United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NV-N020-2014-0002-EA
February 2014

Eureka Pipeline Project
ENVIRONMENTAL ASSESSMENT

File Number: NVN-092048

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BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1.0 INTRODUCTION

The Tuscarora Field Office (Elko District) of the U.S. Department of Interior, Bureau of Land Management (BLM) received an application in April 2013 for a grant of Rights-of-Way (ROW) on public land to accommodate a proposed natural gas pipeline. Prospector Pipeline Company (PPC) proposes to construct and operate an approximate 18± mile underground natural gas pipeline, to supply natural gas from the North Elko Pipeline for delivery to the Newmont Leeville (3.1 miles) and Gold Quarry (14.8 miles) Mines. The pipeline, referred to as the Eureka Pipeline Project (EPP), would be located on BLM and private lands in Eureka County, Nevada. The proposed route of the pipeline is shown in Figure 1-1.

1.1 Purpose and Need

PPC's purpose would be to convey natural gas from the North Elko Pipeline Goldstrike Meter Station for delivery to the Newmont Leeville Mine to replace current propane usage, and to the Newmont Gold Quarry Mine to provide a reliable supply of natural gas and to eliminate the need for current seasonal propane usage. The project would improve energy efficiency, reduce emissions, enhance safety, and provide substantial operational cost savings for the Leeville and Gold Quarry mining operations.

The BLM's purpose and need would be to process, review, and respond to PPC's proposed pipeline under applicable laws and regulations including the Federal Land Management Policy Act of 1976, the Mineral Leasing Act of 1920, the National Environmental Policy Act (signed January 1, 1970), and the BLM's regulations concerning Rights-of-Way at 43 CFR 2800 and 43 CFR 2880. Should BLM determine that a grant authorization would be appropriate in these circumstances, the BLM must also determine what, if any, stipulations, conditions of approval, and performance bonds should be attached to the grant. Should a grant be authorized then the BLM's purpose and need becomes an obligation to ensure compliance with applicable laws and requirements during construction and operation, avoidance of undue and unnecessary degradation of the public lands during and following the project lifespan, and to ensure adequate stabilization of the public lands for future productivity.

The decision to be made by the BLM's Tuscarora Field Office would be whether or not to authorize a Rights-of-Way grant on public lands for the proposed pipeline and, if authorized, what, if any, stipulations and conditions of approval should be attached to the grant.

1.2 Relationship to Laws, Policies, and Land Use Plans

1.2.1 Federal Laws and Regulations, Federal Land Use Plan Conformance

This EA has been prepared in compliance with the following statutes and implementing regulations, policies, and procedures:

- The National Environmental Policy Act of 1969, as amended (Public Law [PL] 91-190, 42 U.S.C. 4321 (et seq.);
- BLM NEPA Handbook (H-1790-1, 2008);
- The Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.);

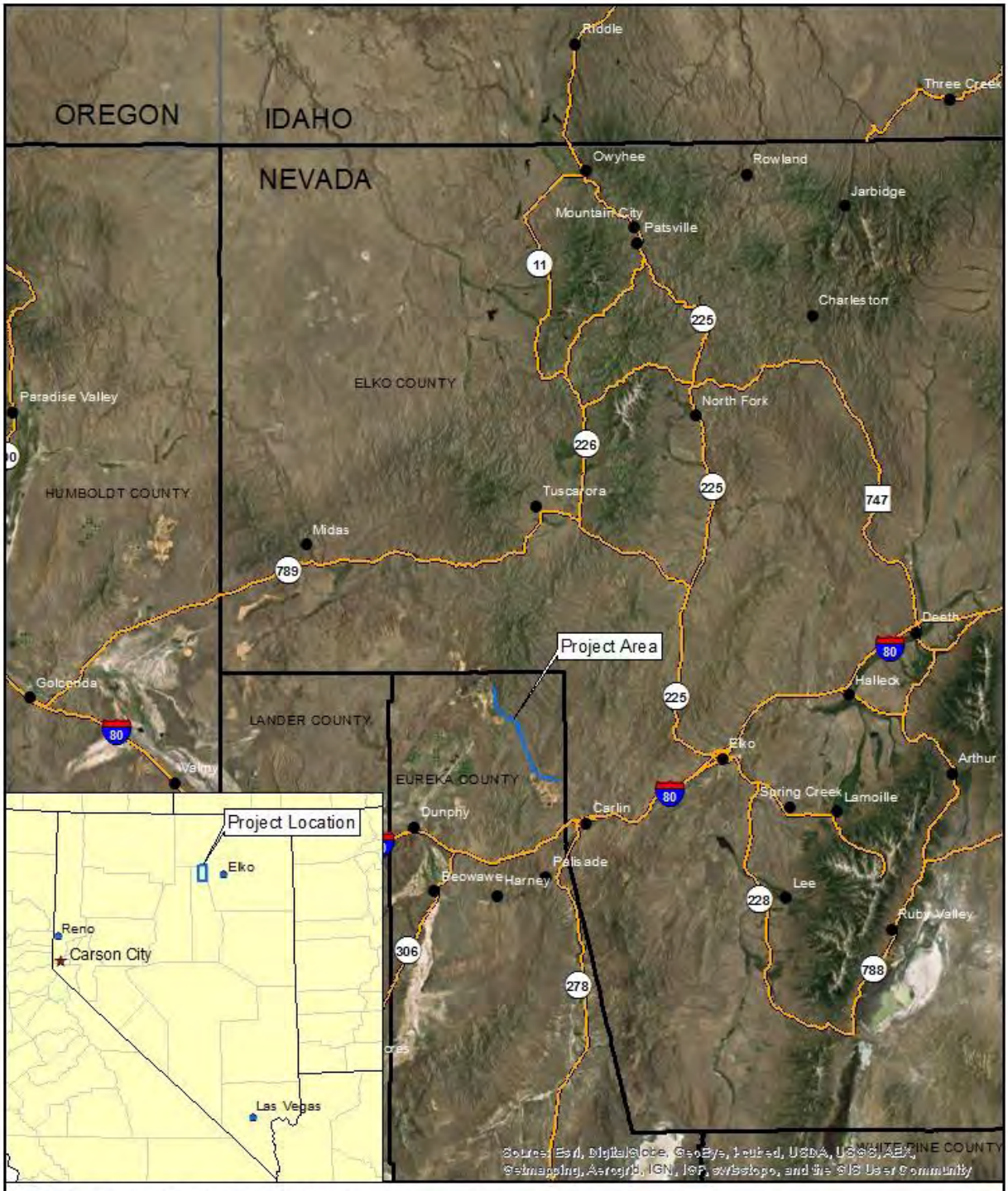

FIGURE 1-1: PROJECT LOCATION
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 5 10
MILES

NOTES:
BACKGROUND: ESRI
COUNTIES/ROADS: ESRI

- The Federal Land Policy and Management Act of 1976 (43 U.S.C. 1761 et seq.);
- 43 CFR 2800, Rights-of-Way under the Federal Land Policy and Management Act, and 43 CFR 2880, Rights-of-Way under the Mineral Leasing Act; and
- Guidelines contained in the Elko Resource Management Plan (RMP).

1.2.2 State and Local Government Plans and Policies

Specific approvals, permits, and regulatory requirements from state and local agencies would be required for constructing and maintaining the proposed EPP. Table 1 - Potential Regulatory Permits Required lists federal, state, and local permits, policies, and actions that may be required for the EPP. PPC would also comply with the applicable provisions of Nevada Revised Statutes, Chapter 533, regarding water use.

Table 1 - Potential Regulatory Permits Required

Permit Required	Agency	Status
ROW Grant SF 299 Application for Transportation and Utility Systems and Facilities on Federal Lands NEPA	Bureau of Land Management	Application filed: April 29, 2013 Accepted: June 18, 2013 Initiated June 12, 2013 BLM ID Team Scoping Meeting
Utility Environmental Protection Act Permit (UEPA)- Permit to Construct	Public Utilities Commission of Nevada	Initial application filed April 29, 2013
Encroachment Permit	Nevada Department of Transportation District 3	Issued December 9, 2013
Bureau of Air Pollution Control Permit	Nevada Department of Environmental Protection (NDEP)	To be secured by the Prime Contractor as required in the bid documents
National Pollution Discharge Elimination System (NPDES) Permit Notice of Intent (NOI) Application and Stormwater Pollution Prevention Plan (SWPPP)	NDEP Bureau of Water Pollution Control (BWPC)	To be secured by the Prime Contractor as required in the bid documents

1.3 Issues

In response to receipt of a Standard Form 299 Application for Transportation and Utility Systems and Facilities on Federal Lands, the BLM Elko District Tuscarora Field Office hosted an Inter Disciplinary Team Meeting (BLM ID Team) to identify resources and resource uses to be analyzed in accordance with NEPA. Those issues identified included wildlife and wildlife habitat, cultural resources, methods to minimize disturbance to soils and vegetation along the proposed route, access routes, and the expected benefits of the pipeline.

Resources and resource uses that the BLM ID Team determined would not require in-depth analysis included:

Areas of Critical Environmental Concern (ACEC), Environmental Justice, Floodplains (designated by FEMA), Forestry, Grazing and Range Improvements, Noise, Noxious and Invasive Nonnative Plant Species, Prime or Unique Farm Lands, Riparian Habitat, Sensitive Species – Vegetation, Wastes – Hazardous or Solid, Wild and Scenic Rivers, Land with Wilderness Characteristics, Wild Horses and Burros, and Woodland Products.

2. PROPOSED ACTION AND ALTERNATIVES

This chapter describes the proposed action and existing facilities located within the proposed action study area, and presents the alternatives analyzed in this EA (Proposed Action, No Action Alternative as well as Alternative Considered But Eliminated From Further Analysis).

2.1 Proposed Action

2.1.1 Existing Facilities

This section describes the existing facilities relevant to the EPP (Figure 2-1).

North Elko Pipeline Goldstrike Meter Station

The proposed EPP would connect to the North Elko Pipeline at the Goldstrike Meter Station. This facility is located on private property within the Goldstrike Mine complex (Betze/Post and Meikle Mines) and includes a spare parts storage container and an office trailer. Equipment at this existing Meter Station includes above and below ground piping, valves, meters, heaters, instruments, regulators, controls, odorizer, computerized Remote Terminal Units (RTU's), master telemetry via satellite and AT&T broadband backup, a device for the receiving of pipeline pigs, and equipment for the cathodic protection of the pipeline from external corrosion. Power for the equipment at this station is provided through a grid connection at the Goldstrike Mine.

Newmont North Operations

Newmont's North Operations Area lies on the western flank of the Tuscarora Mountains within the Little Boulder Basin. Newmont initiated its mining activities in the North Operations Area at the Carlin open-pit mine in 1965. Newmont's North Operations Area includes all of Newmont's mining operations located between the Carlin and Bootstrap Mines. Operations include Bootstrap, Blue Star, Genesis, and Leeville Mine. The Leeville Mine is located approximately 3.1 miles south of the Goldstrike Meter Station where the EPP would provide a turnout and small regulating/metering station to supply natural gas replacing current propane usage at Leeville Mine.

Newmont South Operations

The South Operations Area is located at the eastern edge of the Tuscarora Mountains in the Maggie Creek Basin northwest of Carlin. Mining activities in the South Operations Area have been ongoing since the Maggie Creek deposit was discovered in 1978. Development of the Gold Quarry Mine and related support facilities was initiated in 1981. The EPP would terminate on the east side of the Gold Quarry Mine, approximately 14.8 miles south of the Leeville Mine, to provide a reliable supply of natural gas and to eliminate the need for current seasonal propane usage.

Nevada Department of Transportation State Route 766

State Route 766 begins in Carlin, Nevada at its intersection with State Route 221. It trends in a northwesterly direction to the Newmont Gold Quarry mine where it then trends in a northeasterly direction within Eureka County. State Route 766 is maintained by the Nevada Department of Transportation District III.

Newmont – Barrick Mine Road

The Newmont-Barrick Mine Road is a private road maintained by Newmont Mining Corporation and Barrick Gold Corporation. It is identified by Eureka County Road Department as a non-County maintained Road 237A and provides access to the Newmont North Operations Area and Barrick's Goldstrike Mine from State Route 766.

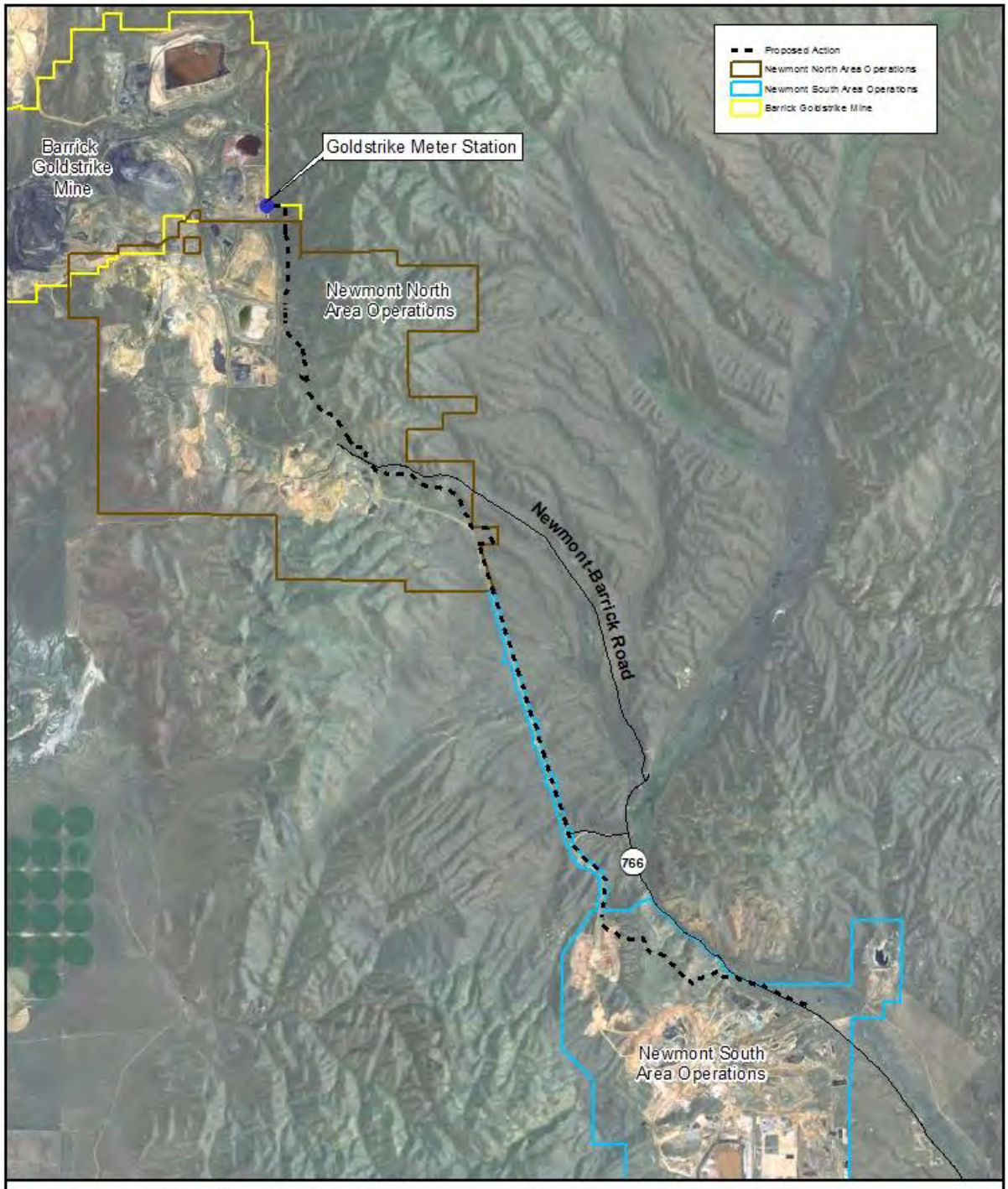

FIGURE 2-1: EXISTING FACILITIES
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 1 2
MILES

NOTES:
PIPELINE: PROSPECTOR PIPELINE
BACKGROUND: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY

2.1.2 Description of Proposed Action

PPC would design, construct, test, and operate the EPP in accordance with U.S. Department of Transportation (DOT) regulations specified in the Code of Federal Regulations (CFR), at 49 CFR 191, 192, and 199 "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards" adopted by the Public Utilities Commission of Nevada pursuant to Nevada Administrative Code 704.460, and administered by the Public Utilities Commission of Nevada. 49 CFR 192 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion, in addition to other design standards. PPC would also be subject to other applicable federal and state regulations, including U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) requirements. These regulations are intended to ensure adequate protection for the public, pipeline workers, contractors, and employees and to prevent natural gas pipeline accidents and failures.

The BLM would require that PPC prepare a Plan of Development (POD) as part of the ROW grant process in accordance with the regulations found at 43 CFR 2884.11. PPC's various construction and stabilization methods described in this EA also would be part of the POD.

Proposed Action:

The EPP is an approximately 18 mile, 12 inch diameter underground natural gas transmission pipeline, located in Eureka County, Nevada, designed and constructed of welded steel, externally-coated, high-pressure line pipe. The EPP would be designed for a Maximum Allowable Operating Pressure (MAOP) of 1440 psig (Pounds per Square Inch Gauge) for consistency with the North Elko Pipeline and the Ruby Pipeline, although the routine operating pressure would be anticipated to range between 400 and 1,250 psig. The EPP operating pressure would be maintained due to pressures on the North Elko Pipeline and the Ruby Pipeline, so no compressor stations would be needed for the operation of the EPP.

The EPP would begin at the existing Goldstrike Meter Station which is located on private property within the Barrick Goldstrike Mine operations boundary. The pipeline alignment would be established within existing disturbance areas to the furthest extent possible (primarily mining activity disturbance) to the Newmont Leeville and Gold Quarry Mines north of Carlin. Please refer to Figure 3-1.1 in Section 3, and Figures 3-1.2 through 3-1.11 in Appendix 1. About 3 miles southeast of the Goldstrike Meter Station is the Leeville Mine. A 4 inch turnout and above ground regulating/metering station would be constructed at the Leeville Mine in order to supply natural gas to that mine. At this same point a 12 inch Main Line Valve (MLV) would be installed in the 12 inch transmission pipeline. From this point the transmission pipeline would extend to the Gold Quarry Mine where a second above ground regulating/metering station would be constructed to supply natural gas to the Gold Quarry Mine. The regulated gas from the Gold Quarry Meter Station would be introduced into the existing Newmont-owned 6 inch pipeline to the millworks at the Gold Quarry Mine.

To protect against external corrosion, in addition to the external coating, the pipeline would be equipped with cathodic protection equipment consisting of buried anodes, test stations, and one or more DC current rectifiers (to be sited at the facilities where a power source would be available). The pipeline would also be equipped with a buried, zinc-ribbon AC mitigation system

where collocated adjacent to existing power lines. The pipeline location would be adequately identified with surface pipeline markers post-construction in accordance with US DOT CFR Title 49, Part 192.707.

The three above-ground facilities would receive natural gas from the EPP, provide safety and maintenance isolation, and deliver natural gas to the Leeville Mine and the Gold Quarry Mine. The three facilities, shown on Figure 2-2, are described below.

Leeville Regulating/Metering Station:
The Leeville Regulating/Metering Station would be similar to, but substantially smaller than, the existing Goldstrike Meter Station. It will be located on public land just off the main line using remotely controlled and monitored equipment to control the flow of gas through the station. Equipment may include, but not necessarily be limited to, valves, meters, heaters, instruments, regulators, controls, computerized RTU's, master telemetry via either satellite or other commercial means, and any equipment for the cathodic protection of the station from external corrosion. The metering station and its appurtenances would be within an area approximately 10,000 square feet in size (100 feet wide by 100 feet long for a total of approximately 0.23 acre). Power for the equipment at this station would either be from the Leeville Mine's existing electrical infrastructure or generated onsite using natural gas through thermoelectric, thermoelectric/solar hybrid, or fuel cell technology. Newmont will determine if additional fencing of the station is necessary.

Leeville Main Line Valve (MLV):
The Leeville MLV would be located on public land several hundred feet downstream of the Leeville Regulating/Metering Station. The MLV and its appurtenances would be within a fenced enclosure approximately 800 square feet in size (20 feet wide by 40 feet long for a total of approximately 0.02 acres) and would be equipped to remotely monitor the pressure of gas through the pipeline and enable the automatic, rapid shutdown and isolation of the upstream and downstream portions of the EPP in the unlikely event of an emergency. This isolation valve would also be activated during the course of normal maintenance activity. Solar panels and/or thermoelectric generation would be used as the power source at this location. The station would be fenced for security.

Gold Quarry Meter Station:
This facility would be located within Newmont's Gold Quarry Mine property on private land, and would be equipped with gas conditioning, regulating and measurement equipment. This station and its appurtenances would be within a fenced enclosure approximately 20,000 square feet in size (100 feet by 200 feet for a total of approximately 0.46 acres) to accommodate the station piping equipment and appurtenances needed for the safe, efficient delivery of natural gas to the Gold Quarry Mine. Such equipment may include, but not necessarily be limited to, valves, meters, heaters, instruments, regulators, controls, computerized RTU's, master telemetry via either satellite or other commercial means, a device for the receiving of pipeline pigs, and any equipment for the cathodic protection of the pipeline from external corrosion. Power for the equipment at this station would either be from the Gold Quarry Mine's existing electrical infrastructure or generated onsite using natural gas through thermoelectric, thermoelectric/solar hybrid, or fuel cell technology. The station would be fenced for security.

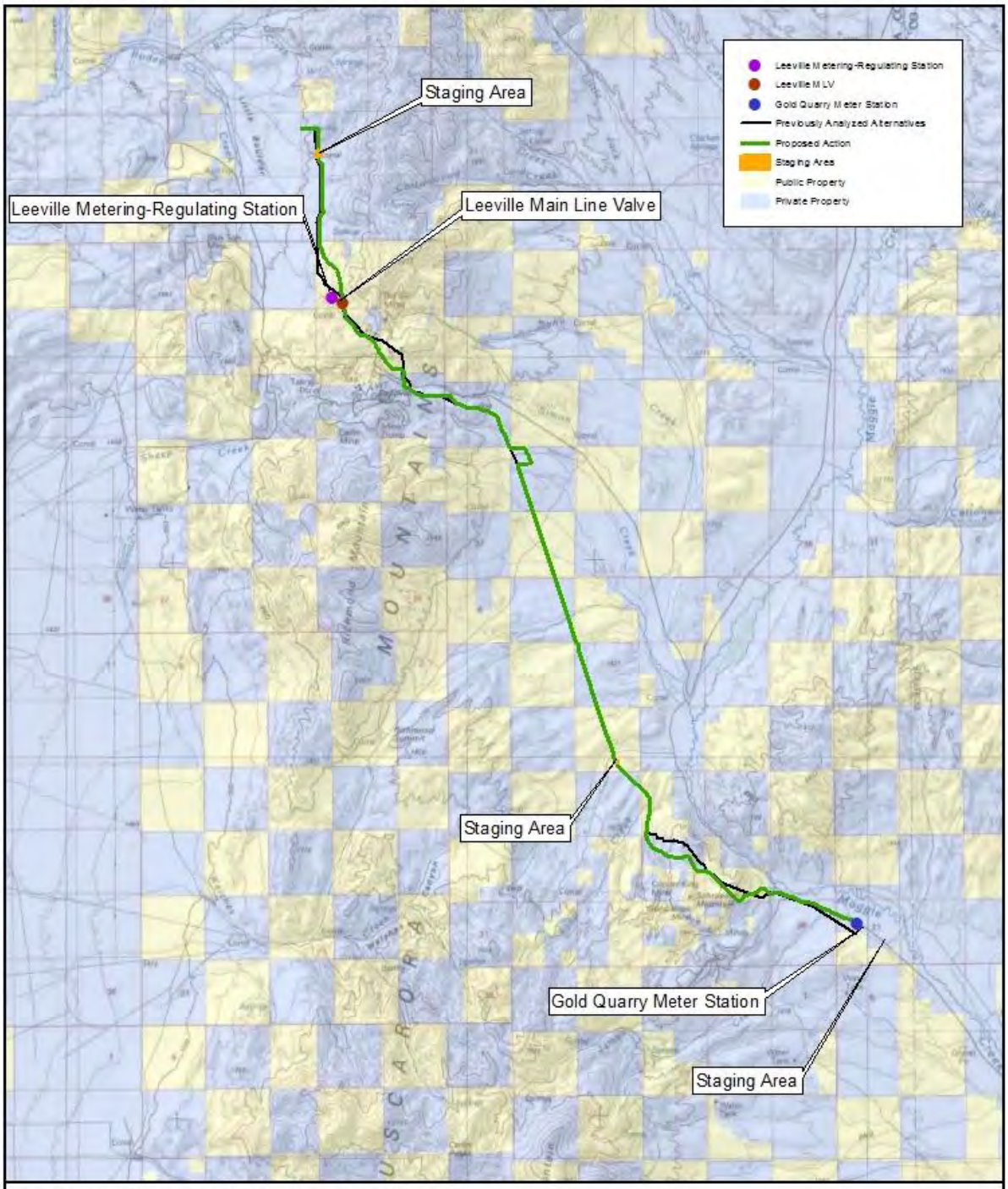

FIGURE 2-2: ALIGNMENT ALTERNATIVES
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 1 2
MILES

NOTES:
OWNERSHIP: BLM
BACKGROUND:
COPYRIGHT: © 2013
NATIONAL GEOGRAPHIC
SOCIETY

Installation of the Pipeline:

Pipeline installation would be much like a moving assembly line process, with sections of the pipeline being completed in stages. First, the entire width of temporary ROW for the pipeline would be cleared and bladed smooth as needed to provide a safe working surface for the installation crew. After blading is completed, 40-foot, externally-coated lengths of pipe would be laid out end-to-end along the intended route within the permitted ROW boundary, a process referred to as "stringing" the pipe. The next step in the process would be for the 40-foot long pipe sections to be welded together to form longer continuous lines of pipe that are prepared for underground installation. Welds are inspected for integrity. Coating would be then applied to the welded pipe ends to complete the external coating for corrosion prevention. Specific sections of the pipe may be bent, if needed, using specialized equipment to fit the contour of the pipeline's path. Once these continuous lines of pipe are readied, commercial trenching and excavating equipment remove the surface and subsurface soil alongside the staged pipe. These trenches are typically four to six feet deep, as the regulations require the pipe to be at least 36 inches below the surface. In certain areas, however, including road crossings and where water features are present, the pipe could be buried deeper as needed to provide additional protection for the pipe or to allow for the trajectory required by alternative pipeline methods such as horizontal drilling. Road crossings may be cased (the carrier pipe placed within a larger diameter protective pipe) or pipe with a slightly thicker wall would be utilized. When the pipeline crosses State Route 766, construction would use the horizontal directional drill technique to avoid interference with highway traffic. Thicker walled, more heavily coated pipe may be used where water features are present. Given the soil conditions and the standards for construction, the pipe and coating must be protected against damage during and after installation. This would be accomplished by segregating the rocks from the native soil, "bedding" the excavated trench with the fines, laying the pipe in the trench then covering the pipe with more fines to keep rocks away from the coating. After that, the remaining native soil containing the rocks would fill the trench to grade. This carefully controlled process ensures against damage to the pipe and coating during installation and afterward. Keeping the rocks at a safe distance away from the pipe during installation would help prevent any rocks from contacting the pipe during settlement. Where suitable growth medium occurs, soils would be segregated simultaneously with trenching activities to allow growth medium to be placed back at the surface of the trench backfill.

Once the pipe is welded, bent, coated, and inspected it would be lowered into the previously-excavated trenches. This would be accomplished with specialized construction equipment known as side-booms acting to lift the pipe in a level manner and lower it into the trench. Once lowered into the ground, the trench would be filled in carefully to ensure that the pipe and its coating retain their integrity. The last step in pipeline construction would be the hydrostatic test. This consists of filling the pipeline with water and pressurizing to a pre-determined, engineered pressure greater than the MAOP to check for leaks. Water for the hydrostatic test and for dust abatement during construction would be obtained from the Goldstrike, Gold Quarry or Leeville Mine sources, or agricultural sources.

The study area for archaeological resources is defined as 150 feet on each side of the EPP alignment centerline for the proposed action. For biological resources the study area and temporary right-of-way are the same and are defined as follows: 100 feet wide (50 feet on each

side of the centerline) except in areas where the slope is 20 percent or greater. For safety and construction purposes, where the slope is 20 percent or greater, construction would require a temporary right-of-way of 125 feet (62.5 feet on each side of the centerline). The archaeological and biological study areas include the staging areas and station locations that are not contained within the temporary construction right-of-way (Figure 2-2). Installation of the EPP under the proposed action would result in approximately 270 acres of disturbance in the study area of which 59 acres are existing roads and other mining activities that would remain in a disturbed condition. Approximately 17 acres would be for staging and storage within existing disturbed land, and 0.71 acre would be permanent disturbance on public and private land attributed to above ground facilities. Temporary disturbance would be approximately 94 acres on public land and 117 acres on private land. The Proposed Action would reclaim 211 acres including that previously damaged by wildfire. Existing and proposed disturbance within the study area is summarized in Table 2 below by existing land surface type.

Within the study area the following land surface type definitions have been applied; undisturbed land surface when viewed from an aerial photograph (Microsoft Virtual Earth) that currently supports sufficient vegetation cover to assign a natural vegetation community type; disturbed – land surface when viewed from an aerial photograph (Microsoft Virtual Earth) that is currently graded and lacks sufficient vegetation cover to assign a natural vegetation community type; burned – land areas that have been damaged by wildfire including those that have been seeded and are at some level of restoration from 2001 through 2013 (BLM 2013a).

Table 2. Disturbance Associated with the Proposed Action within the Study Area

Activity	Private Land (Acres)			Public Land (Acres)		
	Upland Undisturbed*	Upland Disturbed* (roads/mining activity)	Upland Burned**	Upland Undisturbed*	Upland Disturbed* (roads/mining activity)	Upland Burned**
Existing/ Proposed Clearing/ Trenching & Backfill of pipe alignment (Study Area)	104	31	12	92	12	2
Proposed Clearing of vegetation on staging areas (Study Area)	1	15	0	0	1	0
Total Proposed Disturbance – 270 acres (Study Area)	105	46	12	92	13	2
Total Proposed Disturbance Private/Public 270 acres (Study Area)	163			107		

Sources:
*Disturbed, undisturbed upland or riparian habitat digitized using: Bing Maps: @ Harris Corp, Earthstar Geographics LLC © Microsoft Corporation.
**Burned in 2011. Bureau of Land Management 2013a. Tuscarora Field Office GIS. 2011 Fires, Fire History, Received January 2012 & August 2013

A list of equipment and operators/employees required to construct the EPP is summarized in Table 3. Construction activities would be expected for a minimum of 12 weeks up to a maximum of 20 weeks.

Table 3. EPP Proposed Construction Equipment/Operators

Equipment Quantity	Equipment Description	Operators /Employees
6	Semi-Truck - Pipe Delivery	4
2	Vacuum Lifter or Crane	2
2	D8, D9 or D10 Dozer - Blade and/or Loader	1
1	Trencher - Track Unit	1
2	Excavator - Track Unit	2
2	Backhoe	2
6	Side-Boom Tractor	4
2	Super Padder - Track Unit	1
1	HDD Unit	4
1	Pipe Bender - Track Unit	1
4	Dump Truck	4
2	Stakebed Truck - w/Stinger	2
6	Welding Truck	12
4	Water Truck (w/cannon)	4
2	Fuel/Lube Truck	2
9	Pickup	9
1	55HP New Holland Ford Tractor	1
1	Great Plains 8' wide no-till drill seeder	
1	185HP John Deere 4760 Tractor	1
2	10' wide side-by side Haybuster Drill Seeder	
1	Polaris 6 wheeler ATV with broadcast seed and harrow	1
58	**Subtotal**	**58**
	Other Non-Craft Employees	
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2
	Compliance Specialist	1
	Construction Laborers	10
	Subtotal	**17**
58	**Total**	**75**

2.1.3 Long Term Sustainability/Reclamation

Properly designed, installed, inspected, and maintained natural gas pipelines, such as the EPP, have an expected operating life well in excess of 50 years. As the EPP ages, the frequency of inspections and maintenance may be increased to ensure that the long-term integrity of the pipeline would be sustained. In the event no other uses for the EPP were developed, the EPP would be abandoned in place per industry standards and pipeline markers could be removed at that time. Abandoning in place would result in no further disturbance to the environment except for removal of the above-surface facilities at Leeville Regulating/Meter Station and Main Line Valve, and Gold Quarry Meter Station. Project disturbance would be reclaimed as described in Section 3.3.7.

2.1.4 Construction Measures/Design Features

This section describes the environmental protection measures and design features that would be included in the proposed action to minimize impacts from the construction and operation of the EPP.

General:

Prior to mobilization for construction, PPC would facilitate a preconstruction meeting for all construction field personnel. At this meeting, PPC resource specialists would provide Resource Sensitivity Training to PPC construction personnel. Resource Sensitivity Training would address resources that have potential to occur within the EPP temporary ROW, as well as BLM protocol to address those resources during the course of EPP construction activities. Resources addressed would include: cultural and paleontological resources, wildlife, and noxious weeds.

Cultural and Paleontological Resources:

Construction activities would be conducted with an awareness that vertebrate and invertebrate fossils, and cultural resources may be exposed during pipeline excavation activities. Prior to construction mobilization to the project area, a qualified specialist will provide the construction contractors with Resource Sensitivity Training to allow the contractors to be aware of the potential to inadvertently unearth and to identify potentially unique items in the unearthed trench soils.

During excavation for installation of the EPP, in areas that could disturb previously undisturbed Tertiary sediments (Tertiary Carlin Formation), excavation activities would be conducted with a paleontological monitor present. If vertebrate fossils are discovered in these currently undisturbed areas within the Tertiary Carlin Formation, construction activities would be stopped immediately within 100 feet of the area of discovery and PPC's paleontological monitor would contact the BLM Authorized Officer. The BLM Authorized Officer would evaluate the discovery to determine if the discovered paleontological resources are significant, and determine any construction adaptive management necessary, which could include PPC hiring a qualified specialist to evaluate the site and report on the findings. Construction activities within 100 feet of the area of discovery would not resume until a notice to proceed is granted by the BLM Authorized Officer within a reasonable timeframe.

The EPP Proposed Action ROW has been located through coordination with the BLM and project archaeologists based on the results of the project Class III cultural resources inventory such that potential direct impact to all known historic properties would be avoided during construction of the EPP. Portions of one known site are located within the Area of Potential Effect (APE). Within the area extending 100 feet north to 100 feet south of that site, the temporary construction ROW would be limited to 40 feet wide, extending east from the toe of the Newmont North-South Haul Road. PPC would employ a qualified cultural resources monitor to install a temporary fence at the 40 foot boundary, extending for a length of 200 feet. Furthermore, the archaeological monitor would be present during all ground disturbing activities in this area and to monitor the integrity of the ROW boundary fence.

If cultural resources are inadvertently discovered during EPP construction activities, the applicable regulations would be implemented (Section 3.3.1 Cultural Resources). Construction

activities on the EPP within 100 feet of the potential discovery would stop immediately and BLM would be notified. BLM would assess the situation and determine any construction adaptive management necessary, which could include PPC hiring a qualified cultural resources specialist to evaluate the site and report on the findings. This measure would allow for the evaluation of any cultural resources that may be inadvertently discovered and provide for their preservation or data recovery. Construction activities within 100 feet of the area of discovery would not resume until a notice to proceed is granted by the BLM Authorized Officer within a reasonable timeframe.

Wildlife:

Limited Operating Periods (LOPs) are designed to protect breeding adults and offspring from human-caused disturbances by minimizing the type, spatial extent, and timing of project activities permitted. Construction activities would not be authorized to occur within certain spatial limits during those LOPs unless environmental protection measures and construction methods are applied that can measurably avoid impacts to these species. The EPP originally-proposed construction period (January through March) would be subject to the LOPs and spatial limits shown in Table 4 as applicable. Proposed scheduled use of staging areas and pre-ground disturbing activities within the spatial limits identified in Table 4 would also adhere to the applicable LOPs. If weather or other factors result in construction delay or interruption extending the construction period, additional LOPs would be applicable as described below and summarized in Table 4.

Potential direct impacts to individuals would be minimized by conducting construction in accordance with LOPs. PPC would employ a qualified biologist to conduct species specific pre-construction surveys prior to clearing and grubbing of the EPP temporary ROW. If pygmy rabbit presence is confirmed by the qualified biologist, the biologist would consult with the BLM wildlife biologist for applicable adaptive management to be applied to clearing, grubbing, blading and construction activities, and buffers to be delineated in the field with protective fencing to avoid potential impact. Active burrows would be documented using GPS. PPC would then clear, grub and blade the proposed temporary ROW at the start of construction to remove potential burrowing habitat for pygmy rabbit avoiding areas buffered to protect active burrows. Buffered areas would be resurveyed and when determined to be inactive by PPC's qualified biologist would then be cleared and bladed for construction.

If weather or other factors result in construction delay or interruption extending the construction period into March, additional LOPs would be applicable. Construction extending into March would require PPC to employ a qualified wildlife biologist to conduct surveys for migratory birds in addition to pygmy rabbits that can be found in the area year-round as discussed above. Surveys and work construction periods would be conducted in accordance with the stipulations of the Migratory Bird Treaty Act as follows.

If EPP construction extends into the migratory bird nesting period (March 15 – July 31), prior to surface disturbance during this LOP, PPC would provide a qualified biologist to conduct migratory bird nest surveys of active working areas within potential nesting habitat to verify no nesting birds would be affected. During the period from March 1 – August 31, all ground-disturbing activities would be completed within 14 days of the date on which the survey was

performed. If activities begin or last more than 14 days from the date of the most recent nest survey, another nest survey would be performed to ensure that no nests are disturbed and that no take of migratory birds occurs. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) would be delineated in coordination with the BLM wildlife biologist, and the buffer area avoided to prevent destruction or disturbance to birds or nests until they are no longer active. Spatial buffer sizes presented in Table 4 are based in part on whether the species is a Species of Concern, knowledge of a species' tolerance of disturbance, and whether it nests predominantly in open versus forested habitat (USFWS 2008).

Table 4. EPP Limited Operating Periods

Species	Habitat Type	Limited Operating Period	Spatial Limits	Spatial Buffer (USFWS 2008)[1] Figure 3-12
Mule deer	Migration Areas	October 15 – December 31, and Late March – mid June (BLM 2013b)	Two significant confined corridors intersect the EPP alignment (Figure 3-8)	Not applicable
Western Burrowing owl	Nesting, Rearing, Foraging	March 1 – August 31	Buffer to be determined in consultation with BLM Wildlife Biologist if necessary based on preconstruction available habitat confirmation survey, and follow-up habitat surveys (if necessary) (Figure 3-11)	0.25 mile
Red-tailed Hawk	Nesting, Rearing	March 1 – April 15	Confirmed active nest within 1.6 miles of the EPP alignment (Figure 3-12)	0.33 mile
Pygmy rabbit	Nesting, Rearing, Foraging	Year-round	Buffer to be determined in consultation with BLM Wildlife Biologist if necessary based on preconstruction species-specific surveys	To be determined in consultation with BLM Wildlife Biologist if necessary based on pre-disturbance surveys (Figure 3-11)
Golden eagle	Nesting, Rearing,	January 1 – August 31	2 confirmed active nests within ½ mile of the EPP alignment (Figure 3-12)	0.5 mile
Ferruginous hawk	Nesting, Rearing,	March 1 – August 1	1 confirmed active nest within 5.5 miles of the EPP alignment (Figure 3-12)	1.0 mile
Prairie falcon	Nesting, Rearing	January 1 – July 1(BLM 2013b)	1 confirmed active nest within ½ mile of the EPP alignment (Figure 3-12)	0.5 mile

[1] From Guidelines for Raptor Conservation in the Western United States (USFWS 2008).

The BLM, NDOW and mining companies continue to follow the recommendations contained in the Area 6 (MU06) Mule Deer Working Group Habitat Management Practices (NDOW 2012) to minimize impacts to migration areas and restore habitat including reseeding tens of thousands of

acres in MU06 burned between 1999 and early 2013 (NDOW 2013b). The MU06 Management Practices are intended to look at management of the unit from a landscape level over the long term rather than a project by project or action by action basis and promote maintenance of historic/adequate north-south movement areas among other goals.

Under the Proposed Action, if weather or other factors cause disruption or delay in the construction schedule extending construction into the mule deer migration period, PPC would limit construction activities along the EPP temporary construction right-of-way during the applicable LOP (BLM 2013b) to BLM and NDOW approved noncontiguous construction blocks.

Should LOPs for mule deer be in effect during construction in a given area, construction crews and equipment would minimize the linear extent of construction activity along the pipeline corridor in those areas to accommodate the migration of such deer ahead of and behind the construction spread. Segmentation of the construction spread would only be utilized should the construction spread be unable to minimize the linear extent to acceptable levels. Segmentation of the construction spread would involve defining linear construction areas into construction blocks, for example Block A, Block B, and Block C, etc. This manner of segmentation would be repeated within areas as defined by the BLM and NDOW as used historically for deer movements through the project area. Construction would be authorized in "A" Blocks until completed through site stabilization and revegetation, at which time construction would move onto the "B" Blocks, and so on. The approved construction blocks would ensure that a majority of the historic mule deer migration area would not be temporarily restricted by EPP construction activities at a given time during the LOP.

PPC would complete site stabilization and revegetate currently undisturbed portions of the EPP temporary ROW at the completion of pipeline installation and as close to the onset of fall/winter precipitation as possible. Areas revegetated as a result of EPP construction ground disturbance in currently undisturbed areas would result in a temporary impact to wildlife habitat. However, revegetation during the fall/winter would minimize impacts to habitat by taking advantage of ambient soil moisture from snow, and exclusion from livestock grazing (BLM 2013e) rather than revegetation being conducted at the conclusion of pipeline installation. PPC would complete revegetation of these areas using a seed mix approved by the BLM (Section 3.3.7). In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol is determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

If construction of the EPP were scheduled to occur outside of the mule deer LOPs (October 15 – December 31, and late March – mid June (BLM 2013b)), such as mid-June through late September the standard pipeline construction approach would apply. This standard approach is detailed in Section 2.1.2 Installation of the Pipeline.

To the furthest extent possible, under all construction schedule scenarios, each length of open trench would be limited to 1,200 feet at a time. If greater than 1,200 feet of trench would be open at any time in a particular location, the trench would be bridged and ramped every 1,200 feet to protect wildlife species and livestock, providing both a means to cross the open trench or to escape if needed.

The Proposed Action includes a Conservation Strategy (Appendix 3) to protect prairie falcon and golden eagle from potential direct and indirect impacts related to construction of the EPP. In addition to performing migratory bird nesting surveys as necessary, a qualified biologist would monitor to confirm activity of the golden eagle and prairie falcon nests. These nests are located approximately 1.3 miles southwest at the northern extent, and approximately 0.6 mile southwest in the southern extent of the EPP alignment, respectively. These nest locations are continually subject to noise associated with vehicular travel along State Route 766 for the prairie falcon, and mining activity for the eagle nest as discussed in Section 3.3.5 of this EA. If either or both of these nests are confirmed active when EPP construction begins at either end of the two raptor monitoring zones (Figure 5, Appendix 3), PPC's qualified biologist would start nesting behavior monitoring and continue monitoring until the qualified biologist determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive. If abnormal nesting behavior is documented, the qualified biologist will determine the severity of the abnormal behavior and consult with the BLM wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. The goal of the nest behavior monitoring is to assess if potential construction-related impacts (noise or human presence) may disrupt the nesting success of the subject raptor. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

Soils and Vegetation:

To control the introduction of both noxious weeds and invasive nonnative plants during construction of the EPP, PPC would implement Newmont's BLM approved noxious and invasive weed control protocol. PPC will be responsible for informing all pipeline construction personnel of the requirements and compliance with the BLM approved protocol.

In addition, PPC would limit the extent of surface disturbance to that necessary to construct and install the EPP. PPC would conduct ground disturbing activities in a manner that includes study area pretreatment measures to preclude spreading of noxious weeds from the study area to unaffected adjacent areas, and dedicate equipment to address weed affected soils in the study area. Construction methods for the EPP would include the following: prior to entering the study area, all vehicles and construction equipment would be washed to remove dirt, debris, and plant materials to minimize the spread of weed materials. During construction, PPC would dedicate one piece of equipment to excavate weed affected soils for stockpiling and for backfill of weed-affected soils. The equipment may be used elsewhere on the project after washing.

PPC would stabilize all areas disturbed by construction of the EPP and seed all currently undisturbed ground as weather conditions allow subsequent to pipeline installation and as close to the onset of fall/winter precipitation. Site stabilization and revegetation of currently undisturbed ground would be conducted in accordance with Newmont's BLM-approved methods, treatments and seed mix. After construction and revegetation are completed, there would be no other disturbances planned within currently undisturbed areas by PPC during the life of the EPP project. In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol if determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

In areas of the temporary ROW that are currently in a disturbed state, post construction PPC would return the ground surface to preconstruction topography and site stability levels.

Construction Equipment:

PPC has identified construction equipment necessary to effectively and efficiently complete construction and revegetation with full consideration of minimizing the surface disturbance footprint and human presence impacts to wildlife. PPC would limit access to the proposed temporary right-of-way to existing disturbed surfaces (Figure 3-1.1 and Figures 3-1.2 through 3-1.11 in Appendix 1). In addition, all pipeline construction activities will be restricted to the proposed temporary right-of-way and designated staging areas. To the extent practical, rubber tired equipment would be used. Please see Table 3 in Section 2.1.2 and the discussion regarding Installation of the Pipeline for a summary of equipment required for project construction. During the proposed construction phases for the EPP, Table 5 lists equipment that may likely be active during any one phase.

Table 5. EPP Proposed Construction Equipment/Operators Active at Each Stage

Construction Stages:

Clear and Grade Surface: Timeframe approximately 1 week.

Equipment Quantity	Equipment Description	Operators /Employees
2	D8, D9, or D10 Dozer - Blade and/or Loader	1
4	Water Truck (w/cannon)	4
6	Pickup	9
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2

Pipe Stringing and Preparation: Timeframe approximately 3 months*.

Equipment Quantity	Equipment Description	Operators /Employees
2	Vacuum Lifter or Crane	2
6	Side-Boom Tractor	4
1	Pipe Bender - Track Unit	1
4	Water Truck (w/cannon)	4
2	Fuel/Lube Truck	2
9	Pickup	9
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2
	Compliance Specialist	1
	Construction Laborers	10

Pipe Installation - Trenching through Recontouring: Timeframe approximately 3 months*.

Equipment Quantity	Equipment Description	Operators /Employees
2	Excavator - Track Unit	2
2	Vacuum Lifter or Crane	2
2	D8, D9, D10 Dozer - Blade and/or Loader	1
1	Trencher - Track Unit	1
2	Backhoe	2
6	Side-Boom Tractor	4
2	Super Padder - Track Unit	1
1	HDD Unit	4
4	Dump Truck	4
2	Stakebed Truck - w/Stinger	2
6	Welding Truck	12
4	Water Truck (w/cannon)	4
2	Fuel/Lube Truck	2
9	Pickup	9
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2
	Compliance Specialist	1
	Construction Laborers	10

Revegetation: Timeframe approximately 1 month.

Equipment Quantity	Equipment Description	Operators /Employees
1	55HP New Holland Ford Tractor	1
1	Great Plains 8' wide no-till drill seeder	
1	185HP John Deere 4760 Tractor	1
2	10' wide side-by side Haybuster Drill Seeder	
1	Polaris 6 wheeler ATV with broadcast seed and harrow	1
6	Pickup	9
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2
	Compliance Specialist	1

* = Pipe stringing and preparation, pipe installation, and revegetation would occur within approximately the same 3 month period.

Existing Features:
The EPP would maximize the use of areas already in a disturbed condition (roads and previously cleared areas) for the proposed access, staging and pipeline installation.

The EPP would confine construction access to the pipeline alignment to the requested temporary construction ROW and existing roads on private and public lands. Existing disturbed areas on public and private lands would be used for construction staging of equipment and pipeline materials (Figures 3-1.1 in Section 3 and Figures 3-1.2 through 3-1.11 in Appendix 1).

Construction Methods:
The EPP Proposed Action and Alternative would cross the Newmont-Barrick Mine Road (Road 237A) and State Route 766 in one location on each roadway (Figure 2-2). The construction method applied for crossing these areas would depend on a combination of factors, including consultation with the Nevada Department of Transportation (NDOT) District 3 and soil characteristics at each crossing site. At present, PPC proposes to cross both roadways using the Horizontal Directional Drilling (HDD) method, as described below, to avoid traffic flow impacts due to lane or road closure as a result of an open cut method.

Although the EPP would not cross any perennial or intermittent streams, the EPP would cross several ephemeral drainage features. Where features are dry, PPC proposes using the open-cut method, described below, to complete the crossing. In the unlikely event the features are flowing as a result of spring runoff events, HDD or dry-ditching would be applied as field conditions permit.

Open-Cut Crossing Method – Conventional trenching and excavation equipment would be used to excavate in the crossing area. Once the trench is established, the pre-bent, fabricated pipe segment would be installed and promptly backfilled. Pipe segments used for creek and drainage crossings would be weighted to prevent shifting in the event of future heavy runoff years or periods of prolonged heavy water flow.

HDD Method – Specialized equipment would be used to drill a generally horizontal pilot hole beneath the surface of the ground from one side of the crossing to the other. The path of the small diameter pilot hole would be at a sufficient depth under the crossing area to support the entry and exit angles for the drilling of the pilot hole. Drilling fluid consisting of water and bentonite clay would be used in a closed-loop system to lubricate the drill. The drilling system remains as a closed system from initiation of drilling through installation of the pipeline excluding potential for foreign objects including small wildlife to enter the drill hole. Upon completion of the pilot hole, the hole would be reamed with a larger drill bit to a larger diameter sufficient to accommodate the external diameter of the pipeline. A specially prepared pipe string would be pulled back through the reamed hole from the bore exit side to complete the crossing. Once installed, the ends of the pipe string would be tied-in to the pipeline on either side of the crossing.

Dry-Ditching Method – Similar to the open-cut crossing method, dry-ditching in flowing water involves the diversion of the water flow around the area to be crossed utilizing a system of flumes or pumps and hoses. Once the water diversion would be established, the crossing area

can be trenched or excavated as with the open-cut method. After the pipe would be installed in the trench and backfilled, the diversion would be removed and water flow restored in the original channel.

Additional grading may be required to allow for safe construction and pipe bending in areas where the EPP encounters steep slopes (≥ 20%). Potential for this condition to arise has been evaluated and accounted for in the request for temporary ROW width. All land surfaces disturbed during construction of the EPP would be returned to pre-construction topography and level of stability that does not promote accelerated erosion.

The use of commercial explosives (blasting) to aid trench excavation would only take place along the EPP right-of-way in specific areas where the rock cannot be economically excavated by conventional means. All blasting activity would be conducted by an explosives contractor licensed by the state of Nevada and in conformity with all applicable laws and regulations governing the use of commercial explosives for excavation purposes. Explosives would be safely transported, handled, and stored by the explosives contractor and in accordance with applicable laws and standards for such activity. PPC would notify the appropriate Elko BLM office representative at least one day prior to the day explosives are to be used in the event such BLM representative wants to be present on-site to monitor the blasting activity. No blasting would occur within 40 feet of existing structures. All blasting located along adjacent power line ROW would be conducted in a manner that would not cause damage to the power company property and facilities. The blast area would be backfilled or covered by blasting mats and/or other material as needed to protect nearby existing facilities or sensitive natural resources from thrown rock fragments.

The drilling program would be based on grid spacing sufficient to achieve the desired explosive energy ratio needed to break the rock and pull the trench. This pattern would be adjusted on a site-specific basis to compensate for different geology, nearby utilities or other sensitive areas.

Delays would be used to control the vibration as well as limit the transmission of energy below the damaging levels at any existing structure. The delay pattern would be created to provide the energy relief immediately down the trench in preference to a horizontal direction. The amount of explosive used in each hole would be limited to the manufacturer's recommendations and specifications.

All shots would be carefully designed by the explosives contractor to control flyrock. All hole loading activity would be supervised by the explosives contractor, who would communicate with the shot hole drillers to obtain geological information for each shot. Matting and/or padding would be utilized at the discretion of the explosives contractor. A good quality, non-bridging stemming material that completely fills any voids in the drill hole would also be used to reduce the amount of flyrock.

Following the required waiting period after each shot, the blast area would be inspected for any indication of fire or fire hazard. Particular attention would be paid to the vegetated areas outside of the ROW. A fire watch team would patrol each blast area for a period of one hour after the required waiting period. Normally, the explosives vaporize at the instant of detonation and there

is no fiber or other material left to smolder or be a source of concern. Any plastic shock tube from the initiation system that remains after the blast would be picked up for proper disposal immediately after the blast.

All reasonable and necessary measures would be taken to exclude livestock and wildlife from the blasting area. During the normal safety check prior to blasting, the area would be checked for both livestock and wildlife. The blast would not be initiated until the area is clear (FERC 2009).

Aesthetics:

The fenced enclosure at all stations would be constructed of unpainted galvanized steel to avoid reflective surfaces. The above ground pipe and meter station would be painted with the approved BLM color palette "Shale Green" to blend into the surrounding landscape. The EPP will be properly marked in accordance with US DOT Code of Federal Regulations (CFR) Title 49, Part 192.707 to identify the location of the pipeline such that third parties are on notice of the pipeline's location and can coordinate with PPC prior to any planned excavation near the pipeline as required by Nevada's One-Call (811) law. Pipeline markers used by PPC are yellow in color and contain information about the nearby pipeline as well as emergency contact information. The style of such markers will minimize visual impacts to the extent feasible while complying with the code section previously referenced.

Pipeline Safety Features:

Risk of Accident/Rupture

Natural gas pipelines in the United States are designed, constructed, operated, and maintained according to the standards and requirements of the Federal government commonly referred to as the U.S. Department of Transportation (DOT) Natural Gas Pipeline Regulations, published in the Code of Federal Regulations (CFR), Title 49, Parts 191, 192, and 199 "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards". According to data compiled by the Pipeline and Hazardous Materials Safety Administration (PHMSA) for all gas transmission pipelines in the U.S. from 1992-2011, the top three leading causes for pipeline incidents resulting in human fatality, injury, and significant property damage are: 1) Excavation and other outside force damage (38.7%); 2) Material/Weld/Equipment/Corrosion failure (17.3%); and, 3) Miscellaneous or unknown causes (37.3%). Incorrect operation accounted for the remaining 6.7% of the causes (http://primis.phmsa.dot.gov/comm/reports/safety/SerPSIDet_1992_2011_US.html?nocache=2497#_ngtrans). Although incidents have occurred with other gas and liquids pipelines in the U.S. during the same time period, discussing the potential for accident or rupture of gas transmission pipelines provides the most appropriate comparison when evaluating the safety of the EPP, which is classified as a local gas transmission pipeline.

The EPP has been designed pursuant to the CFR Title 49 Minimum Federal Safety Standards, and the design will be subject to final review, approval, and inspection by the PUCN per the Nevada Administrative Code 704.460. The EPP will be subject to PUCN oversight in all matters related to pipeline design, installation, testing, safety, operations, and maintenance. Specific safety measures will include the following measures for the design, construction, and operation that are intended to address any current and future factors that could affect the safe, reliable operation of the pipeline:

- Automated and Remotely-Controlled Valves - The EPP will be equipped with automated/automatic valves to ensure the rapid shut down of the pipeline in the event of an emergency. The Goldstrike Meter Station, point of origin for the EPP, is equipped with an automated valve actuator to shut off the flow of gas into the EPP in the event of an emergency. The mainline valve to be located at Leeville will be easily accessible for operation by PPC personnel and effectively isolate the upstream and downstream segments of the pipeline in the event of an emergency. Gold Quarry Meter Station will be equipped with check valves to eliminate the potential for any back-flow of gas into the EPP in the event of an emergency, as well as remotely controlled isolation and shutdown capabilities. Designing the EPP with automated/automatic rapid shutdown valves will help ensure the fail-safe operation and safe shutdown of the pipeline in case of emergency.

- Pipeline Markers – Per 49 CFR 192.707, the EPP will be properly marked to identify the location of the pipeline such that mining, construction, and ranching interests in the area are on notice of the pipeline's location and can coordinate with PPC prior to any planned excavation near the pipeline as required by Nevada's One-Call (811) law. Pipeline markers used by PPC are yellow in color and contain information about the nearby pipeline as well as emergency contact information. The style of such markers will minimize visual impacts to the extent feasible while complying with the code section previously referenced.

- PUCN Oversight for Pipeline Safety – PPC will work closely with the PUCN both prior to construction and afterward to ensure that the EPP remains compliant with NAC 704.460 guidelines for operations, maintenance, and emergency response. PPC's Gas Control Center operators will monitor and control the EPP operation on a real-time basis to ensure compliance with PUCN requirements.

The primary land uses along the project include mining and wildlife habitat. The greatest threat of damage would come in the form of unannounced third party excavation for mining or other purposes. PPC would be responsible for maintaining its Public Awareness Program in compliance with Nevada 811 and the CFR 49 Minimum Federal Safety Standards, and would maintain adequate line markers to alert potential excavators to the presence of the buried EPP. Should PPC be alerted to upcoming excavation through Nevada 811 (EA Section 2.1.4 One-Call Notification), PPC would follow the appropriate protocols for establishing communications with the excavators well before their work begins, properly spot-marking the pipeline within the immediate vicinity of the excavation and having PPC representatives present at the excavation site if the digging is to occur within or near the EPP permanent ROW corridor.

Industry data supports the common sense conclusion that the risk of damage to natural gas pipelines is higher in areas where population densities are greater and where construction or earth-moving activity is more likely. The likelihood of external damage to the pipeline through excavation activities is minimal due to level of awareness with Newmont and Barrick of the pipeline and the identification of the pipeline using standard pipeline markers. As with many areas of the U.S., the danger of wildfires caused by lightning strikes or careless humans must be considered in risk analysis of the EPP. With the exception of the three fenced above ground facilities, the threat of damage to the buried EPP during a wildfire would be negligible. No vegetation would be permitted to become established within the three fenced facilities, which

would eliminate the possibility of an area wildfire threatening the pipeline equipment maintained within those facilities. The facilities would also be equipped with lightning dissipaters to minimize the possibility of a lightning-sparked wildfire starting at any of the facilities.

The aforesaid safety measures taken by PPC during construction and afterward throughout the ongoing operation of the EPP would significantly reduce the possibility of accident or rupture to the pipeline. However unlikely, were third party excavation to occur within the EPP ROW corridor that damaged the pipeline resulting in a leak or rupture, the EPP's automated/automatic valves would halt gas flows at the source to contain and minimize the consequences of the leak. In the event of an emergency, PPC emergency response plans would include shutting off the natural gas and coordinating with first responders and firefighters to protect the safety of persons and minimize the damage to property while containing the leak and extinguishing the fire.

As the EPP ages, the frequency of inspections and maintenance may be increased to ensure that the long-term integrity of the pipeline is sustained. The latest Federal standards have been developed as a result of the unfortunate pipeline incidents that have occurred over the years, such that the lessons learned from those failures have been used to educate the industry and substantially upgrade the standards. As applicable, the pipeline may be internally inspected utilizing smart-pigging technology to evaluate the condition of the line pipe, welds, and the ongoing effectiveness of the cathodic protection system over the life of the pipeline. Any deficiencies detected during routine maintenance would be promptly addressed.

On-going Operation:

Once installation would be complete, the pipeline and facilities would be remotely monitored and operated by PPC's qualified operations personnel on a real-time, 24/7 basis utilizing SCADA (Supervisory Control And Data Acquisition) technology at PPC's Rancho Cordova, California Gas Control Center. Pipeline operators, utilizing the SCADA real-time operational data telemetered to the Gas Control Center, monitor pipeline flows and pressures to ensure the safe, efficient receipt and delivery of gas through the pipeline. Critical operating points are alarmed in the SCADA system to alert operators of changing pipeline conditions, as well as provide computerized leak detection on the pipeline. Pipeline personnel would be available at the Gas Control Center and locally to provide operational support for the pipeline, and to be available to respond to routine and emergency operating conditions as needed.

One-Call Notification:

The pipeline would be registered with the local chapter of the national one-call system (Underground Service Alert [USA] North), which provides excavators, construction crews, and anyone interested in digging into the ground around a pipeline with a single phone number that may be called when any excavation activity would be planned. This call alerts the pipeline company, which may flag the area, or even send representatives to monitor the digging. The national number for One Call is "811." Response time is dependent on the timing of the planned excavation.

Emergency Response:

PPC recognizes that emergency response may be required during construction and post-construction as part of the ongoing pipeline operations. Pursuant to Nevada Administrative Code

(NAC) section 704.460, PPC would be required to maintain an approved pipeline emergency response plan for pipeline operations under the jurisdiction of the Public Utilities Commission of Nevada (PUCN).

During construction of the EPP the following emergency response protocol would be applicable:

- The contractor would at all-times conduct construction activities in a manner to avoid the risk of bodily harm to persons or risk of damage to any property.
- PPC would require the contractor to promptly and fully comply with safety, sanitary and medical requirements as prescribed by Federal, State or local laws or regulations, and Newmont Mining Corporation personal and vehicle site safety requirements.
- PPC would require the contractor to submit for approval by PPC a written Safety Program.
- The construction Foreman and Inspector(s) would be required to keep on their persons at all times a satellite telephone or other suitable communications device for notification of emergency responders.
- All construction equipment would be equipped with applicable exhaust spark arrestors.
- Fire extinguishers would be available at all work sites.
- Personnel would be allowed to smoke only in designated areas, and they would be required to follow PPC policy regarding smoking.
- The BLM Elko District Office (775-753-0200) would be notified of any wildland fire, even if the available construction personnel are able to address the situation or the fire poses no threat to the surrounding area. In addition, the Elko Interagency Dispatch Center would be notified (775-748-4000).
- A list of emergency phone numbers would be maintained at all work sites.
- All construction vehicles would carry a shovel and conventional fire extinguisher.
- Vehicle catalytic converters (on vehicles that enter and leave the study area on a regular basis) would be inspected often and cleaned of all flammable debris.
- All cutting/welding torch use, electric-arc welding, and grinding operations would be conducted in an area free, or mostly free, from vegetation. An ample water supply and shovel would be on hand to extinguish any fires created from sparks. At least one other person in addition to the cutter/welder/grinder would be at the work site to promptly detect fires created by sparks.
- All construction personnel would be responsible for being aware of and complying with the requirements of any fire restrictions or closures issued by the BLM, as publicized in the local media or posted in the field or on the Elko BLM District website.

Inspection of the Pipeline:

Post construction, the EPP would require a minimum annual visual inspection of the pipeline route in its entirety. Each visual inspection would include the required annual leak detection, pipeline marker inspection, and cathodic protection inspection and testing. These inspections are non-invasive and cause no greater disturbance than driving or walking the pipeline corridor. PPC would use existing roads to perform required inspections. In addition, PPC would notify the BLM of the annual inspection date two weeks prior to the scheduled inspection and invite BLM personnel to accompany the inspector.

2.1.5 Connected Actions

Connected actions are those actions that are "closely related" and "should be discussed" in the same NEPA document (40 CFR 1508.25 (a)(1)). Actions are connected if they automatically trigger other actions that may require an EIS; cannot or would not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 (a)(i, ii, iii)). Connected actions are limited to actions that are currently proposed (ripe for decision). Actions that are not yet proposed are not connected actions, but may need to be analyzed in cumulative effects analysis if they are reasonably foreseeable (BLM 2008).

There no actions that are currently proposed (ripe for decision) to be analyzed in the EPP EA.

2.2 Alternatives

The alternatives to the Proposed Action are limited to the No Action Alternative. Several alternatives were considered but eliminated from further analysis for one or more reasons as described below. Such reasons include feasible construction, maximizing existing disturbed land surfaces, and avoidance of current or planned mining activities.

2.2.1 No Action Alternative

Under the No Action Alternative, the BLM would not authorize a ROW grant for the EPP on public lands. Since the pipeline must cross public lands, no pipeline could be constructed if BLM does not authorize a grant.

2.2.2 Alternatives Considered But Eliminated from Further Consideration

Newmont-Barrick Mine Road

One alternative alignment that follows Nevada State Route 766 and the Newmont-Barrick Mine Road (Road 237A) was initially explored by PPC in an attempt to minimize disturbance, to the furthest extent possible, to sensitive resources. This alternative was eliminated from further consideration due to the proximity of this route and its crossing of Maggie Creek with associated potential for impact to riparian and endangered species potential habitat for Lahontan cutthroat trout, high likelihood of occurrence of cultural resources and potential for impact, constructability issues in very steep areas, potential disruption of daily traffic flow and traveler and construction worker safety.

EPP Alignment South Extent

At the south extent of the EPP alignment, PPC explored an option to run the alignment as far as possible down the southwest side of State Route 766 to take advantage of existing disturbed ground. In June 2013, the BLM informed PPC of the EPP alignment proximity to the toe of the existing waste rock dump toe and previous slope failure. In addition, an existing waterline is located within the EPP proposed alignment in this section. This alternative was eliminated from further consideration due to proximity to both of these features requiring infeasible construction techniques.

Minor Alignment Adjustments

The initial EPP alignment (as set forth in the originally submitted SF299) as shown on Figure 2-2 was evaluated in the field for constructability, maximum use of existing disturbed lands, and avoidance of current and future mining activities. In four general locations, the initial EPP alignment was eliminated from further consideration for these reasons. These minor alignment adjustments have resulted in approximately 1 additional mile of proposed pipeline to be constructed.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES FOR THE PROPOSED ACTION AND THE ALTERNATIVES

This section describes the resources not affected or minimally affected by the Proposed Action and Alternatives, the affected environment for the EPP study area; and the direct and indirect impacts associated with the Proposed Action and No Action Alternative. Please see Figures 3-1.1 and Appendix 1 that show details for the proposed alignment.

The EPP would require a permanent grant authorization of a right-of-way of 30 feet wide on public and private lands, totaling about 66 acres. In the following sections, the "study area" refers to land associated with resources and resource uses analyzed in this EA. The study area for archaeological resources is 300 feet wide - 150 feet on each side of the centerline. For biological resources the study area and temporary right-of-way are the same and are defined as follows: 100 feet wide (50 feet on each side of the centerline) except in areas where the slope is 20 percent or greater and in the vicinity of the National Historic Register eligible Victory Highway where the temporary ROW would be limited to 40 feet.. For safety and construction purposes, where the slope is 20 percent or greater construction will require a temporary right-of-way of 125 feet (62.5 feet on each side of the centerline). The archaeological and biological study areas include the staging areas and station locations that are not contained within the temporary construction right-of-way (Figure 2-2).

The surface disturbing impacts in currently undisturbed areas of the study area are considered to be temporary impacts due to ground disturbance as the pipeline route is cleared, excavated and the pipeline is installed. Site stabilization and seeding of currently undisturbed areas would occur subsequent to pipeline installation as close to the onset of winter precipitation as possible, and the vegetation would be restored as quickly as effective precipitation allows. Fall/winter seeding under or on snow allows native species seed to imbibe water, yet not germinate until growing season temperatures are reached and maintained. In addition, a snow cover protects most seed from being foraged by small wildlife and birds.

The other category of potential impacts is long term, which, in this case is estimated at approximately 50 years – the expected lifetime of the active mine operations associated with the proposed EPP alignment, the only user of natural gas from the pipeline. Long term impacts would result primarily from ongoing pipeline operations. They include a low level of noise (8 to 10 Db) from equipment at the three surface stations, maintenance and safety inspections, and the physical presence of the three surface stations (Section 3.1.1 below).

Given that a majority of the proposed EPP pipeline is contained with currently permitted POOs, there is potential for future disturbance of the soil surface after revegetation by PPC. Future potential soil surface disturbance would delay revegetation recovery.

Baseline information presented in this chapter was obtained from published and unpublished material; discussions with federal, state, and local agencies; field studies conducted in the study area; and PPC personnel's experience with construction and operation of natural gas pipelines. The affected environment for individual resources was delineated based on the area of potential direct and indirect environmental impacts for the proposed EPP.

The proposed EPP would be located along the eastern side of the Tuscarora Mountains within the Maggie Creek Area-051, and Boulder Flat 061 hydrographic basins (Figure 3-2). North-trending mountains and hills are bisected by perennial and intermittent drainages and colluvium and alluvium dominated basins. In the area, elevations range from about 6425 feet (amsl) at a mountain peak south of the Goldstrike Meter Station to a low of approximately 5094 feet (amsl) near the south end of the EPP along State Route 766.

3.1 Negative Declarations

The BLM ID Team (Section 6) (BLM 2013b) evaluated resources and resources uses and determined that the following resources and resource uses would either not be affected or minimally affected (such that analysis is not needed) by the Proposed Action. Rationale for dismissing these resources and resource uses from further discussion in this EA are provided where appropriate.

3.1.1 Resources and Resource Uses Not Present and Not Affected

- Areas of Critical Environmental Concern (ACEC) – there are no ACEC's within the study area for the EPP.
- Environmental Justice - This project is not anticipated to have any disproportionately high and adverse effects on minority and low-income populations.
- Floodplains (designated by FEMA) – the EPP study area does not include floodplain or floodway areas regulated by the Federal Emergency Management Agency (FEMA).
- Forestry and Woodland Products - The EPP study area does not support timber suitable for forest habitat or harvest.
- Grazing and Range Improvements: A majority of the study area has been removed from grazing permits administered by the BLM.
- Human Health and Safety – Please see Section 2.1.4 Pipeline Safety Features.
- Noise - The only concern related to noise is the potential impact of noise on wildlife. Noise levels associated with the construction and operation of the Proposed Action would be similar to noise generated from ambient and ongoing mining activities. Per the Ruby Pipeline Final EIS, the increase in noise level at a metering station as a result of pipeline operation is 4 to 8dB attributed to a Model 8550 TEG (thermoelectric generator). Current Tuscarora Field Office policy views any increase of less than 10dB in active sage-grouse strutting and brooding habitat as having no substantive impact (BLM 2012a). Although the EPP project area does not support Greater sage-grouse Preliminary Priority or Preliminary General habitat for Greater sage-grouse (BLM 2013b), this policy for potential noise impacts was applied to the EPP.

  The only equipment required for operation of the proposed EPP Leeville and Gold Quarry Meter Stations that has potential for generating noise on public land is the TEG. The EPP pipeline operation and monitoring equipment has been selected to minimize pipeline operation noise. The Model 8550 TEG, located at least 10 feet from all sides of the fenced enclosure at these two stations, would provide the source of power for the electronics and monitoring telemetry at the metering stations. This TEG model would limit new noise emissions to less than 8 dB at 3 feet, and 0 dB at 9 feet of the TEG. There is no other noise source associated with the proposed action. The 4 to 8 dB

attributed to the existing Ruby MLV#24 or the level of 0 dB at 9 feet for the NEPP TEG at the Willow Creek Meter Station would not exceed the recommended threshold of 10 dB over the ambient noise level. Therefore no impact from noise is expected.

- Noxious and Invasive Nonnative Plant Species – to control the potential for introduction of noxious and invasive nonnative plant species please see Section 2.1.4, 3.3.5 and 3.3.7 of this EA
- Prime or Unique Farm Lands – The EPP study area does not support unique farm lands.
- Riparian Habitat – The EPP study area does not support riparian habitat.
- Sensitive Species – Vegetation: Special status species of plants with potential to occur in the vicinity of the EPP Study area include Lewis buckwheat (*Eriogonum lewisii*), and Broad Fleabane (*Conyza sumatrensis*) Based on data base query results from the NNHP (2013) there are no known occurrences of special status plant species within the EPP study area.
- Wastes – Hazardous or Solid - During construction of the EPP toxic and hazardous materials, primarily petroleum fuel and hydraulic fluids may be used in construction equipment. Construction activities would be subject to requirements to protect the environment in accordance with the permits listed in Section 1.2.2 (UEPA, SWPPP).
- Wild and Scenic Rivers – The EPP study area does not support Wild and Scenic Rivers.
- Land with Wilderness Characteristics: The study area was evaluated for wilderness characteristics in 1979 (BLM) and in 1985 (BLM). During these inventories and analyses for lands with wilderness characteristics there were no unit polygons studied (BLM 1979).
- Wild Horses and Burros – The EPP study area does not contain or intersect with Wild Horse Management Areas.

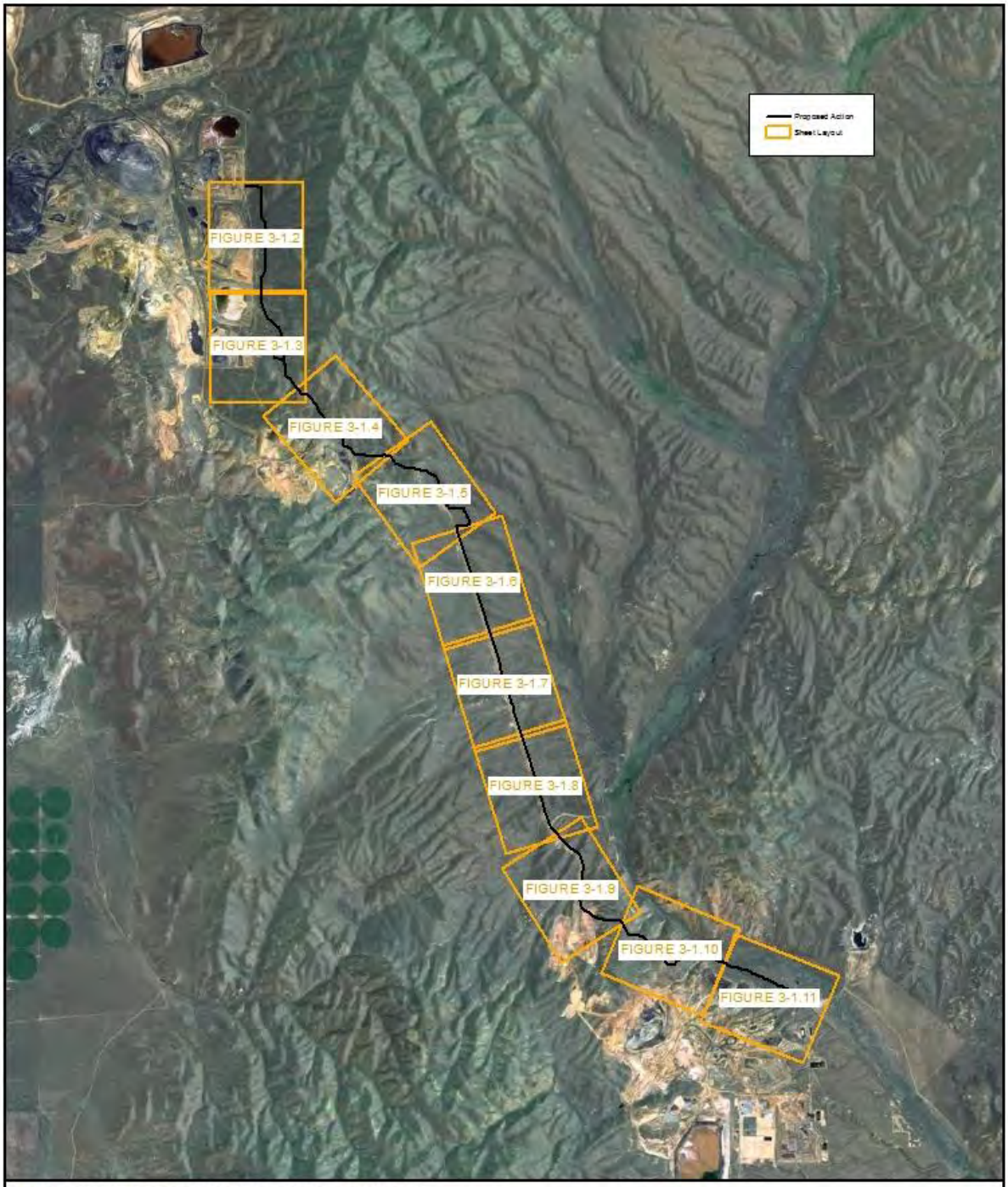

FIGURE 3-1.1: EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 1 2
MILES

NOTES:
BACKGROUND: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN.

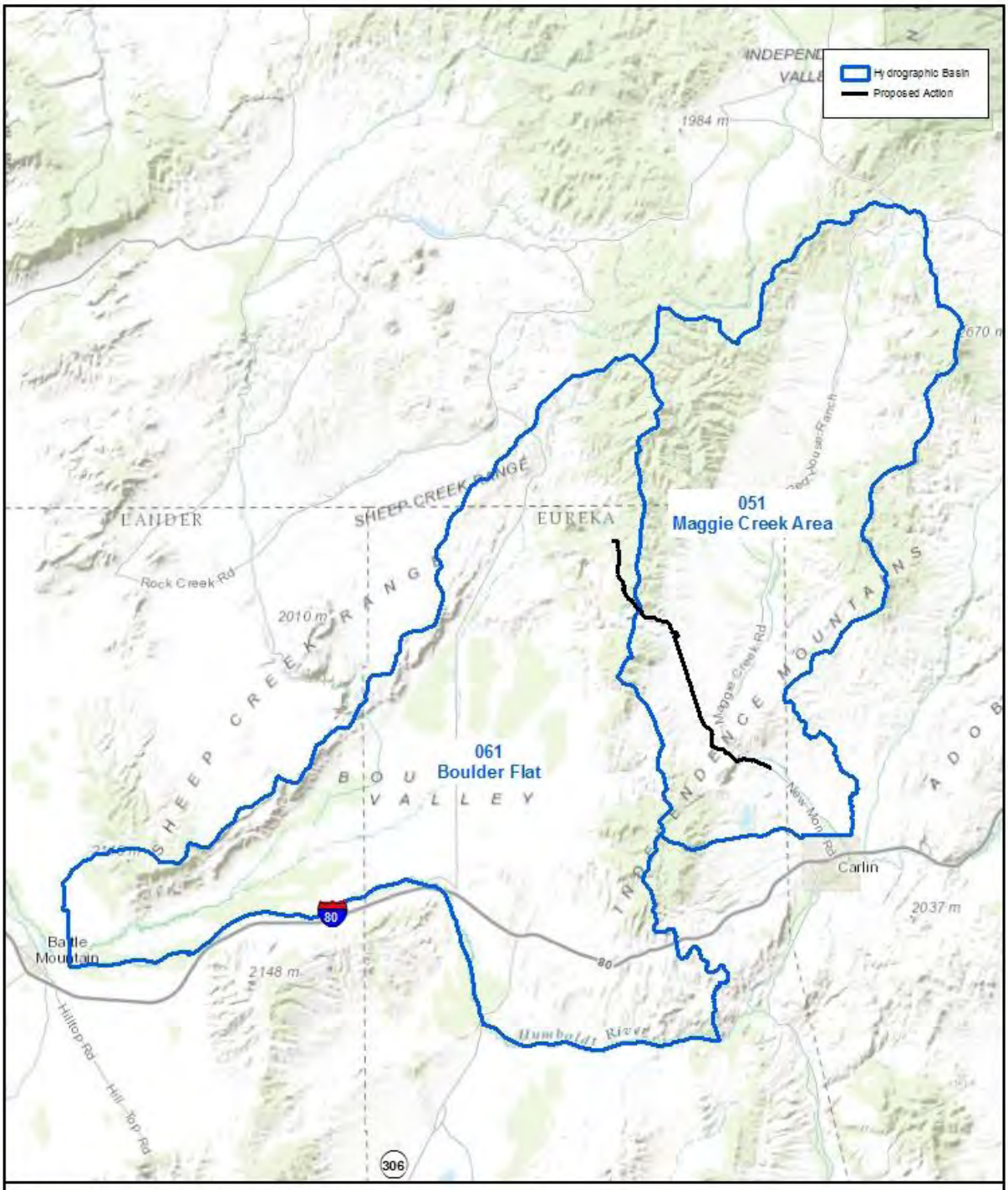

FIGURE 3-2: HYDROGRAPHIC BASINS
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 3.5 7
MILES

NOTES:
BACKGROUND: SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
HYDROGRAPHIC BASINS: NDWR

3.1.2 Resources and Resource Uses Present, But Not Affected

Fire Management:

Construction and operation of the EPP would not restrict emergency response in the case of a wildfire during construction. The EPP would disturb approximately 14 acres of burned upland on public and private lands. Undisturbed lands including burned land surfaces that would be disturbed by construction of the EPP (211 acres) would be stabilized and seeded using a seed mix previously approved by the BLM for Newmont projects in the Carlin Trend. The seed mix to be applied is contained in Section 3.3.7. In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol if determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

Recreation:

There are no established recreation trails, campsites, or parks in the vicinity of the study area. Recreational access is along State Route 766, the Newmont-Barrick Mine Road and the Maggie Creek Road. These roads would remain open under the Proposed Action and Alternative. Recreational use in the vicinity of the study area is moderate and dispersed and consists mostly of hunting and sightseeing.

Water Quality – Groundwater:

Construction of the EPP would limit excavation of the pipe trench to a maximum of approximately six feet below existing ground surface. Based on the limited depth of excavation, EPP does not expect to encounter or impact groundwater during construction or operation.

Water Quality – Surface Water:

Construction of the EPP would not cross any perennial or intermittent streams or creeks. As described in Section 2.1.4 Construction Methods, in the unlikely event of the EPP needing to cross flowing ephemeral drainage features Horizontal Directional Drilling (HDD) or dry-ditching would be applied as field conditions permit. The width of disturbance required at each drainage feature crossing would be approximately 50 linear feet. Chapter 2 of this EA describes detailed installation and Best Management Practice measures to protect surface water quality when crossing drainage features. Considering the expected dry drainages and provisions in the Proposed Action, minimal impact to surface water quality is expected. Operation and maintenance of the pipeline would not impact surface water resources.

3.1.3 Resources Present, But Minimally Affected

Soils:

Soils within the EPP study area are dominated by well-drained soils on mountains and hills, with some well-drained soils on high terraces and alluvial fans, and a minor amount of area with well-drained soils on low terraces and alluvial fans (NRCS 2006). Under the Proposed Action, PPC would use a "Super Padder" to excavate the pipe trench and to backfill the trench of the pipeline. During excavation and backfill, the Super Padder extracts soils starting from the surface and deposits them immediately adjacent to the trench in the order that they were extracted. Surface soils to a depth of approximately 1 to 2 feet (dependent on availability of surface soils) are deposited in the order they are extracted on one side of the trench and subsoils are deposited on the opposite side of the trench. Subsoils are backfilled first to assist in bedding the pipe and

providing stability for upper level soil backfill. Upper level soils are then backfilled with the finest topsoil replaced at the surface of the trench. The Proposed Action includes provisions to concurrently stabilize disturbed areas and seed existing undisturbed areas to minimize loss of the soil resource. During construction, water trucks would be employed to minimize loss of soil as a result of fugitive dust. Following construction, operation and maintenance of the pipeline would not require any extensive future ground disturbing activities.

Land surface that would be disturbed by construction of the EPP (211 acres) would be stabilized and seeded using a seed mix previously approved by the BLM for Newmont projects in the Carlin Trend. The seed mix to be applied is contained in Section 3.3.7. Seeding would occur after installation of the pipeline and as close as possible to the onset of fall/winter precipitation. In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol if determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

3.2 Past, Present, and Reasonably Foreseeable Future Actions and Cumulative Effects Analysis

3.2.1 Introduction

This section describes the past, present, and reasonably foreseeable future actions that, when combined with the Proposed Action, would result in cumulative effects. Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."(40 CFR 1508.7).

Past actions are typically described in general terms without listing or analyzing the effects of individual past actions. Present actions are actions that are ongoing at the time of the analysis. Reasonably foreseeable future actions are those for which there are existing decisions, funding, formal proposals, or which are highly probable based on available information.

The cumulative effects analysis assesses the new impacts associated with the EPP combined with the existing and future impacts for past, present and reasonably foreseeable future actions. In this EA, the cumulative impacts are discussed in the section for each resource. If the EPP would have no measurable direct or indirect effects on a resource, that resource was not analyzed for cumulative effects. The EPP would or could have measurable impacts on cultural and wildlife resources. Therefore, this EA includes a cumulative effects analysis for each of these resources.

The geographic scope of each cumulative effects analysis is defined by a Cumulative Effects Study Area (CESA). CESAs are specific for each resource evaluated. The time frame for the cumulative effects analyses is 50 years, the anticipated period during which PPC would provide natural gas to Newmont's Leeville and Gold Quarry Mines based on the current Plans of Operation for these mines. For this EA the CESA for Past, Present, and Reasonably Foreseeable Future Actions has been defined as the vicinity of the Carlin Trend. The Carlin Trend is generally defined as the area from the Midas Mine located approximately 50 miles northwest from Carlin and the Ormat Geothermal Plant located approximately 10 miles northeast of Tuscarora, south to the Gold Quarry Mine located approximately 3 miles northwest of Carlin.

3.2.2 Past and Present Actions

The important past and present actions that have had and/or are having impacts to the two resources mentioned above include wildfire, wildfire restoration, mineral exploration and mining, ROW actions, community expansion, and recreation which includes hunting (Figure 3-3). Disturbance associated with these activities are summarized in Table 6. Minor past or present actions or actions with indeterminable impacts could include climate change, wildlife usage patterns, pollution, and vegetation manipulation. These minor or indeterminable impacts actions are believed to involve such small acreages or have such small or uncertain impacts that they do not require analysis for cumulative impacts.

There have been several wildfires affecting the vicinity of the Carlin Trend between 1980 and 2013 where approximately 932,670 acres (59%) were burned. Recently, fires in the vicinity include the Esmeralda Fire (2005), the Newmont Fire (2005), the Sheep Fire (2006), the Snow Canyon Fire (2006), the Amazon Fire (2006), the Taylor Fire (2006), the Willow Creek Fire (2007), the Indian Creek Fire (2011), the Chukar Canyon Fire (2011), the Willow Fire (2012), the Maggie Creek Fire (2012), the Greenhorn Fire (2012), the Gold Quarry Fire (2012) and the Wieland Fire (2013).

Ongoing mining projects in the immediate area of the Proposed Action include the following:

- Midas Mine: Operated by Klondex Gold and Silver Mining Company is located approximately 50 miles northwest of Carlin. 154 acres of the approximate 234 acres or permitted mining activities have been disturbed. (BLM 2010a,c)
- Ivanhoe Mine: Operated by Newmont Mining Corporation has disturbed approximately 268 acres (BLM 2010a,c).
- Hollister Operations: Operated by Waterton Global Mining Company and the 77 acres of disturbance are located within the disturbance previously created by the Ivanhoe Mine. (BLM 2010a,c)
- Rossi Mine: Operated by Halliburton. All 585 acres of the permitted disturbance area has been disturbed and it is anticipated that approximately another 1,000 acres will be disturbed. (BLM 2010a,c) (BLM 2012)
- Dee Mine: The operation by Barrick Dee Mining Venture has been permitted to disturb 814 acres. (BLM 2010a,c)

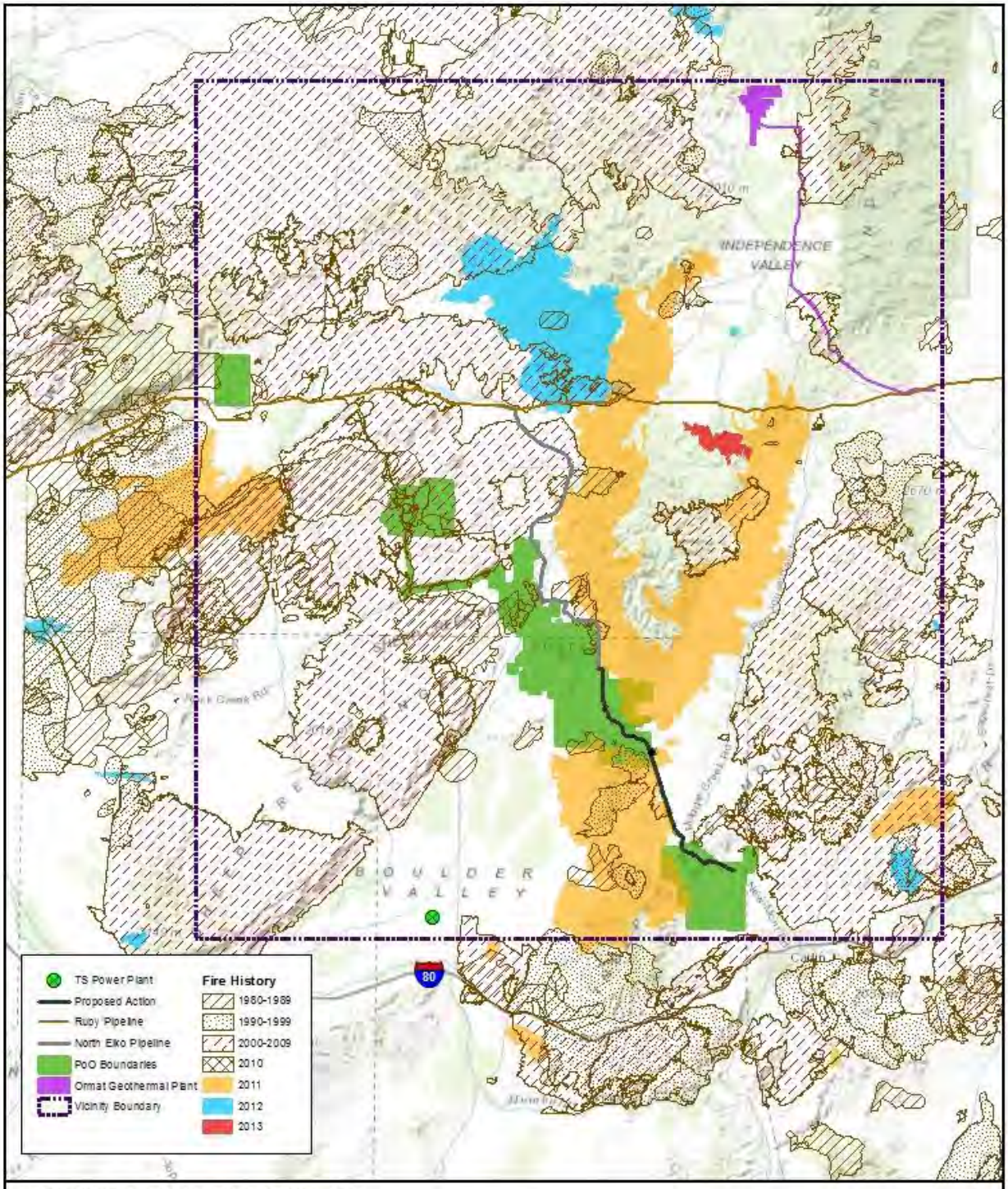

FIGURE 3-3: PAST, PRESENT, AND REASONABLY FORSEEABLE FUTURE ACTIONS AND LAND USE CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 4 8
MILES

NOTES:
OWNERSHIP: BLM
BACKGROUND SOURCES:
ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS.

- Storm Mine: Like the Dee Mine this operation is also run by Barrick Dee Mining Venture (BLM 2010a,c).
- Goldstrike Mine: Operated by Barrick Goldstrike Mines, Inc., this venture has approximately 9,062 acres of permitted disturbance. (BLM 2010a,c)
- North Operations Area: This operation by Newmont Mining Corporation is comprised of many past and present mining ventures. These include the Bootstrap Mine, the Bluestar/Genesis Project, the Exodus Underground Mine operation, North Area Leach, the Carlin Mine/Pete Project, and the Leeville Mine. These ventures have disturbed approximately 17,143 acres with an additional 100 acres anticipated to be disturbed with future actions. Of the 17,143 acres the 1,900 acres associated with the Bootstrap Mine is currently in reclamation and closure status. (BLM 2010a,c)
- South Operations Area Project/Gold Quarry: Operated by Newmont Mining Corporation this area also includes the Mike Mine and the North South Haul Road. Approximately 9,961 acres have been disturbed. (BLM 2010a,c)
- Sand and Gravel Mines have disturbed approximately 395 acres. These operations provide support for construction activities and roadway maintenance. (BLM 2010a,c)

Mining activities in the vicinity of the Carlin Trend have disturbed an estimated 33,248 acres and are expected to disturb and additional approximate 5,146 acres.

Mineral exploration activities have disturbed approximately 1,170 acres and are expected to disturb an additional approximately 55 acres (BLM 2010a,c). These exploration activities include Waterton Global Mining Company's Ivanhoe Hollister Development Block, Trio Gold Corporation's Rodeo Creek, Barrick's Dee Gold Mine, Newmont's Carlin, Chevas, High Desert and Mike exploration activities and Barrick's Rossi, Ren, and Goldstrike Project exploration activities (BLM 2010a,c).

Other existing facilities that have impacted resources analyzed in this EA include the Oreana to Hunt, Idaho 345kV transmission line, the Coyote to Bazza 120kV transmission line, the Valmy to Falcon 345kV transmission line, the abandoned Brigham City to Chico, CA ATT fiberoptics line (ROW still visible), the Big Six Communication Site, the Ruby Pipeline, the North Elko Pipeline, the TS Power Plant, and power line systems in Boulder Valley associated with Carlin Trend mining operations.

Table 6. Estimated Disturbance of Past, Present and Reasonably Foreseeable Future Actions

Estimated Acres of	Disturbance		
Action	**Past and Present Disturbance (acres)**	**RFFA Projected Disturbance (acres)**	**Total Past, Present, and Projected Disturbance (acres)**
Mining Projects and Mineral Exploration[1]	34,418	5,201	39,619
Sand and Gravel Mines	395	0	395
TS Power Plant[1]	600	0	600
Ruby Pipeline Disturbance within the vicinity of the Carlin Trend (40 miles within CESA of a total of 167 miles within Elko County) [1]	558	0	558
North Elko Pipeline[1]	140	0	140
Eureka Pipeline	0	211	211
Total	**36,111**	**5,412**	**41,523**

[1]Disturbance numbers from Hollister Underground Mine Project Draft EIS (BLM 2012b)

3.2.3 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions that could contribute to cumulative impacts during the lifetime of the EPP include wildfire, and mining projects. Three expansions of current mines are being reviewed by the Tuscarora Field Office. They are the Rossi Mine Expansion Project, Arturo Mine Project, and the Hollister Underground Mine Project (Figure 3-3). Each of these actions is described below.

Rossi Mine Expansion Project

The BLM expects a proposed Rossi Mine Expansion Project to be submitted in early 2014. The project would be located approximately eight to ten miles north-northwest of Barrick's Goldstrike Mine. The project is expected to propose an additional 178 acres of surface disturbance to the existing 407 acres of surface disturbance created at the Rossi Mine for a total disturbance of approximately 585 acres. An earlier version of the expansion (the proposal continues to change as development moves forward) was addressed in the cumulative effects analysis for the Betze Pit Expansion Project Draft SEIS (BLM, 2008). A new EIS is expected to provide an environmental analysis of the project when it is formally submitted to the BLM.

Arturo Mine Project

The proposed Arturo Mine Project would be an expansion of the existing Dee Gold Mine that is currently in reclamation and closure. The project is located approximately six miles north-northwest of Barrick's Goldstrike Mine, near the northern end of the Carlin Trend. This project would be developed primarily on public lands that consist of existing authorized mining disturbance, reclaimed authorized mining disturbance, and undisturbed land, and private lands controlled by Barrick-Dee Mining Venture. The project would disturb a total of 2,774 acres of public and private land including 270 acres of existing disturbance, 542 acres of reclaimed

mining disturbance, and 1,962 acres of new land disturbance. The Arturo Mine Project Draft EIS was completed January 18, 2013 and is available at the BLM Elko District Office.

Hollister Underground Mine Project

The proposed Hollister Underground Mine Project would expand existing underground exploration activities to a full-scale producing underground gold and silver mine, including the development of new facilities and expanded surface exploration. The project is located in the northern end of the Carlin Trend, within Elko County, Nevada, approximately 14 miles northwest of Barrick's Goldstrike Mine, just north of the Rossi Mine. The project is 47 miles northwest of Elko, 38 miles northeast of Battle Mountain, and 64 miles northeast of Winnemucca, Nevada. A total of 80.2 acres of public land administered by the BLM and 10.8 acres of private land are included in the project footprint. The 91 total acres includes 58.8 acres of previously disturbed lands and 32.2 acres of new disturbance. The study area includes the proposed surface and underground exploration areas and the main project facilities. As part of the proposed project, the surface exploration program would be expanded from the existing authorized 25 acres to 50 acres within the project boundary. A new powerline to serve the mine is part of the proposed operation. A Final EIS public review period closed August 5, 2013.

Ormat Geothermal Power Plant Expansion

Ormat is proposing to expand the Tuscarora Geothermal Power Plant located in the Independence Valley, approximately 70 miles north of Elko, Nevada. With the Department of Energy as the lead agency for NEPA and the BLM as a cooperating agency, Ormat is proposing 10 new well sites, a new power plant, pipelines, and new road construction for approximately 64 acres of new disturbance.

3.3 Analysis of Resources

3.3.1 Cultural Resources

Regulatory Framework:

Projects requiring federal funds and permits require compliance with the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470 et seq.) and its implementing regulations, Protection of Historic Properties (36 CFR 800). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on Historic Properties (i.e., those properties deemed eligible for listing or formally listed on the National Register of Historic Places) and affords the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Office (SHPO), and interested tribal governments an opportunity to comment on the findings of these federal agencies, as appropriate. Regulations in 36 CFR 800 provide a process for satisfying the requirement of Section 106, namely, resource identification (inventory or survey), significance evaluation, assessment of adverse effects on the significant Historic Properties, and the resolution of adverse effects through consultation to avoid, minimize, or provide mitigation. Adverse effects include, but are not limited to, destruction or alteration of all or part of a property, removal from or alteration of its surrounding environment in a manner inconsistent with applicable law; introduction of visual, audible, or atmospheric elements that diminish the integrity of the property's significant historic features; transfer, sale or lease of property out of federal ownership without adequate conditions or restrictions regarding preservation, maintenance, or use; and neglect of a property resulting in its deterioration or

destruction (36 CFR 800.5). The Nevada State Protocol Agreement outlines the manner in which the BLM and the SHPO agree that the BLM will meet NHPA compliance.

Affected Environment:
The CESA (Figure 3-4) includes the project's defined Area of Potential Effect (APE) expanded to 150 feet of either side of the proposed action, alternative alignment(s), and all identified and potential material storage areas. A Class I inventory identified areas within the CESA that have complete and sufficient inventory to meet legal requirements. Areas not meeting legal compliance were subjected to a Class III inventory, regardless of property ownership.

All cultural resource properties located within the CESA were evaluated for their potential for eligibility to the National Register of Historic Places.

Assessment Data:
Of the 674.6 acres of the CESA, a total of 625.2 acres were found to have been previously inventoried to acceptable legal standards. 49.4 acres were Class III inventory surveyed as part of the analysis of the Proposed Action. Prior to the current Class III inventory, a total of 2 Historic Properties were located within the CESA. Of these Historic Properties, both of which have been subsequently data recovered and removed from eligible status by others.

With the results of the current Class III inventory, a total of 1 Historic Property is known to exist within the CESA (CrNV-12-9948, a segment of the Victory Highway). To the extent practicable, the BLM shall ensure that PPC would avoid adverse effects to Historic Property through comprehensive application of the Control Measures/Design Features described in Section 2.1.4.

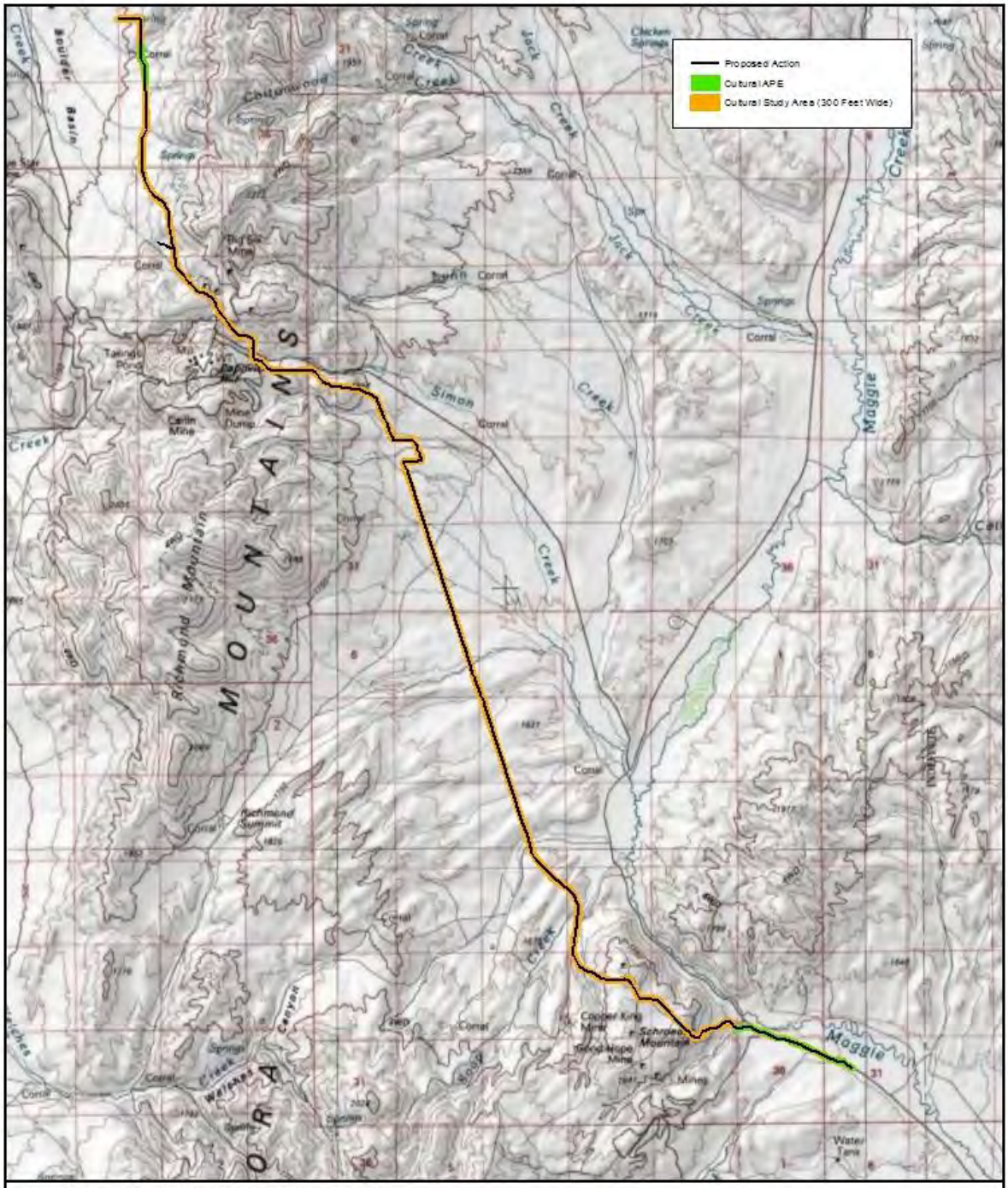

FIGURE 3-4: CULTURAL RESOURCES APE (CESA) AND STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NOTES:
BACKGROUND:
COPYRIGHT: © 2013
NATIONAL GEOGRAPHIC
SOCIETY

Environmental Consequences:
Section 106 of the NHPA requires that federal agencies take into account the effect of an undertaking on Historic Properties and provide the ACHP an opportunity to comment. Historic property, as defined by the regulations that implement Section 106, means "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion, in the NRHP." The term includes properties of traditional religious and cultural importance to any Native American tribe that meet the National Register criteria.

Potential impacts to Historic Properties are assessed using the "criteria of adverse effect" (36 CFR 800.5[a][1]): "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association."

Proposed Action:
A total of 29 previous reports have been conducted, in part or in whole, within the CESA. Of these, 25 document inventories, 1 is a data recovery plan, 2 are reports of actual data recovery efforts, and 1 is a Class I overview. The majority of these inventories are related to mineral exploration and expansion, as well as utility construction, roadway maintenance, and other land uses. A total of 17 sites were recorded during the inventories. These consist of 15 prehistoric sites, 1 historic site, and 1 multi-component site. Of the 17 sites, 2 are eligible for the NRHP and 15 are not eligible. Both of the eligible sites (which met Criterion D) have been treated and have been removed from eligible status.

A Class III inventory was conducted to address areas within the CESA not covered by previous inventories. That inventory resulted in the extension of one previously documented historic period cultural resources, the identification of one prehistoric period cultural resource, and three isolates (2 prehistoric, 1 historic). Of the two documented sites, 1 is eligible for the NRHP under Criterion A. The other site is not eligible for the NRHP.

One Historic Property eligible under Criteria A is located within the project cultural CESA and the EPP ROW. Any potential adverse effect to this property would be mitigated through project design and implementation including construction of the pipeline within existing disturbance as detailed in Section 2.1.4 Construction Measures/Design Features of the Proposed Action.

No Action Alternative:
Under the No Action Alternative, the proposed pipeline and associated facilities installation that would comprise the proposed project would not be developed. Therefore, no effects to Historic Properties are anticipated under the No Action Alternative.

Cumulative Effects:
Section 3.2 of this EA describes the past, present, and RFFAs. As directed by law, cultural resources inventories are conducted for any actions involving federal lands, and adverse effects to Historic Properties avoided or mitigated as appropriate. Avoidance through project redesign is the preferred method of mitigation; however, when avoidance is not feasible, data recovery or other forms of mitigation are implemented prior to ground-disturbing activities. Unavoidable

adverse effects to Historic Properties would be mitigated in consultation with the SHPO and the Tribes if appropriate. Therefore, the proposed project is not expected to cumulatively contribute to direct effects to historic properties. However, if data recovery is necessary to mitigate unavoidable adverse effects to historic properties, the process would recover a substantial amount of data but ultimately the site would be destroyed by the undertaking preventing future opportunities for scientific research, preservation, or public appreciation. Over time, this would represent a cumulative loss.

Indirect effects, such as illegal collecting of artifacts, have occurred and most likely would continue to occur in the CESA through increased access, development, and increased human presence, as a result of past, present, and RFFAs.

Monitoring and Treatment Measures:
Unavoidable adverse effects to known Historic Properties identified within the APE would be treated in consultation with the SHPO and Tribes if appropriate. Any subsurface archaeological material discovered during construction activities would be treated in accordance with the law.

The BLM will meet all requirements of Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001 et seq (NAGPRA) for all discoveries of human remains and associated objects in accordance with 43 CFR 10 and BLM IM 2007-002 in the event of an unanticipated discovery of human remains during the installation of the pipeline or facilities. If human remains, remains thought to be human, associated or unassociated funerary objects, or objects of cultural patrimony are discovered, work within 100 feet of the discovery would stop immediately. Oral notification of the discovery shall be made to the BLM and the SHPO by PPC or its contractors immediately, followed by written notification. Upon notification, the BLM would notify the appropriate law enforcement authorities, the county coroner, and appropriate tribes and potentially interested parties. If the remains are determined to not be of forensic importance, an assessment of the remains would be made.

3.3.2 Native American Concerns

Regulatory Framework:
Federal law and agency guidance require the BLM to consult with Native American tribal governments concerning the identification of cultural values, religious beliefs, and traditional practices of the Native American peoples that may be affected by actions on BLM-administered lands. This consultation includes the identification of places (i.e., physical locations) of traditional cultural importance to the affected Native American tribes. Places that may be of Native American traditional cultural importance include, but are not limited to:

- Locations associated with the traditional beliefs concerning tribal origins, cultural history, or the nature of the world;
- Locations where religious practitioners go, either in the past or the present, to perform ceremonial activities based on traditional cultural rules or practice; Ancestral habitation sites; Trails; Burial sites; and Places from which plants, animals, minerals, and waters believed to possess healing powers or used for other subsistence purposes, may be taken.
- Some of these locations may be considered sacred to particular Native American individuals or tribes.

- In 1992, the NHPA was amended to explicitly allow that "properties of traditional religious and cultural importance to an Indian tribe may be determined to be eligible for inclusion on the National Register of Historic Places." If a resource has been identified as having importance in traditional cultural practices and the continuing cultural identity of a community, it may be considered a "Traditional Cultural Property" (TCP). To qualify for nomination to the NRHP, a TCP must:
    - Be more than 50 years old;
    - Be a place with definable boundaries;
    - Retain integrity; and
    - Meet certain eligibility criteria as outlined for cultural resources in the NHPA.

In addition to NRHP eligibility, some places of cultural and religious importance also must be evaluated to determine if they should be considered under other federal laws, regulations, directives, or policies. These include, but are not limited to, the Native American Graves Protection and Repatriation Act of 1990, American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act (ARPA) of 1979, and Executive Order (EO) 13007 (Sacred Sites) of 1996.

The effects of federal undertakings on properties of religious or cultural significance to contemporary Native Americans are given consideration under the provisions of EO 13007, American Indian Religious Freedom Act, and amendments to the NHPA. The NHPA integrates Indian tribes into the Section 106 compliance process and also strives to make the NHPA and National Environmental Policy Act procedurally compatible. Furthermore, under Native American Graves Protection and Repatriation Act, culturally affiliated Indian tribes and the BLM jointly may develop procedures to be taken when Native American human remains are discovered on federal land.

Tribal ethnographic resources are associated with the cultural practices, beliefs, and traditional history of a community. In general, ethnographic resources include places in oral histories or traditional places, such as particular rock formations, geothermal water sources, or a rock cairn; large areas, such as landscapes and viewscapes; sacred sites and places used for religious practices; social or traditional gathering areas, such as racing grounds; natural resources, such as plant materials or clay deposits used for arts, crafts, or ceremonies; and places and natural resources traditionally used for non-ceremonial uses, such as trails or camping locations.

Affected Environment:

Tribal Consultation: The BLM, Elko District, Tuscarora Field Office initiated consultation and requested information, comment, issues, and concerns and shared information with the groups listed in Table 7. Consultation and communication with these tribal/band governments have included letters, phone calls, and visits with the individual Tribal/Band Councils.

Table 7. Summary of Native American Consultation (consultation is ongoing).

Name of Tribe or Band	Date of Contact	Type of Contact	Comments/Notes
Te-Moak Tribe	7-25-2013 11-19-2013	Letter Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
Battle Mountain Band	7-25-2013 07-25-2013	Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
Elko Band	7-25-2013 07-31-2013	Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
	7-25-2013 11-19-2013	Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
South Fork Band	7-25-2013 08-01-2013	Council meeting	M Letter describing the proposed project. eeting cancelled.
	7-25-2013 11-18-2013	Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
Wells Band	7-25-2013 08-19-2013	Council meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.
	7-25-2013 11-18-2013	Council Meeting	Letter describing the proposed project. Information sharing at Councils request. Request for copy of EA for review.

Assessment Data:

The NEPA process does not require a separate analysis of impacts to religion, spirituality, or sacredness. As a result, references to such beliefs or practices convey only the terminology used by participants involved in the ethnographic studies and tribal consultation. This terminology does not reflect any BLM evaluation, conclusion, or determination that something is or is not religious, sacred, or spiritual in nature, but conveys only the information that has been gathered through tribal consultation and coordination and current and historic ethnographic study.

Tribal consultation was initiated in July 2013. Secondarily to this, several effects analysis issues were identified based on information provided through the ethnographic studies conducted over the last 20 years, the background research and information provided through Tribal consultation for current and on-going projects across the District. The ethnographic based data indicate that two TCPs exist well outside of the CESA at approximately six, and twelve to fifteen miles west of the proposed project area.

Known issues of concern have remained constant through ethnographic research and on-going information sharing. These include the overall health of all water sources, riparian species, and historic remains (cultural resources). No issues of Native American Concern have been identified specifically within the project area through current consultation efforts.

Environmental Consequences:

Proposed Action:

No known or identified issues of traditional value or other concern have been identified within the project area. No pre-contact era or Tribally identified archaeological sites of interest have been located within the project area. Therefore, no effects to issues of Tribal values or concerns are anticipated under the No Action Alternative.

No Action Alternative:
Under the No Action Alternative, the proposed pipeline and associated facilities installation that would comprise the proposed project would not be developed. Therefore, no effects to issues of Tribal values or concerns are anticipated under the No Action Alternative.

Cumulative Effects:
Section 3.2 of this EA describes the past, present, and RFFAs. Ethnographic research, cultural resources inventories, Native American consultation efforts, and personal communication have provided some general information as to potential issues of concern for the Western Shoshone people in this general region, but not specifically within the project area. Archaeological data on file at the BLM supports Western Shoshone historic and prehistoric use of the general project area and is consistent with the traditional/cultural use information provided by contemporary Western Shoshone. Past and present traditional, cultural, and spiritual use information, combined with oral and written histories and the archaeology of the area, support prehistoric, historic, and modern use of the CESA by native practitioners for hundreds if not thousands of years.

To date, no specific issue of Native American concerns were identified or provided by tribal governments and individuals through multiple consultation and communication efforts with the BLM. No specific issues have been identified through the ethnographies of the Western Shoshone in relation to the project area.

3.3.3 Paleontology

Regulatory Framework:
The Paleontological Resources Preservation Act (PRPA) became law in 2009 with the passage of Public Law 111-011. The PRPA includes specific provisions addressing management of these resources by the Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Reclamation (BOR), U.S. Fish and Wildlife Service (USFWS), and U.S. Forest Service (USFS). The PRPA confirmed the authority for many policies these agencies already had in place for the management of paleontological resources including issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The PRPA only applies to federal lands and does not affect private lands. It provides authority for the protection of paleontological resources on federal lands including criminal and civil penalties for fossil theft and vandalism. Consistent with policy before the passage of the act, the PRPA also includes provisions allowing for casual or hobby collecting of common invertebrate and plant fossils without a permit on federal lands managed by the BLM, the BOR, or the USFS, under certain conditions. Casual collecting is not allowed within National Parks or other lands managed by the NPS. The PRPA directed federal agencies to begin developing regulations, establishing public awareness and education programs, and inventorying and monitoring federal lands.

The BLM also manages paleontological resources (fossils) on federal lands under the following additional statutes and regulations (BLM 2010):

- Federal Land Policy and Management Act of 1976 (P.L. 94-579);
- National Environmental Policy Act of 1969 (P.L. 91-190); and
- Various sections of BLM's regulations found in Title 43 Code of Federal Regulations (CFR) that address the collection of invertebrate fossils and, by administrative extension, fossil plants.

In addition to the statutes and regulations previously listed, fossils on public lands are managed through the use of internal BLM guidance and manuals. Included among these are the BLM Manual 8270 and the BLM Handbook H-8270-1 (BLM 2010). Various internal instructional memoranda have been issued to provide guidance to the BLM in implementing management and protection to fossil resources.

Affected Environment:

Potential Fossil Yield Classification:

The BLM has adopted the Potential Fossil Yield Classification (PFYC) system to identify and classify fossil resources on federal lands (BLM 2007). Paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. Therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.

The PFYC system is a way of classifying geologic units based on the relative abundance of vertebrate fossils or scientifically significant fossils (plants and invertebrates) and their sensitivity to adverse impacts. A higher class number indicates higher potential for presence. The PFYC is not intended to be applied to specific paleontological localities or small areas within units. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher class. Instead, the relative abundance of significant localities is intended to be the major determinant for the class assignment.

The PFYC system is meant to provide baseline guidance for predicting, assessing, and mitigating paleontological resources. The classification should be considered at an intermediate point in the analysis, and should be used to assist in determining the need for further mitigation assessment or actions. The BLM intends for the PFYC System to be used as a guideline as opposed to rigorous definitions. Descriptions of the potential fossil yield classes are summarized below in Table 8.

Table 8. Potential Fossil Yield Classification

Class	Description	Basis	Comments
1	Igneous and metamorphic (tuffs are excluded from this category) geologic units or units representing heavily disturbed preservation environments that are not likely to contain recognizable fossil remains.	• Fossils of any kind known not to occur except in the rarest of circumstances • Igneous or metamorphic origin • Landslides and glacial deposits	The land manager's concern for paleontological resources on Class 1 acres is negligible. Ground disturbing activities would not require mitigation except in rare circumstances.
2	Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant invertebrate fossils.	• Vertebrate fossils known to occur very rarely or not at all • Age greater than Devonian • Age younger than 10,000 years before present • Deep marine origin • Aeolian origin • Diagenetic alteration	The land manager's concern for paleontological resources on Class 2 acres is low. Ground disturbing activities are not likely to require mitigation.
3	Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Also, sedimentary units of unknown fossil potential.	• Units with sporadic known occurrences of vertebrate fossils • Vertebrate fossils and significant invertebrate fossils known to occur inconsistently; predictability known to be low • Poorly studied and/or poorly documented; potential yield cannot be assigned without ground reconnaissance	The land manager's concern for paleontological resources on Class 3 acres may extend across the entire range of management. Ground disturbing activities would require sufficient mitigation to determine whether significant paleontological resources occur in the area of a Proposed Action. Mitigation beyond initial findings would range from no further mitigation necessary to full and continuous monitoring of significant localities during the action.
4	Class 4 geologic units are Class 5 units (see below) that have lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation.	• Significant soil/vegetative cover; outcrop is not likely to be impacted • Areas of any exposed outcrop are smaller than 2 contiguous acres • Outcrop forms cliffs of sufficient height and slope that most is out of reach by normal means • Other characteristics that lower the vulnerability of both known and unidentified fossil localities	The land manager's concern for paleontological resources on Class 4 acres is toward management and away from unregulated access. Proposed ground disturbing activities would require assessment to determine whether significant paleontological resources occur in the area of a proposed action and whether the action would impact the paleontological resources. Mitigation beyond initial findings would range from no further mitigation necessary to full and continuous monitoring of significant localities during the action.
5	Highly fossiliferous geologic units that regularly and predictably produce invertebrate fossils and/or scientifically significant invertebrate fossils, and that are at risk of natural degradation and/or human-caused adverse impacts.	• Vertebrate fossils and/or scientifically significant invertebrate fossils are known and documented to occur consistently, predictably, and/or abundantly • Unit is exposed; little or no soil/vegetative cover • Outcrop areas are extensive; discontinuous areas are larger than 2 contiguous acres • Outcrop erodes readily; may form badlands • Easy access to extensive outcrop in remote areas • Other characteristics that increase the sensitivity of both known and unidentified fossil localities	The land manager's highest concern for paleontological resources should focus on Class 5 acres. Mitigation of ground disturbing activities would be required and may be intense. Areas of special interest and concern should be designated and intensely managed.

Sources: BLM 2008, 2007.

Paleontological Resources in the Project Area:

The paleontological resources in the project area (Figure 3-5) have a high potential of occurring in the tuffaceous materials in the Carlin Formation (Hockett 2013). Although igneous rocks would commonly be classified as having a low potential fossil yield, the special circumstances of the deposition of the Carlin Formation may have contributed to the preservation of fossils. The

deposits consist of a combination of volcanic tuff, tuffaceous sediment, and non-volcanic detritus. The depositional environment likely helped preserve the bone material of dead animals as well as the high amount of silica contained in the volcanic ash. According to Hockett (2010), the volcanic tuffs are the highly fossiliferous rocks in the Carlin formation, but the tuffs are not the predominant rock-type in the formation. The proposed type-section southwest of Carlin, Nevada described by Regnier (1960) indicates a high degree of variability of deposits within the formation. Descriptions of the Carlin formation in the project area also are indicative of the variability of the Carlin formation (Theodore et al. 2006; Wallace 2003).

The fossils that have been found in the Carlin Formation in the project vicinity are vertebrates and can include varieties of extinct camel, antelope, and ancestors of the horse. Specimens from localities in the Willow Creek area have been placed on display at the Northeastern Nevada Museum in Elko (Hockett 2013). The Carlin Formation would rate 4 or 5 in the PFYC system for high potential for scientifically valuable fossils.

Previous surface area surveys in the general vicinity of the proposed project (2006, 2010) resulted in the collection of a few recognizable vertebrate fossils in eleven localities within the Carlin Trend, most of the fossil material consisted of fragments of fossilized bone of limited scientific value due to the fragmented nature of the material. A preponderance of the materials located had been eroded from its original place of deposition complicating dating efforts. It is possible that important fossils may be unearthed during ground-disturbing activities.

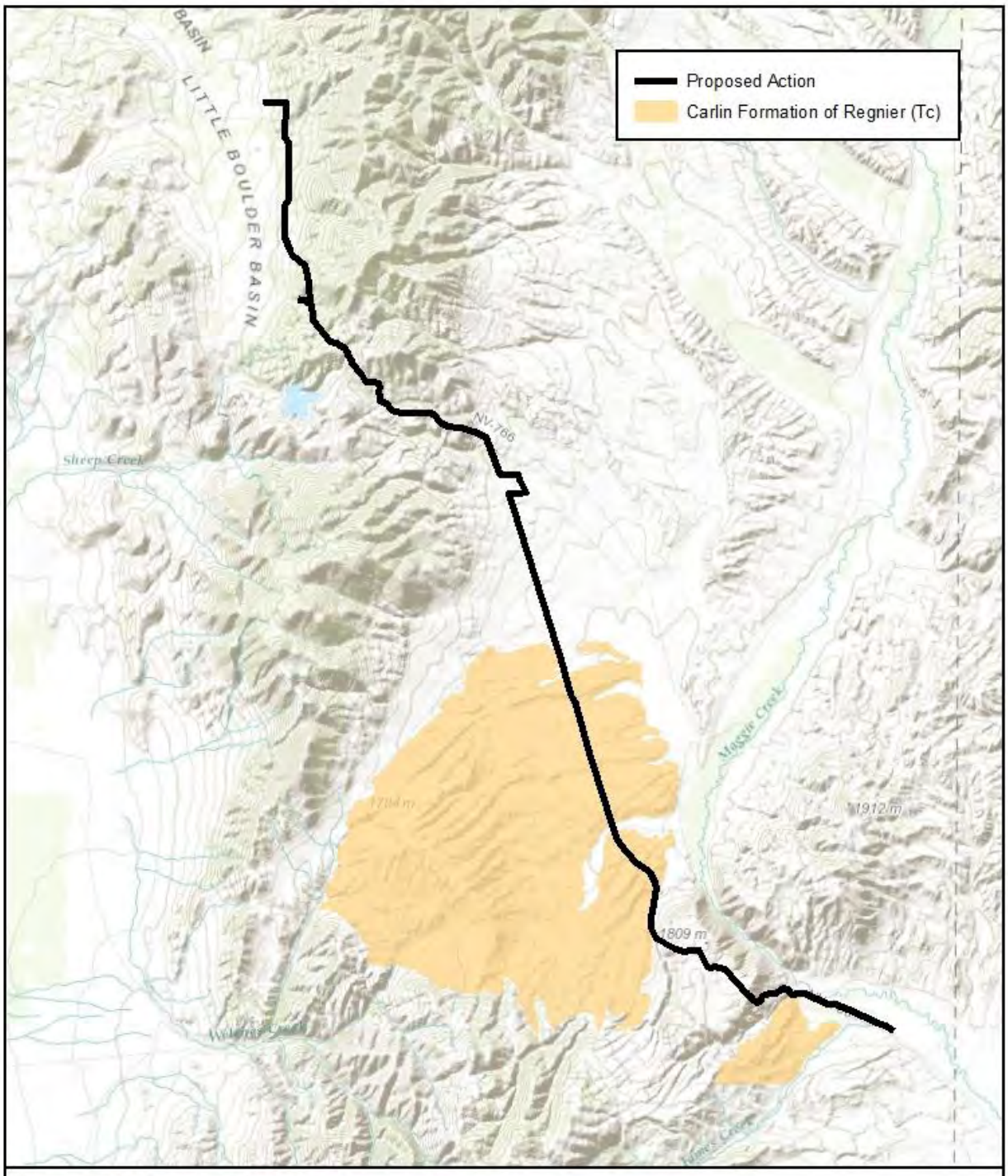

FIGURE 3-5: PALEONTOLOGICAL RESOURCES
EUREKA PIPELINE
ELKO COUNTY, NV
JANUARY, 2014
NOTES

NORTH

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MILES

NOTES:
Carlin Formation: NBMG 2013
Background Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

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Environmental Consequences:

Proposed Action:
Potential impact on fossils would likely be limited to physical disturbance of intact paleontological deposits through pipeline excavation activities. These paleontological deposits could occur in areas where the subsurface soils have not been previously disturbed. Construction activities that could disturb previously undisturbed Tertiary sediments would be conducted with a Paleontological monitor present. If vertebrate fossils are found all work would stop and the authorized officer would be notified. Please refer to Section 2.1.4 Construction Measures/Design Features.

No Action Alternative:
The No Action Alternative would eliminate potential impacts on paleontological resources in areas of proposed disturbance.

Cumulative Effects:
The Cumulative Effects Study Area (CESA) for paleontological resources is shown on Figure 3-6 (NBMG 2013) and representing the Carlin Trend north of Interstate 80. The CESA extends from Newmont's Gold Quarry/South Operations Area Project in the south to the Midas Mine in the north and includes mining and mineral exploration activity in most of the Carlin Trend (BLM 2012). The past, present, and future actions that have the potential to effect the paleontological record within the CESA are described in Section 3.2. The various projects in the CESA are located on a variety of bedrock formations with widely varying fossil potential. The cumulative impacts to paleontological resources in the CESA would be difficult to quantify for past, present, and future actions. Incremental adverse effects to paleontological resources in the Carlin Trend due to the Proposed Action would be very small because of the disturbance that has already occurred in the Carlin Formation outcrop areas in the CESA (Moore 2002; Norby 2002; Theodore et al. 2006).

Limited discoveries of fossils have been found in the Carlin Trend. Prehistoric camel and horse fossils were found in the Carlin formation at the Gold Quarry Mine (BLM 2002, 1993).

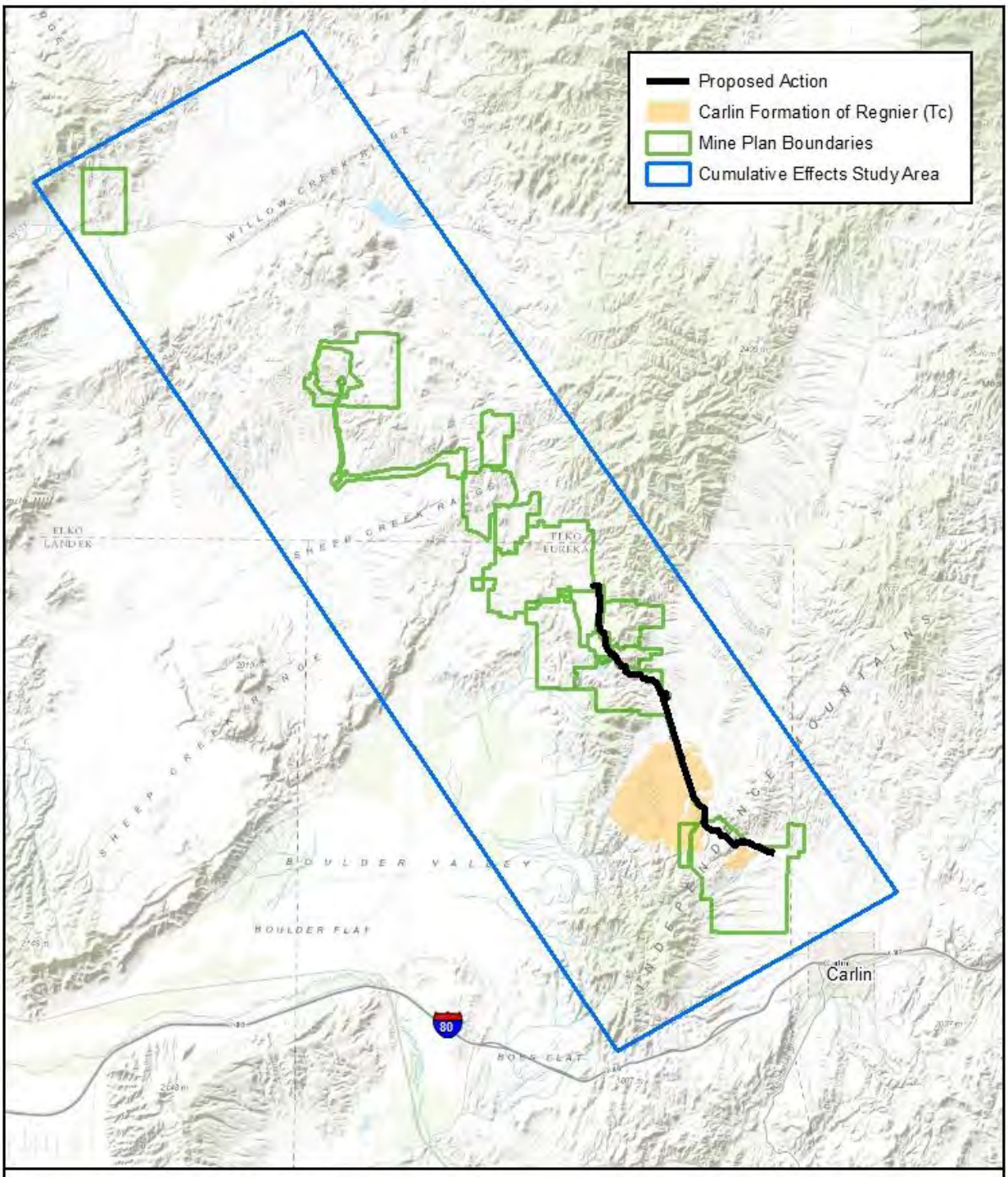

FIGURE 3-6: PALEONTOLOGICAL RESOURCES CESA
EUREKA PIPELINE
ELKO COUNTY, NV
JANUARY, 2014

NOTES:
Carlin Formation: NBMG 2013
Background: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

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3.3.4 Land Use and Access (including mining claims)

Affected Environment:

The primary existing land uses in the EPP study area are mining (exploration and mineral beneficiation) and wildlife habitat. Federal law allows use of public lands concurrently by multiple users. EPP's proposed alignment would cross over public land. The land within the study area is primarily privately owned by Newmont Mining Corporation and is under controlled access. The remaining land is public land managed by the BLM as is primarily contained within the area of controlled access. The north and south staging areas would be located on private land with the mid alignment staging area located on public land. The Leeville Regulating/Meter Station and MLV would be located on public land and the Gold Quarry Meter Station would be located on private land. Construction access to the EPP alignment would be via State Route 766 and existing dirt roads. No new access roads would be required to complete construction of the EPP.

There are several mining claims and BLM authorized rights-of-way with potential to overlap the study area. There are no active oil and gas leases, geothermal leases, or mineral materials (sand/gravel) contracts in the study area (BLM 2013e). The Proposed Action would cross one right-of-way grant held by NV Energy at several locations, one held by the Nevada Department of Transportation (NDOT) for State Route 766 at one location, and cross the Newmont-Barrick Mine Road at one location. As requested by NV Energy, the EPP will cross the NV Energy right-of-way at least 40 feet from any existing above ground facilities, and an Encroachment Permit will be required by NDOT.

Environmental Consequences:

Proposed Action:

Construction of the pipeline could temporarily disrupt public access as construction activities occur adjacent to and cross State Route 766. Such impacts are expected to be minimal with the application of Horizontal Directional Drilling (HDD) under the roadway and would last for less than one day.

Granting rights-of-way for a natural gas pipeline could affect other future uses of the land, such as mining. However, Newmont Mining Corporation, the primary operator in the vicinity of most of the EPP, has reviewed the EPP alignment and has determined that they have no prospective uses that the pipeline would affect at this time.

PPC has contacted the two mining claimants with mining claims in or close to the study area. Neither has indicated a concern regarding the Proposed Action.

No Action Alternative:

Because the EPP project would not be constructed, there would be no impacts to land management and uses.

Cumulative Effects:

The CESA is defined as the vicinity of the Carlin Trend. The Carlin Trend is generally defined as the area from the Midas Mine located approximately 50 miles northwest from Carlin and the

Ormat Geothermal Plant located approximately 10 miles northeast of Tuscarora, south to the Gold Quarry Mine located approximately 3 miles northwest of Carlin (Figure 3-3). Given that the EPP alignment lies almost entirely within existing BLM permitted Plans of Operation (POO) for Newmont Mining Company and Barrick Gold Corporation, with a small portion (±3.0 acres) located outside current POO boundaries in mostly disturbed areas (0.8 acre public, 2.2 private), it is expected that the EPP would not result in a measureable incremental impact to land uses in the CESA.

3.3.5 Wildlife

Affected Environment:

Wildlife habitat quality in the vicinity of the EPP study area has been affected by wildfire and mining related activities and facilities (BLM 2013b) as presented on Figures 3-1.1 and Figures 3-1.2 through 3-1.11 in Appendix 1. Within the study area, approximately 197 acres of sagebrush/grassland habitat are currently intact. Wildlife species and habitats found within the vicinity of the study area are typical of the Great Basin region and are described below.

Large Mammals:

Mule Deer (*Odocoileus hemionus*):

NDOW's Management Unit 06 (MU06) is characterized primarily by sagebrush steppe communities (Cronquist et al. 1972). The wildlife study area provides transitional habitat for mule deer during spring and fall migration from higher elevations of the north Tuscarora Mountain Range, Independence Mountains, Bull Run Mountains and the Adobe Range to winter range in the lower elevations of the south Tuscarora Range, Sheep Creek Range, and Boulder Valley (BLM 2002a). Mule deer prefer cover provided by tall shrubs and trees in the spring, summer, and fall. The EPP would cross mule deer transitional habitat and migration areas (NDOW 2012) as shown on Figure 3-7 and 3-8. There are two corridors that are of particular note as they have become "pinch points" due to existing mining activities (BLM 2013b). The first is the West Flank corridor located near the north extent of the EPP in the Leeville Mine POO, with the second located near the south extent of the EPP within the South Operations Area Project (SOAPA) near Soap Creek – the Maggie Creek/East Flank corridor (NDOW 2012). It is not necessarily a physical barrier that deters deer from using a corridor, but rather the stress involved with navigating the physical barrier that may result in indirect physiological impacts to mule deer during migration (BLM 2013b). With gold prices remaining moderately high, increases in mining activity continue to be of the greatest concern with respect to availability of migration areas (NDOW 2013b).

As described in Section 2.1.4, the Proposed Action includes Construction Measures/Design Features to minimize impacts from the construction and operation of the EPP. The EPP proposed construction schedule may overlap with the mule deer migration periods (LOP). If that situation occurs, under the Proposed Action PPC would limit construction activities along the EPP temporary construction right-of-way during the applicable LOP (BLM 2013b) to BLM and NDOW approved noncontiguous construction blocks. The approved construction blocks would ensure that a majority of the historic mule deer migration area would not be restricted by EPP construction activities.

If construction of the EPP were to occur outside of the mule deer LOPs (BLM 2013b), such as mid June through late September the standard pipeline construction approach would apply. This standard approach is detailed in Section 2.1.2 Installation of the Pipeline.

To the furthest extent possible, under all construction schedule scenarios, each length of open trench would be limited to 1,200 feet at a time. If greater than 1,200 feet of trench would be open at any time in a particular location, the trench would be bridged and ramped every 1,200 feet to protect wildlife species and livestock, providing both a means to cross the open trench or to escape if needed.

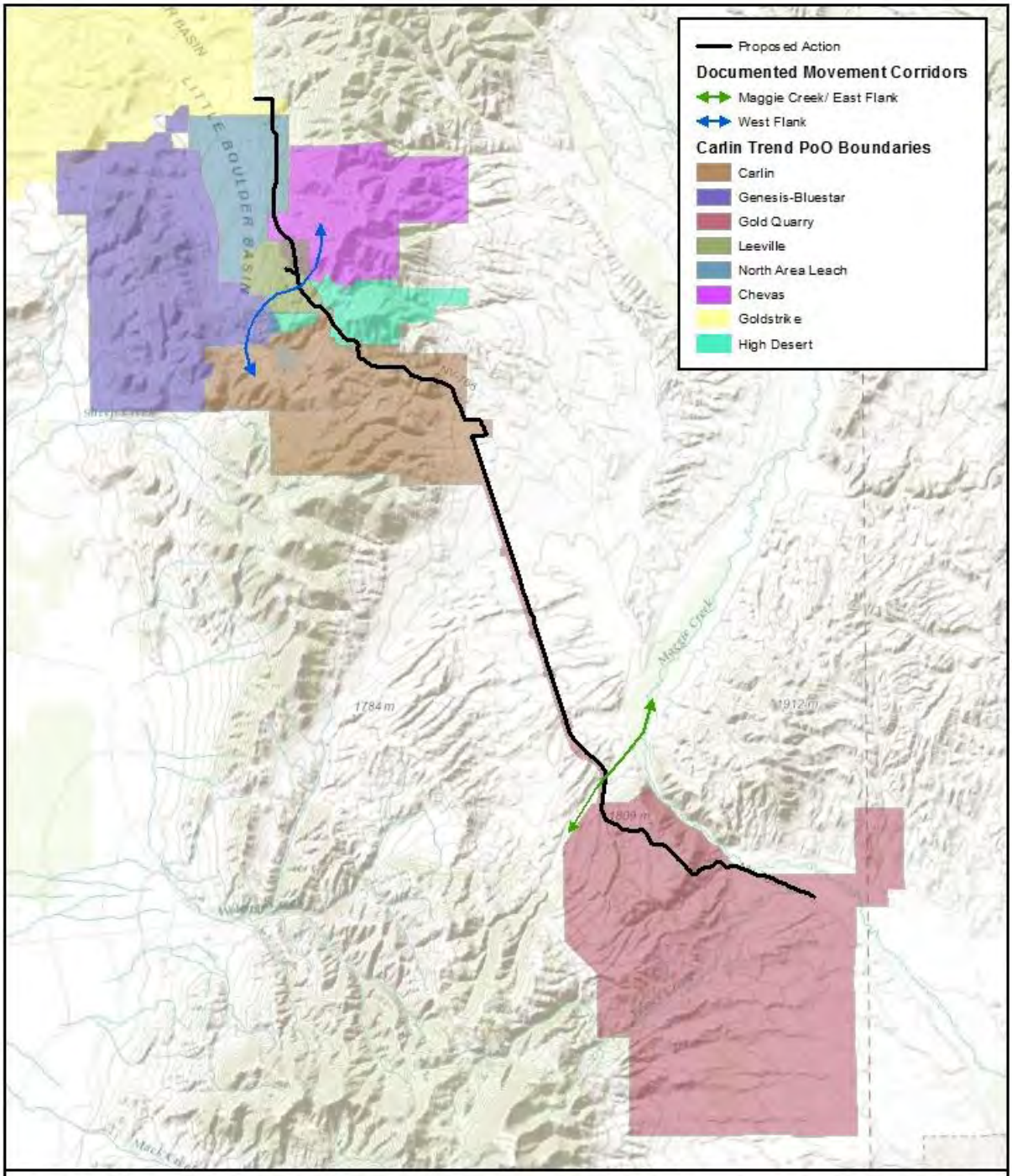

FIGURE 3-7: HIGH IMPACT AREAS FOR THE AREA 6 HERD
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

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NOTES:
BACKGROUND: SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
MIGRATION AREAS: BLM

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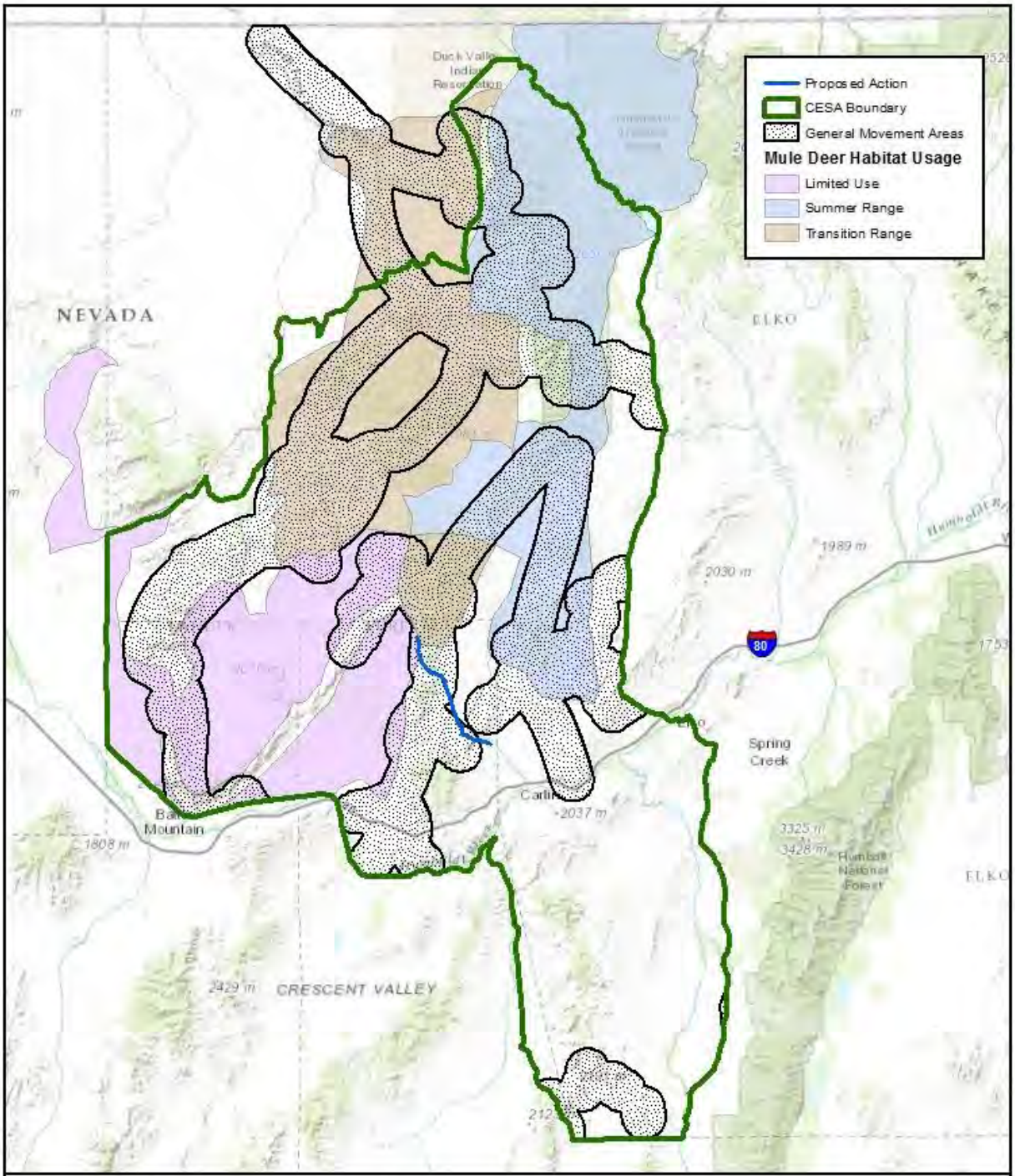

FIGURE 3-8: MULE DEER MIGRATION AREAS AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

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MILES

NOTES:
BACKGROUND: SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
MIGRATION AREAS: BLM

Pronghorn antelope (*Antilocapra americanas*):
Pronghorns occupy MU 06 near the study area in areas dominated by gently rolling to flat terrain with an open topography (Figure 3-9). Areas with low stature vegetation allow the antelope to see far and move quickly away from threats. Portions of recently burned areas in MU06 likely negatively affect pronghorn at least in the short term (NDOW 2013b). The majority of the EPP proposed alignment would be located within pronghorn summer habitat.

Elk (*Cervus canadensis*):
Elk are distributed from British Columbia through the western United States south to central Arizona and New Mexico. Due to this wide distribution, elk live in a variety of ecosystems ranging from conifer forests to desert grasslands. Elk prefer to browse on grasses and forbs during the growing season and woody vegetation during the winter. The majority of the EPP would be located in low-density elk habitat (Figure 3-10). The summer 2012 Willow fire consumed over 42,000 acres within the North Tuscarora Range of which several thousand acres were reseeded in early 2013. Elk are expected to benefit from the increase of perennial grasses that will likely be established within seeded areas of the fire perimeter (NDOW 2013b).

Mountain Lions (Puma concolor):
Mountain lions are classified as a big game species in Nevada. Mountain lions are fairly common in north-central Nevada and occupy the higher elevations surrounding the study area (NDOW 2013b). Mountain lion habitat remains in good condition throughout the Eastern Region of Nevada with ample prey base and minimal loss of habitat (NDOW 2013b).

Small Mammals:
Several rabbit species are known to occur within the study area including desert cottontail, pygmy rabbit, and black-tailed jackrabbit. Black-tailed jackrabbits and desert cottontail are common in sagebrush habitats from the valley floor to the upper foothills. Pygmy rabbits are typically found in areas with deeper developed soils in taller sagebrush habitat. Although the pygmy rabbit is considered a game species in Nevada, it is also a BLM sensitive species and is discussed in detail in Section 3.3.6 Special Status Species. The mountain cottontail is common throughout foothills and in mixed vegetative communities with a substantial shrub component. Additional mammal species that may occur within the study area include gray fox, kit fox, bobcat, muskrat, mink, coyote, badger, short-tailed weasel, long-tailed weasel, and spotted skunk, deer mouse, western harvest mouse, vagrant shrew, Merriam's shrew, Ord's kangaroo rat, sagebrush vole, golden-mantled ground squirrel, least chipmunk, and desert woodrat (BLM 2012b).

Bats:
The BLM conducted field surveys in 2013 to determine the species of bats that have potential to occur in historic underground workings to the east of the EPP study area (BLM 2013b). The only species that was found in the BLM survey area was the Townsend's big-eared bat located approximately ½ mile east of the EPP study area. Other species of bats that may occur in the vicinity of the EPP study area include pallid bat, big brown bat, small-footed myotis, little brown myotis, California myotis, long-eared myotis, long-legged myotis, Yuma myotis, and western pipistrelle bat (BLM 2012b).

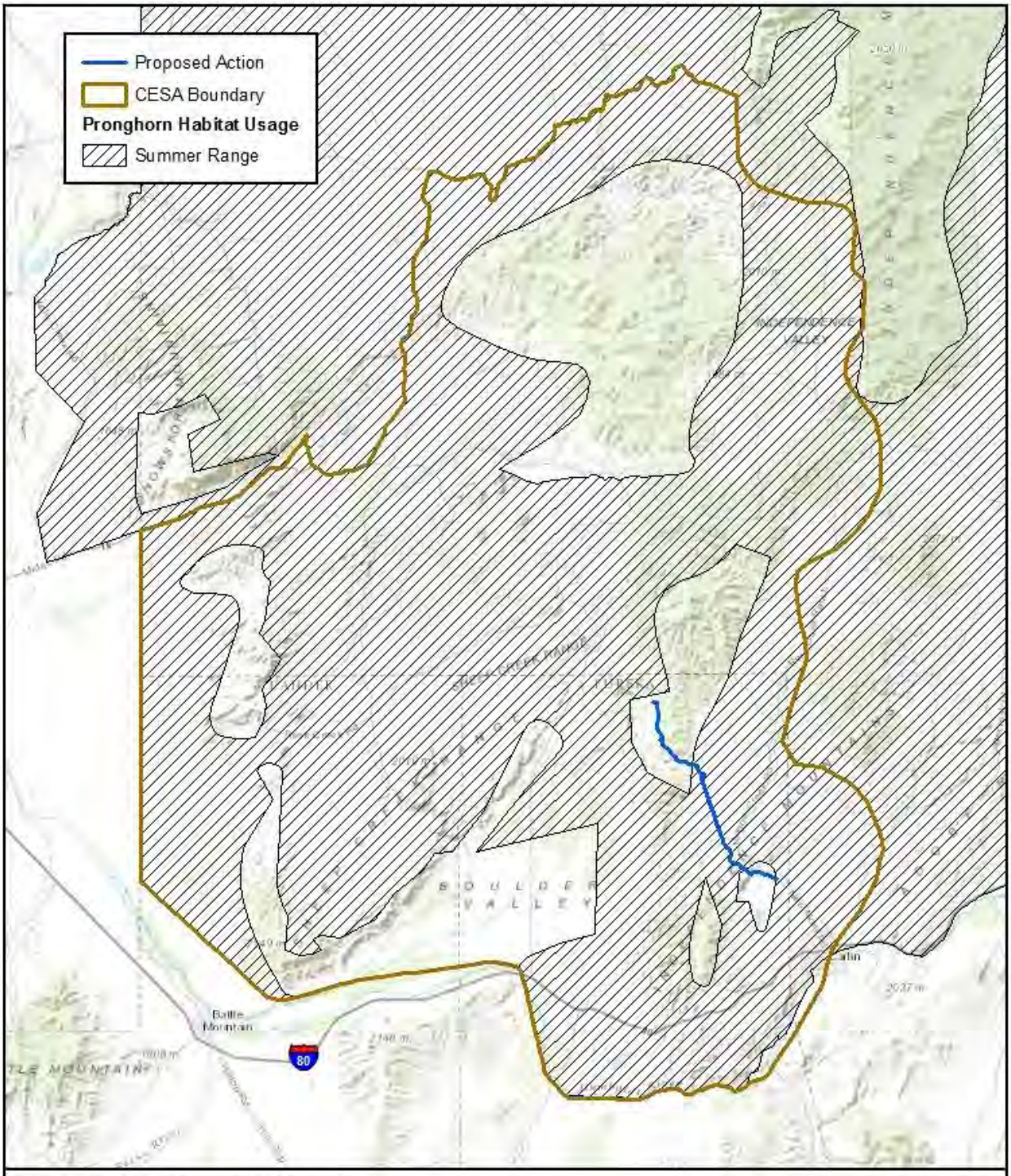

FIGURE 3-9: ANTELOPE HABITAT AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

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NOTES:
BACKGROUND: Sources: Esri, DeLorme, NAVTEQ, TomTom, intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
WILDLIFE: NDOW

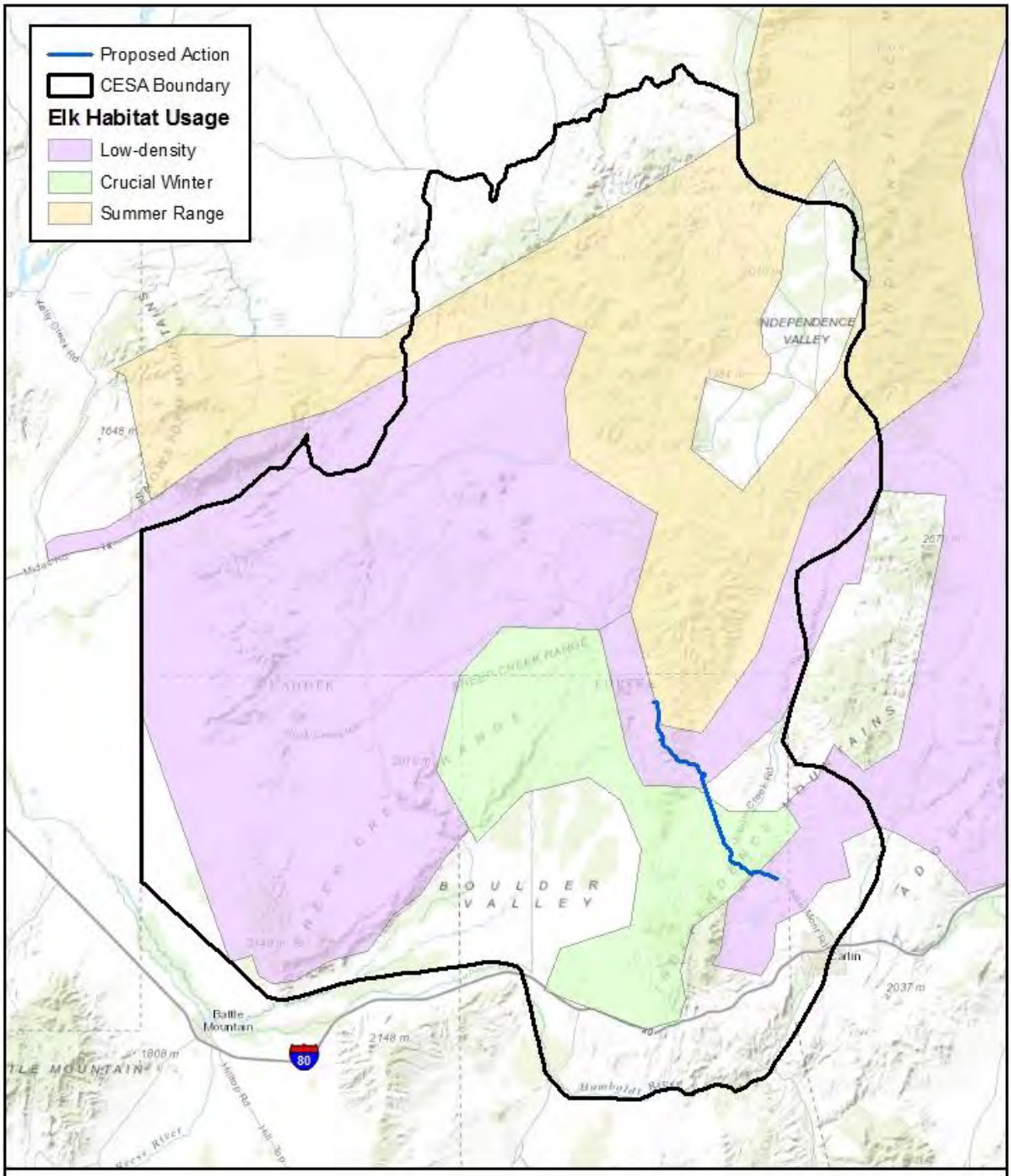

FIGURE 3-10: ELK HABITAT AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

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MILES

NOTES:
BACKGROUND: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community
WILDLIFE: NDOW

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Other Species:
A diversity of species occupy a wide range of trophic levels and habitat types within the study area (Figure 3-11).

Birds:
A variety of bird species, migratory and non-migratory typical of the sagebrush and grassland communities are anticipated to occur in the study area. These birds are typically present within the respective Great Basin habitats from spring through fall. Species expected to occur within the study area include American robin, horned lark, chipping sparrow, Brewer's sparrow, mourning dove, western meadowlark, sage thrasher, and the common raven. Additional birds have been identified by the BLM as potentially occurring within the study area (BLM 2012b).

Raptors:
Raptors known to occur within the Tuscarora Range and Independence Mountains in proximity to the EPP study area include red-tailed hawk, golden eagle, prairie falcon, and ferruginous hawk (BLM 2013b) (Figure 3-12). Ferruginous hawk, golden eagle and prairie falcon are discussed in more detail under Section 3.3.6 Special Status Species.

The red-tailed hawk is associated with a variety of habitats including sagebrush, grassland, riparian, and pinion-juniper and is one of the most common and widespread hawks in North America. It is protected under the Migratory Bird Treaty Act ((MBTA), 16 U.S.C. 703-712) and Executive Order (EO) 13186 (66 Federal Register [FR] 3853). Two active red-tailed hawk nests have been confirmed to be located within 1 mile of the EPP alignment.

Game Birds
Upland game bird species commonly found within the study area include chukar and mourning dove. Chukar are typically associated with perennial water sources, mesic areas, and rugged slopes or rock outcrops. They are resident breeders in dry, open, and often hilly country that nest in scantily lined ground scrapes laying eight to 20 eggs. Chukar feed on insects and a wide variety of seeds, including cheatgrass. Rocky habitats in the study area are the primary habitat for this species. Chukar were observed within the study area in August 2013 (Wood Rodgers 2013). Mourning dove are found in a wide range of habitats usually in close proximity to water and are most likely to occur in the study area during spring, summer and fall (BLM 2012b).

Although a large portion of Greater sage-grouse habitat has been removed by mining activities within the Carlin Trend, incidental use of the area by Greater sage-grouse does still occur outside of concentrated mining activities (BLM 2013b). The remaining fragmented habitat has been categorized by the BLM as Preliminary General Habitat (PGH). Greater sage-grouse are discussed in more detail in Section 3.3.6.

Due to limited habitat, unlikely waterfowl use may occur at mining activity water sources in the study area. Species that may occur within the study area include mallard, blue-winged teal, wigeon, gadwall, and pintail (BLM 2012).

Migratory Birds:
As stated above, Migratory Bird species are protected under the MBTA and EO 13186. Pursuant

to the EO a draft MOU among the BLM, USFS, and USFWS was drafted in order to promote conservation and protection of migratory birds. The EO provides guidance to agencies to promote BMPs for conservation of migratory birds. As a result, the BLM Nevada State Office prepared Migratory Bird BMPs for the Sagebrush Biome to assist BLM field offices in the consideration of migratory birds in land management activities presented in Section 3.3.6 (BLM no date).

In addition to the red-tailed hawk discussed above, the prairie falcon, ferruginous hawk, golden eagle, and western burrowing owl are protected under the MBTA. These species are discussed in more detail under Section 3.3.6 Special Status Species as they have been designated by the BLM Nevada State Office as sensitive species.

Additional migratory birds have been identified by the BLM as potentially occurring within the study area as follows (BLM 2012b):

Table 9. Migratory Birds Potentially Occurring in the Study Area

Common Name	Scientific Name
American robin	*Turdus migratorius*
American kestrel	*Falco sparverius*
Bald eagle	*Haliaeetus leucocephalus*
Black-billed magpie	*Pica pica*
Black-chinned hummingbird	*Archilochus alexandri*
Black-crowned night heron	*Nycticorax nycticorax*
Black-headed grosbeak	*Pheucticus melabocephalus*
Blue-gray gnatcatcher	*Polioptila caerulea*
Brewer's blackbird	*Euphagus cyanocephalus*
Brewer's sparrow	*Spizella breweri*
Bullock's oriole	*Icterus bullockii*
Burrowing owl	*Athene cunicularia*
Cinnamon teal	*Anas cyanoptera*
Chipping sparrow	*Spizella passerine*
Cliff swallow	*Hirundo pyrrhonota*
Common raven	*Corvus corax*
Common snipe	*Gallinago gallinago*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Greater sage-grouse	*Centrocercus urophasianus*
Horned lark	*Eremophila alpestris*
Juniper titmouse	*Baeolophus ridgwayi*
Killdeer	*Charadrius vociferous*
Lark sparrow	*Chondestes grammacus*
Lazuli bunting	*Passerina amoena*
Lewis' woodpecker	*Melaneroes lewis*
Loggerhead shrike	*Lanius ludovicianus*
Long-eared owl	*Asio otus*
MacGillivray's warbler	*Oporornis tolmiei*
Mallard	*Anas platyrhynchos*
Mourning dove	*Zenaida macroura*
Northern flcoker	*Colaptes auratus*
Northern harrier	*Circus cyaneus*

Table 9. Migratory Birds Potentially Occurring in the Study Area (Cont.)

Common Name	Scientific Name
Pinyon jay	*Gymnorhinus cyanocephalus*
Prairie falcon	*Falco mexicanus*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Rough-legged hawk	*Buteo lagopus*
Sage sparrow	*Amphispiza belli*
Sage thrasher	*Oreoscoptes montanus*
Say's phoebe	*Sayomis saya*
Short-eared owl	*Asio flammeus*
Snowy egret	*Egretta thula*
Swainson's hawk	*Buteo swainsoni*
Turkey vulture	*Cathartes aura*
Vesper sparrow	*Pooecetes gramineus*
Willow flycatcher	*Empidonax trailii*
Western kingbird	*Tyrannus verticalis*
Western meadowlark	*Stumella magna*
Western tanager	*Piranga ludociciana*
Western wood-peewee	*Contopus sordidulus*
Wilson's warbler	*Wilsonia pusilla*
Yellow-breasted chat	*Icteria virens*
Yellow-headed blackbird	*Xanthocephalus xanocephalus*
Yellow warbler	*Dendroica petechial*
Yellow-rumped warbler	*Dendroica coronata*

Source: BLM 2012b

Reptiles:

In addition to the species already discussed, reptiles, such as Great Basin whiptail, western rattlesnake, bull snake, northern desert horned lizards, Great Basin collared lizard, desert horned lizard, western skink, western fence lizard and long-nose leopard lizards, are likely throughout the EPP study area (BLM 2012a, 2012b). Several lizards were observed during the plant community field reconnaissance survey (Wood Rodgers 2013).

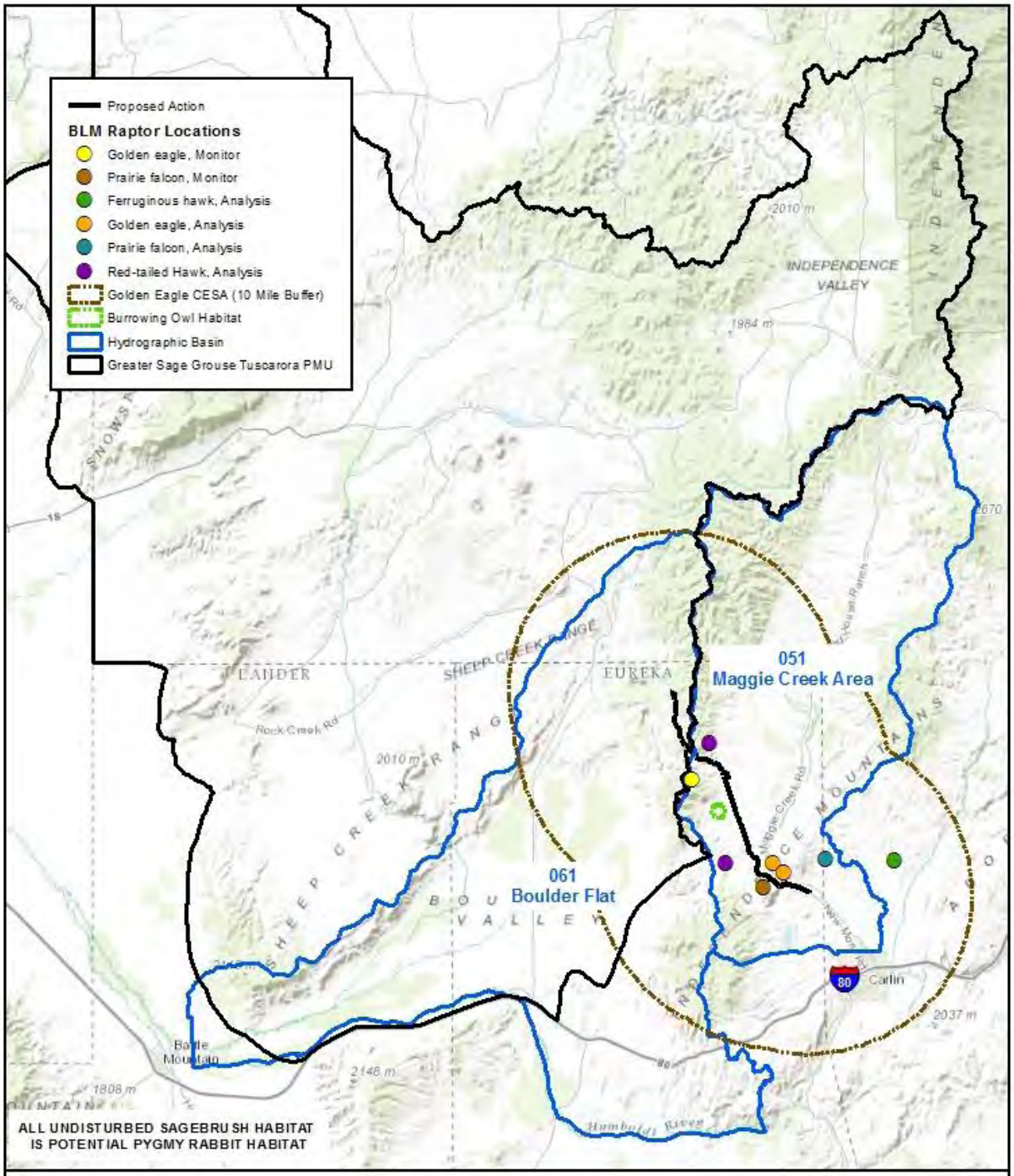

FIGURE 3-11: DIVERSITY AND SENSITIVE SPECIES LOCATIONS AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

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NOTES
BACKGROUND: SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
RAPTOR/BURROWING OWL LOCATIONS: BLM
HYDROGRAPHIC BASINS: NDWR

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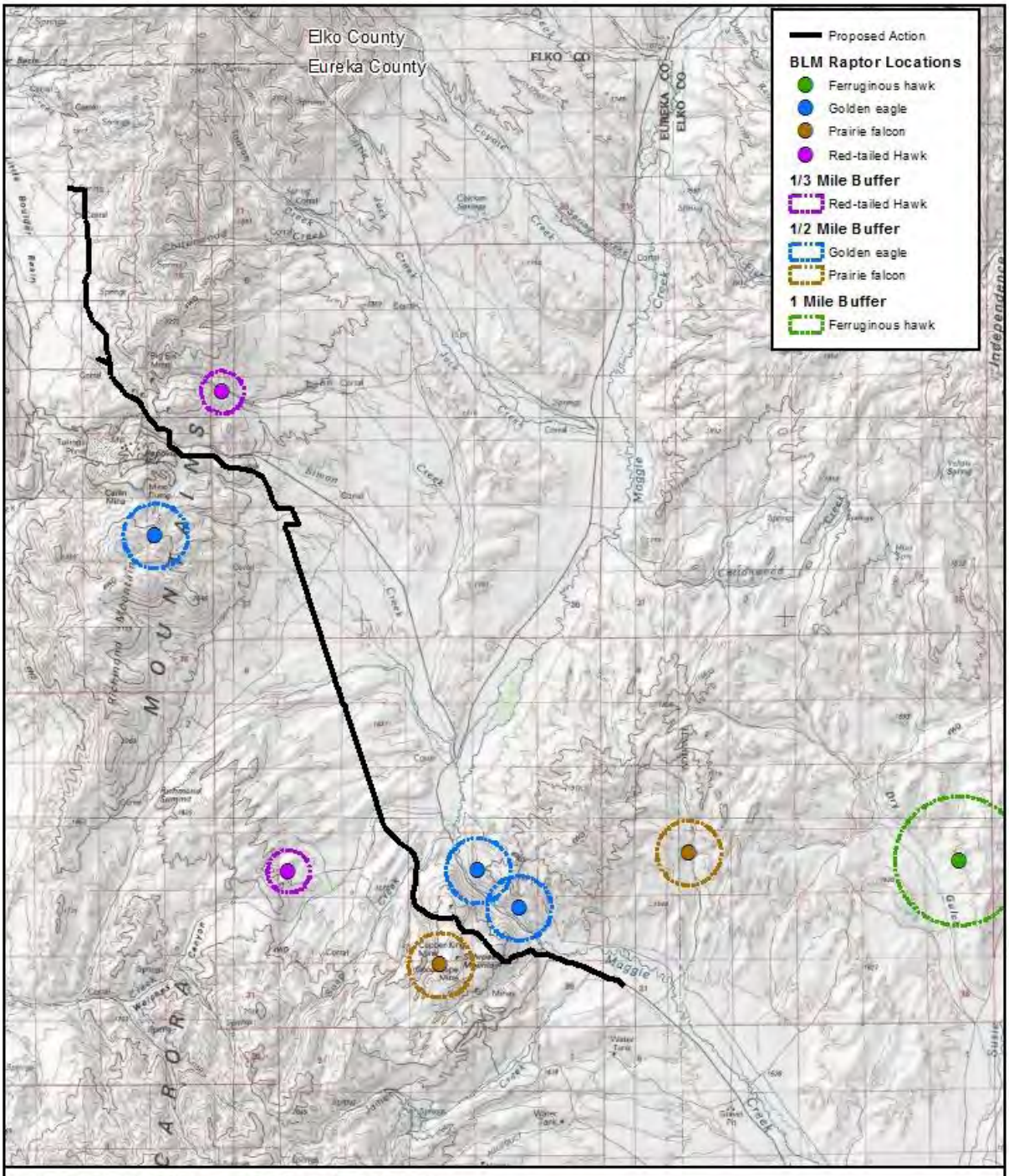

FIGURE 3-12: RAPTOR NEST LOCATIONS
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NOTES
BACKGROUND: COPYRIGHT© 2013
NATIONAL GEOGRAPHIC SOCIETY, I-CUBED
RAPTOR LOCATIONS: BLM

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Environmental Consequences:
Although the majority of the EPP alignment is contained within POO boundaries, wildlife species appear to have fairly free access to available habitat. Of the 270 acres of proposed disturbance associated with construction of the EPP, 124 acres are currently excluded from livestock grazing (BLM 2013e).

The primary issues that can cause impacts to wildlife include disruption of big game movements, fragmentation of native habitats, animal displacement, and direct loss of animals. Potential direct and indirect impacts of the Proposed Action on wildlife can be classified as short term and long-term. Short term direct impacts arise from disruption of big game movements, specifically mule deer during migration, which would cease upon completion of construction and site stabilization within migration areas.

The most common short term wildlife responses to noise and human presence are avoidance or accommodation (BLM 2012b). Avoidance may result in displacement of animals from an area larger than the actual disturbance area such as seeking alternative migration areas. Wildlife avoidance response varies from species to species and can even vary between individuals of the same species. Also, after initial avoidance of human activity and temporary noise-producing areas, certain wildlife species may acclimate to the activity and begin to reoccupy areas formerly avoided even as the disrupting activities continue.

Long-term direct impacts to wildlife populations could include limited direct mortalities from construction activities, and indirect impacts could include physiological effects due to stress resulting from navigating temporary pipeline construction obstacles during and habitat loss during revegetation recovery.

The primary issues that can cause impacts to bird species other than raptors include displacement and direct loss of individuals. Potential direct and indirect impacts of the Proposed Action on terrestrial bird species can be classified as short term and long-term. Short term direct impacts arise from displacement due to human presence, noise resulting from construction and temporary loss of habitat. Long-term direct impacts to bird populations could include limited direct mortalities from construction activities.

The most common short term terrestrial bird responses to noise and human presence are avoidance or accommodation. Avoidance may result in displacement of birds from an area larger than the actual disturbance area and seeking alternative habitat. Bird avoidance response can be highly variable from species to species (BLM 2012b). Also, after initial avoidance of human activity and temporary noise-producing areas, some bird species may acclimate to the activity and begin to reoccupy areas formerly avoided even as the disrupting activities continue (BLM 2012b).

Raptors that occur within proximity of the EPP study area and subject to analysis include red-tailed hawk, golden eagle, prairie falcon, and ferruginous hawk. Each of these species and individuals within the species has similar levels of tolerance to human presence depending on the timing of disturbance and overlap with the nesting season. All four raptor species nest and raise their hatch generally starting mid-winter through late summer (January through August). The

primary issue that could result in impacts to these raptor species is human presence and noise disturbances during that period. Although short term, these disturbances could result in nest failure or abandonment. Other issues that could indirectly impact raptor populations are loss of hunting habitat and limited direct mortalities from construction activities.

Other migratory birds that have potential to occur within and in proximity to the study area include western burrowing owl. This species is discussed in detail under Section 3.3.6.

Proposed Action:

Mammals:
Under the Proposed Action approximately 197 acres of intact upland habitat, which could potentially serve as wildlife habitat, would be disturbed. Of the 270 acres of proposed disturbance associated with construction of the EPP, 124 acres are currently excluded from livestock grazing (BLM 2013e). Proposed disturbance would result in a temporary loss of potential forage and habitat fragmentation until the re-establishment of vegetation through stabilization and seeding. Temporary habitat fragmentation could occur primarily from the direct disturbance or alteration of wildlife habitat and indirectly due to noise and human presence associated with temporary construction activities. The severity of these effects on wildlife depends on factors such as sensitivity of the species, seasonal use, type and timing of project activities, and physical parameters (i.e. topography, cover, forage, and climate). The nutritional quality of forage in MU06 winter and summer range would be also a factor in mule deer movements regardless of construction of the EPP. Given that the closest documented bat occurrence is approximately ½ mile east of the EPP study area, it is very unlikely that construction of the EPP under the Proposed Action would affect bats.

As described in Section 2.1.4, the Proposed Action includes Construction Measures/Design Features to minimize impacts from the construction and operation of the EPP. The EPP proposed construction schedule may overlap with the mule deer migration periods (LOP). If that situation occurs, under the Proposed Action PPC would limit construction activities along the EPP temporary construction right-of-way during the applicable LOP (BLM 2013b) to BLM and NDOW approved noncontiguous construction blocks. The approved construction blocks would ensure that a majority of the historic mule deer migration area would not be restricted by EPP construction activities.

Beyond a temporary disturbance to vegetation and temporary increase in human presence during construction, operation of the EPP would not result in any substantive or permanent direct or indirect adverse effect on wildlife populations. Stabilization and seeding within the same construction season, subsequent to completion of pipeline installation is expected to reestablish desired plant communities appropriate for wildlife habitat in the study area on all previously undisturbed areas (197 acres). Climatic conditions, species selection and land management activities following a fall/winter seeding would determine the period over which habitat recovery is attained. An advantage to revegetation for disturbance associated with construction of the EPP is 124 acres of the project area are currently excluded from livestock grazing (BLM 2013d). Land surface disturbed by construction of the EPP would be stabilized and seeded in accordance with a seed mix previously approved by the BLM for Newmont Carlin Trend projects (211

acres). The seed mix to be applied is described in Section 3.3.7. In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol is determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

Under the Proposed Action, if weather or other factors cause disruption or delay in the construction schedule extending construction into the mule deer migration period, PPC would limit construction activities along the EPP temporary construction right-of-way during the applicable LOP (BLM 2013b) to BLM and NDOW approved noncontiguous construction blocks.

Should LOPs for mule deer be in effect during construction in a given area, construction crews and equipment would minimize the linear extent of construction activity along the pipeline corridor in those areas to accommodate the migration of such deer ahead of and behind the construction spread. Segmentation of the construction spread would only be utilized should the construction spread be unable to minimize the linear extent to acceptable levels. Segmentation of the construction spread would involve defining linear construction areas into construction blocks, for example Block A, Block B, and Block C. This manner of segmentation would be repeated within areas as defined by the BLM and NDOW as used historically for deer movements through the project area. Construction would be authorized in "A" Blocks until completed through site stabilization and revegetation, at which time construction would move onto the "B" Blocks, and so on. The approved construction blocks would ensure that a majority of the historic mule deer migration area would not be temporarily restricted by EPP construction activities at any given time during the LOP.

PPC would complete site stabilization and revegetate currently undisturbed portions of the EPP temporary ROW at the completion of pipeline installation and as close to the onset of fall/winter precipitation as possible. Areas revegetated as a result of EPP construction ground disturbance in currently undisturbed areas would result in a temporary impact to wildlife habitat. However, revegetation during the fall/winter would minimize impacts to habitat by taking advantage of ambient soil moisture from snow, and exclusion from livestock grazing (BLM 2013e) rather than revegetation being conducted at the conclusion of pipeline installation. PPC would complete revegetation of these areas using a seed mix approved by the BLM (Section 3.3.7). In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol if determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

If construction of the EPP were to occur outside of the mule deer LOPs (BLM 2013b), such as mid June through late September the standard pipeline construction approach would apply. This standard approach is detailed in Section 2.1.2 Installation of the Pipeline.

Area wildlife may be temporarily displaced from habitat and avoidance behavior may occur due to increased activity, noise, dust related to construction and time for establishment of seeded vegetation. After construction, the migration area would be returned to the current level of ease of passage for all wildlife. As seeded vegetation establishes dependent on annual climatic condition and largely excluded from livestock grazing, and matures and begins to resemble the original vegetation in composition and density, wildlife use of the area would most likely

resemble pre-project construction levels.

The Proposed Action would result in long-term impacts to approximately 0.25 acre of disturbed habitat on public land and approximately 0.46 acre of continued disturbance on private lands for above-ground facilities. The 0.25 acre of public land was previously disturbed in association with mining activities at the Leeville Mine and the 0.46 acre was previously disturbed in association with mining activities at the Gold Quarry Mine.

To the furthest extent possible, under all construction schedule scenarios, each length of open trench would be limited to 1,200 feet at a time. If greater than 1,200 feet of trench would be open at any time in a particular location, the trench would be bridged and ramped every 1,200 feet to protect wildlife species and livestock, providing both a means to cross the open trench or to escape if needed.

Birds and Raptors:
Chukar may be temporarily displaced from habitat during the three to five month construction period. A temporary loss of upland habitat (steep, rocky slopes) suitable for chukar would occur as a result of the Proposed Action. The surrounding area provides habitat in abundance as evidenced by the existing use of the EPP study area (Wood Rodgers 2013) by chukar so the habitat losses caused by the Proposed Action would not likely disrupt chukar populations.

One confirmed active red-tailed hawk nest is located within ±1.6 miles of the EPP alignment. Construction of the EPP would temporarily disturb a portion of the hawk's potential hunting area. However, the red-tailed hawk is an opportunistic hunter. It relies on open areas, fields, and meadows with surrounding high perches to hunt from. Its diet is also varied, including 85 to 90% small to medium sized rodents, including rabbits and occasionally birds up to the size of pheasants, snakes and lizards. Due to their adaptability to different habitats and their general tolerance of human presence, red-tailed hawk populations are considered very stable across their range and the temporary impacts from construction of the EPP would not likely adversely affect their ability to hunt or nesting success.

Other Wildlife:
Construction activities associated with the EPP Proposed Action may affect common reptiles that are likely to occur in the EPP study area. It is possible that construction could result in direct effects in the form of individual mortality, and indirect effects in the form of displacement of individual common reptiles.

No Action Alternative:
Under the No Action Alternative, the EPP would not be constructed and there would be no new disturbance to wildlife species or their habitat attributed to this proposed natural gas pipeline.

Cumulative Effects:
The CESA for large mammals and their habitat encompasses a portion of NDOW's Management Unit 06 (Hunting Units 062, 064, 067, and 068) as depicted in Figures 3-8, 3-9, and 3-10. The CESAs were determined by the BLM and NDOW based on wildlife use in the region and include a contiguous area that provides very important seasonal habitat for general wildlife species as

mule deer and antelope. Generally, the CESAs extend from the northern end of the Independence Range in the north to the Humboldt River and northern end of the Pinon Range to the south. Cumulative impacts to wildlife resources would primarily be directly related to habitat loss, habitat fragmentation, and animal displacement.

Cumulative effects on wildlife in the CESAs have resulted primarily from wildfires, mining activities and mineral exploration, noxious weeds and non-native invasive plant species, livestock grazing, drought, urbanization, and seeding of native range with introduced species (BLM 2010a, c). Development of the reasonably foreseeable future project discussed in Section 3.2.3 would continue to impact wildlife resources in their respective CESAs. However, most mine areas proposed for development within the Carlin Trend typically have been within or adjacent to existing mine areas (BLM 2010a, c).

Effects of wildfires on terrestrial wildlife species include loss of habitat (forage and cover) which can lead to die-offs. The loss of canopy cover and forb and grass diversity is prevalent across the burned areas and the recovery of these plant communities would vary in terms of time and cover. It is common for native shrub communities affected by wildfire to be replaced by cheatgrass-dominated grasslands until seeded species and/or native vegetation becomes re-established, particularly, at elevations below 6,000 feet (BLM 2012a).

Past, present and reasonably foreseeable future actions in the wildlife, mule deer, and antelope CESAs resulted, or would result, in the direct disturbance of habitat. A portion of the cumulative disturbance areas have been, or would be, reclaimed or have recovered materially (BLM 2012b). Reclaimed areas would be capable of supporting wildlife use; however, the level and timing of recovery is highly dependent on seed mix species selection, climatic conditions, protection from grazing, and reclamation techniques and methods.

Within the wildlife, mule deer, pronghorn, and elk CESAs (Figures 3-8, 3-9, and 3-10) past project activities have removed wildlife habitat, primarily as a function of fencing and/or land disturbance and reclamation. The proposed project and other project activities within the Carlin Trend are located in the heart of a migration area that connects important summer and winter range primarily for mule deer. Throughout the western U.S., big game species rely on seasonal ranges to satisfy their annual nutritional and energetic requirements (BLM 2012b). Over the past 10 to 20 years, seasonal big game movement corridors have been restricted due to mining operations in the Carlin Trend (BLM 2012b).

Within the mule deer CESA, a large herd of mule deer migrates south from their summer range in the Tuscarora Range, Independence Range, and Santa Renia Mountains to their winter range in the lower elevations of Boulder Valley, Dunphy Hills, Izzenhood area, and the southern end of the Sheep Creek Range (BLM 2012b). The Carlin Trend and surrounding areas is a mule deer migration area for movement to and from the winter range in the Dunphy Hills. Due to the recent expansion of mining developments along the Tuscarora Range, limited opportunity remains for north/south big game movement in Management Area 06 (BLM 2012b). This restriction has created a significant impact to the mule deer migration in this part of the Carlin Trend. In addition, wildfire has created one of the primary cumulative effects on these species (Section 3.2.2). From 1980 to 2013, thousands of acres of wildlife habitat have been impacted by

large-scale wildfires. Wildfire has resulted in the long-term loss of shrubs that provide forage and cover as habitat components, which has caused reductions in mule deer and pronghorn herds throughout their respective CESAs. Effects of wildfires to terrestrial wildlife species include loss of habitat (forage and cover), which result in long term changes in the populations of mule deer and pronghorn as well as other species. The loss of shrub canopy cover and forb and grass diversity is prevalent across the burned areas and the recovery of these plant communities varies in terms of time, cover and species diversity. In many areas, native shrub communities have been replaced by cheatgrass-dominated grasslands (BLM 2012). A breakdown of cumulative disturbance by the Proposed Action, wildfire, and mining operations is presented in Table 10.

Many of the local wildlife populations (e.g., reptiles, small game, non-game species, and migratory birds) that occur in the CESA would continue to occupy their respective ranges and breed successfully following completion of past, present, and reasonably foreseeable future projects within the CESA, although population numbers may decrease relative to the amount of cumulative habitat loss and ground disturbance. Many of the local wildlife populations that occur in the CESA would continue to occupy their respective ranges and breed successfully, although population numbers may decrease relative to the increase in habitat loss and temporary disturbance associated with construction of the EPP. Past, present and reasonably foreseeable future actions in the CESA have resulted, or would result, in the direct disturbance of habitat. A portion of the cumulative disturbance areas have been, or would be, reclaimed or are currently recovering materially (i.e., seeded wildfire and mining activity areas) (BLM 2012a). The reclaimed areas, and areas associated with habitat conversion, would be capable of supporting wildlife use; however, species composition and densities may change. Other cumulative impacts include increased noise, additional human presence, and the potential for increased vehicle-related mortalities.

Nesting raptor species also may be susceptible to these cumulative impacts due to encroaching human activities along the Carlin Trend which have resulted in bird displacement and habitat loss. The hydrographic basin CESA for red-tailed hawk, prairie falcon, ferruginous hawk, western burrowing owl, and pygmy rabbit is the cumulative boundary of Hydrographic Basins 051 and 061 (Figure 3-12). Hydrographic Basins are subdivisions of regional river basins, in this case, the Humboldt River Basin. These species life cycles and foraging opportunities are directly influenced by short and long term climatic conditions as well as physical changes to foraging and hunting habitat, thus hydrographic basins are used as the CESA. Past and present project activities within the CESA could result in a reduction or loss of habitat that supports prey species for raptors.

Table 10 Cumulative Wildlife Habitat Disturbance

CESA and Habitat Type	Total Acres of Habitat[1]	Total Acres of Habitat Previously Disturbed (Fire, Past, Present, RFFAs)[1]	Acres of Intact Habitat Disturbed by Proposed Action and % of Total Acres of Habitat
Wildlife	2,389,947	1,170,441 (49%)	197 acres (0.0001%)
Mule Deer	1,641,584	819,063 (50%)	Limited Use Range 30 acres (0.002%)
Antelope	1,199,893	760,440 (63%)	Summer Range 131 acres (0.011%)
Elk	1,033,077	706,211 (68%)	Summer, Low Density & Crucial Winter Range 188 acres (0.018%)

Source: BLM 2012b[1]

The Proposed Action adds approximately 211 acres of temporary disturbance due to construction, of which about 197 acres is disturbance to intact sagebrush habitat or 0.0001% additional disturbance of the total acres of wildlife habitat (Table 10). The Proposed Action would reclaim 211 acres including that previously damaged by wildfire. Of the 270 acres of proposed disturbance associated with construction of the EPP, 124 acres are currently excluded from livestock grazing (BLM 2013e). Approximately 0.71 acre of disturbance/habitat loss would remain as long as the pipeline continues to operate. In the context of cumulative impacts, the Proposed Action adds a very small increment to habitat fragmentation, habitat loss, and temporary animal displacement and movement disruption within the CESA (0.0001% of 2,389,947 acres). The temporary loss of shrub-dominated communities on 197 acres would represent a long-term change in wildlife habitat composition (i.e., shrub-dominated communities to grass/forb dominated communities) under the Proposed Action because it could take up to approximately 25 years for mature shrubs to become established in these communities (BLM 2012). These added impacts are a concern in a cumulative sense in that even small percentage impacts on a project by project basis may amount to substantial impacts over the long term with respect to number and duration of disturbance activities. However, here, the effects are temporary and are not themselves a substantive impact on the MU06 mule deer population relative to the current project activities in the CESA (Table 10).

3.3.6 Special Status Species

Affected Environment:

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Eleven special status species were identified as potentially occurring within the vicinity of the EPP study area (NNHP 2013, NDOW 2013a). These species, their associated habitats, and their potential for occurrence within the study area are summarized in Appendix 2. Occurrence potential within the study area was evaluated for each species based on their habitat requirements and/or known distribution. Based on these evaluations, four special status species have been eliminated from detailed analyses. These species include Lahontan cutthroat trout, Nevada viceroy, Columbia spotted frog, and Townsend's big eared bat. The seven special status species identified as potentially occurring within the study area and addressed in this EA are pygmy rabbit, western burrowing owl, golden eagle, ferruginous hawk, prairie falcon and Greater sage-grouse (Figure 3-11).

Regulatory Framework:

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) of 1973, the United States Fish and Wildlife Service (USFWS) has authority over projects that may affect the continued existence of a species federally listed as Threatened or Endangered. If a development may affect a federally listed species, federal consultation under Section 7 of ESA is required. Under ESA, the definition of "take" includes to kill, harm, or harass any federally listed species. The USFWS has interpreted the definition of harm to include significant habitat modification. There are no threatened or endangered species that would be impacted by the Proposed Action.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668) applies mostly to taking, hunting, and trading activities that involve any bald or golden eagle. The act prohibits the "taking" of any individuals of these two species, as well as any part, nest, or egg. The term "take" as used in the act includes "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." One golden eagle nest has potential to be disturbed as a result of construction activities associated with the Proposed Action. Therefore, the Conservation Strategy (Appendix 3) was developed in coordination with the BLM wildlife biologist to provide a program designed to reduce the potential risks of indirect harassment, injury or mortality to raptor and migratory birds that may result from the interaction of these animals with Prospector Pipeline Company's (PPC) construction activities for the EPP.

BLM Policies

In Nevada, the BLM has implemented policies for special-status species found on BLM-managed lands. BLM's list of special-status species includes the following three categories: (1) federally listed as Threatened or Endangered, Proposed and Candidate species; (2) Nevada State Protected species; and (3) Nevada BLM Sensitive Species. Nevada State Protected species that meet BLM's 6840 (BLM 1988) policy definition includes a total list of 25 animal species and 13 plant species occurring on BLM- managed lands. The BLM affords these species the same level of protection as federal Candidate species. Nevada BLM Sensitive Species (BLM Manual section 6840.06 C [BLM 1988]) are not federally listed, nor state-listed, but the BLM affords them the same level of protection as federal Candidate species. BLM sensitive species are

species for which population viability is a concern. Concern is warranted by a downward trend in population numbers, density, or habitat conditions that would reduce a species' existing distribution. The BLM is responsible for ensuring that its actions do not cause sensitive species to become Threatened or Endangered. Several special-status wildlife species listed later in this section are considered sensitive species by the BLM and are afforded protection.

Nevada Regulations

The State of Nevada does not have its own version of the federal ESA. However, NDOW has established a list of species that are declining in all or portions of their range within the State of Nevada. NDOW's listed species are "protected" under the authority of NRS 501.100 - 503.104 (wildlife), and NRS 527.050 and NRS 527.260 - 527.300 (plants). When these species occur within BLM- managed lands, the BLM affords them the same level of protection as federal Candidate species. In addition, under the authority of NRS 527.060 to 527.120, it is unlawful to remove or damage cacti, yucca, and Christmas trees without written permission from the legal owner.

Pygmy Rabbit:

Pygmy rabbits are typically found in areas of tall, dense big sagebrush cover and are highly dependent on sagebrush to provide both food and shelter throughout the year. Their winter diet consists of up to 99 percent sagebrush (USFWS 2011). Pygmy rabbit burrows are generally found in relatively deep, loose soils of wind-borne or water-born origin. In September of 2010, the USFWS determined that the pygmy rabbit does not warrant protection under the ESA, however the Nevada BLM State Office has classified this as a Sensitive Species, and Nevada Natural Heritage has categorized this species as vulnerable to decline.

Pygmy rabbit are known to occur east of the SOAPA North-South Haul Road (BLM 2013b). The EPP study area may support suitable habitat and thus it is likely for this species to occur within the study area.

Burrowing Owls:

The western burrowing owl breeds throughout Nevada. The majority of the breeding population migrates from northern Nevada during the winter months. However, observations of this owl have been recorded throughout Nevada during all months of the year. Breeding by burrowing owls is strongly dependent on the presence of burrows constructed by ground squirrels and badgers. Prime burrowing owl habitat must be open, have short vegetation, and contain an abundance of burrows. Burrowing owls begin nesting in April, and young typically fledge by August. The western burrowing owl has been designated by the BLM Nevada State Office as a Sensitive Species and by Nevada Natural Heritage as vulnerable to decline.

BLM Nevada State Office Best Management Practices for the Sagebrush Biome (BLM no date) to assist BLM field offices in the consideration of migratory birds incudes the requirements for pre-disturbance migratory bird nesting surveys as described under Section 2.1.4.

The nearest known burrowing owl population is approximately midway down the SOAPA North-South Haul Road and to the west approximately 1 mile (Figure 3-11)(BLM 2013b) therefore, western burrowing owl may potentially occur within the EPP study area.

Golden Eagle:
The golden eagle, a USFWS Species of Concern, a Nevada State Protected species, Nevada BLM Sensitive Species, protected under the Bald and Golden Eagle Protection Act and the MBTA, is found in a variety of open, usually relatively dry habitats throughout the western United States. In Nevada, it often nests on cliffs above foraging habitat with an adequate prey base including sagebrush flats, pinyon-juniper woodland, and salt desert shrub. In proximity to the EPP alignment, three active golden eagle nests have been confirmed (BLM 2013c). The locations are within 1.25, 0.8 and 0.7 miles. The closer two of the three locations are topographically screened from the EPP alignment by the Maggie Creek Canyon, and State Route 766 subjects the nests to constant vehicular traffic noise, and all three are separated from the EPP alignment by mining activity.

Ferruginous Hawk:
The ferruginous hawk, a USFWS Species of Concern, a Nevada State Protected species, BLM Sensitive Species, and protected under the MBTA inhabits the open sagebrush grasslands of central and eastern Nevada (BLM 2001). Nest sites are normally located at the interface between pinion or juniper woodland and open sagebrush. Nest trees typically overlook broad expanses of open sagebrush or grassland from which the hawks hunt ground squirrels and rabbits. Ferruginous hawks nest in the tops of isolated trees and sometimes on rock outcrops or even on the ground on ridges overlooking valleys. One ferruginous hawk nest has been confirmed to be active 5.5 miles east of the EPP alignment (BLM 2013c). This location is topographically screened from the EPP alignment with hunting likely to occur in open sagebrush grasslands between the nest site and the EPP alignment.

Prairie Falcon:
The prairie falcon is a BLM Sensitive Species and protected under the MBTA. The falcon favors sagebrush steppe habitat in Nevada, nesting on cliff ledges or isolated trees if available, and a small mammal diet. Within proximity of the EPP alignment two nests have been confirmed as active within 0.6 mile and 2.3 miles (BLM 2013c). The further location of the two nests from the EPP alignment (2.3 miles) is topographically screened from the EPP alignment by the Maggie Creek canyon and is likely subject to vehicular travel noise along State Route 766. The second and closer location (0.6 mile) is sited topographically similar to the EPP alignment as the alignment traverses up and over Schroeder Mountain.

Greater sage-grouse
The Greater sage-grouse, a USFWS Candidate Species, Nevada State Protected Species and BLM Sensitive Species is found throughout Nevada in sagebrush dominated habitats. Sagebrush is a key component of Greater sage-grouse habitat on a year-long basis. Sagebrush provides forage and nesting, security, and thermal cover for this species. Moist areas that provide succulent herbaceous vegetation during the summer months are used extensively as brood rearing habitat. Open, often elevated areas within sagebrush habitats usually serve as breeding areas (strutting grounds or lek sites). In Nevada, Greater sage-grouse males begin displaying on leks in March and hens typically begin nesting in April and May. During winter, Greater sage-grouse often occupy wind exposed areas where sagebrush is available. NDOW provided data on the location and status of sage-grouse leks in the vicinity of the EPP study area (NDOW 2013b). There are 2 leks that are within 3 miles of the EPP study area, the first is the Lynn Creek lek

(status unknown 2012) located midway down and to the east of the EPP study area. This lek was burned in the Indian Creek Fire in 2011 and aerial and drill seeded in 2012. The second is the Richmond Mtn. lek (status inactive 2012) located midway down and to the west of the EPP study area. This lek was also burned in 2011 in the Chukar Fire and aerial seeded in 2012.

BLM habitat categorization for the EPP study area is primarily PGH (Preliminary General Habitat) and non habitat for Greater sage-grouse (BLM 2013b). PGH is typically described as habitat types of moderate importance; however, PGH may also include areas of higher quality habitat that lacks bird survey and inventory data to support a priority habitat ranking. PGH provides some benefit to Greater sage-grouse populations but, in many instances, lacks a key component, such as adequate shrub height or density or sufficient herbaceous understory, which prevents it from meeting its full ecological potential. PGH also may include areas recently burned that have not sufficiently recovered or sagebrush communities with pinyon-juniper encroachment. PGH has the potential to be reclassified as Preliminary Priority Habitat (PPH) if restoration efforts enhance the habitat quality or ongoing field efforts document sage-grouse use (http://www.blm.gov/nv/st/en/prog/wildlife/greater_sage-grouse/preliminary_habitat.html).

Environmental Consequences:

Pygmy Rabbit:

Proposed Action: It is possible that during construction, burrows could be destroyed and individuals could be killed. Construction would temporarily eliminate a small fraction of the area's forage, hiding cover, and breeding sites for these species. Excavation and backfill might create a minor benefit in areas of existing burrows by providing churned soils that could be easier to burrow into. Site stabilization and seeding could benefit pygmy rabbit by providing additional forage (new seedlings) during the following spring in the areas reclaimed by the project.

In compliance with the Construction Measures and Design Features (Section 2.1.4), PPC would employ a qualified biologist to conduct species specific protocol surveys prior to clearing and grubbing of the EPP temporary ROW. If pygmy rabbit presence is confirmed by the qualified biologist, the biologist would consult with the BLM wildlife biologist for applicable adaptive management to be applied to construction activities and buffers to be delineated in the field with protective fencing to avoid potential for impact. Active burrows will be documented using GPS. PPC would then clear and blade the proposed temporary right-of-way at the start of construction to remove potential burrowing habitat for pygmy rabbit, avoiding areas buffered to protect active burrows. Buffered areas would be resurveyed, and when determined to be inactive by PPC's qualified biologist, would then be cleared and bladed for construction.

Burrowing Owl:

Proposed Action: Construction would temporarily eliminate a small fraction of the area's forage, hiding cover, and breeding sites for these species. Habitat for this species occurs west of SOAPA North-South Haul Road within 1 mile of the haul road. Therefore, there is potential for this species to occur within the EPP study area. Although EPP construction activities would most likely occur during the species LOP, it is unlikely that any burrowing owls will be impacted through compliance with the construction measures and design features (Section 2.1.4).

In compliance with the construction measures and design features (Section 2.1.4), if the construction schedule overlaps with the burrowing owl LOP, PPC's qualified biologist would coordinate with the BLM wildlife biologist. Coordination would focus on requisite pre-disturbance surveys for western burrowing owl and appropriate active burrow buffers to be protected with temporary construction fencing to avoid impact to potentially active burrows.

Golden Eagle:

Proposed Action: Construction of the EPP would overlap with a portion of the eagle nesting season which begins January 1 and continues through when the young fledge from the nest as late as the end of August. Construction would temporarily eliminate a small fraction of the area's hunting habitat for this species. Disturbance in the form of human presence during construction could potentially impact nesting success.

It is unlikely that construction of the EPP would impact nesting success of the nearest nest locations, as they are topographically screened from the EPP alignment by the Maggie Creek Canyon, and State Route 766 subjects the nests to constant vehicular traffic noise. All three nests are separated from the EPP alignment by mining activity.

Although the third nest site is further from the EPP alignment, it is not topographically screened from EPP related construction noise and human presence; however it is consistently subject to noise and human presence from mining activity. Given the potential for impact to nesting success due to the increase in human presence and construction noise associated with construction of the EPP, the Proposed Action includes provisions to confirm the nest is active and if confirmed active, monitor nesting behavior for this nest location as described under Section 2.1.4 Construction Measures/Design Features and the Conservation Strategy (Appendix 3). This nest is located approximately 1.3 miles southwest at the northern extent of the EPP alignment. When EPP construction begins at either end of the golden eagle monitoring zone, as prescribed by the BLM wildlife biologist (Figure 5, Appendix 3), PPC's qualified biologist would start nesting behavior monitoring and continue monitoring until the qualified biologist determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive. If abnormal nesting behavior is documented, the qualified biologist will determine the severity of the abnormal behavior and consult with the BLM wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. The goal of the nest behavior monitoring is to assess if potential construction-related impacts (noise or human presence) may disrupt the nesting success of the subject raptor. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

Ferruginous Hawk:

Proposed Action:

Construction would temporarily eliminate a small fraction of the area's hunting habitat for this species. If weather or others factors result in a delay or interruption in the construction schedule, disturbance in the form of human presence during construction is unlikely to potentially impact nesting success for the nest located approximately 5.5 miles east of the SOAPA. This nest site is screened topographically and by distance from the EPP alignment and is more likely to be

impacted by vehicular travel along State Route 766. It is unlikely that the EPP construction, even if it does overlap with the hawk's nesting period, would impact nesting success.

Prairie Falcon:

Proposed Action:

Construction of the EPP would overlap with the falcon's nesting season which begins January 1 and continues through when the young fledge from the nest as late as the first of July. Construction would temporarily eliminate a small fraction of the area's forage for this species. Disturbance in the form of human presence during construction could potentially impact nesting success for the nest located atop Schroeder Mountain.

This nest site is not screened topographically and is located on the same landform as the EPP alignment in this location, however it is consistently subject to noise and human presence from mining activity as described in Section 2.1.1. Given the potential for impact to nesting success due to the increase in human presence and construction noise associated with construction of the EPP, the Proposed Action includes provisions to monitor nesting behavior as described under Section 2.1.4 Construction Measures/Design Features and the Conservation Strategy (Appendix 3). This nest is located approximately 0.6 mile southwest at the southern extent of the EPP alignment. When EPP construction begins at either end of the falcon's monitoring zone as prescribed by the BLM wildlife biologist (Figure 5, Appendix 3), PPC's qualified biologist would determine that the nest is active, and if confirmed active, would begin nesting behavior monitoring and continue monitoring until the qualified biologist determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive. If abnormal nesting behavior is documented, the qualified biologist would determine the severity of the abnormal behavior and consult with the BLM wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. If no measures can be applied, construction would be delayed within 0.5 mile of the nest until the end of the nesting period. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

Greater sage-grouse:

Proposed Action:

Two Greater sage-grouse lek sites (one unknown, one inactive status) have been identified approximately 3 miles from the EPP study area. The Lynn Lek (status unknown) is approximately 21/4 miles and the Richmond Mtn. lek (status inactive) is approximately 11/2 miles from the EPP study area. Given the lek status as documented by NDOW (2013a), these wildfire areas are in some level of recovery post seeding in 2012, EPP construction would not begin until June, and construction disturbance would be limited to the temporary construction ROW which is narrower than the study area, it is unlikely that there would be any direct or indirect impacts to breeding Greater sage-grouse (or leks) from project construction activities.

The EPP study area may support incidental use by Greater sage-grouse. Due to the current extent and level of mining activity within the Carlin Trend which includes the EPP preferred alignment, the EPP study area supports fragmented PGH as described above. According to the BLM (2013b), leks have been removed or abandoned and bordering undisturbed areas are not

consistently utilized by sage-grouse. Therefore, EPP construction activities would not likely adversely affect their incidental use of the area in summer and winter (BLM 2013b).

No Action Alternative:
Under the No Action Alternative, the EPP would not be constructed. There would be no new disturbance to pygmy rabbit and western burrowing owl habitat, no new potential for nesting success or foraging habitat disturbance to golden eagle, ferruginous hawk, and prairie falcon, and there would be no new potential for impact to Greater sage-grouse incidental use of the remaining fragmented PGH habitat associated with the EPP Proposed Action.

Cumulative Effects:

Pygmy Rabbits:
The CESA for pygmy rabbits is the collective boundary of Hydrographic Basins 051 and 061 (Figure 3-11). Considering that species specific surveys would be conducted prior to ground disturbing activities, and active burrows would be protected until they become inactive, there is no concern for cumulative impacts related to this project or alternatives, including the No Action Alternative.

Burrowing Owls:
The CESA for burrowing owls is also the collective boundary of Hydrographic Basins 051 and 061 (Figure 3-11). Although EPP construction activities would most likely occur during the species specific LOP, it is unlikely that any burrowing owls would be harmed by the project. Construction Measures/Design Features (Section 2.1.4) would be applied to project construction to avoid impact to active burrows in accordance with the Migratory Bird Treaty Act. There are no cumulative impacts of concern related to the EPP.

Golden Eagle:
The CESA for golden eagle is the collective boundary of Hydrographic Basins 051 and 061 (Figure 3-11) with emphasis on a 10 mile radius of the EPP alignment. Given that construction for the EPP would overlap the nesting season, the project may impact nesting success of the golden eagle in one location (1.3 mile proximity). Comprehensive application of the Construction Measures/Design Features (Section 2.1.4) is intended to monitor nesting behavior and avoid disturbance activities that may impact nesting success. If monitoring documents abnormal nesting behavior as a result of EPP construction activities, the biologist will consult with the BLM wildlife biologist to determine the severity of the abnormal nesting behavior and what construction adaptive management measures, if any will be applied to construction activities to ensure that any potential impact of the EPP is less than significant. If no measures can be applied, construction will be delayed within 0.5 mile of the nest until the end of the nesting period.

The small portion of impact to potential hunting area for golden eagle associated with temporary impacts for construction of the EPP would not incrementally increase cumulative impacts to this species.

Ferruginous Hawk:

The CESA for ferruginous hawk is the collective boundary of Hydrographic Basins 051 and 061 (Figure 3-11). Given that the hawk nest is 5.5 miles from the EPP alignment, it is unlikely that construction activities from the project would impact nesting success of the hawk.

The small portion of impact to potential foraging and hunting area for ferruginous hawk associated with temporary impacts for construction of the EPP would not incrementally increase cumulative impacts to this species.

Prairie Falcon:

The CESA for prairie falcon is the collective boundary of Hydrographic Basins 051 and 061 (Figure 3-11). Given that construction for the EPP would overlap the nesting season, it is possible that construction activities from the project may impact nesting success of prairie falcon in one location (0.6 mile proximity). The comprehensive application of the Construction Measures/Design Features (Section 2.1.4) is intended to monitor nesting behavior and avoid disturbance activities that may impact nesting success. If monitoring documents abnormal nesting behavior as a result of EPP construction activities, the biologist will consult with the BLM wildlife biologist to determine the severity of the abnormal nesting behavior and what construction adaptive management measures, if any will be applied to construction activities to ensure that any potential impact of the EPP is less than significant. If no measures can be applied, construction will be delayed within 0.5 mile of the nest until the end of the nesting period.

The small portion of impact to potential foraging and hunting area for prairie falcon associated with temporary impacts for construction of the EPP would not incrementally increase cumulative impacts to this species.

Greater sage-grouse:

The CESA for Greater sage-grouse is the Tuscarora Population Management Unit (Figure 3-11). Given that the two know lek locations are approximately 3 miles from the EPP study area, they are either inactive or of unknown status, the EPP Study area supports fragmented PGH and only incidental use of this fragmented habitat is expected throughout the Carlin Trend, it is not likely that construction activities from the project would directly impact strutting, nesting and brooding success of the sage-grouse. In addition, EPP construction activities are unlikely to impact incidental use of the remaining fragmented PGH that occurs within the EPP study area. Potential impacts would be to scattered individuals that venture into or cross through the EPP study area. Given the birds' incidental use and the temporary nature of disturbance of the fragmented PGH, construction of the EPP would not incrementally increase cumulative impacts to this species.

3.3.7 Vegetation Resources

Vegetation in the EPP study area is dominated by sagebrush steppe communities. Basin and Wyoming big sagebrush dominate on deep, salt-free soils with a perennial and annual grass understory. Perennial grass species include bluebunch wheatgrass, Thurber needlegrass, and Sandberg bluegrass (Cronquist et al. 1972). Figure 3-13 shows the USGS classification for vegetation in the general area of the proposed pipeline. Figure 3-1.1 and Figures 3-1.2 through 3-1.11 in Appendix 1 show detailed analysis of the status of vegetation within the study area. Note that portions of the study area without added color are not disturbed by any activities other than grazing. Approximately 73 acres of the study area have been disturbed by previously permitted exploration activity including roads and drill pads, wildfires from 2005 and later, pipeline and transmission line construction, and mining activities. Vegetation on the undisturbed portion of the proposed EPP study area is typical of upland Great Basin sagebrush/bunchgrass plant community. Major vegetative species present in undisturbed areas include: Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), low sagebrush (*Artemisia arbuscula*), black sagebrush (*Artemisia nova*), Douglas rabbitbrush (*Chrysothamnus vicidiflorus*), spiny hopsage (*Grayia spinosa*), Sandberg bluegrass (*Poa Sandbergii*), bottlebrush squirreltail (*Elymus elmoides*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Thurber's needlegrass (*Achnatherum thurberianum*), Indian ricegrass (*Achnatherum hymenoides*), lupine (*Lupinus spp*.), arrowleaf basalmroot (*Balsamorhiza sagittata*), phlox (*Phlox spp*.), and aster (*Aster spp*.). No tree dominant plant communities are present in the study area (Wood Rodgers 2013). Vegetation on areas damaged by wildfire (shown as burned on Figure 3-1.1 and Figures 3-1.2 through 3-1.11 in Appendix 1) is recovering, both from natural revegetation and from reclamation and restoration efforts by the BLM and others. The wildfire damaged areas will take many years, perhaps decades, to recover the habitat values that existed before the wildfire.

Special status species of plants with potential to occur in the vicinity of the EPP study area are addressed under Section 3.1.1 Resources and Resource Uses Not Present and Not Affected. Based on database query results from the NNHP (2013) there are no known occurrences of special status plant species within the EPP study area.

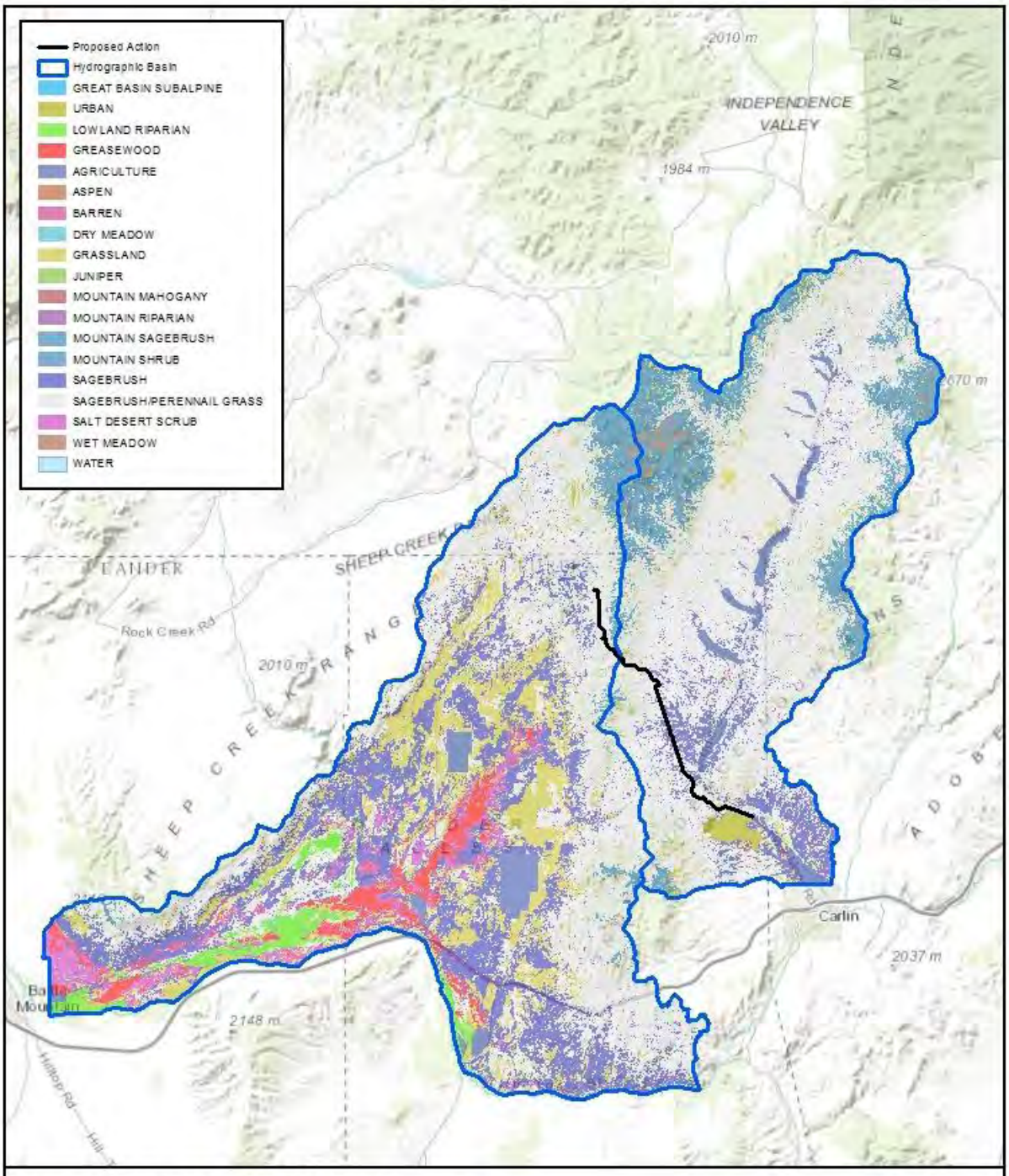

FIGURE 3-13: EXISTING VEGETATION AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 3.5 7
MILES

BACKGROUND: SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
VEGETATION: USGS (NV GAP 1991)
HYDROGRAPHIC BAISNS: NDR

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Environmental Consequences:

Proposed Action:
Approximately 197 acres of the undisturbed and intact upland habitat in the study area would be disturbed from EPP construction. Approximately 73 acres of upland within the study area are currently disturbed due to roads, mining activity, or wildfire damage.

Stabilization and seeding would reclaim approximately 211 acres of the total proposed disturbance of 270 acres. The difference is 59 acres of existing roads and other mining activities that would remain in a disturbed condition. Approximately 0.71 acre associated with the Leeville Regulating/Metering Station and Leeville MLV (public land) and Gold Quarry Meter Station (private land) would be stabilized but not reseeded to allow for the placement and operation of meter station equipment, and to minimize wildfire fuels. The approximately 59 acres of existing roads would be left in a stabilized condition but not reclaimed to allow for continued use until such time as they are reclaimed through the appropriate mining activity reclamation plan.

In disturbed areas, bare soils and the lack of competition from an established perennial plant community may allow weed seed to become established and produce seed. However, successful revegetation using a seed mix adapted to the area in conjunction with Newmont's existing integrated weed management protocol would create an opportunity to improve the potential for success of revegetation and reduce potential establishment of weedy species in the project area as well as within the Carlin Trend. Stabilized and seeded areas would be first dominated by grasses with low densities of native forbs and shrubs. Big sagebrush, the dominant shrub in the study area, would likely be present at lower densities following construction, but then gradually recover.

The Proposed Action would implement surface stabilization and seeding in previously undisturbed areas in accordance with the previous BLM approved Newmont Carlin Trend projects Reclamation Plan(s) success criteria and remediation protocols. Of the 270 acres of proposed disturbance associated with construction of the EPP, 124 acres are currently excluded from livestock grazing (BLM 2013e). The seed mix to be applied is contained in Table 11 below. In addition, PPC would be subject to Newmont's BLM approved monitoring requirements for meeting revegetation success criteria, and remediation protocol is determined necessary by the BLM and Newmont (BLM 2010a, 2010b, 2010c, 2012b).

Table 11. EPP Revegetation Seed Mix

Species		
Common Name	Scientific Name	Direct Seeding Rate Pounds of Pure Live Seed (PLS Pounds per Acre)
bluebunch wheatgrass	*Agropyron spicatum*	2
Western wheatgrass	*Agropyron smithii*	2
Great Basin wildrye	*Elymus cinerus*	2
small burnet	*Sanguisorba minor*	2
fourwing saltbush	*Atriplex canescens*	3
prostrate summer cypress	*Kochia prostrata*	1.5
cicer milkvetch	*Astragalus cicer*	1.5
Sandberg bluegrass	*Poa sandbergii*	1
Wyoming big sagebrush[1]	*Artemisia tridentata wyomingensis*	.01
TOTAL		15.1

Source: Newmont. 2010. Genesis Project Reclamation Plan Amendment. July 13, 2007 and Genesis Project Draft EIS.
[1] To be broadcast seeded on top of direct seeding application

The Proposed Action would cross several ephemeral drainages. The construction methods described in Chapter 2 are intended to minimize impacts to these drainage features. Implementation of the Construction Measures/Design Features for Soils and Vegetation (Section 2.1.4) would allow PPC flexibility for safe construction as well as maximizing protection of existing undisturbed areas along the proposed alignment as possible.

The Proposed Action includes measures to control the introduction and spread of nonnative invasive plant species and noxious weeds (Section 2.1.4), which should benefit existing noxious weed control measures in the study area.

No Action Alternative:
Vegetation resources would not be affected since construction of the EPP would not occur. Approximately 73 acres in the study area would remain in the current disturbed state attributed to wildfire effects, roads and mineral exploration.

Cumulative Effects:
The CESA for vegetation is the approximate 599,034 acres of the cumulative boundary of hydrographic basins 051 and 061 (Figure 3-13). There has been extensive modification to pre-European settler vegetation conditions due to grazing, wildfire (approx. 310,284 acres or 52% of the CESA (BLM 2013a), mining and exploration activities including Reasonably Foreseeable Future Projects (approx. 37,327 acres or 6% of the CESA (BLM 2012b)), power plants and pipelines (approx.. 38,089 acres or 6% of the CESA (BLM 2012b)) and many other human uses including roads as well as recreation such as ATVs and other vehicles. Of the 52 percent of the CESA that has been subjected to wildfires from 1980 through 2013, 16 percent (9,775 acres) has been seeded and is in the process of recovery (BLM 2012b). Regarding projects like the EPP, temporary disturbance to the currently undisturbed areas (197 acres or 0.033% of the CESA) followed by stabilization and revegetation, under exclusion from livestock grazing (124 acres) is expected to result in acceptable revegetation under favorable climatic conditions over the long term. The loss of shrub-dominated communities on 197 acres or 0.033 percent of the CESA

would represent a long-term change in vegetation composition (i.e., shrub-dominated communities to grass/forb dominated communities) under the Proposed Action because it could take up to approximately 25 years for mature shrubs to become established in these communities (BLM 2012).

3.3.8 Visual Resources

Affected Environment:

The BLM's Visual Resource Management (VRM) provides a method to inventory and analyze scenic values in order to assist the BLM in determining appropriate levels of management. The VRM system helps to ensure that actions taking place today will benefit the visual qualities associated with BLM landscapes, while protecting those visual resources for the future.

VRM classes are assigned based on the visual resource inventory, as well as consideration for other uses. The inventory consists of 1) a Scenic Quality Evaluation, 2) a Sensitivity Level Analysis, and 3) a Delineation of Distance Zones. Each VRM Class has been assigned a management objective as defined in the Table 12. below.

Table 12. Visual Resource Management Class Objectives.

Class I Objective	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II Objective	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III Objective	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV Objective	The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Source: BLM, 1986

The proposed EPP would be largely located in VRM Class IV (Figure 3-14). BLM policy for activities/actions in VRM Class IV designated public land allows major modification of the existing character of the landscape. A smaller portion of the proposed EPP would be located in VRM Class III where the BLM's management objective is to partially retain the existing character of the landscape. In VRM Class III designated areas, the level of change to the characteristic landscape should be moderate.

The VRM system includes a Contrast Rating Worksheet to analyze the affects to visual resources. In order to complete the worksheet Key Observation Points (KOP's) are selected from the most critical viewpoints (BLM, 1986). These points are typically from traveled routes or other observation points (BLM, 1986). For the proposed action, in consultation with the VRM Visual Resource Specialist one KOP has been identified which is located on State Route 766. This KOP has been selected because of its proximity to the proposed Gold Quarry Meter Station, and the number of travelers that are likely to view this proposed Station while travelling to and from the adjacent mine sites.

To minimize visual changes to the landscape, the facilities located at the Leeville Regulating/Meter Station and the MLV, and the Gold Quarry Meter Station, within the chain link fenced enclosure, would be painted BLM's color palette "Shale Green". The chain link fence would be unpainted galvanized steel. Prior to construction this initial determination will be reviewed to determine if a different palette color is more appropriate for the immediate landscape.

The soils within the area are generally light brown. The vegetation ranges from gold to light to medium olive and consists of low grasses and shrubs. Views within the area are littered with evidence of the current and past mining activity of the region.

Figure 3-15 shows the existing landscape from KOP-1 and an example of another meter station which will be similar to those associated with the proposed action. To the west of KOP-1 there is an existing tan building and tank as well as many utility poles and dirt roads are visible. To the east of KOP-1 there are existing utility poles and a dirt road visible.

Environmental Consequences:

Proposed Action:

The Gold Quarry Meter Station, visible from KOP-1 would be located near existing mining operations on public lands within designated VRM Class IV. For all facilities, whether on public or private lands, the new facilities would be smaller and less obtrusive than existing structures in the immediate vicinity. Portions of the underground pipeline will pass through VRM Class III and will not be visible from KOP-1. Other than small signs to mark the location of the pipeline, there will be no long term indication of the existence of the pipeline. The new facilities and pipeline would be in compliance with the management objectives for VRM for those locations. Painting the equipment in the enclosures to reduce reflection and color contrasts would reduce the visual impact of the facilities. The Visual Contrast Rating Worksheet indicates that the proposed project meets the visual resource management objectives for VRM Classes III and IV.

No Action Alternative:
Under the No Action alternative the EPP above ground facilities would not be constructed and there would be no change to the character of the visual quality of the area. The area would remain heavily impacted by ongoing and expanding mining activities.

Cumulative Effects:
The CESA for visual impacts is the vicinity of the Carlin Trend. The viewshed includes access roads, mining facilities including waste rock storage facilities, heap leach pads, process and administration buildings, and large tailings dams, as well as several electric transmission lines. The proposed mining expansion activities described in Section 3.2 above would be an expansion of the existing visual features located in the CESA. Presently the CESA can be described as a semi-mountainous sagebrush steppe heavily impacted by large mining activities. The visual impacts of the proposed EPP are consistent with the existing mining features, although trivial in comparison to those mining features and transmission lines. It is expected that as a result of the construction of the EPP there would be no incremental adverse impact to visual resources within the CESA.

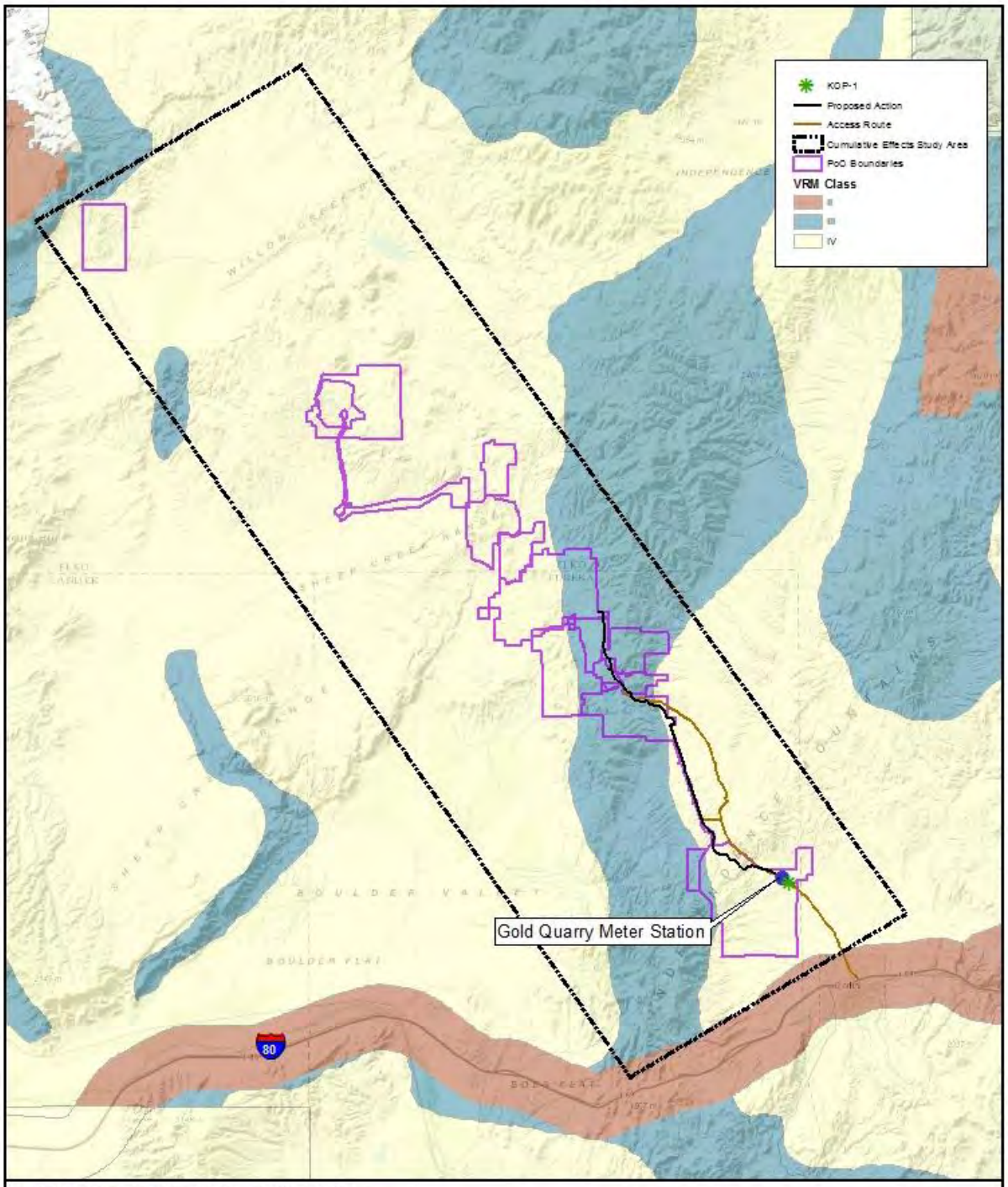

FIGURE 3-14: VISUAL RESOURCE MANAGEMENT CLASSIFICATION AND CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 3 6
MILES

NOTES:
VRM CLASSES: BLM
BACKGROUND SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS.

Figure 3-15 VRM Photos

From KOP-1 looking northeast towards proposed Gold Quarry Meter Station

From KOP-1 looking northwest towards existing structures

Overall Photo looking north from KOP-1

Example Meter Station Photo

3.3.9 Socio-Economics Values

Affected Environment

The social and economic values study area for direct and indirect impacts and the Cumulative Effects Study Area (CESA) include Elko and Eureka counties (Figure 3-16). Past, present, and Reasonably Foreseeable Future Actions (RFFAs) occurring within the CESA and considered in cumulative effects are described in Section 3.2. The focus of the analysis is on the major communities nearest the EPP study area, including Elko and Carlin. The EPP is located in Eureka County. Eureka County is ranked 16th of Nevada's 17 counties by population. The EPP project area is most readily accessible via Carlin; however, a majority of the work force will be out-of-state people that will most likely seek temporary accommodations in Elko. By population, Elko, the largest city and the regional trade center for northeastern Nevada, is ranked 5th in Nevada. The study area and CESA were selected because the most notable, although short term social and economic effects would occur where employees are accommodated. The major project-related tax revenues would accrue in Eureka County where the project would be constructed.

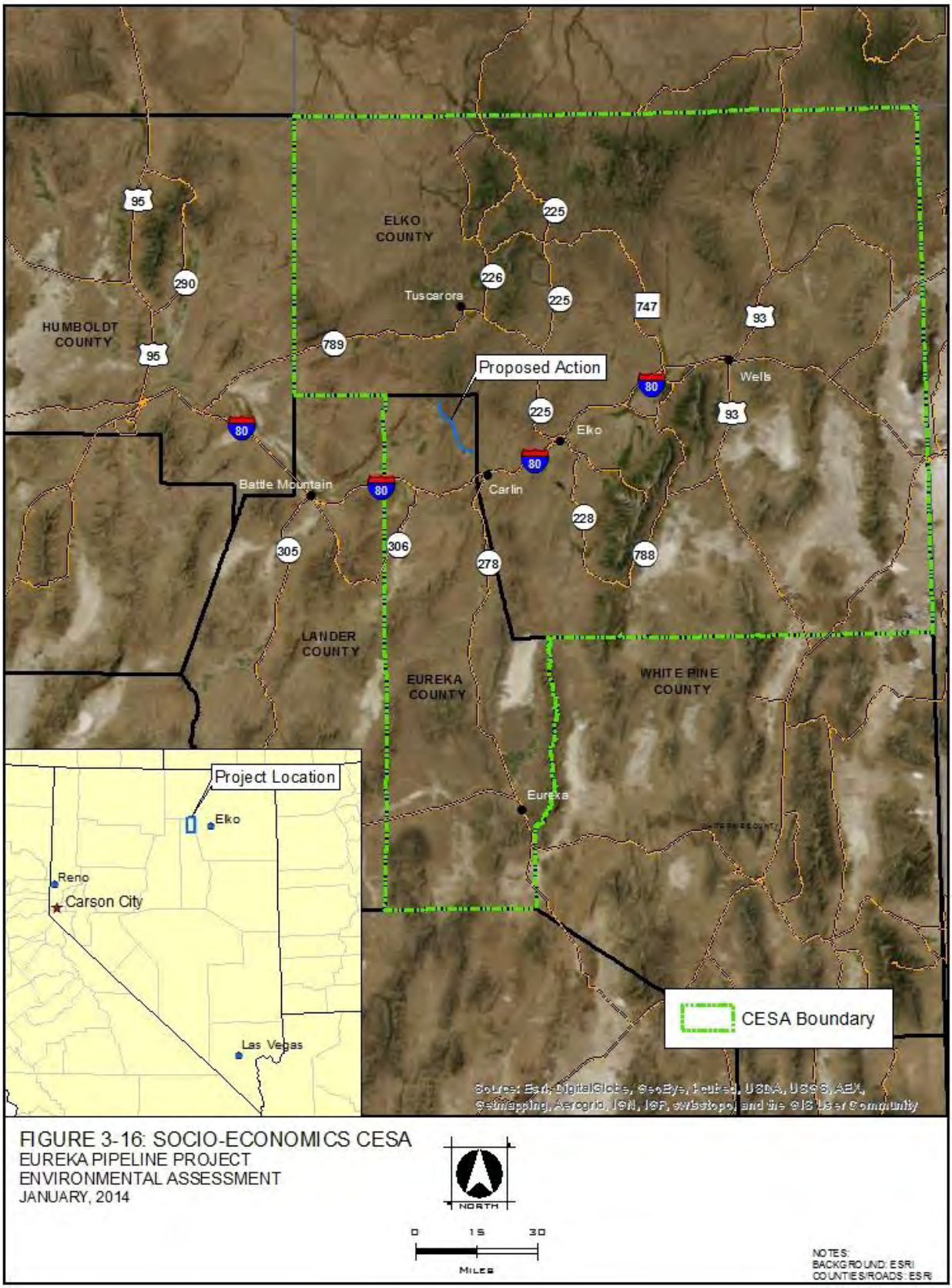

FIGURE 3-16: SOCIO-ECONOMICS CESA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 15 30
MILES

NOTES:
BACKGROUND: ESRI
COUNTIES/ROADS: ESRI

The following social and economic values assessment is focused on issues relevant to the proposed project. Construction of the EPP is planned to be 3 to 5 months. The social and economic values that are relevant to a short term project include population and demography, income, economy and employment, short term housing, public facilities and services, and social conditions.

Population and Demography

Based on the 2010 census, Elko has 48,818 people and Eureka County 1,987 people (USCB 2010). Nevada has been one of the country's fastest growing states for much of the past three decades. It also was one of the hardest hit by the recent recession; the state demographer estimates the state lost population between 2008 and 2010. The bulk of growth in Nevada has occurred in urbanized areas, particularly southern Nevada. Elko County experienced very rapid growth in the 1980s, which continued into the 1990s, but tapered off in recent years. Eureka County has trailed the state growth rate by a substantial margin for three decades but was the fastest growing for the four counties in northeastern Nevada since 2000. The most dramatic growth in the CESA has occurred in unincorporated Spring Creek, which is more than six times as large as it was in 1980 (USCB 2010).

As with other construction projects, workers typically choose temporary accommodations based on short term availability, cost for motels and access to restaurants. It is anticipated that most of the construction personnel for the EPP will seek these services in Elko.

The ethnic and racial makeup of Eureka and Elko counties is fairly consistent. As is typical of rural Nevada, they have a lower percentage of Black and Asian people than the state as a whole (**USCB 2010)**. They also have lower percentages of Hispanics, although Elko is only modestly lower in this category. The Te-Moak Tribe of Western Shoshone Indians has its headquarters in Elko. Elko County is home to three of the four colonies of the tribe: the Elko Band, South Fork Band, and the Wells Band. A portion of the Duck Valley Indian Reservation also is located in northern Elko County on the Idaho-Nevada border.

Income

Data from 2000 indicated a state income average of $30,986. Average PCPI (per capita personal income) for the CESA in 2000 ranged from $23,757 (76.7 percent of the state level) in Eureka County to $25,418 in Elko County (82 percent of the state level) (BEA 2013). By 2008, the state PCPI had risen to $40,936, an increase of 32 percent. The PCPI for the CESA counties exceeded the state's PCPI growth rate during that time frame, standing at 99.4 percent of the state average in Eureka County, and 91.1 percent in Elko County by 2008 (BEA 2013).

In contrast to PCPI, estimated median household incomes in the CESA are at or above statewide household incomes. The median household income for the state for 2008 was estimated at $56,432, compared with $70,125 for Elko County (124.3 percent of the state level) and $55,090 for Eureka County (97.6 percent) (USCB 2010).

Economy and Employment

Eureka and Elko Counties are major contributors to Nevada's mining economy. The combined natural resources and mining sector employment comprise nearly two thirds of the total state employment in that economic sector; a large majority of the sector statewide is devoted to metal

mining. Eureka and Elko Counties are substantially more dependent on mining than is the state as a whole (NDETR 2009). The employment numbers are based on work location, not residence, which explains why Eureka County has more employees in the natural resources and mining sector than it has residents. Several major mines on the Carlin Trend are located in Eureka County, but most of those mines' workers live in Elko County. Elko County is notably more economically diverse than Eureka County with a larger and broader selection of services. Elko County has substantial casino and hospitality industries and offers a variety of other services, which notably broadens their employment bases.

The combined labor force in Eureka and Elko Counties is currently estimated at 28,275 individuals, approximately 25,981 of whom are employed. The remaining 2,294 unemployed individuals representing 8.1 and 8.8 percent unemployment rate, respectively (NDETR 2013b). This level is notably lower than the 13.0 percent statewide unemployment rate and is somewhat lower than the national rate, estimated at approximately 9.7 percent (NDETR 2013). The pattern of unemployment rates for these two counties has been consistently below the state average for several years. Unemployment rates for these 2 counties have likely risen in the last 3 years, as they have all over Nevada.

Housing

Short-term housing opportunities in the CESA study area are amply available in the City of Elko which is home to 31 motels, hotels, and casinos hosting over 2,000 rooms. There are several mobile home parks and 6 recreational vehicle (RV) parks in the city with approximately 500 spaces. There are several campgrounds in the surrounding area, several of which are on BLM-administered lands.

Community Facilities and Services

The City of Elko obtains municipal water from 18 deep-water wells, with 25 million gallons of storage capacity. The system has a maximum production capacity of 14.5 million gallons per day (mgd) with current usage ranging from 3 mgd to a peak of 13 mgd. Carlin obtains water from one deep-water well and several natural springs. Water is stored in a 2-million-gallon tank. Peak production capacity is 1.4 mgd, averaging approximately 1 mgd.

Elko and Carlin both have wastewater treatment facilities. Elko's is a "fixed film" biological treatment plant averaging 3.5 mgd. Approximately 60 percent of treated water is reused for irrigation. Carlin employs two lagoons with rapid infiltration basins. The City of Elko operates a regional solid waste landfill. At current use rates, it has capacity in excess of 200 years.

Law enforcement for unincorporated areas in Elko County is provided by the County Sheriff. Elko and Carlin police departments are responsible for incorporated area jurisdictions. The Eureka County Sheriff provides law enforcement for rural Eureka County. The Nevada Highway Patrol provides law enforcement on the state highway system.

Fire protection services are provided by numerous agencies throughout the CESA study area. The Elko City Fire Department is the largest of the agencies with 3 staff positions and 15 career firefighters augmented by 34 volunteer positions. The department has 10 major pieces of equipment, including 7 regular engines, 2 smaller specialty trucks, and a specialized airport engine. The department also houses four pieces of Nevada Department of Forestry firefighting

equipment. The Carlin Volunteer Fire Department serves the city and surrounding area with fire protection and ambulance services with a volunteer membership of 33. In addition to the local fire departments, the BLM, U.S. Forest Service, and the Northeastern Fire Protection Department of the Nevada Division of Forestry provide fire protection, primarily in outlying areas where they are primarily responsible for fighting wildland fires. Local, state and federal agencies are all involved in mutual aid/cooperative agreements, supporting each other as appropriate and as needed, depending on the circumstances of each fire.

The Northeast Nevada Regional Hospital in Elko is the principal health care facility for all of northeastern Nevada. It provides 24–hour emergency care and has 75 acute care rooms. The hospital has a full service laboratory, an intensive care unit; both magnetic resonance imaging and computerized aerial tomography scan capabilities, and provides most major medical specialty services. The hospital also provides services to the Elko Band Colony Health Center under an Indian Health Service contract. The Carlin Community Health Center is one of a series of federally supported clinics providing health care to medically underserved areas operated by Nevada Health Centers, a private, non-profit organization. The Carlin clinic is staffed by physicians, physician assistants and nurse practitioners. The center provides service in family medicine, preventative health, women's health, children's health and immunizations, health education, prenatal and newborn care, and pharmacy services.

Social Conditions

Eureka and Elko Counties grew very rapidly in the 1980s due to a boom in mining and related support activities, but stabilized in subsequent years when they experienced years of modest population growth and decline. Growth has resumed in recent years in most counties, but at more moderate rates. The passage of time and the community's ability to weather not only the booms, but also subsequent downturns, have allowed for development of the relatively stable social setting that now exists. Many residents have lived in the area for a number of years, social ties have become established, and residents take pride in their communities. Many of the people place a high priority on maintaining informal lifestyles and small town traditions.

"Social stratification in the area is often defined by income, length of residence, educational attainment, and ethnicity. Local residents earning high incomes are considered to be the most influential in the community. The most powerful groups viewed by residents as making decisions about the area's future include federal and state government, county commissioners, environmental organizations, and large corporations" (BLM 2002b).

Gold prices continue to be a key factor driving the growth or decline of the communities. When prices dropped in the late 1990s, workers were laid off, some mines announced early closures, and expansion plans were delayed. As prices rose recently, the reverse was true. More recently, a downward movement in gold prices has resulted in layoffs in the CESA. Several mines are working towards implementing growth plans to take advantage of the opportunity. Although rural Nevada's larger communities, like Elko are more diversified than they were two decades ago, the mining industry is still an important sector, affecting both the economy and the psychology of area communities.

Environmental Consequences:
The primary issues related to social and economic values include:

- Potential short term effects associated with temporary housing of construction related personnel.
- Potential public finance effects related to increased property tax revenues in Eureka County.

Proposed Action:
Compared to existing and recent mine development, the proposed pipeline project would be a relatively small project. Employing an expected 40 to 50 employees during the 3-5 month construction period, the short term effects of temporary housing and subsistence required would be easily absorbed by the Elko and Eureka Counties. During construction, it is expected that employees would reside in Carlin, Elko or in camper trailers at commercial campground locations within Eureka or Elko County. Currently, that construction period would not be likely to conflict substantially with any other major construction in the CESA, thus no temporary housing shortage would be expected. Propane deliveries would be eliminated for both mine sites with a resultant decrease in need for driver hours and decreased propane sales in the county. It is anticipated the drivers and product would be delivered elsewhere in these counties.

Because much of the equipment for the pipeline operation would be automated, permanent employment for the pipeline itself would be only one full-time person for several months following completion of the pipeline declining to a likely half-time position during the remaining lifetime of the pipeline. Annually, it is expected to employ 2-3 persons for 2-4 weeks each to conduct onsite inspections of the pipeline and to complete regular maintenance.

Based on a Conceptual Tax Obligation calculation summary prepared by PPC, sales and use tax applicable to the parts and materials used on the EPP and an annual property tax based on the fully capitalized construction cost have been estimated. For sales tax, one-third of the cost would be for parts and materials subject to sales tax for Eureka County. Property tax was estimated based on total construction cost, plus sales tax to calculate the Taxable Value with an Assessed Value of 35 percent of the Taxable Value. The property tax rate for Eureka County was estimated based on the average county-wide tax rate of 2.9078 percent (http://www.nvenergy.combusiness/economicdevelopment/county/elko/busoverview.cfm).

Conceptual Tax Obligations are summarized below in Table 13.

Table 13. Conceptual Tax Obligations

Year	Item	Eureka County
Year 1	Sales & Use Tax	$275,000
Year 2 and beyond	Property Tax	$200,000
	Sales & Use Tax	$2,000
	Totals	$202,000

It is highly unlikely that construction and long term operation and maintenance of the EPP would have measureable effects on population and demography, individual and household income, economy and employment, public facilities and services, and social conditions.

No Action Alternative:
Under the No Action Alternative, the BLM would not approve the proposed project and there would be no temporary increase in short term housing and subsistence required during construction of the proposed pipeline. Eureka County would not realize the Conceptual Tax Obligations summarized in Table 13. There would be no impacts to the local propane industry.

Cumulative Effects:
The CESA for social and economic resources is the same two-county area as the direct effects study area (Figure 3-16). Although the proposed construction period is short, 3 to 5 months, the expected life of the EPP is 50 years. Therefore, cumulative effects have been evaluated in the context of both time periods.

In addition to the continuation of existing mining activities, state highway rehabilitation projects, and the RFFAs discussed in Section 3.2 along the Carlin Trend, there are no other major construction activities expected to occur during the anticipated construction period of the EPP. Therefore, the project, if constructed, would continue the pattern of short-term construction projects that have been common in the CESA for the last 30 years with no substantive conflict with any other ongoing construction project for short term housing, subsistence, or public facilities and services. Because the pipeline project has a very small temporary construction and permanent employment impact on Elko and Eureka counties, it would not contribute measurably to cumulative impacts for population and demography, individual and household income, economy and employment, and social conditions, in contrast to new and expanded mining operations at the various mines in and adjacent to Elko and Eureka Counties. The proposed pipeline would simply help maintain the existing level of economic activity (BLM, 2012a).

Over both the short and long term, post construction increased property tax revenues in Eureka County would be a positive effect on County finances as collection of property tax for the EPP requires a small County expenditure utilizing existing County personnel.

3.3.10 Air Quality and Climate Change

Affected Environment:
Air pollutant sources within the EPP study area are contained within Nevada Department of Environmental Protection Bureau of Air Pollution Control Air Basins 051 Maggie Creek Area and 061 Boulder Flat 061 (Figure 3-2) and include existing mining operations and other background sources (BLM 1993, 2010c). Air modeling completed for the North Operations Area and the South Operations Area has shown that, for each of the Newmont and Barrick projects contained within these areas, air pollutant concentrations are localized near the individual project boundaries, and modeled air pollutant concentrations diminish rapidly with distance from project boundaries (BLM 2010c). Furthermore, none of the predicted concentrations for PM-10 particulates, PM 2.5 particulates, carbon monoxide, sulfur dioxide, ozone, and nitrogen dioxide approach or exceed national ambient air quality standards (NAAQS), and are not expected to affect the closest PSD (Prevention of Significant

Deterioration) Class I area (Jarbidge Wilderness) air quality or visibility (BLM 1993, 2010c).

The potential impacts of "greenhouse gas" (GHG) emissions including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (NO_x), water vapor, and several trace gasses are the subject of on-going scientific research. On a regional and global scale GHG emissions are thought to cause a net warming effect of the atmosphere essentially through insulation. Along with variations in climatic conditions over millennia, GHG levels are thought to vary correspondingly. Across the Earth's surface, industrialization and burning of fossil carbon sources have resulted in increased concentrations which may contribute to overall climatic changes.

Given the varied locations and inconsistency in measurements globally, it would not be possible to determine the spatial and temporal variability and change of climatic conditions as a result of GHG emissions. However, some scientists believe global mean surface temperatures have increased nearly 1˚C (1.8°F) over the past 100 years. In addition, predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures would be more likely than increases in daily maximum temperatures.

Precise assessment of GHG emissions and climate change for individual localized activities, such as the EPP, is in its formative phase. It is not currently possible to predict with confidence either the net impact to climate as a result of the EPP or the impact of climate change on the EPP study area during the coming years. The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts for an individual activity. Climate of the study area is typical of the Great Basin high desert with cold, wet winters with precipitation heaviest in the fall, winter, and spring (November through May) and hot, dry summers, when precipitation is lightest (June through October) (Western Regional Climate Center [WRCC] 2009).

Environmental Consequences:

Proposed Action:

Vehicle travel to and from the EPP and trenching activities would temporarily result in fugitive dust. PPC would water construction areas and access roads as needed to minimize fugitive dust during construction. Given the size and scope of the Proposed Action, vehicle and construction equipment emissions during construction activities are not likely to approach a substantive quantity.

Construction of the EPP would be a temporary source of air pollutants including NO_x, CO (carbon monoxide), CO_2 and fugitive dust (PM_{10} and $PM_{2.5}$, less than 10 and 2.5 microns in diameter, respectively). The primary source of these emissions would be exhaust from diesel powered construction equipment and disturbed soil surfaces. Based on the equipment listed in Table 3 (Section 2.1.2), it is conservatively estimated that over a period of 5 months the EPP construction activities would be the source of approximately 31.6 tons of NO_x, 183.4 tons of CO, 31,489 tons of CO_2, and 6 tons total PM_{10} and 2.6 tons total for $PM_{2.5}$ particulate matter. Control of gaseous emissions from diesel engines would be minimized through proper operations and maintenance of equipment. Production of fugitive dust would be minimized through use of

water trucks dedicated to access routes used for daily employee transportation and materials deliveries and for work areas. Upon completion of construction and reestablishment of vegetative cover, all measurable sources of air pollutants would be gone. Operation and maintenance of the EPP would not result in measurable emissions. Elimination of trips to supply propane to the mine would reduce truck emissions compared to the existing situation.

No Action Alternative:
Potential impacts resulting from implementation of the Proposed Action to air quality, climate change and greenhouse gas emissions would be avoided with selection of the No Action Alternative.

Cumulative Effects:
The CESA for air quality is the Nevada Department of Environmental Protection Bureau of Air Pollution Control Air Basins 051 Maggie Creek Area and 061 Boulder Flat 061 (Figure 3-2) that include existing mining operations and other background sources (BLM 1993, 2010c). The CESA for GHG and climate change is worldwide. Given the temporary nature of construction of the EPP relative to larger ongoing permitted activities in the area, the EPP is not expected to result in a measurable incremental impact related to air quality and Greenhouse Gas Emissions. There is no cumulative impact issue of concern related to this project.

4. MONITORING AND MITIGATION

All mitigation and conservation strategy measures proposed by PPC and the BLM to reduce potential impacts from the EPP to a level that is not expected to result in an adverse impact to resources and resource have been included in the Proposed Action as set forth in Chapters 2 and 3 of this EA. Therefore, no additional mitigation or mitigation monitoring is described in this Section.

Please refer to Appendix 3 regarding the Raptor and Migratory Bird Conservation Strategy for the Eureka Pipeline Project.

5. CONSULTATION AND COORDINATION

This EA was prepared by a third party contractor (Wood Rodgers, Inc.) under the guidance of the BLM and in coordination with other local, state, federal, and tribal personnel. Preparation included review of agency files, field surveys, and review of supporting documentation. BLM also issued a press release that was printed in the local newspaper, The Eureka Sentinel. The press release solicited public comment.

5.1 Persons, Groups, Tribes and Agencies Consulted

The following persons, groups, and agencies were contacted during the preparation of this EA.

Eureka County Department of Natural Resources
Eureka County Assessor's Office
Nevada Department of Wildlife – Chett VanDellan and Matt Jeffress
Nevada Natural Heritage Program
Nevada Department of Transportation, District III – Jo Sherwood
United States Fish and Wildlife Service
Newmont Mining Corporation
Barrick Gold of North America, Inc.
NV Energy
Newmont USA Limited/Elko Land and Livestock Company
Barrick Goldstrike Mines

Native American Consultation:
Section 3.3.2 of this EA describes the Native American consultation process for this project.
Confederate Tribes of the Goshute Indian Reservation
Elko Band Council
Shoshone Paiute Tribes of the Duck Valley Indian Reservation
Wells Band Council
Te-Moak Tribe of Western Shoshone
Battle Mountain Band Council
South Fork Band Council
Duckwater Shoshone Tribe
Yomba Shoshone Tribe
Ely Shoshone Tribe
Bureau of Indian Affairs
Western Shoshone Descendants of Big Smoky
Western Shoshone Defense Project
Western Shoshone Committee

5.2 List of Preparers

U.S. Bureau of Land Management - Tuscarora Field Office
Elisabeth Puentes - Project Manager
Deb McFarlane – Assistant Field Manager
Jerrie Bertola - Grazing and Range, Vegetation
Terri Barton – Noxious Weeds

Nycole Burton - Wildlife, special status species, including migratory birds; habitat seeding
John Daniel – Soil, water, and air quality
Beth Bigelow - Cultural Resources, and Native American Concerns
Zack Pratt - Recreation, Visual Resource Management, Wilderness Review

Wood Rodgers, Inc.
Leslie Burnside, Associate Environmental Specialist
Melissa Lindell, Principal Planner
Ashley Santti, GIS Specialist
William Coleman, P.E., Pipeline Design

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Bing Maps: @ Harris Corp, Earthstar Geographics LLC © Microsoft Corporation.

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APPENDIX 1

FIGURES 3-1.2 THROUGH 3-1.11

FIGURE 3-1.2 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

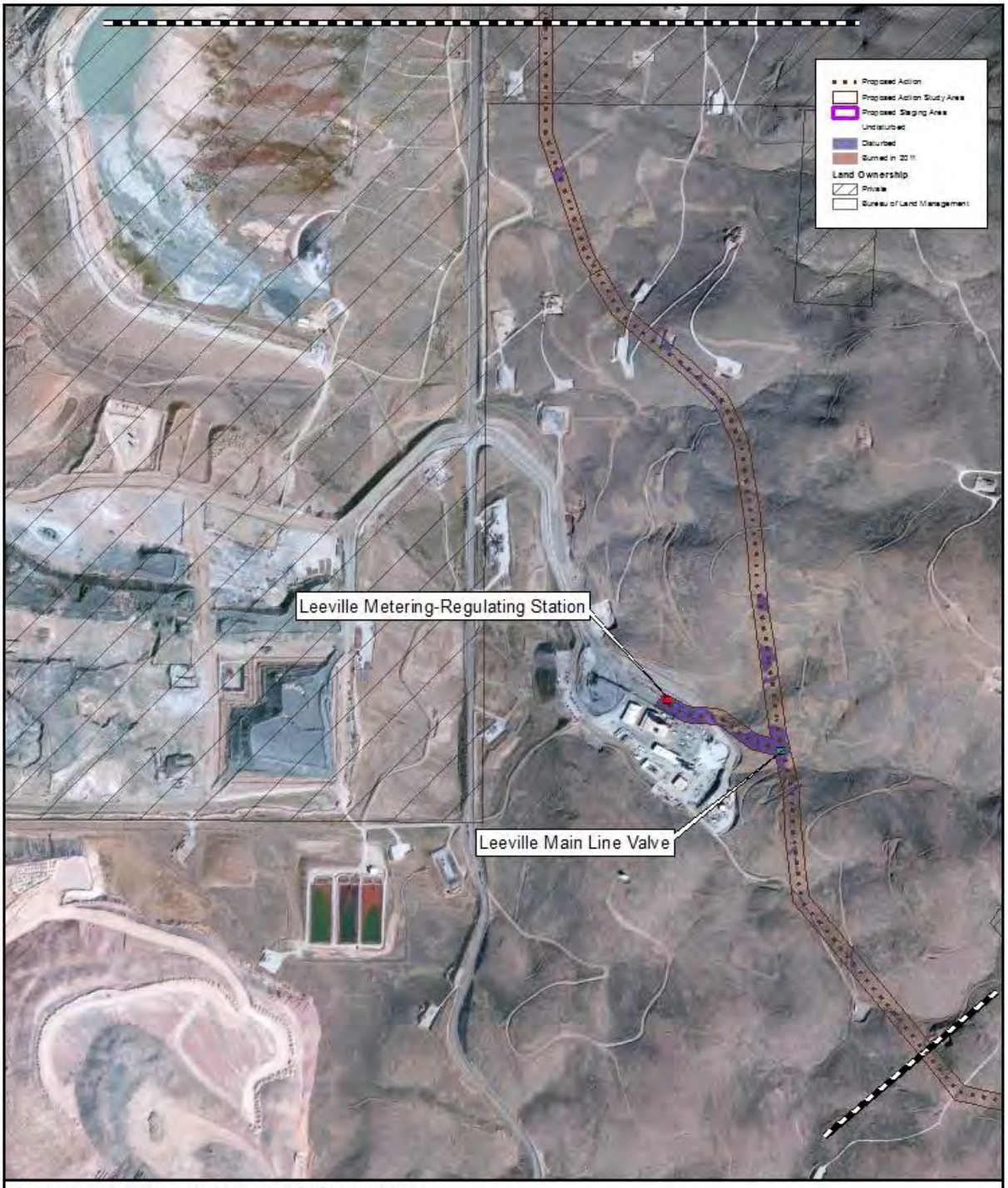

FIGURE 3-1.3 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.4 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.5 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

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FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.6 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

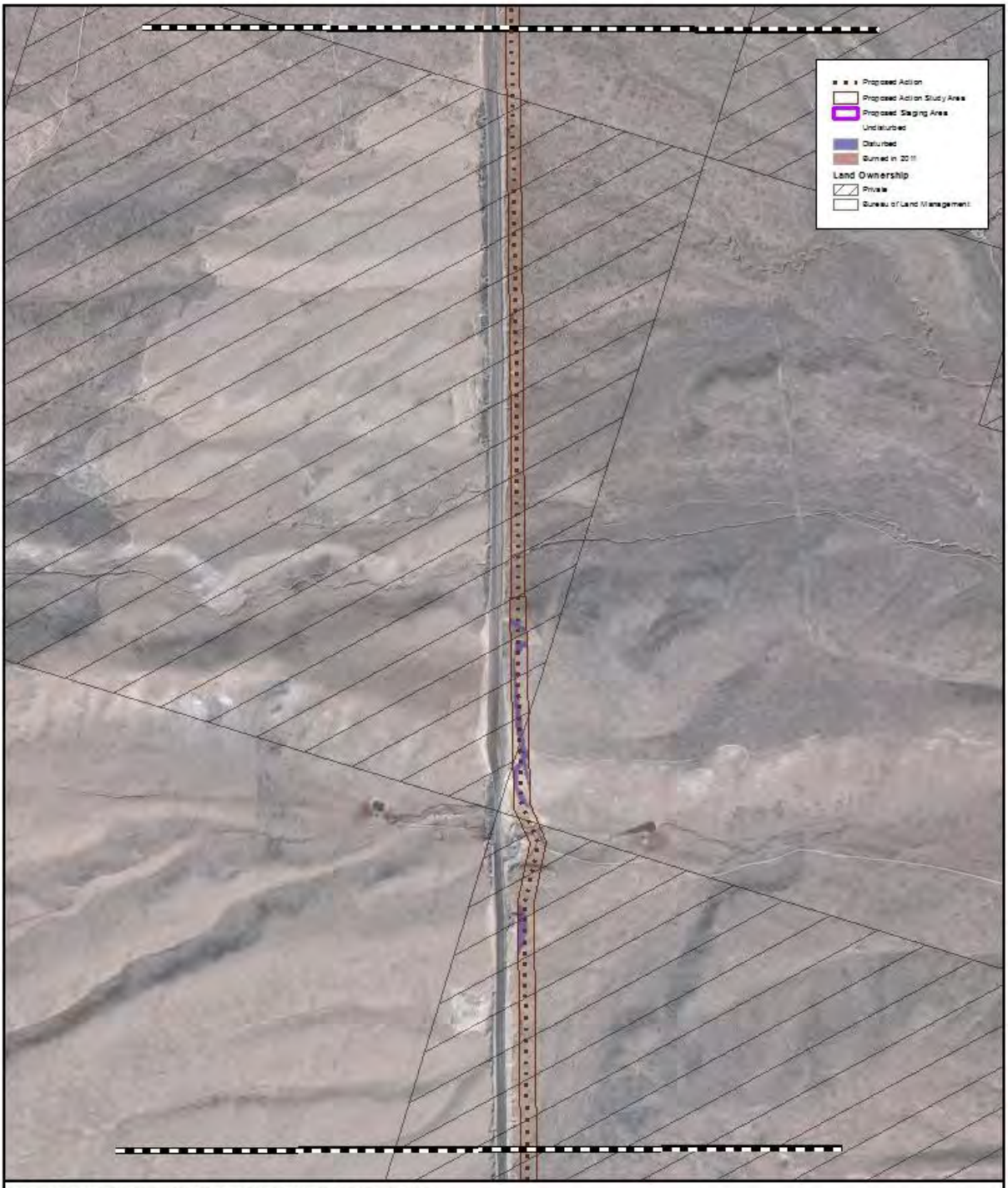

FIGURE 3-1.7 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.8 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.9 : EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.10 EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

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FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

FIGURE 3-1.11: EXISTING DISTURBANCE WITHIN THE STUDY AREA
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 500 1,000
FEET

NOTES:
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

APPENDIX 2

SENSITIVE SPECIES HABITAT REQUIREMENTS

Based on queries of the NNHP and the USFWS eleven special status species were identified as potentially occurring within the EPP biological resources study area (temporary ROW) (NNHP 2013, NDOW 2013a, USFWS 2013). The study area is defined as 100 feet wide (50 feet on each side of the centerline) except in areas where the slope is 20 percent or greater. For safety and construction purposes, where the slope is 20 percent or greater construction would require a temporary ROW of 125 feet (62.5 feet on each side of the centerline). Occurrence potential within the study area was evaluated for each species based on their habitat requirements and/or known distribution. Based on these evaluations, five special status wildlife species have been eliminated from detailed analyses. These species include Lahontan cutthroat trout, Nevada viceroy, Columbia spotted frog, Townsend's big eared bat, and Greater Sage-grouse. The six special status wildlife species identified as occurring within the study area are addressed in this EA in Section 3.3.6 and include pygmy rabbit, Western burrowing owl, golden eagle, ferruginous hawk and prairie falcon.

Nevada Viceroy *(Limenitus archippus lahontani)*

This butterfly inhabits moist open or shrubby areas such as lake and swamp edges, willow thickets, valley bottoms, wet meadows, mainly along the Humboldt River and lower tributaries, with additional colonies near Fallon and Fernley. It is a USFWS Species of Concern and a Nevada BLM Sensitive Species (BLM 2001). It is only found in the immediate vicinity of willows, which are the larval host plant. These specific habitat requirements are not available within the EPP study area and thus it is unlikely that this species is present in the EPP study area.

Lahontan Cutthroat Trout *(Oncorhynchus clarkia henshawi)*

Lahontan cutthroat trout generally occur in cool flowing water with available cover of well-vegetated and stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas[1] (USFWS 2010). These habitat requirements and thus this species are not present in the EPP study area.

Columbia spotted frog (Great Basin Population) *(Rana luteiventris)*

The Great Basin population range includes eastern Oregon, southwestern Idaho, and the northern drainages of Nevada. Spotted frogs live in spring seeps, meadows, marshes, ponds and streams, and other areas where there is abundant vegetation. They often migrate along riparian corridors between habitats used for spring breeding, summer foraging and winter hibernation. The species is currently a candidate species for listing under the Endangered Species Act. These habitat requirements and thus this species are not present in the EPP study area.

Townsend's big-eared bat *(Corynorhinus townsendii)*

This bat species is found throughout Nevada, from low desert to high mountain habitats. It is concentrated in areas offering caves or mines as roosting sites and preferring caves and mines where the temperature is 54 degrees f (12 degree c.) or less but usually above freezing. Although this species may occur throughout the Carlin Trend mining area, these habitat preferences are not present in the EPP Study area and thus this species in not likely to occur in the EPP Study Area.

[1] USFWS. 2010. http://fws.gov/nevada/protected_species/fish/species/lct.html

Pygmy Rabbit
Pygmy rabbits (*Brachylagus idahoensis*) are typically found in areas of tall, dense big sagebrush cover and are highly dependent on sagebrush to provide both food and shelter throughout the year. Their winter diet consists of up to 99 percent sagebrush (USFWS 2011). Pygmy rabbit burrows are generally found in relatively deep, loose soils of wind-borne or water-born origin. In September of 2010, the U determined that the pygmy rabbit does not warrant protection under the Endangered Species Act, however the Nevada BLM State Office has classified this species as sensitive, and Nevada Natural Heritage has categorized this species as vulnerable to decline.

The EPP Study area may support suitable habitat and thus it is possible for this species to occur within the study area.

Greater Sage-Grouse (sage-grouse)
The Greater Sage-Grouse is found throughout Nevada in sagebrush-dominated habitats[2]. Sagebrush is a key component of sage-grouse habitat on a year-long basis. Sagebrush provides forage and nesting, security, and thermal cover for this species. Moist areas that provide succulent herbaceous vegetation during the summer months are used extensively as brood rearing habitat. Open, often elevated areas within sagebrush habitats usually serve as breeding areas (strutting grounds or lek sites). During winter, sage-grouse often occupy wind exposed areas where sagebrush is available (e.g., drainages, southern or western slopes, or exposed ridges). Considering that, although the study area is located within Preliminary General Habitat, habitat requirements in the study area have been impacted by prior activities leaving available habitat highly fragmented. It is possible that sage-grouse may occasionally be found in the study area, but the study area does not provide important or consistent habit for the sage-grouse.

Burrowing Owl *(Athene cunicularia)*
The western burrowing owl (*Athene cunicularia hypugaea*) breeds throughout Nevada. The majority of the breeding population migrates from northern Nevada during the winter months. However, observations of this owl have been recorded throughout Nevada during all months of the year. Breeding by burrowing owls is strongly dependent on the presence of burrows constructed by ground squirrels and badgers. Prime burrowing owl habitat must be open, have short vegetation, and contain an abundance of burrows. Burrowing owls begin nesting in April, and young typically fledge by August. The western burrowing owl has been designated by the BLM Nevada State Office as a sensitive species and by Nevada Natural Heritage as vulnerable to decline.

BLM Nevada State Office Best Management Practices for the Sagebrush Biome (BLM no date) to assist BLM field offices in the consideration of migratory birds incudes the requirements for pre-disturbance migratory bird nesting surveys as described under Section 2.1.4.

The nearest known burrowing owl population is approximately midway down the SOAPA North-South Haul Road and to the west approximately 1 mile (Figure 3-11)(BLM 2013b) therefore, it is possible that western burrowing owl occur within the EPP study area.

[2] NNSG (Northern Nevada Stewardship Group). 2004. Elko County Sagebrush Ecosystem Conservation Strategy

Golden Eagle (*Aquila chrysaetos*)
The golden eagle, a USFWS Species of Concern, a Nevada State Protected species, Nevada BLM sensitive species, protected under the Bald and Golden Eagle Protection Act and the MBTA is found in a variety of open, usually relatively dry habitats throughout the western United States. In Nevada, it often nests on cliffs above foraging habitat with an adequate prey base including sagebrush flats, pinon-juniper woodland, and salt desert shrub. In proximity to the EPP alignment, three active golden eagle nests have been confirmed (BLM 2013c). The locations are within 1.25, 0.8 and 0.7 miles of the EPP alignment. The closest two of the three locations are topographically screened from the EPP alignment by the Maggie Creek Canyon and State Route 766 which subjects these two nests to constant vehicular traffic noise. In addition, all three nests are separated from the EPP alignment by current mining activity.

Ferruginous Hawk (*Buteo regalis*)
The ferruginous hawk, a USFWS Species of Concern, a Nevada State Protected species, BLM sensitive species, and protected under the MBTA inhabits the open sagebrush grasslands of central and eastern Nevada (BLM 2001). Nest sites are normally located at the interface between pinion or juniper woodland and open sagebrush. Nest trees typically overlook broad expanses of open sagebrush or grassland from which the hawks hunt ground squirrels and rabbits. Ferruginous hawks nest in the tops of isolated trees and sometimes on rock outcrops or even on the ground on ridges overlooking valleys. One ferruginous hawk nest has been confirmed to be active approximately 5.5 miles east of the EPP alignment (BLM 2013c). This location is topographically screened from the EPP alignment with hunting more likely to occur in open sagebrush steppe between the nest and the EPP alignment.

Prairie Falcon (*Falco mexicanus*)
The prairie falcon is a BLM sensitive species and protected under the MBTA. The falcon favors sagebrush steppe habitat in Nevada, nesting on cliff ledges or isolated trees if available, as well as a small mammal diet. Within proximity of the EPP alignment two nests have been confirmed as active within 0.6 mile and 2.3 miles (BLM 2013c). The further location of the two nests from the EPP alignment is topographically screened from the EPP alignment by the Maggie Creek canyon and is subject to vehicular traffic noise along State Route 766. The second and closer location is sited topographically similar to the EPP alignment as the alignment traverses up and over Schroeder Mountain.

APPENDIX 3

RAPTOR AND MIGRATORY BIRD CONSERVATION STRATEGY

EUREKA PIPELINE PROJECT

RAPTOR AND MIGRATORY BIRD CONSERVATION STRATEGY
EUREKA PIPELINE PROJECT
EUREKA COUNTY, NEVADA

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February 2014

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A Bird Incident Report Form

1.0 INTRODUCTION

1.1 Scope

A Raptor and Migratory Bird Conservation Strategy (CS) is a project-specific document that provides a program designed to reduce the potential risks of indirect harassment, injury or mortality to raptor and migratory birds that may result from the interaction of these animals with Prospector Pipeline Company's (PPC) construction activities for the Eureka Pipeline Project (EPP).

The Bureau of Land Management (BLM) is currently preparing the *Eureka Pipeline Project Environmental Assessment* (EA) (BLM, 2013b). The EA provides a project-specific analysis of the potential impacts to raptors and migratory birds resulting from the proposed EPP. PPC has voluntarily prepared this CS in compliance with federal guidance documents to outline project-specific practices and measures for reducing raptor and migratory bird impacts potentially resulting from the project.

This CS has been developed based on recommendations from the US Fish and Wildlife Service (USFWS) Draft Guidelines for Raptor Conservation in the Western United States (USFWS 2008), and the Memorandum of Understanding between the BLM and the USFWS to Promote the Conservation of Migratory Birds executed in April 2010 (BLM 2010). The goals of the guidelines are to provide measures to:

- Minimize the risk of "take" under various bird protection statues
- Avoid or minimize impacts to sensitive raptor species, and
- Contribute to the improvement in the status of raptor species which have been determined to be experiencing population declines or to be otherwise at risk.

1.2 Goals of the Raptor and Migratory Bird Conservation Plan

The voluntary implementation of this CS would fulfill several goals simultaneously, and fulfillment of each of these goals would contribute to the satisfaction of the ultimate goal of all CSs: to reduce raptor and migratory bird direct and indirect impacts. The goals specific to this CS are to:

1. Identify activities that have potential to result in indirect harassment, injury or mortality;
2. Reduce the potential for indirect harassment, injury or mortality by implementing specific actions;
3. Establish a reporting system to document any incidents of indirect harassment, injury or mortality; and
4. Assist PPC in compliance with state and federal laws regarding raptor and migratory bird species.

1.3 Implementation of the Raptor and Migratory Bird Conservation Strategy

PPC would do the following to implement the CS and thus accomplish the identified goals. Specifically, PPC would:

- Minimize the potential for direct and indirect impacts to nesting birds during the breeding season;
- Conduct raptor behavior monitoring during the breeding season for the active golden eagle and prairie falcon nests (Figure 5), where the breeding season overlaps with the PPC construction season to document PPC construction activities, if any, that appear to result in changes to normal nesting behavior
- Assist in refining criteria and protocols to further bird conservation through sharing of monitoring data with the BLM, Nevada Department of Wildlife (NDOW) and U.S. Fish and Wildlife Service (USFWS); and
- Ensure accurate and detailed incident reporting.

1.4 Benefits of a Raptor and Migratory Bird Conservation Strategy

The foremost goal of a CS is to reduce the potential for impacts resulting in injury or mortality to raptors and migratory birds. PPC's voluntary implementation of a CS would ensure compliance with the state and federal regulations described in the following section.

1.5 Federal and State Raptor and Bird Protection Laws, Regulations and Policies

1.5.1 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712), which is administered by USFWS, is the cornerstone of migratory bird conservation and protection in the United States. It implements four treaties that provide for international protection of migratory birds. The MBTA states: "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill ...possess, offer for sale, sell...purchase...ship, export, import...transport or cause to be transported...any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is comprised in whole or part, of any such bird or any part, nest, or egg thereof." (16 U.S.C. 703.) The word "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." (50 CFR 10.12.) In 1972, an amendment to the MBTA resulted in bald eagles (*Haliaeetus leucocephalus*) and other birds of prey being included in the definition of a migratory bird. The MBTA currently protects more than 800 migratory bird species, including waterfowl, shorebirds, seabirds, wading birds, raptors, and songbirds (USFWS, 2008).

1.5.2 Bald and Golden Eagle Protection Act

Under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), bald eagles and golden eagles (*Aquila chrysaetos*) are provided additional legal protection beyond that provided by the MBTA. The BGEPA makes it unlawful to import, export, sell, purchase, barter, possess or take any bald eagle or golden eagle, their parts, products, nests, or eggs. As used in the BGEPA, "take" includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing an eagle. (16 U.S.C. 668c.)

1.5.3 Endangered Species Act

The Endangered Species Act (ESA) (16 U.S.C. 1531-1544) is administered by USFWS and the Commerce Department's National Marine Fisheries Service (NMFS). USFWS has primary responsibility for terrestrial and freshwater organisms, while NMFS has responsibility for marine species. These two agencies work with other agencies to plan or modify federal projects so that they would have minimal impact on listed species and their habitats. Protection of species is also achieved through partnerships with the states, with federal financial assistance and a system of incentives available to encourage state participation.

Section 9 of the ESA makes it unlawful for a person to "take" a listed species. (16 U.S.C. 1538.) Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." (16 U.S.C. 1532(19).) Through regulation, the word "harm" has been defined by the Secretary of the Interior as "an act which actually kills or injures wildlife…by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering." (50 CFR 17.3.) However, authorization for "incidental take" can be obtained from USFWS for take of listed species that would occur as a result of an otherwise lawful activity. (See 16 U.S.C. 1536, 1539.)

1.5.4 BLM Policy

BLM has implemented policies for special status species found on BLM managed lands. BLM's list of special status species includes species that are listed or proposed for listing under the ESA and species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA. Additionally, all federal candidate species, proposed species, and delisted species (for five years after delisting) would be conserved BLM sensitive species (BLM 2008).

1.5.5 Nevada Regulations

The State of Nevada has identified wildlife species that are declining in their range throughout Nevada or are otherwise rare and at risk of extinction. Sensitive and protected animal species are protected in Title 45 of Nevada Revised Statutes (NRS) (NRS 501.100 through 503.104). Classification of wildlife species and related regulations are detailed in Chapter 503 of Nevada Administrative Code (NAC).

1.6 Enforcement of the MBTA, BGEPA, and ESA

The USFWS Office of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement but also through fostering relationships with individuals and industries that proactively seek to eliminate impacts to migratory birds. While it is not possible under the act to absolve individuals, companies, or agencies from liability if they follow these recommended guidelines, the Office of Law Enforcement and the Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals, companies, or agencies who have made good faith efforts to avoid the "take" of migratory birds. The voluntary implementation of this CS is intended to proactively seek to eliminate impacts to migratory birds potentially affected by EPP construction activities.

2.0 STUDY AREA

2.1 Project Description

The EPP is an approximately 18 mile, 12-inch diameter underground natural gas transmission pipeline, located in Eureka County, Nevada, designed and constructed of welded steel, externally-coated, high-pressure line pipe (Figure 1). The EPP would begin at the existing Goldstrike Meter Station which is located on private property within the Barrick Goldstrike Mine operations boundary. The pipeline alignment would be generally along established roadways towards the Newmont Leeville and Gold Quarry Mine north of Carlin. About 3 miles southeast of the Goldstrike Meter Station is the Leeville Mine. A 3- or 4- inch diameter turnout and above ground regulating/metering station would be constructed at the Leeville Mine in order to supply natural gas to that mine. At this same point a 12-inch Main Line Valve (MLV) would be installed in the 12-inch transmission pipeline. From this point the transmission pipeline would extend to the Gold Quarry Mine where a second above ground regulating/metering station would be constructed to supply natural gas to the Gold Quarry Mine. The regulated gas from the Gold Quarry Meter Station would be introduced into the existing Newmont-owned 6-inch pipeline to the millworks at the Gold Quarry Mine (Figure 2).

Installation of the EPP would result in approximately 270 acres of disturbance in the study area of which 59 acres is already disturbed. Approximately 17 acres would be for staging and storage within existing disturbed land, and 0.71 acre would be permanent disturbance on public and private land attributed to above ground facilities. Temporary disturbance would be approximately 94 acres on public land and 117 acres on private land. The Proposed Action would reclaim 211 acres including that previously damaged by wildfire.

2.2 Study Area

For biological resources the study area and temporary ROW are the same and are defined as follows: 100 feet wide (50 feet on each side of the centerline) except in areas where the slope is 20 percent or greater. For safety and construction purposes, where the slope is 20 percent or greater construction would require a temporary ROW of 125 feet (62.5 feet on each side of the centerline). Installation of the EPP under the proposed action would result in approximately 270 acres of disturbance in the study area of which 59 acres is already disturbed. Approximately 17 acres would be for staging and storage within existing disturbed land, and 0.71 acre would be permanent disturbance on public and private land attributed to above ground facilities. Temporary disturbance would be approximately 94 acres on public land and 117 acres on private land. The Proposed Action would reclaim 211 acres including that previously damaged by wildfire. Existing and proposed disturbance is summarized in Table 1 below by existing land surface type within the study area.

Within the study area the following land surface type definitions have been applied; undisturbed - land surface when viewed from an aerial photograph (Microsoft Virtual Earth) that currently supports sufficient vegetation cover to assign a natural vegetation community type; disturbed – land surface when viewed from an aerial photograph (Microsoft Virtual Earth) that is currently graded and lacks sufficient vegetation cover to assign a natural vegetation community type; burned – land areas that have been damaged by wildfire including those that have been seeded and are at some level of restoration from 2001 through 2013 (BLM 2013b).

Table 1. Disturbance Associated with the Proposed Action

Activity	Private Land (Acres)			Public Land (Acres)		
	Upland Undisturbed*	Upland Disturbed* (roads/mining activity)	Upland Burned**	Upland Undisturbed*	Upland Disturbed* (roads/mining activity)	Upland Burned**
Existing/ Proposed Clearing/ Trenching & Backfill of pipe alignment (Study Area)	104	31	12	92	12	2
Proposed Clearing of vegetation on staging areas (Study Area)	1	15	0	0	1	0
Total Proposed Disturbance – 270 acres (Study Area)	105	46	12	92	13	2
Total Proposed Disturbance Private/Public 270 acres (Study Area)	163			107		

Sources:

*Disturbed, undisturbed upland or riparian habitat digitized using: Bing Maps: @ Harris Corp, Earthstar Geographics LLC © Microsoft Corporation.

**Burned in 2011. Bureau of Land Management. 2013b. Tuscarora Field Office GIS. 2011 Fires, Fire History, Received January 2012 & August 2013

2.3 Vegetation

The study area is dominated by sagebrush steppe communities including basin and Wyoming big sagebrush is dominate on deep, salt-free soils with a perennial and annual grass understory. Perennial grass species include bluebunch wheatgrass, Thurber needlegrass, and Sandberg bluegrass (Cronquist et al. 1972)(Figure 3). Approximately 73 acres of the study area have been disturbed by previously permitted exploration activity including roads and drill pads, wildfires from 2005 and later, pipeline and transmission line construction, and mining activities. Vegetation on the undisturbed portion of the EPP study area is typical of upland Great Basin sagebrush/bunchgrass plant community. Major vegetative species present in undisturbed areas include: Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), low sagebrush (*Artemisia arbuscula*), black sagebrush (*Artemisia nova*), Douglas rabbitbrush (*Chrysothamnus vicidiflorus*), spiny hopsage (*Grayia spinosa*), Sandberg bluegrass (*Poa Sandbergii*), bottlebrush squirreltail (*Elymus elmoides*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Thurber's needlegrass (*Achnatherum thurberianum*), Indian ricegrass (*Achnatherum hymenoides*), lupine (*Lupinus spp*.), arrowleaf basalmroot (*Balsamorhiza sagittata*), phlox (*Phlox spp*.), and aster (*Aster spp*.). No tree dominant plant communities are present in the study area (Wood Rodgers 2013). Vegetation on areas damaged by wildfire is recovering, both from natural revegetation and from reclamation and restoration efforts by the BLM and others. The wildfire damaged areas would take many years, perhaps decades, to recover the habitat values that existed before the wildfire.

2.4 Soils

Soils within the EPP study area are dominated by well-drained soils on mountains and hills, with some well-drained soils on high terraces and alluvial fans, and a minor amount of area with well-drained soils on low terraces and alluvial fans (NRCS 2006). The Proposed Action includes provisions to concurrently stabilize disturbed areas and seed existing undisturbed areas to minimize loss of the soil resource. During construction, water trucks would be employed to minimize loss of soil as a result of fugitive dust. Following construction, operation and maintenance of the pipeline would not require any extensive future ground disturbing activities.

2.5 Installation of the Pipeline

Pipeline installation would be much like a moving assembly line process, with sections of the pipeline being completed in stages. First, the width of temporary ROW for the pipeline would be cleared and bladed smooth as needed to provide a safe working surface for the installation crew. After blading is completed, 40-foot, externally-coated lengths of pipe would be laid out end-to-end along the intended route within the permitted ROW boundary, a process referred to as "stringing" the pipe. The next step in the process would be for the 40-foot long pipe sections to be welded together to form longer continuous lines of pipe that are prepared for underground installation. Welds are inspected for integrity. Coating would be then applied to the welded pipe ends to complete the external coating for corrosion prevention. Specific sections of the pipe may be bent, if needed, using specialized equipment to fit the contour of the pipeline's path. Once these continuous lines of pipe are readied, commercial trenching and excavating equipment excavate alongside the staged pipe. These trenches are typically four to six feet deep, as the regulations require the pipe to be at least 36 inches below the surface. In certain areas, however, including road crossings and where water features are present, the pipe could be buried deeper as

needed to provide additional protection for the pipe or to allow for the trajectory required by alternative pipeline methods such as horizontal drilling. Road crossings may be cased (the carrier pipe placed within a larger diameter protective pipe) or pipe with a slightly thicker wall would be utilized. When the pipeline crosses State Route 766, construction would use the horizontal directional drill technique to avoid interference with highway traffic. Thicker walled, more heavily coated pipe may be used where water features are present. Given the soil conditions and the standards for construction, the pipe and coating must be protected against damage during and after installation. This would be accomplished by segregating the rocks from the native soil, "bedding" the excavated trench with the fines, laying the pipe in the trench then covering the pipe with more fines to keep rocks away from the coating. After that, the remaining native soil containing the rocks would fill the trench to grade. This carefully controlled process ensures against damage to the pipe and coating during installation and afterward. Keeping the rocks at a safe distance away from the pipe during installation would help prevent any rocks from contacting the pipe during settlement. Where suitable growth medium occurs, soils would be segregated simultaneously with trenching activities to allow growth medium to be placed back at the surface of the trench backfill.

Once the pipe is welded, bent, coated, and inspected it would be lowered into the previously-excavated trenches. This would be accomplished with specialized construction equipment known as side-booms acting to lift the pipe in a level manner and lower it into the trench. Once lowered into the ground, the trench would be filled in carefully to ensure that the pipe and its coating retain their integrity. The last step in pipeline construction would be the hydrostatic test. This consists of filling the pipeline with water and pressurizing to a pre-determined, engineered pressure greater than the MAOP to check for leaks. Water for the hydrostatic test and for dust abatement during construction would be obtained from the Goldstrike, Gold Quarry or Leeville Mine sources, or agricultural sources.

A list of equipment and operators/employees required to construct the EPP is summarized in Table 2. Construction activities would be expected for a minimum of 12 weeks up to a maximum of 20 weeks.

Table 2. EPP Proposed Construction Equipment/Operators

Equipment Quantity	Equipment Description	Operators /Employees
6	Semi-Truck - Pipe Delivery	4
2	Vacuum Lifter or Crane	2
2	D8, D9, D10 Dozer - Blade and/or Loader	1
1	Trencher - Track Unit	1
2	Excavator - Track Unit	2
2	Backhoe	2
6	Side-Boom Tractor	4
2	Super Padder - Track Unit	1
1	HDD Unit	4
1	Pipe Bender - Track Unit	1
4	Dump Truck	4
2	Stakebed Truck - w/Stinger	2
6	Welding Truck	12
4	Water Truck (w/cannon)	4
2	Fuel/Lube Truck	2
9	Pickup	9
1	55HP New Holland Ford Tractor	1
1	Great Plains 8' wide no-till drill seeder	
1	185HP John Deere 4760 Tractor	1
2	10' wide side-by side Haybuster Drill Seeder	
1	Polaris 6 wheeler ATV with broadcast seed and harrow	1
58	**Subtotal**	**58**
	Other Non-Craft Employees	
	Construction Foreman	1
	Construction Inspector	2
	Site Engineer	1
	Surveyor	2
	Compliance Specialist	1
	Construction Laborers	10
	Subtotal	**17**
58	**Total**	**75**

3.0 SPECIES OF INTEREST

3.1 Sensitive Species Criteria and Utilization

In this CS, the term "sensitive species" encompasses all bird species occurring within or near the study area that are protected by any one or more of the laws, policies, or regulations described in Section l.5 of this document. Specifically, this includes:

- All bird species that are listed as threatened or endangered species or are proposed or candidates for listing under the ESA of 1973 as amended;
- All bird species protected under the MBTA;
- Bald and golden eagles protected under the BGEPA;
- All bird species that the state of Nevada protects through NRS 501.100-503.104, NRS 527.050, and/or NRS 527.60-527.300; and
- All species identified as BLM Sensitive Species in Nevada.

3.2 Sensitive Species Occurring Within or in Proximity to the Study Area

According to the EA prepared for the project (BLM, 2013b), a concise list of protected wildlife species occurring in the study area was compiled from data from the USFWS; the BLM Sensitive Species list for Nevada; the Nevada State Protected, Threatened, and sensitive species lists in NAC 503.030, NAC 503.050, NAC 503.075, and NAC 503.080; and from Nevada Natural Heritage Program. Biologists from the USFWS, BLM, and Nevada Department of Wildlife (NDOW) were consulted to obtain additional input regarding sensitive species. The EA analyzes the potential likelihood of each identified species to occur within the study area. Table 3 lists the raptor species that BLM has documented as having confirmed active nests in proximity to the study area.

Table 3. Sensitive Bird Species Occurring in Proximity to the Study Area

Species Name		
Common	**Scientific**	**Habitat**
Golden eagle	*Aquila chrysaetos*	Often nests on cliffs above foraging habitat with an adequate prey base including sagebrush flats, pinon-juniper woodland, and salt desert shrub
Prairie falcon	*Falco mexicanus*	Favors sagebrush steppe habitat, nesting on cliff ledges or isolated trees if available
Red-tailed hawk	*Buteo jamaicensis*	Sagebrush, grassland, riparian, and pinion-juniper
Ferruginous hawk	*Buteo regalis*	Nest sites are normally located at the interface between pinion or juniper woodland and open sagebrush. Nest trees typically overlook broad expanses of open sagebrush or grassland from which the hawks hunt ground squirrels and rabbits
Western burrowing owl	*Athene cunicularia*	Prime burrowing owl habitat must be open, have short vegetation, and contain an abundance of burrows. Breeding by burrowing owls is strongly dependent on the presence of burrows constructed by ground squirrels and badgers.

Most bird species that occur within or in proximity to the study area would be considered protected species under the MBTA, as the act protects all native birds commonly found within the Elko District, with the exception of gallinaceous species (upland game birds) and introduced, non-native species.

3.2.1 Birds

A variety of common bird species typical of the sagebrush and grassland communities are anticipated to occur in the study area. These birds are typically present within the respective Great Basin habitats from spring through fall. Species expected to occur within the study area include American robin (*Turdus migratorius*), horned lark (*Eremophila alpestris*), chipping sparrow (*Spizella passerine*), Brewer's sparrow (*Spizella breweri*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), sage thrasher (*Oreoscoptes montanus*), and the common raven (*Corvus corax*).

Upland game bird species commonly found within the study area include chukar (*Alectoris chukar*) and mourning dove (*Zenaida macroura*). Chukar are typically associated with perennial water sources, mesic areas, and rugged slopes or rock outcrops. They are resident breeders in dry, open, and often hilly country that nest in scantily lined ground scrapes laying eight to 20 eggs. Chukar feed on insects and a wide variety of seeds, including cheatgrass. Rocky habitats in the study area are the primary habitat for this species. Chukar were observed within the study

area in August 2013 (Wood Rodgers 2013). Mourning dove are found in a wide range of habitats usually in close proximity to water and are most likely to occur in the study area during spring, summer and fall (BLM 2012b).

Although a large portion of Greater sage-grouse habitat has been removed by mining activities within the Carlin Trend, incidental use of the area by Greater sage-grouse does still occur outside of concentrated mining activities (BLM 2013b). The remaining fragmented habitat has been categorized by the BLM as Preliminary General Habitat (PGH). Greater sage-grouse are discussed in more detail in Section 3.3.6 of the EA.

3.2.2 Raptors

Raptors known to occur within or in proximity to the EPP study area include red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and ferruginous hawk (*Buteo regalis*) (N.Burton 2013b)(Figure 4). Ferruginous hawk, golden eagle and prairie falcon are discussed in more detail under Section 3.3.6 Special Status Species.

The red-tailed hawk is associated with a variety of habitats including sagebrush, grassland, riparian, and pinion-juniper and is one of the most common and widespread hawks in North America. It is protected under the MBTA and Executive Order (EO) 13186 (66 FR 3853). Two active red-tailed hawk nests have been confirmed to be located within 1 mile of the EPP alignment.

3.2.3 Migratory Birds

As stated above, Migratory Bird species are protected under the MBTA and EO 13186. Pursuant to the EO a draft MOU among the BLM, USFS, and USFWS was drafted in order to promote conservation and protection of migratory birds. The EO provides guidance to agencies to promote BMPs for conservation of migratory birds. As a result, the BLM Nevada State Office prepared Migratory Bird BMPs for the Sagebrush Biome to assist BLM field offices in the consideration of migratory birds in land management activities presented in Section 3.3.6 (BLM no date).

In addition to the red-tailed hawk discussed above, the prairie falcon, ferruginous hawk, golden eagle and western burrowing owl (*Athene cunicularia hypugaea*) are protected under the MBTA. These species are discussed in more detail under Section 3.3.6 Special Status Species as they have been designated by the BLM Nevada State Office as sensitive species.

BLM Nevada State Office Best Management Practices for the Sagebrush Biome (BLM no date) to assist BLM field offices in the consideration of migratory birds incudes the requirements for pre-disturbance migratory bird nesting surveys as described under Section 2.1.4.

The western burrowing owl (*Athene cunicularia hypugaea*) breeds throughout Nevada. The majority of the breeding population migrates from northern Nevada during the winter months. However, observations of this owl have been recorded throughout Nevada during all months of the year. Breeding by burrowing owls is strongly dependent on the presence of burrows constructed by ground squirrels and badgers. Prime burrowing owl habitat must be open, have short vegetation, and contain an abundance of burrows. Burrowing owls begin nesting in April,

and young typically fledge by August. The western burrowing owl has been designated by the BLM Nevada State Office as a sensitive species and by Nevada Natural Heritage as vulnerable to decline.

The nearest known burrowing owl population is approximately midway down the South Operations Area Project Area North-South Haul Road and to the west approximately 1 mile (Figure 1)(BLM 2013a) therefore, western burrowing owl may potentially occur within the EPP study area.

The golden eagle, a USFWS Species of Concern, a Nevada State Protected species, Nevada BLM sensitive species, protected under the Bald and Golden Eagle Protection Act and the MBTA is found in a variety of open, usually relatively dry habitats throughout the western United States. In Nevada, it often nests on cliffs above foraging habitat with an adequate prey base including sagebrush flats, pinon-juniper woodland, and salt desert shrub. In proximity to the EPP alignment, three active golden eagle nests have been confirmed (N. Burton 2013). The locations are within 1.25, 0.8 and 0.7 miles. The closer two of the three locations are topographically screened from the EPP alignment by the Maggie Creek Canyon, and State Route 766 subjects the nests to constant vehicular traffic noise. All three are separated from the EPP alignment by mining activity.

The ferruginous hawk, a USFWS Species of Concern, a Nevada State Protected species, BLM sensitive species, and protected under the MBTA inhabits the open sagebrush grasslands of central and eastern Nevada (BLM 2001). Nest sites are normally located at the interface between pinion or juniper woodland and open sagebrush. Nest trees typically overlook broad expanses of open sagebrush or grassland from which the hawks hunt ground squirrels and rabbits. Ferruginous hawks nest in the tops of isolated trees and sometimes on rock outcrops or even on the ground on ridges overlooking valleys. One ferruginous hawk nest has been confirmed to be active 5.5 miles east of the EPP alignment (BLM 2013a). This location is topographically screened from the EPP alignment with hunting likely to occur in open sagebrush grasslands between the nest site and the EPP alignment.

The prairie falcon is a BLM sensitive species and protected under the MBTA. The falcon favors sagebrush steppe habitat in Nevada, nesting on cliff ledges or isolated trees if available, and a small mammal diet. Within proximity of the EPP alignment two nests have been confirmed as active within 0.6 mile and 2.3 miles (N. Burton 2013). The further location of the two nests from the EPP alignment (2.3 miles) is topographically screened from the EPP alignment by the Maggie Creek canyon and is likely subject to vehicular travel noise along State Route 766. The second and closer location (0.6 mile) is sited topographically similar to the EPP alignment as the alignment traverses up and over Schroeder Mountain.

In addition to raptors, greater sage-grouse are known to occur in the vicinity of the study area, but sage-grouse habitat has been removed from the biological study area by previous activities (BLM 2013a).

4.0 EPP THREAT ASSESSMENT

The following are project construction and operation activities that may pose mortality or injury threats to raptor and bird species in the study area.

4.1 During Construction

Construction activities for the EPP are expected to begin early summer and be completed over approximately 12 weeks. If weather or other factors result in an interruption in construction, activities would be stopped and would restart as soon as possible to minimize the overall duration of the construction period.

4.1.1 Employee, construction materials and equipment movement

Construction, site stabilization and seeding of the EPP would not require the construction of any new roads. Existing roads being used by current mining operation activities would be used to access the temporary construction ROW. As described above, approximately 197 acres of intact sagebrush habitat would be temporarily disturbed to clear a portion of the temporary ROW. Some passerine species use newly cleared areas for foraging. Additionally, should any mortality occur from wildlife-vehicle collisions, scavenging species (e.g. turkey vultures) may begin to forage along project roads.

Construction activities would also be a minor source of noise in addition to that which already occurs along existing roads associated with current mining activities.

4.2 Post-Construction

Once construction activities are complete, the pipeline and facilities would be remotely monitored and operated by PPC's qualified operations personnel on a real-time, 24/7 basis utilizing SCADA (Supervisory Control And Data Acquisition) technology at PPC's Rancho Cordova, California Gas Control Center. Pipeline personnel would be available at the Gas Control Center and locally to provide operational support for the pipeline, and to be available to respond to routine and emergency operating conditions as needed.

The EPP would require a minimum annual visual inspection of the pipeline route in its entirety. Each visual inspection would include the required annual leak detection, pipeline marker inspection, and cathodic protection inspection and testing. These inspections are non-invasive and cause no greater disturbance than driving or walking the pipeline corridor. PPC would use existing roads to facilitate required inspections. In addition, PPC would schedule inspections, if at all possible, to minimize or avoid activities during the raptor nesting seasons.

It is very unlikely that long term impacts would result from ongoing pipeline operations. Operations of the EPP would include a very low level of noise (<8 dB at 3 feet and zero dB at 9 feet from the thermoelectric generator) from equipment at the three surface above-ground stations, maintenance and safety inspections, and the physical presence of the three surface stations. The closest of any of the three stations to either of the two nests requiring monitoring, is approximately 3 miles (Figure 4). The above ground facilities would not provide suitable nesting habitat given their low profile and their close proximity to current human activity levels.

4.3 Potential Causes of Raptor and Bird Injury or Mortality

4.3.1 Collision with Vehicles and Equipment

The potential for raptor and bird species to collide with construction vehicles and equipment under the Proposed Action would be present when species are in flight during dawn and disk hours or adverse environmental conditions, such as rain, fog, strong winds, or other similar periods of low visibility. Raptor and bird species are susceptible to potential collisions with project vehicles along the existing access roads in the study area as well as the highways leading to the area.

Raptor and bird species may also subject to collision with vehicles and equipment when flying while distracted. Potential distractions could include foraging, territorial chases, escape from predators, nearby human activity, or other such action that results in aggressive and swift flight, or erratic and fear-driven flight. The potential for collisions with vehicles or equipment under the Proposed Action is considered to be low as these vehicles are low to the ground, travel at relatively slow speeds, and would not generally pose a threat to flying raptors and birds. Additionally, the current levels of human activity in immediate proximity to the EPP alignment would further reduce the potential for raptors and birds to be active in the temporary construction ROW during construction.

4.3.2 Horizontal Direction Drilling (HDD)

Specialized equipment would be used to drill a generally horizontal pilot hole beneath the surface of the ground from one side of the crossing to the other. The path of the small diameter pilot hole would be at a sufficient depth under the crossing area to support the entry and exit angles for the drilling of the pilot hole. Drilling fluid sumps consisting of water and bentonite clay would be used in a closed-loop system to lubricate the drill. Upon completion of the pilot hole, the hole would be reamed with a larger drill bit to a larger diameter sufficient to accommodate the external diameter of the pipeline. A specially prepared pipe string would be pulled back through the reamed hole from the bore exit side to complete the crossing. Once installed, the ends of the pipe string would be tied-in to the pipeline on either side of the crossing.

Any source of water in an otherwise arid environment has the potential to attract raptors and birds. However, it is not anticipated that these sumps would be a significant source of injury or mortality for these species. No toxic or hazardous materials would be used during HDD, thereby eliminating the potential for mortality. Additionally, these sumps would only be in use while HDD is being conducted. The noise produced by HDD and the presence of personnel in the area would likely deter any species from approaching the sumps.

4.4 Effects to Raptor and Bird Species

4.4.1 Effects from Project Construction

Direct impacts would occur to raptors and migratory birds since the project construction would remove approximately 197 acres of potential hunting/foraging habitat for these species. Most of this habitat consists of highly fragmented big sagebrush and varying levels of grass understory, both perennial and annual grass species. The project would not restrict bird migration

throughout the area; however, it may temporarily remove a small portion of the available western burrowing owl nesting and foraging habitat and raptor hunting habitat in the area.

Although most birds are highly mobile, construction clearing and grading activities may result in bird injury or death via damage to occupied burrows as they may hide in their burrows and not be able to flee in time. Disturbances to occupied burrows for western burrowing owl would be avoided by having a qualified monitoring biologist conduct a nesting bird survey pre-disturbance so that occupied burrows can be identified and an appropriate buffer established through coordination with the BLM wildlife biologist. Increased noise levels during construction may cause birds to avoid the area temporarily, possibly disrupting normal behavior patterns.

Increased noise levels have been shown to adversely affect golden eagles and prairie falcons during important life cycle events such as courting and nesting. Confirmed active nests for both are present within proximity to the study area. General reactions to noise and disturbance can include:

- Agitation behavior (displacement, avoidance, and defense);
- Increased vigilance at nest sites;
- Change in forage and feeding behavior; and
- Nest site abandonment.

Raptors confirmed to be nesting within proximity to the EPP study area have been subject to human induced noise due to mining activity that has occurred since 1965 in the North Operations Area and 1981 in the South Operations Area. Thus, although they may be initially aware of new or increased noise in proximity to confirmed active nest sites, it is not anticipated that project construction activity noise would affect these nest sites.

Pursuant to the USFWS Guidelines (USFWS 2008), Figure 5 presents a "line of sight analysis" for both active nest locations. For the golden eagle nest site, the EPP construction activities would be in line of sight of the nest, however, that line of sight is interrupted by current mining activity. For the prairie falcon nest, the EPP alignment is located on the same topographic feature and at a similar elevation as the nest site, although a portion of this line of sight is also interrupted by current mining activity. It is not anticipated that project construction activities would affect the golden eagle nest site given the distance and intervening mining activities, however it is unknown if there would be an effect on the prairie falcon nesting behavior.

In addition to performing migratory bird nesting surveys for western burrowing owl, if necessary, given the potential for impact to nesting success due to the increase in human presence and construction noise associated with construction of the EPP, the Proposed Action includes provisions for a qualified biologist to confirm activity of the golden eagle and prairie falcon nests. If either or both of these nest are confirmed active, when EPP construction begins at either end of the two raptor monitoring zones (Figure 5, Appendix 3), PPC's qualified biologist would start nesting behavior monitoring and continue monitoring until the qualified biologists determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive.

If abnormal nesting behavior is documented, the qualified biologist would determine the severity of the abnormal behavior and consult with the BLM wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. The goal of the nest behavior monitoring is to assess if potential construction-related impacts (noise or human presence) may disrupt the nesting success of the subject raptor. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

4.4.2 Effects from Project Operations

Post-construction, the EPP would require annual visual inspection of the pipeline route in its entirety. These inspections are non-invasive and cause no greater disturbance than driving or walking the pipeline corridor. PPC would use existing roads to perform required inspections. In addition, PPC would schedule inspections, if at all possible, to minimize or avoid inspection activities during the raptor nesting seasons. Therefore, it is not anticipated that project operations would affect the nest sites.

5.0 RAPTOR AND BIRD PROTECTION MEASURES AND MODIFICATIONS

5.1 Collision

As presented previously, there may be low risk to raptors and birds to collide with construction vehicles and equipment. These vehicles would be low to the ground and are not likely to pose a risk of collision. Given their low stature, raptor and bird collisions, if any, would likely involve individuals flying low (landing or taking off). Construction personnel would be required to travel in accordance with the active mine site speed limit of $\leq$ 35 mph and would be instructed to exercise caution while driving or operating construction equipment so as to further minimize the likelihood of collision.

5.2 HDD Sumps

As mentioned previously, raptor and bird use of the HDD sumps is not anticipated to result in a measureable impact. However, all sumps would be designed with gently sloping side, and those sumps utilizing a plastic liner would be designed with escape ramps (e.g., a board), allowing any birds or other wildlife to be able to walk out of the sump.

5.3 General Raptor and Bird Protection Measures

These general protection measures would be in place throughout the life of the proposed project construction activities and would serve to reduce any potential impacts to raptor and bird species on a daily basis.

Habitat for western burrowing owl occurs west of SOAPA North-South Haul Road within 1 mile of the haul road. Therefore, there is potential for this species to occur within the EPP study area. Given that the EPP construction activities would begin in January and likely be completed prior to the LOP for this species, it is unlikely that that any burrowing owls would be impacted. If weather or other factors delay or interrupt the construction schedule and extend it into the burrowing owl LOP, PPC's qualified biologist would coordinate with the BLM wildlife biologist for requisite pre-disturbance surveys for western burrowing owl and appropriate active burrow

buffers to be protected with temporary construction fencing to avoid impact to potentially active burrows.

In addition to performing migratory bird nesting surveys for western burrowing owl, if necessary, given the potential for impact to nesting success due to the increase in human presence and construction noise associated with construction of the EPP, the Proposed Action includes provisions for a qualified biologist to confirm activity of the golden eagle and prairie falcon nests. If either or both of these nest are confirmed active, when EPP construction begins at either end of the two raptor monitoring zones (Figure 5, Appendix 3), PPC's qualified biologist would start nesting behavior monitoring and continue monitoring until the qualified biologists determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive.

If abnormal nesting behavior is documented, the qualified biologist would determine the severity of the abnormal behavior and consult with the BLM wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. The goal of the nest behavior monitoring is to assess if potential construction-related impacts (noise or human presence) may disrupt the nesting success of the subject raptor. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

6.0 IMPLEMENTATION AND ADAPTIVE MANAGEMENT ACTIONS

6.1 PPC Policy

PPC would voluntarily adopt and implement the raptor and migratory bird protection measures as described in this CS to reduce the potential for disturbance, injury, and mortality.

6.2 Avoidance and Minimization

PPC has agreed to several measures to avoid and minimize impacts to raptor and migratory bird species during project construction and operation that are discussed in Section 5 of this document. No toxic or hazardous fluids would be used during HDD, and sumps would be designed to allow birds to exit the area.

In order to minimize impacts to migratory birds during construction activities, PPC would strive to avoid land-clearing activities such as vegetation removal during the bird breeding season (March 31 to July 31). These dates may be modified by BLM based on specific site and weather conditions. If land-clearing activities take place during the bird breeding season, a qualified biologist would conduct preconstruction surveys in the affected area to identify nests and breeding birds.

During operation of the EPP, inspection vehicles would travel on existing roads to minimize impacts to the undisturbed and recovering habitat in the study area, which would minimize habitat impacts to bird species during inspection activities.

6.3 Assessment and Implementation Approach

Assessment and implementation of this CS involves two approaches described further below: Preventative and Reactive. The Preventative approach would be utilized on a day-to-day basis during construction of the EPP, while the Reactive approach would only be utilized in the unlikely event that an incident occurs.

6.3.1 Preventative Approach

Preventative measures would include all of the Construction Measures/Design Features described in this document which have been included as a part of the Proposed Action in the EA (Section 2.1.4) to avoid or minimize potential impacts. These measures include surveys for migratory bird nests and confirmation of active golden eagle and prairie falcon nests. Confirmed active nests would be monitored during construction within the monitoring zones depicted on Figure 5. Preventative measures attempt to avert potential for raptor and migratory bird impacts before they occur.

6.3.2 Reactive Approach

The reactive approach would include implementation of adaptive management actions in the unlikely event injury or mortality has occurred. If incidents occur, PPC would respond appropriately through documentation using the Reporting System (Section 7.0). These reports would be provided to the USFWS, NDOW, and BLM. The reported incident would be assessed by the three agencies in collaboration with PPC to determine whether the incident justifies implementation of adaptive management actions. This determination would include several factors, including the raptor or species involved, whether that species is listed as threatened or endangered, the rarity of the species, the effects on the population level of that species, and consideration of previous mortality resulting to that species in the study area, or as a result of interaction with the EPP. Adaptive management actions would be developed based on many of these same factors. The development of specific adaptive management actions would occur collaboratively among the USFWS, NDOW, BLM, and PPC, and would be based on scientific data, effective actions implemented at similar projects, new technology developed during the life of the project, and other similar or related information. The success of the techniques shall be determined collaboratively as well.

Not all incidents would warrant implementation of adaptive management techniques, but the unlikely injury or mortality of a golden eagle or prairie falcon, or several western burrowing owl would likely warrant adaptive management measures be implemented.

6.4 Permit Compliance

At this time, it is not anticipated that federal or state permits regarding raptor or migratory bird species are necessary for the EPP. Should circumstances make it necessary to obtain federal and/or state permits, PPC would work with the federal and state resource agencies listed in Section 6.9 to determine which permits are necessary and to acquire relevant permit applications. Under no circumstances would PPC intentionally perform any activity requiring a permit without first obtaining the proper permit or authorization to do so.

6.5 Personnel Training

In order to effectively implement the CS, PPC would ensure that all construction and operational inspection personnel complete training on the issues and protocols outlined in the CS. This training would ensure that all appropriate personnel understand the CS and their responsibility with regard to raptor and migratory bird protection and regulatory compliance.

6.6 Raptor and Migratory Bird Enhancement Options

PPC would continue to protect natural resources and promote actions that benefit local and regional raptor and migratory bird populations. PPC would limit construction disturbance in the temporary construction ROW to that necessary for safe and efficient installation of the EPP. Vegetation outside of the temporary construction ROW corridor would be undisturbed and maintain nearby nesting, hunting and foraging habitat for raptor and migratory bird species. PPC would not construct new roads in association with construction or operations of the EPP.

6.7 Quality Control

During construction activities and future inspection activities for the EPP, PPC would periodically assess various parameters and protection measures as described in this CS to ensure that it is as efficient and effective as possible. Parameters that PPC would assess periodically include:

- Assessing incident reporting procedures to ensure that discoveries of bird injuries and mortalities are properly documented;
- Assessing response to bird injury or mortality to ensure that appropriate actions are taken in a timely manner;
- Assessing compliance with company procedures to ensure that personnel are consistently following company methods for raptor and migratory bird-safe construction, required nest monitoring during construction, injury or mortality reporting during construction and during required annual pipeline inspection.

Daily observations, internal operating procedures, and personnel input would be applied to assessments during the periodic reviews of the CS. Revisions and updates to the CS would be made in consultation with the USFWS, BLM, and NDOW. Revisions and updates to the CS would be addressed with personnel at the project site.

6.8 Key Resources

PPC would coordinate with the following key resources, as needed to assist in providing expertise in permitting, raptor and migratory bird populations and behavior, and bird-safe construction and design features:

- USFWS;
- NDOW;
- BLM;
- Nevada Natural Heritage Program;
- Great Basin Bird Observatory.

These resources would be utilized as necessary and would further ensure that PPC has a successful and effective CS. Resources other than those listed may also be consulted, including consultants, company specialists, and other natural gas and mining facilities with proven effective raptor and migratory bird protection programs.

7.0 RAPTOR AND MIGRATORY BIRD REPORTING SYSTEM

7.1 Purpose of the Raptor and Migratory Bird Reporting System

In order to assess the effectiveness of the CS and prioritize raptor and migratory bird protection needs, PPC would report all raptor nest behavior results, and any raptor and migratory bird injury or mortality in accordance with the methodology below. All appropriate PPC personnel, including construction subcontractors would be provided with instruction on implementing the methodology and properly reporting any monitoring, injury and mortality incidents. Reporting would be standard practice by PPC for the duration of the construction as well as during annual inspections of the EPP if such inspections occur during the nesting period for migratory birds..

7.2 Reporting System Elements

7.2.1 Detection During Construction

To improve the probability that raptors and birds that have suffered injury or death do not go undetected, PPC construction and operational inspection personnel would be directed to remain alert for raptors and birds within the study area and near the active construction areas. Detection of injured or deceased birds in the field would occur through incidental observations by PPC personnel in the field during construction and inspection activities.

7.2.2 Response and Documentation for Injury or Mortality During Construction

In the event that a raptor or migratory bird injury or mortality is detected, PPC personnel would record the circumstances and conditions associated with the injury or death to the extent observable. PPC personnel would be provided with a standardized Bird Incident Report Form for recording the necessary information when an incident is detected. An example form is provided in Appendix A. Information recorded would include: date, time of detection, location of detection, photograph of the bird (if possible), apparent cause of injury or mortality including "unknown", and if possible, the species of the bird. This information would be submitted to the PPC designated representative in the field for submittal to the BLM wildlife biologist.

7.2.3 Remedial Action During Construction

Based upon the information gathered and reported on Bird Incident Report Forms, PPC's Environmental Specialist in coordination with the BLM wildlife biologist would determine whether implementation of remedial protection measures is warranted and to be implemented by PPC. This determination would be dependent on the likely cause of the incident, frequency of incident occurrences, the species that suffered injury or mortality, the likely effectiveness of proposed remedial actions, and agency input and guidance.

Given the proposed period of construction and applicable Limited Operation Periods, construction activities would be allowed to continue while a determination of remedial measures to be applied by PPC was underway.

7.2.4 Reporting

Bird Incident Report Forms, if any, would be collected by PPC's Environmental Specialist and reported via email to the BLM wildlife biologist. On a weekly basis hard copy forms would be submitted to the BLM wildlife biologist.

Although this form would be for submittal to the BLM, copies would be maintained by PPC's Environmental Specialist should regulatory agencies request the data. PPC's Environmental Specialist would also complete the USFWS's online "Bird Fatality/Injury Report", an online database of voluntarily submitted incidents of bird mortalities and injuries. The intent of the database is to gain information that can be used to prevent future bird injury or mortality. Mortality of a golden eagle or prairie falcon would be immediately reported to the BLM.

7.2.5 Disposal Procedures for Injured, Deceased, and Nesting Birds

The USFWS issues permits to take, possess, or transport bald and golden eagles under the BGEPA. Considering that mortality of a golden eagle is unlikely to result from construction and operation of the EPP, a take permit under the BGEPA is not warranted at this time. Under the MBTA, it is unlawful to collect, salvage, or otherwise have in possession any raptor or raptor part, including feathers, without a state and federal permit

PPC construction and operational inspection personnel are strictly prohibited from handling or transporting an injured migratory bird or disposing of a migratory bird carcass. As a result, in the unlikely event that such injury or mortality is observed, PPC's qualified field biologist or Environmental Specialist would contact the BLM or NDOW immediately to report the incident and arrange for retrieval and receipt of the injured bird or carcass. In the unlikely event that eagle mortality occurs, PPC's Environmental Specialist would meet with the agencies subsequent to agency retrieval of the carcass to determine if further remedial measures should be implemented.

8.0 MONITORING GOLDEN EAGLE AND PRAIRIE FALCON NESTS

Monitoring the confirmed active golden eagle and prairie falcon nest (Figures 4 and 5) would most likely follow the survey methodology and protocols outlined in the USFWS Interim Golden Eagle Technical Guidance and Protocols (Pagel et al., 2010) for ground surveys or other methodology acceptable to USFWS, BLM, and/or NDOW. This survey protocol is intended to standardize procedures to monitor active nests within the potential direct and indirect impact areas of planned or ongoing projects where disturbance may cause take. Additionally, the protocols intend to minimize potential observer related disturbance to active nests by requiring that surveys are conducted by qualified biologists.

When EPP construction activities enter the nest monitoring zones depicted on Figure 5, PPC's qualified biologist would confirm nesting activity for each of the two nests. If confirmed active, the qualified biologist would start nesting behavior monitoring and continue monitoring until the qualified biologists determines that EPP construction activities are not resulting in abnormal nesting behavior, construction is completed within that monitoring zone, the raptor fledges young or the nest becomes inactive. If abnormal nesting behavior is documented, the qualified biologist would determine the severity of the abnormal behavior and consult with the BLM

wildlife biologist to determine the appropriate course of adaptive management to be applied to construction activities. The goal of the nest behavior monitoring is to assess if potential construction-related impacts (noise or human presence) may disrupt the nesting success of the subject raptor. For EPP construction occurring outside the nesting season, and outside of the two raptor monitoring zones (Figure 5, Appendix 3), nest behavior monitoring is not required.

Goals and Objectives of Monitoring:

- Record and report occupancy and productivity of the nests;
- Document nesting chronology;
- Evaluate whether and which EPP construction activities or other conditions may be affecting nesting behavior; and
- Evaluate if the nesting territory within the study area becomes abandoned.

The two nests that have been identified by the BLM biologist for monitoring are the golden eagle nest near the north portion of the EPP alignment and the prairie falcon nest on Schroeder Mountain (Figure 4). Observation points would be established to offer an unobstructed view of the nest locations and surrounding habitat without influencing nesting behavior. The use of cameras would be considered. All birds that are observed during each monitoring period would be documented, especially those of other raptor species, particularly if courtship, territorial, or similar behavior is noted.

Monitoring of raptor nesting behavior would be reported daily to the BLM during the monitoring period for each of the designated nests. In addition to submittal of daily monitoring reports, within 30 days following completion of EPP construction site stabilization and seeding activities a final report would be compiled and submitted to the BLM wildlife biologist for further distribution. The report would detail methodology, dates and times of active nest monitoring, species encountered, other raptor behavior observed, observed use of or behavior around EPP construction activities, nesting behavior (courtship, nest building, incubating, feeding, etc.), and any observed nestling and/or fledgling.

In the event that abnormal nesting behavior is detected during PPC's monitoring of the two designated nest sites, the BLM and PPC's wildlife biologists and PPC's Environmental Specialist would coordinate to determine the potential causal source of the abnormal behavior, and if and what adaptive management measures should be implemented.

In the event that new raptor or migratory bird nesting site is observed through monitoring or incidental observations within or in proximity to the study area, PPC personnel would note the circumstances and conditions associated with the nest site. The noted information would be used by the BLM wildlife biologist and PPC's Environmental Specialist to determine if the nest and its location would potentially be subject to risk of injury or mortality to the nesting birds, and if the nest should be added to the monitoring program.

9.0 ADAPTIVE MANAGEMENT

If adaptive management measures become necessary as set forth above, the BLM, USFWS and PPC would have the opportunity to contribute to developing site-specific adaptive management measures, should they be warranted.

Over the course of construction and operational inspections of the EPP, PPC's Environmental Specialist would review daily nest behavior monitoring data and incident reports, as appropriate. This information would be used to prioritize, in collaboration with the agencies, applicability of adaptive management actions as well as scheduling and methods for annual operational inspections. PPC understands that ensuring the protection of sensitive bird species would be a dynamic process that may require changes to construction and inspection methods to avoid impacts to raptors and migratory birds. Close coordination with the agencies would be important in managing and adapting this plan to future conditions.

10.0 LITERATURE CITED

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FIGURES

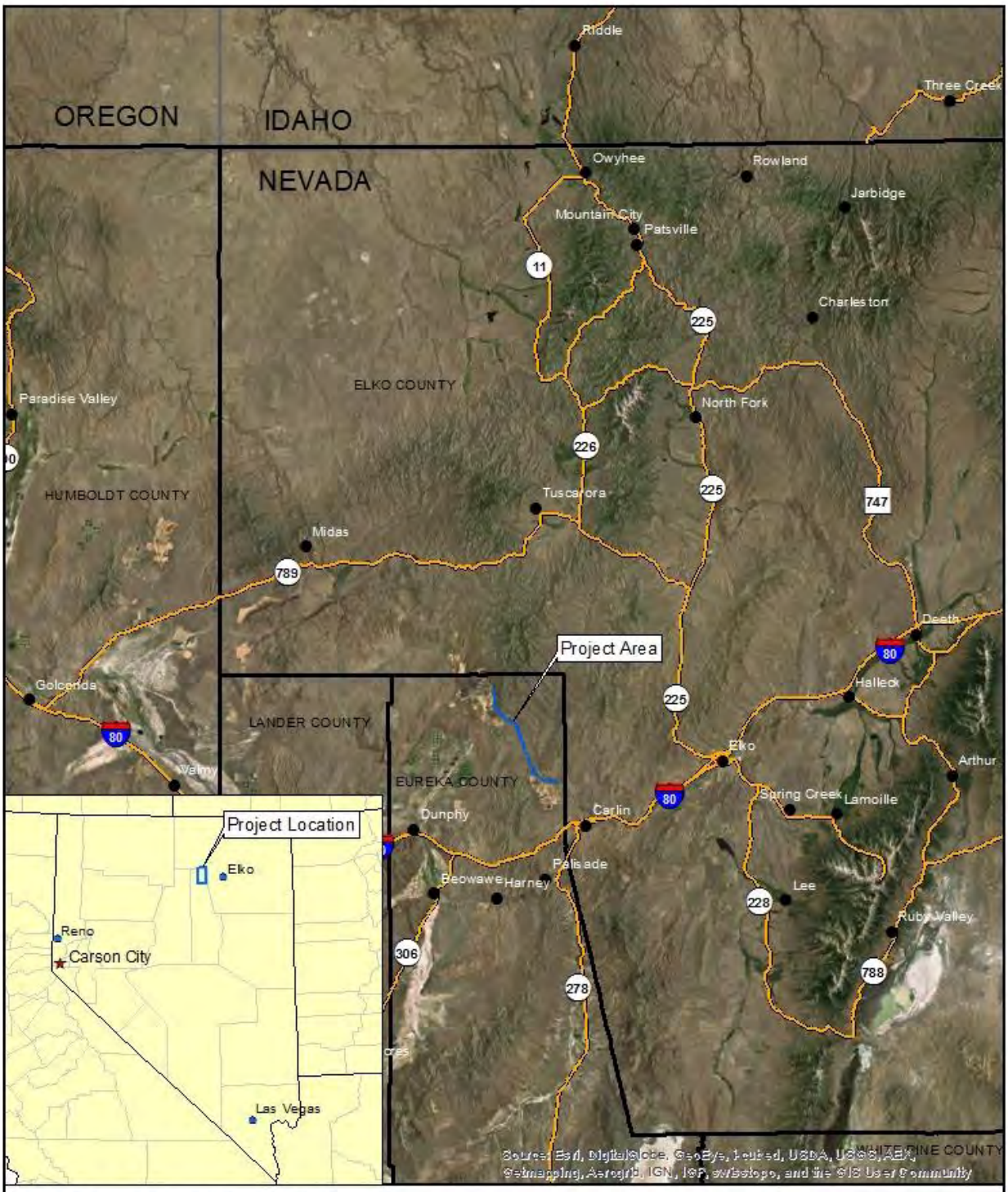

FIGURE 1: PROJECT LOCATION
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 5 10
MILES

NOTES:
BACKGROUND: ESRI
COUNTIES/ROADS: ESRI

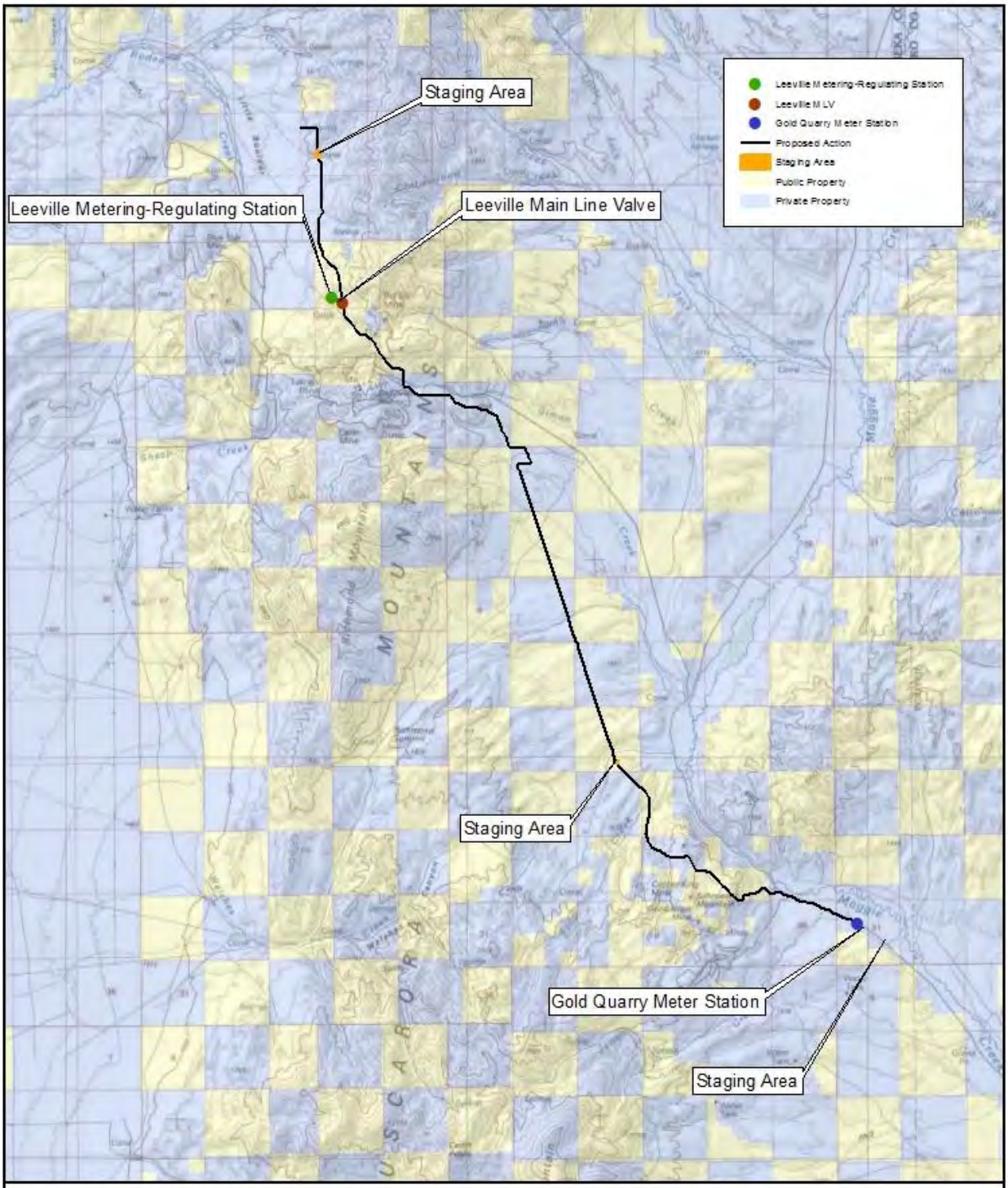

FIGURE 2: PROPOSED ACTION
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 1 2
MILES

NOTES:
OWNERSHIP: BLM
BACKGROUND:
COPYRIGHT: © 2013
NATIONAL GEOGRAPHIC
SOCIETY

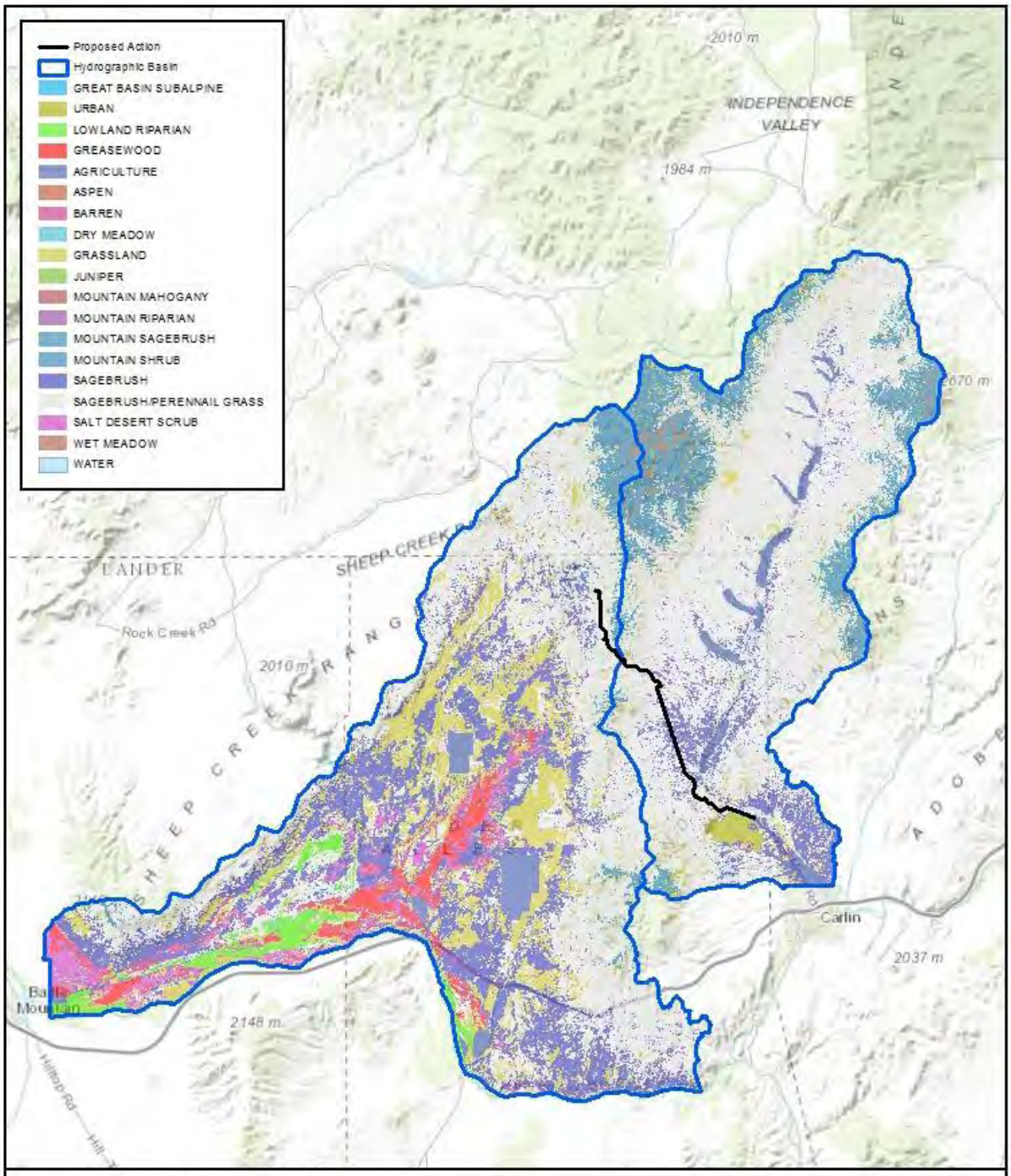

FIGURE 3: VEGETATION COMMUNITIES
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 3.5 7
MILES

BACKGROUND SOURCES: ESRI, DELORME, NAVTEQ, TOMTOM, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), SWISSTOPO, AND THE GIS USER COMMUNITY
VEGETATION: USGS (NV GAP 1991)
HYDROGRAPHIC BAISNS: NDR

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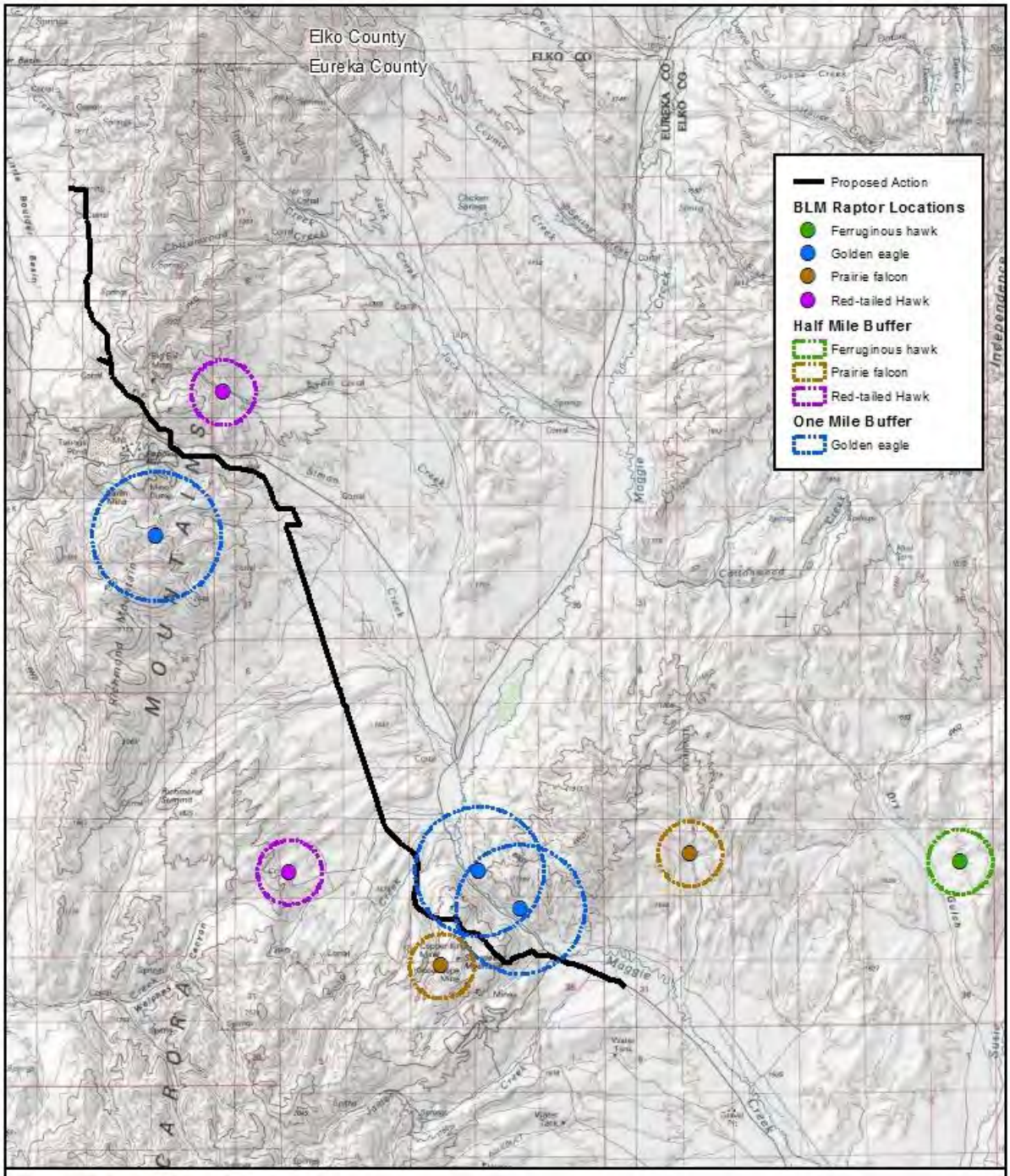

FIGURE 4: CONFIRMED ACTIVE MIGRATORY BIRD HABITAT AND RAPTOR NEST SITES
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

0 1 2
MILES

NOTES
BACKGROUND: COPYRIGHT© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED
RAPTOR LOCATIONS: BLM

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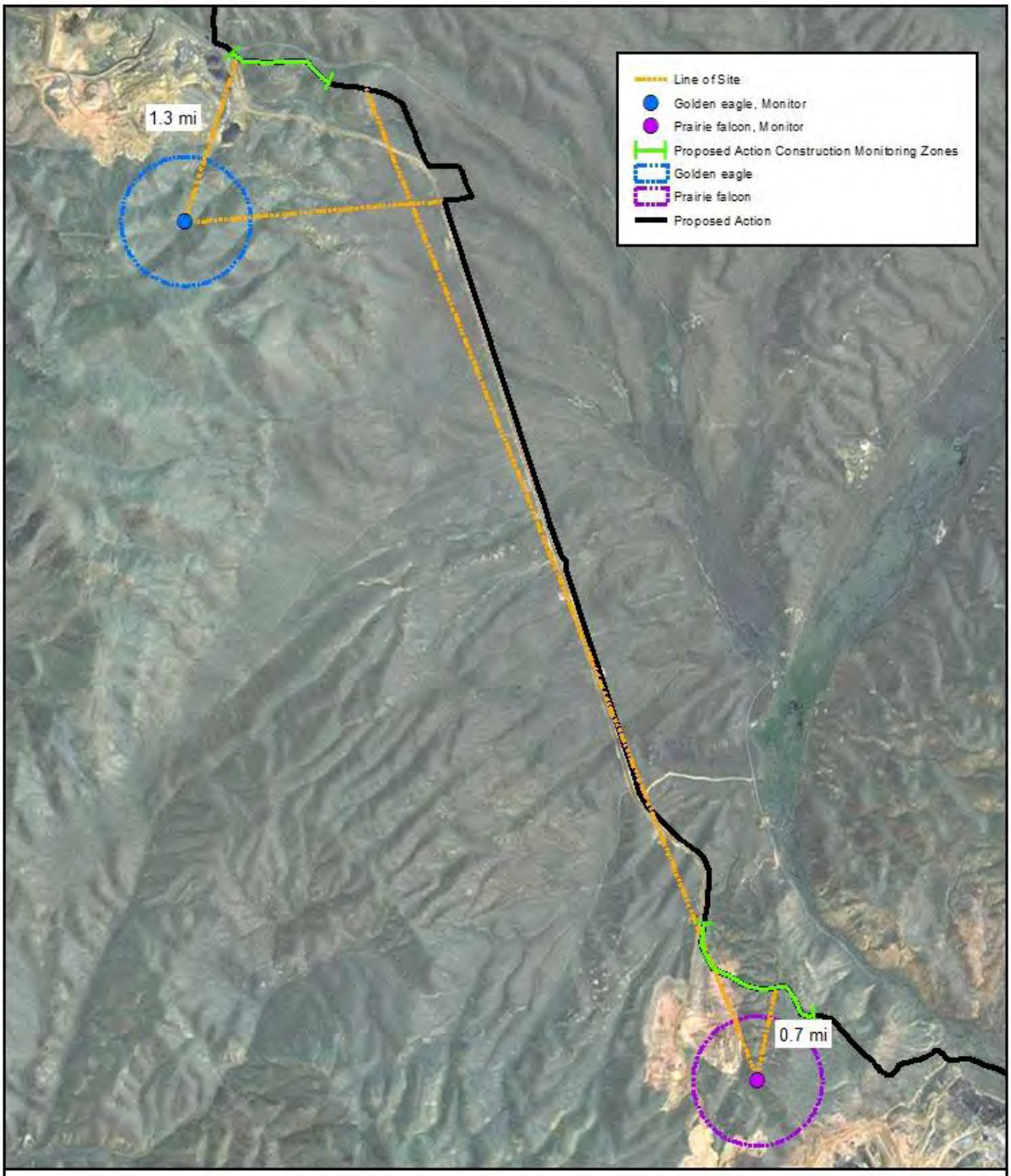

FIGURE 5: RAPTOR NEST LINE OF SITE ANALYSIS AND MONITORING EXTENT
EUREKA PIPELINE PROJECT
ENVIRONMENTAL ASSESSMENT
JANUARY, 2014

NORTH

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MILES

NOTES
BACKGROUND: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER

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APPENDIX A

NDOW Bird Incident Report Form

NEVADA DEPARTMENT OF WILDLIFE ➖ HABITAT BUREAU

Industrial Artificial Pond Permit · Quarterly Wildlife Mortality Report Form

Project Title: _____ Permit #: _____

Address: _____ County: _____

City: _____ State: _____ Zip: _____

Mine ID # _____ Report Year: _____ Quarter: Jan - Mar ☐ Apr - Jun ☐ Jul - Sep ☐ Oct - Dec ☐

Wildlife Mortality Identification

(I) Raptors	**(III) Upland Game**	**(V) Shorebirds**
(II) Songbirds	**(IV) Waterfowl**	**(VI) Mammals**

Please list number and species under each category (DO NOT leave blank)

Example:

RAPTOR (I) 0
SONGBIRD (II) ..... 1 sparrow, 2 wren
UPLAND GAME (III) ..... 1 quail
WATERFOWL (IV) ..... 3 mallard, 1 bufflehead, 4 gadwall
SHOREBIRD (V) 0
MAMMAL (VI) ..... 4 mice, 2 skunk, 1 ground squirrel
OTHER ..... 2 lizards, 1 rattlesnake

Mortalities Associated with Permitted Pond Solutions or Structures

Number and Species Identification ***(DO NOT leave blank)***

RAPTOR (I) ..... _____
SONGBIRD (II) ..... _____
UPLAND GAME (III) ..... _____
WATERFOWL (IV) ..... _____
SHOREBIRD (V) ..... _____
MAMMAL (VI) ..... _____
OTHER ..... _____

(Report Mortalities NOT Associated with Permitted Pond Solutions or Structures on Back of Form)

REPORTER: _____ DATE: _____

ADDRESS: _____ CITY: _____

STATE: _____ ZIP: _____ PHONE: _____ E-MAIL: _____

Mortalities Not Associated with Permitted Pond Solutions or Structures

Number And Species Identification ***(DO NOT leave blank)***

RAPTOR (I) ..... _____

SONGBIRD (II) ..... _____

UPLAND GAME (III) ..... _____

WATERFOWL (IV) ..... _____

SHOREBIRD (V) ..... _____

MAMMAL (VI) ..... _____

OTHER ..... _____

(Report Mortalities Associated with Permitted Pond Solutions or Structures on Front of Form)

Remarks:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please comment on any circumstances which you feel may be important, particularly when you feel one or more mortalities may have occurred under unusual conditions.

Please send form to the appropriate regional office listed below:

WESTERN REGION
NEVADA DEPARTMENT OF WILDLIFE
WESTERN REGION MINING BIOLOGIST
815 E. FOURTH STREET, WINNEMUCCA, NV 89445
TELEPHONE: (775) 623-6505
COUNTIES: CARSON CITY, CHURCHILL, DOUGLAS, HUMBOLDT, LYON, MINERAL, PERSHING, STOREY, WASHOE

SOUTHERN REGION
NEVADA DEPARTMENT OF WILDLIFE
SOUTHERN REGION MINING BIOLOGIST
4747 VEGAS DRIVE; LAS VEGAS NV 89108
TELEPHONE: (702) 486-5127 EXT. 3612
COUNTIES: CLARK, ESMERALDA, LINCOLN, NYE

EASTERN REGION
NEVADA DEPARTMENT OF WILDLIFE
EASTERN REGION MINING BIOLOGIST
60 YOUTH CENTER ROAD; ELKO, NV 89801
TELEPHONE: (775) 777-2368
COUNTIES: ELKO, EUREKA, LANDER, WHITE PINE