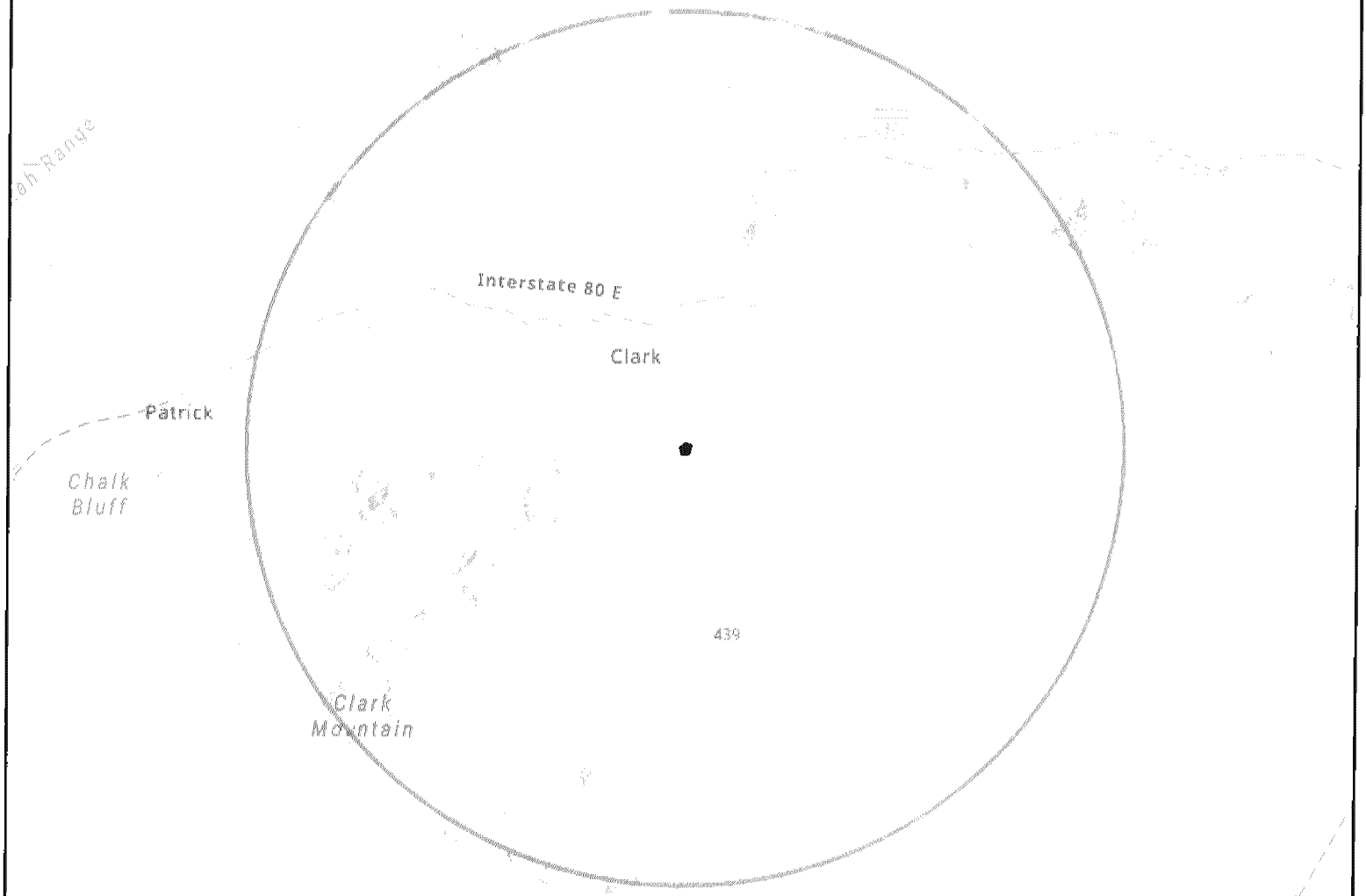
Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



N

Spatial Reference
Name: NAD 1983 UTM Zone 11N

0 1 2 3 Miles

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

- Priority Habitat
- General Habitat
- Other Habitat
- Bi-State Habitat
- Project Area 4-mile Buffer
- Project Area

Greater Sage-Grouse Habitat near the Fulcrum Natural Gas Generation

May 12, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

DEPARTMENT OF WILDLIFE
6980 Sierra Center Parkway, Suite 12
Reno, Nevada 89511
Phone: 775-688-1500 / Fax: 775-688-1595

June 04, 2026

Cate Medlock
Environmental Planner
Kimley Horn and Associates
1300 Clay Street, Suite 900
Oakland, California 94612

Re: Fulcrum Natural Gas Generation Project Standard Data Request

Dear Cate Medlock,

We are responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the Fulcrum Natural Gas Generation Project located in Storey County. In order to fulfill your request, NDOW queried the best available data from NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. These data should be considered sensitive and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

Wildlife resource data were queried from NDOW databases based on an area of interested which included either a four-mile buffer or a ten-mile buffer (as specified below) around the project area you provided on June 04, 2026. The results of this analysis are summarized below. Please note that the absence of recorded or observed wildlife resource data should not be interpreted to mean the wildlife resource does not occur within the area of interest.

Big Game – Occupied mule deer and bighorn sheep distributions exist within the project area and surrounding 4-mile buffer area. Occupied pronghorn antelope distribution only exists within the 4-mile buffer area surrounding the project area and is not present within the project area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat within the project area or surrounding 4-mile buffer area has been classified as other, general, and priority habitat by the Nevada Sagebrush Ecosystem Program (https://sagebrusheco.nv.gov/). As stipulated by Nevada State Regulation NAC 232.400 – 232.480, direct and indirect impacts to greater sage-grouse habitat must be mitigated using the Nevada Conservation Credit System. Please start this process by visiting sagebrusheco.nv.gov to contact the NV Sagebrush Ecosystem Technical Team. There are no recorded tracking locations generated by radio-marked birds within the project area or surrounding

4-mile buffer. There are no recorded sage-grouse leks within the project area or surrounding 4-mile buffer.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, Cooper's hawk, Swainson's hawk, bald eagle, barn owl, burrowing owl, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, turkey vulture, and western screech owl have distribution ranges that include the project area and/or surrounding 10-mile buffer.

There are no recorded raptor sightings within the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010).

We have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are 27 known raptor nests within the project area and/or surrounding 10-mile buffer. Information regarding each of these nests is provided within the raptor nest table. This table displays the type of nest observed (Nest Type), species/genus/family which constructed the nest based on professional judgement (Probable Origin), species which have been observed in the nest (Occupied Species), the location of the nest (Township, Range, and Section), the date of the most recent survey (Last Visit), and the status during the most recent survey (Status).

Type	Probable Origin	Occupied Species	Township, Range, and Section	Last Visit	Status
stick nest	buteo/corvid	None	21 0200N 0220E 025	2014	Unoccupied
stick nest	buteo/corvid	None		2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 028	2014	Unoccupied
stick nest	buteo/corvid	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 019	2014	Unoccupied
stick nest	eagle	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle/buteo	None	21 0210N 0230E 027	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0220E 023	2014	Unoccupied
stick nest	eagle/buteo	None		2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0230E 026	2014	Unoccupied
stick nest	eagle/buteo	None	21 0200N 0230E 036	2014	Unoccupied
stick nest	eagle	golden eagle	21 0190N 0220E 022	2011	Occupied
None	eagle	golden eagle	21 0190N 0220E 005	2011	Occupied
stick nest	eagle	golden eagle	21 0210N 0220E 022	2011	Occupied

stick nest	buteo	red-tailed hawk	21 0180N 0220E 011	2011	Occupied
None	eagle	golden eagle	21 0200N 0230E 020	2011	Unoccupied
scrape	falcon	prairie falcon	21 0190N 0210E 027	1981	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 021	1979	Occupied
stick nest	eagle	golden eagle	21 0190N 0200E 013	1979	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 021	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 028	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 027	1976	Occupied
scrape	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
None	falcon	prairie falcon	21 0200N 0230E 026	1976	Occupied
stick nest	eagle	golden eagle	21 0200N 0230E 025	1976	Occupied
scrape	falcon	prairie falcon	21 0190N 0210E 035	1975	Occupied

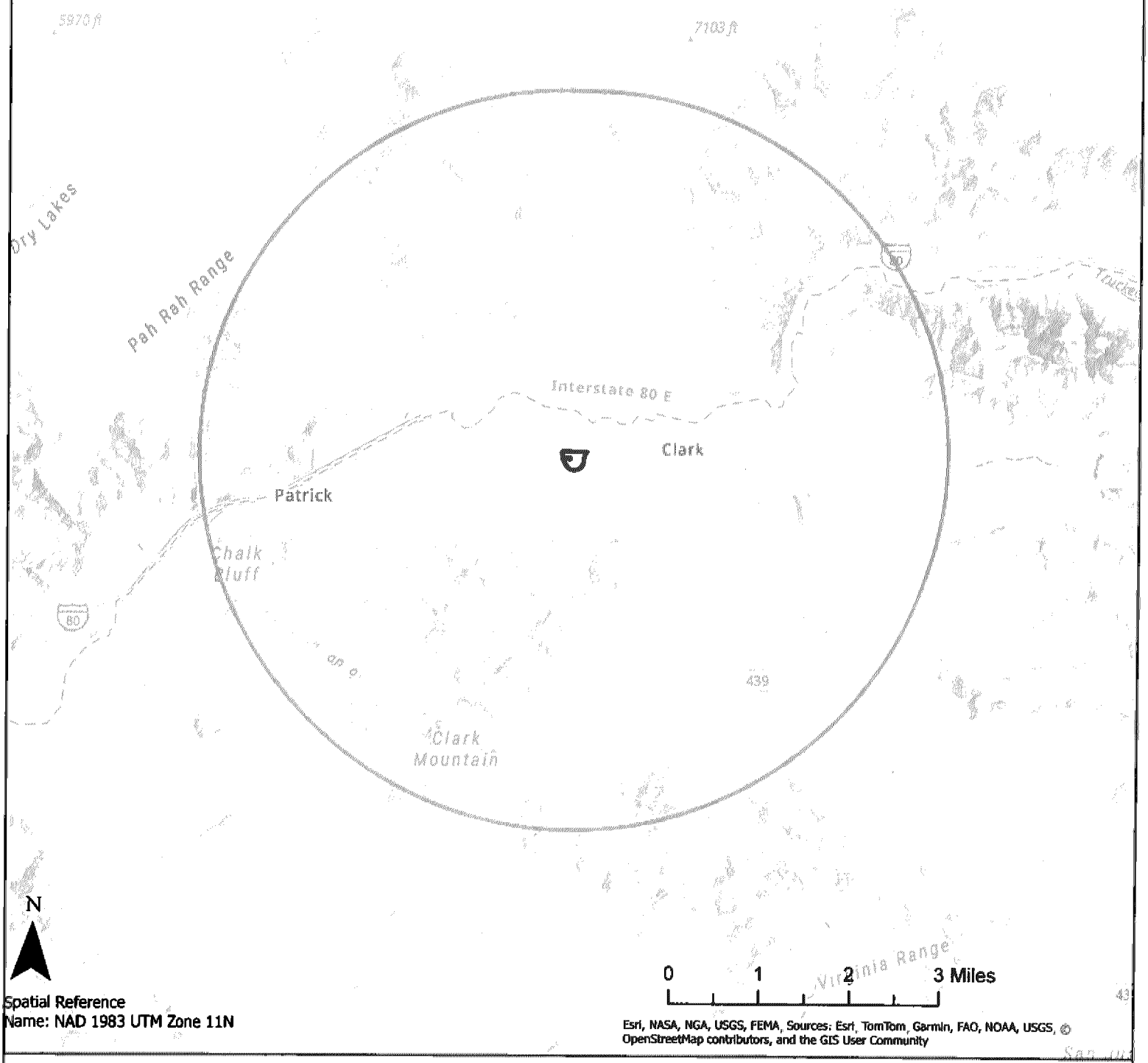
Other Wildlife Resources – No recorded water developments are present within the project area. Lahontan cutthroat trout (LCT) wastershed(s) are present within the project area.

The proposed project area may also be in the vicinity of abandoned mine workings, which often provide habitat for state and federally protected wildlife, especially bat species, many of which are protected under NAC 503.030. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http://minerals.state.nv.us/).

The information provided is based on data stored at our Reno Headquarters Office and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologist at our regional offices to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

Federally listed Threatened and Endangered species are under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis, please do not hesitate to contact us as (775) 688-1500 or via email at NDOWdata@ndow.org.



Spatial Reference
Name: NAD 1983 UTM Zone 11N

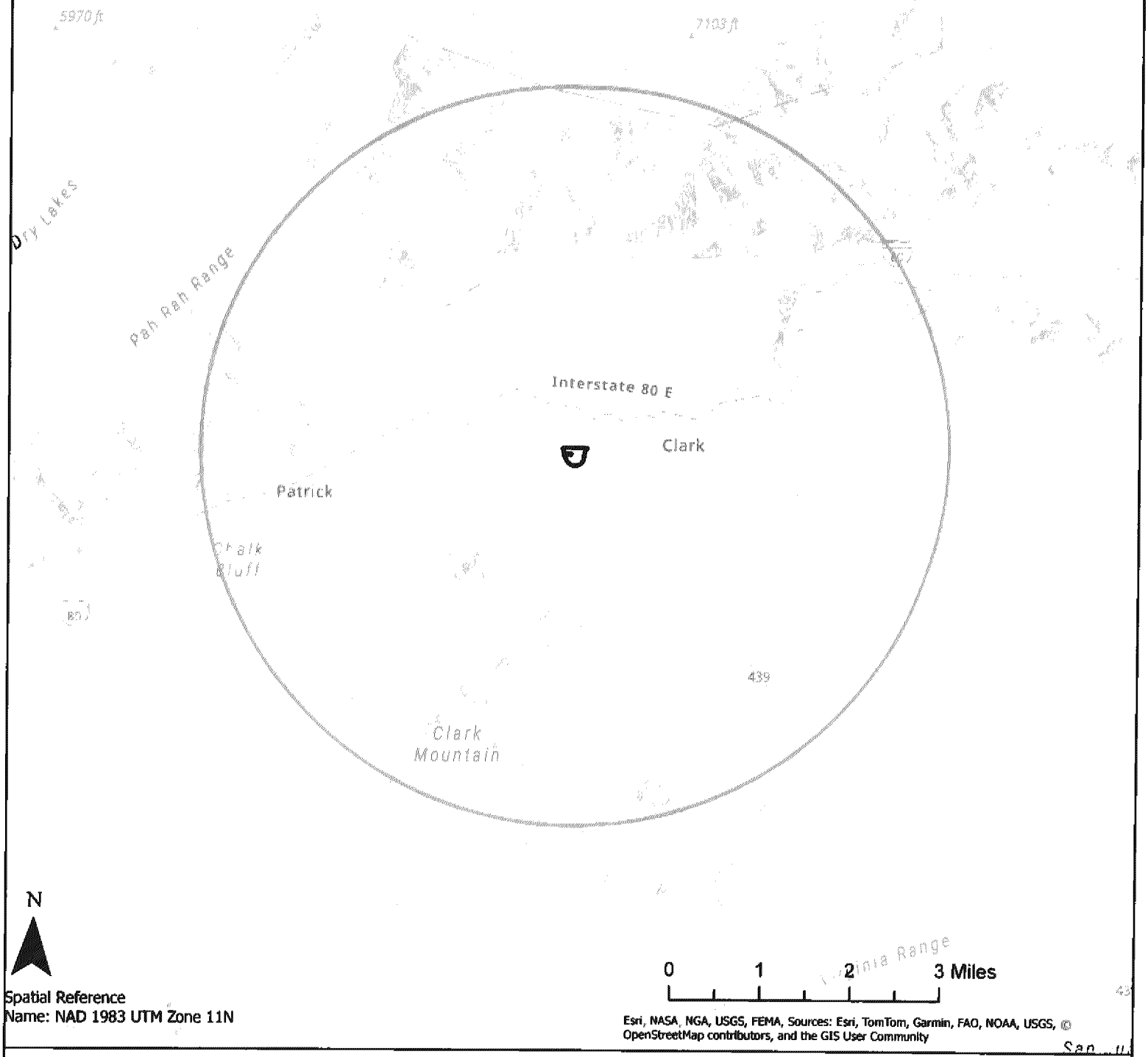
Legend

- Mule Deer Distribution
- Project Area 4-mile Buffer
- Project Area

Mule Deer Distribution near the Fulcrum Natural Gas Generation

June 04, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



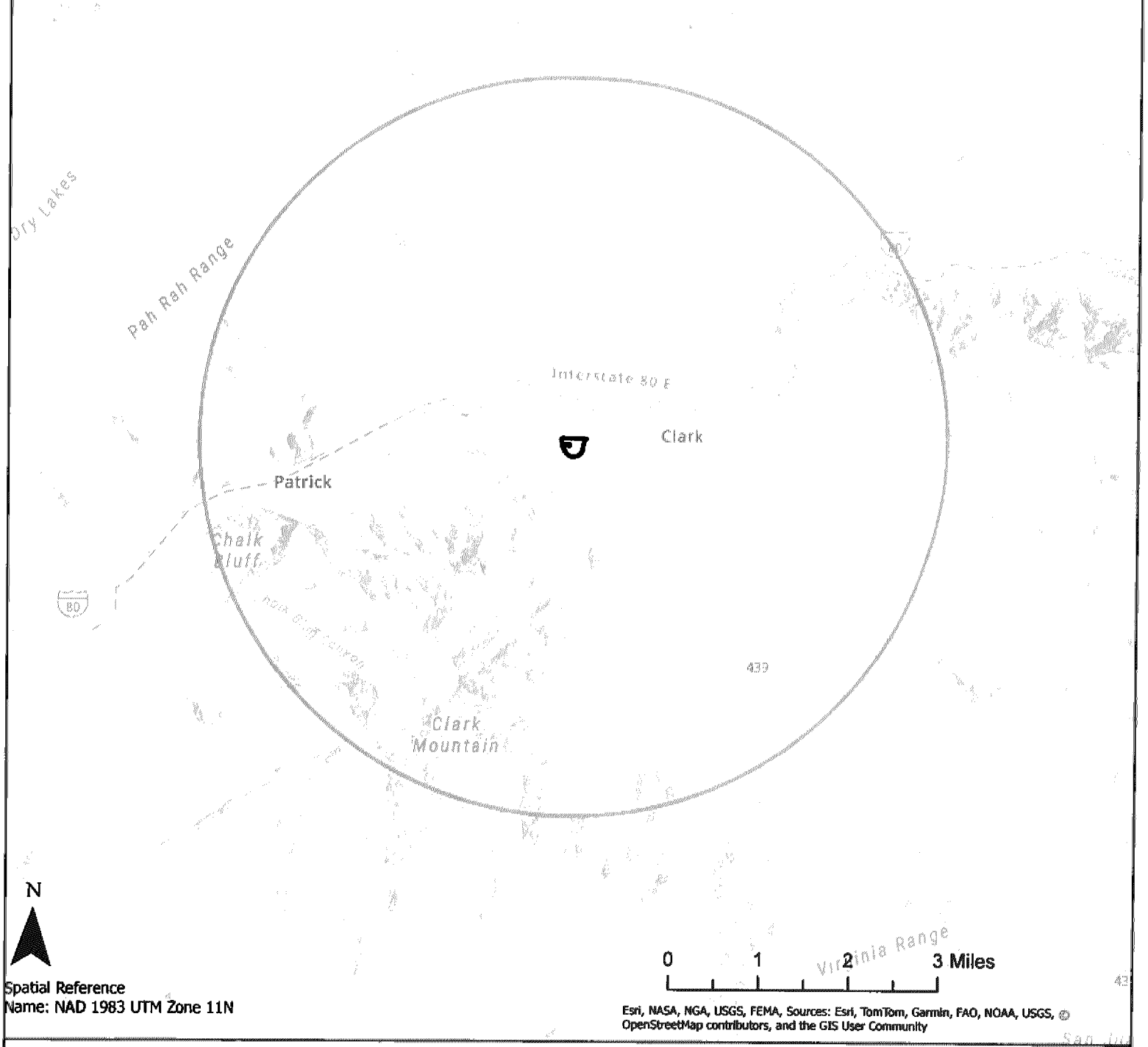
Legend

- Pronghorn Antelope Distribution
- Project Area 4-mile Buffer
- Project Area

Pronghorn Antelope Distribution near the Fulcrum Natural Gas

June 04, 2026

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Spatial Reference
Name: NAD 1983 UTM Zone 11N

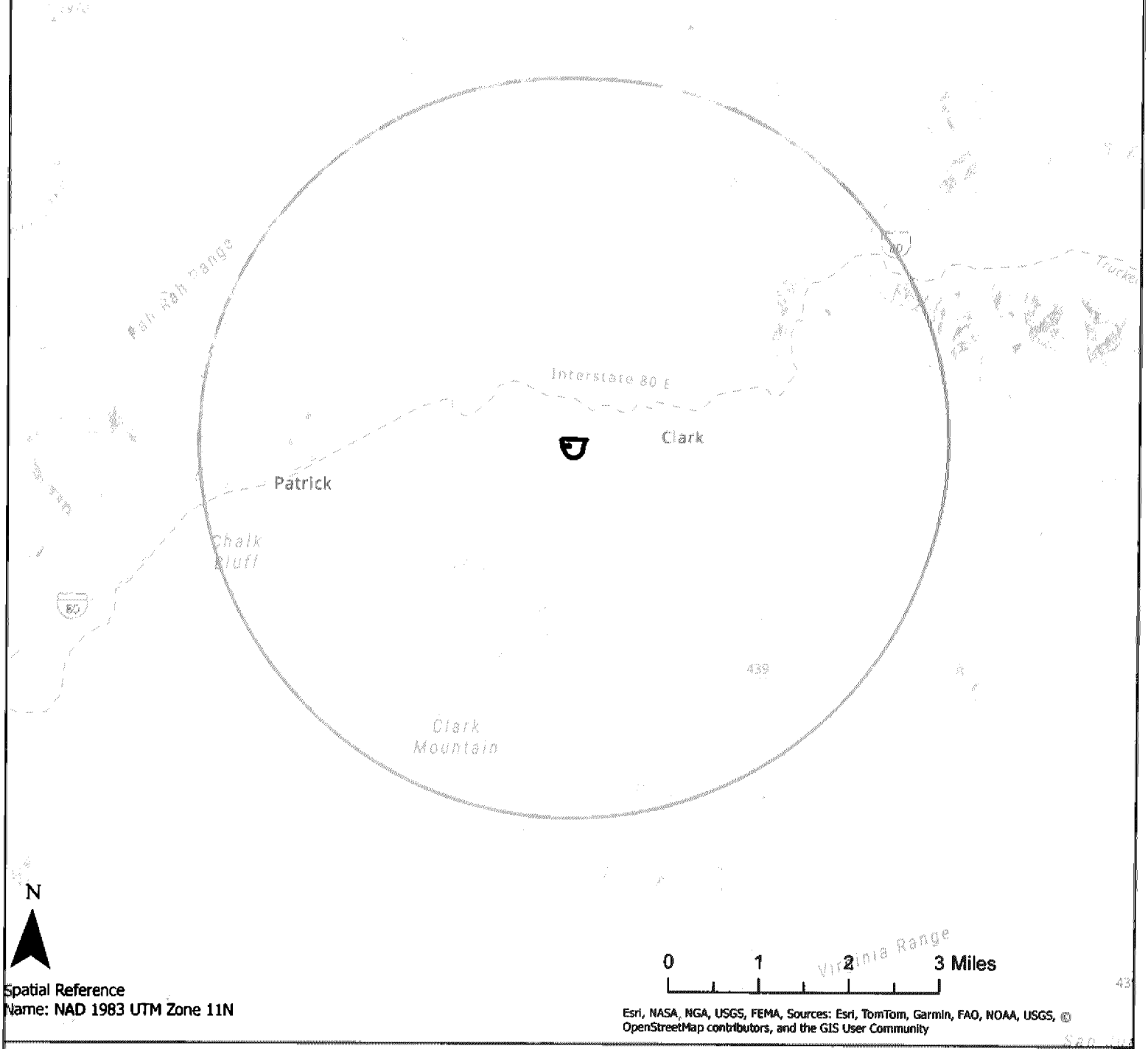
Legend

- Bighorn Sheep Distribution
- Project Area 4-mile Buffer
- Project Area

Bighorn Sheep Distribution near the Fulcrum Natural Gas Generation

June 04, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



Spatial Reference
Name: NAD 1983 UTM Zone 11N

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Legend

- Priority Habitat
- General Habitat
- Other Habitat
- Bi-State Habitat
- Project Area 4-mile Buffer
- Project Area

Greater Sage-Grouse Habitat near the Fulcrum Natural Gas Generation

June 04, 2026

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

Exhibit G

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA
COUNTY OF LYON

Stephanie Norby

Being duly sworn, deposes and says that she is the Publisher of the COMSTOCK CHRONICLE, a weekly newspaper published in Virginia City, Storey County, Nevada that she has charge of and knows the advertising appearing in the said newspaper, and the:

PUCN APPLICATION OF NEXUS FULCRUM LLC

a which copy is hereunto attached, was first published in said newspaper in its issue dated
JUNE 5, 2026

the date of each additional publishing

the date of the last publication being in the issue of
JUNE 5, 2026

Subscribed and sworn to before me this, the
5th day of June, 2026

Notary Public in and for the
County of Lyon, State of Nevada

SAVANNA BARWIG
Notary Public, State of Nevada
Appointment No. 23-3757-12
My Appt. Expires Dec 9, 2026

LEGALS LEGALS LEGALS LEGALS LEGALS LEGALS LEGALS LEGALS

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

APPLICATION OF NEXUS FULCRUM LLC TO THE PUBLIC UTILITIES COMMISSION OF NEVADA FOR A PERMIT TO CONSTRUCT THE ASR-IX PROJECT AND ANCILLARY FACILITIES IN STOREY COUNTY, NEVADA

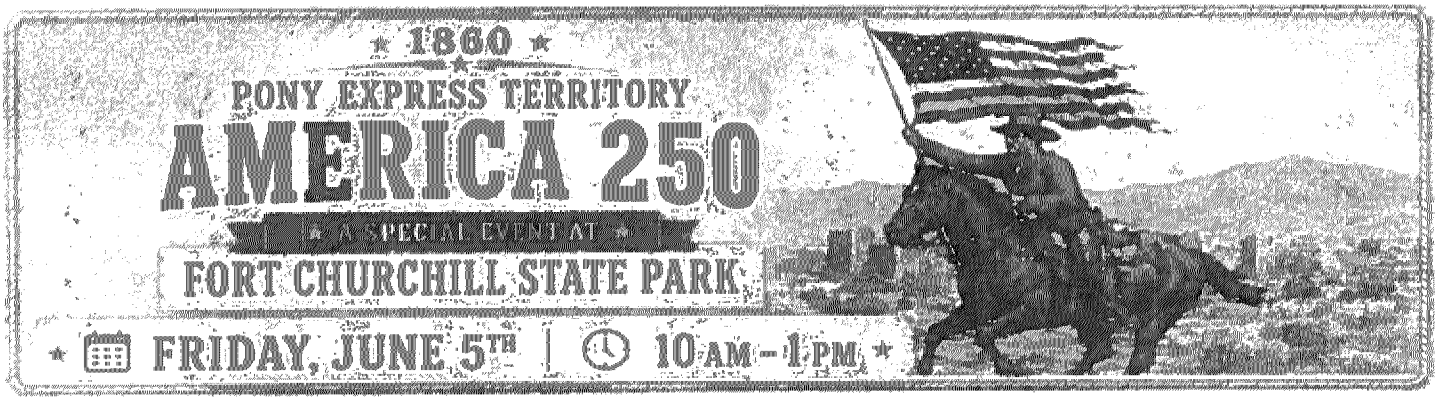
Nexus Fulcrum LLC (the "Company") is submitting to the Public Utilities Commission of Nevada (the "Commission"), pursuant to the Utility Environmental Protection Act ("UEPA"), an Application (the "Application") for a permit to construct the ASR-IX project, a 510 megawatt ("MW") natural gas-fired electric generation plant and ancillary facilities inside the Tahoe-Reno Industrial Center in Storey County, Nevada (the "Proposed Project"). The Application is being submitted pursuant to Nevada Revised Statutes ("NRS") Sections 704.820 to 704.900 and Nevada Administrative Code ("NAC") Sections 703.415 to 703.427.

The Application will include, but is not limited to:

1. A general description of the location of the Proposed Project.
2. A general description of the Proposed Project.
3. The environmental documents analyzing the environmental impact of the Proposed Project.
4. A description of any reasonable alternate location(s) for the Proposed Project, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the primary proposed location is best suited for the facility.
5. Proof that a copy of the notice has been submitted to the Nevada State Clearinghouse within the State Department of Conservation and Natural Resources.
6. Proof that a public notice of the application was given to persons residing in the municipalities entitled to receive notice by the publication of a summary of the application in a newspaper published and distributed in the area in which the utility facility is proposed to be located.
7. Proof of compliance with the Nevada Department of Wildlife Energy Cost Recovery Fund Program.

A copy of the Application will be available on the Commission's website following the Company's filing of the Application. Additional information about the UEPA process and a person's right to participate in the process can be found in NRS and NAC Chapters 703 and 704.

Publication date: 6/5/2026



STOREY COUNTY BOARD OF COMMISSIONERS, cont'd from page 9

...access and it was limited to ...ft land only.

The Water and Sewer Board ...proved its pre-final Fiscal Year 2026-2027 budget with minor ...justments related to postage ...creases.

May 19 meeting actions

During the May 19 meeting, ...mmissioners approved an interlocal agreement with the First Judicial District Court for the administration of Child Support Enforcement Program services intended to improve access and service speed for Storey County residents.

The board also approved the county's final Fiscal Year 2026-2027 budget. Commissioners increased Community Project Grant funding allowances from $10,000 to $20,000 per community, adding a total of $40,000 to support local projects countywide.

Commissioners approved a $61,666 task order with DOWL for fairgrounds improvement project support services required under USDA Rural Development guidelines.

The board also approved and signed a letter supporting the Northeast Connector roadway project as a first-priority nomination to the U.S. Department of Transportation under the federal Freedom to Drive Initiative.

Commissioners approved a $173,553.78 change order for the Mark Twain Vehicle Storage Building project to reposition the structure in coordination with future mitigation plans, septic planning, and park improvements.

The Storey County Fire Protection District approved its final Fiscal Year 2026-2027 budget, which projects an ending fund balance of approximately $5.3 million.

The Water and Sewer Board also approved its final budget, including a $50,000 reduction in professional services expenditures.

Exhibit H

CERTIFICATE OF SERVICE

It is hereby certified that on June 17, 2026, a true and correct copy of the attached Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities was served via electronic mail on the following parties:

Staff Counsel Support
Public Utilities Commission of Nevada
1150 E. William Street
Carson City, Nevada 89701-3109
pucn.sc@pucn.nv.gov

Office of the Attorney General
Bureau of Consumer Protection
100 North Carson Street
Carson City, Nevada 89701-4717
bcp@ag.nv.gov

Public Utilities Commission of Nevada
Mr. Don Lomoljo, Staff Counsel
1150 E. William Street
Carson City, Nevada 89701-3109
dlomoljo@puc.nv.gov

Storey County Clerk
Mr. Jim Hindle
26 S. B Street
Drawer D
Virginia City, NV 89440
clerk@storeycounty.org

State Clearinghouse
Division of State Lands
901 South Stewart Street, Suite 5003
Carson City, NV 89701-5246
nvclearinghouse@lands.nv.gov

Nevada Department of Conservation & Natural Resources
Mr. Vinson Guthreau
901 S. Stewart St., Ste. 1003
Carson City, NV 89701
vguthreau@dcnr.nv.gov

Nevada Division of Environmental Protection
Ms. Jennifer Carr, Administrator
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249
jcarr@ndep.nv.gov

Dated: June 17, 2026

/s/ Matthew C. Voelker
An Employee of Bullen Law, LLC

Exhibit I

Energy Review Program
"Fund for the Recovery of Costs"

Nevada Revised Statutes 701.600-640
Nevada Administrative Code 701.800-820

Applicant:
- ☐ Self
- ☑ Private Company
- ☐ Government Agency
- ☐ Other _____

Project Name ASR-IX

Applicant Nexus Fulcrum LLC

Mailing Address 200 Clarendon Street, 55th Floor

City Boston State MA Zip Code 02116

Name of Contact Bill Castor Phone 857-343-5999 Email bcastor@advanced-power.com

Name of Responsible Corp. Officer/Agency Rep. Mark Spencer Title Senior Vice President

PROJECT INFORMATION

☐ Solar ☐ Wind ☐ Geothermal ☒ Fossil Fuel ☐ Biomass ☐ Fuel Pipeline ☐ Power Transmission ☐ Other

Net Maximum Generation Capacity 510 MW Estimated Voltage (power transmission) 120 - 345 kV

Proposed Project Size (acres) 20 Proposed Transmission Length (miles) N/A

Proposed Length of Fuel Lines/Pipelines (miles) N/A

Proposed County Location (submit project map and shapefiles) Storey County

Project Description (including other anticipated infrastructure)

Nexus Fulcrum, LLC proposes to develop, construct, and operate a nominal 510-MW natural gas-fired electrical generation facility and associated equipment on the previously disturbed site of the former Sierra Biofuels Refinery which is located within the boundaries of theTahoe Reno Industrial Center.

Estimated Project Schedule/Timeline Construction is expected to commence in Q1 2027 and be completed in Q4 2029.

Applicant Signature _____ Date May 29, 2026

The following should be submitted electronically to NDOWreview@ndow.org or via hard copy to:

Nevada Department of Wildlife
Technical Review - AB307
6980 Sierra Center Parkway, Suite 120
Reno, NV 89511 USA.

1) Completed and signed application form.
2) Map of project location and/or ESRI shapefiles (.shp) or GoogleEarth file (.kml/.kmz).
3) Payment, via check made out to Nevada Department of Wildlife, or ACH payment.
   PAYMENTS $10,000 or greater should be made via ACH.
   - Remit **$5,000** for fuel pipelines less than 50 miles in length, power transmission projects greater than 50kV and less than 50 miles in length, or geothermal production projects.
   - Remit **$10,000** for fuel pipelines more than 50 miles in length, power transmission projects greater than 50kV and more than 50 miles in length, or solar, wind, fossil fuel, or other energy production projects (such as pumped hydro, battery energy storage, etc.).

For questions regarding this process or ACH info please contact NDOWreview@ndow.org.

EXHIBIT J

PUBLIC UTILITIES COMMISSION OF NEVADA
DRAFT NOTICE
(Applications, Tariff Filings, Complaints, and Petitions)

Pursuant to Nevada Administrative Code ("NAC") 703.162, the Commission requires that a draft notice be included with all applications, tariff filings, complaints and petitions. Please complete and include **ONE COPY** of this form with your filing. (Completion of this form may require the use of more than one page.)

A title that generally describes the relief requested (*see* NAC 703.160(4)(a)):

Application of Nexus Fulcrum LLC Under the Utility Environmental Protection Act to Construct ASR-IX, a 510 MW Natural Gas-Fueled Electric Generation Plant and Ancillary Facilities

The name of the applicant, complainant, petitioner or the name of the agent for the applicant, complainant or petitioner (*see* NAC 703.160(4)(b)):

The applicant is Nexus Fulcrum LLC ("Nexus Fulcrum").
Linda M. Bullen of Bullen Law, LLC is legal counsel for the applicant.

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled **AND** the effect of the relief or proceeding upon consumers (see NAC 703.160(4)(c)).

Nexus Fulcrum is filing an application under the Utility Environmental Protection Act with the Public Utilities Commission of Nevada for permit to construct ASR-IX, a 510 megawatt ("MW") natural gas-fueled electric generation plant and ancillary facilities on privately-owned land within the Tahoe Reno Industrial Center complex in Storey County, Nevada (the "Project"). It is not anticipated that the Project will have any effect upon consumers.

A statement indicating whether a consumer session is required to be held pursuant to Nevada Revised Statute ("NRS") 704.069(1)[1]:

A consumer session is not required.

If the draft notice pertains to a tariff filing, please include the tariff number **AND** the section number(s) or schedule number(s) being revised.

The draft notice does not pertain to a tariff filing.

---

[1] NRS 704.069 states in pertinent part:

1. The Commission shall conduct a consumer session to solicit comments from the public in any matter pending before the Commission pursuant to NRS 704.061 to 704.110 inclusive, in which:
(a) A public utility has filed a general rate application, an application to recover the increased cost of purchased fuel, purchased power, or natural gas purchased for resale or an application to clear its deferred accounts; and
(b) The changes proposed in the application will result in an increase in annual gross operating revenue, as certified by the applicant, in an amount that will exceed $50,000 or 10 percent of the applicant's annual gross operating revenue, whichever is less.