

REVISED DRAFT ENVIRONMENTAL ASSESSMENT

Comstock Mining, LLC

American Flat Road/Lucerne Access Right-of-Way Amendment (NVN 091237)

DOI-BLM-NV-C020-2013-0005-EA

U.S. Department of the Interior
Bureau of Land Management
Carson City District
Sierra Front Field Office
5665 Morgan Mill Road
Carson City, NV 89701
775-885-6000

September 2015



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.

DOI-BLM-NV-C020-2013-0005-EA

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	BACKGROUND.....	1
1.2	PURPOSE AND NEED FOR THE PROJECT	1
1.3	SCOPING AND ISSUES IDENTIFICATION.....	2
1.4	DECISION TO BE MADE	4
1.5	LAND USE PLAN CONFORMANCE.....	4
1.6	RELATIONSHIP TO STATUTES, REGULATIONS, PERMITS, AND OTHER PLANS	5
2.0	PROPOSED ACTION AND ALTERNATIVES	7
2.1	PROPOSED ACTION.....	7
2.1.1	Project Features.....	9
2.1.1.1	Realign American Flat Road.....	9
2.1.1.2	Lucerne Haul Road	11
2.1.1.3	Other	11
2.1.2	Project Construction.....	12
2.1.2.1	Construction Standards	12
2.1.2.2	Equipment	12
2.1.2.3	Work Force	12
2.1.3	Access to and along the ROW during Construction	13
2.1.4	Drainage Facilities	13
2.1.5	Operation and Maintenance	13
2.1.6	Reclamation	14
2.1.7	Environmental Protection Measures	15
2.1.7.1	Air Quality	15
2.1.7.2	Vegetation	15
2.1.7.3	Cultural Resources	15
2.1.7.4	Wildlife including Migratory Birds	16
2.1.7.5	Noxious, Invasive Plant Species.....	17
2.2	ALTERNATIVES TO THE PROPOSED ACTION	17
2.2.1	No Action/Current Management Alternative.....	17
2.2.2	Non-Federal Alternative	18
2.3	ALTERNATIVES CONSIDERED AND ELIMINATED FROM DETAILED ANALYSIS	19
2.3.1	American Flat Toll Road Access Alternative	19
2.3.2	Ancillary Road Improvement Alternative	19
3.0	AFFECTED ENVIRONMENT	20
3.1	AIR QUALITY	22
3.1.1	Proposed Action.....	24
3.1.2	No Action/Current Management Alternative.....	24
3.1.3	Non-Federal Alternative	24
3.2	CULTURAL RESOURCES	25
3.2.1	Proposed Action.....	25
3.2.1.1	Direct/Indirect Effects APE	25
3.2.1.2	Viewshed APE.....	25
3.2.2	No Action/Current Management Alternative.....	26
3.2.3	Non-Federal Alternative	26
3.3	NOXIOUS, INVASIVE PLANT SPECIES.....	27

3.3.1	Proposed Action.....	27
3.3.2	No Action/Current Management Alternative.....	27
3.3.3	Non-Federal Alternative	28
3.4	MIGRATORY BIRDS.....	28
3.4.1	Proposed Action.....	28
3.4.2	No Action/Current Management Alternative.....	29
3.4.3	Non-Federal Alternative	29
3.5	HAZARDOUS AND SOLID WASTES	29
3.5.1	Proposed Action.....	29
3.5.2	No Action/Current Management Alternative.....	30
3.5.3	Non-Federal Alternative	30
3.6	WATER QUALITY (SURFACE/GROUND).....	30
3.6.1	Proposed Action.....	30
	3.6.1.1 Groundwater Resources	30
	3.6.1.2 Surface Water Resources	30
3.6.2	No Action/Current Management Alternative.....	31
	3.6.2.1 Groundwater Resources	31
	3.6.2.2 Surface Water Resources	31
3.6.3	Non-Federal Alternative	31
	3.6.3.1 Groundwater Resources	31
	3.6.3.2 Surface Water Resources	31
3.7	SPECIAL STATUS SPECIES (ANIMALS).....	32
3.7.1	Proposed Action.....	32
3.7.2	No Action/Current Management Alternative.....	39
3.7.3	Non-Federal Alternative	39
3.8	GENERAL WILDLIFE.....	39
3.8.1	Proposed Action.....	39
3.8.2	No Action/Current Management Alternative.....	40
3.8.3	Non-Federal Alternative	40
3.9	LAND USE AUTHORIZATIONS.....	41
3.9.1	Proposed Action.....	41
3.9.2	No Action/Current Management Alternative.....	42
3.9.3	Non-Federal Alternative	42
3.10	RECREATION AND TRAVEL MANAGEMENT	43
3.10.1	Proposed Action.....	43
3.10.2	No Action/Current Management Alternative.....	44
3.10.3	Non-Federal Alternative	44
3.11	SOCIOECONOMICS	44
3.11.1	Proposed Action.....	44
3.11.2	No Action/Current Management Alternative.....	45
3.11.3	Non-Federal Alternative	45
3.12	SOILS	45
3.12.1	Proposed Action.....	45
3.12.2	No Action/Current Management Alternative.....	45
3.12.3	Non-Federal Alternative	46
3.13	VEGETATION.....	46
3.13.1	Proposed Action.....	46

3.13.2	No Action/Current Management Alternative.....	48
3.13.3	Non-Federal Alternative	48
4.0	ENVIRONMENTAL CONSEQUENCES.....	49
4.1	AIR QUALITY	50
4.1.1	Proposed Action.....	50
4.1.2	No Action/Current Management Alternative.....	50
4.1.3	Non-Federal Alternative	50
4.2	CULTURAL RESOURCES	51
4.2.1	Proposed Action.....	51
4.2.1.1	Direct/Indirect Effects APE	51
4.2.1.2	Viewshed APE	51
4.2.2	No Action/Current Management Alternative.....	53
4.2.3	Non-Federal Alternative	53
4.3	NOXIOUS, INVASIVE PLANT SPECIES.....	54
4.3.1	Proposed Action.....	54
4.3.2	No Action/Current Management Alternative.....	54
4.3.3	Non-Federal Alternative	55
4.4	MIGRATORY BIRDS	55
4.4.1	Proposed Action.....	55
4.4.2	No Action/Current Management Alternative.....	56
4.4.3	Non-Federal Alternative	56
4.5	HAZARDOUS AND SOLID WASTES	56
4.5.1	Proposed Action.....	56
4.5.2	No Action/Current Management Alternative.....	57
4.5.3	Non-Federal Alternative	57
4.6	WATER QUALITY (SURFACE/GROUND).....	57
4.6.1	Proposed Action.....	57
4.6.2	No Action/Current Management Alternative.....	58
4.6.3	Non-Federal Alternative	58
4.7	SPECIAL STATUS SPECIES (ANIMALS).....	58
4.7.1	Proposed Action.....	58
4.7.2	No Action/Current Management Alternative.....	59
4.7.3	Non-Federal Alternative	59
4.8	GENERAL WILDLIFE.....	59
4.8.1	Proposed Action.....	59
4.8.2	No Action/Current Management Alternative.....	60
4.8.3	Non-Federal Alternative	60
4.9	LAND USE AUTHORIZATIONS.....	60
4.9.1	Proposed Action.....	60
4.9.2	No Action/Current Management Alternative.....	61
4.9.3	Non-Federal Alternative	61
4.10	RECREATION AND TRAVEL MANAGEMENT	62
4.10.1	Proposed Action.....	62
4.10.2	No Action/Current Management Alternative.....	63
4.10.3	Non-Federal Alternative	63
4.11	SOCIOECONOMICS	63
4.11.1	Proposed Action.....	63

4.11.2	No Action/Current Management Alternative.....	63
4.11.3	Non-Federal Alternative	63
4.12	SOILS	64
4.12.1	Proposed Action.....	64
4.12.2	No Action/Current Management Alternative.....	64
4.12.3	Non-Federal Alternative	64
4.13	VEGETATION.....	64
4.13.1	Proposed Action.....	64
4.13.2	No Action/Current Management Alternative.....	65
4.13.3	Non-Federal Alternative	65
4.14	COMPARISON OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE.....	65
5.0	CUMULATIVE EFFECTS.....	67
5.1	INTRODUCTION	67
5.2	PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS	68
5.2.1	Past and Present Actions	70
5.2.2	Reasonably Foreseeable Future Actions	82
5.3	AIR QUALITY	82
5.3.1	Proposed Action.....	83
5.3.2	No Action/Current Management.....	83
5.3.3	Non-Federal Alternative	83
5.4	CULTURAL RESOURCES	84
5.4.1	Proposed Action.....	84
5.4.2	No Action/Current Management Alternative.....	84
5.4.3	Non-Federal Alternative	85
5.5	NOXIOUS, INVASIVE PLANT SPECIES.....	85
5.5.1	Proposed Action.....	85
5.5.2	No Action/Current Management Alternative.....	86
5.5.3	Non-Federal Alternative	86
5.6	MIGRATORY BIRDS	86
5.6.1	Proposed Action.....	87
5.6.2	No Action/Current Management Alternative.....	87
5.6.3	Non-Federal Alternative	87
5.7	HAZARDOUS AND SOLID WASTES	88
5.7.1	Proposed Action.....	88
5.7.2	No Action/Current Management Alternative.....	89
5.7.3	Non-Federal Alternative	89
5.8	WATER QUALITY (SURFACE/GROUND).....	90
5.8.1	Proposed Action.....	90
5.8.2	No Action/Current Management Alternative.....	91
5.8.3	Non-Federal Alternative	91
5.9	SPECIAL STATUS SPECIES (ANIMALS)	91
5.9.1	Proposed Action.....	92
5.9.2	No Action/Current Management.....	92
5.9.3	Non-Federal Alternative	92
5.10	GENERAL WILDLIFE.....	93
5.10.1	Proposed Action.....	93
5.10.2	No Action/Current Management Alternative.....	93

5.10.3	Non-Federal Alternative	94
5.11	LAND USE AUTHORIZATIONS.....	94
5.11.1	Proposed Action.....	94
5.11.2	No Action/Current Management Alternative.....	95
5.11.3	Non-Federal Alternative	95
5.12	RECREATION AND TRAVEL MANAGEMENT	95
5.12.1	Proposed Action.....	96
5.12.2	No Action/Current Management Alternative.....	96
5.12.3	Non-Federal Alternative	96
5.13	SOCIOECONOMICS.....	97
5.13.1	Proposed Action.....	97
5.13.2	No Action/Current Management Alternative.....	97
5.13.3	Non-Federal Alternative	97
5.14	SOILS	98
5.14.1	Proposed Action.....	98
5.14.2	No Action/Current Management Alternative.....	98
5.14.3	Non-Federal Alternative	99
5.15	VEGETATION.....	99
5.15.1	Proposed Action.....	99
5.15.2	No Action/Current Management Alternative.....	100
5.15.3	Non-Federal Alternative	100
6.0	CONSULTATION AND COORDINATION.....	101
6.1	PUBLIC REVIEW AND COMMENT	101
6.1.1	Public Review and Comment – Draft EA December 2014	101
6.1.2	Public Review and Comment – Revised Draft EA September 2015.....	101
6.2	INDIVIDUALS, TRIBES, ORGANIZATIONS, AND AGENCIES CONSULTED	102
6.2.1	Individuals.....	102
6.2.1.1	Consulting Party under Section 106 NHPA.....	103
6.2.2	Tribes	103
6.2.3	Organizations	103
6.2.4	Agencies.....	103
7.0	LIST OF PREPARERS.....	104
8.0	REFERENCES.....	105

LIST OF TABLES

Table 1-1	Scoping Workshop Sign-In.....	3
Table 1-2	Comstock Mining, LLC’s Existing Permits.....	5
Table 2-1	Acres of Proposed Project-Related Surface Disturbance.....	8
Table 2-2	Existing and Proposed Road Lengths*	9
Table 2-3	Existing and Proposed Public Rights-of-Way Lengths and Widths†	9
Table 2-4	MOA Consulting Parties.....	16
Table 3-1	Supplemental Authorities.....	21
Table 3-2	Resources or Uses Other Than Supplemental Authorities.....	22
Table 3-3	Potential for Sensitive Animal Species to Occur within the Project Area.....	32

Table 3-4	Rights-of-Ways and Easements in the Project Area	41
Table 3-5	Claims and Lot Numbers in the Project Area	41
Table 4-1	Alternative Impact Comparison	65
Table 5-1	Cumulative Effects Study Areas	68
Table 5-2	Past, Present, and Reasonably Foreseeable Future Actions for the Cultural Resources, Air Quality and Land Use Authorizations, Recreation Resources, and Biological Resources Cumulative Effects Study Areas.....	69

LIST OF FIGURES

[Note: maps are not embedded in this document in order to maintain a small file size, maps are available on the Project website. Look under the Navigation Pane for “Maps.”]

Figure 1	Project Location
Figure 2	Proposed Action
Figure 3	Detail Showing Public Land Wedges
Figure 4	Detail Showing Current and Proposed Road Alignments
Figure 5	Typical Cross-Section Where the Haul and American Flat Roads Run Parallel
Figure 6	Typical Haul and Public Road Cross-Section
Figure 7	Signage Plan for Realigned American Flat Road
Figure 8	Signage Plan for Lucerne Haul Road
Figure 9	Signage Legend
Figure 10	No Action Alternative
Figure 11	Non-Federal Alternative
Figure 12	Cultural Resources Area of Potential Effect (APE)
Figure 13	Surface Water Resources
Figure 14	Recreation/Travel Management
Figure 15	Cultural Resources Cumulative Effects Study Area
Figure 16	Air Quality and Land Use Authorizations Cumulative Effects Study Area
Figure 17	Recreation and Biological Resources Cumulative Effects Study Areas
Figure 18	Socioeconomics Cumulative Effects Study Area
Figure 19	VRM Classification
Figure 20	Land Tenure Adjustments

LIST OF ATTACHMENTS

Attachment A	Fugitive Dust Control Plan
Attachment B	Integrated Weed Management Plan
Attachment C	Draft Plan of Development
Attachment D	Draft Memorandum of Agreement
Attachment E	Comments and Responses to Comments Table
Attachment F	Draft Finding of No Significant Impact

LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m³	Micrograms Per Cubic Meter
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
BAPC	Bureau of Air Pollution Control
BCA	Bureau of Corrective Actions
BLM	Bureau of Land Management
BMP	Best Management Practice
BMRR	Bureau of Mining Regulation and Reclamation
BWPC	Bureau of Water Pollution Control
CEQ	Council on Environmental Quality
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
CO₂	Carbon Dioxide
COT	Color of Title
CRMP	Consolidated Resource Management Plan
CRMS	Carson River Mercury Superfund
DCNR	Department of Conservation and Natural Resources
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPM	Environmental Protection Measure
FESA	Federal Endangered Species Act of 1973
GHG	Greenhouse Gas
gpm	Gallons Per Minute
HOM	Houston Oil and Minerals
HPTP	Historic Properties Treatment Plan
IWMP	Integrated Weed Management Plan
JBR	JBR Environmental Consultants, Inc.
LR2000	Land and Mineral Legacy Rehost 2000 System
MBTA	Migratory Bird Treaty Act of 1918
MSHA	Mine Safety and Health Administration
MOA	Memorandum of Agreement
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statutes
OHV	Off-Highway Vehicle
PLSS	Public Land Survey System

PM_{2.5}	Particulate Matter with Diameters Less Than or Equal to 2.5 Micrometers
PM₁₀	Particulate Matter with Diameters Less Than or Equal to 10 Micrometers
POD	Plan of Development
RFFA	Reasonably Foreseeable Future Action
ROW	Right-of-Way
SAP	Sampling and Analysis Plan
SEC	Security and Exchange Commission
SHPO	State Historic Preservation Office
SUP	Special Use Permit
tpy	Tons Per Year
UCMC	United Comstock Mines Company
USFWS	United States Fish and Wildlife Service
V&T	Virginia & Truckee
VOC	Volatile Organic Compound
WPCP	Water Pollution Control Permit

**REVISED DRAFT ENVIRONMENTAL ASSESSMENT
AMERICAN FLAT ROAD/LUCERNE ACCESS RIGHT-OF-WAY
COMSTOCK MINING, LLC.**

1.0 INTRODUCTION

1.1 BACKGROUND

Comstock Mining, LLC¹ has submitted a draft Plan of Development (POD) and Right-of-Way (ROW) amendment application for the construction, maintenance, and use of the Lucerne Haul Road across public land segments between their Lucerne Pit mining operation and heap leach processing facility (Project). The POD would be finalized following the completion of the National Environmental Policy Act (NEPA) process for the Project.

Comstock Mining, LLC is currently mining in the Lucerne pit, southwest of Gold Hill along State Route 342, in Storey County, Nevada. The mining and heap leach operations are located on privately-owned lands. The Lucerne Haul Road would cross several public land segments. Comstock Mining, LLC is also proposing to make the Lucerne Haul Road an exclusive use road. This exclusive haul road (Lucerne Haul Road) would be ancillary to existing ROW Grant NVN 091237², issued on July 6, 2012. In addition to an exclusive use haul road, the amended application proposes the expansion, removal, and modification of non-exclusive road features.

Figure 1 shows the location of the Project, which encompasses approximately 86 acres. The Project is located in Gold Hill, Storey County, Nevada, legally described as Township 16 North, Range 21 East (T16N, R21E), Sections, 5, 6, 8, 9, and 16 (within), Mount Diablo Base and Meridian (Figure 2). The Project includes the existing American Flat Road ROW and the proposed Lucerne Haul Road ROW.

1.2 PURPOSE AND NEED FOR THE PROJECT

The Bureau of Land Management's (BLM's) need is to respond to Comstock Mining, LLC's application to amend ROW grant NVN 091237, submitted to the BLM's Sierra Front Field Office along with a draft POD in August 2012. The grant amendment would allow the construction, maintenance, and use of the American Flat Road as well as the Lucerne Haul Road across public land segments administered by the BLM between the Lucerne Pit mining operation and processing facility.

¹ Comstock Mining, LLC is the wholly-owned subsidiary of Comstock Mining Inc. Since the entity of Comstock Mining, Inc. (Inc.) owns all of the entity of Comstock Mining, LLC (LLC), all activity that happens in LLC rolls up to Inc. They are treated as one consolidated company for tax purposes and for Security and Exchange Commission (SEC) reporting purposes as the consolidated ownership is the same.

² BLM documents and databases continue to use multiple versions of serial numbers for case files. Differences in serial number nomenclature will occur throughout this document, and one use may be slightly different than one found in the case file or on the Master Title Plats.

The purpose of the Project is to (1) provide a safe roadway that can accommodate oversized haul trucks, and (2) deliver ore from the mine to the processing facility, both located on private land.

The BLM has prepared this Revised Draft Environmental Assessment (EA) in accordance with the NEPA and to assist in deciding whether to grant the requested ROW amendment.

1.3 SCOPING AND ISSUES IDENTIFICATION

On December 5, 2012, the Project was evaluated by the BLM's interdisciplinary team. Issues that were raised during the review included: public access; air quality; noise; cultural and historical resources; soils; water resources; wildlife; vegetation; and visual quality.

On January 16, 2013, the BLM announced the schedule for the public scoping period and date of the public workshop. The press release was published in the *Reno-Gazette Journal*, *KTNV Channel 2 News*, the *Elko Daily Free Press*, and the *Virginia City News*. On January 17, 2013, the BLM initiated a 30-day scoping period. The public scoping period ran until February 19, 2013. The original end date of the scoping period was identified as February 16 in the Dear Reader letter, and was later extended by the BLM until February 19 to accommodate the President's Day holiday on February 18. A news release was distributed to the Carson City and Reno media outlets providing the public with notification. The BLM received 41 letters from the public to consider.

The following two public scoping workshops were held from 6:30 p.m. to 8:30 p.m.:

- Tuesday, January 22, 2013, BLM Carson City District Office, 5665 Morgan Mill Road, Carson City, Nevada; and
- Tuesday, January 29, 2013, Piper's Opera House, 12 North B Street, Virginia City, Nevada.

The workshops were held in open house format. The attendees were provided with a scoping handout that included the Project description, an explanation of how to comment, resources considered for analysis, and preliminary identification of resource issues. Attendees were also provided with the scoping comment form and a handout explaining the Project's compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA). The scoping comment form included a place to indicate a desire to be on the mailing list. Respondents who requested to be placed on the list were added to the list.

Posters were used to depict the proposed Project, explain the NEPA and NHPA processes, and provide direction on how to comment. Representatives from the BLM, Comstock Mining, LLC,

and JBR Environmental Consultants, Inc. (JBR), now Stantec Consulting Services Inc. (Stantec) were present at the workshops to answer questions and discuss the Project.

To help document the attendance at the workshops, people were asked to sign in, although it was not required. Table 1-1 shows the number of sign-ins at each scoping workshop.

Table 1-1 Scoping Workshop Sign-In

Date	Location	Number Signed In
January 22, 2013	Carson City, Nevada	32
January 29, 2013	Virginia City, Nevada	43

The BLM conducted three briefings for the Project. These were held on Monday, January 7, 2013, at 9 a.m. at the Lyon County Commissioner’s Meeting, Tuesday January 15, 2013, at 2 p.m. at the Storey County Commissioner’s Meeting, and Thursday January 17, 2013, at 6 p.m. at the Storey County Planning Commission meeting. These presentations were informational in nature and no comments were solicited; however, the BLM responded to questions on the Project from the Commissioners.

The BLM initiated consultation with the Yerington Paiute Tribe and the Washoe Tribe of Nevada and California under the provisions of Section 106 of the NHPA on February 8, 2013. No religious concerns have been identified by the tribes for this Project.

On February 8, 2013, under the provisions of Section 106 of the NHPA, the BLM initiated consultation, for the purposes of describing the Project’s preliminary Area of Potential Effect (APE), with the Advisory Council on Historic Preservation, the National Park Service (NPS), the Comstock Historic District Commission, Nevada State Historic Preservation Office (SHPO), and the Storey County Certified Local Government. However, the NPS is not participating in this Project. A preliminary figure showing the Direct/Indirect Effects APE and Viewshed APE was provided during the public scoping workshops. On January 13, 2014, the BLM sent a revised APE figure and Project description to the same agencies, Tribes, and a consulting party (Figure 12).

The BLM initiated consultation with the ACHP and NPS on August 14, 2014, under the provisions of Section 110 of the NHPA.

The BLM issued a Scoping Report on March 28, 2013. Interested parties were mailed a letter directing them to the Project’s website for an electronic copy of the report.

1.4 DECISION TO BE MADE

The BLM has received a ROW amendment application and draft POD from Comstock Mining, LLC. The draft POD is included as an attachment to this Revised Draft EA (Attachment C). The BLM Authorized Officer would decide which access alternative presents the best option for meeting the purpose and need, and whether to add terms and conditions (stipulations) to the selected alternative. The Authorized Officer could decide to deny the amendment application. The requested ROW amendment term that would be issued to Comstock Mining, LLC would be for 30 years. The ROW amendment term would supersede the existing ROW term issued on October 6, 2014, until December 31, 2017.

1.5 LAND USE PLAN CONFORMANCE

The Project is in conformance with the Carson City Field Office Consolidated Resource Management Plan (CRMP) dated May 2001 (BLM, 2001) and with the BLM's mission statement regarding multiple use of the public lands. The CRMP provides management strategies for the protection of natural resources on public lands in Nevada and provides guidance on the decision-making process for Project conformance to the CRMP. The Project identified and developed construction and operation methods that conform to the measures outlined in the CRMP.

The CRMP reiterates selected provision of the 43 CFR 2800.0-2 - Rights-of-Way – Objectives.

1. It is the objective of the Secretary of the Interior to grant rights-of-way and temporary use permits, covered by the regulations in this part, to any qualified individual, business entity, or governmental entity and regulate, control and direct the use of said rights-of way on public land so as to:
 - A. Protect the natural resources associated with the public lands and adjacent private property or other lands administered by a government agency.
 - B. Prevent unnecessary or undue environmental damage to the lands and resources.
 - C. Promote the utilization of rights-of-way in common with respect to engineering and technological compatibility, national security and land use plans.
 - D. Coordinate to the fullest extent possible, all actions taken pursuant to this part with State and local governments, interested individuals, and appropriate quasi-public entities.

The CRMP also specifies Standard Operating Procedures for granting ROWs. Applicable standards include:

5. The right-of-way holder shall permit free and unrestricted public access to and upon the right-of way for all lawful and proper purposes, except in areas designated as restricted by the Bureau in order to protect the public safety or facilities constructed on the right-of-way.

1.6 RELATIONSHIP TO STATUTES, REGULATIONS, PERMITS, AND OTHER PLANS

The Proposed Action and No Action/Current Management Alternative are in compliance with the following:

- FLPMA - which provides the authority for issuing a ROW amendment;
- NEPA – granting a ROW amendment is a major federal action;
- Migratory Bird Treaty Act of 1918 (as amended) (MBTA); and
- NHPA – granting a ROW amendment is an undertaking.

The Non-Federal Alternative would also comply with the above laws, to the extent applicable to private lands.

Table 1-2 lists federal, State, and County permits or authorizations Comstock Mining, LLC is currently operating under.

Table 1-2 Comstock Mining, LLC’s Existing Permits

Agency	Permit Name	Permit Number (or ID) Issued
NDEP-BAPC	Mercury Operating Permit to Construct	AP1041-2690
	Operating Permit to Construct	AP1041-2761
NDEP-BAPC	Class 1-A Permit	Submitted
NDEP-BCA	Sampling and Analysis Plan, Areas affected by Carson River Mercury Site	EPA ID NVD980813646
	State Petroleum Fund	Facility ID# 3-000182
NDEP-BMRR	Water Pollution Control Permit	NEV2000109
	Reclamation Plan	0196
	Reclamation Plan	0315
NDEP-BWPC	General Stormwater Permit - Mining	NVR300000
	Onsite Sewage Disposal Systems	GNEVOSDS09
NDOW	Industrial Artificial Pond Special License and Permit	S 35572
EPCRA	Toxic Release Inventory	RCRA ID# NVR 000 087 411
	Hazardous Material Storage Permit	1458-2906 20830/15050
BLM	Temporary ROW	NVN 091237
	Notice	86559
Storey County Community Development	Special Use Permit - Mining	SUP 2000-222-A-4

Agency	Permit Name	Permit Number (or ID) Issued
Storey County Sheriff Department	Business License	License # 13-6446 Acct # 15413
DCNR - SHPO - Comstock Historic District Commission	Certificate of Appropriateness	Facility ID # 800-000-94

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action would include the improvement of existing roads to facilitate the transportation of mined ore between the Lucerne Pit and the processing facility for approximately 30 years and the construction and improvement of non-exclusive road segments to facilitate access to public land (Figure 2). Currently, Comstock Mining, LLC is hauling ore from the Lucerne Pit and onto the south section of the American Flat Road. Mine-related traffic is also traveling north from Lucerne Pit onto State Route 342 to the north section of the American Flat Road where Comstock Mining, LLC's offices are located. All current use of the roads is by highway-rated vehicles. Currently, the roads are open and available for public use and as access for private residences. In order to ensure public safety, Comstock Mining, LLC proposes to have exclusive use of the Lucerne Haul Road. The American Flat Road would be realigned in one segment to allow for public access (Figure 4). This would separate public traffic from exclusive use haul traffic on the Lucerne Haul Road.

As part of the Proposed Action, Comstock Mining, LLC proposes to:

- Improve the north section of the American Flat Road as well as improve the junction with the American Flat Road and the Cemetery Spur Road near the Gold Hill (Masonic) Cemetery;
- Construct three walls to avoid impacts to sensitive resources and the slope east of the cemetery from Project-related traffic on the American Flat Road;
- Separate mine traffic by connecting the north section of the American Flat Road to the existing public access road and connecting the Lucerne Haul Road to the south section of the American Flat Road in Section 6, T16N, R21E;
- Designate the new segment of the Lucerne Haul Road as exclusive to mining traffic;
- Improve the exclusive use road (Lucerne Haul Road) and non-exclusive use road (American Flat Road) where they are adjacent to each other;
- Create berms on the Lucerne Haul Road that are compliant with Mine Safety and Health Administration (MSHA) regulations;
- Decommission the user-created road that runs south from the American Flat Road to the former American Flat Mill site;
- Improve the public access road east of the existing process facility in Section 6, T16N, R21E, for safe public access to the former American Flat Mill site and public lands to the south;

- Safely manage traffic at the intersection of the American Flat Road and the Lucerne Haul Road with stop signs for traffic on the Lucerne Haul Road; and
- Realign and improve the public access road to the east of the processing facility at its intersection with the Lucerne Haul Road for safety.

The proposed amended ROW consists of a 300-foot wide corridor for the Lucerne Haul Road and a 200-foot wide corridor for the realigned American Flat Road. All authorized actions would take place within the proposed amended ROW (Project Area). The ROW authorization would only apply to public land portions of the Project Area. Proposed disturbance within the Project Area associated with the Project features is described below.

The total number of acres within the Project Area is approximately 85.9 acres, with 61.2 acres on public land and 24.7 acres on private land. For the purposes of calculating acres, Gold Hill Townsite, Block 8, Range D, Lot 51 (Lot 51) has been considered as public land and the Gold Hill Townsite Lots 33 and 35 consisting of the White House lots patented from December 1872 (Block 8, Range D, Lot 35) and February 1873 (Block 8, Range D, Lot 33 [White House lots]) are considered as private lands.

Figure 2 illustrates the location of these planned road improvements. Table 2-1 outlines the proposed surface disturbance that would occur associated with Figure 2. As part of the Proposed Action, there would be approximately 67 acres of surface disturbance within the Project Area. Approximately 47.6 acres of surface disturbance would occur within the Project Area on land that has been previously disturbed, with approximately 26.2 acres on public land, and approximately 21.4 acres of surface disturbance on private land. Additionally, approximately 16 acres of surface disturbance would occur on public land that has not been previously disturbed and approximately 3.3 acres of surface disturbance would occur on private land that has not been previously disturbed. Due to avoidance areas for sensitive resources, the actual extent of disturbance is anticipated to be less.

Table 2-1 Acres of Proposed Project-Related Surface Disturbance

	Proposed Disturbance to Previously Disturbed Area		Proposed New Disturbance		Proposed Total Disturbance		Acres within Project Area	
	Public Land	Private Land	Public Land	Private Land	Public Land	Private Land	Public Land	Private Land
Project Surface Disturbance (acres)	26.2	21.4	16	3.3	42.2	24.7	63.7	24.7

Surface disturbance associated with decommissioning the user-created road would include approximately 2.4 acres of reclamation on public land. Table 2-1 does include the 2.4 acres since this part of the Proposed Action is associated with reclamation.

Table 2-2 includes the existing and proposed lengths and widths for the American Flat Road and Lucerne Haul Road ROWs. Table 2-3 includes the existing and proposed ROW lengths and widths.

Table 2-2 Existing and Proposed Road Lengths*

	Existing Length (feet)	Proposed Length (feet)
American Flat Road	6,140	6,250
Lucerne Haul Road	5,804	8,122

*Lengths are calculated for public and private lands.

Table 2-3 Existing and Proposed Public Rights-of-Way Lengths and Widths†

	Existing Length (feet)	Proposed Length (feet)	Existing Width (feet)	Proposed Width (feet)
American Flat Road	5,793	5,900	30	200
Lucerne Haul Road	2,825	5,143	n/a	300

†Lengths are calculated for public land and do not include private land (e.g., the White House lots).

On the proposed Lucerne Haul Road, Comstock Mining, LLC expects that the number of round trips per day would increase from current use of approximately 118 round trips per day to 150 round trips per day. It is anticipated that as part of the Proposed Action, Comstock Mining, LLC would utilize a combination of highway-rated 40-ton articulated haul trucks and/or 50- to 60-ton haul trucks.

Light vehicle Project-related traffic (i.e., contractors, mine staff) would continue to utilize American Flat Road to access the Project from State Route 342. No haul traffic is proposed for the American Flat Road between State Route 342 and Lot 51.

2.1.1 Project Features

2.1.1.1 Realign American Flat Road

“Cemetery Spur Road” and American Flat Road near State Route 342

The Cemetery Spur Road and the north section of the American Flat Road would be accessible by the public with highway-rated vehicles and off-highway vehicles (OHVs). These are existing roads and are in variable states of repair. The American Flat Road is currently approximately 6,140 feet long and approximately 30 feet wide. The proposed ROW would extend along the realigned American Flat Road for 6,250 feet (200 feet in width) for a total of approximately

28.7 acres. Comstock Mining, LLC proposes to improve the north section of the American Flat Road as well as the Cemetery Spur Road near the Gold Hill (Masonic) Cemetery by widening to improve sight distances for safety (Figure 2). In order to avoid impacts to sensitive resources and the slope east of the cemetery from Project-related traffic on the American Flat Road, Comstock Mining, LLC proposes to construct three walls (Figure 2). One wall would be constructed east of the Cemetery Spur Road and would measure up to six feet in height and approximately 206 feet in length. The second wall would be constructed southeast of the cemetery and would measure up to seven feet in height and approximately 257 feet in length. The third wall would have three sides and be U-shaped. At its highest point the third wall would be up to four feet high and up to 70 feet in length. The walls would be constructed to avoid any areas with sensitive resources and be constructed out of native rock from the Lucerne Pit. To accommodate the walls, the slopes of the road in these areas would be adjusted to a 2:1 slope. These walls would be constructed within the width of the proposed ROW.

American Flat Road Adjacent to the Lucerne Haul Road

For public safety, public and haul traffic would be completely separated by utilizing a new alignment of the American Flat Road. Public traffic would use the realigned American Flat Road as shown on Figure 4. Where the public access road (American Flat Road) and Lucerne Haul Road would be adjacent, the two roads would be on different elevations and would be separated by a slope (Figure 5). The new alignment (for approximately 912 feet) is located directly upgradient of the existing road and serves as a natural location to reroute the American Flat Road. Figure 6 illustrates a typical cross-section of the American Flat Road and the Lucerne Haul Road.

American Flat Road/Lucerne Haul Road Intersection

A new curve on the realigned American Flat Road would facilitate public traffic turning south headed towards the former American Flat Mill site. The curve would follow the same typical cross section and would match the design criteria of the public access road.

The existing road heading south from this curve would be improved and where it nears the Lucerne Haul Road, it would be realigned to the east. The intersection currently lies at an angle and does not allow good sight distances. The realignment would make the intersection approximately perpendicular and move the intersection away from the entrance to the mine processing area. The new configuration would allow for improved sight distances for the public and haul traffic. The north side of the American Flat Road would be moved to the east to align with the south portion of the American Flat Road to minimize surface disturbance. Signage would be placed at the intersection to control the flow of traffic (Figure 7). Haul traffic on the Lucerne Haul Road would be required to stop at this intersection, while public traffic on the realigned American Flat Road would not be required to stop (Figure 8).

2.1.1.2 Lucerne Haul Road

The Lucerne Haul Road is currently approximately 5,804 feet in length (from the mine to where it meets with the American Flat Road just west of Lot 51). The proposed ROW on the Lucerne Haul Road would extend the road to approximately 8,122 feet in length (from the mine to the processing facility) and 300 feet in width. In addition, the Lucerne Haul Road encompasses a few detached wedges comprising a combined total of approximately 62 acres. The Lucerne Haul Road would be improved to include five-foot tall berms on the outside, as required by the MSHA. The berms would be 15 feet wide at the base and would accommodate 50- to 60-ton haul trucks or 40-ton articulated haul trucks. The running surface of the road would be approximately 42 feet. If haulage equipment changes in the future, then the berms would be modified according to MSHA standards. Any additional rock and soil needed to surface the road or build berms would come from native on-site materials. Temporary use areas would not be needed.

The Lucerne Haul Road segments of public land total approximately 988 feet in the pit area, including segments (from north to south) of 190 feet, 59 feet, and 739 feet long (Figure 3). These road segments are located on public lands, would be exclusive to mining traffic, and would connect privately-owned sections of the Lucerne Haul Road that cross Comstock Mining, LLC's patented mining claims.

The cross-section, elevation, and alignment of the road within the wedges in the pit area would be in constant flux. The geometry of the pit around these wedges would be changing constantly. This would result in the need to change the orientation of the access roads traversing these wedges. It is anticipated that each wedge in its entirety would be disturbed as part of the Proposed Action. The roads would remain in compliance with MSHA design requirements.

2.1.1.3 Other

User-Created Road

The user-created road heading south towards the former American Flat Mill site (Figure 2) would be decommissioned according to specifications outlined in the Comstock Mining, LLC Reclamation Permit No. 0196. Reclamation of this road would total 2.4 acres of proposed surface disturbance associated with reclamation activities to previously disturbed ground.

Traffic Control

Traffic signs would be placed for public safety and to direct traffic (Figures 7 and 8). Signage would identify the public access along the American Flat Road, while the Lucerne Haul Road would be utilized by mine traffic only. Under the Proposed Action, public access along the American Flat Road would remain unchanged near the intersection with State Route 342. Public

traffic would continue on the American Flat Road, with portions realigned, as shown on Figure 2.

State Route 342

Comstock Mining, LLC would continue to use State Route 342 for light vehicle traffic. Comstock Mining, LLC's use of State Route 342 is subject to State regulations, but not special permitting by Nevada Department of Transportation (NDOT). Comstock Mining, LLC's use of State Route 342 is not subject to BLM decision-making.

2.1.2 Project Construction

2.1.2.1 Construction Standards

All roads within this ROW would be maintained to comply with Comstock Mining, LLC's Air Quality Permit AP1041-2761 and Stormwater General Permit NVR300000. Additionally, roads that are accessible by the public would be constructed to standards required by the BLM and Storey County, while roads that are specific to mining traffic would be constructed and maintained to standards required by the MSHA. Additional improvements to any roads under the ROW grant beyond those Project features listed in Section 2.1.1 would be submitted to the BLM for authorization.

2.1.2.2 Equipment

Comstock Mining, LLC would perform the proposed construction and improvement of roads in the Project Area most likely utilizing the following equipment:

- One excavator;
- One D-9R bulldozer;
- Up to three 631 scrapers;
- One water truck;
- 815 or 825 compactor; and
- 140H motor grader.

2.1.2.3 Work Force

The estimated size of the road construction work force is expected to be eight persons to operate the equipment listed in Section 2.1.2.2 and two additional personnel.

The number of vehicles is expected to consist of three vehicles, with four personnel traveling in each vehicle plus one truck for the construction foreman.

2.1.3 Access to and along the ROW during Construction

Access to the American Flat Road at the intersection with State Route 342 during construction would have traffic control as specified in the NDOT permit and traffic control plan for the construction of the modified road. The realigned segment of the American Flat Road would have construction access from the existing American Flat Road. The segment would only have construction traffic until the alignment is complete. Upon completion of the realignment, access to the Lucerne Haul Road would be limited and public traffic would be directed to the new alignment.

2.1.4 Drainage Facilities

Roadside ditches would be sized according to 100-year, 24-hour storm flows. Drainage culverts and crossings would remain in current locations where practicable but may be modified and/or lengthened to accommodate needs of the improved cross section. Re-aligned sections of road would carry storm flow in roadside ditches and cross storm flow through culverts positioned in a manner to attempt to keep flow patterns as close to existing as practicable.

2.1.5 Operation and Maintenance

All roads would be maintained continuously, and daily inspections would be made during work days. If the roads are inactive for any period of time, they would be inspected prior to use.

While the roads are being used by Comstock Mining, LLC, water trucks would control dust in accordance with the Nevada Division of Environmental Protection (NDEP) Bureau of Air Pollution Control (BAPC) Air Permit. Dust control additives and licensed water trucks would be used on the roads in the Project Area.

The construction of the roadways and the operation and maintenance of the roads would primarily be during daylight hours but mine operations and use of the road would be 24 hours per day.

Ditches and drains would be installed as necessary to maintain compliance with the NDEP Bureau of Water Pollution Control (BWPC) Storm Water Pollution Prevention Plan.

Control, warning, and directional traffic signs would be used as necessary. Speed limits, left hand traffic signals, and control signs would be posted at all entrances to the mine site. Locations of proposed signs are illustrated on Figures 7 and 8. Figure 9 shows the legend for the signs illustrated on Figures 7 and 8.

For maintenance work and snow removal on the Lucerne Haul Road, Comstock Mining, LLC maintenance and snow removal equipment would include, but is not limited to, the following: graders; loaders; and/or bulldozers.

Road watering activities may include ripping the surface to a depth of two inches, blading the road smooth, and then applying dust suppression, which would significantly reduce the required number of passes with a water truck.

Comstock Mining, LLC is required to prepare and maintain an Emergency Response Plan by both MSHA and the State of Nevada Emergency Response Commission. This plan is on file with the NDEP Bureau of Mining Regulation and Reclamation (BMRR).

The use of industrial wastes and toxic substances in the improvement of the road would not be necessary. Any hazardous materials used during the construction, maintenance, use, or reclamation of this ROW would be handled in full compliance with applicable law. No seasonal restrictions for road improvements are anticipated.

No fill would be placed during freezing temperature when compaction requirements cannot be met due to frozen water content in the soil.

2.1.6 Reclamation

The Lucerne Haul Road within the Project Area would be reclaimed upon termination of ROW Grant NVN 091237 during mine closure, unless the BLM or State agencies request that the road remain open for future access. If portions of the Lucerne Haul Road remain open for public traffic, the roadbed width would be decreased to approximately 24 feet wide for continuous maintenance. Portions of the road that would be needed for site monitoring and maintenance during the post-closure period would remain until final bond release is attained. The American Flat Road would remain in its new alignment to allow for access to American Flat and would not be reclaimed at the end of the Project.

The roads that would be reclaimed would be deep ripped to reduce compaction. Roads with significant cut or fill would be graded to blend into the surrounding topography and to generally re-establish the existing drainage patterns. Culverts would be removed or buried and drainage crossings would be reshaped to approximate the original drainage. Riprap or other armoring methods would be used if drainage stabilization is necessary to limit scouring of re-established channels. Approximately six inches of topsoil would be applied to the regraded road surfaces and reseeded using the proposed seed mix. The seeding would preferably be carried out in the fall after the first rainfall and before the winter precipitation. Dragging a light chain over the seeded surfaces would provide sufficient soil cover for the seed. If seeding is not carried out

immediately after the road is regraded, the regraded surfaces would be scarified prior to seeding. Reclamation of the private land portions of the Lucerne Haul Road in-pit is not proposed. Comstock Mining, LLC proposes to utilize portions of existing roads to access the proposed groundwater monitoring wells following mine reclamation.

2.1.7 Environmental Protection Measures

Comstock Mining, LLC would implement the following Environmental Protection Measures (EPMs) during the life of the Project, to prevent undue or unnecessary degradation. These practices, described briefly below, would be considered part of the operating procedures.

2.1.7.1 Air Quality

Dust control activities that would be applied to the Project are outlined in the NDEP-BAPC Surface Area Disturbance Fugitive Dust Control Plan (Attachment A). Road watering activities may include ripping the surface to a depth of two inches, blading the road smooth, and then applying water with a water truck for dust suppression.

2.1.7.2 Vegetation

If vegetation needs to be removed during construction, operation, and maintenance of the Proposed Action, then the vegetation would be chipped and removed from the work site. Vegetation on approximately 29.7 acres not previously disturbed would be removed within the area of proposed disturbance.

2.1.7.3 Cultural Resources

Under the National Historic Preservation Act, “historic properties” are cultural resources (archaeological sites, features, buildings or structures) that are eligible for, or listed on, the National Register of Historic Places (NRHP). The term “contributing” is used when a cultural resource adds to the eligibility or listed status of a larger historic property, in this case, the Virginia City National Historic Landmark and National Historic District.

In order to avoid, minimize, or mitigate adverse effects to historic properties present in the APE (Section 3.2.1.1), a Memorandum of Agreement (MOA), developed in consultation with the SHPO and other consulting parties, would be executed prior to the BLM issuing a decision on this Project.

On August 14, 2014, the BLM invited identified consulting parties to participate in the development of the draft MOA. Table 2-4 lists the consulting parties and whether they accepted the invitation to participate in the process.

Table 2-4 MOA Consulting Parties

Agencies, Tribes and Individuals	Invited	Status
Advisory Council on Historic Preservation	√	Accepted
Comstock Cemeteries Foundation	√	Accepted
Comstock Historic District Commission	√	Accepted
Comstock Mining, LLC	√	Accepted
Larry Wahrenbrock (written request to be a consulting party in May 2013)	√	Accepted
National Park Service (Western Regional Office)	√	Not participating
State Historic Preservation Officer	√	Accepted
Storey County	√	Accepted
Washoe Tribe of Nevada and California	√	Not participating
Yerington Paiute Tribe	√	Not participating

On October 8, 2014, October 27, 2014, and April 1, 2015, the BLM held conference calls/meetings with the consulting parties to develop a draft MOA. Consulting parties had the opportunity to review and provide input on the draft MOA from April 13 through May 14, 2015. On September 3, 2015, the consulting parties were provided a final draft of the MOA and requested to provide to the BLM any remaining comments on the MOA by October 27, 2015. The draft MOA is attached to this Revised Draft EA (Attachment D).

As a signatory to the MOA, Comstock Mining, LLC would be bound during Project implementation to the conditions in the executed MOA. The executed MOA would outline the methods used to avoid impacts to historic properties during surface disturbing activities. Where avoidance is not possible, the MOA would outline the ways in which the impacts would be minimized and mitigated. The details and specific actions to be taken to mitigate adverse effects would be developed through a Historic Properties Treatment Plan (HPTP) as defined in the MOA. In accordance with the provisions of the MOA, an unanticipated discovery plan would be followed during Project activities.

2.1.7.4 Wildlife including Migratory Birds

A pre-disturbance nest survey would be conducted by a qualified biologist prior to any surface disturbance associated with Project activities during the avian breeding season (March 1 through July 31 for raptors and May 15 through July 15 for other migratory birds). Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey another survey would be performed. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species and the location of the nest) would be delineated after consultation with the BLM wildlife biologist and the buffer area avoided to prevent destruction or disturbance

to nests or birds until they are no longer actively breeding or rearing young, or until the young have fledged. The site characteristics to be used to determine the size of the buffer area are as follows: a) topographic screening; b) distance from disturbance to nest; c) the size and quality of foraging habitat surrounding the nest; d) sensitivity of the species to nest disturbances; and e) the protection status of the species.

In order to avoid impacts to wildlife, Project-related traffic would observe prudent speed limits along roads in the ROW.

2.1.7.5 Noxious, Invasive Plant Species

Comstock Mining, LLC's Integrated Weed Management Plan (IWMP) (Attachment B) would be implemented throughout the Project Area. The IWMP includes strategies for prevention of noxious weed infestations, Best Management Practices (BMPs), and setting priorities for treatments of existing infestations. For the application of approved herbicides on public lands, all treatments would be carried out in compliance with Informational Bulletin 2012-022 and the Carson City District Weed Management Plan (BLM, 2015).

2.2 ALTERNATIVES TO THE PROPOSED ACTION

For an alternative to be considered reasonable under the NEPA, it must meet the purpose and need statement (Section 1.2). According to the Council on Environmental Quality's (CEQ's) Forty Questions (question 2a), "Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."

For this Revised Draft EA, two alternatives to the Proposed Action are analyzed.

2.2.1 No Action/Current Management Alternative

The purpose of the No Action/Current Management Alternative is to provide the baseline of existing conditions. On the basis of this alternative, this Revised Draft EA is able to evaluate the degree of change from the current situation to what would occur under implementation of any other alternative.

Comstock Mining, LLC under the No Action/Current Management Alternative would continue to haul ore on the non-exclusive Lucerne Haul Road and American Flat Road to the processing facility. No new road modifications would be authorized. The existing ROW (NVN 091237) could be allowed to expire on December 31, 2017. The existing ROW is 30 feet wide by approximately 6,140 feet in length.

An average of 118 round trips per day would continue to haul ore, in addition to traffic for water trucks, fuel trucks, contractor support vehicles, blasting trucks, track and tire mounted drills, and private cars, trucks, and vans (Figure 10). Following expiration of ROW (NVN 091237), Comstock Mining, LLC would have to find alternate access from the Lucerne Pit for ore processing.

2.2.2 Non-Federal Alternative

If the existing ROW (NVN 091237) is allowed to expire or not be renewed by the BLM, Comstock Mining, LLC could implement the Non-Federal Alternative as identified in the POD. Under the Non-Federal Alternative, Comstock Mining, LLC would construct a new processing facility located on private land in Section 16, T16N, R21E, in Lyon County (Figure 11). Under this alternative, Comstock Mining, LLC would decommission the existing facility located on private land. As part of decommissioning, Comstock Mining, LLC would discontinue hauling ore to the existing facility, but would continue to leach until material on the existing heap leach pad is exhausted. When the material on the existing pad is exhausted, Comstock Mining, LLC would reclaim the heap leach pad according to NDEP-BMRR reclamation requirements. Comstock Mining, LLC would haul ore from the Lucerne Pit on private land to the new processing facility located on private land in Lyon County by traveling south on State Route 341/342. Under this alternative, Comstock Mining, LLC may obtain Occupancy Permits from the NDOT, which may include paved aprons.

The facility would consist of the same features as the existing facility located on private land in Section 6, T16N, R21E, and currently utilized by Comstock Mining, LLC for processing. The facility would include the following features and associated disturbances: approximately 2.69 acres associated with ponds; approximately 0.32 acre associated with a Merrill Crowe plant; an office park consisting of a mine dry, lab building, and shop covering approximately 0.42 acre; approximately 12.32 acres associated with an access road; approximately 5.23 acres associated with the laydown yard; approximately 2.6 acres associated with crushers; and 17.52 acres associated with the heap leach pad. Total surface disturbance associated with construction and operation of this facility would include 41 acres. A schematic drawing showing the approximate layout of these facilities is shown on Figure 11. Detailed engineering drawings would be completed should this alternative be implemented. The area analyzed for this alternative includes potential impacts from mine-related traffic along the existing pavement corridor of State Route 341/342, construction and operations on the 41-acre area on private land, and construction and use of the access road to the processing facility (Figure 11).

Although this alternative is located on private land, the CEQ's Forty Questions (question 2b) states that alternatives outside the legal jurisdiction of the lead agency should be analyzed if they

are reasonable. Additionally, it is not required that an alternative have all the necessary permits in place for analysis.

2.3 ALTERNATIVES CONSIDERED AND ELIMINATED FROM DETAILED ANALYSIS

2.3.1 American Flat Toll Road Access Alternative

Under the American Flat Toll Road Access Alternative, Comstock Mining, LLC would haul ore to the processing facility from the Lucerne Pit by traveling north on State Route 342. Haul traffic would exit west and then south on the American Flat Road, turning onto the American Flat Toll Road, located adjacent to the Gold Hill (Masonic) Cemetery. This alternative was eliminated from detailed analysis because of a sharp curve in the road would be unsafe for haul traffic, and potential adverse effects to the cemetery.

2.3.2 Ancillary Road Improvement Alternative

An alternate configuration of the exclusive haul road was considered that would have improved an existing ancillary road located south of the existing American Flat Road and connecting it to the Lucerne Haul Road making a single road for use by mine traffic only. This exclusive road would be separated from the north section of American Flat Road (a public road) by an enlarged outside berm. This alternative was eliminated from detailed analysis as a part of Project redesign.

These alternatives were described and included in scoping figures. As described above, these alternatives have been dismissed and were not carried forward for analysis.

3.0 AFFECTED ENVIRONMENT

This section identifies and describes the existing environmental resources in the area of analysis for the Proposed Action, Non-Federal Alternative, and the No Action/Current Management Alternative. The description provides baseline information that can be used to compare and evaluate potential impacts on the human environment that may result from implementation of the alternatives.

The Proposed Action area of analysis for all resources except cultural resources is the Project Area, which consists of the 200-foot wide ROW along the American Flat Road and the 300-foot wide ROW along the Lucerne Haul Road. The Proposed Action area of analysis for cultural resources is the Direct/Indirect Effects APE, which includes a 500-foot wide buffer around the American Flat and Lucerne Haul Roads and encompasses approximately 178 acres (see Section 3.2.1.1). Additionally, visual impacts from the Proposed Action to cultural resources are analyzed in the Viewshed APE, which encompasses approximately 2,160 acres and is described in Section 3.2.1.2.

The No Action/Current Management Alternative area of analysis for all resources is the 30-foot-wide existing ROW and the width of State Route 342. The Non-Federal Alternative area of analysis for all resources is the width of State Route 342 and the 41-acre area of the potential facility in Lyon County.

Elevations in the Project Area range from approximately 5,400 feet above mean sea level (AMSL) to 6,000 feet AMSL. The average maximum temperature in Virginia City is 59.9 degrees Fahrenheit (°F), the average minimum temperature is 39.3°F, average total precipitation is 12.54 inches, and average total snowfall is 56.5 inches (WRCC, 2013). Habitat in the Project Area includes vegetation dominated by mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), singleleaf pinyon (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), low sagebrush (*A. arbuscula*), ephemeral drainages, as well as disturbed areas. The Project is located within the Virginia City National Historic Landmark and National Historic District.

The BLM is required to address specific elements of the environment that are subject to requirements in statute, regulation or by executive order (BLM, 2008). Table 3-1 lists the elements that must be addressed through environmental analysis and indicates whether the alternatives affect those elements. Other resources of the human environment that have been considered for analysis are listed in Table 3-1.

Table 3-1 Supplemental Authorities

Element/Resource*	Present (Yes/No)	Affected (Yes/No)	Rationale
Air Quality	Y	Y	Carried forward for analysis. See Section 3.1.
Areas of Critical Environmental Concern	N	N	Resource not present.
Cultural Resources	Y	Y	Carried forward for analysis. See Section 3.2.
Environmental Justice	N	N	Resource not present.
Farm Lands (prime or unique)	N	N	Resource not present.
Floodplains	N	N	Resource not present.
Noxious, Invasive Plant Species	Y	Y	Carried forward for analysis. See Section 3.3.
Migratory Birds	Y	Y	Carried forward for analysis. See Section 3.4.
Native American Religious Concerns	N	N	The BLM contacted interested tribes on February 9, 2013, regarding the Project. Additionally, letters were sent to interested tribes on January 13, 2014. To date no religious issues with the Project have been identified. Both tribes have declined to participate in the development of the MOA.
Threatened or Endangered Species (animals)	N	N	Resource not present.
Threatened or Endangered Species (plants)	N	N	Resource not present.
Wastes, Hazardous or Solid	Y	Y	Carried forward for analysis. See Section 3.5.
Water Quality (Surface/Ground)	Y	Y	Carried forward for analysis. See Section 3.6.
Wetlands/Riparian Zones	N	N	Resource not present. Nearest wetlands are located west of the existing processing facility.
Wild and Scenic Rivers	N	N	Resource not present.
Wilderness/WSA	N	N	Resource not present.

*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 document. Supplemental Authorities determined to be Present/May Be Affected may be carried forward in the document.

Other elements of the human environment that have been considered for this Revised Draft EA are listed in Table 3-2. Resources that may be affected by the Proposed Action or Alternatives are further described in the Revised Draft EA. Rationales for those resources that would not be affected by the Proposed Action are listed.

Table 3-2 Resources or Uses Other Than Supplemental Authorities

Resource or Issue*	Present Yes/No	Affected Yes/No	Rationale
Special Status Species (animals)	Y	Y	Carried forward for analysis. See Section 3.7.
Special Status Species (plants)	N	N	Resource not present.
Fire Management/Vegetation	N	N	Resource not present.
Forest Resources	N	N	Resource not present.
General Wildlife	Y	Y	Carried forward for analysis. See Section 3.8.
Global Climate Change	Y	N	Although 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) from the alternatives, and to what extent these contributions would contribute to global climate change.
Greenhouse Gas Emissions	Y	Y	Carried forward for analysis. See Section 3.1.
Land Use Authorizations	Y	Y	Carried forward for analysis. See Section 3.9.
Lands with Wilderness Characteristics	N	N	Resource not present.
Livestock Grazing	N	N	Resource not present.
Minerals	Y	N	Mining claims in the Project Area are held by Comstock Mining, LLC and this Project would have no effect on the claims.
Paleontological	N	N	Resource not present.
Recreation	Y	Y	Carried forward for analysis. See Section 3.10.
Socioeconomics	Y	Y	Carried forward for analysis. See Section 3.11.
Soils	Y	Y	Carried forward for analysis. See Section 3.12.
Travel Management	Y	Y	Carried forward for analysis. See Section 3.10.
Vegetation	Y	Y	Carried forward for analysis. See Section 3.13.
Visual Resources	Y	N	The Project Area is within Visual Resources Management Class IV as designated by the CRMP, which allows for major changes to the visual character of the area; the alternatives are consistent with Class IV (Figure 19). VRM classification does not apply to private lands.
Wild Horses and Burros	N	N	The Project Area is not within a Herd Management Area; wild horses seen in the Project Area are State stray horses and are not under the management of the BLM.

* 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.

3.1 AIR QUALITY

Air Quality

Federal and State governments have established ambient air quality standards for criteria air pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter with diameters less than or equal to 2.5 micrometers (PM_{2.5}), ozone, and lead. Ozone is typically not emitted directly from emission sources, but at ground level, it is created by a chemical reaction

between ozone precursors, including oxides of nitrogen and volatile organic compounds (VOCs). The United States Environmental Protection Agency (EPA) regulates emissions of VOCs.

With respect to National Ambient Air Quality Standards, the EPA classifies all locations in the United States as either "attainment" (including "unclassified"), "non-attainment", or "maintenance" areas. These classifications are determined by comparing actual monitored air pollutant concentrations with their applicable federal standards.

Greenhouse Gas Emissions

According to the BLM's Instruction Memorandum No. 2008-171, "Guidance on Incorporating Climate Change into Planning and NEPA Documents", dated August 19, 2008, climate change considerations should be acknowledged in EA documents. The Instruction Memorandum states that ongoing scientific research has identified the potential impacts of anthropogenic (man-made) greenhouse gas (GHG) emissions and changes in biological carbon sequestration due to land management activities on global climate. Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused carbon dioxide (CO₂) concentrations to increase dramatically, and are likely to contribute to overall global climatic changes. The Intergovernmental Panel on Climate Change recently concluded that "warming of the climate system is unequivocal" and "most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

Several activities contribute to the phenomena of climate change, including emissions of GHGs (especially CO₂) from fossil fuel development, large wildland fires, and activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo). It is important to note that GHGs would have a sustained climatic impact over different temporal scales. For example, recent emissions of CO₂ can influence climate for 100 years. The leading causes of GHG emissions in Nevada can be attributed to electrical generation, transportation, resident/commercial fuel use, and wildland fires. Nevada historical data measured since 2005 indicated CO₂ to represent approximately 91 percent of GHG emissions with methane, nitric oxide, and hydrofluorocarbons/perfluorocarbons representing approximately four percent, three percent, and two percent, respectively (NDEP-BAQP, 2008). By 2020, transportation is expected to account for 33.2 percent of statewide GHG emissions. Main contributors near the Project Area would include residential and tourism traffic.

3.1.1 Proposed Action

The Project Area is located in Storey County, which is in attainment for all criteria air pollutants (EPA, 2013). The closest air monitoring station to the Project Area is in Carson City, approximately nine miles southwest of the Project Area, and is operated by the NDEP Bureau of Air Quality Planning. Ozone, CO₂, and PM_{2.5} are measured at this station. The most recent data (from 2010) indicate concentrations for most pollutants are within standards. There was an exceedance of the 65 micrograms per cubic meter (µg/m³) standards for PM_{2.5} in 2005 (NDEP-BAQP, 2013).

Current emissions within the Project Area include vehicle combustion emissions, fugitive dust from travel on unpaved roads, and wildland fires. Comstock Mining, LLC currently operates approximately 118 trucks per day (round trips per day) from the Lucerne Pit to the processing facility. Vehicular emissions are the main contributors to greenhouse gas emissions in the Project Area.

3.1.2 No Action/Current Management Alternative

The area analyzed for the No Action/Current Management Alternative is located in Storey County, which is in attainment for all criteria air pollutants (EPA, 2013).

Current emissions within the area analyzed for the No Action/Current Management Alternative include vehicle combustion emissions and fugitive dust from travel on unpaved roads. Under this alternative, Comstock Mining, LLC would continue to operate approximately 118 round trips per day. Vehicular emissions are the main contributors to GHG emissions in the area analyzed for the No Action/Current Management Alternative.

3.1.3 Non-Federal Alternative

The area analyzed for the Non-Federal Alternative is located in Storey County and Lyon County, which is in attainment for all criteria air pollutants (EPA, 2013).

Current emissions within the area analyzed for the Non-Federal Alternative include vehicle combustion emissions and fugitive dust from travel on unpaved roads. Comstock Mining, LLC would operate approximately 118 trucks per day (round trips per day) from the Lucerne Pit to the proposed processing facility. Vehicular emissions are the main contributors to GHG emissions in the area analyzed for the Non-Federal Alternative.

3.2 CULTURAL RESOURCES

3.2.1 Proposed Action

3.2.1.1 Direct/Indirect Effects APE

The APE for the Project has been inventoried for cultural resources following Nevada BLM Guidelines and Standards for Archaeological Inventory (Guidelines, BLM, 2012), and for architectural resources following the Nevada SHPO Section 106 Architectural Survey and Inventory Guidelines (SHPO, 2012). The Direct/Indirect Effects APE includes a 500-foot wide buffer around the American Flat and Lucerne Haul roads (Figure 12). The full results of the cultural and architectural resources inventory are reported in Comstock Mining, LLC's Baseline Study: Cultural Resources Inventory, Storey and Lyon County, Nevada, BLM Report CRR3-2643 (Spidell et al., 2013).

There are four criteria applied to evaluate properties for inclusion in the NRHP (listed below as A through D). The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may be likely to yield, information important in prehistory or history.

The cultural resources inventory identified a total of 33 archaeological and architectural sites within the Direct/Indirect Effects APE. Of these sites, 29 are historic in age, while four are multi-component and exhibit a historic and prehistoric component. For those sites that have both a historic and prehistoric component, each component was individually evaluated for the NRHP.

Of the 33 sites located within the Direct/Indirect Effects APE, 12 have been recommended eligible to the NRHP. Eleven of these sites are historic, and of these, one has a small prehistoric component that is not eligible. One historic property is prehistoric with a small historic component that is not eligible. Nine of the 11 eligible historic sites have been recommended as contributing elements of the Virginia City National Historic Landmark and National Historic District.

3.2.1.2 Viewshed APE

The Viewshed APE includes Grinders Bend at the north, Devil's Gate at the Lyon/Storey county line at the south, and the Virginia & Truckee Railroad grade on the west, and the ridge east of State Route 342 on the east. For this Project, the Viewshed APE would be approximately 2,160

acres. Within the Virginia City Historic District are historic buildings concentrated in five communities: Virginia City; the Divide; Gold Hill; Silver City; and Dayton. In all, there are 382 buildings and structures that contribute to the Historic District (James, 1991). The main factors dictating whether these buildings contribute to the Historic District are aspects of integrity that are dependent on the surrounding landscape. The seven aspects of integrity, as defined by the National Park Service, are location, design, setting, materials, workmanship, feeling, and association. The aspects of setting, feeling, association can potentially be affected by modern, non-compatible use of the region (McClelland et al., 1999; Noble and Spude, 1997). The Viewshed APE includes consideration of these historic properties that are within the viewshed of the Proposed Action.

Gold Hill, where 32 of the 382 contributing historic properties to the Virginia City Historic District are located, is situated at a higher elevation than the Project Area. The elevated location of Gold Hill above the Project Area provides a good vantage point to view the current mining operation in Gold Canyon and associated traffic on the haul road. There were 18 geographic locations identified and visited as part of the cultural resources inventory and assessment that correspond to contributing historic properties or grouping of historic properties within the District. The Project Area is visible from 13 of the 18 geographic locations visited. In American Flat, the Proposed Action is visible from 2 of the 18 points visited. The Proposed Action is not visible from Silver City, due to the physical barrier provided by Hartford Hill and Devils Gate. Within Silver City are 48 of the 382 contributing properties to the Virginia City Historic District.

3.2.2 No Action/Current Management Alternative

No cultural resources recommended as eligible for the NRHP are located on State Route 342 or the existing access along the American Flat Road (Spidell et al., 2013).

3.2.3 Non-Federal Alternative

The Non-Federal Alternative would be accomplished without the use of public lands and would not constitute an undertaking as defined by Section 106 of the NHPA. Because there is no undertaking for the Non-Federal Alternative, there is no defined APE for the Non-Federal Alternative. Five archaeological resources are located within the area analyzed for the Non-Federal Alternative. Of the five archaeological sites, three are historic, one is prehistoric, and one is a multi-component site with an historic and prehistoric component. Each component was individually evaluated for the NRHP (Spidell et al., 2013).

Of the four historic sites, one has been recommended eligible for the NRHP. Of the two prehistoric sites or site components located within the Non-Federal Alternative, none has been recommended as eligible for the NRHP.

The Non-Federal Alternative, if constructed in Spring Valley, would not be visible from any of the locations visited during the current resources inventory and assessment. The lands being considered for the Non-Federal Alternative are obscured from all of the photo points in Gold Hill and Silver City by a low ridge located on the eastern slope of Grizzly Hill, which separates Gold Canyon from Spring Valley.

3.3 NOXIOUS, INVASIVE PLANT SPECIES

3.3.1 Proposed Action

Within Nevada, noxious weeds are defined in the Nevada Revised Statutes (NRS) 555.005 as "any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate". The Nevada Department of Agriculture's Noxious Weed website (http://agri.state.nv.us/PLANT_NoXWeeds_index.htm) provides a list of all weeds currently listed as noxious for the State of Nevada.

Several State of Nevada noxious weeds are known to occur in or near the Project Area. These include the following: diffuse knapweed (*Centaurea diffusa*); Russian knapweed (*Acroptilon repens*); hoary cress (*Cardaria draba*); Scotch thistle (*Onopordum acanthium*); tamarisk (*Tamarix ramosissima*); tall whitetop (*Lepidium latifolium*); Canada thistle (*Cirsium arvense*); Medusa head (*Elymus caput-medusae*); and poison hemlock (*Conium maculatum*). Cheatgrass (*Bromus tectorum*), hairy whitetop (*Cardaria pubescens*), and bull thistle (*Cirsium vulgare*) have also been identified within the area surveyed. In a survey conducted in May 2013, Scotch thistle and tall whitetop were located in the Project Area (JBR, 2013a).

A comprehensive Integrated Weed Management Plan was developed by JBR for Comstock Mining, LLC in June 2012 (JBR, 2012a). This plan includes a detailed overview for weed management approaches, descriptions of and life histories for weed species in area surveyed, priorities for weed treatments, management actions, and includes a weed Management Maintenance Calendar.

Noxious weed management is currently being implemented by Comstock Mining, LLC. Management includes identification of current weed species, tracking of weed locations using handheld Global Positioning System units, and manual removal of weed species. Comstock Mining, LLC is currently following the Integrated Weed Management Plan and a number of these previously mapped occurrences could have already been treated or removed.

3.3.2 No Action/Current Management Alternative

Scotch thistle and tall whitetop were located within the existing 30-foot ROW on the American Flat Road (JBR, 2013a). No noxious weeds were located along State Route 342.

3.3.3 Non-Federal Alternative

Tall whitetop and tamarisk were located along roads and in drainages within the area analyzed for this alternative (JBR, 2013a).

3.4 MIGRATORY BIRDS

3.4.1 Proposed Action

Migratory birds include species of birds that may breed in the Project Area and then would migrate south, out of the area, prior to the onset of winter. Migratory birds are protected under the MBTA. On January 11, 2011, President Clinton signed Executive Order (EO) 13186 placing emphasis on the conservation and management of migratory birds. EO 13186 addresses the responsibilities of federal agencies to protect migratory birds by taking actions to implement the MBTA. BLM management for migratory bird species on public lands is based on Instruction Bulletin No. 2010-110 (BLM, 2010). This Instruction Bulletin transmits the 2010 Memorandum of Understanding between the BLM and the United States Fish and Wildlife Service (USFWS) for the conservation of migratory bird populations. BLM priority migratory birds include migratory birds that are either those species listed in the periodic report Birds of Conservation Concern (USFWS, 2008) or identified by the USFWS Division of Migratory Bird Management as "game birds below desired condition".

The Intermountain West avifaunal biome where the Project Area occurs is the center of distribution for numerous western birds. Over half of this biome's Species of Continental Importance have 75 percent or more of their population here. Many breeding species from this biome migrate to winter in central and western Mexico or in the Southwestern biome (Rich et al., 2004). Shrub-nesting species comprise the largest number of Species of Continental Importance in this biome (Rich et al., 2004).

Approximately six miles west of the Project Area is the Washoe Valley Important Bird Area as designated by the National Audubon Society.

A number of migratory bird species have the potential to occur in the Project Area, or make use of particular habitat features at different times of the year. Vegetation communities located within the Project Area that provide habitat for migratory birds include low sagebrush, mountain big sagebrush, and disturbed/sagebrush vegetation communities (ESA, 2013a). During field surveys in 2011, the following species were observed in and around the Project Area: mountain bluebird (*Sialia mexicana*); western scrub-jay (*Aphelocoma californica*); cliff swallow (*Petrochelidon pyrrhonota*); black-billed magpie (*Pica hudsonia*); California quail (*Callipepla californica*); black-throated gray warbler (*Dendroica nigrescens*); rock wren (*Salpinctes obsoletus*); red-tailed hawk (*Buteo jamaicensis*); turkey vulture (*Cathartes aura*); and Swainson's hawk (*Buteo swainsoni*). Western tanager (*Piranga ludoviciana*) was observed along the

riparian corridor of the American Ravine (ESA, 2013a). Field surveys conducted in 2011 covered an area larger than the Project Area.

3.4.2 No Action/Current Management Alternative

Available nesting and foraging habitat for migratory birds within the existing 30-foot ROW on the American Flat Road is very limited due to the existing disturbance and lack of vegetative cover.

3.4.3 Non-Federal Alternative

Surface disturbance within the Non-Federal Alternative would be within the low sagebrush and desert scrub communities, both communities provide nesting and foraging habitat for migratory birds. The following bird species were observed during the 2011 field surveys in the area analyzed for the Non-Federal Alternative and vicinity: mountain bluebird; western scrub-jay; cliff swallow; black-billed magpie; California quail; black-throated gray warbler; numerous sparrow species; rock wren; red-tailed hawk; turkey vulture; and Swainson's hawk (ESA, 2013b).

3.5 HAZARDOUS AND SOLID WASTES

3.5.1 Proposed Action

Solid waste generated by the Project would include any cleared vegetation. Vegetation material may be chipped or shredded and spread over the ROW as mulch erosion control as an alternative to disposal off-site. All solid waste generated during construction would be removed from the site, and if appropriate, hauled to a landfill for disposal. The Proposed Action would not generate, use, or dispose of any hazardous waste. Diesel fuel, oil, and lubricants would be used on vehicles traveling on roads in the Project Area; however, these hazardous wastes would not be stored in the Project Area.

Existing contamination from previous mining operations exists in the Project Area. This has become the Carson River Mercury Superfund (CRMS) site. Contaminants include mercury, lead, and arsenic. Hazardous materials existing in the Project Area and vicinity are being addressed through the NDEP-Bureau of Corrective Actions (BCA) due to the proximity of the Project Area to the CRMS site. For areas potentially affected by the CRMS site, Comstock Mining, LLC has an approved Sampling and Analysis Plan (SAP) with the NDEP on private lands. The SAP describes soil sampling, laboratory analytical tests, and cleanup plans, as needed. If sampling is needed on public lands, Comstock Mining, LLC would seek separate authorization from the BLM.

3.5.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, hazardous and solid wastes would be managed along the American Flat Road consistent with the existing ROW until it expires. Diesel fuel, oil, and lubricants are used; however, they are not stored in the area analyzed for the No Action/Current Management Alternative. Existing hazardous materials are the same as those for the Proposed Action.

3.5.3 Non-Federal Alternative

Existing hazardous materials for the area analyzed for the Non-Federal Alternative are the same as those for the Proposed Action.

3.6 WATER QUALITY (SURFACE/GROUND)

3.6.1 Proposed Action

3.6.1.1 Groundwater Resources

The Project Area is located within the Carson River Basin – Dayton Valley Hydrographic Area. The Project Area is located within a structural block fault basin. Tertiary and Quaternary basin fill deposits composed of unconsolidated clay, silt, sand, and gravel within the fault basin are the primary aquifer in the area (Schaefer and Whitney, 1992).

Aquifers in this area are generally unconfined and groundwater flow is generally west to east. Depth to groundwater varies from more than 200 feet (close to the mountain fronts) to near surface (close to the Carson River). Average depth to water is approximately 60 feet (Schaefer and Whitney, 1992). The Gash (production water) well was drilled to a depth of 260 feet in the southwest corner of Comstock Mining, LLC's existing process area on April 30, 2004, by a previous operator. Groundwater was encountered at about 100 feet below ground surface. Initially, the well was artesian, creating a flow out of the top of the casing.

3.6.1.2 Surface Water Resources

The Carson River, approximately six miles south of the Project Area, is the major perennial drainage in the vicinity. The American Ravine features a perennial creek that flows along the southern side of the Project site. Surface flow is generally toward the southeast (Schaefer and Whitney, 1992).

JBR performed field investigations from November 14 through 16, 2011, evaluating the potential jurisdictional status of channels and delineating waters of the United States for Comstock Mining, LLC. JBR inventoried all drainages and drainage-like features within the survey area to determine potential tributary connection to the Carson River, a traditional navigable water and jurisdictional drainage.

Three drainages have a connection with Gold Canyon and four drainages have a connection with Daney Canyon, both of which are documented to have a connection with the Carson River (Figure 13). Eight drainages do not exhibit indicators of an ordinary high water mark and would not be subject to regulation under Section 404 of the Clean Water Act (JBR, 2012b). Although some drainages within the vicinity of the Project Area are not subject to regulation under the Clean Water Act, they are still under regulation by the State of Nevada. All impacts to waters of the State within the vicinity of the Project Area must adhere to the regulations set forth by the NDEP.

Gold Canyon is the drainage located east of State Route 342 and is direct tributary to the Carson River. The American Ravine is the closest drainage to the Project Area and is located approximately 150 feet south of the former American Flat Mill site. The American Ravine drainage originates from several spring sources in the mountains surrounding American Flat and is one of the three drainages with a connection to Gold Canyon (JBR, 2012b).

3.6.2 No Action/Current Management Alternative

3.6.2.1 Groundwater Resources

Groundwater resources present in the area analyzed for the No Action/Current Management Alternative are the same as described for the Proposed Action.

3.6.2.2 Surface Water Resources

Surface water resources present in the area analyzed for the No Action/Current Management Alternative are the same as described for the Proposed Action.

3.6.3 Non-Federal Alternative

3.6.3.1 Groundwater Resources

The Non-Federal Alternative is located in the same hydrographic basin as the Proposed Action. According to the Nevada Division of Water Resources, there is no well log information for the area analyzed for the Non-Federal Alternative (NDWR, 2013).

3.6.3.2 Surface Water Resources

Total surface disturbance associated with construction and operation of this facility would include 41 acres and be located in Amazon Gulch, which is a jurisdictional drainage that connects with Daney Canyon. Daney Canyon is documented to have a connection with the Carson River (JBR, 2012b).

3.7 SPECIAL STATUS SPECIES (ANIMALS)

3.7.1 Proposed Action

BLM Manual 6840 provides policy and guidance for the conservation of BLM sensitive species and the ecosystems upon which they depend on public lands. BLM Sensitive species are: 1) species listed or proposed for listing under the federal Endangered Species Act of 1973 (FESA); and 2) species requiring special management considerations to promote their conservation and reduce the likelihood and need for future listing under the FESA, which are designated as sensitive by the State BLM Director(s).

Prior to conducting field surveys, a list of special status wildlife species was reviewed and it was utilized to evaluate which species may potentially occur in or near the Project Area (Table 3-3). Species with potential habitat in the Project Area are discussed further below.

Table 3-3 Potential for Sensitive Animal Species to Occur within the Project Area

Scientific Name Common Name	Listing Status (Federal/State/BLM)	General Habitat	Potential to Occur in the Project Area
Fish			
Cui-ui <i>Chasmistes cujus</i>	FE/--/--	Endemic to Pyramid Lake, Nevada. Historically found in Winnemucca Lake, Nevada.	Unlikely. Outside species range and no suitable habitat within the Project Area.
Lahontan cutthroat trout <i>Oncorhynchus clarkii henshawi</i>	FT/--/--	Historically in all accessible cold waters of the Lahontan Basin in a wide variety of water temperatures and conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	Unlikely. No suitable habitat within the Project Area. The portion of the American Ravine that runs nearby is ephemeral in nature and would not support this species.
Amphibians			
California toad <i>Bufo boreas halophilus</i>	FT/--/--	Inhabits a variety of habitats, including marshes, springs, creeks, small lakes, meadows, woodlands, forests, and desert riparian areas. In the spring and early summer, toads are often found at the edge of water, sometimes basking on rocks and logs. At other times of the year, they are also found farther from the water where they spend much of their time in moist terrestrial habitats. Toads use rodent holes, rock chambers, and root system hollow as refuges from heat and cold.	Unlikely. No suitable habitat within the Project Area. Limited habitat is present nearby along the riparian corridor of the American Ravine.

Scientific Name Common Name	Listing Status (Federal/State/BLM)	General Habitat	Potential to Occur in the Project Area
Northern leopard frog <i>Rana pipiens</i>	--/--/--	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, reservoirs. Generally prefers permanent water with abundant aquatic vegetation.	Unlikely. No suitable habitat within the Project Area.
Reptiles			
Rubber boa <i>Charina bottae</i>	FT/--/--	Grassland, mountain meadows, chaparral, woodland, along streamsides, deciduous and coniferous forest.	Unlikely. No suitable habitat within the Project Area. Limited habitat is present nearby along the riparian corridor of the American Ravine.
Northwestern pond turtle <i>Emys marmorata marmorata</i>	FT/--/--	Occurs in and adjacent to perennial aquatic habitats, especially streams and ponds below 6,000 feet in elevation. Prefers open, grassy south-facing slopes for nest sites.	Unlikely. No suitable habitat within the Project Area. Water features nearby are ephemeral in nature and have limited aquatic vegetation.
Birds			
Golden eagle <i>Aquila chrysaetos</i> *	--/Yes/N	Nests on cliffs of all heights and in larger trees near open areas. Occurs in rolling foothills, mountain terrain, sage-juniper flats, and rugged open habitats with canyons and escarpments. Preys mostly on small mammals.	Medium potential. Suitable foraging habitat is present within the Project Area although no known occurrences have been recorded.
Swainson's hawk <i>Buteo swainsoni</i> *	--/Yes/N	Open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice.	High potential. Suitable habitat is present and one individual was observed perching on a potential nest south of the Project Area.
Greater sage-grouse <i>Centrocercus urophasianus</i>	FC/Yes/N,C	Restricted to flat/rolling terrain vegetated by sage-brush, upon which it depends for both food and shelter.	Low potential. Suitable habitat is present within the Project Area, although no known occurrences have been recorded within the Project Area and no preliminary priority or general habitat has been designated in the Project Area.
Yellow-billed cuckoo (Western U.S. Distinct Population Segment) <i>Coccyzus americanus</i>	FC/Yes/S	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Unlikely. No suitable habitat within the Project Area. Limited habitat is present nearby along the riparian corridor of the American Ravine.

Scientific Name Common Name	Listing Status (Federal/State/BLM)	General Habitat	Potential to Occur in the Project Area
Pinyon jay <i>Gymnorhinus cyanocephalus</i> *	--/Yes/N	The pinyon jay is a permanent resident of pinyon-juniper woodlands and low-elevation ponderosa pine forests.	Medium potential. Suitable habitat is present within the Project Area although no known occurrences have been recorded.
Yellow-breasted chat <i>Icteria virens</i>	--/Yes/N	Inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Unlikely. No suitable habitat within the Project Area.
Loggerhead shrike <i>Lanius ludovicianus</i> *	--/Yes/N	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Medium potential. Suitable habitat is present within the Project Area although no known occurrences have been recorded.
Lewis's woodpecker <i>Melanerpes lewis</i>	--/Yes/N	Breeds in open forest and woodland with an open canopy and brushy understory. Requires dead trees for nest cavities.	Unlikely. No suitable habitat within the Project Area.
Vesper sparrow <i>Pooecetes gramineus</i>	--/Yes/N	Inhabitants of open areas, vesper sparrows reside in cultivated fields, grasslands, fallow fields, and pastures. Vesper sparrow habitats are typically sparsely vegetated with patches of bare ground, low vegetation (1 to 8 inches), and scattered shrubs or saplings.	Low potential. There may be limited suitable habitat in the sagebrush and pinyon-pine communities.
Mammals			
Townsend's big-eared bat <i>Corynorhinus townsendii</i> *	--/Yes/N,C	Found in rocky areas where abandoned mines and buildings and caves are available.	High potential. Suitable habitat is present and there is a recorded occurrence near the Project Area.
Western small-footed myotis <i>Myotis ciliolabrum</i> *	--/--/N,C	Wide range of habitats mostly arid wooded & brushy uplands near water. Seeks cover in caves, buildings, mines & crevices. Prefers open stands in forests and woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	Medium potential. Suitable foraging habitat is present within the Project Area although no known occurrences have been recorded.
Pallid bat <i>Antrozous pallidus</i> *	--/Yes/N	Found in crevices on rocky outcrops and cliffs, mines, trees, and human structures.	High potential. Suitable habitat is present and there is a recorded occurrence near the Project Area.

Scientific Name Common Name	Listing Status (Federal/State/BLM)	General Habitat	Potential to Occur in the Project Area
Brazilian free-tailed bat <i>Tadarida brasiliensis*</i>	--/Yes/N	Roosts in cliff faces, mines, caves, buildings, bridges, and hollow trees. May form large colonies.	High potential. Suitable habitat is present and there is a recorded occurrence near the Project Area.
*Species with medium or high potential to occur in the area surveyed.			
KEY:			
Federal (USFWS):		Bureau of Land Management (BLM) Species Classification:	
FE = Listed as Endangered by the federal government		S = Nevada Special Status Species - USFWS listed, proposed or candidate for listing	
FT = Listed as Threatened by the federal government		N = Nevada Special Status Species - designated Sensitive by State Office	
FC = Candidate for listing by the federal government		C = California Special Status Species (see definition S and N)	
State:		– = No Listing	
Yes = Species protected under NRS 501			

Source: ESA, 2013a; JBR, 2013c.

BLM sensitive species that have been added to the list since the inventory was conducted include the following: Dixie Valley toad (*Bufo boreas*); northern goshawk (*Accipiter gentilis*); Western snowy plover (*Charadrius alexandrinus nivosus*); sage thrasher (*Oreoscoptes montanus*); Wall canyon sucker (*Catostomus* sp. 1); Railroad Valley springfish (*Crenichthys nevadae*); spotted bat (*Euderma maculatum*); western red bat (*Lasiurus blossevillii*); California myotis (*Myotis californicus*); little brown myotis (*M. lucifugus*); Yuma myotis (*M. yumanensis*); pygmy rabbit (*Brachylagus idahoensis*); pale kangaroo mouse (*Microdipodops pallidus*); pika (*Ochotona princeps*); Shasta alligator lizard (*Elgaria coerulea shastensis*); Hardy's aegialian scarab (*Aegialia hardyi*); bee (*Anthophora* sp. nov. 1); Sand Mountain aphodius scarab (*Aphodius* sp. 3); Click beetle (*Cardiophorus* ssp. nov.); Sand Mountain pygmy scarab beetle (*Coenonycha pygmaea*); early blue (*Euphilotes enoptes primavera*); Sand Mountain blue (*E. pallescens arenamontana*); bee (*Hesperapis* sp. nov.); Mono Basin skipper (*Hesperia uncas giulianii*); bee (*Perdita haigi*); bee (*Perdita* sp. nov. 3); Great Basin small blue (*Philotiella speciosa septentrionalis*); Carson wandering skipper (*Pseudocopaeodes eunus obscures*); Carson Valley silverspot (*Speyeria nokomis carsonensis*); ovate Cain Spring pyrg (*Pyrgulopsis pictilis*); and Wongs pyrg (*Pyrgulopsis wongi*). Potential habitat for the additional bat species and sage thrasher are described in this Revised Draft EA. The remaining species that have been added to the BLM sensitive species list are not expected to have potential habitat in the Project Area and are not analyzed further in this Revised Draft EA.

Reconnaissance-level pedestrian and vehicle surveys were conducted by wildlife biologists on June 6 through 10, 2011, to determine the presence of and potential for special-status wildlife species to occur at and in the vicinity of the Project Area. Wildlife habitat types were mapped

and described, and any potential special-status wildlife habitat was assessed and recorded. Raptor surveys were conducted by helicopter on June 21, 2012. The survey area and five-mile buffer were flown and searched for raptor nests.

Golden Eagle

The golden eagle is an uncommon permanent resident and migrant throughout Nevada. Golden eagles nest in open areas on cliffs and in large trees, often constructing multiple nests in one breeding territory (Zeiner et al., 1988-1990). They forage in open terrain such as grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats (Zeiner et al., 1988-1990). During raptor surveys of the Project Area and a five-mile buffer, four golden eagle nests were observed. Two of the nests were active and contained young. The active nests were approximately 1.4 miles north and 6.1 miles south from the Project Area. The open sagebrush habitat and mountainous areas adjacent to the Project Area could provide potential habitat for this species.

Swainson's Hawk

The Swainson's hawk is a long-distance migrant species. Nests are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures, but the species will also nest in tall shrubs and trees in proximity to developments near foraging habitat. Prey species mainly include small mammals, reptiles, and insects. Most young have fledged the nest by the end of July and are relatively independent of parental protection. However, fledged young remain with their parents until they migrate in the fall. Migration to the wintering grounds generally occurs around September (Zeiner et al., 1988–1990).

The open sagebrush habitat and mountainous areas within the Project Area and vicinity, as well as the mature trees along the American Ravine riparian corridor, provide suitable habitat for this species. An adult Swainson's hawk was observed roosting on a mature pine (*Pinus* spp.) on the side of a small mountain in Lyon County located approximately two miles south of the Project Area (ESA, 2013a).

Greater Sage-Grouse

Portions of the Project Area contain habitat components associated with greater sage-grouse including sagebrush. However, the area is outside the mapped suitable wintering, brood rearing, and nesting habitat areas. According to the Greater Sage Grouse Conservation Plan for Nevada and Eastern California, the Project Area is not located within a recognized Population Management Unit for greater sage-grouse and there are no known greater sage-grouse populations or leks in or near the Project Area. While the sagebrush communities may provide suitable habitat for greater sage-grouse, the BLM has reviewed the preliminary general and priority habitat designations and the Project Area does not lie within these areas. Therefore, the

Project Area has been determined not to contain any essential, important, or moderate habitat for the greater sage-grouse.

Pinyon Jay

This species occurs in western North America from central Oregon to northern Baja California and east as far as western Oklahoma though it wanders further afield out of the breeding season. It lives in foothills where two-needle pinyon (*Pinus edulis*) and singleleaf pinyon occur.

This species is highly social, often forming very large flocks of 250 or more birds, and several birds always seem to act as sentries for the flock, watching out for predators while their companions are feeding. The seed of the pinyon pine is the staple food but they supplement their diet with fruits and berries. Insects of many types are also eaten and sometimes caught with its feet. The nest is always part of a colony but there is never more than one nest in a tree. Sometimes the colony can cover quite extensive areas with a single nest in each tree (usually juniper, live oak, or pine).

The pinyon pine communities adjacent to the Project Area would provide suitable habitat for this species.

Loggerhead Shrike

Loggerhead shrikes are a semi-permanent resident California species that occurs in abundance in the Central Valley and Central Coast where shrub habitats and open woodlands are available. Shrikes generally forage on the fringes of open habitats where suitable hunting perches are available. This species typically hunts from dead trees, tall shrubs, utility wires and fences, impaling their prey on sharp twigs, thorns, or barbed wire.

The loggerhead shrike can be found from southern Canada through the lower 48 states to southern Mexico. Virginia, southern Illinois, and northern California form the northern edge of their winter range. Shrikes are common throughout California and are expected to occur in low to moderate densities throughout the Project Area and vicinity where shrubby wooded habitat provides adequate cover and nesting sites.

Within the Project Area, loggerhead shrike may be encountered near wooded drainages or areas with moderate to dense shrub cover. Habitat near the Project Area occurs sporadically in and next to the American Ravine and some of the ephemeral drainages.

Sage Thrasher

The sage thrasher is an elusive bird and, when disturbed, will frequently run on the ground rather than take flight. Sage thrashers inhabit open, shrub-steppe country. They appear to prefer areas

dominated by sagebrush or bitterbrush, with native grasses intermixed, generally avoiding cheatgrass-dominated landscapes. After breeding season, they move into thickets, and are often found along creek drainages.

The sagebrush communities throughout the Project Area would provide suitable habitat for this species.

Townsend's Big-eared Bat

Townsend's big-eared bats have been reported in a wide variety of habitat types including coniferous forests, mixed mesophytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat, ranging from sea level to 10,800 feet AMSL. Their most typical habitat is arid western desert scrub and pine forest regions.

Townsend's big-eared bats occur throughout the west though their distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines. Habitat is widely available throughout the vicinity of the Project Area in the abandoned mine shafts and buildings. There were several recorded observations within the vicinity of the Project Area in 1970 and 1972, as well as in 2012 by Nevada Department of Wildlife (NDOW) biologists inspecting shafts and adits for suitable habitat.

Western Small-footed Myotis

Small-footed myotis is distributed in deserts, chaparral, riparian zones, western coniferous forest, and pinyon-juniper forest. Individuals are known to roost singly or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines.

Although there have been no recorded observations of this species, habitat is widely available throughout the vicinity of the Project Area in the abandoned mine shafts and buildings.

Pallid Bat

Pallid bats are found throughout western North America in rocky arid deserts and canyonlands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forests. It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Pallid bats may roost alone, in small groups (two to 20 bats), or in large groups (hundreds of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances and exits, and are high above the ground, warm, and inaccessible to terrestrial predators (WBWG, 2005).

Pallid bats have previously been found within the mines in Virginia City (BLM, 2013b).

Brazilian Free-tailed Bat

Brazilian free-tailed bats are one of the most widely distributed mammal species in the Western Hemisphere. In the western United States, the Brazilian free-tailed bat is most commonly associated with dry, lower elevation habitats, yet also may occur in a wide variety of other habitats. This species is highly colonial with maternity colonies ranging in size from a few hundred to 20 million. The most commonly used natural roosts are caved and rock crevices in cliff faces but may also use abandoned mines and tunnels, highway bridges, and large culverts (WBWG, 2005).

Brazilian free-tailed bats have previously been found within the mines in Virginia City (BLM, 2011).

Potential habitat for the spotted bat, western red bat, California myotis, little brown myotis, and Yuma myotis are present in the Project Area and vicinity.

3.7.2 No Action/Current Management Alternative

Nesting and foraging habitat for special status wildlife species within the existing 30-foot ROW on the American Flat Road is very limited due to the existing disturbance and small amount of vegetation present. Carrion on the American Flat Road and State Route 342 may provide a food source for special status wildlife species.

3.7.3 Non-Federal Alternative

Surface disturbance associated with construction and operation of this facility would occur within the low sagebrush and desert scrub communities. The area was surveyed in 2011 by Environmental Science Associates and no State protected species were observed; however, the communities could provide nesting and foraging habitat for the following State protected wildlife species: pallid bat; Brazilian free-tailed bat; spotted bat; Townsend's big-eared bat; western red; sage thrasher, and loggerhead shrike.

3.8 GENERAL WILDLIFE

3.8.1 Proposed Action

NDOW's Wildlife Action Plan characterized Nevada's vegetative land cover in eight broad ecological system groups and linked those with key habitat types, which are further refined into ecological systems characterized by plant communities or associations that support various wildlife species (NDOW, 2006). As discussed in the vegetation resources section (Section 3.13), the majority of the Project Area occurs in areas described as sagebrush. Wildlife species observed in and near the Project Area during field surveys include the following mammals: black-tailed jackrabbit (*Lepus townsendii*), and cottontail rabbit (*Sylvilagus audubonii*) (ESA, 2013a). Other mammals that have the potential to occur in the area include; Townsend's ground

squirrel (*Spermophilus townsendii*), Wyoming ground squirrel (*Spermophilus elegans*), desert woodrat (*Neotoma lepida*), deer mice (*Peromyscus maniculatus*), northern grasshopper mice (*Onychomys leucogaster*), coyotes (*Canis latrans*), bobcats (*Lynx rufus*), and kit fox (*Vulpes macrotis*) (NDOW, 2006). These are the species observed during surveys; however, habitat for other wildlife species is available in the Project Area.

Additionally, bats are common in arid shrubland areas where water is available. Bat species that may be present are discussed in Special Status Species (Animals) (Section 3.7).

Big game species that have the potential to occur include mule deer (*Odocoileus hemionus*). The NDOW has mapped a portion of the Project as year round habitat for mule deer. Mapped deer winter habitat is approximately 3.5 miles west of the Project Area. The NDOW has also mapped the Project Area as potential habitat for bighorn sheep (*Ovis canadensis*), although there have been no sightings (NDOW, 2012).

Numerous bird species have been observed in, or have the potential to occur in, the Project Area. Section 3.4 (Migratory Birds) contains a list of all the bird species observed during 2011 field surveys. Additionally, raptor surveys were conducted within a five-mile buffer of the Project Area in 2012 (JBR, 2013b). Species observed during these surveys include: golden eagle, red-tailed hawk, American kestrel (*Falco sparverius*), and prairie falcon (*Falco mexicanus*).

Reptiles observed in the Project Area include gopher snake (*Pituophis catenifer*), and western fence lizard (*Sceloporus occidentalis*) (ESA, 2013a).

3.8.2 No Action/Current Management Alternative

In general, the wildlife species that use the area analyzed for the No Action/Current Management Alternative are the same as for the Proposed Action. Foraging and nesting habitat for wildlife may be located along the existing American Flat Road within the limited vegetation present on the side of the road. Additionally, carrion from collisions on the American Flat Road and State Route 342 may provide foraging opportunities for scavenging wildlife species.

3.8.3 Non-Federal Alternative

In general, the wildlife species that use the area analyzed for the Non-Federal Alternative are the same as for the Proposed Action. Surface disturbance associated with construction and operation of this facility would include areas within the low sagebrush and desert scrub communities. These vegetation communities could provide nesting and foraging habitat for wildlife.

3.9 LAND USE AUTHORIZATIONS

3.9.1 Proposed Action

The Proposed Action is located in Storey County, Nevada. Historically, land use within the Project Area and vicinity has been for mining activities, access to public and private lands, and a variety of other activities. Recreational opportunities within the vicinity include biking, running, mineral exploration/rockhounding, horseback riding, and OHV use. In addition, various utility ROWs occur within the Project Area. These ROWs are primarily for transmission lines and access. Table 3-4 is a list of ROWs within the Project Area.

Table 3-4 Rights-of-Ways and Easements in the Project Area

Description/Holder	Type of Easement	Document Number
Sierra Pacific Power Company	Power line ROW	NEV 06229
Sierra Pacific Power Company	Power line ROW	Document 47036
Sierra Pacific Power Company	Power line ROW	NVN 0 065885
Sierra Pacific Power Company	Power line ROW	NEV 042763
Comstock Mining, LLC	Road ROW	NVN 091237
V & T Railroad Reconstruction	Access Easement	Document Number 096388
V & T Railroad Reconstruction	Access Easement	Document Number 104637

Sources: Horm, 2013; BLM, 2013a; and Storey County, 2013a

The vast majority of the claims within the Project Area are controlled by Comstock Mining, LLC. The lots/claims not shown as held by Comstock Mining, LLC in the Storey County Assessor database are on the northern portion of the realigned American Flat Road. Table 3-5 is a list of the mining claims and lot numbers within the Project Area and the claim holders.

Table 3-5 Claims and Lot Numbers in the Project Area

Claim Name/Lot Number	Owner
Comstock 115	Comstock Mining, LLC
Comstock 116	Comstock Mining, LLC
Comstock Lode 122	Comstock Mining, LLC
Comstock Lode 124	Comstock Mining, LLC
Comstock Lode 126	Comstock Mining, LLC
Comstock Lode 133	Comstock Mining, LLC
Comstock 135	Comstock Mining, LLC
Comstock 137	Comstock Mining, LLC
Comstock 139	Comstock Mining, LLC
Comstock #1	Comstock Mining, LLC
Comstock #13	Comstock Mining, LLC
Comstock #17	Comstock Mining, LLC
MS 55 Keystone	Comstock Mining, LLC
MS 48 Justice	Comstock Mining, LLC

Claim Name/Lot Number	Owner
MS 117-B Chonta	Comstock Mining, LLC
MS 140 Lucerne	Comstock Mining, LLC
Hartford South Extension	Comstock Mining, LLC
Green	Comstock Mining, LLC
Billie the Kid	Comstock Mining, LLC
Hartford St. Louis Fraction	Comstock Mining, LLC
Hartford	Comstock Mining, LLC
Hartford Lucerne Fraction	Comstock Mining, LLC
Justice Lucerne Fraction	Comstock Mining, LLC
Lot 3 (Patent No. 197)	Comstock Mining, LLC
Lots 17/18	Sutro Tunnel Company
Lot 32	Comstock Mining, LLC
Lot 33 (Patent No. 204)	Comstock Mining, LLC
Lot 35 (Patent No. 202)	Comstock Mining, LLC
Lot 39	Railroad and Gold, LLC and United Mining Corp
Merrilite	Railroad and Gold, LLC
Maryland Fraction	Railroad and Gold, LLC
Alto No. 9	Railroad and Gold, LLC

Sources: BLM, 2013a; Storey County, 2013a and 2013b; GLO, 2013

3.9.2 No Action/Current Management Alternative

The NDOT provides maintenance on the paved area and drainage area of State Route 342. The NDOT has prescriptive rights on State Route 342 from the intersection of C Street in Virginia City to the intersection of State Route 341 (Occidental Grade) in Silver City (Salazar, 2013).

3.9.3 Non-Federal Alternative

Any development on the private property would have to comply with the Lyon County Development Code. According to the Lyon County Assessor Map for the property, the Non-Federal Alternative is within MS 63 Kossuth Lode (Record of Survey 512207), and portions of MS 94 Silver Central and MS 80 Carson (Record of Survey 512207 and Boundary Line Adjustment 218726). There are several above ground transmission lines within or adjacent to the Project Area. These are most likely associated with ROW grants NEV 06229 and NVN 0 065885 (Horn, 2013). The NDOT provides maintenance on the paved area and drainage area of State Route 341/342. The NDOT has prescriptive rights on State Route 342 from the intersection of C Street in Virginia City to the intersection of State Route 341 (Occidental Grade) in Silver City (Salazar, 2013).

3.10 RECREATION AND TRAVEL MANAGEMENT

3.10.1 Proposed Action

With the active mining that currently occurs near the Project Area, there are few recreational opportunities. Recreational opportunities that are present in the vicinity of the Project Area include biking, running, horseback riding, and OHV use. Roads in the Project Area are utilized for the Virginia City 100, a 100-mile endurance ride that is located in the mountains, trails, and roads in the Virginia City/Washoe Valley area (Figure 14).

Virginia City is the largest federally designated National Historic Landmark in the United States, and attracts an estimated 600,000 tourist visitors each year (BLM, 2013b). In-town attractions include saloons, bed and breakfasts, mine tours, museums, the Virginia & Truckee Railroad, Piper's Opera House, Fourth Ward School, and St. Mary's Church. Miner's Park is located in Virginia City at the corner of Carson and F streets. This park includes a pool, baseball field, gazebo, BBQ area, skate park, and playground equipment. The Virginia City High School campus, located on R Street, includes an artificial turf athletic field that provides regulation football and softball facilities that are utilized by the high school athletic teams, as well as the town's residents.

The former American Flat Mill site is located approximately 0.3 mile southeast of Comstock Mining, LLC's existing process facility (Figure 14). This abandoned mill site consisted of approximately eight buildings.

Sevenmile Canyon is an OHV recreational site consisting of several miles of trails located in the vicinity of Virginia City and the site of Virginia City Grand Prix motorcycle race. Jumbo Grade is a popular OHV area located east of the Project Area in Washoe Valley. Roads in the Project Area are likely utilized by the same recreational users that visit Sevenmile Canyon and Jumbo Grade (Figure 14).

Roads and trails in the Project Area are generally characterized as hard-packed, rocky, and fairly stable during periods of moderate soil moisture. A network of user-created roads is located in the vicinity of the Project (Figure 14). Roads and trails are prone to soil displacement during periods of dry (dust) or high moisture events (rutting). At an elevation of 6,200 feet AMSL, Virginia City receives more snow in the winter months than the lower elevations in Dayton, Reno, and Carson City. Subsequently, the area does not draw a significant amount of motorized use in the winter months compared to Hungry Valley (north Reno) or the lower Pine Nuts (Carson City) since road and trail access is limited due to snow levels.

3.10.2 No Action/Current Management Alternative

Under this alternative, Comstock Mining, LLC would continue to haul ore to the processing facility from the existing pit on private land by traveling on the Lucerne Haul Road until the existing ROW expires. The area analyzed for this alternative does not provide recreational opportunities; however, the roads may be utilized by the public to access other areas for recreational opportunities.

3.10.3 Non-Federal Alternative

Although the area analyzed for the Non-Federal Alternative is located on private land, there are numerous user-created roads in the vicinity. Under this alternative, a new processing facility would be constructed in Lyon County and haul traffic would travel from the mine to the new processing facility by going through Silver City. The Non-Federal Alternative would, therefore, result in an increase in mine-related traffic in Silver City which would impact local residents in Silver City.

3.11 SOCIOECONOMICS

3.11.1 Proposed Action

The Project Area is located in Storey County, Nevada, the second smallest county by area in Nevada. According to the United States Census, the population of Storey County in 2012 was 3,935, with 1,755 households. This is a decrease of 1.9 percent from the 2010 population of 4,010 people. The population of Storey County is 0.14 percent of Nevada's total State population (U.S. Census Bureau, 2013). The county seat of Storey County is Virginia City, which has population of 1,080 (U.S. Census Bureau, 2013). The city is a popular tourist destination for people interested in the mining history of the West. The tourism industry, largely due to the county's mining heritage, continues to attract more than 1.6 million people a year to the county (Storey County, 2013a). The closest city to the Project Area is Silver City, approximately 0.5 mile southeast of the Project Area.

As of November 2013, the unemployment rate in Storey County was 10.6 percent, which was higher than both the Nevada rate of 9.7 percent and the United States rate of 7.9 percent (Nevada Workforce Informer, 2013). The largest private employers in Storey County as of the second quarter of 2013 were Wal-Mart, Intellisource, and Petsmart located in McCarran, Nevada, approximately 50 miles northeast of the Project Area (Nevada Workforce Informer, 2013). The average annual per capita income for Storey County is \$30,512, which is more than the State average of \$27,625 (U.S. Census Bureau, 2013).

A temporary workforce of eight employees or contractors would utilize services in Virginia City and likely commute to the Project Area from their homes in Storey, Lyon, or Carson City counties. Additionally, the Project would support services and utilize products from Carson City and Washoe counties.

3.11.2 No Action/Current Management Alternative

The workforce for this alternative would not change from existing conditions.

3.11.3 Non-Federal Alternative

A temporary workforce would be employed to construct the new processing facility, which would consist of approximately 115 employees or contractors. A smaller workforce consisting of approximately 30 individuals would remain to operate the facility following construction. The operations workforce would be the same as the workforce currently operating the existing processing facility.

3.12 SOILS

3.12.1 Proposed Action

According to the National Resources Conservation Service (NRCS) soils database, there are the following three soil associations within the Project Area: Springmeyer-Reno association (120); Pits-Dumps complex (602); and Reywat-Ister-Rock outcrop association (740).

The Springmeyer-Reno association soils are typically well drained and consist of gravelly loam, gravelly fine sandy loam, cobbly fine sandy loam, clay, cemented material, and very gravelly loamy sand. Water capacity ranges from low to moderate (4.6 inches for Reno and 7.9 for Springmeyer) (USDA, 2013a).

The Pits-Dumps complex occurs on previously disturbed land.

The Reywat-Ister-Rock outcrop association soils are generally well drained and consist of cobbly loam, very gravelly clay loam, very stony sandy loam, very stony sandy clay loam, and very stony clay loam before reaching bedrock. Water capacity ranges from very low to low (2.4 inches for Reywat and 4.3 inches for Ister) (USDA, 2013b).

3.12.2 No Action/Current Management Alternative

Soils located in the area analyzed for the No Action/Current Management Alternative are the same as those described for the Proposed Action.

3.12.3 Non-Federal Alternative

According to the NRCS soils database, there are the following three soil associations within the area analyzed for the Non-Federal Alternative: Reywat-Ister-Rock outcrop association (740); Devada-Rock outcrop complex (241); Devada-Old Camp-Reyvat association (7165); and Reno cobbly sandy loam, 4 to 15 percent slopes (572).

The Reywat-Ister-Rock outcrop association soils are generally well drained and consist of cobbly loam, very gravelly clay loam, very stony sandy loam, very stony sandy clay loam, and very stony clay loam before reaching bedrock. Water capacity ranges from very low to low (2.4 inches for Reywat and 4.3 inches for Ister) (USDA, 2013a).

The Devada-Rock outcrop complex soils are well drained, very cobbly loam grading to gravelly clay. Unweathered bedrock is present at 12 to 20 inches in depth. Water capacity is very low, about 1.7 inches (USDA, 2013b).

The Devada-Old Camp-Reyvat association soils are well drained. Devada soils are very cobbly loam grading to gravelly clay, Old Camp soils are very stony sandy loam to extremely stony clay loam, and Reyvat soils are cobbly loam and very gravelly clay loam. Unweathered bedrock is present at 10 to 20 inches in depth. Water capacity is very low, about 1.7 inches for Devada, 1.4 inches for Old Camp, and 2.4 for Reyvat (USDA, 2013b).

The Reno cobbly sandy loam, 4 to 15 percent slopes, soils are well drained. The soils in this association range from cobbly sandy loam, gravelly clay, cemented material, and extremely gravelly loamy sand. Water capacity is low, about 4.5 inches (USDA, 2013b).

3.13 VEGETATION

3.13.1 Proposed Action

A vegetative survey of the Project Area was conducted in May and June 2011, to determine the composition of native plant communities. Objectives of the field survey were to identify the plant communities' floristic composition and map the plant communities present in the Project Area. Areas within the Project Area include low sagebrush, mountain big sagebrush, and disturbed/sagebrush vegetation communities (ESA, 2013a). Those communities are discussed below.

Low Sagebrush

Low sagebrush (*Artemisia arbuscula*) provides dominant shrub cover on slopes and ridgetops, where soils are characterized by a shallow soil layer underlain by bedrock. It is also a component of the disturbed/sagebrush community mosaic. Sporadic tree cover is provided by singleleaf pinyon and Utah juniper, with occasional shrub associates downy rabbitbrush

(*Chrysothamnus viscidiflorus* ssp. *puberulus*) and desert shrub species smooth horsebrush (*Tetradymia glabrata*), Nevada ephedra (*Ephedra nevadensis*), and spiny hopsage (*Grayia spinosa*) also present. Relatively heavy cover provided by cheatgrass dominates the grass layer, along with perennial grasses Sandberg bluegrass (*Poa secunda* ssp. *secunda*) and bottlebrush squirreltail (*Elymus elymoides*). Annual herbs commonly present including Nuttall's fescue (*Vulpia microstachys*), filaree (*Erodium cicutarium*), wireweed (*Rigiopappus leptocladus*), moth combseed (*Pectocarya setosa*), and yellow navarettia (*Navarettia breweri*). Perennial, herbaceous associates include western hawksbeard (*Crepis occidentalis*), pale agoseris (*Agoseris glauca*), Holboel's rockcress (*Boechera holboelii*), Bruneau mariposa lily (*Calochortus bruneauensis*), milkvetches (*Astragalus* spp.), and wild buckwheats (*Eriogonum* spp.).

Mountain Big Sagebrush

This community type is found on slopes that exhibit deeper soils, and is the most common understory community within pinyon-juniper woodlands. On more mature sites, mountain big sagebrush (*A. tridentata* ssp. *vaseyana*) dominates the shrub layer with antelope bitterbrush (*Purshia tridentata*), Douglas' rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*), and smooth horsebrush occasional associates. Singleleaf pinyon and/or juniper provide sporadic tree cover. The herbaceous layer is generally sparse with perennial bunchgrasses bottlebrush squirreltail, Sandberg bluegrass and Thurber's needlegrass (*Achnatherum thurberianum*) present. Common, perennial herbs include silver lupine (*Lupinus argenteus* var. *heteranthus*), balsamroot (*Balsamorhiza hookeri*), western and tapertip hawksbeard (*Crepis acuminata*), and longleaf phlox (*Phlox longifolia*). Annual herbs include several members of the borage family including two species of fiddleneck (*Amsinckia retrorsa* and *Amsinckia tessellata*), with miner's lettuce (*Claytonia perfoliata*), white tidytips (*Layia glandulosa*) and wireweed also present.

Disturbed/Sagebrush

Disturbed habitats include old and current road cuts and shoulders, railroad grade and ROW, historic mine works and tailings, and burns. These areas are generally characterized by a preponderance of annual, highly competitive species that are the first to colonize bare and disturbed soils. Commonly observed exotic annuals include filaree, tumble mustard (*Sisymbrium altissimum*), flixweed tansymustard (*Descurainia sophia*), prickly lettuce (*Lactuca serriola*), and cheatgrass. Native species that occupy this niche include wingnut cryptantha (*Cryptantha pterocarya*), bristly fiddleneck, spiny skeletonweed (*Stephanomeria spinosa*), slender tarweed (*Madia gracilis*), and whitestem stickleaf (*Mentzelia albicaulis*). Additional herbaceous colonizers include common horehound (*Marrubium vulgare*), with native shrubs including desert peach, antelope bitterbrush, rubber rabbitbrush, and mountain big sagebrush also observed colonizing these habitats.

3.13.2 No Action/Current Management Alternative

Vegetation within the existing ROW for the American Flat Road as well as along the non-exclusive use haul road is disturbed.

3.13.3 Non-Federal Alternative

Vegetation in the area is dominated by desert scrub, low sagebrush, rock outcrop, and areas that have been previously disturbed (ESA, 2013b).

Desert Scrub

This community type occurs commonly on south-facing slopes, on revegetating tailings piles and railroad grade, and is the most prevalent community type west of State Route 341 and adjacent to Negro Ravine. Occasional tree cover is provided by Utah juniper and singleleaf pinyon, with shrub cover consisting of smooth horsebrush, rubber rabbitbrush, Nevada ephedra, Mormon tea (*Ephedra viridis*), purple sage (*Salvia dorrii*), spiny hopsage, mountain big sagebrush and desert peach in varying proportions. The grass component is represented by cheatgrass, desert needlegrass (*Achnatherum speciosum*), Thurber's needlegrass, and bottlebrush squirreltail, while bristly fiddleneck, moth combseed, wingnut cryptantha and whitestem stickleaf are the common annual herbs present. Manyflower bedstraw (*Galium multiflorum*), Indian paintbrush (*Castilleja chromosa*), and shaggy milkvetch (*Astragalus malacus*) provide additional perennial cover.

Low Sagebrush

The low sagebrush vegetation community in the area analyzed for the Non-Federal Alternative is the same as the low sagebrush vegetation community described above for the Proposed Action.

Rock Outcrop

Rock outcrops are scattered throughout this survey area, with woody cover provided variously by singleleaf pinyon, Utah juniper, mountain big sagebrush, littleleaf brickellbush (*Brickellia microphylla*), and desert shrub species. Bottlebrush squirreltail and cheatgrass are the dominant grasses, with Thurber's needlegrass, Sandberg bluegrass, and desert needlegrass sometimes present. Additional sparse, perennial herbaceous cover is provided by manyflower bedstraw, silver rockcress (*Boechera puberula*), wallflower phoeniculis (*Phoeniculis cheiranthoides*), and tufted evening primrose (*Oenothera cespitosa*), with annual herbs sporadically present.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes and compares the environmental consequences predicted to result from implementing the Proposed Action or Alternatives described in Chapter 2.0. The purpose of this chapter is to present the impact analysis of the alternatives and to disclose the impacts of the actions on affected resources.

The potential consequences or impacts of each alternative are addressed in the same order of the resource topics discussed in Chapter 3.0. This parallel organization allows readers to compare existing resource conditions (Chapter 3.0) with potential impacts (Chapter 4.0).

This chapter describes the potential direct, indirect, and residual effects to resources that may result from the Proposed Action or Alternatives. In this NEPA document, the word “adverse” is used in characterizing minor (non-significant) detrimental effects to a resource, and “negligible” is used in characterizing minor (non-significant) detrimental effects to a resource that are generally undetectable. “Beneficial” effects would have a positive effect on the resource. In this document, the terms “effect” and “impact” are used synonymously.

In the impact analysis for cultural resources, “adverse” has a different meaning under the NHPA. “An adverse effect occurs when a project may directly or indirectly diminish the integrity of an historic property by altering any of the characteristics that qualify that property for National Register inclusion. Specifically, if the project diminishes the integrity of a property’s location, design, setting, materials, workmanship, feeling, and association, then there is an adverse effect” (NEH, 2013).

In general, direct impacts result from activities authorized by the BLM and occur at the same time and place as the activity or action causing the impact. For example, for the action of building a road, a direct adverse impact is surface disturbance. Surface disturbance is the impact (the effect) of heavy equipment removing existing vegetation (the cause) as it grades the proposed road location. Indirect impacts occur at some distance or time from the action. In the example just given, an indirect impact could occur days after the surface is disturbed, as well as some distance from the disturbance. Heavy precipitation following the removal of vegetation and/or disturbance of the ground surface could erode soil and transport sediment into streams. The impact on stream water quality is considered an indirect adverse impact.

When applicable, the short-term or long-term aspects of impacts are described. Short-term impacts occur during Project construction. Long-term impacts would occur through Project operations. Project operation and maintenance activities are described in Section 2.1.5.

4.1 AIR QUALITY

4.1.1 Proposed Action

Project-related activities would disturb approximately 67 acres for road construction and improvements. Construction and use of the roads in the Project Area would create fugitive dust and engine exhaust emissions causing minor short-term impacts to air quality.

The amount of traffic would increase from 118 to 150 round trips per day. Lucerne Haul Road emission calculations for 150 round trips per day are 10.8 tons per year (tpy) of PM_{2.5} and 70.5 tpy of PM₁₀ (Air Sciences, 2013). To limit long-term impacts to air quality, EPMs such as observing speed limits and the use of water trucks to control fugitive dust in accordance with the NDEP-BAPC Air Permit would be implemented. Impacts to air quality from the Proposed Action are expected to be negligible and be long-term.

4.1.2 No Action/Current Management Alternative

Lucerne Haul Road emission calculations for 118 round trips per day are 1.9 tpy of PM_{2.5} and 12.6 tpy of PM₁₀ (Air Sciences, 2013). Short-term impacts to air quality would be less than those from the Proposed Action, since there would be no new surface disturbance associated with this alternative. The level of long-term impacts to air quality would be less than those associated with the Proposed Action, which would have 32 more round trips per day. As described for the Proposed Action, EPMs would be implemented in accordance with the NDEP-BAPC Air Permit. Impacts to air quality from the No Action/Current Management Alternative caused by travel on the roads in the area analyzed for this alternative are expected to be negligible and last until the ROW expires.

4.1.3 Non-Federal Alternative

Fugitive dust and emissions would be generated as result of the construction and operation of the processing facility in Lyon County causing short-term impacts to air quality and would not occur under the Proposed Action and No Action Alternative. Emissions from the additional equipment required to construct and operate the facility would likely be greater than the emissions from equipment that would be utilized for road construction, improvement, maintenance, and use as described for the Proposed Action and No Action/Current Management Alternative. Adverse impacts from construction activities are expected to be short-term and would occur in Lyon County. Adverse long-term impacts to air quality from the use and maintenance of the facility in Lyon County, as well as access to the facility along State Route 341/342 in Storey and Lyon Counties, would be expected to be similar to emissions from the existing processing facility and last through the decommissioning of the facility. Air quality impacts to the nearby community of Silver City are expected to be moderate and long-term occurring during construction, throughout operations, and last through decommissioning of the facility.

4.2 CULTURAL RESOURCES

4.2.1 Proposed Action

4.2.1.1 Direct/Indirect Effects APE

Within the Direct/Indirect Effects APE for the Proposed Action, 12 sites have been recommended eligible for the NRHP. Eight of the 12 historic properties are located within or adjacent to the proposed disturbance area and have the potential to be adversely affected. There are no historic properties adjacent to the wedge crossings depicted in Figure 3, and there are no historic properties adjacent to the proposed realigned section of the American Flat Road depicted in Figure 4.

Effects to site(s) may include physical damage or removal of artifacts or features as a result of road modification/widening activities. In areas adjacent to steep slopes, road modification could cause damaging erosion, undercutting sites or depositing sediments onto them. The BLM has determined that noise and dust from construction activities or haul traffic would not adversely affect historic properties.

In some areas, retaining walls or other physical barriers could be constructed to stabilize steep slopes and prevent erosion. Retaining walls or other barriers would conform to the guidelines of the Comstock Historic District Commission, and would need to be designed in such a way as to avoid adversely affecting historic properties. The use of such stabilization measures would be defined in the MOA. Where physical avoidance of an historic property is not possible, mitigation could include scientific data recovery, public interpretation, or other measures that would be defined in the MOA.

4.2.1.2 Viewshed APE

The Virginia City Historic District is a rural historic landscape comprising tangible features that are the result of historic use of the region, with the central unifying theme of mining (McClelland et al., 1999). The specific “Areas of Significance” identified in the NRHP listing include Mining, Commerce, Industry, Engineering, Politics/Government, and Architecture. The period of significance for the district, as defined in the 1991 amendment, is 1859 to 1942 (James, 1991).

This section describes potential visual effects to historic properties within the Viewshed APE from the Proposed Action. This analysis considers the potential effects that construction, maintenance, and use of the American Flat Road and Lucerne Haul Road would have on the eligible historic buildings and structures within the Virginia City Historic District. As described in Section 3.2.1.2, eligible historic buildings and structures are concentrated in five communities within the Virginia City Historic District. Visual effects analysis for the Proposed Action focused on the 32 eligible buildings and structures within Gold Hill (James, 1991). Of these 32

contributing buildings and structures, the visual assessment indicated that 25 are within the line-of-site of the Proposed Action.

The current mining operations of Comstock Mining, LLC are being conducted in what is presently referred to as the Lucerne Pit, historically referred to as both the Lucerne Cut and the Hartford Pit. Comparable to present-day operations, the Lucerne Cut and the Hartford Pit were historically mined within the period of significance of the Virginia City Historic District, by power shovel, with ore being transported by truck to cyanide processing facilities on Hartford Hill and in Silver City. The Hartford Pit was mined by power shovel beginning in 1935, with an estimated 72,000 tons of ore extracted from the Hartford Pit, and processed at the Hartford Mill (Gardner and Carpenter, 1935; Ansari, 1989). The Lucerne Cut was mined on a small scale from 1899 to 1906 and produced 60,000 tons of ore. However, by 1942, mining at the Lucerne Cut was being conducted by power shovel, with ore transported by truck to the Donovan Mill in Silver City (Stoddard and Carpenter, 1950).

These open pit operations are two examples of the nine open pit mining operations that worked the Comstock Lode during the post-boom renewal of mining in the 1930s and 1940s. Other historic operations of note include the Consolidated Chollar (Con Chollar), a 1940s operation that created some of the road network that comprises the Proposed Action. The Con Chollar roads were constructed specifically to transport ore from the Overman Pit to the Con Chollar Mill. The Con Chollar cyanide mill is one of the 25 contributing properties to the Virginia City Historic District that is within the Viewshed APE for the Proposed Action.

The open pit mining operations of the Con Chollar continued into 1944, producing 400 tons of ore a day. The ore was extracted by power shovel and transported to the Con Chollar Mill by 20-ton trucks. Operations at the Con Chollar mine ceased in 1944 due to a scarcity of labor and materials. In 1946, the mine restarted operations with production of 300 tons per day, and by 1948, had restored operations to 400 tons per day. From 1940 to 1948, the open pit operation produced two-thirds of a million tons of ore and over two million tons of waste rock (Stoddard and Carpenter, 1950).

The Gold Hill and American Flat region of the Comstock is essentially a twentieth century landscape. Across the landscape are open pits, cuts, waste rock dumps, haul roads, and mills associated with the revitalization of mining that occurred during the 1930s. This landscape is not a reflection of industrial activities of the Comstock Bonanza period. Development associated with the large-scale operations of the 1930s substantially affected the landscape and resources of the preceding era because the equipment, structures, and buildings dating to the Comstock Bonanza were scavenged, scrapped, or replaced. Furthermore, the reprocessing of old pan-amalgamation tailings essentially removed many of the landscape features of those earlier

operations. From 1933 to 1940, the Con Chollar alone re-processed 400,000 tons of Bonanza-era tailings. This amounts to nearly one-tenth of the total tonnage produced from 1870 to 1881, the peak years of production during the Comstock Bonanza (Couch and Carpenter, 1943; Stoddard and Carpenter, 1950).

Open pit mining occurred during the historic period of the Virginia City Historic District during the Post Boom Renewal and L208 period of mining on the Comstock Lode (1900-1942) (Spidell et al., 2014). These historic operations were essentially modern in character, using extraction, transportation, and processing methods equivalent to present-day operations of the region.

The reintroduction of open pit mining into an industrial mining landscape where similar methods were used historically does not detract from the historic integrity of contributing properties within the District. For example, the Con Chollar Mill, a contributing element of the Virginia City Historic District located within the current viewshed for the Proposed Action, processed two-thirds of a million tons of ore produced from the Overman (Con Chollar) Pit. This ore was extracted, transported, and processed during the historic period by methods comparable to those used by modern open pit mining operations of the region. The Con Chollar Mill is one of many such industrial properties within the Historic District that were constructed during the revitalization of the mining industry in the 1930s and 1940s.

The proposed function of the American Flat Road and Lucerne Haul Road is similar with the historic land use of the region. The Proposed Action would not cause visual effects to historic properties within the Virginia City Historic District. The American Flat Road historically provided public access to American Flat. The re-configuration of the American Flat Road would allow for continued public access to the region on existing roads. The Lucerne Haul Road would be used to transport ore mined from the Lucerne Pit to Comstock Mining, LLC's processing facility in American Flat. The method and scale of ore extraction and transportation proposed by Comstock Mining, LLC is similar to the methods used during historic mining operations of the region.

4.2.2 No Action/Current Management Alternative

Current access along State Route 342, American Flat Road, and the non-exclusive use haul road would continue under the No Action/Current Management Alternative and there would be no adverse impacts to cultural resources.

4.2.3 Non-Federal Alternative

Five archaeological resources are located within the area analyzed for the Non-Federal Alternative. Of the five archaeological sites, three are historic, one is prehistoric, and one is a multi-component site with an historic and prehistoric component. Each site component within

the Non-Federal Alternative was individually evaluated for the NRHP. Impacts to cultural resources as a result of this alternative are expected to be the same for the short and long term.

Neither the prehistoric site nor the prehistoric part of the multi-component site located within the Non-Federal Alternative is recommended eligible for the NRHP. Of the four historic sites, one has been recommended eligible for the NRHP under Criterion D; this site would be adversely affected by the Non-Federal Alternative. There are four criteria applied to evaluate properties for the NRHP (listed below as A through D). If avoidance is not possible, impacts to this site from the Non-Federal Alternative would be mitigated through preparation and implementation of an HPTP. Since the Non-Federal Alternative is not an undertaking under the NHPA, no MOA has been drafted for this alternative. Comstock Mining, LLC would be under no legal or regulatory requirement under the NHPA to follow a Historic Properties Treatment Plan under this alternative.

4.3 NOXIOUS, INVASIVE PLANT SPECIES

4.3.1 Proposed Action

Surface disturbance associated with the Proposed Action could impact approximately 67 acres of soils associated with road construction, maintenance, improvements, and use. Impacts from noxious, invasive plant species as a result of the Project are described below and are expected to be the same for the short and long term. New surface disturbance would increase the potential for the establishment and spread of noxious, invasive plant species. The increase from 118 to 150 round trips per day would also increase the potential for spreading noxious weeds. Scotch thistle and tall whitetop are known to occur in the Project Area.

Comstock Mining, LLC would control noxious weed populations in the Project Area consistent with their Integrated Weed Management Plan, which includes a detailed overview for weed management approaches, descriptions of and life histories for weed species in area surveyed, priorities for weed treatments, management actions, and includes a weed Management Maintenance Calendar. Comstock Mining, LLC would monitor and treat any noxious weed infestations that result from ground-disturbing activities within the Project Area. Treatments would be permitted, applied, and recorded per BLM policy. The BLM and Comstock Mining, LLC would cooperate to monitor the effectiveness of treatments of noxious weeds. Therefore, no adverse impacts from noxious weeds are expected from the Proposed Action.

4.3.2 No Action/Current Management Alternative

No noxious weeds are located in the area analyzed for the No Action/Current Management Alternative. Comstock Mining, LLC would continue to implement their Integrated Weed Management Plan under this alternative. Therefore, no adverse impacts from noxious weeds in the short or long term are expected from the No Action/Current Management Alternative.

4.3.3 Non-Federal Alternative

Tall whitetop and tamarisk were located in the area analyzed for the Non-Federal Alternative. Disturbance created during construction of the processing facility could result in introduction and/or spread of noxious, invasive plant species. Regular access to the processing facility from the mine may also result in an introduction of noxious, invasive plant species. Haul traffic from the mine to the proposed processing facility would pass by Silver City, and could result in the introduction of noxious weeds to this community. Comstock Mining, LLC would continue to implement their Integrated Weed Management Plan under this alternative which would include treatment of weed populations within the processing facility and Access Road, as well as preventative washing measures which would reduce the likelihood of introducing populations along State Route 341/342 and to Silver City from weed seeds inadvertently flying from trucks. Therefore, long-term impacts to noxious weeds are expected to be minimal.

4.4 MIGRATORY BIRDS

4.4.1 Proposed Action

The Proposed Action would result in approximately 67 acres of surface disturbance with 19.3 acres of the total occurring on areas not previously disturbed. Impacts to migratory birds from Project-related activities on the 19.3 acres could include loss of habitat, nest destruction, disturbance of migratory bird species breeding behavior, or mortality associated with vehicular collisions.

In order to avoid short-term impacts to migratory birds, a pre-disturbance nest survey would be conducted by a qualified biologist prior to any surface disturbance associated with Project activities during the avian breeding season (March 1 through July 31 for raptors and May 15 through July 15 for other migratory birds) (Section 2.1.7.4). If nests are located prior to Project construction, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species and the location of the nest) would be delineated after consultation with the BLM wildlife biologist and the buffer area avoided to prevent short-term destruction or disturbance to nests or birds until they are no longer actively breeding or rearing young, or until the young have fledged.

Long-term impacts to migratory birds would continue during Project operations with the maintenance and use of the roads in the Project Area and would continue for the duration of the Project. Habitat present in the Project Area is not considered quality nesting, roosting, or foraging habitat for migratory birds as a result of the proximity to existing, well-traveled roads and on-going disturbances. Alternative habitat is located adjacent to the Project Area and would continue to provide habitat for bird species. Therefore, long-term impacts are expected to be minimal.

4.4.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, potential impacts to migratory birds could occur as a result of traffic on State Route 342, American Flat Road, or the non-exclusive use haul road. Adverse impacts to migratory birds on the roads in the area analyzed for the No Action/Current Management Alternative would be short-term and last until the ROW expires. No long-term impacts to migratory birds are expected from this alternative.

4.4.3 Non-Federal Alternative

Under the Non-Federal Alternative, potential short-term impacts to 41 acres associated with the construction of the processing facility on previously undeveloped private land could result in impacts to migratory birds. Long-term impacts to migratory birds from the Non-Federal Alternative on the 41 acres could include loss of habitat, nest destruction, or disturbance of migratory bird species breeding behavior during construction, or mortality associated with vehicular collisions during facility operations. Impacts to migratory birds during processing operations of the facility could occur from an accidental release of cyanide solution from the heap leach pads or ponds which could occur any time through the decommissioning of the facility. Potential impacts to migratory birds from processing operations would be limited by the implementation of BMPs and safety features associated with required local and State permits. Migratory bird mortality from collisions with truck traffic on State Route 341/342 may occur. Lack of suitable nesting habitat along the road and observation of posted speed limits would minimize these impacts to migratory birds. Therefore, long-term impacts are expected to be minimal.

4.5 HAZARDOUS AND SOLID WASTES

4.5.1 Proposed Action

Solid wastes generated by the Project would include cleared vegetation on the 19.3 acres of the Project Area that has not been previously disturbed. All solid waste generated during construction would be removed from the site, and if appropriate, hauled to a landfill for disposal. The Proposed Action would not generate, use, or dispose of any hazardous waste. Diesel fuel, oil, and lubricants would be used on vehicles traveling on roads in the Project Area; however, these hazardous wastes would not be stored in the Project Area. Therefore, neither short- or long-term impacts from solid or hazardous waste from the Project are expected.

Hazardous materials in the Project Area are being addressed by the NDEP-BCA due to the Project's proximity to the CRMS site. The Proposed Action is not anticipated to interfere with actions associated with the CRMS site.

4.5.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, hazardous and solid wastes would be managed along the American Flat Road consistent with the existing ROW until it expires. Hazardous materials in the area analyzed for the No Action/Current Management Alternative are being addressed by the NDEP-BCA due to the Project's proximity to the CRMS site. Therefore, no short- or long-term impacts to the environment from wastes associated with the No Action/Current Management Alternative are expected.

4.5.3 Non-Federal Alternative

Under the Non-Federal Alternative, short-term impacts could consist of solid wastes generated from the vegetation that is cleared on the previously undisturbed private land. Diesel fuel, oil, lubricants would be used on vehicles transporting material from the mine to the processing facility. These materials would be contained and stored onsite in the warehouse for the duration of operations. A heap leach pad would follow the same footprint as those currently in operation at the existing processing facility. Ponds associated with the heap leach would include barren, pregnant, and event ponds. A Merrill Crowe gold recovery plant would also be constructed under this alternative. Cyanide solution would be utilized on the heap leach pads, present in the ponds, and in the Merrill Crowe facility. Comstock Mining, LLC would permit this facility consistent with the existing processing facility. Hazardous materials in the area analyzed for the Non-Federal Alternative are being addressed by the NDEP-BCA due to the Project's proximity to the CRMS site. Long-term impacts to the environment from hazardous and solid wastes generated by the Non-Federal Alternative could be adverse, but are expected to be limited by the implementation of BMPs and safety features associated with required local and State permits. No impacts from this alternative to Silver City are expected from hazardous or solid wastes.

4.6 WATER QUALITY (SURFACE/GROUND)

4.6.1 Proposed Action

The Proposed Action would consist of the construction, improvement, and maintenance of roads in the Project Area. Potential short-term impacts to surface water quality from sedimentation during construction and improvement and long-term impacts from maintenance are not expected since the Project is unlikely to result in increased erosion and there are no perennial creeks adjacent to the Project Area. No hazardous wastes would be stored in the Project Area; therefore, no long-term impacts to surface water quality are expected from the Proposed Action. The Project is not expected to affect ground water quality because road construction, use, and maintenance activities would occur on the surface and the depth to groundwater is 100 feet below ground surface.

4.6.2 No Action/Current Management Alternative

There are no short- or long-term impacts to water quality expected from the No Action/Current Management Alternative because there are no perennial sources of water adjacent to the area analyzed for this alternative.

4.6.3 Non-Federal Alternative

Under the Non-Federal Alternative, a heap leach pad would follow the same footprint as those currently in operation at the existing processing facility. Potential short-term impacts to water quality from construction could include increased sedimentation and erosion which would not occur under the Proposed Action or No Action Alternative. Ponds associated with the heap leach would include barren, pregnant, and event ponds. A Merrill Crowe gold recovery plant would also be constructed under this alternative. Cyanide solution would be utilized on the heap leach pads, present in the ponds, and in the Merrill Crowe facility. Comstock Mining, LLC would permit this facility consistent with the existing processing facility. All hazardous materials would be in containment. Long-term impacts to surface water and groundwater quality from the Non-Federal Alternative could be adverse, but are expected to be limited by the implementation of BMPs and safety features associated with required local and State permits. No impacts from this alternative to water quality are expected.

4.7 SPECIAL STATUS SPECIES (ANIMALS)

4.7.1 Proposed Action

The Proposed Action would result in approximately 67 acres of surface disturbance with 19.3 acres of the total occurring on areas not previously disturbed. Short-term impacts to BLM sensitive wildlife species from Project-related activities on the 19.3 previously undisturbed acres may occur during construction. Long-term impacts may include loss of habitat following construction or mortality associated with vehicular collisions during operation.

Habitat present in the 88.4-acre Project Area is not considered quality nesting, roosting, or foraging habitat for special status bird species as a result of the proximity to existing, well-traveled roads and on-going disturbances. Alternative habitat is located adjacent to the Project Area and would continue to provide habitat for bird species. Therefore, impacts are expected to be negligible, but long-term.

Potential impacts to golden eagle nests are not expected since they are not known to nest within the Project Area or immediate vicinity. Potential negligible, long-term impacts to golden eagle, Swainson's hawk, pinyon jay, loggerhead shrike, and sage thrasher may occur to foraging habitat as a result of vegetation removal. As discussed in Section 2.1.7.4, a pre-disturbance nest survey would be conducted on public lands during the nesting season to prevent short-term impacts to avian species.

Potential long-term impacts to BLM sensitive bat species foraging habitat may occur as a result of the Proposed Action. Additional foraging habitat is located adjacent to the Project Area and would continue to provide forage for those species.

4.7.2 No Action/Current Management Alternative

Short-term impacts to BLM sensitive species with potential habitat in the area analyzed for the No Action/Current Management Alternative could occur as a result of collisions with vehicles. These impacts from the No Action/Current Management Alternative to BLM sensitive wildlife species would be considered negligible and short-term (continuing until the current ROW expires).

4.7.3 Non-Federal Alternative

Short-term impacts to State protected wildlife species within the area analyzed for the Non-Federal Alternative could include loss of habitat or mortality associated with vehicular collisions during construction and during facility operations. The loss of habitat is considered a long-term impact since the facility would remain in operation until the mined material has been exhausted and then the facility would then be decommissioned. Impacts during construction of this alternative would not occur under the Proposed Action or Non-Federal Alternatives. Impacts to State protected species would continue during operations of the facility since heap leach pads and associated ponds would be present and these impacts would be long-term. Cyanide solution would be used on the heap leach pads and would be present in the pregnant ponds. Comstock Mining, LLC would permit these features with appropriate State and local agencies and would employ BMPs and wildlife EPMs to minimize impacts to State protected wildlife species. These adverse impacts from the Non-Federal Alternative to State protected wildlife species would continue until the facility was decommissioned. Mortality of special status wildlife from collisions with truck traffic on State Route 341/342 may occur. Lack of suitable habitat for these species along the road and observation of posted speed limits would minimize these impacts. Therefore, impacts are expected to be negligible, but long-term from this alternative.

4.8 GENERAL WILDLIFE

4.8.1 Proposed Action

The Proposed Action would result in approximately 67 acres of surface disturbance with 19.3 acres of the total occurring on areas not previously disturbed. Short-term impacts to wildlife species from Project-related activities on the 19.3 previously undisturbed acres may occur during construction. Long-term impacts could include loss of habitat during construction or mortality associated with vehicular collisions. Impacts to wildlife within the 19.3 acres are expected to continue until road improvements and construction is complete. Long-term impacts as a result of mortality associated with vehicular collisions would continue until the ROW expires. These

short-term and long-term impacts to wildlife from the Proposed Action would be considered negligible.

4.8.2 No Action/Current Management Alternative

Impacts to wildlife could occur as a result of collisions with vehicles under the No Action/Current Management Alternative. These negligible impacts would be short-term and last until the ROW expires.

4.8.3 Non-Federal Alternative

Under this alternative, short-term impacts to wildlife species from construction of the facility on the 41 acres and long-term impacts including loss of habitat or mortality associated with vehicular collisions. This loss of habitat is considered a permanent loss since the facility would remain in operation until the mined material has been exhausted and then the facility would then be decommissioned. Impacts during construction of this alternative would not occur under the Proposed Action or Non-Federal Alternatives. Impacts to wildlife would continue during operations of the facility since heap leach pads and associated ponds would be present. Cyanide solution would be used on the heap leach pads and would be present in the pregnant ponds. Comstock Mining, LLC would permit these features with appropriate State and local agencies and would employ BMPs and wildlife EPMs to minimize impacts to wildlife. Wildlife mortality from collisions with truck traffic on State Route 341/342 may occur. Lack of suitable habitat along the road and observation of posted speed limits would minimize these impacts. Impacts to wildlife from the Non-Federal Alternative would be considered adverse and long-term.

4.9 LAND USE AUTHORIZATIONS

4.9.1 Proposed Action

Under the Proposed Action, Comstock Mining, LLC proposes to have exclusive use of the Lucerne Haul Road, which would prevent public access (including any potential recreational access) on the Lucerne Haul Road. The American Flat Road would be re-aligned, and would continue to be used for public access, as well as under the ROW issued to Comstock Mining, LLC. The realignment of the American Flat Road would separate public traffic from exclusive use haul traffic on the Lucerne Haul Road. Impacts to land use access from the Proposed Action would be temporary, and the impacts would primarily result from public user delays that may occur during construction of improvements on the realigned American Flat Road. In addition, the Proposed Action would decommission a user-created road that runs south from the American Flat Road to the former American Flat Mill site, which would prevent unauthorized public access.

Since the American Flat Road would be realigned to allow continued public access to land uses south and west of Comstock Mining, LLC's operations, and proper signage would be placed at

the intersection of the realigned American Flat Road and the exclusive use Lucerne Haul Road to safely control the flow of traffic, short-term impacts from the Proposed Action on land use and access would be minor during the road realignment and construction of road improvements. After construction of the realigned American Flat Road is completed, long-term impacts to land use access from the Proposed Action would be negligible.

Various ROWs are located within the Project Area. The ROWs specified in Table 3-4 may be impacted by the Proposed Action. The primary ROWs within the Project Area are above ground power lines. The V&T Railroad Reconstruction ROW is primarily an access ROW for reconstructing and operating the V&T Railroad. Comstock Mining, LLC would coordinate with all ROW holders potentially impacted by the Proposed Action to make sure any conflicts with existing ROWs are resolved. Since Comstock Mining, LLC would coordinate with all ROW holders to prevent any conflicts with existing ROWs within the Project Area, long-term impacts to existing land use authorizations within the Project Area would be temporary and negligible.

The mining claims and lots within the Project Area are primarily held by Comstock Mining, LLC (Table 3-5). The lots and claims not shown as held by Comstock Mining, LLC in the Storey County Assessor database and the BLM's Land and Mineral Legacy Rehost 2000 System (LR2000) database are located at the northern portion of the proposed realigned American Flat Road. The impact to these claims and lots would primarily result from the improvements needed to widen the Cemetery Spur Road and the north section of the American Flat Road to improve site distances for safety. Comstock Mining, LLC would consult any property owners/claim holders impacted by these improvements prior to construction of the road improvements to reduce any potential land use or realty conflicts. Since impacts to land use within the Project Area would primarily result from initial construction activities to improve the realigned American Flat Road, and improvements would require permanent widening in some areas, impacts to existing land use authorizations would be long-term and negligible.

4.9.2 No Action/Current Management Alternative

Short- and long-term impacts from the No Action/Current Management Alternative would remain the same until the expiration of the existing ROW. Impacts primarily result from increased traffic generation on the above mentioned routes from ore hauling and potential safety concerns resulting from mine traffic using the same routes as public traffic. This would result in short-term, minor impacts to land use authorizations.

4.9.3 Non-Federal Alternative

Since the Non-Federal Alternative would be constructed entirely on private land, land use authorization on the private land is limited to existing non-federal easements. No public land use or recreational access would be permitted on the private land without permission from the

property owner, so there would be no short- or long-term impacts resulting from restricted land use access. There would be an increase in vehicle traffic on the portion of State Route 341/342 between the Lucerne Pit and the new processing facility in Lyon County, which would increase traffic passing through Silver City.

There are several above ground transmission lines that may be impacted by the Non-Federal Alternative. However, Comstock Mining, LLC would coordinate with all easement holders impacted by the Non-Federal Alternative in order to make sure any conflicts are resolved prior to constructing the new processing facility. Since Comstock Mining, LLC would coordinate with easement holders to prevent any conflicts, no short- or long-term impacts to existing agreements would result from the Non-Federal Alternative.

4.10 RECREATION AND TRAVEL MANAGEMENT

4.10.1 Proposed Action

Under the Proposed Action, Comstock Mining, LLC proposes to have exclusive use of the Lucerne Haul Road, which would prevent public access (including any potential recreational access) on the Lucerne Haul Road. The American Flat Road would be realigned to allow for public access. The realignment of the American Flat Road would separate public traffic from exclusive use haul traffic on the Lucerne Haul Road.

Impacts to recreational use from the Proposed Action would be temporary, and the short-term impacts would primarily result from public user delays that may occur during construction of improvements on the realigned American Flat Road. Comstock Mining, LLC would coordinate with the Nevada All-State Trail Riders in order to avoid impacts to the Virginia City 100 endurance ride, which crosses through the Project Area.

In addition, the Proposed Action would decommission a user-created road that runs south from the American Flat Road to the American Flat Mill, which would prevent unauthorized public access. Since the American Flat Road would be realigned to allow continued public access to land uses south and west of the Comstock Mining, LLC operation, and proper signage would be placed at the intersection of the realigned American Flat Road and the exclusive use Lucerne Haul Road to safely control the flow of traffic, short-term impacts from the Proposed Action on recreation and travel management would be minor during the road realignment and construction of road improvements. After construction of the realigned American Flat Road is completed, long-term impacts to recreation and travel management from the Proposed Action are not expected.

4.10.2 No Action/Current Management Alternative

Until the expiration of the existing ROW, short-term impacts to recreation would remain the same as existing conditions, which primarily results from increased traffic generation on the above-mentioned routes from ore hauling and potential safety concerns resulting from mine traffic using the same routes as public traffic.

Under this alternative, Comstock Mining, LLC would coordinate with the Nevada All-State Trail Riders in order to avoid long-term impacts to the Virginia City 100 endurance ride, which crosses through the area analyzed for the No Action/Current Management Alternative. Therefore, impacts to recreation and travel management would be considered negligible and short-term under the No Action/Current Management Alternative.

4.10.3 Non-Federal Alternative

Since the Non-Federal Alternative would be constructed entirely on private land, no public land use or recreational access would be permitted on the private land without permission from the property owner, so there would be no short- or long-term impacts to recreation or travel management.

4.11 SOCIOECONOMICS

4.11.1 Proposed Action

A temporary workforce of eight employees or contractors is not expected to result in any new demands on public services that may be related to an increased number of workers. Impacts to socioeconomics from the Project would be short-term and beneficial.

4.11.2 No Action/Current Management Alternative

There would be no increase in the workforce associated with the No Action/Current Management Alternative. Short- and long-term impacts to socioeconomics would remain the same as current conditions under the No Action/Current Management Alternative.

4.11.3 Non-Federal Alternative

A temporary workforce would be employed to construct the new processing facility, which would consist of approximately 115 employees or contractors. This increase in workforce would be considered a short-term impact to the local economy. It is likely that this workforce would commute from their homes in Storey, Lyon, or Carson City counties and utilize services in Virginia City.

A smaller workforce consisting of approximately 30 individuals would be retained to operate the facility following construction providing for continued employment. This is identical to

workforce on the existing processing facility and would not result in a change in short- or long-term impacts to the local economy of Lyon County including Virginia City and Silver City.

4.12 SOILS

4.12.1 Proposed Action

The Proposed Action would result in disturbance of approximately 67 acres of soil. Comstock Mining, LLC would employ dust control measures as outlined in the Dust Control Plan (Attachment A) and Section 2.1.7.1. Much of the Project Area has been previously disturbed; therefore, short-term impacts from dust generated during Project construction would be managed with these measure and long-term impacts to soils from travel on unpaved roads would continue throughout the life of the Project and be considered negligible.

4.12.2 No Action/Current Management Alternative

There would be no additional short- or long-term impacts to soils under the No Action/Current Management Alternative because there would be no modifications to existing road alignments.

4.12.3 Non-Federal Alternative

Under this alternative, the construction of a new facility would result in impacts to 41 acres of previously undisturbed land. Short-term impacts to soils would occur during construction and could result in fugitive dust and increased erosion and sedimentation, which could in turn impact Amazon Gulch (a jurisdictional drainage that connects with Daney Canyon). Impacts during construction of this alternative would not occur under the Proposed Action or Non-Federal Alternative. Long-term impacts to soils would continue throughout operations from dust generated from traveling on unpaved roads. Comstock Mining, LLC would employ BMPs as well as follow the Dust Control Plan during construction to minimize short- and long-term impacts resulting in erosion and sedimentation. Impacts under the Non-Federal Alternative would be long-term and negligible.

4.13 VEGETATION

4.13.1 Proposed Action

The Proposed Action would result in approximately 67 acres of surface disturbance with 19.3 acres of the total occurring on areas not previously disturbed. Vegetation that would be removed as a result of the Proposed Action includes low sagebrush and mountain sagebrush, as well as sporadic tree cover consisting of singleleaf pinyon and Utah juniper. Impacts to vegetation are considered negligible and long-term. Following reclamation of the Lucerne Haul Road at the end of the Project, Comstock Mining, LLC would reseed the area to encourage revegetation. On public lands Comstock Mining, LLC would use a BLM-approved seed mix.

4.13.2 No Action/Current Management Alternative

The No Action/Current Management Alternative would not result in impacts to vegetation because there would be no modifications to existing road alignments that could remove or alter vegetation.

4.13.3 Non-Federal Alternative

Impacts to vegetation as a result of the Non-Federal Alternative would occur in the 41-acre area of the processing facility, which would not occur under the Proposed Action or Non-Federal Alternatives. Vegetation communities in the area consist of desert scrub, low sagebrush, and rock outcrops with sporadic tree cover of singleleaf pinyon and Utah juniper. Impacts to vegetation within the area analyzed for the Non-Federal Alternative are considered adverse and long-term (lasting until the processing facility is decommissioned and the area is reclaimed and reseeded).

4.14 COMPARISON OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE

Table 4-1 includes a comparison of impacts by alternative for those resources carried through the Revised Draft EA for environmental impacts analysis in Section 4.0.

Table 4-1 Alternative Impact Comparison

Resource	Alternative		
	Proposed Action	No Action Alternative	Non-Federal Alternative
Air Quality	Disturbance of approximately 67 acres during road construction and improvements; fugitive dust and engine exhaust emissions during construction and use; increase from 118 to 150 round trips per day.	No new surface disturbance; 118 round trips per day; fugitive dust and exhaust emissions during use only.	Disturbance of approximately 41 acres during construction; additional emissions associated with construction of the processing facility; fugitive dust and engine exhaust emissions during construction and use.
Cultural Resources	Eight of 12 historic properties are located within or adjacent to the proposed disturbance area and have the potential to be adversely affected.	No adverse impacts to cultural resources.	One of the historic site located within or adjacent to the proposed disturbance area and has the potential to be adversely affected.
Noxious, Invasive Plant Species	Surface disturbance associated with 67 acres could increase the potential for establishment and spread of noxious weeds.	No adverse impacts from noxious weeds expected.	Surface disturbance with 41 acres during facility construction and access could introduce and/or spread noxious weeds; possible to spread weeds along State Route 341/342.

Resource	Alternative		
	Proposed Action	No Action Alternative	Non-Federal Alternative
Migratory Birds	Disturbance of 67 acres (19.3 of that on areas not previously disturbed) would result in indirect impacts to habitat and direct impacts to individuals.	Direct impacts to birds in the road.	Disturbance of 41 acres for processing facility and access road; indirect impacts to habitat and direct impacts to individuals; impacts from heap leach pad.
Solid and Hazardous Wastes	Solid waste from 19.3 acres cleared; no hazardous waste.	No impacts expected.	Solid waste from 41 acres cleared; processing materials would be used in the proposed facility during operations.
Water Quality (Surface/Ground)	No impacts expected.	No impacts expected.	Potential impacts to water quality from construction including sedimentation and erosion; also processing materials would be used in the proposed facility during operations.
Special Status Species (Animals)	Indirect impacts from loss of 19.3 acres; direct impacts from use of the road.	Direct impacts from use of the road.	Indirect impacts from loss of 41 acres; direct impacts from use of the road; potential impacts from heap leach pad.
General Wildlife	Indirect impacts from loss of 19.3 acres; direct impacts from use of the road.	Direct impacts from use of the road.	Indirect impacts from loss of 41 acres; direct impacts from use of the road; impacts from heap leach pad.
Land Use Authorizations	User delays during construction, decommission user-created road to prevent unauthorized access; no impacts to existing ROWs.	Safety concerns with mine traffic using the same routes as public traffic.	Increase in vehicle traffic on State Route 341/342.
Recreation and Travel Management	User delays during construction.	Safety concerns with mine traffic using the same routes as public traffic.	No impacts expected.
Socioeconomics	Temporary workforce of eight employees during construction.	No impacts expected.	Temporary workforce of 115 employees during construction; 30 employees during operations (same as current workforce at the existing facility).
Soils	Disturbance of approximately 67 acres during road construction and improvements resulting in fugitive dust.	No impacts expected.	Disturbance of approximately 41 acres during construction; fugitive dust and erosion/sedimentation during construction and operations; possible impacts to Amazon Gulch.
Vegetation	Disturbance of 67 acres (19.3 of that on areas not previously disturbed) would result in loss of vegetation.	No impacts expected.	Disturbance of 41 acres would result in loss of vegetation.

5.0 CUMULATIVE EFFECTS

5.1 INTRODUCTION

A cumulative effect is defined under NEPA as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (RFFAs) 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).

This analysis examines potential cumulative impacts from past, present, and RFFAs combined with the Proposed Action or alternatives within the cumulative effects study area (CESA) specific to the resource for which cumulative impacts may be anticipated.

These cumulative impacts include both direct and indirect actions occurring as a result of the Proposed Action or alternatives and how they affect the resources of concern. These impacts are additive and do not always result in a one-to-one relationship but rather can compound the degree of effect. The significance of effects should be determined based on context (i.e., the setting of the Proposed Action) and intensity (40 CFR 1508.27(b)(7)). Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Intensity refers to the severity of effect. Factors that could be used to define the intensity of effects include the magnitude (relative size or amount of an effect), geographic extent, duration, and frequency of the effects.

Based on the analysis in Section 4.0, the resources to be analyzed in the cumulative impacts section are those for which the Proposed Action or Alternatives would have an impact and include the following:

- Air Quality;
- Cultural Resources;
- Noxious, Invasive Plant Species;
- Migratory Birds;
- Hazardous and Solid Wastes;
- Water Quality (Surface/Ground);
- Special Status Species (Animals);
- General Wildlife;
- Land Use Authorizations;
- Recreation and Travel Management;
- Socioeconomics;
- Soils; and
- Vegetation.

Table 5-1 includes the name and size of each CESA, the figure number on which the geographic extent of the CESA is shown, and a description of each CESA.

Table 5-1 Cumulative Effects Study Areas

CESA Name	Cumulative Effects Study Areas				Figure	Description
	Acres					
	Public	Private	Total			
Cultural Resources	19,210	14,721	33,931	Figure 15	The CESA for cultural resources is the Virginia City National Historic Landmark.	
Air Quality and Land Use Authorizations	1,415	1,746	3,161	Figure 16	The CESA for air quality and land use authorizations consists of the area immediate around the Project Area. It follows the V&T railroad to the west, the Cultural Resources Viewshed APE to the east, and an approximately 0.25-mile buffer around the Non-Federal Alternative to the south.	
Recreation	4,337	2,615	6,952	Figure 17	The CESA for recreation includes the immediate recreation network around the Project Area, including off-road trails that lead from Jumbo Grade to the west, trails that lead south from American Flat to Industrial Parkway, as well as the Virginia City 100 horse endurance route, and Virginia City itself.	
Biological Resources	8,206	5,665	13,871	Figure 17	This is the CESA for the following resources: noxious, invasive plant species; migratory birds; hazardous and solid wastes; vegetation; general wildlife; special status species (animal); water quality (surface/ground); and soils. The CESA follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50.	
Socioeconomics	4,524,161	1,229,647	5,753,808	Figure 18	The CESA for socioeconomics includes Washoe, Lyon, Storey, and Carson City counties.	

5.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Information utilized in the cumulative impacts assessment was gathered from the following sources: BLM (BLM, 2013a); the Nevada Atlas and Gazetteer; Lyon County data; Storey County data; and aerial photography. The BLM LR2000 database was queried for authorized multiple land use activities, pending ROW grants, mineral and non-mineral exploration, and mining projects, urban development, and other permitted facilities (BLM, 2013a). Table 5-2 outlines the quantifiable actions considered in the cumulative impacts analysis.

Table 5-2 Past, Present, and Reasonably Foreseeable Future Actions for the Cultural Resources, Air Quality and Land Use Authorizations, Recreation Resources, and Biological Resources Cumulative Effects Study Areas³

CESA	Types of Activity										Subtotal
	ROWs for Oil and Gas Pipelines and Facilities	Sand, Gravel, and Industrial Operations	Mineral Exploration and Mining Operations ⁴	United Comstock Merger Mill at American Flat ⁵	Utility Corridors	Urban Development	Public Purpose Sites	Road Corridors ⁶	Railroads	Water Facilities and Pipelines	
Past and Present Actions – Surface Disturbance Acres											
Cultural Resources	130	224	292	32	373	880	54	298	91	98	2,472
Air Quality and Land Use Authorizations	NA	3	202	32	111	223	4	94	42	39	750
Recreation	NA	141	203	32	117	489	26	194	109	93	1,404
Biological Resources	130	324	231	32	1,836	694	14	254	103	98	3,716
Reasonably Foreseeable Future Actions – Surface Disturbance Acres											
Cultural Resources	NA	NA	35	NA	NA	934 ⁷	90	1	NA	13	1,073
Air Quality and Land Use Authorizations	NA	NA	35	NA	NA	NA	NA	1	NA	13	49
Recreation	NA	NA	35	NA	NA	NA	NA	1	NA	13	49
Biological Resources	NA	NA	35	NA	NA	NA	25	71	NA	17	148

³ The values in this table do not include the surface disturbance associated with the Proposed Action. Potential cumulative impacts from the Proposed Action are analyzed by resource in the sections that follow.

⁴ This includes Storey County SUP No. 2000-222-A-4 for Comstock Mining, LLC which is located on private land. Approved disturbance under this SUP and permitted with the NDEP under Reclamation Permit #1096 (174.5 acres) is included in the past and present actions and the remaining acres under the SUP but not covered by Reclamation Permit #0196 (35 acres) are included under RFFAs.

⁵ Source: United Comstock Merger Mill at American Flat EA (BLM, 2013c).

⁶ To determine road acreages within each CESA, U.S. Highways were assumed to consist of a 100-foot wide ROW; State Routes were assumed to consist of a 50-foot ROW; and all other roads were assumed to consist of a 25-foot ROW.

⁷ Lyon County Planning Commission Staff Report - August 10, 2010, for the Traditions Development Agreement.

NA: Not applicable

The time frame for past, present, and RFFAs begins with the earliest recorded data in LR2000 and extends into the future to correspond with the life of the proposed Project including reclamation.

5.2.1 Past and Present Actions

Past and present actions in the CESAs include the following: ROWs for oil and gas pipelines and facilities; sand, gravel, and industrial operations; mineral exploration and mining operations; United Comstock Merger Mill at American Flat; utility corridors; urban development; public purpose sites; road corridors; railroads; and water facilities and pipelines. Surface disturbance was not calculated for these activities within the Socioeconomics CESA. All the past and present actions listed above are known to occur within the Socioeconomics CESA, and these actions will be considered qualitatively in the cumulative impact analysis. Existing facilities present in the Project Area are included in Section 3.0.

ROWs for Oil and Gas Pipelines and Facilities

According to LR2000, there are approximately 130 acres of surface disturbance within the Cultural Resources and Biological Resources CESAs associated with two oil and gas pipelines and one oil and gas facility on public lands.

Sand, Gravel, and Industrial Operations

Surface disturbances associated with sand, gravel, and industrial operations were calculated for the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs from LR2000 data as well as from aerial imagery. The past and present disturbances associated with these operations within each CESA are presented in Table 5-2.

Mineral Exploration and Mining Operations

Surface disturbances associated with mineral exploration and mining were calculated within the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs from LR2000 data as well as from aerial imagery. The past and present disturbances within each CESA associated with these activities are presented in Table 5-2. Disturbance associated with Comstock Mining, LLC's mining activities on private land are also included in Table 5-2.

United Comstock Merger Mill at American Flat

Following the success of early cyanide mills in the region, the United Comstock Mines Company (UCMC) constructed a large cyanide plant, capable of processing 2,500 tons per day of ore. The UCMC was organized in 1920, and through a series of acquisitions, controlled many of the south end mines on the Comstock. By 1922, UCMC owned the mineral rights to more than 10,000 feet of the Comstock Lode and constructed the American Flat Mill. Ore from the Overman and the

Imperial mines was transported to American Flat by a 9,250-foot-long tunnel. Problems with the ore, both in extracting and mining, as well as a drop in the price of silver, caused the closure of the operation after only two years of production. Recorded production from the mill was \$3.4 million from about a million tons of ore.

Comstock Merger Mines, a large-scale operation that had been working the middle mines in the divide and Gold Hill area, bought out UCMC in 1924. Comstock Merger Mines operated the mill, supplying the mill with low-grade ores from an open pit near the Imperial Mine. This operation continued for three years from 1924 to 1926, and produced around one million tons. In December 1926, Comstock Merger Mines ceased operations as operating costs exceeded returns (Spidell et al., 2013).

At the time of abandonment of the site in 1926, all equipment, metal, and wood materials were scrapped and salvaged. Concrete structural components were cut and broken as required to facilitate the removal process, resulting in a great deal of damage. Large holes and voids were left in the concrete, reinforcing steel was cut, and concrete structural members were broken. The existing structures at the site consist of badly decaying concrete, exposed reinforcing steel, broken structural members, and large holes in the concrete floors; only the deteriorated concrete skeletons of the structures remained. In April 2013, the BLM authorized the demolition of all structures at this site to eliminate physical safety hazards (BLM, 2013c) and during the winter of 2014/2015 the BLM completed the demolition of the site. Reclamation and rehabilitation of the site is anticipated to be completed by the end of 2015.

Utility Corridors

Surface disturbances associated with utility corridors were calculated from LR2000 data for the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs and are presented in Table 5-2.

Urban Development

Aerial imagery was reviewed to determine the approximate amount of disturbance associated with urban development with the Cultural Resources, Air Quality and Land Use Authorizations, Biological Resources, and the Recreation CESAs. The values for past and present disturbance in each CESA are presented in Table 5-2. Urban development with the Socioeconomics CESA is relatively extensive and located primarily within Washoe, Carson City, Storey, and Lyon counties associated with residences and commercial operations on public and private land.

Public Purpose Sites

Public purpose sites in the CESAs include cemeteries, sewage treatment facilities, schools, parks, etc. located on public lands. Disturbances associated with public purpose sites within the

Cultural Resources and Recreation CESAs were calculated using aerial imagery and data from LR2000. Within the Air Quality and Land Use CESA and the Biological Resources CESA, disturbances associated with public purpose sites were calculated using aerial imagery. The past and present disturbances for public purpose sites calculated for each CESA are included in Table 5-2.

Road Corridors

Aerial imagery was reviewed to determine the approximate amount of disturbance associated with roads with the Cultural Resources, Air Quality and Land Use Authorizations, Biological Resources, and the Recreation CESAs. The values of past and present disturbance for roads in each CESA are presented in Table 5-2.

Railroads

Surface disturbances associated with railroads were calculated based on the width of the ROWs identified by LR2000 and actual lengths of the railroad were measured using aerial imagery. The values of past and present disturbance for railroads in each CESA are presented in Table 5-2.

The Virginia & Truckee (V&T) Railroad Company was formed in 1868. Construction began on the standard gauge rail line in February 1869. The original track was 21 miles long from Carson City to Virginia City, requiring six tunnels and multiple twists and turns, rising over 2,400 feet in elevation. Two months after the V&T rolled into Gold Hill it was finally connected to Virginia City. It took another two years to connect with the transcontinental rail line in Reno. To serve the large mines, short spurs of the railroad were built in Virginia City and Gold Hill. After the railroad was built, about 100 employees ran the day-to-day operations. At its peak, the V&T operated as many as 45 trains daily between 1873 and 1881. By 1880, the Comstock boom was coming to a close. The V&T railroad spur that led to Silver City was torn up and the materials were re-used for the narrow-gauge Carson and Colorado rail line. In 1900, the cash-strapped V&T sold the Carson and Colorado to the Southern Pacific Railroad, which built a more direct route, that left the V&T off the line. In 1906, the railroad connected to the newly created town of Minden to the south. In 1938 the company filed for bankruptcy. The line between Carson City and Virginia City ended that year and the track between Carson City and Virginia City was removed in 1941. The interest of rail fans and the sale of rolling stock to Hollywood kept the railroad barely alive (Spidell et al., 2013). The last run on the V&T was held in 1950 when the train ran from Minden through Carson City to Reno.

Reconstruction of the line began in 1974 in Virginia City, with the line extended to Gold Hill in 1980. In 1993 the Tri-County Railroad Commission (later renamed the Nevada Commission for Reconstruction of the V&T Railway) was formed to raise funds, acquire ROWs and administer the reconstruction of the line from Gold Hill to Carson City. Reconstruction of the 16.7 miles of

track occurred between 2005 and August 2009, and is today used on weekends for scenic sightseeing rides (seasonally) between Carson City and Virginia City, passing through American Flat as a fuel re-supply stop (V&T Railroad, 2014).

Water Facilities and Pipelines

Past and present surface disturbances associated with water facilities and pipelines were calculated from LR2000 data for the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs and are presented in Table 5-2.

Details of Mining-Related Past and Present Actions

Carson River Mercury Superfund Site

The Project Area is located within the Dayton Valley Hydrographic Area of the CRMS. Existing mercury contamination is tied to historic mining operations. The general milling operations before 1900 involved pulverizing ore with stamp mills, creating a slurry, and adding mercury to the mixture. The mercury formed an amalgam with the precious metals, which was then separated from the solution and retorted (EPA, 1995). Under the NDEP-BCA, Comstock Mining, LLC has on file with the NDEP a plan for sampling, analysis, and clean-up activities, when necessary.

Houston Oil and Minerals Milling Activities

In 1977, the Houston Oil and Minerals Corp. (HOM) acquired the New York Mine. In 1978 work occurred to reopen access to the underground workings. HOM acquired the leases on all of the Gold Hill properties held by the Union Pacific Railroad and later by Minerals Engineering Co. In July 1978, HOM announced that operations at the Imperial Mine in Gold Hill would begin. Ore would be processed at a newly constructed 1,000-ton processing facility (known as the “Comstock Mill”) in American Flat⁸. The mill site (approximately five acres) consisted of a secondary crusher, agitator pond and eight other buildings. HOM constructed the American Flat Road between State Route 342 and their site (just east of Comstock Mining LLC’s existing heap-leach processing facility), including the ancillary road to the south of the existing road, in 1978 as a part of their operations.

In February 1980, massive rock slides occurred in the high wall of the open pit, causing excavation to be suspended. To continue to operate, the pit would have to be expanded east and State Route 342 would have to be relocated. Although these activities were approved by the Storey County Planning Commission, in February 1981 the plans were abandoned.

⁸ Prior to January 1, 1981, mining and exploration activities were not subject regulations under 43 CFR 3809. Therefore, mining and exploration activities were not subject to Notice requirements until that time, and were not subject to compliance under NEPA or NHPA.

United Mining Corp.

In early 1983, United Mining Corp. obtained the HOM holdings (the Comstock Mill and mining claims NMC 189979, NCM 10291, NCM 15110-15115) and restarted mining operations at the New Savage Mine. In April 1985, stating that the mill was operating at a loss because of the drop in gold and silver prices, United Mining Corps closed its operations (Smith, 1998). Between August and October 2006, the abandoned HOM structures were removed from public lands and the former tailings impoundment was reclaimed by El Paso Corp. Concrete, scrap metal, glass, plastic, etc. were buried on site.

Oliver Hills Mining Company

On July 8, 1991, the BLM approved an environmental assessment for a Plan of Operations for Oliver Hills Mining Company (NVN 069300, N37-89-008P). The Plan was for the Billie the Kid and Lucerne Cut Project. The project included the removal of mined material from the Billie the Kid Pit, with waste rock placed into the Lucerne Cut Pit, and ore would be processed at the Haywood Process Facility in Moundhouse, Nevada. The project also included the construction and widening of an existing haul road (the existing haul road that is in use by Comstock Mining, LLC) (BLM, 1991).

Right-of-Way for Old HOM Office

On July 30, 1992, the BLM received an application by Shaddock for a ROW on an existing road in American Flat to access a residence. The residence was in the old HOM office building. On December 22, 1992, the BLM issued a categorical exclusion for the ROW (N 56178), and on January 25, 1993, a 30-year ROW with standard stipulations was issued. The ROW was 5,980 feet in length.

On February 4, 1997, the BLM received a request by the ROW holder (Shaddock) to relinquish interest in the ROW (N 56178). On February 14, 1997, the BLM received an application to reassign the ROW to Brockbank (President of Plum Mining Co., LLC). That same day, the BLM issued a new assignment on the ROW.

On October 7, 1999, the BLM received an application to amend the ROW (NVN 056178) from Brockbank, to include the grading and graveling of another existing road. In early 2000, the BLM determined that this should be a mining action to be permitted under a Notice or Plan of Operations. The ROW was not amended.

Plum Mining Co., LLC Right-of-Way and Mining Activities

In 1998 under Notice (N30-98-020N, reassigned as N 70048 in 2002) Plum Mining Co., LLC began to conduct exploration activities (18 drill holes) on public lands proximal to the unpatented mining claims in the Billie the Kid pit (NMC 108773) and Hartford-Lucerne

Fractions (NMC 41460 and NMC 416042)⁹. The Notice N 70048 was amended in January and September 1999 for the development of a small open pit mine on the Billie the Kid mining claim¹⁰. The amendments included the construction of haul road segments, one that would cross through Lot 51 (now considered a “bypass road” different than the haul road currently used by Comstock Mining, LLC) and tie into the HOM road and American Flat Road under ROW N 56178. The haul road through Lot 51 was constructed by Plum Mining Co., LLC in 1999 under Notice N30-98-020N.

In January 2001, Plum Mining Co., LLC notified the BLM of its intent to conduct exploration activities on public lands under Notice (N 74191) in T16N R21E, Section 5.

On August 17, 2001, the Billie the Kid unpatented mining claim (NMC 108773) went to patent and is currently listed under the name of Oberster. On January 21, 2003, Notice N 70048 as amended held by Plum Mining Co., LLC expired.

In November 2003, GoldSpring Inc. acquired Plum Mining Co., LLC and the “Billie the Kid Project,” which included the Billie the Kid, Lucerne and Hartford Pits, as well as a 40-acre private land parcel in American Flat. In November 2003, Plum Mining Co., LLC began construction of the heap leach facility in American Flat and improved the existing haul road through Lot 51 leading to the Lucerne and Hartford Pits.

On February 23, 2004, Plum Mining Co., LLC filed an application to install an above ground temporary, four-inch water pipeline from an existing well (on public land), to Plum Mining Co., LLC’s new heap leach processing facility being constructed on nearby on private lands (located in T16N R21E, Section 6, the site of Comstock Mining, LLC’s existing processing facility). On March 23, 2004, the BLM issued a categorical exclusion for the ROW, and on April 15, 2004, the amended ROW grant (N 78108) was issued for the water pipeline and well. The grant for the water pipeline was for six months and the well for 30 years. The ROW for the water pipeline expired on October 15, 2004. The heap leach facility was constructed during the summer of 2004. At the same time, Plum Mining Co., LLC requested a modification to their existing Storey County Special Use Permit (SUP) to include year round processing in American Flat, and year-round mining in the Lucerne pit, in addition to their on-going mining in the Billie the Kid pit.

⁹ Unpatented mining claims NMC 41460 and NMC 416042 are currently held by Comstock Mining, LLC.

¹⁰ Revised 43 CFR 3809 regulations became effective on January 20, 2001. Until that time, mining could occur on public lands under a Notice. As a result of these regulations, a Plan of Operations must be submitted for mining activities on public lands. Prior to this regulation, mining activities under a Notice did not trigger compliance under the NEPA or NHPA.

In July of 2008, the NDEP modified Reclamation Permit (#0196) to Plum Mining Co., LLC which was originally issued in September of 2000. The BLM's case file for Plum Mining Co., LLC was closed in June 2009.

GoldSpring Inc. Exploration Activities

On November 20, 2008, and amended on December 11, 2008, GoldSpring Inc. filed an exploration Notice (NVN 086559), after-the-fact, with the BLM for 29 drill holes and 21 drill pads in T16N R21E, Sections 5 and 8. These areas are on public land adjacent to, and east of State Route 342. The Notice would cover exploration between April 2008 and November 2010. Late in 2008 the BLM determined that the Notice was incomplete. During a compliance inspection in September 2010, the BLM determined that exploration was no longer occurring, however all surface reclamation activities had not been completed. A total of 2.57 acres of surface disturbance occurred on public land. In 2010 GoldSpring Inc. changed its name through a merger acquisition of Comstock Mining Inc., a wholly owned subsidiary.

Comstock Mining, LLC Right-of-Way

In 2005, GoldSpring Inc. constructed a bypass for the existing Plum Mining Co., LLC haul road that runs through Lot 51 between the American Flat Road and the Lucerne pit. This activity was conducted without authorization from the BLM. Other improvements to the American Flat Road occurred between 2003 and 2007.

Between early 2012 and May 2012, Comstock Mining, LLC erected signs, installed gates, widened road segments in the Lucerne pit, and constructed berms along the American Flat Road and the Lucerne Haul Road for public safety and to meet MSHA requirements. On May 21, 2012, the BLM issued a cease and desist order to Comstock Mining, LLC and established case file NVN 091117. On July 6, 2012, the BLM closed the trespass case, at which time the BLM issued a ROW to Comstock Mining, LLC for the use of the American Flat Road for haul-through purposes. The resolution of the trespass resulted in Comstock Mining, LLC posting a reclamation bond, completing a Class III cultural resources inventory for the Lot 51 area, and for Comstock Mining, LLC to submit to the BLM a POD and subsequent ROW amendment application. The resolution of the trespass also resulted in the BLM issuing to Comstock Mining, LLC a ROW through December 31, 2014 (that was later renewed until December 31, 2017).

Class I Color-of-Title Claim

The Color-of-Title Act provides that any individual, group, or corporation who has evidence giving the appearance of having title to public lands, which are administered by the BLM, and legal title to the lands remains vested in the U.S., may file a Class I Color of Title (COT) claim. An applicant will receive a patent conveying clear title to lands upon payment of the sale price of

the lands if they meet the requirements for a claim. In other words, the COT Act provides a way citizens can gain clear title to land they believe belonged to them (BLM, 2013d).

Comstock Mining, LLC applied for a COT claim on June 8, 2012, for Lot 51 (Figure 20). On February 13, 2013, the BLM Nevada State Office allowed the COT claim to move forward when it issued a “Determination to Allow the Claim” letter for Comstock Mining, LLC (available on the Project website). Under the COT claim process, the BLM allowed for the use of the Lucerne Haul Road through Lot 51, under the same conditions as ROW NVN 091237, which does not permit modifications to the existing road. The result of the COT claim determination allowed for the removal of haul trucks from State Route 342 and their use on the non-exclusive Lucerne Haul Road through Lot 51. On February 21, 2013 the BLM issued a press release providing notification to the public that the COT claim was being processed. An article on the COT claim appeared in the *Reno-Gazette Journal* and *Nevada Appeal* on February 22, 2013.

No Cadastral survey exists for Lot 51, which may be located in Lot 12, Section 5 and Lot 11, Section 6 of T16N, R21E, MD&M (Figure 20). Approximately 1,485 feet of the American Flat Road and 860 feet of the Lucerne Haul Road are within Lot 51. The actual location of Lot 51 cannot be determined until the Cadastral survey for it is completed, for Lot 51 is a county designation, and the town lot was never tied to the Public Land Survey System (PLSS).

Cadastral surveys create, mark, define, retrace, or reestablish the boundaries of subdivisions of the public lands of the U.S. (BLM, 2013e). A patent is a legal document that transfers title of land and/or mineral from the federal government to non-federal ownership (BLM, 2013f). In 2013, the BLM initiated the processing of the Cadastral survey for Lot 51. A Class I COT claim is non-discretionary. Upon the conclusion of the survey, the BLM would proceed with the appraisal of the fair market value for the 25-acre parcel, and then issue a patent to Comstock Mining, LLC.

White House Lots

In 2013, the BLM Nevada State Cadastral confirmed the White House town lots were patented in December 1872 and February 1873, respectively (Figure 20). Approximately 297 feet of the American Flat Road cross through the White House town lots. During a case file review, the BLM was unable to locate these patents in the PLSS. According to the BLM Nevada State Cadastral, the townsite that encompasses the patents is not tied to the PLSS. It is likely that the patents were originally intended to be in Section 5; however, they could be partially in Section 6 (Morlan, 2012). Therefore, the location of the patents on the ground cannot be verified until a Cadastral survey is completed. In 2013, the BLM initiated the processing of the Cadastral survey to confirm the location of the White House patents. As the BLM has already verified the existence of the patents, no further action would be needed by the BLM once the Cadastral

survey is completed. In 2014, Comstock Mining, LLC renovated the White House and uses it for administrative purposes.

Comstock Mining, LLC Exploration Activities

The most recent exploration activities by Comstock Mining, LLC were under a Notice, as amended (NVN 086559) (originally submitted by GoldSpring Inc. in 2008). Under the Notice, submitted on April 12, 2011, Comstock Mining, LLC proposed 45 drill holes and 23 drill pads in T16N R21E, Sections 5 and 6, for a surface disturbance of 2.18 acres. Exploration activities were on public lands east of State Route 342 and in the Lucerne Pit. A condition of the amended Notice was that Comstock Mining, LLC would complete a Class III cultural resources inventory of areas previously explored by GoldSpring Inc., and those proposed to be explored under the amended notice. Bonding was also required under the amended Notice. On December 23, 2013, Notice NVN 086559 expired.

Comstock Mining, LLC's submitted a new exploration Notice (NVN 093083) to the BLM on June 4, 2014, for high wall stabilization for a total disturbance of 0.09 acre. On September 16, 2014, Notice (NVN 093083) was amended for exploration activities on the unpatented Echo St. Louis and Comstock St. Louis Mining Claim Fractions. The Notice (NVN 093083) was also amended to include the reclamation obligations by Comstock Mining, LLC under Notice (NVN 086559). Reclamation activities under NVN 086559 include the public land wedges depicted in Figure 3.

Comstock Mining, LLC Activities

Below is a summary of the major permits authorizing operations for Comstock Mining, LLC's activities at the existing processing facility located on private land. Additional permits for the project are listed in Table 1-2.

The processing facility located on private land uses conventional cyanide heap leaching technology with precious metal recovery via the Merrill-Crowe process. The precipitate is dried, mixed with fluxing agents, and melted in a gas or electric furnace to produce gold doré. Up to 4.0 million tons of ore are permitted to be processed per year, including 144,000 tons in the high-grade ore mill process. The facility is required to be designed, constructed, operated and closed without any discharge or release in excess of water quality standards established in regulation except for meteorological events which exceed the design storm event (NDEP, 2011).

The facility includes a crushing plant, a heap leach pad (eight cells), process ponds and overflow ponds, cyanide tank, and Merrill-Crowe plant as well as support facilities such as lab trailers, office, storage, and shop (NDEP, 2011). Ore is obtained from the Billie the Kid, Hartford, Lucerne, Keystone, and Justice pits.

Water Pollution Control Permit NEV2000109

Water Pollution Control Permit (WPCP) NEV2000109 for Plum Mining Co., LLC's Billie the Kid project was originally submitted in January 2000 and approved in August 2000. Subsequent modifications occurred in 2004, 2006, 2009, 2011, 2013, and 2014, and are described below.

Closure measures were subsequently modified based on an increase in the mining and processing throughput rate, the incorporation of Cells 3 through 5 of the heap leach pad, and permit the conversion of the freshwater holding pond into an overflow pond for emergency management of stormwater. These changes were described in the December 2004 Minor Modification (Comstock Mining, LLC, 2014). In March 2006, the NDEP-BMRR renewed WPCP NEV2000109 which authorized the construction, operation, and closure of approved facilities (NDEP, 2011).

As part of the Major Modification to WPCP NEV2000109 submitted in March 2009, and approved by the NDEP in October 2009, mining was expanded to both the east and west sides of State Route 342 in the Lucerne/Billie the Kid mining zones (NDEP, 2014a). The permit approved the construction, operation, and closure of a new crushing and agglomeration plant and expansion of the leach pad (NDEP, 2011). This Major Modification included as an attachment a Permanent Closure Plan which described the closure of the heap leach pad and process facilities.

The milling/leaching plant is designed to process 144,000 tons per year. The leach pad would ultimately encompass approximately 677,000 square feet consisting of five cells, which were constructed in five phases. Cells one through five accommodate 2.4 million tons of ore (105 feet high). As part of the 2009 Major Modification, the solution application system was redesigned to operate with two circuits: barren solution at a rate of 660 gallons per minute (gpm), and intermediate solution at a rate of 660 gpm (1,320 gpm total). A new pregnant pond was included as part of the 2009 Major Modification (NDEP, 2011).

A Minor Modification to WPCP NEV2000109 was submitted in June 2011 which proposed further expansion of the Merrill-Crowe building and changing the geometry of the new pregnant pond, as well as a phased approach to the construction of the Major Modification components whereby the mill facility would be constructed in stages rather than all at once. The Minor Modification increased the total annual production rate to 1.0 million tons of ore per year (NDEP, 2011). The Minor Modification was approved by NDEP in August 2011 (NDEP, 2011).

A Major Modification to WPCP NEV2000109 was submitted in March 2013 and subsequently approved in 2013 to increase the total annual production rate to 4.0 million tons of ore per year, expand the heap leach pad capacity to include cells six through eight, reconstruct an event pond to increase its storage capacity and provide double-lined containment, construct a second double-

lined event pond, and construct a stormwater diversion channel upslope from the proposed heap leach pad expansion area. The Major Modification was approved by the NDEP and the permit became effective November 12, 2013. On March 14, 2014, Comstock Mining, LLC submitted an Application for Renewal of WPCP NEV2000109. In the March 2014 Renewal, an expansion to the leach pad for cell nine and associated realignment of the stormwater diversion channel as well as several changes to monitoring locations were approved by the NDEP in October 2014.

Reclamation Permit #0196

In September 2000, the NDEP-BMRR issued a final Reclamation Permit (#0196) to the Plum Mining Co., LLC which allowed for surface disturbances of 41.24 acres related to the Billie the Kid project in Storey County. Surface disturbances authorized under this permit included the Billie the Kid (Lucerne) open pit, a heap leach facility with process ponds, waste rock storage areas, a crusher area, ore stockpiles, and metal refining process facility (NDEP, 2014b).

The permit was amended in June 2002, September 2004, November 2004, February 2008, April 2008, August 2008, and April 2011. The recent amendments are described below.

In 2008, an application for a modification to the permit was submitted to expand the project area boundary and increase the total surface disturbance to 121.84 acres. This modification included additional disturbances associated with three pre-existing pit areas and a waste rock facility. The NDEP-BMRR issued revised permit #0196 in July 2008 and included additional surety bonding for the reclamation responsibilities associated with the acreage increase. In August 2008, an additional minor modification was approved to add 10.66 acres of surface disturbance for mineral exploration activities on private land within the Billie the Kid project boundary (NDEP, 2014b).

Comstock Mining, LLC submitted the report Reclamation Plan Update, Lucerne Project, Reclamation Permit #0196 to the NDEP-BMRR in June 2012, with subsequent revisions in July and October 2012. The NDEP-BMRR issued the permit in July 2012 (Comstock Mining, LLC, 2014). The NDEP-BMRR issued a Surety Determination and Revised Reclamation Permit #0196 for Comstock Mining LLC's Lucerne Mine Project, effective March 11, 2014.

Comstock Mining, LLC submitted the report Reclamation Plan Modification, Lucerne Project, Reclamation Permit #0196 to NDEP-BMRR in August 2013, with a revision dated February 4, 2014, in response to NDEP-BMRR review comments (Comstock Mining, LLC, 2014).

Storey County Special Use Permits

Comstock Mining, LLC operated under SUP No. 2000-222 which was issued by Storey County in 2000 to conduct mineral exploration, mining, and processing in Gold Hill and American Flat.

The SUP was amended in 2004 to allow expanded exploration, mining, and processing. In July 2013, Storey County approved an amendment to the SUP which expanded land area and modified uses allowed at the existing ore processing facility (Storey County Planning Commission, 2013).

In October 2011, Storey County approved SUP No. 2011-016 for Comstock Mining, LLC to further develop its exploration drilling in the southern portion of the county (Comstock Mining, LLC, 2014). Comstock Mining, LLC provides annual compliance and status review to the Storey County Planning Commission in accordance with one of the conditions of that permit (Storey County Planning Commission, 2013).

In October 2014, Storey County approved SUP No. 2000-222-A-4 which was a major modification of former SUP No. 2000-222-A-3 and SUP No. 2011-016. The approved SUP No. 2000-222-A-4 applies to mining, mine definition and exploration, processing, and ancillary uses. SUP No. 2000-222-A-4 amends and replaces SUP No. 2000-222-A-3. It also replaces SUP No. 2011-016 (for exploration) which was deemed closed by the Storey County Planning Commission (Storey County Planning Commission, 2014). The current SUP is effective for a period of ten years and authorizes up to 120 acres of disturbance for active mining (including surface and underground mining) at any given time. The SUP also authorizes up to 20 acres for mine definition (drilling and other activities for the purposes of determining subsequent phasing of the active mine within 300 feet of the active surface mine), 20 acres for exploration (drilling and associated activities for the purposes of broad-based assessment and may occur throughout the entire subject property), and 50 acres for active reclamation at any given time. This amendment increases the disturbance approximately 45 acres from the previous amendment. This disturbance would occur on approximately 602.6 acres of private land over the life of the SUP.

Restoring Storey County

On December 19, 2014 the National Defense Authorization Act for Fiscal Year 2015 (Act) was signed into law (Public Law [PL] 113-291). Included in this Act is Section 3009 (d), a provision affecting public lands managed by the BLM. Under Section 3009 (d) (3) the BLM shall convey to Storey County through a quitclaim deed all surface rights of the U.S. in and to the federal land within the conveyance boundary. The boundary of this conveyance area includes approximately 1,745 acres of public lands in Gold Hill and Virginia City (Figure 20). The conveyance of lands by quitclaim deed would be subject to valid existing rights. The southern portion of this conveyance area includes the northern portion (approximately 2,435 feet) of the American Flat Road, between Lot 51 and State Route 342 (Figure 20). The timeframe for this conveyance is unknown, although Congress expressed a sense that the conveyance should be completed in 18-months (June 19, 2016).

5.2.2 Reasonably Foreseeable Future Actions

RFFAs in the CESAs include the following: urban development; public purpose sites; road ROWs; and water facilities and pipelines.

Urban Development

The Lyon County Planning Commission Staff Report identifies 934 acres of reasonably foreseeable surface disturbance within the Cultural Resources CESA for the Traditions Development Agreement.

Public Purpose Sites

Disturbances associated with public purpose sites within the Cultural Resources and Biological Resources CESAs were calculated using data from LR2000. The disturbances for reasonably foreseeable public purpose sites are included in Table 5-2.

Road ROWs

Disturbances associated with road ROWs within the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs were calculated using data from LR2000. The disturbances for reasonably foreseeable roads are included in Table 5-2.

Water Facilities and Pipelines

Disturbances associated with water facilities and pipelines within the Cultural Resources, Air Quality and Land Use Authorizations, Recreation, and Biological Resources CESAs were calculated using data from LR2000. The disturbances for reasonably foreseeable water facilities and pipelines are included in Table 5-2.

5.3 AIR QUALITY

The CESA for air quality is the Air Quality and Land Use Authorizations CESA and includes the area immediately around the Project Area (Table 5-1). The CESA follows the V&T railroad to the west, the Cultural Resources Viewshed APE to the east, and an approximately 0.25-mile buffer around the Non-Federal Alternative to the south.

Past and present actions that could impact air quality include the following: sand, gravel, and industrial operations (3 acres); mineral exploration and mining operations (202 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (111 acres); urban development (223 acres); public purpose sites (4 acres); roads (94 acres); railroads (42 acres); and water facilities and pipelines (39 acres). RFFAs that could impact air quality include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); roads (1 acre); and water facilities and pipelines (13 acres). Approximately 799 acres of disturbance are associated with these

actions, with 750 acres from past and present actions and 49 acres associated with RFFAs, accounting for approximately 25 percent of the CESA.

5.3.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 866 acres of surface disturbance. The Proposed Action would account for an additional 8.4 percent increase of surface disturbance within the CESA.

Impacts to air quality from past, present, and RFFAs include the generation of fugitive dust from blasting, drilling, haul truck operations, and mining activities. Other air emissions would be generated from processing facilities, burning of fossil fuels by heavy equipment and other vehicles, and travel on dirt roads. Implementation of the proposed EPMs and BMPs, as well as the Dust Control Plan, is expected to minimize potential impacts to air quality that would result from implementation of the Proposed Action. The major source of pollutants within the CESA would operate under permit conditions established by the NDEP-BAPC and, therefore, would be negligible. Impacts to air quality from the Proposed Action are expected to be negligible and long-lasting; therefore, cumulative impacts to air quality from the Project are considered to be negligible.

5.3.2 No Action/Current Management

Under the No Action/Current Management Alternative, impacts to air quality would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to air quality from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.3.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 840 acres of surface disturbance. The Non-Federal Alternative would account for an additional 5.1 percent increase of surface disturbance within the CESA.

Impacts to air quality from past, present, and RFFAs include the generation of fugitive dust from blasting, drilling, haul truck operations, and mining activities. Other air emissions would be generated from processing facilities, burning of fossil fuels by heavy equipment and other vehicles, travel on State Route 341/342, and travel on dirt roads. Implementation of the proposed EPMs and BMPs, as well as the Dust Control Plan, is expected to minimize potential impacts to air quality that would result from implementation of the Non-Federal Alternative. The major source of pollutants within the CESA would operate under permit conditions established by the NDEP-BAPC and, therefore, would be negligible. Impacts to air quality from

this alternative are expected be negligible and long-lasting; therefore, cumulative impacts to air quality from the Non-Federal Alternative are considered to be negligible.

5.4 CULTURAL RESOURCES

The CESA for cultural resources is the Cultural Resources CESA and is the Virginia City National Historic Landmark (Table 5-1).

Past and present actions that could impact cultural resources include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (224 acres); mineral exploration and mining operations (292 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (373 acres); urban development (880 acres); public purpose sites (54 acres); roads (298 acres); railroads (91 acres); and water facilities and pipelines (98 acres). RFFAs that could impact cultural resources include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); urban development (934 acres); public purpose sites (90 acres); roads (1 acre); and water facilities and pipelines (13 acres). Approximately 3,545 acres of disturbance are associated with these actions, with 2,472 acres from past and present actions and 1,073 acres associated with RFFAs, accounting for approximately 10 percent of the CESA.

5.4.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,612 acres of surface disturbance. The Proposed Action would account for an additional 1.9 percent increase of surface disturbance within the CESA.

Past, present, and RFFAs could have direct physical impacts to cultural resources and indirect impacts on the visual setting for specific cultural resources. Actions that occurred prior to 1966 (i.e., the NHPA) or those actions without a federal or State nexus generally did not identify or quantify cultural resource sites or impacts to them. These past actions, such as power lines, roads, urban development, railroads, may have had direct physical effects on sites. Present actions and RFFAs would be subject to the NHPA and direct impacts to cultural resources are unlikely on public lands. The Proposed Action would avoid or mitigate impacts to eligible cultural sites within the Project Area through an MOA and HPTP; therefore, incremental increase in cumulative effects to cultural resources from the Project would be minimal.

5.4.2 No Action/Current Management Alternative

No impacts to cultural resources are anticipated under the No Action/Current Management Alternative; therefore, there are no cumulative impacts to cultural resources from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.4.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,586 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.2 percent increase of surface disturbance within the CESA.

Past, present, and RFFAs could have direct physical impacts to cultural resources and indirect impacts on the visual setting for specific cultural resources. Actions that occurred prior to 1966 (i.e., the NHPA) or those actions without a federal or State nexus generally did not identify or quantify cultural resource sites or impacts to them. Present actions and RFFAs would be subject to the NHPA and direct impacts to cultural resources are unlikely on public lands. The Non-Federal Alternative would result in impacts to one eligible cultural site. These impacts would be mitigated through the preparation and implementation of a HPTP; therefore, incremental increase in cumulative effects to cultural resources from this alternative would be minimal.

5.5 NOXIOUS, INVASIVE PLANT SPECIES

The CESA for noxious, invasive plant species is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact noxious, invasive plant species include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact noxious, invasive plant species include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.5.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Direct impacts from surface disturbance associated with all past, present, and RFFAs would have included the removal of vegetation. Removal of native vegetation would have increased the

potential for invasion by noxious and non-native plant species. Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish vegetation and prevent impacts from noxious, invasive plant species. Comstock Mining, LLC would control noxious weed populations in the Project Area consistent with their Integrated Weed Management Plan. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Proposed Action. The Project would result in few additional impacts from noxious, invasive plant species; therefore, there would be little or no incremental increase in cumulative effects from noxious, invasive plant species from the Project.

5.5.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, impacts from noxious, invasive plant species would continue from current authorizations in the Project Area and other activities within the CESA. Comstock Mining, LLC would continue to implement their Integrated Weed Management Plan under this alternative. Therefore, cumulative impacts from noxious, invasive plant species from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.5.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish vegetation and prevent impacts from noxious, invasive plant species. Comstock Mining, LLC would control noxious weed populations consistent with their Integrated Weed Management Plan. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Non-Federal Alternative. Although impacts to vegetation from this alternative are long-lasting, they are relatively small within the CESA and considered to be negligible.

5.6 MIGRATORY BIRDS

The CESA for migratory birds is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact migratory birds include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact migratory birds include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.6.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Surface disturbance associated with all past, present, and RFFAs would have removed vegetation resulting in loss of migratory bird nesting or foraging habitat. Surface disturbance may have also resulted in direct impacts to individual or nesting migratory birds. Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish migratory bird foraging and nesting habitat. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Proposed Action. During operation, Comstock Mining, LLC would employ the EPMs outlined in Chapter 2 to minimize impacts to migratory birds. Therefore, the Project would result in few additional impacts to migratory birds; therefore, there would be little or no incremental increase in cumulative effects to migratory birds or habitat from the Project.

5.6.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, impacts to migratory birds would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to migratory birds from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.6.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal

Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish wildlife foraging and nesting habitat. Impacts to migratory birds from this alternative are considered long-term and would last until the processing facility is decommissioned and reclaimed. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Non-Federal Alternative to migratory bird foraging and nesting habitat. Although impacts to migratory birds from this alternative are long-lasting, they are relatively small within the CESA and considered to be negligible.

5.7 HAZARDOUS AND SOLID WASTES

The CESA for hazardous and solid wastes is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could have impacts from hazardous and solid wastes include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). Historic accumulation of hazardous materials include mercury, arsenic, and lead resulted in the designation of the CRMS. RFFAs that could have impacts from hazardous and solid wastes include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.7.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Hazardous materials are currently stored and utilized for use in the gold recovery and processing at the existing facility in the CESA. Other past uses of hazardous materials include fuels and

other petroleum products associated with the mining and exploration activities, which were used to maintain and operate the mining and exploration equipment and vehicles. Vehicles using State Route 342 contain petroleum products and it is likely that some petroleum products have been spilled as the result of vehicle accidents on State Route 342. Impacts from use of petroleum products during mineral exploration, mining, and travel on State Route 342 may have resulted in soil contamination and impacts to water quality. The Proposed Action would not generate, use, or dispose of hazardous wastes. Petroleum products would be used by vehicles traveling in the Project Area; however, these would not be stored in the Project Area. Hazardous materials existing in the Project Area and vicinity which are located within the CRMS site are being addressed through the NDEP–BCA SAP including sampling, analysis, and clean-up activities, where necessary. The Project is not expected to have impacts from solid or hazardous wastes; therefore, there would be no incremental increase in cumulative effects from solid or hazardous wastes.

5.7.2 No Action/Current Management Alternative

Although the past uses of hazardous materials include chemicals used at the historical mines in the CESA which has resulted in impacts to hazardous and solid wastes and the CRMS site, no impacts from solid or hazardous wastes anticipated under the No Action/Current Management Alternative. Therefore, there are no cumulative impacts to solid or hazardous wastes from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.7.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Past uses of hazardous materials include fuels and other petroleum products associated with the mining and exploration activities, which were used to maintain and operate the mining and exploration equipment and vehicles. Vehicles using State Route 342 contain petroleum products and it is likely that some petroleum products have been spilled as the result of vehicle accidents on State Route 342. Solid wastes would be generated from vegetation removal prior to construction of the Non-Federal Alternative. Additional petroleum products would be utilized and stored in the area analyzed for the Non-Federal Alternative. Hazardous materials would be stored and utilized on-site for use in the gold recovery and processing associated with facility. Comstock Mining, LLC would permit this facility consistent with the existing facility located on private land, and impacts to hazardous and solid wastes from this alternative would be limited by the implementation of BMPs and safety features associated required local and State permits. Impacts from solid or hazardous wastes from this alternative are unlikely to occur and

disturbance associated with the Non-Federal Alternative is relatively small within the CESA; therefore, cumulative impacts to solid or hazardous wastes are considered unlikely to occur.

5.8 WATER QUALITY (SURFACE/GROUND)

The CESA for water quality is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact water quality include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact water quality include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.8.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Past, present, and RFFAs could have impacts to water quality by introducing sediment to ephemeral streams or springs, or by introducing contaminants into the surface. With the depth of groundwater at approximately 100 feet below the surface, no impacts to ground water are expected from the Project. Past, present, and RFFAs particularly from mining could have impacts to ground water quality if water were encountered; however, the Lucerne and Billie the Kid pits have not encountered groundwater and are not expected to (BLM, 1991). Within the CRMS site, past uses of hazardous materials include chemicals used at the historical mines in the CESA which has resulted in impacts to soils and potentially surface water quality. The Proposed Action is not expected to increase erosion, there are no perennial creeks within or adjacent to the Project Area; and no hazardous wastes would be stored in the Project Area; therefore, no impacts to surface or ground water quality are expected from the Proposed Action. No incremental increase in cumulative effects to water quality is expected from the Project.

5.8.2 No Action/Current Management Alternative

No impacts to water quality anticipated under the No Action/Current Management Alternative; therefore, there are no cumulative impacts to solid or hazardous wastes from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.8.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Past, present, and RFFAs could have impacts to water quality by introducing sediment to ephemeral streams or springs, or by introducing contaminants into the surface or ground water supply. The Non-Federal Alternative could have impacts to surface and ground water quality; however, these impacts are expected to be limited by the implementation of BMPs and safety features associated with required local and State permits. Impacts to water quality from this alternative are unlikely to occur and disturbance associated with the Non-Federal Alternative is relatively small within the CESA; therefore, cumulative impacts to water quality are considered unlikely to occur.

5.9 SPECIAL STATUS SPECIES (ANIMALS)

The CESA for special status animal species is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact special status species include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact special status species include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.9.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Surface disturbance associated with all past, present, and RFFAs would have removed vegetation resulting in loss of special status species habitat. Surface disturbance may have also resulted in direct impacts to individual special status species. Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish special status species foraging and nesting habitat. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Proposed Action. Therefore, the Project would result in few additional impacts to special status species habitat; therefore, there would be little or no incremental increase in cumulative effects to special status species or their habitat from the Project.

5.9.2 No Action/Current Management

Under the No Action/Current Management Alternative, impacts to special status species would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to special status species from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.9.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish foraging and nesting habitat. Impacts to State protected wildlife species from this alternative are considered long-term and would last until the processing facility is decommissioned and reclaimed. During operation, Comstock Mining, LLC would employ BMPs and EPMs to minimize impacts to these species. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Non-Federal Alternative to habitat. Although impacts to State-protected wildlife habitat from this alternative are long-lasting, they are relatively small within the CESA and considered to be negligible.

5.10 GENERAL WILDLIFE

The CESA for general wildlife is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact wildlife include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact wildlife include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.10.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Surface disturbance associated with all past, present, and RFFAs would have removed vegetation resulting in loss of wildlife habitat. Surface disturbance may have also resulted in direct impacts to individual wildlife. Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish wildlife foraging and nesting habitat. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Proposed Action. Therefore, the Project would result in few additional impacts to wildlife; therefore, there would be little or no incremental increase in cumulative effects to wildlife or wildlife habitat from the Project.

5.10.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, impacts to wildlife would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to wildlife from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.10.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish wildlife foraging and nesting habitat. Impacts to wildlife from this alternative are considered long-term and would last until the processing facility is decommissioned and reclaimed. During operation, Comstock Mining, LLC would employ BMPs and EPMS to minimize impacts to wildlife. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Non-Federal Alternative to wildlife habitat. Although impacts to wildlife from this alternative are long-lasting, they are relatively small within the CESA and considered to be negligible.

5.11 LAND USE AUTHORIZATIONS

The CESA for land use authorizations is the Air Quality and Land Use Authorizations CESA and includes the area immediately around the Project Area (Table 5-1). The CESA follows the V&T railroad to the west, the Cultural Resources Viewshed APE to the east, and an approximately 0.25-mile buffer around the Non-Federal Alternative to the south.

Past and present actions that could impact land use authorizations include the following: sand, gravel, and industrial operations (3 acres); mineral exploration and mining operations (202 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (111 acres); urban development (223 acres); public purpose sites (4 acres); roads (94 acres); railroads (42 acres); and water facilities and pipelines (39 acres). RFFAs that could impact land use authorizations include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); roads (1 acre); and water facilities and pipelines (13 acres). Approximately 799 acres of disturbance are associated with these actions, with 750 acres from past and present actions and 49 acres associated with RFFAs, accounting for approximately 25 percent of the CESA.

5.11.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 866 acres of surface disturbance. The Proposed Action would account for an additional 8.4 percent increase of surface disturbance within the CESA.

Impacts to land use authorizations have occurred from past and present actions and may have included substantial changes in land use as well as the division of the physical arrangement of an established community. These impacts have been localized, affecting just those areas where the specific projects occurred. Land use authorization impacts from RFFAs could include limited or restricted access through specific areas from development, public purpose sites, road construction, or water facilities and pipelines. The current uses of public lands within the Project Area are similar to those with the CESA and common to the region. Impacts to land use authorizations from the Proposed Action are expected to be negligible and long-term; therefore, cumulative impacts to land use authorizations from the Project are considered to be negligible.

5.11.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, impacts to land use authorizations would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to land use authorizations from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.11.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 840 acres of surface disturbance. The Non-Federal Alternative would account for an additional 5.1 percent increase of surface disturbance within the CESA.

Impacts to land use authorizations have occurred from past and present actions in the CESA. These impacts have been localized, affecting just those areas where the specific projects occurred. Land use authorization impacts from RFFAs could include limited or restricted access through specific areas from urban development, public purpose sites, road construction, or water facilities and pipelines in the CESA. The Non-Federal Alternative would be constructed entirely on private land and current land use is limited to easements. Impacts to land use authorizations from the Non-Federal Alternative are expected to be long-term and may preclude development of other utilities on the site. As a result of the relatively small size of the disturbance associated with this alternative, cumulative impacts to land use authorizations from this alternative are considered to be negligible.

5.12 RECREATION AND TRAVEL MANAGEMENT

The CESA for recreation and travel management is the Recreation CESA and includes the immediate recreation network around the Project Area, including off-road trails that lead from Jumbo Grade to the west, trails that lead south from the American Flat Mill site to Industrial Parkway, as well as the Virginia City 100 horse endurance route, and Virginia City itself (Table 5-1).

Past and present actions that could impact recreation and travel management include the following: sand, gravel, and industrial operations (141 acres); mineral exploration and mining operations (203 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (117 acres); urban development (489 acres); public purpose sites (26 acres); roads (194 acres); railroads (109 acres); and water facilities and pipelines (93 acres). RFFAs that could impact recreation and travel management include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); roads (1 acre); and water facilities and pipelines (13 acres). Approximately 1,453 acres of disturbance are associated with these actions, with 1,404 acres from past and present actions and 49 acres associated with RFFAs, accounting for approximately percent of the CESA.

5.12.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 1,520 acres of surface disturbance. The Proposed Action would account for an additional 4.6 percent increase of surface disturbance within the CESA.

Impacts to recreation and travel management from past, present, and RFFAs include limited or restricted access through specific areas from sand and gravel operations, mineral activities, ROWs and roads, urban development, public purpose sites, or water facilities and pipelines. Impacts to recreation from past, present, and RFFAs likely include reduction in the quality and area available for recreational activities. Impacts to recreation and travel management would occur during Project construction, and are considered short term and negligible; therefore, cumulative impacts to recreation and travel management from the Project are considered to be negligible.

5.12.2 No Action/Current Management Alternative

Under the No Action/Current Management Alternative, impacts to land use authorizations would continue from current authorizations in the Project Area and other activities within the CESA. The cumulative impacts to land use authorizations from the No Action/Current Management Alternative are negligible when added to past, present, and RFFAs.

5.12.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 1,494 acres of surface disturbance. The Non-Federal Alternative would account for an additional 2.8 percent increase of surface disturbance within the CESA.

Impacts to recreation and travel management from past, present, and RFFAs include limited or restricted access through specific areas from sand and gravel operations, mineral activities, ROWs and roads, urban development, public purpose sites, or water facilities and pipelines. Impacts to recreation and travel management are not expected from the Non-Federal Alternative; therefore, no cumulative impacts to recreation and travel management from the Non-Federal Alternative are expected.

5.13 SOCIOECONOMICS

The CESA for socioeconomics is the Socioeconomics CESA and includes Washoe, Lyon, Storey, and Carson City counties. Washoe County measures approximately 6,302 square miles with a 2012 population estimate of 429,908 (Table 5-1). Carson City County measures approximately 145 square miles with a 2012 population estimate of 54,838. Lyon County measures approximately 262 square miles with a 2012 population estimate of 51,327. Storey County measures approximately 2,000 square miles with a 2012 population estimate of 3,935 (U.S. Census Bureau, 2014). Annual 2013 unemployment rates for these counties are as follows: Lyon County was 13.0; Carson City County was 9.9; Washoe County was 9.3; and Storey County was 9.8 (Nevada Workforce Informer, 2014).

5.13.1 Proposed Action

Past, present, and RFFAs the CESA are diverse and include all the actions listed in Table 5-1. Impacts from the Proposed Action on socioeconomics are considered to be temporary and beneficial, consisting of eight employees or contractors during Project construction. Therefore, cumulative impacts to socioeconomics from the Project are considered to be negligible.

5.13.2 No Action/Current Management Alternative

No impacts to socioeconomics are anticipated under the No Action/Current Management Alternative; therefore, there are no cumulative impacts to socioeconomics from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.13.3 Non-Federal Alternative

Past, present, and RFFAs the CESA are diverse and include all the actions listed in Table 5-1. Impacts from the Non-Federal Alternative on socioeconomics are considered to be temporary and beneficial, consisting of approximately 115 employees or contractors during construction. Following construction, a smaller workforce of approximately 30 individuals would remain to operate the facility. This is identical to the current workforce at the existing facility. Therefore, cumulative impacts to socioeconomics from this alternative are considered to be negligible.

5.14 SOILS

The CESA for soils is the Biological Resources CESA which covers 13,871 acres and covers the area that follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact soils include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact soils include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.14.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Impacts to soils from past, present, and RFFAs have resulted in increased erosion. Within the CRMS site, past uses of hazardous materials include chemicals used at the historical mines in the CESA which has resulted in impacts to soils. Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would minimize impacts to soils. Implementation of the proposed EPMs and BMPs, as well as the Dust Control Plan, is expected to minimize potential impacts to soils that would result from implementation of the Proposed Action. Therefore, the Project would result in few additional impacts to soils; therefore, there would be little or no incremental increase in cumulative effects to soils from the Project.

5.14.2 No Action/Current Management Alternative

No impacts to soils are anticipated under the No Action/Current Management Alternative; therefore, there are no cumulative impacts to soils from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.14.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would minimize impacts to soils. Implementation of the BMPs and the Dust Control Plan would be expected to minimize potential impacts to soils that would result from construction and implementation of the Non-Federal Alternative. Therefore, this alternative would result in few additional impacts to soils; therefore, there would be little or no incremental increase in cumulative effects to soils from the Non-Federal Alternative.

5.15 VEGETATION

The CESA for vegetation is the Biological Resources CESA and follows the HUC-12 Gold Canyon-Carson River Watershed boundary to the north and in the south the CESA follows the topography located north of Highway 50 (Table 5-1).

Past and present actions that could impact vegetation include the following: ROWs for oil and gas pipelines and facilities (130 acres); sand, gravel, and industrial operations (324 acres); mineral exploration and mining operations (231 acres, including 174.5 acres from Comstock Mining, LLC); former United Comstock Merger mill site at American Flat (32 acres); utility corridors (1,836 acres); urban development (694 acres); public purpose sites (14 acres); roads (254 acres); railroads (103 acres); and water facilities and pipelines (98 acres). RFFAs that could impact vegetation include the following: mineral exploration and mining operations (35 acres from Comstock Mining, LLC); public purpose sites (25 acres); roads (71 acres); and water facilities and pipelines (17 acres). Approximately 3,864 acres of disturbance are associated with these actions, with 3,716 acres from past and present actions and 148 acres associated with RFFAs, accounting for approximately 28 percent of the CESA.

5.15.1 Proposed Action

The Proposed Action would increase the surface disturbance within the CESA by approximately 67 acres for a total of 3,931 acres of surface disturbance. The Proposed Action would account for an additional 1.7 percent increase of surface disturbance within the CESA.

Surface disturbance associated with all past, present, and RFFAs would have resulted in impacts including removal of native vegetation. Historic past actions are generally not subject to any

reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish vegetation. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Proposed Action. Therefore, the Project would result in few additional impacts to vegetation; therefore, there would be little or no incremental increase in cumulative effects to vegetation from the Project.

5.15.2 No Action/Current Management Alternative

No impacts to vegetation are anticipated under the No Action/Current Management Alternative; therefore, there are no cumulative impacts to vegetation from the No Action/Current Management Alternative when added to past, present, and RFFAs.

5.15.3 Non-Federal Alternative

The Non-Federal Alternative would increase the surface disturbance within the CESA by approximately 41 acres for a total of 3,905 acres of surface disturbance. The Non-Federal Alternative would account for an additional 1.1 percent increase of surface disturbance within the CESA.

Historic past actions are generally not subject to any reclamation activities. However, some present actions and RFFAs including those associated with mineral exploration and mining operations on public land are subject to reclamation requirements, which would help reestablish vegetation. Impacts to vegetation from this alternative are considered long-term and would last until the processing facility is decommissioned and reclaimed. Following reclamation, Comstock Mining, LLC would reseed the area to encourage revegetation and minimize potential impacts from the Non-Federal Alternative. Although impacts to vegetation from this alternative are long-lasting, they are relatively small within the CESA and considered to be negligible.

6.0 CONSULTATION AND COORDINATION

6.1 PUBLIC REVIEW AND COMMENT

6.1.1 Public Review and Comment – Draft EA December 2014

On November 7, 2014 the BLM announced the schedule for the public review of the draft EA and public workshop. An article appeared in the *Nevada Appeal* on November 8, 2014.

On November 10, 2014, the BLM made a draft EA available to the public for review and comment for 30 days. To notify the public, a letter was sent to 76 individuals on the Project mailing list. The BLM also conducted a workshop on November 13, 2014, at the Piper’s Opera House in Virginia City. Twenty-nine people attended the workshop. As a result of the comment period, the BLM received 13 comment emails or letters. Those comment letters are now included in this Revised Draft EA along with a Comment and Responses to Comments Table in Attachment E. The BLM has also published a draft MOA, which is now included as Attachment D.

Based on a review of the comments received, the BLM has made revisions to the content of the draft EA and has incorporated those revisions into this Revised Draft EA.

6.1.2 Public Review and Comment – Revised Draft EA September 2015

This Revised Draft EA has been made available to the public for review and comment for 30 days. Comments must be received by the close of business on October 20, 2015. This Revised Draft EA and supporting documents are available on the Carson City District website at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa.html.

All comments received will be reviewed and categorized. Although not required for an EA by regulation, an agency may respond to substantive and timely comments received.

Privacy notice: before including your address, phone number, e-mail address, or other personal identifying information in your comment(s), you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment(s) to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Substantive comments:

1. question, with reasonable basis, the accuracy of information in the EA;
2. question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis;
3. present new information relevant to the analysis;

4. present reasonable alternatives other than those analyzed in the EA; and/or
5. cause changes or revisions in one or more of the alternatives.

No response from the BLM is necessary for non-substantive comments provided during the public review process (BLM, 2008).

6.2 INDIVIDUALS, TRIBES, ORGANIZATIONS, AND AGENCIES CONSULTED

6.2.1 Individuals

Pam Abercrombie	Bob and Nadine Hastings
James Allander	Lillian Henry
Elaine Barkdull-Spencer	John Herrington
Ron and Sue Bell	Jim Hindle
Kay Bennett	Linda Hoyen
Ron Bliss	Karen James
Daniel Bowers	Bo Johansson
Jean Brighton	Scott Jolcover
Jim Brady	Scott Keller
Russell & Pamela Brandon	Vida Keller
Clint Capurro	Cynthia Kennedy
Andy Chesnut	Chris Kiechler
James Clark	Penny Kiechler
Robin Cobbey	Paul Liebendorfer
Travis Covey	Rob McFadden
GiGi Cox	Rob & Darcy McMillin
Ron Cox	Larry McPherson
Chuck Davies	Terry McTimmonds
Aglace Del Carlo	Angela Mann
Ken DeHart	Bill Mitchell
Helen Diessner	Chuck Newness
Ken Dorr	Alicia Norris
Denny Dotson	Erich Obermayr
Julie Draksler	Mark Joseph Phillips
Marie DuFrone	James Gill & Linda Piper
Jim Dunlap	Dixie Randall
Jeanne Dupre	Nathan Earl Robison
Robert Elstone	Jeni Temen
Sherry and Sammy Flynn	David Toll
Craig Givant	Mark Turner
Kim Golding	Julie Workman

Charles Harrall
Russell and Camille Harig

Stephanie Wozniak

6.2.1.1 Consulting Party under Section 106 NHPA

Larry Wahrenbrock

6.2.2 Tribes

Yerington Paiute Tribe

Washoe Tribe of Nevada and California

6.2.3 Organizations

Advisory Council on Historic Preservation – Reid Nelson

Comstock Gold Mine – Scott Jolcover

Comstock Historic District Commission – Michael Bedeau

Gold Hill Historical Society – Kim Fegert

Great Basin Resource Watch – John Hadder, Nick Nicosia

Nevada All-State Trail Riders, Inc. – Ericka Bjorum-Nelson

Nevada Commission for the Reconstruction of the V&T Railway – Elaine Barkdull-Spencer

Nevada Johns – Darcy and Rob McMillin

Silver Oak Development – Cynthia Kennedy

Silver Springs Hospital District – David Toll

Virginia City News – Rita Kay Menesini

6.2.4 Agencies

Nevada Division of Environmental Protection – Alexi Lanza

Nevada Department of Transportation – Thor Dyson

Nevada Department of Wildlife – Kenny Pirkle

State Historic Preservation Office – Rebecca Palmer

7.0 LIST OF PREPARERS

BLM staff members who contributed to this document are listed in the table below.

Name	Responsibility
Brian Buttazoni	NEPA Compliance
Eric Pignata	Lands and Realty
Perry Wickham	Lands and Realty
Rachel Crews	Cultural and Historic Resources
Dan Erbes	Hazardous Wastes
Dean Tonenna	Vegetation, Weeds
Arthur Callan	Recreation
Pilar Ziegler	Wildlife
Niki Cutler	Water Quality, Soils

JBR, now Stantec staff members who contributed to this document are listed in the table below.

Name	Resource
Kristi Schaff	Project Manager
Michele Lefebvre	Assistant Project Manager
Chris Johnson	GIS Specialist
Steve Morton	Resource Specialist
Ben Veach	Nevada Division Manager
Kim Carter	Formatting and Administrative Record

Jason Spidell from Kautz Environmental Consultants, Inc. contributed to the cultural resource sections of this document.

Rachel Yelderman from Comstock Mining, LLC also contributed to this document.

8.0 REFERENCES

- Air Sciences Inc. 2013. Air Emission Calculations Memorandum prepared for Comstock Mining, LLC. November 18, 2013.
- Ansari, M.B. 1989. Mines and Mills of the Comstock Region, Western Nevada. Camp Nevada Monograph No. 8, Camp Nevada, Reno.
- Bureau of Land Management (BLM). 1991. Billie the Kid and Lucerne Cut Project Environmental Assessment. Prepared for Oliver Hills Mining Company. November 19, 1991.
- Bureau of Land Management (BLM). 2001. Carson City Field Office Consolidated Resource Management Plan 2001. United States Department of the Interior Bureau of Land Management, Carson City Field Office, Carson City, Nevada. May 2001.
- Bureau of Land Management (BLM). 2008. BLM National Environmental Policy Act Handbook H-1790-1. United States Department of the Interior, Washington D.C.
- Bureau of Land Management (BLM). 2010. Information Bulletin (IM) No. 2010-110. *Memorandum of Understanding Between the Bureau of Land Management and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds*. U.S. Department of the Interior. August 2010.
- Bureau of Land Management (BLM). 2012. *Guidelines and Standards for Archaeological Inventory*. Bureau of Land Management Nevada. Fifth Edition, January 2012.
- Bureau of Land Management (BLM). 2013a. Land and Mineral Legacy Rehost 2000 System-LR2000. <http://www.blm.gov/lr2000/>. Accessed on January and November 2013, on multiple days.
- Bureau of Land Management (BLM). 2013b. Virginia City Grand Prix Final Environmental Assessment. DOI-BLM-NV-C020-2012-0032-EA. January 2013. Accessed January 8, 2014. https://www.blm.gov/epl-front-office/projects/nepa/31402/42004/44504/Final_EA_Jan_2013.pdf
- Bureau of Land Management (BLM). 2013c. *United Comstock Merger Mill at American Flat Environmental Assessment*. EA# DOI-BLM-NV-C020-2012-0040-EA. April 2013.
- Bureau of Land Management (BLM). 2013d. Lands and Realty – Color of Title fact sheet. http://www.blm.gov/pgdata/etc/medialib/blm/es/state_office.Par.2730.File.dat/Color-of-Title%20Fact%20Sheet.pdf.
- Bureau of Land Management (BLM). 2013e. BLM's Cadastral Survey web page. <http://www.blm.gov/wo/st/en/prog/more/cadastralsurvey.html>. Accessed January 7, 2014.

- Bureau of Land Management (BLM). 2013f. BLM's Land and Mineral Ownership web page. <http://www.blm.gov/es/st/en/prog/lands/00.html>. Accessed January 7, 2014.
- Bureau of Land Management (BLM). 2015. Carson City District Integrated Weed Management Plan/Final Programmatic Environmental Assessment. Carson City, Nevada.
- Comstock Mining, LLC. 2014. Wednesday, October 5, 2011, Press Release. <http://www.comstockmining.com/news/press-releases/189-wednesday-october-5-2011>
- Couch, B.F. and J.A. Carpenter. 1943. Nevada's Metal and Mineral Production 1859-1940. University of Nevada Bulletin, Vol. 37, No. 4, Geology and Mining Series, No. 38.
- Environmental Protection Agency (EPA). 1995. Record of Decision, Carson River Mercury Site, West Central Nevada. San Francisco, California.
- Environmental Protection Agency (EPA). 2013. Counties Designated "Nonattainment". <http://www.epa.gov/oaqps001/greenbk/mapnpoll.html>. Website accessed in October 2013.
- Environmental Science Associates (ESA). 2013a. Biological Resources Baseline Conditions Report - Storey County. Prepared for Comstock Mining, Inc. March 2013.
- Environmental Science Associates (ESA). 2013b. Biological Resources Baseline Conditions Report - Lyon County. Prepared for Comstock Mining, Inc. March 2013.
- Gardner, P.S. and J.A. Carpenter. 1935. Present Day Milling Plants on the Comstock Lode. Electronic document: <ftp://nas.library.unr.edu/keck/mining/SCANS/1200/12000006.pdf>. Accessed online July 26, 2012.
- General Land Office Records, Bureau of Land Management (GLO). 2013. General Land Office Records-Land Patents and Nevada's Land Records. Accessed November 2013, multiple days on line at: http://www.blm.gov/nv/st/en/prog/more_programs/geographic_sciences/public_land_records.html and <http://www.glorerecords.blm.gov/>
- Horn, S. 2013. Lands Draftsman for NV Energy. Personal communication (e-mail) with Steve Morton, Environmental Analyst with JBR Reno, Nevada. January 4 and 30, 2013.
- James, R.M. 1991. National Register of Historic Places Registration for the Virginia City Historic District - Amendment. On file at the Nevada SHPO, Carson City, Nevada.
- JBR Environmental Consultants, Inc. (JBR). 2012a. *Integrated Weed Management Plan, Comstock Project*. Prepared for Comstock Mining, LLC. JBR Reno, Nevada, Office. JBR Project Number B.A12059.00. June 8, 2012.

- JBR Environmental Consultants, Inc. (JBR). 2012b. *Waters of the United States Jurisdictional Determination, Comstock Project – Phases 1 & 2, Storey and Lyon Counties, Nevada*. Prepared for Comstock Mining, Inc. JBR Reno, Nevada, Office. JBR Project Number B.A10515.00. March 2, 2012.
- JBR Environmental Consultants, Inc. (JBR). 2013a. *2013 Noxious Weed and Threatened, Endangered, and Sensitive Plant Species Survey*. Prepared for Comstock Mining, LLC.. JBR Reno, Nevada, Office. JBR Project Number B.A13165.00. July 26, 2013.
- JBR Environmental Consultants, Inc. (JBR). 2013b. *2012 Raptor Nest Survey, American Flat Road/Lucerne Access Right-of-Way, Lyon, Storey, and Washoe Counties, Nevada*. Prepared for Comstock Mining, LLC. JBR Reno, Nevada, Office. JBR Project Number B.A13165.00. June 10, 2013.
- JBR Environmental Consultants, Inc. (JBR). 2013c. *Biological Resources Summary for the American Flat Road/Lucerne Access Right-of-Way EA*. Memorandum prepared for Comstock Mining, LLC. and Bureau of Land Management. JBR Reno, Nevada, Office. JBR Project Number B.A12288.00. July 22, 2013.
- McClelland, L.F., J.T. Keller, G.P. Keller, and R.Z. Melnick. 1999. *Guidelines for Evaluating and Documenting Rural Historic Landscapes*. United States National Park Service, Washington, D.C.
- Morlan, D. 2012. Personal communication between BLM and Dave Morlan, Chief of Cadastral, BLM. Reno, Nevada.
- National Endowment for the Humanities (NEH). 2013. *Frequently Asked Questions about Section 106 of the National Historic Preservation Act*. Accessed November 14, 2013 online at:
<http://www.neh.gov/grants/manage/frequently-asked-questions-about-section-106-the-national-historic-preservation-act>
- Nevada Department of Wildlife (NDOW). 2006. *Nevada Wildlife Action Plan*. Reno, NV.
- Nevada Department of Wildlife (NDOW). 2012. *NDOW response to JBR information request*. Letter dated May 17, 2012.
- Nevada Division of Environmental Protection (NDEP). 2011. *Fact Sheet. Plum Mining Company LLC. Billie the Kid Project NEV2000109 (Minor Mod 2011)* Prepared by Paul Eckert. September 2011.
http://www.ndep.nv.gov/comstock/docs/nev2000109_permit_fact_sheet-2011.pdf
- Nevada Division of Environmental Protection (NDEP). 2014a. *Status: Water Pollution Control Permit NEV2000109*. http://www.ndep.nv.gov/comstock/bmrr_water_permit.htm

Nevada Division of Environmental Protection (NDEP). 2014b. Comstock Reclamation Permit.
http://www.ndep.nv.gov/comstock/bmrr_reclamation_permit.htm

Nevada Division of Environmental Protection - Bureau of Air Quality Planning (NDEP-BAQP). 2008. *Nevada Statewide Greenhouse Gas Emissions Inventory and Projections, 1990-2020*. Carson City: Bureau of Air Quality Planning, 2008.

Nevada Division of Environmental Protection - Bureau of Air Quality Planning (NDEP-BAQP). 2013. Nevada Air Quality Trend Report, 2000-2010. Posted January 29, 2013.
<http://ndep.nv.gov/baqp/monitoring/docs/trend.pdf>

Nevada Division of Water Resources (NDWR). 2013. Well Log Database Query Tool.
<http://water.nv.gov/data/welllog/>. Accessed on November 11, 2013.

Nevada State Historic Preservation Office (Nevada SHPO). 2012. Nevada Section 106 Architectural Survey and Inventory Guidelines. Revised Spring 2012.
http://nvshpo.org/dmdocuments/Archit_Guideline_5_2012.pdf

Nevada Workforce Informer. 2013. Nevada's Premier Source of Workforce & Economic Information & Analysis website. <http://www.nevadaworkforce.com>. Accessed on November 14, 2013.

Nevada Workforce Informer. 2014. Nevada's Premier Source of Workforce & Economic Information & Analysis website. <http://www.nevadaworkforce.com>. Accessed on January 27, 2014.

Rich, T.D., C.J. Beardmore, H. Berlanga, P.J. Blancher, M.S.W. Bradstreet, G.S. Butcher, D.W. Demarest, E.H. Dunn, W.C. Hunter, E.E. Iñigo-Elias, J.A. Kennedy, A.M. Martell, A.O. Panjabi, D.N. Pashley, K.V. Rosenberg, C.M. Rustay, J.S. Wendt, and T.C. Will. 2004. *Partners in Flight North American Landbird Conservation Plan*. Cornell Lab of Ornithology. Ithaca, NY.

Salazar, H. 2013. Manager, R/W Engineering for Nevada Department of Transportation. Personal communication (phone conversation and email communication) with Steve Morton, Environmental Analyst, JBR Environmental Consultants, Inc., Reno, Nevada. January 16 and 20, 2013.

Schaefer, D.H. and R. Whitney. 1992. Geologic Framework and Ground-Water Conditions in Basin-Fill Aquifers of the Dayton Valley and Churchill Valley Hydrographic Areas, Western Nevada. United States Geological Survey Water-Resource Investigation Report 91-4072.

Smith, G.H. 1998. *History of the Comstock Lode, with New Material by Joseph V. Tingley*. Nevada Bureau of Mines and Geology and University of Nevada Press, Reno.

- Spidell, J., R. Kautz, M. Harmon, M. Kimball, and A.K. Wiley. 2013. *Comstock Mining Inc.'s Baseline Study: Cultural Resources Inventory, Storey and Lyon County, Nevada*. Kautz Environmental Consultants, Reno, Nevada. Prepared for Comstock Mining, Virginia City, Nevada. [In draft] Submitted to DOI Bureau of Land Management, Carson City Field Office, Carson City, Nevada. BLM Report CRR3-2643 (P).
- Stoddard C. and J.A. Carpenter. 1950. *Mineral Resources of Storey and Lyon Counties, Nevada*. Geology and Mining Series No. 49. Nevada Bureau of Mines and Geology and University of Nevada Press, Reno and Las Vegas.
- Storey County Assessor (Storey County). 2013a. Assessor Office-Online Search Assessment Data. http://www.storeycounty.org/assessor/search_new.asp. January and November 2013, multiple days.
- Storey County Assessor (Storey County). 2013b. GIS parcel data provided by Storey County on March 21, 2013.
- Storey County Planning Commission. 2013. Planning Commission Meeting Agenda, Meeting Minutes, and Staff Report. Thursday, June 20, 2013, 6:00 pm.
- Storey County Planning Commission. 2014. Letter to Comstock Mining, LLC. titled "2000-222-A-4 Comstock Mining, LLC Special Use Permit Amendment" dated October 13, 2014.
- Thompson, J.M. and S.J. Lawrence. 1994. Ground-Water Quality and Geochemistry in Dayton, Stagecoach, and Churchill Valleys, Western Nevada. United States Geological Survey Open File Report 93-356.
- United States Census Bureau (U.S. Census Bureau). 2013. American FactFinder. <http://factfinder2.census.gov>. Website accessed on March 28, 2013.
- United States Census Bureau (U.S. Census Bureau). 2014. American FactFinder. <http://quickfacts.census.gov>. Website accessed on January 27, 2014.
- United States Department of Agriculture (USDA). 2013a. Natural Resource Conservation Service Custom Soil Resource Report for Storey County Area, Nevada; and Washoe County, Nevada, South Part. June 17, 2013.
- United States Department of Agriculture (USDA). 2013b. Natural Resource Conservation Service Custom Soil Resource Report for Lyon County Area, Nevada, and Storey County, Nevada: Comstock – Lyon Co Portion. June 17, 2013.
- United States Fish and Wildlife Service (USFWS). 2008. Birds of Conservation Concern. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. December 2008.
- Virginia & Truckee Railroad (V&T Railroad). 2014. V&T Railroad history website. <http://www.vtrailway.com/history.php>. Accessed on February 5, 2014.

Western Bat Working Group (WBWG). 2005. Online species accounts, www.wbwg.org/species_accounts/species_accounts.html

Western Regional Climate Center (WRCC). 2013. NOAA Cooperative Stations – Temperature and Precipitation. Virginia City, Nevada (268761). <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv8761>

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife*. Vol. I-III. California Department of Fish and Game, Sacramento, California.

FIGURES

ATTACHMENT A

Fugitive Dust Control Plan

ATTACHMENT B

Integrated Weed Management Plan

ATTACHMENT C

Draft Plan of Development

ATTACHMENT D

Draft Memorandum of Agreement

ATTACHMENT E

Comments and Responses to Comments Table

ATTACHMENT F

Draft Finding of No Significant Impact