BLM

Stillwater Field Office, Nevada

ENVIRONMENTAL ASSESSMENT

Nevada Royal Jasper Quarry Project

DOI-BLM-NV-C010-2013-0038-EA

NVN 091966

U.S. Department of the Interior
Bureau of Land Management
Carson City District
Stillwater Field Office
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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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List of Acronyms

AIRFA	American Indian Religious Freedom Act
AMSL	Above Mean Sea Level
ANFO	Ammonium Nitrate – Fuel Oil Mixture
APHIS	Animal and Plant Health Inspection Service
ARPA	Archaeological Resources Protection Act
BCC	Birds of Conservation Concern
BLM	Bureau of Land Management
BMP	Best Management Practices
CCDO	Carson City District Office
CESA	Cumulative Effects Study Area
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CRMP	Carson City Field Office Consolidated Resource Management Plan
CWA	Clean Water Act
CY	Cubic Yards
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FLPMA	Federal Land Policy and Management Act
GHG	Greenhouse Gas
gpm	gallons per minute
ID	Inter-Disciplinary Team of BLM specialist
kW	Kilowatt
Ma	Million years
MDBM	Mount Diablo Baseline and Meridian
MSHA	Mining Safety and Health Administration
NAGPRA	Native American Graves Protection and Repatriation Act
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMC	Nevada Mining Claim
NMFS	National Marine Fisheries Service
NNHP	Nevada National Heritage Program
NRHP	National Register of Historic Places
NV	Nevada
OHV	Off-highway Vehicle
PLS	Pure Live Seed
PUP	Pesticide Use Proposal
QA/QC	Quality Assurance/Quality Control
RFFA	Reasonably Foreseeable Future Actions
RMP	Resource Management Plan
ROD	Record of Decision
R/W	Rights of Way

SFO	Stillwater Field Office
SHPO	State Historic Preservation Office
SiO_2	Secondary Silica
Tss	Tertiary Sandstone unit
Tu	Tertiary sedimentary unit
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VRI	Visual Resources Inventory
VRM	Visual Resource Management
WFRHBA	Wild Free-Roaming Horse and Burro Act

1.0 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

Neva-Rite, LLC is proposing to explore, develop, process and reclaim a quarry pit operation (Project) on public lands administered by the Bureau of Land Management (BLM), Carson City District Office (CCDO), Stillwater Field Office (SFO) in Churchill County, Nevada. The project is located approximately 15 miles east of Fallon, Nevada in Section 24, Township 18 North, Range 30 East (T18N, R30E), Mount Diablo Baseline & Meridian (MDBM), Churchill County, Nevada (refer to Appendix, A, Map 1).

This Environmental Assessment (EA) is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action and No Action Alternative. Preparation of this EA will assist the BLM SFO during project planning and ensures compliance with the National Environmental Policy Act (NEPA). Preparation of an EA enables the authorizing officer to determine if significant impacts could result from implementing the Proposed Action or No Action Alternative.

Should the determination be made that implementation of the Proposed Action would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the Resource Management Plan/Environmental Impact Statement (RMP/EIS) and Management Framework Plans", a Finding of No Significant Impact will be prepared to document that determination, and a Decision Record (DR) will be issued providing the rationale for approving the selected alternative. If impacts are deemed significant, an EIS would be prepared with a subsequent Record of Decision (ROD) providing rationale for approving the selected alternative from the document.

1.2 Background

The proposed Project area of approximately 19.7 acres is contained within Section 24 in T18N, R30E, MDBM. The Project is located on one of the low hills of the Lahontan Mountains. To reach the project area, one would travel 10 miles along Highway 50 southeast of Fallon, Nevada then turn east near Grimes Point and travel approximately 4 miles east-northeast (refer to Appendix A, Map 1 Location Map, Primary Access). An alternate access would be to travel an additional 1.5 miles along Hwy 50 and turn east at Etza Mountain and travel approximately 3.5 miles to the project area (refer to Appendix A, Map 1 Location Map, Alternate Access 1). A 2nd alternative access would be to travel and additional 1.5 miles further along highway 50 and turn east at Salt Wells and travel approximately 4 miles north (refer to Appendix A, Map 1 Location Map, Alternate Access 2). Elevations within the Project range from approximately 4290 feet to 4475 feet above mean sea level (AMSL).

The existing mining claims in the project area are as followed:

Claimants Name: Neva-Rite, LLC
Claim Owner: Neva-Rite, LLC
Claim Types: Unpatented lode mining claims.

Claim Names and Serial Numbers:

Claim	Nevada Mining Claim (NMC) No.
Neva-Rite#3	817425
Neva-Rite#4	814573
Neva-Rite#5	814574
Neva-Rite#6	814575
Neva-Rite#7	814576
Neva-Rite#8	814577
Neva-Rite#9	817426
Neva-Rite#10	817427
Neva-Rite#11	946957
Neva-Rite#12	946958
Neva-Rite#13	987959
Neva-Rite#14	987960
Neva-Rite#15	987961
Neva-Rite#16	987962

The following claims are where disturbance is proposed:

Claim	NMC No.
Neva-Rite#3	817425
Neva-Rite#5	814574
Neva-Rite#6	814575
Neva-Rite#7	814576
Neva-Rite#8	814577
Neva-Rite#9	817426
Neva-Rite#14	987960
Neva-Rite#15	987961

There have been 3 previous notices for exploration filed in the project area, case files: NVN 069675, NVN 076703 and NVN 086242. The most recent exploration occurred under NVN 076703 by Neva-Rite, LLC. Under this exploration, Neva-Rite, LLC received authorization to conduct some test quarrying of mineral materials along the western side of the deposit. This resulted in a disturbance of approximately 3.0 acres. The exploration included core drilling and removal of less than 1,000 tons of material. This notice has expired. Notice NVN 08642 was rejected/ denied and the case was closed. One plan of operation NVN 085231 had been filed and is currently pending.

One mineral material sale, NVN 079108, was proposed in the area. This proposed sale was not fully processed and was closed with no action. The Proposed Action is a Negotiated Mineral Sale, case file NVN 091966, and is pending the completion of this NEPA document and subsequent decision.

Existing disturbances in the project area include small, scattered prospect pits and dozer trenches which may have been completed by previous claimholders and unknown prospectors.

1.3 Purpose and Need

The purpose of the Proposed Action is to explore, develop, process and reclaim a quarry pit.

The need for the action is established by the BLM's responsibility to respond to the Plan submitted by Neva-Rite, LLC pursuant to Section 102 and 302 of the Federal Land Policy and Management Act of 1976 (FLPMA), and BLM's authority to dispose of sand, gravel and other mineral and vegetative materials under the Mineral Materials Disposal regulations at 43 Code of Federal Regulations (CFR) 3600 pursuant to the Materials Act of July 31, 1947, as amended, (30 United States Code [U.S.C.] 601, *et. seq*.) (Materials Act).

1.4 Land Use Plan Conformance Statement

The Proposed Action is in conformance with the Carson City Field Office Consolidated Resource Management Plan (CRMP) (2001) page MIN-1, RMP Level Decisions, Desired Outcomes 1. "Encourage development of energy and mineral resources in a timely manner to meet national, regional and local needs consistent with the objectives for other public land uses.

Section 10-MIN-5: **Administrative Actions**, "1. Continue to provide mineral material commodities to the using public, following these general criteria:

A. Avoid duplication of pits within the same general area.
B. Examine hauling distances and place sites according to acceptable Visual Resource Management (VRM) classification where possible.
C. Use existing sites to the greatest extent possible.
D. For major transportation Rights of Way(R/W), place sites a minimum of 10 miles apart.
E. Determine life expectancy of sites and set rehabilitation requirements in advance."

1.5 Relationships to Statutes, Regulations, Other Plans and Environmental Analysis Documents

The Proposed Action is consistent with Federal laws and regulations, plans, programs and policies of affiliated tribes, other Federal agencies, State and local governments including the following documents:

- Material Act of July 31, 1947 (30 U.S.C. 601 et seq), as amended
- The NEPA of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)
- FLPMA of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)
- Title 43 of the CFR Subpart 3600 – Mineral Material Disposal
- Noxious Weed Act of 1974

- The Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984, and 1988)
- Migratory Bird Act – Executive Order (EO). 13806
- Native American Graves Protection and Repatriation Act, 1990 (NAGPRA)
- American Indian Religious Freedom Act of 1979 (AIRFA)
- National Historic Preservation Act (Public Law 89-665; 16 U.S.C. 470 as amended through 2000) (NHPA)
- Archaeological Resources Protection Act of 1979, As Amended (Public Law 96-95; 16 U.S.C. 470aa-mm) (ARPA)
- Wild Free-Roaming Horse and Burro Act (WFRHBA as amended) of 1971
- Clean Water Act of 1972 (CWA)

1.6 Decision to Be Made

Upon completion of this analysis, BLM will determine whether to authorize, or not authorize, a Negotiated Mineral Material sale to Neva-Rite, LLC within T. 18 N., R. 30 E., Section 24, MDBM of Churchill County, Nevada and if so, what stipulations will be applied to the sale contract.

2.0 THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

Neva-Rite, LLC proposes to mine up to 200,000 cubic yards (CY) of material under one five year sale contract with plans for 5 possible future consecutive sale contracts within a 19.7 acre project area. Map 2 and maps 4 through 8, located in Appendix A, shows phase site topography which reflects the proposed successive sale contracts. Development of the quarry pit would occur in a phased manner. Cumulative extraction of the maximum 200,000 CY per sale contract would results in approximately 1,000,000 CY of material removed within the 19.7 acre area. Neva-Rite, LLC would develop the quarry pit, process the materials on site, and haul the processed materials off-site.

Table 1 below shows the proposed breakdown of material to be removed per contract.

The pit would be located along the south side of "Wonderstone Mountain" with the northern side of the hill being left undisturbed as a visual barrier to Eagles House and the Stillwater Wildlife Refuge to the north and west (refer to Appendix A, Map 10). The pit would be mined to a maximum depth of 150 feet (maximum rim elevation of approximately 4470 feet AMSL to the maximum pit bottom elevation of 4320 feet AMSL). The reclaimed pit would feature a slope that is similar in degree to existing slopes and would allow gravity drainage off the mountain. The maximum bench height during mining activities in the pit would be 20 feet. This would allow it to be scaled using a track-mounted excavator during operations. The average bench width constructed would be 15 feet to allow for blasthole drill rig and backfill machinery access. This would allow the highwall to be reduced during reclamation activities.

Table 1: Anticipated material removal breakdown per Negotiated Contract:

Component	Size	Application	Qty. (cy)
Small aggregate	6" (-)	Landscaping / decorative rocks	150,000
Boulder	6" – 48" Dia.	stone / landscaping / specialties	40,000
Block	48" (+)	stone / landscaping / specialties	10,000

Additional disturbance associated with the Project would include a bulk waste storage area that would allow Neva-Rite to selectively remove desired material specimens. Most of the waste rock would be placed within the staging/yard area (refer to Appendix A, Map 2). The operator proposes the primary existing access road from Highway 50 may be upgraded as required to provide safe, all-weather access to the Project for the operator and the public. However, the operator has proposed two other alternative access routes which are discussed in Section 2.1.3.

Pre-development exploration may also be necessary within the proposed pit disturbance areas. The exploration work may be undertaken by the applicant to ascertain qualities of the material to be removed and that of the surrounding materials. This exploration may include drilling to depths within the limits of the proposed plan of operations to ascertain the local characteristics of the material proposed to be removed. The purpose of the exploration would be utilized to assist the applicant in understanding the deposit within the proposed disturbance area. This would allow material to be removed in a safe and beneficial manner.

Table 2 outlines the total acreage of existing and proposed disturbance, by type, for the Project. A total of 19.7 acres of disturbance is estimated for the proposed Project and would be phased for each Negotiated Contract.

Table 2: Acreage of Existing and Proposed Project Disturbance by Component:

Component	Total Disturbance* (acres)
Open pit area	12.16
Waste rock dump, stockpile, rock handling, staging, yard area	5.83
Rock collection area	0.23
Ancillary Disturbance Area	1.40
Total Disturbance in Project Area	19.62

*All disturbances would occur on public lands managed by the BLM Carson City District.

Proposed mining operations would occur on a daily shift, four or five days per week. Mining would occur continuously until the target quantity of material has been acquired. The number of employees for the mine would range from one during short-term suspensions up to six during operation. This does not include operators for trucking contractors which would also be employed to haul the materials off site.

Mining would be done by conventional methods utilizing drill/blast, loading with loaders and/or large track-mounted backhoe(s) and hauling with articulated trucks. The trucks would place the rock onto flat areas adjacent to the pit where it can be sorted by size and quality. The sorting would be done by visual/mechanical means, grizzly and/or a portable crushing machine, and/or screening plant. The marketable product would be placed on pallets or loaded into containers and placed onto contract hauler flatbed trucks for shipment offsite to target markets. Material quantities would be measured and reported to the BLM SFO on a monthly basis to ensure compliance with the Contract. It is anticipated that approximately thirty truckloads per day would be hauled from the Project at full production. The most efficient trucking methods would be employed, based upon the shape and nature of product leaving the site.

The marketable rock material, commonly referred to as “Nevada Wonderstone” or “Nevada Royal Jasper”, would be mechanically sorted or screened once it has been mined from the open pit. The operator anticipates that 70% of the mined material would be marketable, and the remaining material would be waste. Waste material would be placed in the staging/yard area in berms during project development. This waste material would be used for graveling road surfaces and as backfill material during reclamation along the pit throughout the phased pit development.

All mining related infrastructure would be maintained within the disturbance area, including rest rooms, job trailers, stockpiles, and temporary machinery storage. Temporary infrastructure locations and use areas are subject to the available amount of topsoil for berm construction and therefore are not shown on Map 2 in Appendix A, the project site plan.

The mine office would consist of one or more single or double wide trailers sited on gravel. Cellular telecommunications would be used at the office and is available over much of the operations site. Drinking water would be delivered by a commercial purveyor or purchased from local sources in Fallon.

Dust control on site would be performed by water trucks or water trailers. Dust would be controlled on access roads by water truck or trailer, and/or by use of magnesium chloride or other appropriate binding agent. It is anticipated that the amount of water needed during periods of operation would be 25- to 35-gallons per minute (gpm). The storage tank and/or facilities would be plumbed to the well, while dust control would be completed by a 3,000 to 10,000 gallon capacity water truck or trailer making four to six trips per day. Fire hoses with nozzles may be used for dust control in the pit area, particularly in the areas of excavation. Water would be obtained from onsite water well(s) with submersible pumps under Permit #77348 issued by the Nevada State Engineer for the use of groundwater for this operation. Dust control activities would generally be performed only during the operating hours of the quarry. The point of diversion of the well location is shown on Map 2 in Appendix A, and according to the permit, can be drilled within a 300-foot radius of this location. The application map can be found on Map 3 in Appendix A. The well was sited based on the proximity to bedrock and interpretation of favorable structures that would enhance the success of the water well. Should the new well fail to produce sufficient quantities of water, additional water quantities may be purchased from nearby sources (such as local ranches) consistent with Nevada State water laws and regulations.

Growth medium is limited in the area of proposed disturbance. Available near-surface growth medium in the Project area would be selectively stripped with a dozer or scraper and stored along the perimeter of the disturbed areas to create a public exclusion berm for the perimeter to the Project area. The material would be stabilized during the period of active operation by seeding with the mix recommended by the BLM (see Table 3). Enhanced sediment control may be needed for the stockpiled growth medium and may include silt fencing and/or straw matting. The stockpiled growth medium would be utilized as needed for reclamation, and would be supplemented with fines from the screening plant and excavated clayey material within the proposed disturbed area.

2.1.1. Equipment

The following equipment is anticipated to be used for the Project:

- One or two large track-mounted backhoe excavators, up to 80,000-pound class;
- One dozer, D-8 or D-9 class;
- Two or three blast hole drill rigs and/or air track drills with compressors;
- One core and or rotary drill for evaluating resources ahead of mining;
- Two rubber-tired loaders, with interchangeable tool configuration so that they can be equipped with forks for moving larger stones;
- Two articulated trucks, 35 to 40 ton class;
- Contract hauler trucks for removing salable product from the site (up to 30 loads per day);
- One or two portable grizzlies, gravity or power, for separating boulders from finer material;
- Portable screening Plant or crushing/screening Plant;
- Tumbling Plants for finishing intermediate-sized product (up to 2-foot in size);

- One road grader, 140-class;
- One or two water trucks or trailers (3,000 to 10,000 gallon capacity);
- One or two "Bobcat" loaders with interchangeable tool adaptors;
- Up to three portable light towers;
- Up to three portable diesel-powered generators (up to 250 kilowatt (kW) class) for facility use, including product processing, pumping water and administrative/maintenance trailers and buildings ;
- One administrative single-wide trailers (office, security, change/clean room and lunch room);
- Two or three 40-foot enclosed truck trailers to be used for storage and maintenance shops;
- Small shop building for maintenance (approximately 40' X 60' with concrete floor);
- Water well and storage tank(s);
- Diesel and gasoline storage tanks, with proper containment. It is anticipated that one tank with a capacity of 3,000 to 5,000 gallons of diesel would be needed, and one for gasoline with a capacity of 300 to 500 gallons. All tanks would be constructed with double walls, and with containment structures that would contain 110% of the capacity of the largest tank, plus a 10-year, 24-hour storm event;
- Blasting truck(s);
- Service and lube truck;
- Three to four pickups and vans for crew and management;
- Two or three porta-potties to be serviced by a Fallon vendor;
- Trash bins that would be serviced by a Fallon vendor; and
- Miscellaneous small equipment and tools.

2.1.2. Access and Road Construction

The proposed Project would not require any additional access road construction because the site is served by roads suitable for this quarry. Pit and storage areas have been designed to stay near these existing roads in order to minimize road closures. Some lengths of the access roads would require upgrading and graveling to allow all-season usage, and to reduce dust from traffic.

The proponent proposes to use an existing access road which is labeled as Primary Access (Appendix A, Map 9). This Primary access to the Lahontan and Rainbow Mountains near the project site is located on Highway 50 at the Grimes Point Archaeological Area junction approximately 12 miles east of Fallon in Township 18N, Range 30E, and Section 29. The east-west road often referred to as Grimes Point Road by the locals, is an improved and maintained road that runs parallel to the Grimes Point Archaeological Area and provides access to the Grimes Point National Recreation Trail, the Hidden Cave Interpretive Trail and cave, the Grimes Point rest area, popular dispersed shooting and OHV riding areas east of Grimes Point for the general public, and an existing authorized community pit. Road length from Highway 50 junction to the spur road for the project site is 4.3 miles. The first 2 miles of the Primary access

road is 20 to 25 feet wide and is well graveled and only would require routine maintenance. The next 2.3 miles is approximately 20 to 25 feet wide but needs to be bladed and graveled to improve the access for trucking. The spur road is approximately 12 feet wide and would also need to be bladed and graveled. The proponent believes that widening of these roads is not required for access to the site. This road material is anticipated to be sourced primarily from crushed and/or screened waste material from the quarry or, as a secondary source, gravel purchased from the nearby BLM community pit. An estimated maximum 200 CYs of road material might be needed for the cut-off road. An estimated 500 CYs might be needed for the main access road.

Two additional roads provide access to the project site. The first road labeled as Alternate Access 1 (Appendix A, Map 9, Alternate Access 1), is a partially graded north-south running road east of Eetza Mountain in Township 18N, Range 30E, Section 34 that is utilized primarily by the Churchill County Road Department as a haul road to access the community pit No. NVN-062243. This road is 3.6 miles in length from Highway 50 junction to the spur road that accesses the project site. The first half mile of graveled road from the junction of Highway 50 to the community pit is well maintained by the county for use as a material haul road for gravel transport trucks. The 1.2 mile section of road from the community pit to Grimes Point road is a previously graded section that runs through an old gravel pit that is no longer maintained and has degraded to the level of requiring a high clearance vehicle to use. This area is highly disturbed from past gravel extraction activities and is occasionally used by ATV riders and target shooters as a recreational area. The 1.2 mile section of road would require improvements including widening and gravel surfacing in order to be used as a haul road for the project.

The third access road, Alternate Access 2 (Appendix A, Map 9, Alternate Access 2), is located on the north side of Highway 50 in Township 18N, Range 30E, Section 35, across from Salt Wells Road. This road was originally graded but is a seldom maintained, mostly natural surface road that provides access to Lattin Well and Salt Wells Mountain. This road is used primarily by recreational users and grazing permittees. Approximately 2 miles of the access running north to south is a 2 track at best and some areas require 4 wheel drive to traverse. The road runs through and in some sections alongside an authorized 43CFR 3809 clay mine. This north-south running road is approximately 4.5 miles from the junction of Highway 50 and the spur road to the project site. This road would require major improvements including widening and gravel surfacing in order to be suitable for use as a haul road for the project.

Temporary mine-related roads in the project area would be necessary for pit and site development. These roads would allow access for machinery and personnel within the proposed areas of disturbance. Mine roads are anticipated each to have total width of 15 feet of disturbance. The applicant would locate, construct the roads with waste material, and remove these intra-site roads as the site is developed and the roads are no longer needed.

2.1.3. Mining and Sorting Operations

2.1.3.1. Drilling and Blasting

The excavation of the open pit would require drilling and blasting throughout its development. Mining of this mineral material requires specialized drilling and blasting techniques to preserve the integrity of the product. Pre-splitting and the use of specialized expansion materials would be utilized in areas of selected rock.

Most of the blasts would be small in order to develop dimensional stone, and would likely occur 3 to 4 times per week. Larger blasts would be conducted on an average of once every two weeks, although development in areas of substandard rock may necessitate blasting up to once or twice per week. These blasts would range in size from 1,000 to 5,000 tons, and would require a powder factor ranging from 0.30 pounds per ton to 1.0 pound per ton, the actual quantities being a function of testing various amounts. Blasting agents would consist of ammonium nitrate – fuel oil mixture (ANFO) detonated by small boosters or dynamite. Non-electric or electric caps and timers would be utilized. Pre-splitting along the highwall may be utilized to preserve the integrity of the catch benches and minimize fracturing.

Production drilling equipment would consist of an air track with accompanying compressor, a self-contained drill rig and a smaller drill for development of dimensional stone. The pit would be developed on ten-to-twenty foot mine benches. Pit wall safety catch benches would be constructed with heights of twenty feet, and width of 10 to 15 feet. Production drill hole sizes would average 3 1/2 inch in diameter, and would be drilled to 12+ feet in depth with spacing of 8 to 10 feet. A minimum amount of bench-by-bench subdrill would be drilled and shot or split to minimize fracture damage to the underlying rock.

Storage of explosives would be off site in a secure facility and would be brought in as necessary for immediate use at the mine site. Western Blasting Technologies, located in Marysville, California and owned by the applicant, would be charged with the off-site storage, transportation, and on-site use of explosives. Western Blasting Technologies and its personnel are fully licensed and insured for storage, handling, and use of the types of explosive that may be used on site. The staging areas would be separated and bermed as required by regulations.

All blasting would be completed by trained, qualified and licensed personnel. Safety of the shots would be controlled by posting blocking guards at appropriate locations around the pit to protect the public and employees. Approved shot signals would be adhered to, and would be audible to anyone in the area. All shots would be conducted during daylight hours pursuant to Mine Safety and Health Administration (MSHA) regulations. If a shot must be maintained overnight, the blast area would be appropriately guarded. As necessary, the shot times would be communicated with the Fallon Naval Air Station to avoid low-level flights over the blast area during ignition.

2.1.3.2. Excavation Techniques and Selective Sorting

The open pit would be excavated by larger track-mounted backhoes and/or loaders. The operators would be responsible for selectively mining by rock quality and size to minimize sorting. The rock would be loaded into articulated trucks and hauled to the sorting area/screening/crushing Plant or to the low-grade/waste rock repository if the material is substandard.

Material would be sorted by size with the largest rocks being segregated by loader, forklift or track-mounted backhoe with a hydraulic thumb attachment. The large stone would be placed on pallets for loading with a forklift, or loaded separately onto trucks or into containers for shipment. The intermediate sized material would be graded over a stationary or vibratory grizzly, or by screening. Selected material would be placed on pallets for shipment. Smaller material may be stacked separately for use in landscaping or other specialized uses. Waste material may be returned to the pit area at any time during the project.

Substandard rock would be placed in the waste rock repository and eventually be utilized as pit backfill, as would most of the screen fines, or, if appropriate, some of this material would be stored separately for use during reclamation.

2.1.3.3. Waste Rock Characterization, Handling and Placement

Neva-Rite, LLC anticipates that the shallow open pit would be developed in silicified Miocene lake sediments that have no apparent sulfide mineralization. Oxidation in the area extends below the pit level, and, in part, accounts for the unique coloration of the jasper material. Due to this geologic and mine setting, acid rock drainage would not be a problem and no specialized waste rock handling would be necessary. According to the operator, groundwater in the area has proven to be much deeper than the proposed quarry pit for the proposed project shall extend. Additionally, the pit has been designed to be free draining.

2.1.4. Rock Collection Area for the Public

Neva-Rite, LLC recognizes that Wonderstone Mountain has been a popular rock collection area for “Nevada Wonderstone”. In an effort to continue this collection, a public collection area within the project boundary would be developed by the proponent to provide selected material for rock hounds to collect. The material would be maintained in a safe and stable condition, to the extent possible, and would be posted with signs requesting safety on the part of the public, as well as making note that they would collect at their own risk.

Some of the proposed signs are shown below:

NEVADA WONDERSTONE
PUBLIC ROCK COLLECTION STOCKPILE

A FEW SAFETY RULES:

1. Be SURE of your footing at all times.
2. Safety glasses recommended.
3. If using a hammer to break rock, be aware of your surroundings so as not to hit someone with flying chips.

PLEASE ENJOY YOUR ROCK COLLECTING EXPERIENCE AND BE SAFE!

Nevada Wonderstone is a unique stone that was formed by the silicification of Miocene lake sediments. Its unique coloring is due to variable iron content. Nevada Royal Jasper is mining this material for unique building products, which can be seen at:
www.nevadaroyaljasper.com

PLEASE ENJOY YOUR ROCK COLLECTING EXPERIENCE AND BE SAFE!

The safety of both people and property is paramount to the proponent. If necessary, during periods of blasting the public collection area would be closed. Additionally, the mine site may be evacuated and roads accessing the mine site may be temporarily blocked should site conditions warrant added levels of caution. Blasting times and dates would be prominently displayed at the site entrance and additional locations if it is found to be necessary for public and operator safety.

In addition to the maintained collection area, a public parking area would be constructed for trailer and recreational vehicle parking during the days the quarry is not in operation. The area currently hosts campers throughout the year. During periods of heavy use, the proponent may place a porta-potty in the area for the public. This porta-potty would be maintained and cleaned out by a local vendor. A trash bin, serviced by a Fallon vendor, would be placed in this area by the proponent for use by the public. Non-potable water may be placed by the proponent in the collection area for washing and sorting of specimens.

2.1.5. Water Management

The area receives an annual mean precipitation of 5.3 inches, with monthly distribution ranging from a mean low of 0.3 inches in July to a mean high of 0.71 inches in May. Surface runoff is unlikely to be a problem at the site. Any surface runoff would be managed using diversion ditches along the sides of roadways and security berms. Runoff in the administrative, processing and storage areas would be directed through constructed rills into the diversion ditches. Runoff from the ditches and the quarry would be directed into sediment control basins located down slope of the mouth of the Phase 1 pit. The pit would discharge any sediment load into a primary

settling basin, the ditches into another, and both would discharge outflow into a secondary basin to settle the fines. Outflow from the secondary basin, anticipated to be minimal, would discharge into the natural ephemeral drainage of the basin. The sediment control basins would be maintained and cleaned with an excavator or loader as needed. Oversized boulders of waste rock or low-grade ore would be placed in the pit's drainage channel as baffles to control the velocity of any fluids that might leave the pit. One or more silt fences would be established in the drainage down gradient of the settling ponds to further settle any flow and facilitate sediment removal.

According to the proponent, groundwater in the area has proven to be much deeper than the proposed quarry pit shall extend. Therefore, no subsurface water management Plan involving pit dewatering would be necessary for the proposed Project.

2.1.6. Quality Assurance

Neva-Rite, LLC would be responsible for ensuring that the site is constructed pursuant to this Plan and in compliance with all laws and regulations. Any engineered structures such as the sediment control impoundments and building(s) with foundations would utilize third-party designs and Quality Assurance/Quality Control (QA/QC) in compliance with local, State and Federal regulations.

2.1.7. Spill Contingency

The purpose of the Spill Contingency Plan is to identify all pollutant sources that may exist within the Nevada Royal Jasper Mineral Material Quarry Project. The plan identifies Best Management Practices (BMP) to prevent or reduce the quantity of potential pollutants discharged to the ground or surface water in order to minimize environmental impacts during and after the exploration project. The Spill Contingency Plan is located in Appendix B for further reference.

2.1.8. Public Safety and Access Restriction

The Project area is located in a high-use area by the public. The perimeter of the Project would be lined with boulders and appropriate signage, and exclusion berms would be constructed with growth medium, and/or boulders retrieved from the pit would be placed, around the high use facility areas and the pit. Two (2) foot (minimum) diameter boulders shall be placed at a minimum interval of five (5) feet on center to prevent vehicular traffic where boulders are used to fence the working areas. Boulders may be used as backfill or removed from the site once reclamation grading has taken place. Bypass roads would not be necessary due to the locations of the pit and yard and other access roads in the area.

Berms and/or boulders shall line the perimeter of work areas and staging areas in use. Security would be undertaken by Neva-Rite personnel with an emphasis on public safety. A watchperson would be present as needed to protect the public, mine, mined product and equipment. The watchperson would be present primarily during times when the operating staff is not present. He

would be housed in a self-contained recreational vehicle or trailer to be located inside the gate. Perimeter signs with close spacing may include the following information:

NEVADA WONDERSTONE
ACTIVE MINE SITE

HEAVY EQUIPMENT AND EXPLOSIVES WORKING ON SITE

STAY OUT

NEVA-RITE, LLC
(530) 741-0873

2.1.9. General Schedule Of Operations For Start Through Closure

The Plan of Operations anticipates successive five-year development periods and development of the site facilities would begin immediately upon receipt of a notice to proceed from the BLM. Suitable mineral material is available without significant pit development, and mining, sorting and shipping of material can start immediately upon approval of the Plan.

A schedule for the Project would be provided to the BLM when terms of the contract are finalized and approved, and before mining operations begin.

2.1.10. Quarry And Site Reclamation

2.1.10.1. Schedule of Reclamation

The Reclamation Plan would be dependent on whether subsequent sale contracts are entered into between the parties. At the end of a sale contract, reclamation would occur immediately unless a new contract is approved. Each sale contract would be for a total of 5 years. If no additional contracts are approved, reclamation could occur at the site as soon as the initial contract is completed. Concurrent reclamation of the pit is not expected.

2.1.10.2. Regrading, Reshaping and Other Reclamation

The following components are planned for the reclamation phase and to provide for public safety:

- The pit high wall safety benches in areas that have not been covered with backfill would be drilled and blasted to achieve a stable angle of repose and possibly re-graded. This will provide a margin of safety for the public. This technique will also be used along the pit rim.

- The waste rock pile would be replaced in the mined area.
- All facilities would be removed and any concrete foundations would be broken and buried. The water well would be plugged and abandoned according to State regulations. All piping, power lines and fencing installed for operations would be removed.
- Facilities, pit access roads and sorting area would be ripped with a dozer to break up the compacted surface. Supplemental growth medium would be added as needed.
- The sediment control structures would be left in place until the reclaimed site is stabilized, or as requested by the regulatory agencies. The embankments would be shaped to a safe and stable configuration.
- The public rock collection area would be left in a safe and stable condition.
- Seed areas shall have suitable growth medium.

2.1.10.3. Handling and Application of Growth Medium

Good-quality growth medium is limited in the area of proposed disturbance. Available near-surface growth medium would be selectively stripped with a dozer or scraper and stored along the perimeter of the disturbed areas to provide a visual berm for the Project area (Appendix A Map 2). The stockpiled growth medium would be utilized as needed for reclamation, and would be supplemented with fines from the screening plant and excavated clayey material within the proposed disturbed area.

2.1.10.4. Revegetation

Seeding would be scheduled for the fall of the year after regrading and seedbed preparation in order to take advantage of winter and spring precipitation, spring germination, and to minimize loss of seeds due to rodents and birds. Some seeding may be done after the first snows. All reclaimed areas would be broadcast seeded with a cyclone-bucket spreader, mechanical blower or hand-held broadcast seeder.

The final seed mix would be provided by the BLM and would be based on the dry, salty soil conditions and climatic setting. Table 3 provides a preliminary seed mix that may be appropriate for the Project setting; however, changes to the reclamation Plant list and/or application rate would be completed prior to final seeding in consultation with and approval by, the BLM.

Table 3: Preliminary Revegetation Seed Mixture

Species	PLS Lbs./Acre	Bulk Lbs./Acre	PLS/sq. ft.
Sandberg bluegrass	1.90	2.00	38
Fourwing saltbush	3.00	5.00	4
Shadscale	3.00	5.00	4
Indian ricegrass	1.00	1.25	4
Totals	8.90	13.25	50

PLS = Pure Live Seed

2.1.10.5. Isolation, Removal, and/or Control of Acid-Forming, Toxic or Deleterious Materials.

Upon completion of the Project, all petroleum products and other materials associated with the operation of the Project would be removed and, if not reused elsewhere, properly disposed of at offsite facilities. According to the proponent, the waste rock is not acid-generating, so no encapsulation of the materials in a specific engineered structure would be necessary for this proposed Project.

2.1.10.6. Post-Closure Management

Post-closure management would commence on the reclaimed area following completion of the reclamation work for the area. Post-closure management would extend until the reclamation of the site has been accepted by the BLM. For bonding purposes, a three-year post-closure management period is assumed following reclamation completion. Annual reports showing reclamation progress would be submitted to the BLM.

2.1.11. Monitoring

Monitoring of the site would be coincidental with operations and would consist of visual inspection of drainage, sediment control structures and dust control. Security of the site would be important in order to reduce public access to the pit and facilities, and the maintenance of the perimeter fence and berms would be an important aspect of this effort. Neva-Rite, LLC personnel, including any site security during off-shift times would regularly monitor the site for problems.

The proposed activities outlined in this Plan would be conducted upon BLM approval of the sale contract. Site construction and operation would be pursuant to the Plan and would be the responsibility of Neva-Rite, LLC management and site personnel. Working with BLM personnel, as well as regular agency inspections, would also ensure compliance.

2.1.12. Interim Management

The following discussion includes the topics that are pertinent to the mining activities for interim shut down periods.

2.1.12.1. Measures to Stabilize Excavations and Workings

The waste rock repository would have a maximum height of 30 to 40 feet, and would be placed on level ground adjacent to the pit. The maximum pit highwall during operation would be 150 feet, and in competent rock. Issues with unstable waste rock or pit highwall components are not likely and therefore would not require any stabilization for interim periods of inactivity.

2.1.12.2. Measures to Isolate Toxic or Deleterious Materials

The blasting agents shall be on site for short periods of time, not expected to be more than one day, as off-site storage would be employed.

According to the proponent, no toxic or deleterious materials would be produced during mining (such as acid mine drainage, etc.) due to the nature of the rock, deep groundwater, etc. as described above.

2.1.12.3. Provisions for Storage or Removal of Equipment, Supplies and Structures

The site facilities would remain onsite for the duration of this project, and security would be maintained. Heavy equipment demobilization is not expected as the operator expects to work continuously through the proposed phases.

2.1.12.4. Measures to Maintain the Project Area in a Safe Condition

Neva-Rite, LLC would maintain security and site inspections on a regular basis, either with onsite security personnel or an individual that may travel on a regular basis from Fallon or other community. The security guard's responsibility would be to maintain the perimeter security and site condition. Neva-Rite, LLC would utilize outside contractors if corrective action is needed for some items (such as fence repair, etc.).

2.1.12.5. Schedule of Anticipated Periods of Temporary Closure

Short periods of non-operation are possible during the winter months, but continuous operation would be implemented to the extent possible.

In the event that the operation is shut down for a period of 120 days or more, the BLM would be notified in writing within 90 days after work is suspended. The notice would state the nature and the reason for the suspension, the anticipated duration of the suspension, and any event that would reasonably be expected to result in either the resumption of activities or the abandonment of the operation.

2.2 No Action

Under the No Action Alternative the Proposed Action would not occur, and the mineral material sale to Neva-Rite, LLC would not be authorized for the area at this time. Present management practices and programs (e.g. livestock grazing, dispersed recreation, hunting) on public land would continue to occur within this area.

Implementation of the No Action Alternative would not meet the purpose and need for the project, the objectives and goals of the CRMP and other applicable plans related to the resources present in the project area. However, this alternative is analyzed further in this EA in order to provide a baseline for assessing and comparing impacts from implementation of the Proposed Action.

2.3 Alternatives Considered But Eliminated From Further Analysis

2.3.1 COMMUNITY PIT ALTERNATIVE

Under this alternative the mineral material pit would be developed as a community pit. To date, there has not been a large amount of interest from the general public in developing this mineral material. Should more interest from the public become known, this alternative could be considered in the future. This alternative has been eliminated from further analysis in this EA as it is neither practicable nor reasonable at this time.

3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or Alternatives and the environmental consequences of effects of the actions.

Scoping and Issue Identification

In accordance with the BLM's NEPA Handbook (H-1790) (BLM, 2008) internal scoping was conducted by an interdisciplinary team (ID) of BLM resource specialists in April 2013 to identify potential resources that may be impacted by the implementation of the Proposed Action or No Action Alternative. The following resources were identified by the BLM ID team as not being present or are present but not affected in the project area. Therefore, rationale is provided in the tables below as to why these resources will not be analyzed further in this EA.

- Air Quality
- Areas of Critical Environmental Concern
- Environmental Justice
- Farm Lands Prime and Unique
- Flood Plains
- Threatened or Endangered Species
- Wastes, Hazardous or Solid
- Wild and Scenic Rivers
- Water Quality
- Wetlands/Riparian Zones
- Wilderness
- BLM Sensitive Species (plant)
- Forest Resources
- Land Use Authorizations
- Lands with Wilderness Characteristics
- Livestock Grazing
- Paleontological
- Recreation
- Global Climate Change
- Greenhouse Gas Emissions

Public scoping included the issuance of a press release and the presentation of the Project at the Churchill County commissioners meeting on June 19, 2013. A consultation letter with a general summary of the current proposed project including a map was sent to the Fallon Paiute-Shoshone Tribe on July 7, 2008 and again on June 12, 2013. Correspondence, face to face meetings and phone calls in the past with the Tribe have resulted in extensive documentation of the Tribe's concerns with the location of the proposed project since July of 2000. The public scoping period ended on June 28, 2013. No comments were received during the scoping period.

Project Area (General Setting)

The proposed Project is located west of the Stillwater Range along the southeastern edge of Lahontan Valley in a low group of mountains collectively referred to as the Lahontan Mountains. The Lahontan Mountains surround Wyemaha Valley and consist of Sehoo Mountain and Eagles House to the north, Eetza and Salt Wells Mountains to the south and Rainbow Mountain to the east (refer to Appendix A, Map 10 General Setting). The project area is on an unnamed hill commonly referred to as "Wonderstone Hill" or Red Hill" which is located approximately ¼ mile south of Eagles House (refer to Appendix A, Map 10 General Setting). The surface elevation over the project ranges from 4,200 to 4,500 feet. The interior Lahontan Mountains are dissected by a series of ephemeral drainages that direct runoff into Wyemaha Valley and south through the gap between Eetza and Salt Wells Mountain, while the outside flanks of the mountains are dissected by several ephemeral drainages which radiate runoff into surrounding areas.

The Project Area's climate is arid to semiarid. The temperature in nearby Fallon averages about 67ºF with an annual precipitation of approximately 5 inches per year. Winter temperatures can reach below 0ºF and summer highs may exceed 100ºF.

3.1 Supplemental Authorities

Appendix 1 of the BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental analysis documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action are further described in this EA.

Table 4. Supplemental Authorities

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
Air Quality	Yes	No	During implementation of the Proposed Action, there would be a slight increase in vehicle emissions and particulates from construction activities and equipment. The project area is located in an attainment area and overall air quality, as a result of implementing the Proposed Action, would not be anticipated to exceed the National Ambient Air Quality Standards. Therefore this resource would not be affected by implementation of the

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
			Proposed Action and will not be carried forward for further analysis.
Areas of Critical Environmental Concern	No	No	None present in the project area.
Cultural Resources	Yes	Yes	Carried forward for analysis in section 3.4.
Environmental Justice	No	No	No minority or low income populations would be adversely or disproportionately affected by implementation of the Proposed Action.
Farm Lands (Prime and Unique)	No	No	None present in the project area.
Floodplains	No	No	None present in the project area.
Noxious and Invasive, Non-native Species	Yes	Yes	Carried forward for analysis in section 3.5
Migratory Birds	Yes	Yes	Carried forward for analysis in Section 3.7.
Native American Religious Concerns	Yes	Yes	Carried forward for analysis in section 3.6
Threatened or Endangered Species	No	No	After consulting with the BLM wildlife biologist and the U.S. Fish and Wildlife Service (USFWS) website for Nevada, there is no federally listed threatened or endangered species within the project area (http://www.fws.gov/nevada/protected_species/species_by_county.html).
Wastes, Hazardous or Solid	Yes	No	Small quantities of hazardous and/or solid wastes would be generated by the proposed action. All hazardous materials would be transported, used, and stored following "best management practices" and in accordance with local, state, and federal regulations. All wastes would be disposed of offsite following all local, state, and federal regulations. Any spill of hazardous materials would be contained, remediated, and disposed of following all local, state, and federal regulations. The project's Spill Contingency Plan is located in Appendix B for reference. Therefore there would not be any impacts to wastes from implementation of the Proposed Action and this resource will not be carried forward for further analysis.

Resource or Issue	Present Yes/No	Affected Yes/No	Rationale
Water Quality, Surface/Ground	No	No	None present in the project area.
Wetlands/Riparian Zones	No	No	None present in the project area.
Wild and Scenic Rivers	No	No	None present in the project area.
Wilderness	No	No	None present in the project area.

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**See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered. Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the documents. Supplemental Authorities determined to be Present/May Be Affected may be carried forward in the document.*

3.2 Resources or Uses Other Than Supplemental Authorities

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action are further described in this EA.

Table 5. Resources or Uses Other Than Supplemental Authorities.

Resource or Uses	Present Yes/No	Affected Yes/No	Rationale
BLM Sensitive Species (wildlife)	Yes	Yes	Carried forward for analysis in Section 3.8.
BLM Sensitive Species (Plant)	No	No	None present in the project area.
Forestry Resources	No	No	None present in the project area.
General Wildlife	Yes	Yes	Carried forward for analysis in Section 3.9.
Land Use Authorization	No	No	None present in the project area.
Lands with Wilderness Characteristics	No	No	None present in the project area.
Livestock Grazing	Yes	No	The Proposed Action would not result in a reduction of the grazing capacity in the Salt Wells Allotment as the proposed project area is in an unproductive area, consisting mostly of rock and bare ground. Any forage removal as a result of the project would be reduced as the disturbed ground would be reseeded with plant species suitable for the soil conditions and climate of the area upon reclamation of the

Resource or Uses	Present Yes/No	Affected Yes/No	Rationale
			project.
Minerals	Yes	Yes	Carried forward for analysis in section 3.10.
Paleontological	No	No	None have been observed in the project area and the potential in the area is minimal.
Recreation	Yes	No	Recreational use in the project area is low and will not be impacted by the proposed activity. Recreational access around the project area is addressed under Travel Management Section 3.15.
Socioeconomics	Yes	Yes	Carried forward for analysis in Section 3.11.
Soils	Yes	Yes	Carried forward for analysis in Section 3.12.
Travel Management	Yes	Yes	Carried forward for analysis in Section 3.15.
Vegetation	Yes	Yes	Carried forward for analysis in Section 3.13.
Visual Resources	Yes	Yes	Carried forward for analysis in Section 3.14.
Wild Horses and Burros	No	No	There are no Herd Management Areas within the project area.
Global Climate Change	Yes	No	There is a public and scientific debate about human-caused contributions to global climate change, no methodology currently exists to correlate greenhouse gas emissions (GHG) and to what extent these contributions would contribute to such climate change.
Greenhouse Gas Emissions	Yes	No	There would be negligible contribution of GHG-methane; no methodology currently exists to correlate GHG emissions from livestock grazing to any specific resource impact within the project area.

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***Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document. Resources or uses determined to be Present/May Be Affected may be carried forward in the document.*

Resources Present and Brought Forward For Analysis

The potential impacts to the resources and resource uses listed in Table 4 and Table 5 were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Through this process, the interdisciplinary team determined that the following resources are present and that the potential impacts to them warrant detailed analysis in the EA:

- BLM Sensitive Species (wildlife)
- Cultural Resources
- Noxious and Invasive, Non-native Species
- Native American Religious Concerns
- General Wildlife
- Migratory Birds

- Minerals
- Socioeconomics
- Soils
- Vegetation
- Visual Resources
- Travel Management

Rationale is provided in Table 4 Supplemental Authorities and Table 5 Resources or Uses Other Than Supplemental Authorities for resources that are present but whose impacts do not warrant detailed analysis based on the criteria listed above. Those resources or resource uses will not be further analyzed in this EA.

3.3 Cumulative Effects Overview

Council of Environmental Quality (CEQ) regulations defines scope to include connected actions, cumulative actions, and similar actions (40 CFR 1508.25). The Council on Environmental Quality formally defines cumulative impacts as follows:

> '…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time' (40 CFR 1508.7).

For the purposes of this EA, the cumulative impacts are the sum of all past, present (including proposed actions), and reasonably foreseeable future actions (RFFAs) resulting primarily from mining, commercial activities, and public uses. The purpose of the cumulative analysis in this EA is to evaluate the significance of the Proposed Action's contributions to cumulative environment.

As required under the NEPA and the regulations implementing NEPA, this chapter addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Areas (CESAs) which could result from the implementation of the Proposed Action and No Action Alternative, past actions, present actions, and RFFAs. The extent of the CESA varies by resource based on the geographic or biological limits of that resource. Unless otherwise stated in the resource discussions below, the CESA is the area shown on Map 11 in Appendix A.

For the purposes of this analysis and under federal regulations, 'impacts' and 'effects' are assumed to have the same meaning and are interchangeable.

Past, Present Actions, and Reasonably Foreseeable Future Actions

The past, present, and reasonably foreseeable future actions applicable to the assessment area are identified as the following:

Table 6. Past, Present and Reasonably Foreseeable Future Actions

Project -- Name or Description	Status (x)		
	Past	Present	**Future**
Issuance of multiple use decisions and grazing permits for ranching operations through the allotment evaluation process and the reassessment of the associated allotments.	X	X	X
Livestock grazing.	X	X	X
Invasive weed inventory/treatments.	X	X	X
Recreation	X	X	X
Mineral exploration/geothermal exploration/abandoned mine land reclamation	X	X	X
Mineral Material Disposals	X		X
Range Improvements (including fencing, wells, and water developments)	X	X	X
Utility and other R/Ws	X	X	X

3.4 Cultural Resources

Affected Environment

Following BLM regulations (43 CFR Part 8100) and other federal laws including the NHPA (16 USC § 470f) and its implementing regulations (36 CFR Part 800), as amended, a Class III cultural resource inventory was conducted for this location to identify historic properties prior to the authorization of the proposed project. By definition, an historic property is a "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places" (NRHP) and includes "artifacts, records, and remains that are related to and located within such properties" (36 CFR 800.16(l)(1)).

Over the last fifty years, cultural resources have been identified within the Lahontan Mountains and surrounding area. Cultural resources that have been identified include but are not limited to the following: lithic scatters, petroglyphs, rock shelters, and caves. Carbon dating of perishable items has resulted in data that confirms that this area has been occupied for approximately 10,000 years to the present. Previous cultural resource inventories of the surrounding the Grimes Point Archeological Area, including the proposed project by the Neva-Rite Claim Group, are known to be of highly sensitive for archaeological resources.

Over the last fifty years, cultural resources have been identified within the Lahontan Mountains and surrounding area. Cultural resources that have been identified include but are not limited to the following: lithic scatters, petroglyphs, rock shelters, and caves. Carbon dating of perishable items has resulted in data that confirms that this area has been occupied for approximately 10,000 years to the present. Previous cultural resource inventories of the surrounding the Grimes Point Archeological Area, including the proposed project by the Neva-Rite Claim Group, are known to be of highly sensitive for archaeological resources.

From August 15 to August 24, 2008, Chambers Group personnel conducted a Class III cultural resources inventory of 160 acres for the proposed Nevada Royal Jasper Project (CRR 3-2466). The cultural resources inventory resulted in the identification of nine newly identified archaeological sites (CrNV-03-7159 through CrNV-03-7166, CrNV-03-6972), and 10 isolated finds. The sites consist of six prehistoric sites and three historic sites. The historic sites consist of sparse roadside debris scatters dating from the early to mid-twentieth century, and a historic road. Five of the sites are sparse prehistoric lithic scatters, and one is a prehistoric wonderstone quarry (CrNV-03-7166). Eight of the sites are recommended not eligible for inclusion in the NRHP under all Criteria. The five prehistoric sparse lithic scatters lack diagnostic artifacts and are unlikely to address prehistoric research questions regarding chronology, settlement and subsistence patterns, or lithic technology, and are recommended not eligible for inclusion in the NRHP under Criterion D. The two historic debris scatters cannot be associated with a particular historic theme, and as such, they are considered categorically not eligible for inclusion in the NRHP according to the State Protocol Agreement between the Nevada State Historic Preservation Office (SHPO) and the BLM. The historic road is (CrNV-03-6972) is recommended not eligible for inclusion in the NRHP under all Criteria. The isolated finds consist of two prehistoric artifacts, a chert flake and a hammerstone, and 8 historic cans or other artifacts of recent age. All of the isolated finds are categorically not eligible for the NRHP per the State Protocol Agreement between the BLM and Nevada SHPO. Site CrNV-03-7166, a prehistoric lithic quarry, is recommended eligible for inclusion in the NRHP under Criteria A and (C) (4) of National Register Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Cultural Properties*.

The site is considered a highly sacred place to the Fallon Paiute-Shoshone Tribe and is eligible for inclusion in the National Register because it is an integral part of a larger entity of traditional cultural importance. The site is representative of a significant and distinguishable entity whose components may lack individual distinction. Eagles House, located approximately one-half mile north of the proposed project area, is also considered a highly sacred place to the Tribe. The cultural significance of Eagles House has been duly demonstrated by the ethnographic interviews conducted by Chambers Group for this project, as well as by several previous interviews and archival information. Eagles House is also recommended as a Traditional Cultural Property of the Fallon- Paiute Shoshone Tribe, and is eligible to the National Register under Criteria A and C. When viewed as a whole, the wonderstone quarry, Eagles House, and Grimes Point Archaeological Area form a highly significant cultural area to the Tribe, which they consider sacred and deeply embedded in their traditional beliefs. As such, Chambers Group recommends that the entire area be nominated as an archaeological district.

Environmental Consequences

Proposed Action

The proposed project is currently designed to mitigate visual and operational impacts from the area known as Eagles House, and somewhat from the Grimes Point Archaeological Area. The proposed mitigation for visual and operational impacts to Eagle's House devised by the project proponent consists of constructing a buffer zone along the north wall of the pit which would serve as a visual buffer for both the pit high wall and other disturbances associated with the project. However, the Tribe has expressed concerns that the proposed project may adversely

affect Eagle's House, not only under Section 106 of the NHPA of 1966 as amended, but also under the AIRFA for the collection of eagle feathers for religious purposes.

All sites determined not eligible for inclusion in the NRHP do not require further treatment. The project area is considered an integral part of a larger entity of traditional cultural importance. The site is representative of a significant and distinguishable entity whose components may lack individual distinction and is considered highly sensitive for archaeological resources. The site is also eligible for inclusion in the NRHP under Criteria A and C.

Both the wonderstone quarry and Eagles House would therefore require mitigation in order to avoid adverse impacts to these Traditional Cultural Properties.

Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM is required to identify and evaluate cultural resource within the area of potential effect from an undertaking. Any historic properties within a proposed project area will be avoided. If this cannot be accomplished, mitigation measures will be designed to result in no adverse effect to historic property(ies) pursuant to 36 CFR Part 800, and in consultation with the local tribal entity and the Nevada State Historic Preservation Office.

Mitigation Measures:

- Suggested mitigation measures for Eagle's House may be to conduct quarrying operations during the time of year when eagles are not nesting in the area.
- Suggested mitigation measures for the wonderstone quarry may include allowing continued access to Tribal members, and/or the setting aside of a particular area of the quarry for exclusive use by the Tribe.
- All unevaluated cultural sites would be avoided or treated to ensure compliance with Section 106 of the NHPA. During the Project's activities, if any cultural properties, items, or artifacts (i.e., stone tools, projectile points, etc.) are encountered, it must be stressed to those involved in the proposed Project activities that such items are not to be collected. In the event of a discovery of a cultural resource, all project activities in that area should cease and the BLM notified immediately. Cultural and archaeological resources are protected under the Archaeological Resources Protection Act (16 USC 470ii) and the FLPMA.

No Action
Under the No Action Alternative, impacts to cultural resources associated with the proposed quarry operations would not occur as the Proposed Project would not be authorized. There would continue to be rock collectors and recreationists that would visit the area.

Cumulative Effects

Within the CESA boundary, there exist mining activities, livestock grazing, dispersed recreation, and rock collecting. These activities can cause artifacts to become broken, damaged or displaced, in addition to removal of artifacts. However, with implementation of the suggested mitigation measures cumulative impacts would be reduced to cultural resources, wildlife (eagles) resources and Native American Religious Concerns.

3.5 Noxious Weeds and Invasive, Non-native Species

Affected Environment

Invasive species are defined by EO 13112 as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health". Alien refers to a species that did not evolve in the environment in which it is found or in other words, non-native. This includes plants, animals, and microorganisms. The definition makes a clear distinction between invasive and non-native species because many non-natives are not harmful (i.e. most U.S. crops). However, many invasive species have caused great harm (National Invasive Species Council 2005).

Noxious weeds in Nevada are classified by the Nevada Department of Agriculture and the Plant Protection Act (2000) and are administered by the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). Table 7 gives examples and definitions of noxious weeds in Nevada.

Table 7. Examples of Noxious Weeds

Type	Definition	Examples
Category A	Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations.	Dyer's woad *(Isatis tinctoria)* Spotted Knapweed *(Centaurea masculosa)*
Category B	Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur.	Russian Knapweed *(Acroptilon repens)* Scotch Thistle *(Onopordum acanthium)*
Category C	Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer many	Hoary cress *(Cardaria draba* Saltcedar (tamarisk) *(Tamarix spp)*Hoary
For more information on noxious weeds visit: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm		

Off-highway vehicles (OHVs), overgrazing by livestock, wild horses and wildlife can disturb native plant communities, which can bring about the establishment and proliferation of noxious weeds. Dispersal of noxious weeds occurs when motorized vehicles, livestock, wild horses and wildlife transport weed seeds from infested areas to other sites. There are no known noxious weed species in the Project area.

Although not considered noxious, the species below are non-native, invasives and are known to occur in the Project area.

Cheatgrass (*Bromus tectorum*) is an invasive, non-native, annual grass currently scattered at various densities throughout the Project area. This invasive annual grass displaces native perennial shrub, grass, and forb species because of its ability to germinate quicker and earlier than native species, thus outcompeting natives for water and nutrients. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, native plants have a difficult time thriving in these altered fire regimes.

Russian thistle (*Salsola iberica*) is an invasive, non-native, annual forb that is present in the Project area. Seeds are spread as mature plants break off at ground level and are scattered by the wind as tumbleweeds. The plants germinate rapidly, and seedlings become established after brief and limited amounts of precipitation.

Environmental Consequences

Proposed Action
Under the Proposed Action, there may be an increased threat of invasive, non-native and noxious species being introduced into the Project area by heavy equipment and administrative vehicles associated with conducting the mechanical activities.

Under this Alternative, the proposed Project area would be inventoried and monitored to ensure that noxious weeds and invasive species would be identified and treated where practical. All noxious weeds discovered on the site would be recorded, to include the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location. The SFO weed coordinator would be notified of any weeds found and provided with this information. All noxious weeds found would be treated and evaluated in coordination with the SFO weed coordinator. Treatment methods could include BLM approved biological, cultural/mechanical, and chemical controls. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce costs and risks to humans and the environment.

Where chemical control is the chosen treatment method, a Pesticide Use Proposal (PUP) would be submitted to the Nevada State Office weed coordinator, which would specify the most appropriate herbicide for the site and noxious weed species, as well as the application rate of the herbicide. Any herbicide selection and application would be in conformance with Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (EIS) and Record of Decision (ROD) (BLM 2007 a, b).

No Action

Under the No Action Alternative, the project area would continue to be routinely surveyed along roadways and other disturbed areas for new weed infestations. The SFO weed coordinator would

be notified of any weeds found and provided with the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location. Treatment methods could include biological, cultural/mechanical, and chemical control. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce the costs and risks to humans and the environment. Areas previously treated with herbicides would continue to be monitored.

Cumulative Effects

The cumulative impact analysis area for invasive, non-native, and noxious species consists of the 19.7 acres of the Project area within the Salt Wells Allotment and possibly, a distance outside the area that is unknown, due to the physical characteristics of weeds and their ability to spread. When combined with the effects from past, present, and reasonably foreseeable future actions, cumulative effects have been determined to be negligible. There could be a slightly increased risk of spreading weeds throughout the Project area, as well as off- site under the Proposed Action as a result of opening up space for weed seeds to become established; however, this area of disturbance would be reseeded with native plant species, and any weeds found would be treated. The effects resulting from the reseeding would be positive since the area is currently lacking in desirable plant cover. Any short term and long term effects that may be considered negative from herbicide application to control any invasive, non-native, and noxious species would be negligible since the herbicides would be applied as per label instructions

3.6 Native American Religious Concerns

Affected Environment

The Native American tribe that has cultural affiliation with the proposed project area is the Fallon Paiute-Shoshone Tribe. The BLM initiated the requisite Native American consultation for the claimants' material sale request on July 31, 2000. Through that process, the Fallon Paiute-Shoshone Tribe verbally expressed specific cultural concerns with the area of the subject sale in August 2000, and later in a letter dated May 8, 2001. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, a consultation letter with a general summary of the current proposed project including a map was sent to the Tribe on July 7, 2008 and again on June 12, 2013.

Correspondence, face to face meetings and phone calls in the past the Tribe have resulted in extensive documentation concerning the location of the proposed project and concerns stated by the Tribe since July of 2000. The Tribe has stated that all impacts to cultural resources should be avoided. Following the *National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties*, two Traditional Cultural Properties have been identified by the Tribe; the Wonderstone quarry, CrNV-03-7166 (within the proposed project area) and Eagles House adjacent to the proposed project area. Measures have been proposed to mitigate the potential adverse effects to these two locations. Consultation is ongoing for the proposed project.

An ethnographic interview was conducted with members of the Fallon-Paiute Shoshone Tribe, in Fallon, Nevada on September 10, 2008. The interview was conducted with Rochanne Downs,

Vice Chair of the Fallon-Paiute Shoshone Tribe, Harriet Allen, education coordinator, and Elizabeth Austin, tribal member. Terry Reed and JoEllen Ross-Hauer of Chambers Group conducted the interview. The main purpose of the interview was to obtain the opinions of the Tribe regarding this project, and to gather information regarding the importance of Eagle's House and Wonderstone Mountain to the Tribe. Through this interview, several key points were expressed. First, the project area is within very close proximity to a sacred area of the Tribe. Eagles House and Wonderstone Mountain are considered by the Tribe to be connected with Grimes Point, Hidden Cave, and Spirit Cave, and should be protected as one. Eagles House is a particularly important ceremonial place to the Tribe because the eagle is the Tribe's most sacred bird. The importance of this location is not tied to how often or how it was used, and although it is a ceremonial place, "a place can be sacred if it's visited every single day, seasonally or annually, or never visited (R. Downs, personal communication, 2008)." Additional detail regarding the importance of Eagles House to the Tribe and how it was used was given. Certain ceremonies required the use of an eagle feather, such as the pinenut ceremony, or certain dances or songs.

Ms. Downs also stated that Wonderstone Mountain was an important place to gather the chert to make the tools. It was also noted that the wonderstone was traded between groups. It was not used for ornaments, but mostly for tools.

Environmental Consequences

Proposed Action

Both the wonderstone quarry and Eagles House are considered to be of high importance to the Tribe and therefore require mitigation in order to avoid adverse impacts to these Traditional Cultural Properties. The proponent has proposed a visual buffer as mitigation to reduce visual impacts to the Eagles House area. Additional mitigation measures as identified in Section 3.4 Cultural Resources are also needed to reduce impacts to the Native American Religious Concerns brought forward by the Fallon Paiute-Shoshone Tribe.

During the Project's activities, if any cultural properties, items, or artifacts (i.e., stone tools, projectile points, etc.) are encountered, it must be stressed to those involved in the proposed Project activities that such items are not to be collected. All activities within the area will be halted immediately in the event of a discovery of a cultural resource. Cultural and archaeological resources are protected under the Archaeological Resources Protection Act (16 USC 470ii) and the FLPMA.

Though the possibility of disturbing Native American gravesites within most project areas is extremely low, inadvertent discovery procedures must be noted. Under the NAGPRA, section (3)(d)(1), the discovering individual must notify the authorized officer in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease, and the materials are to be protected until the land manager can respond to the situation.

Consultation with the Fallon Paiute-Shoshone Tribe is ongoing for the proposed project.

No Action

Cumulative Effects
Cumulative effects from implementation of the Proposed Action to Native American Religious Concerns would be reduced with the implementation of the suggested mitigation measures and continued access to areas by the tribes. However, the setting would still be impacted by the presence of a mining activity in this sacred area.

3.7 Migratory Birds

Affected Environment

The Migratory Bird Treaty Act and EO 13186 provide direction for the BLM on the management of migratory birds.

Migratory Bird Treaty Act
Established a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)

EO 13186
Support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.

The Nevada Comprehensive Bird Conservation Plan (2010) and the USFWS Birds of Conservation Concern (BCC) (2008) were used to determine which avian species known to occur, or potentially occur; in the proposed project area and area of influence have been classified as priority species by the USFWS and/or the state of Nevada. The ecological tenet underlying the process is that conservation actions focused on priority species will benefit other avian species that utilize similar habitats.

Table 8. The Nevada Comprehensive Bird Conservation Plan's (2010) and the USFWS BCC (2008) priority species that occur, or could potentially occur, within the proposed project area and area of influence.

Common Name	Scientific Name	Notes
Brewer's Sparrow	*Spizella breweri*	Listed as a USFWS BCC; Listed as a BLM sensitive species in Nevada
Golden Eagle	*Aquila chrysaetos*	Listed as a USFWS BCC; Protected by the Bald and

Common Name	Scientific Name	Notes
		Golden Eagle Protection Act (16 U.S.C. 668-668c);
Loggerhead Shrike	*Lanius ludovicianus*	Listed as a USFWS BCC; Listed as a BLM sensitive species in Nevada
Prairie Falcon	*Falco mexicanus*	See discussion below
Sage Sparrow	*Amphispiza belli*	Listed as a USFWS BCC
Western Burrowing Owl	*Athene cunicularia hypugaea*	Listed as a BLM sensitive species in Nevada

Brewer's Sparrow

Brewer's sparrows are neo-tropical migrants that typically arrive in Nevada in early April, with a few individuals occasionally arriving in mid-March (Hansley and Beauvais 2004). Though they primarily breed in shrub steppe habitats and are considered to be shrub steppe obligates, they are also associated with salt desert scrub habitats. Nests are usually constructed in the mid to upper canopy of tall, dense sagebrush or black greasewood (*Sarcobatus vermiculatus*).

The habitat within the proposed project area and area of influence (out to one mile from the proposed project area) is primarily low stature shadscale (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*). Therefore, the area does not function as suitable Brewer's sparrow nesting habitat. No Brewer's sparrows were observed during the field visit by the BLM wildlife biologist on July 16, 2013.

Golden Eagle

Golden eagles use a variety of habitat types in Nevada, which includes salt desert scrub and cliffs. The bird feeds on a variety of small mammals, snakes, birds, juvenile ungulates, and carrion. Nests are generally constructed on rock ledges or in large trees.

The proposed project area contains rock ledges that act as potential nesting sites for golden eagles. During the field visit on July 15, 2013, the wildlife biologist observed no birds or nest structures within this area. Furthermore, suitable nesting sites do occur within a four mile buffer of the proposed project area. More specifically, in 2010, baseline studies were conducted by contractors for the Salt Wells Energy Projects by surveying their project area and four mile buffer. This four mile buffer encompassed the entire project area for the proposed Royal Jasper Quarry Project. The results from the survey indicated that there were seven golden eagle nests within four miles of the proposed project boundary. Of the seven nests, two were inactive (approximately 2.6 and three miles away from the proposed project boundary), one was active (approximately 3.3 miles away within the Salt Wells Energy Projects boundary), and four about two miles away were classified as an active nest outcrop. Additionally, suitable nesting habitat exists about a half mile to the north of the proposed project area, as Nevada Department of Wildlife (NDOW) has record of an historic golden eagle nest (located during the 1970's) at this

location. This nest was not observed during the 2010 baseline survey for the Salt Wells Energy Project.

Loggerhead Shrike

Within Nevada, loggerhead shrikes are associated with montane shrub, sagebrush, and salt desert scrub habitats. More specifically, the bird prefers shadscale, big sagebrush (*Artemisia tridentata),* black sagebrush (*Artemisia nova*), and greasewood areas. Loggerhead shrikes nest in isolated trees or large shrubs and use scattered, tall shrubs and fences as perches to feed on a variety of prey, which includes small birds, lizards, and mice (Neel 1999).

The habitat within the proposed project area and area of influence (out to one mile from the proposed project area) is primarily low stature shadscale (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*). Therefore, the area does not function as ideal loggerhead shrike habitat. No loggerhead shrikes were observed during the field visit by the BLM wildlife biologist on July 15, 2013.

Prairie Falcon

Prairie falcons are associated with shrub-steppe deserts, grasslands, and cliffs. During the breeding period, the primary food source is small mammals. Nests are generally constructed on the ledges of rocky cliffs, but prairie falcons will also nest in trees utilizing old hawk and raven nests. In the fall, the falcon generally does not migrate great distances but will move down in elevation for the winter. During the winter, the diet will consist of both birds and small mammals (Neel 1999).

The project area contains rock ledges that act as potential nesting sites for prairie falcons. During the field visit on July 15, 2013, the BLM wildlife biologist observed no birds or nest structures. According to the NDOW database, an historic prairie falcon nest site was located approximately a half mile away from the proposed project boundary.

Sage Sparrow

Though sage sparrows are primarily sagebrush obligate species, they will utilize salt desert scrub communities. Preferred habitat includes areas with shrubs at least 45 cm (18 in) tall with 10-25% crown cover mixed with a sparse grass and forb component (Neel 1999). The sparrow is a ground feeding omnivore during the summer and a grain eater in the winter. Sage sparrows will primarily nest in shrubs, but they may also nest on the ground under a shrub or in bunchgrass.

The habitat within the proposed project area and area of influence (out to one mile from the proposed project area) is primarily low stature shadscale (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*). Therefore, the habitat does not provide ideal nesting habitat for the species. No sage sparrows were observed during the field visit by the BLM wildlife biologist on July 15, 2013.

Western Burrowing Owl

Western burrowing owls are associated with sagebrush, salt desert scrub, and agricultural habitats. Within these habitat types, suitable areas for the owl consists of shrubs spaced far apart or low stature vegetation that allows the bird to see for long distances. Ideal habitats are also closely associated with burrowing animals such as ground squirrels (*Spermophilus* spp.) and badgers (*Taxidea taxus*), as burrowing owls use holes created by these species as nest sites. Prey for burrowing owls consists of small rodents and insects (Neel 1999).

The valley bottoms within the proposed project area and area of influence represents potential burrowing owl habitat, due to the low structured vegetation and soil type, though no burrows were observed during the field visit on July 15, 2013 by the BLM wildlife biologist.

Environmental Consequences

Proposed Action

Direct impacts from implementation of the Proposed Action include the loss of 19.7 acres of foraging and nesting habitat for avian species that occur in salt desert scrub habitats. For species that prefer to nest in tall shrubs, this impact is negligible, as the proposed project area does not contain suitable nesting habitat. There would be a direct loss of nesting habitat for species that nest on the ground or on rock ledges (e.g. golden eagles and prairie falcons); however, this loss of nesting habitat would not have any significant impact to populations due to the amount of nesting habitat within four miles of the proposed project area. The loss of foraging habitat would be insignificant, due to the low quality of the habitat in the area resulting from current drought conditions.

Impacts to avian nesting and foraging activities out to one mile from the proposed project area could be influenced from the increased noise associated with the exploration, excavation, loading, hauling, and grading associated with the proposed project. This could impact individuals but not populations, since the area does not support a high density of avian species protected under the Migratory Bird Treaty Act due to the low quality of the nesting and foraging habitat as a result of current environmental conditions (e.g. drought) and continued disturbance (e.g. high volume of traffic due to recreation and existing gravel pits, as well as continual fly-overs from military aircraft) in the areas surrounding the proposed project location.

During the initiation of surface disturbing activities, there is the potential for active avian nests to be destroyed if surface disturbing activities are to occur from March 1 to July 31. Therefore, a pre-disturbance nesting survey will be required before any initial surface disturbance is to occur, if disturbance is to occur during the previously stated time period.

Mitigation:

- If initial surface disturbing activities are to occur during the bird nesting season (March 1 through July 31 for raptors and April 1 to July 31 for all other avian species), a pre-disturbance site survey by a BLM wildlife biologist or other wildlife biologist deemed qualified by the BLM will be required. This survey will include the proposed project

area and will be extended out to one mile from the project area to include potential prairie falcon and golden eagle nests. The survey must be done no more than fourteen (14) days before the start of construction activities. If nesting birds are present, surface disturbing activities that could impact the nesting birds could not begin until the nesting cycle is complete.

- If golden eagle nests are found, the USFWS will be contacted for further direction. After project related surface disturbance has begun, the continued disturbance will most likely preclude any future nesting within the proposed project area. However, if project related disturbance ceases for more than 14 days during the migratory bird nesting season, Neva-Rite LLC will contact BLM to determine whether or not another pre-disturbance survey will be necessary. Criteria that would be used to determine whether or not another pre-disturbance survey would be necessary would include the length of project related inactivity, the type of activity to occur, and the timing of project related activities within the bird nesting period.

No Action

Under the No Action Alternative, none of the impacts associated with exploration, excavation, loading, hauling or grading as described in the Proposed Action would occur to migratory birds; however, there would still be rock collectors visiting the area, as well as the potential for future exploration.

Cumulative Effects

Within the CESA boundary, there exists mining activities, high amounts of recreation, and regular military activity (low flyovers from aircraft). The direct loss of 19.7 acres of habitat is negligible compared to the high percentage of acres that have already been disturbed within the CESA boundary. The noise related to the proposed project, in combination with the existing disturbances within the CESA boundary, could further lower the quality of nesting habitat within the boundary. However, the lowering of nesting quality would not be significant, since the area within the CESA boundary already functions as low quality habitat as a result of from previous disturbances and the recent drought.

3.8 BLM Sensitive Species (Wildlife)

Affected Environment

BLM sensitive species are defined by BLM Manual 6840 as species that normally occur on Bureau administered lands for which the Agency has the capability to significantly affect the conservation status of the species through management. The State Director may designate additional categories of special status species as appropriate and applicable to his or her state's needs. The sensitive species designation may include such native species as those that:

- Could become endangered in or extirpated from a state, or within a significant portion of its distribution in the foreseeable future
- Are under status review by USFWS and/or National Marine Fisheries Service (NMFS)

- Are undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution
- Are undergoing significant current or predicted downward trends in population or density, such that federally listed, proposed, candidate, or state listed status may become necessary
- Have typically small and widely dispersed populations
- Inhabit ecological refugia, specialized, or unique habitats
- Are state listed but which may be better conserved through the application of BLM sensitive species status

Table 9. BLM Nevada Sensitive Species that occur, or could potentially occur, within the project area and area of influence.

Common Name	Scientific Name	Notes
	Birds	
Brewer's Sparrow	*Spizella breweri*	Classified as S3 conservation status within Nevada; Habitat described in the Migratory Birds Section
Golden Eagle	*Aquila chrysaetos*	Classified as S4 conservation status within Nevada; Habitat described in the Migratory Birds Section
Loggerhead Shrike	*Lanius ludovicianus*	Classified as S4 conservation status within Nevada; Habitat described in the Migratory Birds Section
Western Burrowing Owl	*Athene cunicularia hypugaea*	Classified as S3 conservation status within Nevada; Habitat described in the Migratory Birds Section
	Mammals	
Big Brown Bat	*Eptesicus fuscus*	Classified as S4 conservation status within Nevada; The bat has been found at elevations from 300-3,000 m (984-9,842 ft) in a variety habitat types that include desert scrub communities. Big brown bats roost in hollow trees, mine crevices, caves, tunnels, and buildings. Big brown bats consume a variety of insects, with beetles and caddis flies comprising the majority of their diet (Bradley et al. 2006).
Brazilian Free-tailed Bat	*Tadarida brasiliensis*	Classified as S3 conservation status within Nevada; Brazilian free-tailed bats are found throughout Nevada in a variety of habitats that include lowland and upland riparian areas, sagebrush communities, pinyon-juniper woodlands, grasslands, and desert scrub communities. Cliff faces, mines, caves, buildings, bridges, and hollow trees are common day roost sites. Brazilian free-tailed bats consume a variety of insects with moths comprising the majority of their diet (Bradley et al. 2006).
California Myotis	*Myotis californicus*	Classified as S4 conservation status within Nevada; The California myotis is a year-round resident in

Common Name	Scientific Name	Notes
		Nevada and is found predominantly at lower to middle elevations, though the species has been documented at 2,730 m (8,957 ft) in elevation. Although the species is found in a variety of habitats, which include lowland riparian, desert scrub, sagebrush steppe, montane grassland, pinyon-juniper woodland, and mixed-conifer, the bat is primarily associated with desert and semi-desert habitats. Mines, caves, rock crevices, and hollow trees are used as roosting sites, and small moths, flies, and beetles comprise the majority of the bat's diet (Bradley et al. 2006).
Fringed Myotis	*Myotis thysanodes*	Classified as S2 conservation status within Nevada; The fringed myotis occurs in a variety of habitats in Nevada that range from low desert scrub to high elevation coniferous forests. The myotis is a year round resident in the state and uses mines caves, trees, and buildings as roost sites. The fringed myotis gleans insects from the surface of vegetation, with beetles and moths comprising the majority of the bat's diet (Bradley et al. 2006).
Pale Kangaroo Mouse	*Microdipodops pallidus*	Classified as S2 conservation status within Nevada; Dark kangaroo mice are found in sandy soils in valley bottoms dominated by greasewood and saltbush (WAPT 2013). The area encompassing the proposed quarry does not function as suitable habitat for the pale kangaroo mouse due to the rocky nature of the soil, but the area surrounding the proposed access roads functions as marginal habitat for the species.
Pallid Bat	*Antrozous pallidus*	Classified as S3 conservation status within Nevada; Pallid bats are found throughout Nevada in low to mid elevations in habitats that include pinyon-juniper, blackbrush, creosote, sagebrush, and salt desert scrub. The species in non-migratory and use rock outcrops, mines, caves, hollow trees, buildings, and bridges as roost sites. Foraging occurs both in vegetation and on the ground surface, and the bat's diet primarily consists of ground-dwelling arthropods. Pallid bats are extremely sensitive to roost disturbance (Bradley et al. 2006).
Townsend's Big-eared Bat	*Corynorhinus townsendii*	Classified as S2 conservation status within Nevada; Townsend's big-eared bats are highly adaptable and

Common Name	Scientific Name	Notes
		inhabit a variety of habitats in Nevada that range from 210-3,500 m (689-11,483 ft) in elevation. These habitats include pinyon-juniper, mahogany, white fir, blackbrush, sagebrush, salt desert scrub, riparian, and agricultural areas. The species is a moth specialist and gleans prey from the surface of vegetation (Bradley et al. 2006). According to Nevada National Heritage Program (NNHP) database, Townsend's big-eared bats are known to occur in the vicinity of the project area.
Western Pipistrelle	*Pipistrellus Hesperus*	Classified as S4 conservation status within Nevada; The bat is associated with blackbrush, salt desert shrub, sagebrush, and pinyon-juniper habitats that are in close proximity to rock features (Bradley et al. 2006)
Western Small-footed Myotis	*Myotis ciliolabrum*	Classified as S3 conservation status within Nevada; The species is associated with desert scrub, grasslands, sagebrush steppe, pinyon-juniper woodlands, and agricultural areas. The western small-footed myotis is a year-round resident in the state and uses caves, mines, and trees as roosting sites. The species forages on small moths, flies, ants, and beetles (Bradley et al. 2006).
Conservation Status Definitions (Nature Serve 2011) S1-Critically Imperiled S2-Imperiled S3-Vulnerable S4-Apparently Secure		

Though there is no bat foraging habitat within the proposed project area and area of influence (out to one mile from the proposed project boundary), due to the lack of riparian areas, the crevices within the rocky side slopes has the potential to function as day roosting sites. No potential maternity or hibernacula sites occur within the proposed project boundary and area of influence.

Environmental Consequences
Proposed Action

The impacts from the Proposed Action on sensitive avian species are discussed in the Migratory Bird Section. The conclusion from these impacts is that the proposed action would not likely contribute to a trend towards federal listing or cause a loss of viability to any populations or species.

The direct loss of 19.7 acres of salt desert scrub habitat would have insignificant impacts on the pale kangaroo mouse, since the area does not provide high quality habitat. There is the potential for mortality on the proposed access roads as a result of truck traffic associated with the proposed project. The probability of mortality as a result of truck traffic associated with the proposed project is low, however, due to the fact that the pale kangaroo mouse is nocturnal and project related activities are only proposed to occur during the day. The conclusion from these impacts is that the proposed action may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

The 19.7 acres of proposed disturbance would result in the loss of day roosting sites within the proposed project area. Also, day roosting sites within a mile of the proposed disturbances could be lost as a result of blasting activities. Due to the amount of day roosting habitat within the vicinity of the proposed project area (10 miles), this impact would not be considered significant. Also, there are no known hibernacula or maternity colonies within one mile of the proposed project area. Therefore, the conclusion can be made that the proposed action may impact individuals or habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

No Action

Under the No Action Alternative, none of the impacts associated with exploration, excavation, loading, hauling or grading as described in the Proposed Action would occur to BLM sensitive wildlife species; however, there would still be rock collectors visiting the area, as well as the potential for future exploration.

Cumulative Effects

Within the CESA boundary, there exists mining activities, high amounts of recreation, and regular military activity (low flyovers from aircraft). The direct loss of 19.7 acres of habitat on BLM sensitive species is negligible compared to the high percentage of acres that have already been disturbed within the CESA boundary. Specifically pertaining to bats, the direct loss of day roosting sites from the proposed project is not significant, due to the number of day roosting sites within the CESA boundary. The noise related to the proposed project, in combination with the existing disturbances within the CESA boundary, could further lower the quality of habitat within the boundary. However, the lowering of habitat quality would not be significant, since the area within the CESA boundary already functions as low quality habitat as a result of from previous disturbances, current high amounts of noise, and the recent drought.

3.9 General Wildlife (Excluding Special Status Species)

Affected Environment

Big Game

The NDOW does not classify the proposed project area and area of influence as suitable habitat for mule deer (*Odocoileus hemionus*), bighorn sheep (*Ovis canadensis*), and pronghorn antelope (*Antilocapra americana*).

Other Wildlife

Other wildlife species known to occur, or have the potential to occur, within the proposed project area and area of influence includes the coyote (*Canus latrans*), Merriam's kangaroo rat (*Dipodomys merriami*), Ord's kangaroo tat (*Dipodomys ordii*), black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope ground squirrel (*Ammosperophilus leucurus*), woodrat (*Neotoma lepida*),horned lark (*Eremophilia alpestris*), common raven (*Corvus corax*), desert spiny lizard (*Sceloporus magister*), collared lizard (*Crotaphytus collaris*), side-blotched lizard (*Uta stansburiana*), Great Basin rattlesnake (*Crotalus viridis*), and gopher snake (*Pituophis melanoleucus*).

Environmental Consequences

Proposed Action

Direct impacts from the proposed project include the loss of 19.7 acres of salt desert scrub habitat. This impact would not impact populations, however, due to the low quality of the habitat as a result of current environmental conditions (e.g. drought). There is the potential of direct mortality for wildlife, primarily reptiles and small mammals, as a result of collisions with vehicles accessing the proposed project area and other activities associated with the project (e.g. blasting). Noise associated with the proposed project could result in the displacement of wildlife within a mile of the proposed project area, but this impact would not be considered significant, as the area currently functions as low quality wildlife habitat.

No Action

Under the No Action Alternative, none of the impacts associated with exploration, excavation, loading, hauling or grading as described in the Proposed Action would occur to general wildlife; however, there would still be rock collectors visiting the area, as well as the potential for future exploration.

Cumulative Effects

Within the CESA boundary, there exists mining activities, high amounts of recreation, and regular military activity (low flyovers from aircraft). The direct loss of 19.7 acres of habitat for wildlife is negligible compared to the high percentage of acres that have already been disturbed within the CESA boundary. The noise related to the proposed project, in combination with the existing disturbances within the CESA boundary, could further lower the quality of habitat within the boundary. However, the lowering of habitat quality would not be significant, since the area within the CESA boundary already functions as low quality habitat as a result of previous disturbances, current high amounts of noise, and the recent drought.

3.10 Minerals

Affected Environment

The proposed Action is situated in the Lahontan Mountains located near the western edge of the Basin and Range Physiographic Province (Basin and Range). The Basin and Range is typified by high, north-south trending, fault-bound mountain ranges (horsts) separated by relatively low intervening valleys (grabens). These horst and graben structures are the result of crustal extension that began about 17 million years ago (Ma) as the Earth's crust stretched, roughly from the east and west, thinned, and then broke into some 400 mountain blocks (Eaton, 1979). The northeast trending Stillwater Range and the adjacent 300-square-mile Carson Sink playa located north of the proposed action, represent typical horst and graben features.

Regional Stratigraphy

The surficial geology of the Lahontan Mountains is comprised entirely of Tertiary (65.5 to 1.8 Ma) and Quaternary (1.8 Ma to recent) rocks. The nearest pre-Tertiary rocks to the Lahontan Mountains comprise Mesozoic (251 to 65.5 Ma) intrusives and metasediments which are exposed 10-miles (16 km) to the east in the Stillwater Range. (Morrison 1964)

Local Stratigraphy

The rock unit that would be targeted under the Proposed Action is within the Tertiary Sedimentary Rocks. Tertiary sedimentary rocks are mapped as one of two units. The undifferentiated Tertiary sedimentary unit (Tu) comprising predominantly unconsolidated sands, silts, clays, and tuff; or the Tertiary Sandstone unit (Tss), a highly consolidated unit comprised primarily of calcareous sandstone, limestone and tuff. The undifferentiated Tu underlies the Tss in the sequence.

The Tss is comprised primarily (75%) of pinkish gray or very pale orange calcareous sandstone beds which range from less than a foot to more than 25 feet thick, consist of fine- to coarse-grained well to massively bedded oolitic and tuffaceous sand, and range in competence from soft to hard. Pebble conglomerates and ripple marks are also observed locally within the sandstone beds. Hardness of individual sandstone beds depends largely on the degree of silicification or cementation. Limestone comprises roughly 5% of the Tss. Limestone beds are generally oolitic, laminar to massively bedded and relatively hard. Volcanic tuff layers comprise approximately 20% of the Tss. Tuff layers are generally comprised of silt sized particles (less than 0.003-inch); are very pale orange, grayish orange or very pale brown in color; and, range in competence from soft to hard. Tuff layers within this unit appear to be water-lain air-fall tuff as evidenced by load casts, or water loss structures. That tuff layer varies from being relatively soft to hard depending on the degree of silicification. Tuff units within the Tertiary Sandstone unit commonly exhibit grain or crystalline structure too fine to be seen by the unaided eye (cryptocrystaline texture) and locally display multicolored rhythmical concentric red and yellow bands (Liesegang banding). The proposed action would target the Tss and more specifically the tuff layering. (BLM, 2012)

Faults and Shears

The most prominent structural feature in the proposed project is located on the southern portion of the area where a steeply dipping 60- to 100-foot wide hydrothermal black-calcite-filled fault or shear structure (Main Shear) forms the steep wave-cut northwest side of “Wonderstone Hill.” Fault breccia comprising material from the Tss is common within the black calcite matrix of the Main Shear.

Several narrow black calcite filled shears (less than 4 foot wide) are present within the Tss southeast and sub-parallel to the Main Shear. These narrow shears are sub-vertical and spaced between 5 and 75 feet apart over a 400-foot width southeast of the Main Shear. Some of the breccia within these narrow black calcite filled shears was intensely color banded, highly silicified and exhibited a near vitreous luster. (BLM, 2012)

Hydrothermal Alteration

The Main Shear is the likely plumbing source that introduced hydrothermal fluids to the narrow shears present southeast and sub-parallel to that structure, and in turn to the porous tuff and tuffaceous sandstone beds within the Tss. Hydrothermal fluids cause hydrothermal alteration of rocks by passing hot water fluids through the rocks and changing their composition and texture by adding or removing or redistributing components.

Silicification and oxidation are the dominant alteration products observed within the Tss. Silicification or the addition of secondary silica (SiO_2) is the most common type of hydrothermal alteration. One of the most common styles of silicification is called "silica flooding," which results from replacement of the rock with microcrystalline quartz. Oxidation is simply the formation of any type of oxide mineral. Hematite and limonite are the most common iron oxides, but many different types can form depending on the metals which are present. Sulfide minerals such as pyrite often weather easily because they are susceptible to oxidation and replacement by iron oxides. The development of iron oxides appears to be primarily responsible for the vast array of red and yellow hues observed within the Tss. The degree of silicification and color banding observed in the Tss within the 400-foot wide zone to the southeast of the Main Shear is highly variable and largely dependent on proximity to individual shears. The most intensely silicified and color banded wonderstone exhibits a near vitreous luster and is found in some rarely occurring pods comprising silicified tuff breccia enclosed in black calcite within individual shears. (BLM, 2012)

Mineral Deposit

The most desirable concentrations of intensely silicified and color banded wonderstone in the proposed quarry pit exhibits a near vitreous luster similar to jasper and is found in some rarely occurring pods comprised of devitrified tuff breccia enclosed in black calcite. These wonderstone pods were contained within several narrow (less than 4-foot wide) shears situated within a 400-foot wide zone southeast and sub-parallel to the Main Shear. (BLM, 2012)

Environmental Consequences

Proposed Action

Under the Proposed Action impacts to geology would include the permanent removal of approximately 200,000 cubic yards of material per contract with 5 possible future consecutive sales. Cumulative extraction of the maximum 200,000 CY per sale could result in up to approximately 1,000,000 CY of material being removed within the 19.7 acre area. This is proposed to occur in a phased development of the quarry pit, as identified in Chapter 2.. Removal of this material would be in accordance with 43 CFR 3600.

No Action
Under the No Action Alternative no mineral materials would be removed from this area at the present time. Mineral Material needs in the local and regional community would need to be derived from another source.

Cumulative Effects
The BLM has two authorized community mineral material pits, multiple acres of previously disturbed material pits near the community pits and one 43 CFR 3809 Plan of operations for clay material within a 5 mile radius of the site. Along the highway corridor there are 2 approved Nevada Department of Transportation mineral material R/W's within the 5 mile radius. Due to the combined effect of these existing mineral sites in the area, the 19.7 acre proposed quarry pit in the area is expected to be minimal compared to the associated disturbance of the existing pits in the area.

3.11 Socioeconomics

Affected Environment

Churchill County is a rural county that is located in western Nevada. The BLM administers approximately 67.4% of the land within Churchill County. The county seat of Fallon was established in 1908 in conjunction with the development of the Bureau of Reclamation Newlands Irrigation Project. Due to this project, the area developed an economy that is based largely on agriculture, this tradition continues today (Fallon Convention and Tourism Authority 2012). There is also a strong military presence in the county as Fallon is home to the Naval Air Station Fallon. The Naval Air Station Fallon has a strong economic impact on the surrounding area due to its relatively large size in a sparsely populated area. Approximately 3.5% of the labor force in Churchill County is in the armed forces (US Census Bureau 2010). As of 2011, approximately 2.9% of the economy within the County was employed within the agriculture sector and 1.5% of the economy within the County was employed within the mining sector (Headwaters Economics 2013).

As of 2012, the population of Churchill County is estimated at 24,375 people, 8,849 households (2007-2011), and 6,631 families residing in the county. The population density was 5 people per square mile. The racial makeup of the county was 85.3% White, 1.5% Black or African American, 4.0% Native American, 2.9% Asian, 0.7% Pacific Islander, 2.1% from other races, and 3.5% from two or more races. The population includes 11.5% of people that self-identify as Hispanic or Latino of any race (US Census Bureau 2010).

There were 9,671 households out of which 29.5% had children under the age of 18 living with them, 52.0% were married couples living together, 11.3% had a female householder with no husband present, and 31.4% were non-families. Approximately 25.2% of all households were made up of individuals. The average household size was 2.53 and the average family size was 3.01. The median age was 38.4 years (US Census Bureau 2010).

The median income for a household in the county was $52,589. The per capita income for the county was $24,689. About 10.5% of the population was below the poverty level (US Census Bureau 2013).

Environmental Consequences

Proposed Action

Implementation of the Proposed Action would provide minor economic benefits to the local economy. The Project would create additional jobs, income and tax revenues within the County. Road construction and improvements, and other facility construction could be contracted to local contractors providing more employment opportunities. Local businesses could realize increased revenue from the purchase of supplies, meals and rooms within the Fallon area. Local trucking and delivery companies may also benefit economically by the transporting of supplies, building materials and the mined materials. Therefore impacts to socio-economics under the Proposed Action would be minor, but overall positive to the local community.

No Action

Under the No Action Alternative, no additional jobs would be created and additional revenues would not occur within the local communities of Fallon. Royalties from the sale of the mined materials would not be put into the general funds for the United States.

Cumulative Effects

The Proposed Action would not induce a substantial growth or concentration of population, nor would it cause a substantial net increase in county expenditures or revenues. The Project would also not create a substantial demand for public services. In the foreseeable future it is expected that cumulative socioeconomic effects from implementation of the Proposed Action in conjunction with other activities in the County, would be beneficial and relatively minor.

3.12 Soils

Affected Environment

Soils within the Project Area are shown as the Pirouette-Osobb Series in the Soil Survey of Churchill County, NV (2001). Typically barren gravelly slopes, these soils are formed in residuum and colluvium derived from volcanic rock, is well-drained, and has slopes varying from 4 to 15 percent. The potential for wind and water erosion is slight.

Environmental Consequences

Proposed Action

The Proposed Action would result in the interim removal of surface soil from the site on an area approximately 19.7 acres in size. The soil associations in the Project area have a low potential for the erosion hazards of water and wind. Exploration, excavation, loading, hauling and grading

would increase the wind and water erosion potential of disturbed soils until reclamation is successfully completed.

The potential impacts to soils would be reduced by measures incorporated into the proposed reclamation process. Available near-surface growth medium would be selectively stripped with a dozer or scraper and stored along the perimeter of the disturbed areas to create a public exclusion berm for the perimeter of the Project area. The material would be stabilized during the period of active operation by seeding with the mix recommended by the BLM. Enhanced sediment control may be needed for the stockpiled growth medium and may include silt fencing and/or straw matting. The stockpiled growth medium would be utilized as needed for reclamation, and would be supplemented with fines from the screening plant and excavated clayey material within the proposed disturbed area. Following reclamation, which includes seeding disturbed areas with a BLM-approved seed mix, soil loss due to the Proposed Action would be minimal.

No Action

Under the No Action Alternative, none of the impacts associated with exploration, excavation, loading, hauling or grading as described in the Proposed Action would occur; however, there would still be rock collectors visiting the area, as well as the potential for future exploration.

Under this alternative, there would be no soil removal or seeding since reclamation would not be needed. Enhanced sediment control would not be necessary.

Cumulative Impacts

The cumulative impact analysis area for the soil resource consists of the 19.7 acres of the Project area within the Salt Wells Allotment. The potential impacts from the Proposed Action would be minimized due to the implementation of environmental protection measures outlined in Section 2.1 and the final reclamation plan described in Section 2.1.10. As a result, a minimal incremental impact to soils in the Project area would be expected. The seeding of native perennial plant species has the potential to improve the soil resource by adding organic material, reducing loss of soil, increasing the area's ability to capture, store, and release water, and improving the biotic integrity.

3.13 Vegetation

Affected Environment

Two major ecological systems exist on the subject lands including Inter-Mountain Basins Mixed Salt Desert Scrub (salt desert scrub) and Inter-Mountain Basins Greasewood Flat (greasewood). The salt desert scrub and greasewood ecological systems in the area are characterized by open shrubland with typically less than 10% coverage. The salt desert scrub ecological system predominates over the hilly northern and central portions of the claim group while the

greasewood ecological system becomes more prevalent in the flatter valley areas on the southern portion of the claim group (United States Geological Survey (USGS), 2004).

The salt desert scrub ecological system is dominated by shadscale saltbrush (*Atriplex confertifolia*) and Bailey's greasewood *(Sarcobatus vermiculatus* var. *baileyi*) in association with green rabbitbrush (*Chrysothamnus viscidiflorus*), while the greasewood ecological system on the claim group comprises mainly back greasewood (*Sarcobatus vermiculatus*) in association with shadscale and rabbitbrush. Native grasses observed in association with both ecological systems on the subject lands include Sandberg bluegrass (*Poa secunda*) and Indian ricegrass (*Achnatherum hymenoides*). Forbs including whitestem blazing star (*Mentzelia albicaulis*) and annual buckwheat (*Eriogonum annuum*) are observed sporadically. Disturbed areas are prone to the establishment of invasive species including cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*) and Russian Thistle (*Salsola iberica*).

Environmental Consequences

Proposed Action
The Proposed Action would result in approximately 19.7 acres of surface disturbance; however, the Project area is sparsely vegetated, with the majority of the area consisting of rocky and bare ground. The seeding that is proposed at the end of this project would reduce and/or eliminate any adverse effects that may occur. The seeding would be scheduled for the fall of the year after regrading and seedbed preparation in order to take advantage of winter and spring precipitation, spring germination, and to minimize loss of seeds due to rodents and birds. Although the final seed mix used may change, an appropriate mix is shown in Table 3 and consists of Sandberg bluegrass (*Poa secunda*), Indian ricegrass (*Achnatherum hymenoides),* shadscale saltbush (*Atriplex confertifolia*), and fourwing saltbush (*Atriplex canescens*).

The existing vegetation could be indirectly affected by soil compaction resulting from site grading, clearing, and other ground-disturbing activities during operation of the project. Additionally, cleared areas would be susceptible to the establishment of invasive vegetation, which could potentially out-compete the native vegetation. With the reclamation of the site these effects would be negligible.

No Action

Under the No Action Alternative, there may be continued disturbance to the vegetation due to existing rock collectors and/or future mining claims; however, the development of the 19.7 acre quarry would not occur at this time. Growth medium would not need to be collected for reclamation purposes in order to ensure success on the reseeding of the site since reseeding of the site would not occur.

Cumulative Effects

The cumulative impact analysis area for vegetation consists of the 19.7 acres of the Project area within the Salt Wells Allotment. When combined with the effects from past, present, and

reasonably foreseeable future actions, cumulative effects have been determined to be positive for the native vegetative community under the Proposed Action Alternative. Although there would be an increased risk of introducing invasive plant species onto the site once areas are cleared and further disturbance occurs, reseeding with appropriate plant species for the site has the potential to improve the vegetative community. Currently, the area is rocky and fairly barren; therefore, the seeding of suitable grass and shrub species as part of the reclamation process would likely increase the diversity of native, perennial plants.

3.14 Visual Resources

Affected Environment

The objective of VRM is to manage public lands in a manner which would protect the quality of the scenic or visual values of those lands. Scenic values are identified through the Visual Resource Inventory (VRI) process and are considered along with other resource values in the RMP planning process to establish VRM management objectives. VRM objectives are established in conformance with land use allocations, are area specific, and provide visual standards for planning, designing and evaluating proposed development projects or changes to the landscape. The VRM system also provides guidelines for timely evaluation of proposed surface disturbing projects to ensure VRM objectives are met. The VRM classification for the Carson City District is incomplete and the project site is located in an area that has not been assigned VRM classification through land use planning decisions.

Where no VRM objectives exist, the CCDO CRMP standard operating procedure states that an interim VRM objective is to be assigned at the time a project is proposed. The VRI, which is the baseline data used in establishing VRM objectives, was completed for the District in 2011 and referenced to establish the interim VRM objectives for this project. The VRI inventory classified the project area as VRI Classification III. Based upon this VRI classification and management objectives for this area, a VRM Classification III or IV will be assigned to this area depending on the final management objectives identified.

The objectives for VRM Class III and IV are as follows:

> VRM Class III objective is to partially retain the existing character of the landscape while allowing a moderate level of change to the landscape from permitted or authorized activities. These activities or developments may attract attention but should not dominate the view of the casual observer. Attempts should be made to minimize the impact of these activities through careful location, color, minimal disturbance, and repeating the basic elements and forms found in the natural landscape.
>
> Class IV. The objective of this class is to provide for management activities which require major modification 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.

The overall visual landscape near the project area is a combination of natural and human-made elements. Natural elements consist of low mountains, foothills, alluvial fans and playas with a transition of desert scrub intermixed with low sagebrush and greasewood at the lower elevations to exposed bedrock at higher elevations along the ridgelines. Throughout the year, colors in the landscape are primarily brown hues dotted with dark green and sage colored vegetation. Textures in the landscape include rocks, mineral soil and low shrubs. Human-made features in the area include existing mine disturbances in the form of gravel pits, exploration roads, and test pits. The lines within the project area are bold and irregular as a result of the existing open pits. The land forms in the project area include flat to rolling to steep terrain.

Environmental Consequences
Proposed Action

During the processing phase, depending on the final expanse of excavation into the hillside over the life of the project, there would be noticeable impacts that would create a low to moderate level of visual contrast with the surrounding landscape forms within the immediate vicinity of the project. The degree of change to the existing characteristics of the landscape would depend on the final width and height of excavated material. The visual impacts would occur to the elements of line and color by altering the amount of newly exposed rock and the surface shape of the hill. Exposure of lighter, non-weathered rock would create a moderate visual contrast compared to the undisturbed sections of the hill. Horizontal and diagonal lines from access roads constructed on the hillside would cause moderate line contrasts with the natural landscape.

Due to the topography of the area, the project site would not be visible to motorists on Highway 50 which lays 2.7 miles to the south or 4.6 miles to the west. The Salt Wells Mountain obstructs the view of observers looking northward from Highway 50 and the foothill of Sehoo Mountain obstructs the view of observers from the west. The project site is also not visible from the Grimes Point Archaeological Area which lies 2.5 miles to the west of the site. Only the south side of the hill is proposed to be excavated, so the project would not be visible from observers traveling on roads from the north side of the hill. Disturbance along the base of the hill from material processing activities, stockpiling materials, equipment use and storage and maintenance facilities would not be readily visible except from the immediate vicinity at the southern end of the project. Use of the BLM's BMPs for visual management, including the placement and color of structures and facilities, would reduce the degree of contrast.

During the project reclamation phase, stockpiled waste material would be used to fill any excavations and all disturbed areas would be re-contoured to approximate the original topography to the extent possible. Bench cuts in the hill would be reclaimed by blasting the bedrock to remove the linear edges and produce a more natural looking slope. Fill materials enhanced with growth media stockpiled from original surface disturbance activities would be used to reshape and restore the original slope and natural contours of the remaining areas where feasible. With successful reclamation and vegetation, long-term visual impacts would be

minimized. The effects of the project on visual resources would be consistent with BLM prescribed VRI Class III or IV objectives. Therefore, the impacts to visual resources from the Proposed Action are expected to be acceptable.

Due to potential for undesirable visual contrast between the surrounding native material and newly laid road surface on the off-site haul roads, crushed waste rock from the project site utilized for final road surfacing should be mixed with a selection of waste material obtained throughout the project site to avoid the creation of a single uniform color. During the initial road construction process after the base material has been laid, BLM staff will assess the contrast and determine if the crushed material is acceptable as a final surface material. If the color of the material is determined to create too much contrast, it may be acceptable for use as base material only. In this case, to minimize contrast, the material can be further augmented with other local material, or a surface material from another site may be required.

No Action

Under the No Action Alternative, none of the impacts associated with the Proposed Action would occur. Non-commercial collection of stone by the general public would continue with minimal impact to visual resources. Impacts from the No Action Alternative are consistent with BLM VRM Class III and IV objectives.

Cumulative Effects

The project area has a history of disturbance from road construction, mining, gravel extraction and other similar activities. There are several active community pits and an inactive clay mine within a 5 mile radius of the project site that create the same type of disturbance as the proposed activity. Due to the minimal recreational activity in the area which leads to fewer observers, and the distance between other project sites, the cumulative effects to visual resources is expected to be low.

3.15 Travel Management

Affected Environment

Primary access to the Lahontan and Rainbow Mountains near the project site is located on Highway 50 at the Grimes Point Archaeological Area junction approximately 12 miles east of Fallon in Township 18N, Range 30E, Section 29. The east-west road (Appendix A, Map 9, Primary Access), often referred to as Grimes Point Road by the locals, is a maintained road that runs parallel to the Grimes Point Archaeological Area and provides access to the Grimes Point National Recreation Trail, the Hidden Cave Interpretive Trail and cave, the Grimes Point rest area, and popular dispersed shooting and OHV riding areas east of Grimes Point for the general public. Road length from Highway 50 junction to the spur road for the project site is 4.3 miles.

Two additional roads provide access to the project site. The first road (Appendix A, Map 9, Alternate Access 1) is a graded north-south running road east of Eetza Mountain in Township

18N, Range 30E, Section 34 that is utilized primarily by the Churchill County road department as a haul road to access the community pit No. NVN-062243. This road is 3.6 miles in length from Highway 50 junction to the spur road to the project site. The first half mile of graveled road from the junction of Highway 50 to the community pit is well maintained by the county for use as a material haul road for gravel transport trucks. The 1.2 mile section of road from the community pit to Grimes Point road is a previously graded section that runs through an old gravel pit that is no longer maintained and has degraded to the level of requiring a high clearance vehicle to use. This area is highly disturbed from past gravel extraction activities and is occasionally used by ATV riders and target shooters as a recreational play area. The 1.2 mile section of road would require improvements and gravel surfacing to be used as a haul road for the project.

The third access road (Appendix A, Map 9, Alternate Access 2) is located on the north side of Highway 50 in Township 18N, Range 30E, Section 35, across from Salt Wells Road. This road was originally graded but is a seldom maintained, mostly natural surface road that provides access to Lattin Well and Salt Wells Mountain. This road is used primarily by recreational users and grazing permittees. This north-south running road is approximately 4.5 miles from the junction of Highway 50 and the spur road to the project site. This road would require extensive upgrading in order to be useable for an access road to the site. This road is also in close proximity to an existing clay mine, and the terrain is difficult to traverse by haul trucks.

Environmental Consequences

Proposed Action

The increase in vehicle traffic from the project as proposed is estimated to generate a maximum of 30 truckloads a day in addition to traffic generated from water haul trucks, employee vehicles, maintenance vehicles and heavy equipment transport. This would greatly increase potential conflicts with existing general traffic flow in the area on Primary Access road (Appendix A, Map 9). The increase in large truck traffic and associated project vehicles would degrade the road surface, increase the amount of air borne particulates and dust, and generate diesel exhaust within the Grimes Point Archaeological Area which would negatively impact the sensitive rock art and cultural resources.

The increased traffic from the project could also have a negative effect on the positive visitor experience for the public who are visiting the Grimes Point Archaeological Area; including the Grimes Point National Recreation Trail, the Hidden Cave Interpretive Trail, and Hidden Cave. The increased traffic and associated noise and dust could also negatively impact the visitor experience for the recreational users who regularly hike the 1.5 mile ridgeline trail between Hidden Cave and Grimes Point.

The lack of a left turn lane on Highway 50 at the junction of Highway 50 and Grimes Point Road where vehicle speed is posted at 70 m.p.h. is an issue of concern since vehicles traveling on Highway 50 would be competing with the trucks to enter or exit Highway 50 to visit the Grimes Point Archaeological Area or the Grimes Point rest area. The increase in project related truck traffic would also increase the potential for conflicts between recreational users accessing the area from Highway 50.

Potential impacts and conflicts caused by increased traffic flow, dust and exhaust issues near the Grimes Point Archaeological Area would be mitigated by the upgrading of the 1.2 miles of Alternate Access 1 (Appendix A, Map 9) east of Mount Eetza and utilizing this as the primary haul road to access the project site. The location of this road reduces or eliminates the conflicts with vehicle traffic and recreational users associated with Grimes Point Road and the Grimes Point Archaeological Area. There would be minimal conflict between truck traffic and the public since in general; the public would not have a reason to access Alternate Access 1 from Highway 50. Utilization of Alternate Access 1 over Primary Access road would increase travel distance approximately 2 miles for haul trucks heading west on Highway 50, or reduce it by 2 miles for haul trucks heading east on Highway 50. Improving Alternate Access 1 would also allow the Truckee Carson Irrigation District and the general public to continue to access community pit No. NVN-62959 along the same haul road, thereby further reducing heavy truck traffic on the Primary Access road near the Grimes Point Archaeological Area.

Maintenance of the haul road would be required to reduce impacts from truck traffic and minimize dust. Maintenance would include grading, filling of pot holes, smoothing washboards, and repairing water related erosion such as rills and ruts. Dust control would be accomplished through the use of water trucks or chemical stabilization through the use of magnesium chloride or similar product. The road would also need to be signed as a haul road as a warning to the public who travel on it.

No Action

Under the No Action Alternative, the current conditions along Grimes Point Road, impacts to the Grimes Point Archaeological Area and conflicts with recreational uses and users would not change from the current conditions. The Primary Access road to the area would remain the main access to the Lahontan and Wonder Mountain area.

Cumulative Effects

Travel within the proposed project area consists mainly of recreationists exploring the area in street legal vehicles or OHVs, rock hounds and target shooters. Several community pits and one inactive commercial clay pit utilize the roads in the area to haul material from the sites and equipment and supplies to the sites. By improving Alternate Access 1 (Appendix A, Map 9) and using it as the primary haul road for the project, the user conflicts between commercial users and recreational users would be greatly reduced.

3.16 Monitoring

If the Proposed Action is implemented, annual compliance inspections of the project and any surface disturbing activities related to the project would be completed. Compliance inspections would ensure compliance with all applicable Federal Laws and project stipulations and mitigation measures. If any infractions are found during the inspections enforcement actions within the 43 CFR 3600 regulations would be pursued. Monthly production reports would be required by the proponent and production verification would also occur. Production reports would be compared to a pre- and post –survey of the contract area provided by the proponent. The pre-survey must include a base map of the contract area that depicts the existing topography (including all stockpiles and waste materials present). The post survey, or each annual survey, must include subsequent changes to the topography including all stockpiles and waste materials present in the contract area. In addition, the post surveys and annual surveys must include volumetric calculations to verify the amount of material removed from the contract area since the last survey. The number of reference points to be surveyed should be proportional to both the size of the contract area and the roughness of the terrain. Photogrammetric volume measurements may be made by stereo aerial photography if specific techniques are previously approved.

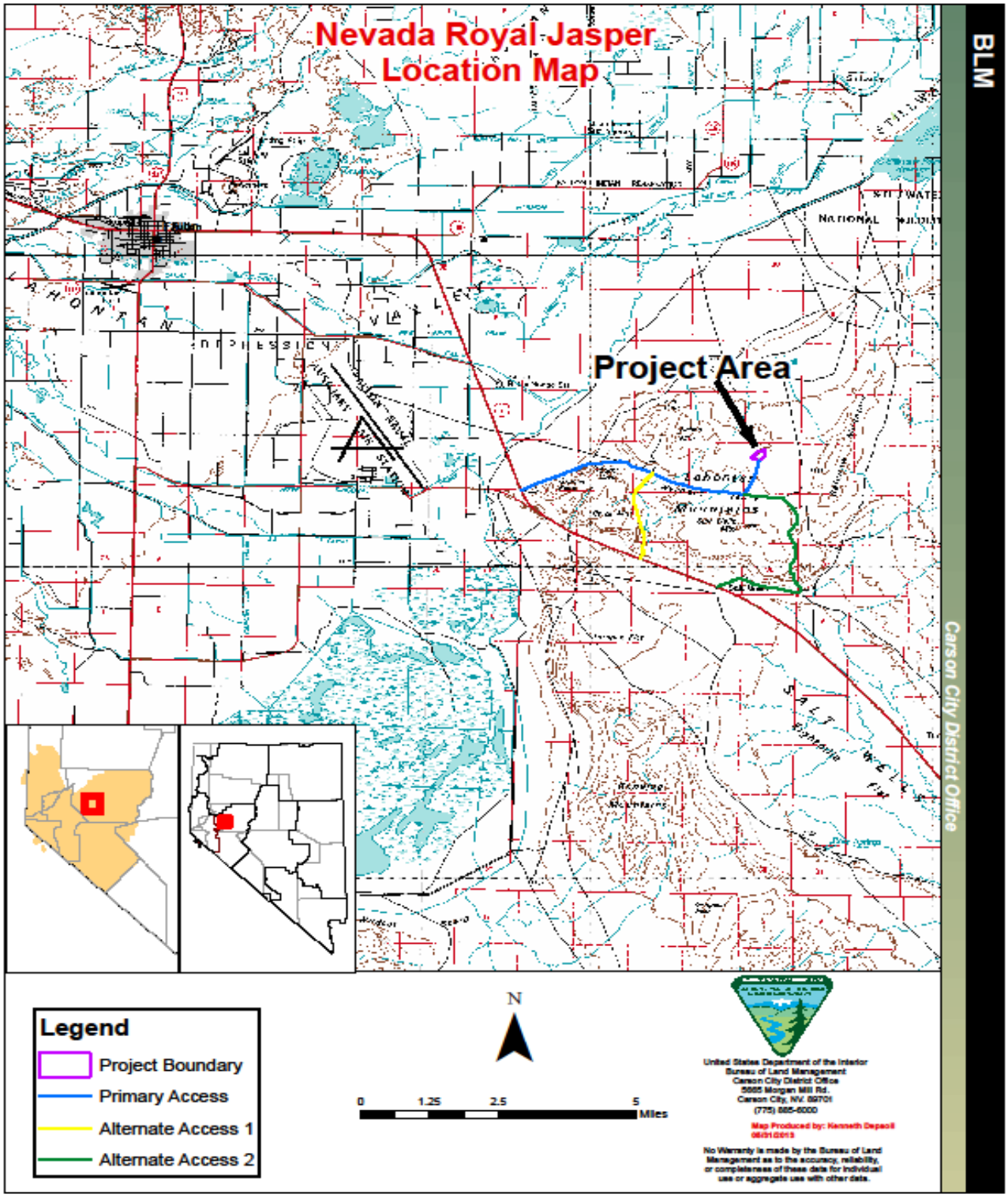
4.0 PERSONS, GROUPS OR AGENCIES CONSULTED

4.1 List of Preparers - BLM Stillwater Field Office Resource Specialists

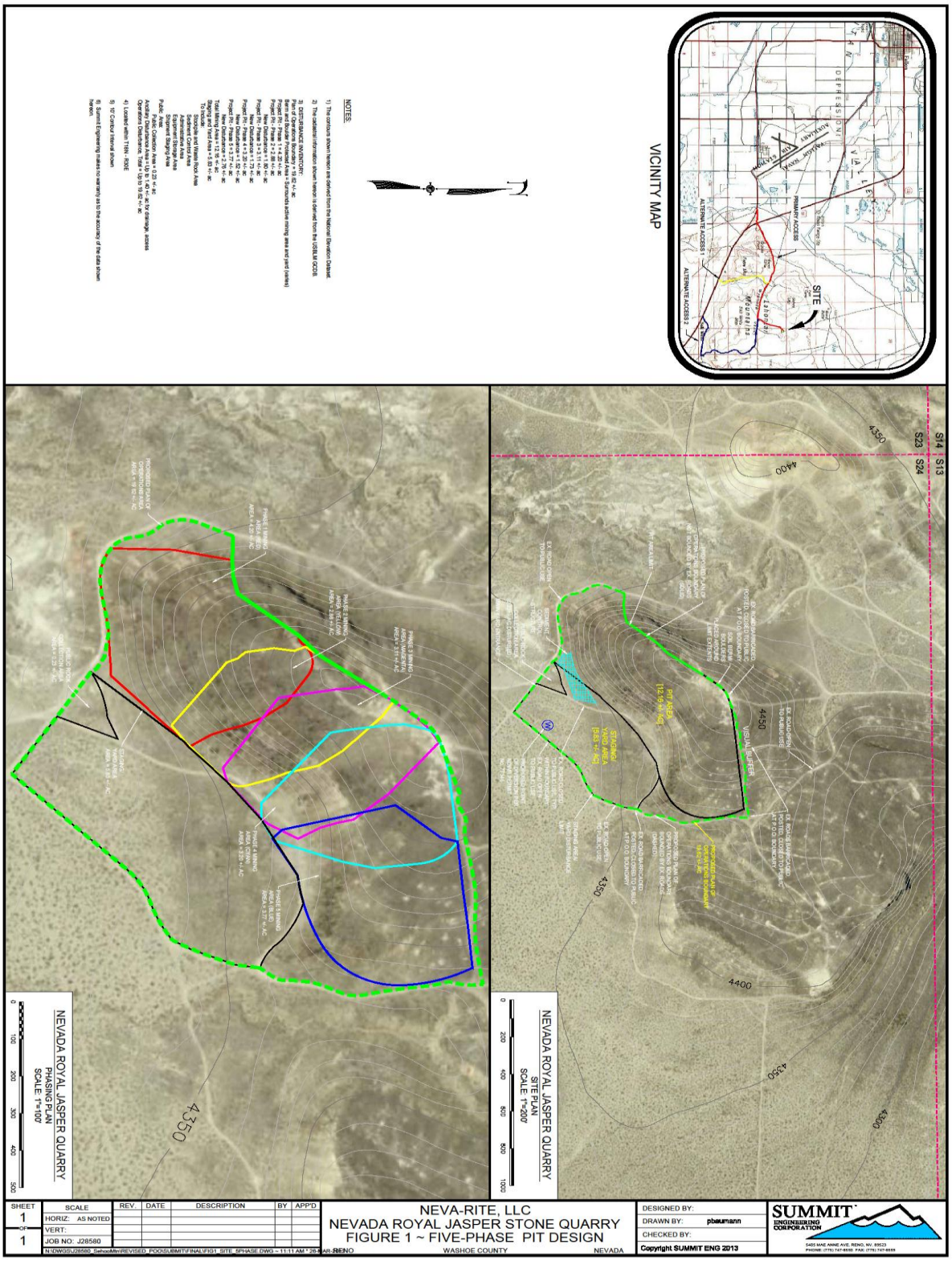
NAME	TITLE	PROJECT EXPERTISE
Kenneth Depaoli	Geologist	Project Lead/Geologist
Jason Wright	Archaeologist	Cultural Resources and Native American Religious Concerns
Jill Devaurs	Rangeland Management Specialist/ Noxious and Invasive Weed Specialist	Noxious Weeds and Invasive, Non-native Species, Rangeland Resources; Soils
Dan Westermeyer	Recreation Specialist	Recreation, VRM, ACEC, Travel Management, Wilderness
Angelica Rose	Planning and Environmental Coordinator	Environmental Justice/ Socioeconomics
Linda Appel	Wild Horse and Burro Specialist	Wild Horse and Burros
Chris Kula	Wildlife Biologist	Wildlife, Special Status Species, Migratory Birds
Carla James	Assistant Field Manager, Stillwater Field Office	Supervisor
Terri Knutson	Field Manager, Stillwater Field Office	Authorized Officer

Appendix A Maps

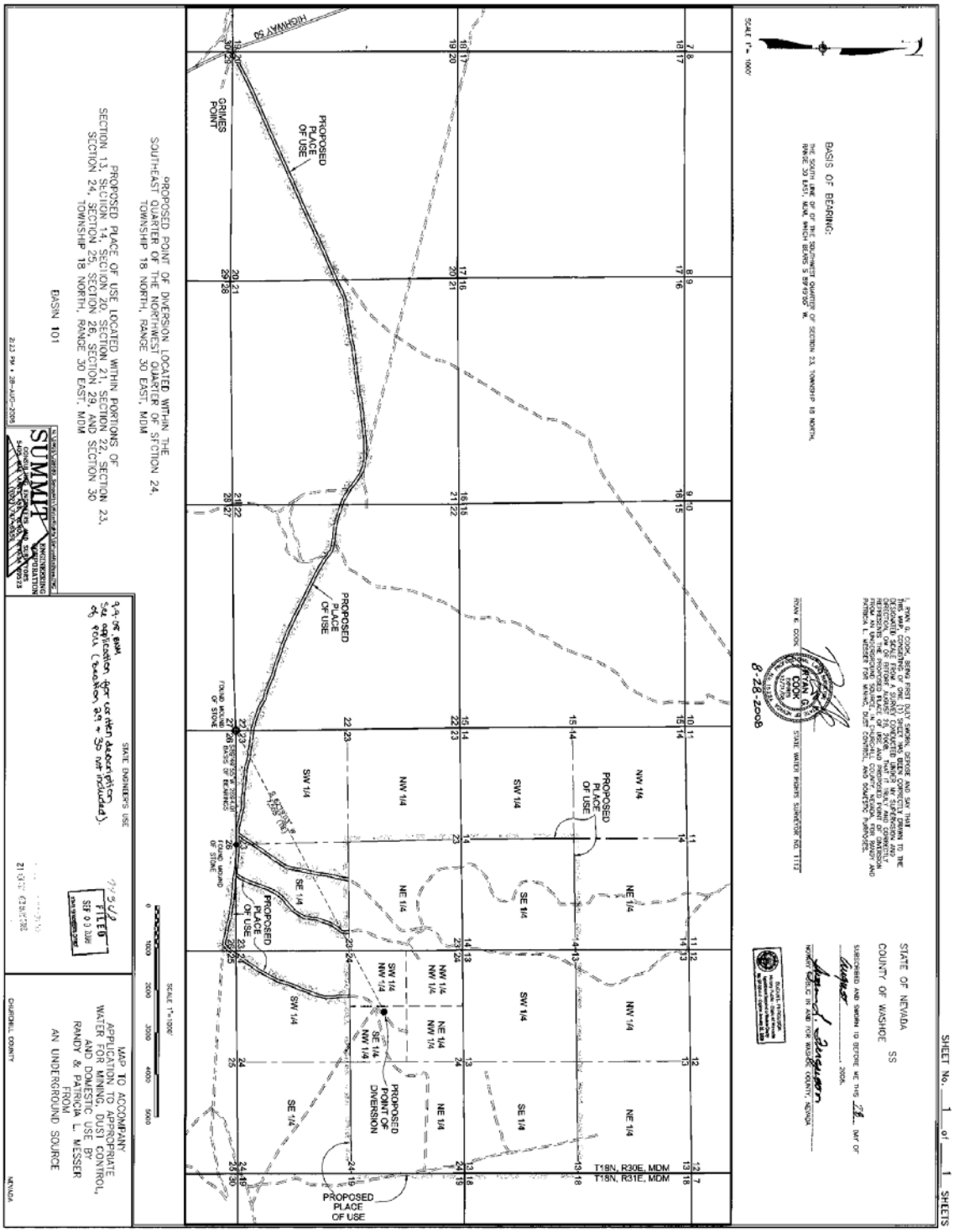
Map 1 Location Map



Map 2 Five Phase Pit Design



Map 3 Water Use Map


SHEET No. 1 of 1 SHEETS
STATE OF NEVADA
COUNTY OF WASHOE
SS
SUBSCRIBED AND SWORN TO BEFORE ME THIS 28 DAY OF
, 2008.
NOTARY PUBLIC IN AND FOR WASHOE COUNTY, NEVADA
RYAN E. COOK
STATE WATER RIGHTS SURVEYOR NO. 11117
8-28-2008
BASIS OF BEARING:
THE SOUTH LINE OF OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 18 NORTH, RANGE 30 EAST, MDM, WHICH BEARS S 89°49'00" W.
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T18N, R31E, MDM
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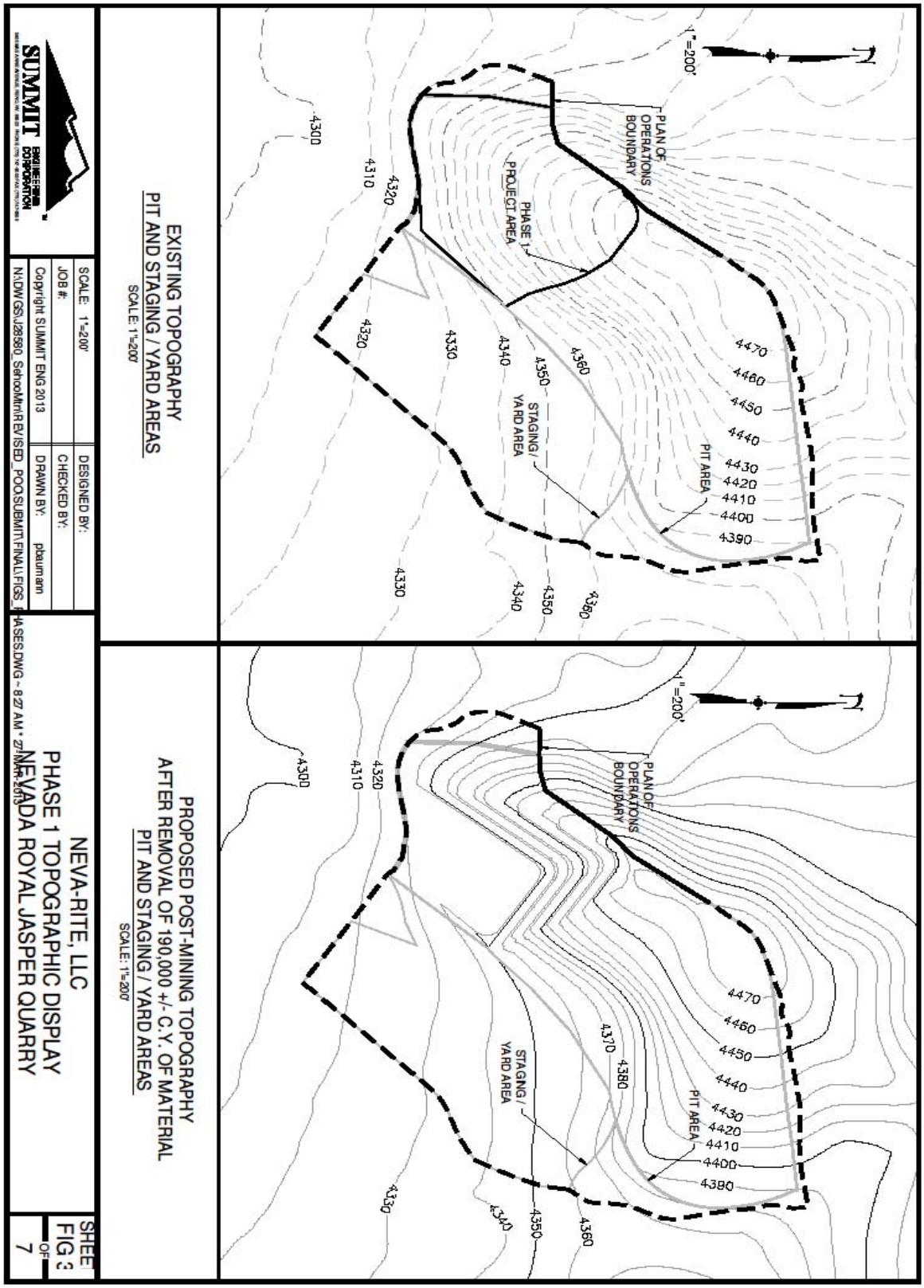
Map 4 Phase 1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PHASE 1 PROJECT AREA
STAGING / YARD AREA
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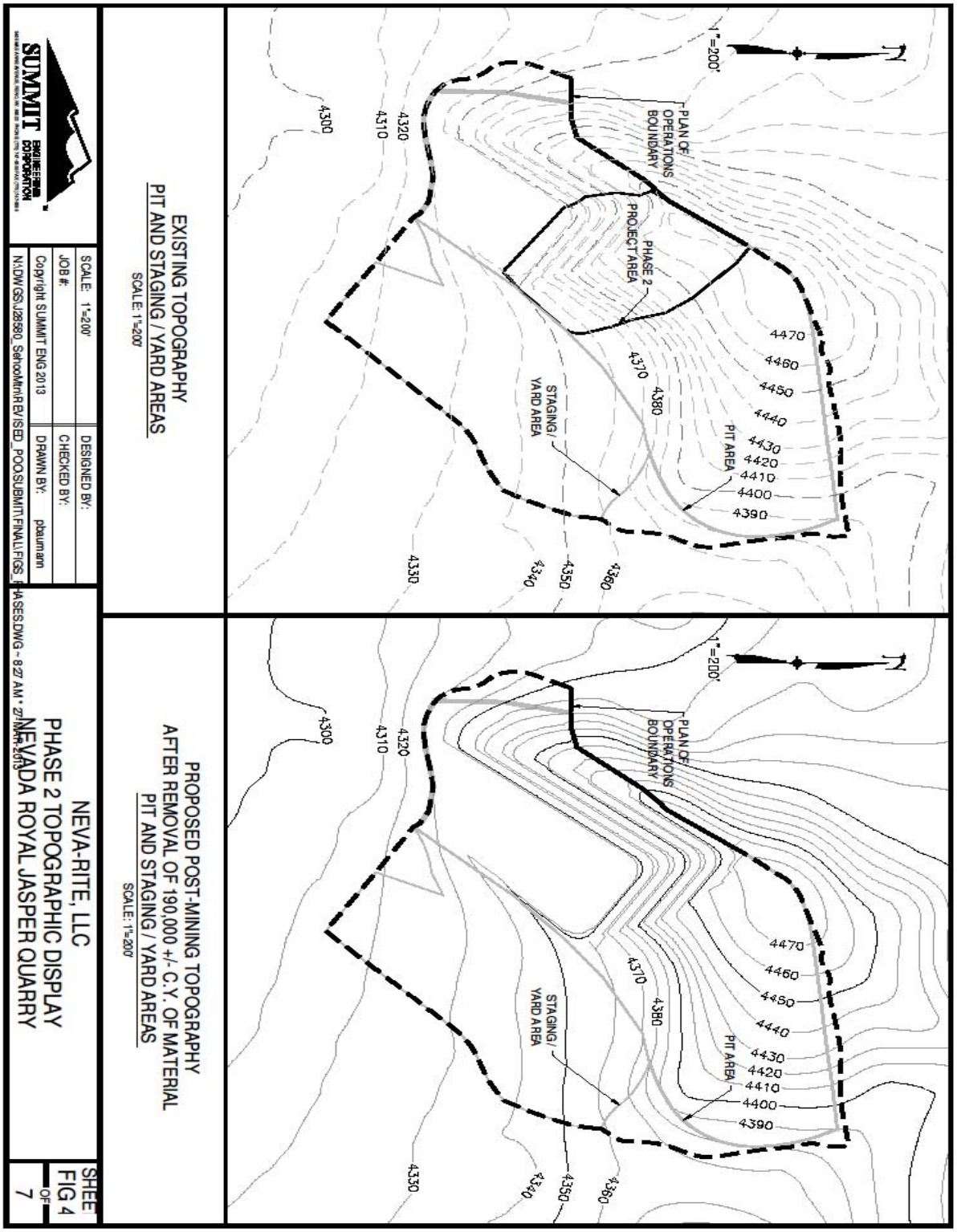
EXISTING TOPOGRAPHY
PIT AND STAGING / YARD AREAS
SCALE: 1"=200'
4370
4380
PROPOSED POST-MINING TOPOGRAPHY
AFTER REMOVAL OF 190,000 +/- C.Y. OF MATERIAL
PIT AND STAGING / YARD AREAS
SCALE: 1"=200'
SUMMIT ENGINEERING CORPORATION
SCALE: 1"=200'
JOB #:
Copyright SUMMIT ENG 2013
DESIGNED BY:
CHECKED BY:
DRAWN BY: pbaumann
NEVA-RITE, LLC
PHASE 1 TOPOGRAPHIC DISPLAY
NEVADA ROYAL JASPER QUARRY
SHEET FIG 3 OF 7

Map 5 Phase 2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PLAN OF OPERATIONS BOUNDARY
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EXISTING TOPOGRAPHY
PIT AND STAGING / YARD AREAS
SCALE: 1"=200'
PROPOSED POST-MINING TOPOGRAPHY
AFTER REMOVAL OF 190,000 +/- C.Y. OF MATERIAL
PIT AND STAGING / YARD AREAS
SCALE: 1"=200'
SUMMIT ENGINEERING CORPORATION
SCALE: 1"=200'
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DRAWN BY: pbaumann
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PHASE 2 TOPOGRAPHIC DISPLAY
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FIG 4
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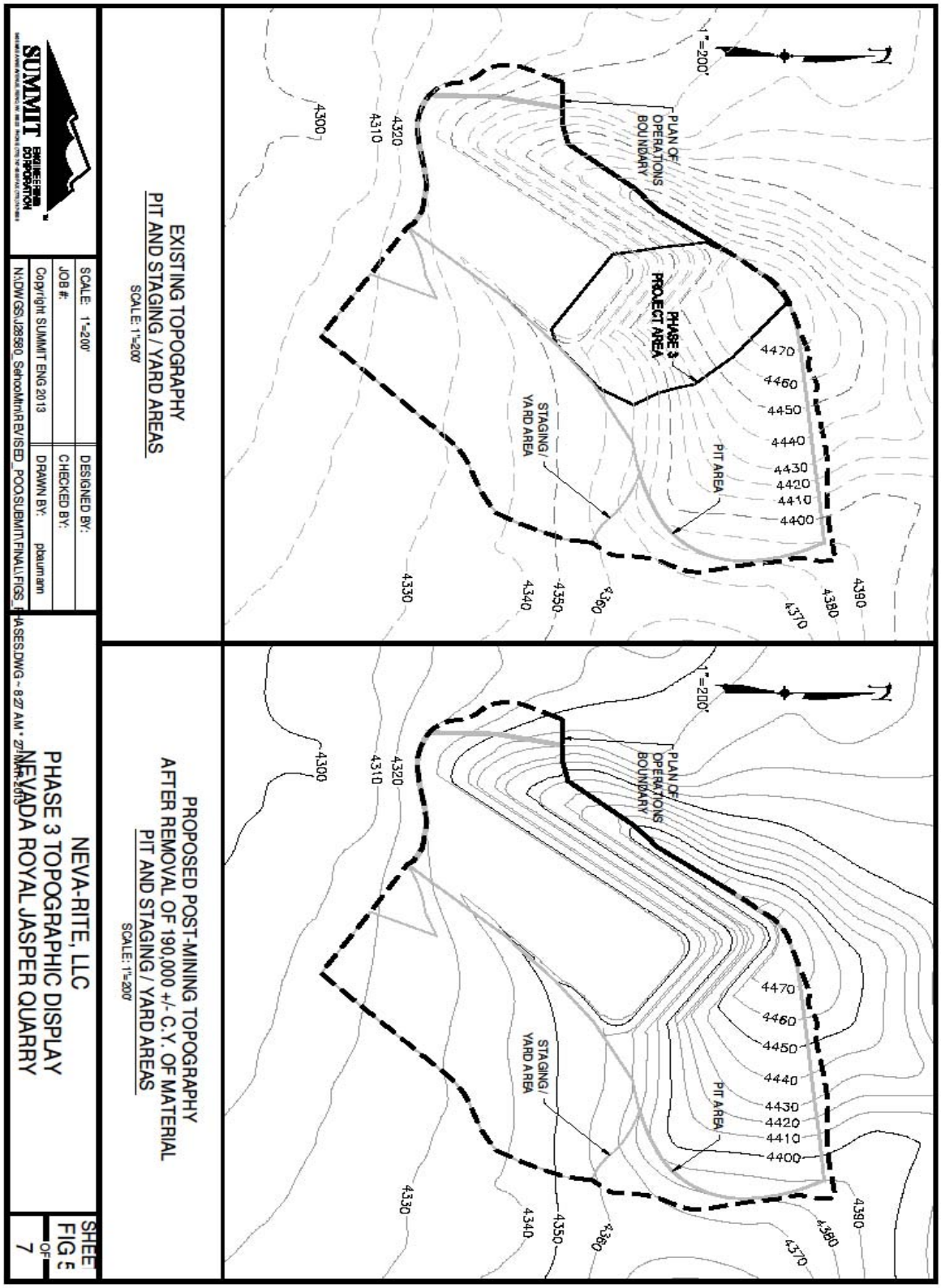
Map 6 Phase 3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PLAN OF OPERATIONS BOUNDARY
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PROPOSED POST-MINING TOPOGRAPHY
AFTER REMOVAL OF 190,000 +/- C.Y. OF MATERIAL
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SUMMIT ENGINEERING CORPORATION
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NEVA-RITE, LLC
PHASE 3 TOPOGRAPHIC DISPLAY
NEVADA ROYAL JASPER QUARRY
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FIG 5
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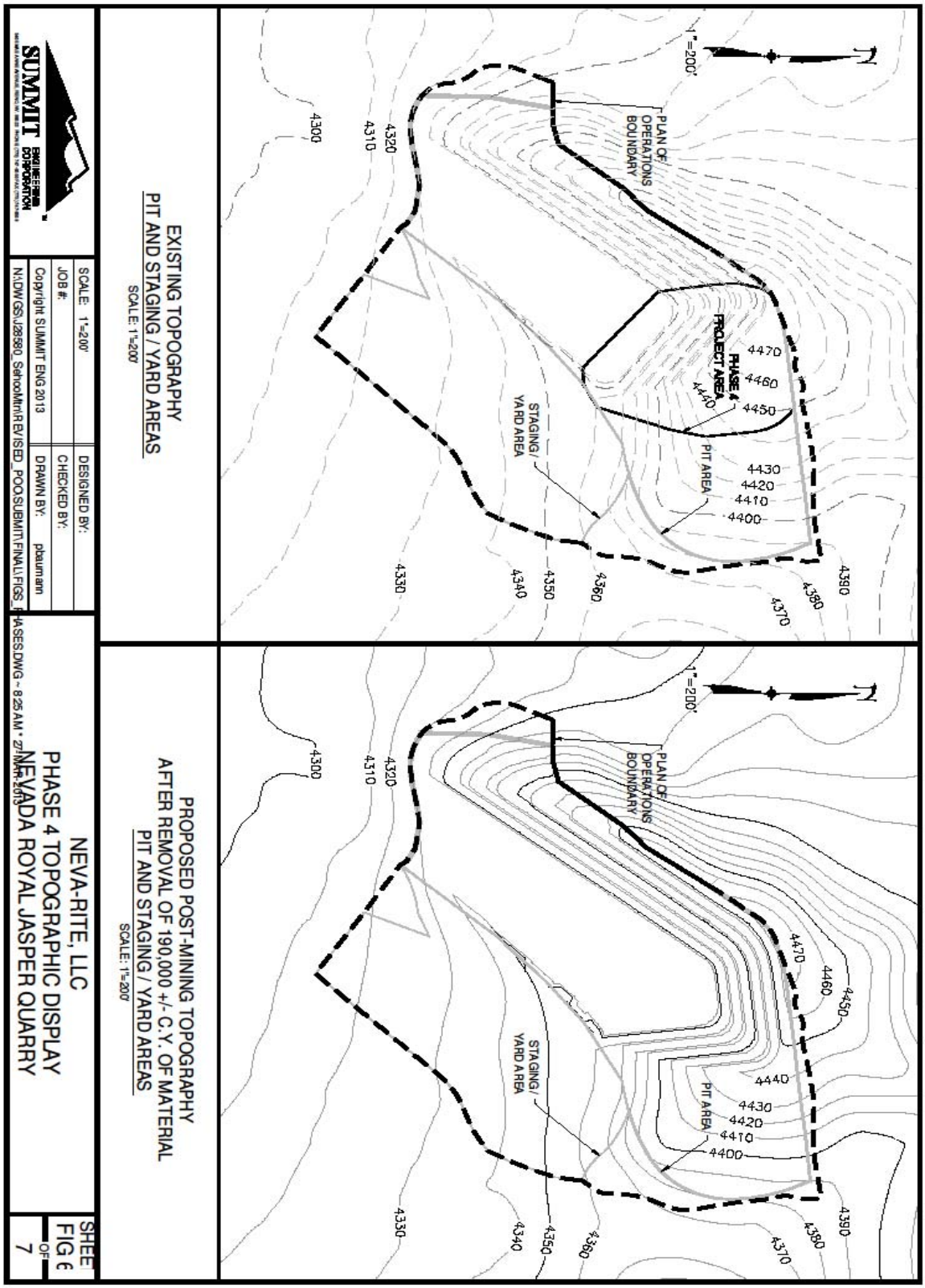
Map 7 Phase 4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PROPOSED POST-MINING TOPOGRAPHY
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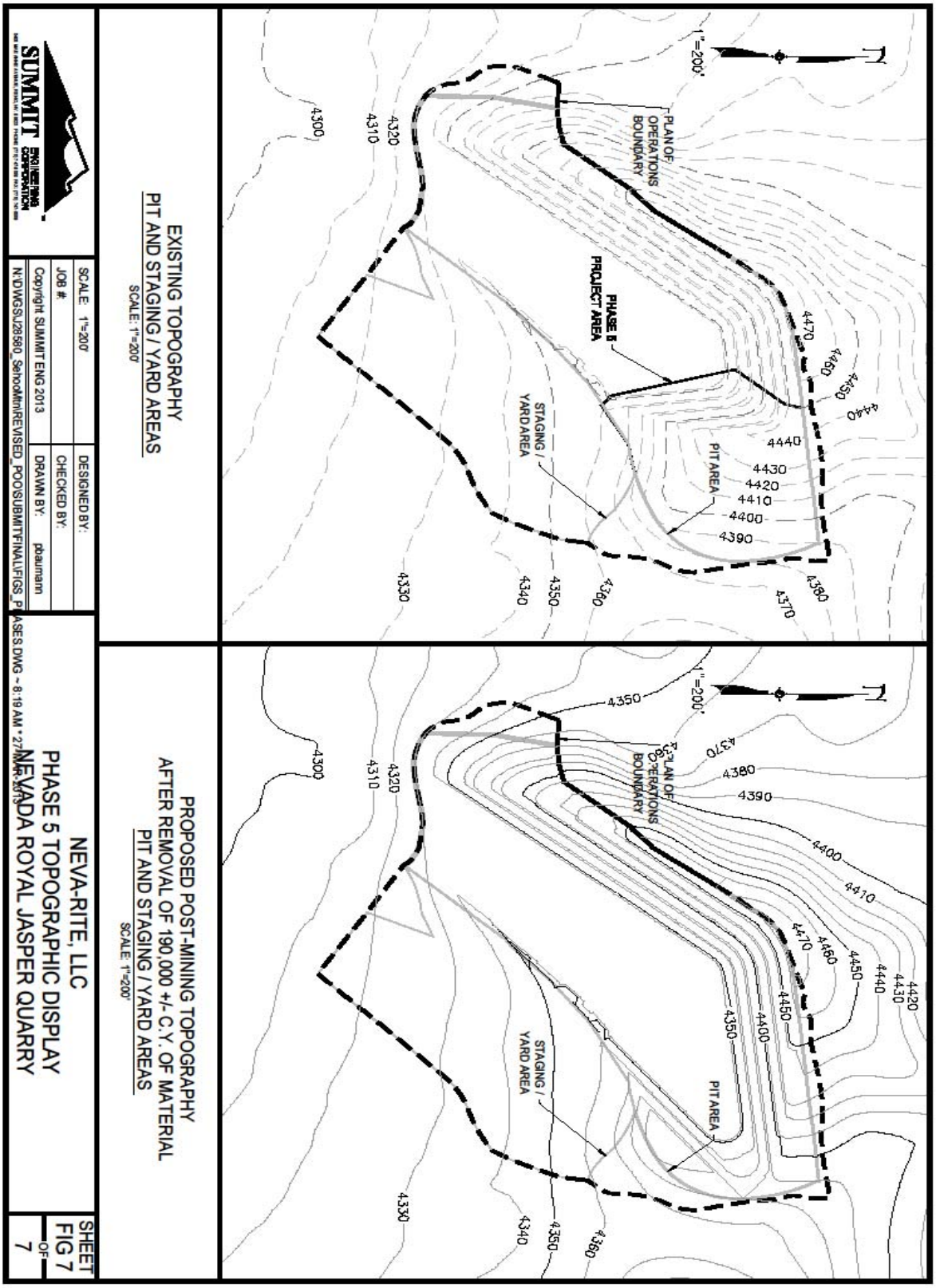
Map 8 Phase 5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PLAN OF OPERATIONS BOUNDARY
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EXISTING TOPOGRAPHY
PIT AND STAGING / YARD AREAS
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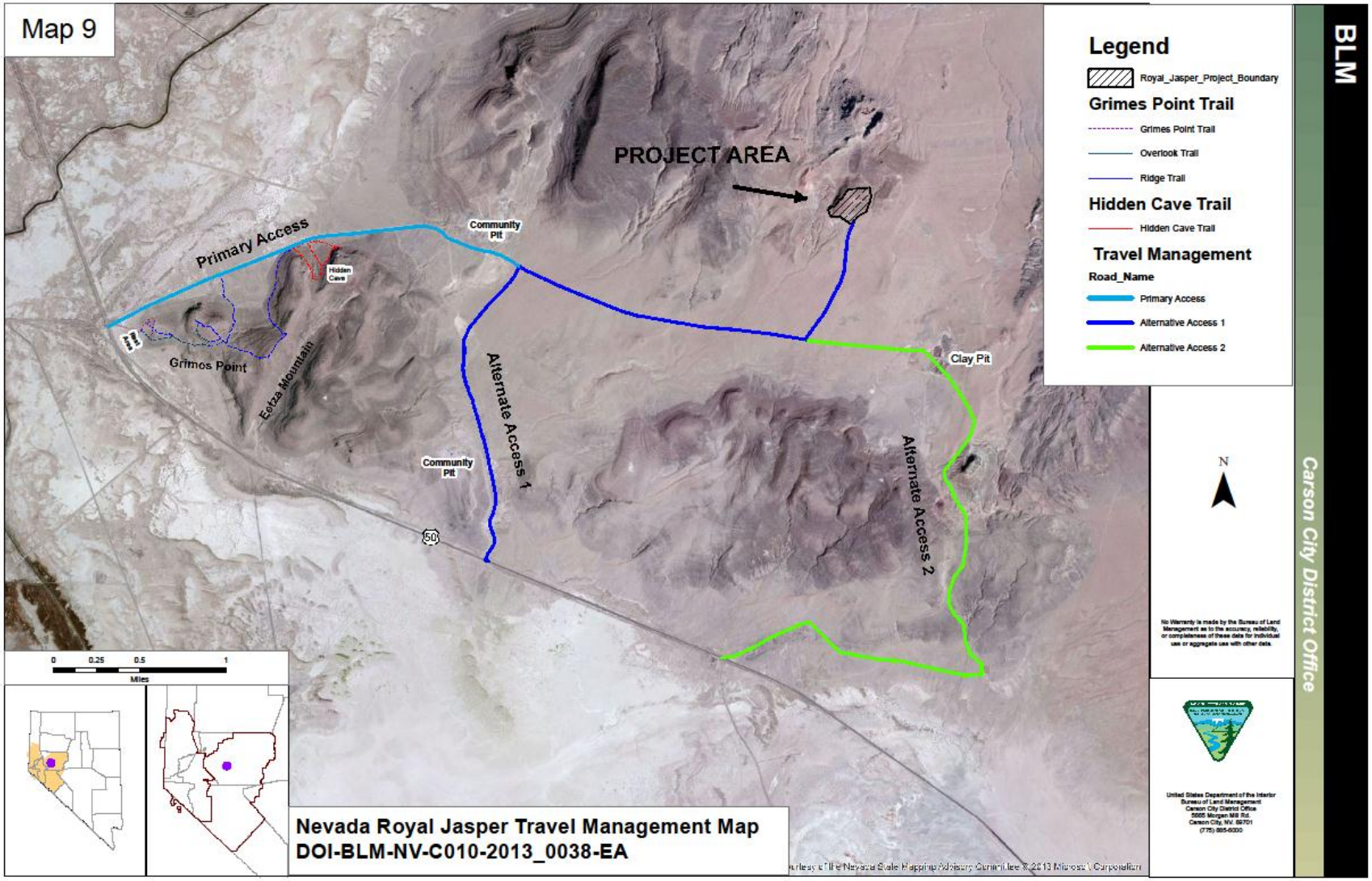
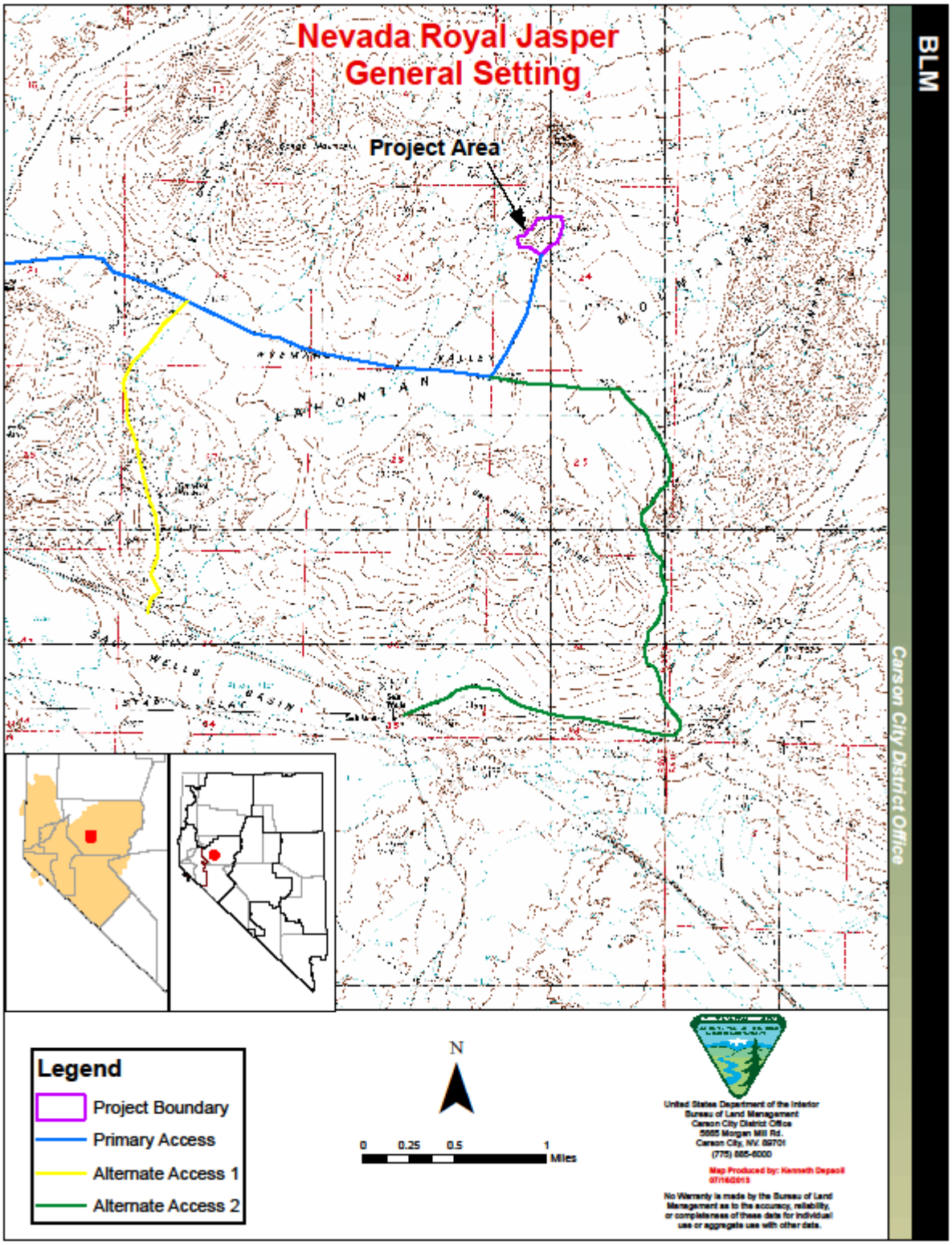
PROPOSED POST-MINING TOPOGRAPHY
AFTER REMOVAL OF 190,000 +/- C.Y. OF MATERIAL
PIT AND STAGING / YARD AREAS
SCALE: 1"=200'
SUMMIT ENGINEERING CORPORATION
SCALE: 1"=200'
JOB #
Copyright SUMMIT ENG 2013
DESIGNED BY:
CHECKED BY:
DRAWN BY: pbaumann
NEVA-RITE, LLC
PHASE 5 TOPOGRAPHIC DISPLAY
NEVADA ROYAL JASPER QUARRY
SHEET FIG 7 OF 7

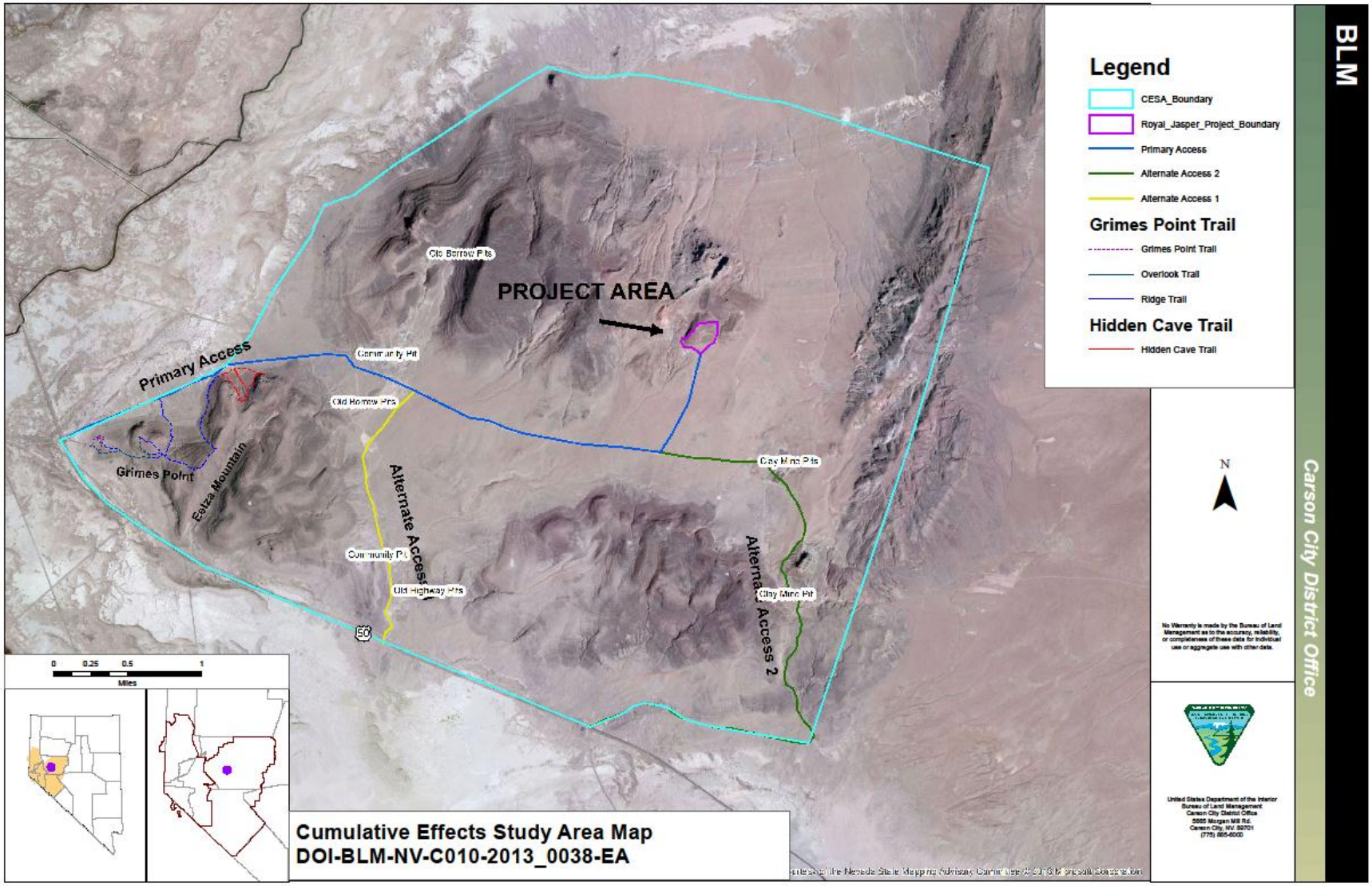
Map 9 Travel Management Map



Map 10 General Setting



Map 11 Cumulative Effects Study Area



Appendix B Spill Contingency Plan

NEVADA ROYAL JASPER
MINERAL MATERIAL QUARRY PROJECT
CHURCHILL COUNTY, NEVADA

SPILL CONTINGENCY PLAN

OBJECTIVES

The purpose of this Spill Contingency Plan (Plan) is as follows:

- To identify all pollutant sources that may exist within the Nevada Royal Jasper Mineral Material Quarry Project (Project).
- To identify Best Management Practices (BMPs) to prevent or reduce the quantity of potential pollutants discharged to the ground or surface water in order to minimize environmental impacts during and after the exploration project.

AVAILABILITY

A copy of this Plan shall be attached to the Project's Operating Plan, along with the Material Safety Data Sheets (MSDS) of all products used onsite for equipment maintenance for the exploration program and identified BMPs. All contractors are responsible for familiarizing their personnel with the information pertaining to BMPs and spill prevention.

PREVENTIVE MAINTENANCE

Good housekeeping practices will be followed onsite during the exploration project:

- An effort will be made to store only enough products required to do the job.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The Project Manager will inspect daily to insure proper use and disposal of materials onsite.

The operator and any associated contractors shall have equipment preventive maintenance programs to insure that all equipment is operating under optimum conditions and all hoses and fittings are in good condition and leak free. It is the responsibility of the operator, mechanic, tool

pusher or other designee, to execute the repairs or preventive maintenance and complete any reporting required. Assignment for repair when equipment is in a remote location may be issued verbally by field supervisory personnel or company management.

SOURCE IDENTIFICATION

Pollutants

Potential sources of pollutants from drilling rigs, service vehicles, and other equipment includes oil, fuel, and lubricating grease. Additional sources of pollutants may include drilling fluids (mud and foam), borehole plugging materials, solvents, trash and other debris. These pollutants are not expected to come into contact with on-site soils or surface waters; however, BMPs shall be employed to prevent potential release of contaminants.

Construction Debris

To minimize impacts during precipitation events, trash bins shall be regularly inspected for leaks.

Spill Contingency Plan (GM-6)

Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, sorbent materials, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

Well-maintained equipment will be used to perform the work. In the event of oil, fuel, and lubricating grease leaks, clean-up will be conducted as soon as possible. If the leak is on pavement or a compacted surface, an oil absorbing product such as Absorb® will be applied. Once the clean up product has absorbed the leak, it will be swept up into watertight drums or bins, and disposed of according to federal, state, or local regulations. If the leak occurs on soil, the contaminated soil will be removed and disposed of according to federal, state, or local regulations. In the event of a major spill the following actions should be taken, in addition to any federal, state, and local heath and safety regulations:

1. Contain the spread or migration of the spill, using on-hand supply of erosion control structures and/or by creating dirt berms, as feasible and necessary. Also utilize the materials and equipment stored onsite to control the spill.

2. Notify the environmental or project manager immediately.

3. Within 24 hours of an identified spill, the site manager or a designated representative will notify the following local and state agencies:

BLM, Carson City Field Office	(775) 885-6000
Nevada Division of Environmental Protection	(775) 687-4670

Emergency Response Hotline	(888) 331-6337

In case of an emergency, relevant phone numbers are provided below:

All Emergency calls:	**911**
Churchill County Sherriff's Department	(775) 423-3116
Banner Churchill Community Hospital	(775) 423-7924
Ambulance (Churchill Community Hospital)	(775) 423-3151

4. This Plan will be amended to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

BEST MANAGEMENT PRACTICES

- During construction, water will be used for dust control, mixing of grout, and cleanup. Water used for dust control will be sprayed over the ground at a rate which will moisten the soil but not cause runoff.

- It is the responsibility of the contractor to define construction staging areas to minimize footprint impacts, and to prevent impacts to water courses and other sensitive areas.

- The contractor is responsible for maintaining water-tight trash containers on the project site to minimize leakage to ground surface. Contractors will be responsible for maintaining contained areas for concrete wash-out and properly disposing of concrete, if used.

- The Project supervisor shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances).

- Best management practices shall be utilized and installed throughout the project for dust control and air quality; stormwater quality; vehicle and equipment maintenance and fueling; spill prevention and control; material delivery and shipping, handling, and use; and solid, liquid, and hazardous waste management. BMPs employed shall conform to best management practices adopted by governing agencies and may include the Best Management Practices Handbook by the State of Nevada Conservation Commission and the Nevada BMP Field Guide.

Appendix C References

List of References

- 43 Code of Federal Regulations (CFR's) 3600.

- Bureau of Land Management (BLM) 2007a. Appendix C. Final Programmatic Environmental Impact Statement, Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. U.S. Department of the Interior, Bureau of Land Management, Washington Office, Washington D.C.

- ____. H-1790-1 National Environmental Policy Act Handbook. Washington D.C.; US Department of the Interior Bureau of Land Management, 2008.

- ____. Carson City Field Office Consolidation Resource Management Plan. Carson City: Department of the Interior Bureau of Land Management, 2001.

- ____. 2012, Common Variety Determination for the Neva-Rite Claim Group, Churchill County, Nevada.

- ____. Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. 1994.

- ____. 2007b. Record of Decision for the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS. U.S. Department of the Interior, Bureau of Land Management, Washington Office, Washington D.C.

- Bradley, P.V., M.J. O'Farrell, J.A. Williams, and J.E. Newmark. Editors. 2006. The Revised Nevada Bat Conservation Plan. Nevada Bat Working Group. Reno, Nevada. 216 pp.

- Eaton, G. P., 1979, Regional geophysics, Cenozoic tectonics, and geological resources of the Basin and Range Province and adjoining regions; *in* Basin and Range symposium and Great Basin field conference: Rocky Mountain Association of Geologists and Utah Geological Association, Newman, G. W., and Goode, H. D., eds.

- Fallon Convention and Tourism Authority. 2012. Internet website: http://www.visitfallonnevada.com. Accessed on July 16, 2012.

- GBBO (Great Basin Bird Observatory). 2010. Nevada Comprehensive Bird Conservation Plan, ver. 1.0. Great Basin Bird Observatory, Reno, NV. Available online at www.gbbo.org/bird_conservation_plan.html

- Hansley, P.L. and G.P. Beauvais. 2004. Species Assessment for Brewer's Sparrow (*Spizella breweri*) in Wyoming. Prepared for Bureau of Land Management, Wyoming State Office. 49p.

- Headwaters Economics. 2013. Economic Profile System (EPS) Socioeconomic Profiles produced for County, Nevada. Internet Web site: http://www.headwaterseconomics.org/eps/. Data for Economic Profile System accessed on July 17, 2013.

- Morrison, R. B., 1964, Lake Lahontan: Geology of Southern Carson Desert, Nevada: U.S. Geol. Survey Prof. Paper 401, U.S. Government Printing Office, Washington D.C., 156 p.

- National Invasive Species Council. 2005. Five-Year Review of Executive Order 13112 on Invasive Species.

- Neel, L.A. 1999. Nevada Partners in Flight Bird Conservation Plan.

- Soil Survey of Churchill County, NV (2001)

- US Census Bureau. 2010. 2010 Census Summary Data. Internet Website: http://2010.census.gov/2010census/data/. Accessed October 9, 2012.

- ___. 2013. Churchill County QuickFacts from the US Census Bureau. Internet Website: http://quickfacts.census.gov/qfd/states/32/32001.html. Accessed July 18, 2013.

- U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>]

- ____. 2013. Federally Listed Species by County Website: http://www.fws.gov/nevada/protected species/species by county.html. (accessed June 2013).

- USGS, 2004, National Gap Analysis Program, Provisional Digital Animal-Habitat Models for the Southwestern United States, v. 1.0. Center for Applied Spatial Ecology, New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University.