BLM

Battle Mountain District Office

U.S. Department of the Interior
Bureau of Land Management

Gibellini Vanadium Mine Project

Final Supplemental Environmental Report 17
Wild Horses and Burros

DOI-BLM-NVB0100
NVN 096259

Preparing Office

Battle Mountain District Office
50 Bastian Road
Battle Mountain, NV 89820

November 2021

This page intentionally left blank.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Executive Summary

Affected Environment

The area of analysis for wild horses and burros is the Project area. There are no burros in the Fish Creek Herd Management Area (HMA). The Gibellini Vanadium Mine Project intersects with the Fish Creek HMA, for which the Appropriate Management Levels (AML) for wild horses have been determined by the Bureau of Land Management (BLM), guided by the applicable Resource Management Plan (RMP). The BLM actively manages the Fish Creek HMA through wild horse gathers. The most recent wild horse gather was conducted in January 2021. The current estimated HMA population is approximately 120 wild horses, with an estimated annual population increase of 16 percent to 20 percent. The current AML identified for the Fish Creek HMA is a population of 107 to 180.

Environmental Consequences

The potential issues related to wild horses include a temporary and permanent loss of foraging areas within the Fish Creek HMA, increased use area fragmentation, animal displacement, potential direct loss of wild horses, and effects associated with water management.

Potential effects on wild horses may include the short-term, long-term, and permanent reduction or loss of forage. Short-term effects arise from use area removal and disturbance from Project-related activities. Effects on wild horses would cease within the completion of linear construction activities (water line and power line), mine closure, and successful reclamation. Long-term effects consist of changes to use areas and the wild horse populations that depend on those use areas, irrespective of reclamation success. Permanent effects typically would be associated with the construction of open pits and facilities that permanently alter the vegetation, soil, and topography of the landscape.

Direct effects on wild horse populations may include limited direct mortalities from Project-related activities (e.g., vehicle collisions), forage loss or alteration, and incremental use area fragmentation. Indirect effects, such as animal displacement and reduced fecundity, could result from increased noise and additional human presence in the Project area. The degree of the effects on wild horses and their use areas would depend on factors such as the sensitivity of the individual animals, seasonal use patterns, type and timing of Project activity, and physical parameters (e.g., topography, cover, forage, and climate). Overall, it is expected wild horses would avoid the disturbance areas during construction and operation activities and increase use in other portions of the HMA, which could result in changes to usage patterns and distribution within the HMA.

<u>Proposed Action</u>

The Project would result in 806 acres of surface disturbance and the facilities fencing would exclude wild horse access from an additional 413 acres of undisturbed lands on the 252,772-acre Fish Creek HMA, which is 0.48 percent of the HMA. The Project area does not represent important or highly used areas by wild horses, rather wild horse use in the Project Area is infrequent and incidental. Historic inventories show little use when compared to other more highly used areas in the HMA. This low rate of use may be attributed to limited forage and water, dominant pinyon-juniper woodlands, and difficult terrain associated with the Project area. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with the unreclaimed open pit. Fencing would be built during the construction phase and removed following reclamation. Therefore, direct impacts on wild horses from use area disturbance

are anticipated to be minor, long term (permanent for the 85 acres associated with the unreclaimed pit), and localized. The reclaimed plant communities would be composed initially of grasses and forbs, while shrubs establish, which offer better forage for wild horses when compared with the pre-mining communities.

Effects on wild horses from human presence and noise could cause them to reduce or eliminate use of a larger land area than the Project area; therefore, increasing use of other portions of the Fish Creek HMA over the life of the Project. The actual total extent of forage loss as a result of the avoidance response would be difficult to predict because the degree of this response varies from animal to animal. During construction it is likely that wild horses would avoid the Project area. However, over time, they are likely to become accustomed to the mining activity and begin to reoccupy areas initially avoided. The Project area is not an important foraging area for wild horses and there are no water sources nearby. Therefore, wild horse use of the area is incidental. After initial avoidance of human activity and noise-producing areas, certain individuals may acclimate to the activity and begin to reoccupy areas initially avoided. Additionally, the Applicant-committed environmental protection measures would combine to minimize the potential effects related to increased human presence in the Project area. Therefore, impacts on wild horses are anticipated to be minor, long term, and localized.

Effects on wild horses as a result of water management activities would be the same as described in Supplemental Environmental Report 18 – Wildlife and Aquatic Resources for the Project. The water line and associated power line (31 acres of surface disturbance) would be immediately reclaimed following construction. The Project would not affect spring or stream flows (see Supplemental Environmental Report 16 – Water Resources and Geochemistry) and would not affect the supplemental watering locations in the HMA, which are outside of the Project area. Therefore, impacts on wild horses from water management activities are anticipated to be negligible, short term, and localized.

South Access Road Alternative

Under South Access Road Alternative, the change in location of the access road would result in 38 additional acres of surface disturbance. The South Access Road Alternative would result in 844 acres of surface disturbance, and the facilities fencing would exclude wild horse access from 413 acres of the 252,772-acre Fish Creek HMA, which totals to 0.49 percent of the HMA. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with the unreclaimed open pit. Aside from the increased surface disturbance acreage, the effects under this alternative would be comparable to the effects under the Proposed Action.

Renewable Energy Alternative

Under Renewable Energy Alternative, the construction of the field of solar photovoltaic (PV) panels and battery storage would result in 33 additional acres of permanent surface disturbance. The Renewable Energy Alternative would result in 839 acres of surface disturbance. The fencing associated with these facilities would not overlap the Fish Creek HMA and therefore, would not exclude wild horses from any portion of the HMA. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with the unreclaimed open pit and the 33 acres solar PV field. Aside from the increased disturbance acreage, the effects under this alternative would be comparable to the effects

under the Proposed Action. Therefore, wild horse impacts as a result of Renewable Energy Alternative are anticipated to be negligible, short term, and localized.

No Action Alternative

Under the No Action Alternative, the Project would not take place and impacts on wild horses would not occur. Under the No Action Alternative, wild horses and the Fish Creek HMA would continue to be managed as they currently are. Under this alternative, there would be no surface disturbance and no permanent loss of use area in the Fish Creek HMA. Additional use area fragmentation and animal displacement would not occur, limiting the effects on wild horses to existing conditions. The level of human use would remain the same as the current levels. Therefore, impacts on wild horses from the No Action Alternative are anticipated to be negligible, short term, and localized to the Project area.

Cumulative Effects

The Cumulative Effects Study Area (CESA) for wild horses is the same as the area of analysis, encompassing the Project area and the Fish Creek HMA. The CESA consists of 250,094 acres of BLM-managed land and 2,677 acres of a mixture of private and other public lands for a total of 252,772 acres. The CESA boundary for wild horses is based on known distribution and movements of wild horses in this region of Nevada in relation to the BLM's designated Fish Creek HMA. The CESA encompasses the extent of potential effects from activities associated with the Project and interrelated actions may result in cumulative effects when combined with potential effects from past, present, and reasonably foreseeable future actions (RFFAs).

Proposed Action

Cumulative effects on wild horses primarily would be directly related to forage loss, use area fragmentation, and animal displacement. Many of the wild horses that occur in the CESA would continue to occupy their respective ranges and breed successfully, although population numbers may decrease relative to the amount of cumulative forage loss and disturbance from incremental development.

The Project incrementally would increase disturbance to wild horse use areas by an additional 806 acres (0.32 percent of the CESA) resulting in a total cumulative surface disturbance of approximately 1,619 acres (approximately 0.64 percent of the CESA). Pending completion of successful reclamation, the incremental additional effects on wild horses as a result of the Project would be mostly temporary in nature for the majority of the Project's surface disturbance area. The 85 acres associated with the unreclaimed pit would be permanently lost from the CESA. The reclaimed areas, and areas associated with use area conversion, would likely provide better forage for supporting wild horse use than pre-mining communities; however, densities and distribution may change in the long term but are anticipated to be minor and localized.

Indirect effects associated with human presence and noise would incrementally increase in the CESA during the life of the Project. The contribution of the Project to these effects would be minor, long term, and localized and would cease following completion of operations and final reclamation.

The Project is not anticipated to affect the amount and extent of available surface water (e.g., seeps and springs) in the Project vicinity or associated wetland use area for wild horses within the CESA.

South Access Road Alternative

Under South Access Road Alternative, the change in location of the access road would result in 38 additional acres of surface disturbance. The South Access Road Alternative would result in a reduction of forage resources for wild horses on 844 acres, or 0.33 percent of the 252,772-acre CESA. The effects in the CESA under this alternative would be comparable to the Proposed Action.

Renewable Energy Alternative

Under Renewable Energy Alternative, the construction of the field of PV panels and battery storage would result in 33 additional acres of surface disturbance, which would not be reclaimed. The Renewable Energy Alternative would result in a reduction of forage resources for wild horses on 839 acres or 0.33 percent of the CESA. The effects in the CESA under this alternative would be comparable to the Proposed Action.

No Action Alternative

Under the No Action Alternative, the Project would not be constructed, and past, present, and RFFAs would continue in the CESA. As a result, there would be no potential for the Project to contribute to cumulative impacts on wild horses. Wild horses and the HMA would continue to be managed as they currently are. Cumulative impacts on wild horses under the No Action Alternative would be less than those under the Proposed Action but would still be anticipated to be negligible, long term, and minor.

Residual Impacts

Residual effects on wild horses under the Proposed Action would include the permanent loss of 85 acres of the Fish Creek HMA due to the unreclaimed open pit. In areas that would be disturbed by the Project but later reclaimed, the loss of shrub or tree-dominated communities within these HMAs would represent a long-term change in use area composition (i.e., shrub-dominated communities to grass/forb dominated communities) because it would take approximately 25 years for mature shrubs to become re-established in these communities.

ACRONYMS AND ABBREVIATIONS

AML	Appropriate Management Level
BLM	Bureau of Land Management
CESA	Cumulative Effects Study Area
HMA	Herd Management Area
NDOW	Nevada Department of Wildlife
NVV	Nevada Vanadium Company
Project	Gibellini Vanadium Mine Project
PV	photovoltaic
RFFA	reasonably foreseeable future action
RMP	Resource Management Plan

This page intentionally left blank.

1.0 INTRODUCTION

1.1 Proposed Action

The Gibellini Vanadium Mine Project (Project) is a proposed vanadium mine project located along the eastern slope of the Fish Creek Mountains in Eureka County, Nevada, which would be developed and operated by the Nevada Vanadium Company (NVV) (**Figure 1**). The Project would include the construction and operation of an open pit mine that would produce approximately 24 million tons of ore material containing 66,000 tons of vanadium and 168 tons of uranium over the mine life. Approximately 2 million tons of waste rock material would be mined during the life of the Project.

A full Project description, including the facility layout, is provided in the Supplemental Environmental Report 1 – Proposed Action and Project Alternatives (BLM 2021a). The following new mine components associated with this operation would include:

- The open pit;
- Rock disposal area;
- Mine office and facilities;
- Crushing facilities and stockpile;
- Heap leach pad;
- Process facility;
- Various process and make-up water ponds;
- Borrow areas;
- Mine and access roads;
- Water pipeline and power supply lines; and
- Ancillary facilities.

Exploration activities in the Project area would generally include construction of access roads, drill pads, sumps, trenches, surface sampling, bulk sampling, staging areas, and monitoring well installation. Total surface disturbance associated with the Proposed Action, including exploration activities, would be 806 acres of public land.

1.2 South Access Road Alternative

The South Access Road Alternative would consist of the same components as noted for the Proposed Action except the access road alignment would be moved to the south adjacent to the main power line that would be connected to the Pan Mine 69-kilovolt power line. This alternative would result in approximately 38 additional acres of surface disturbance as compared to the Proposed Action. Total surface disturbance for the South Access Road Alternative would be 844 acres of public land.

1.3 Renewable Energy Alternative

The Renewable Energy Alternative would consist of the same overall activities as described for the Proposed Action except this alternative would include supporting the mine operations with a combination of renewable energy and a utility interconnection with future large-scale battery storage.

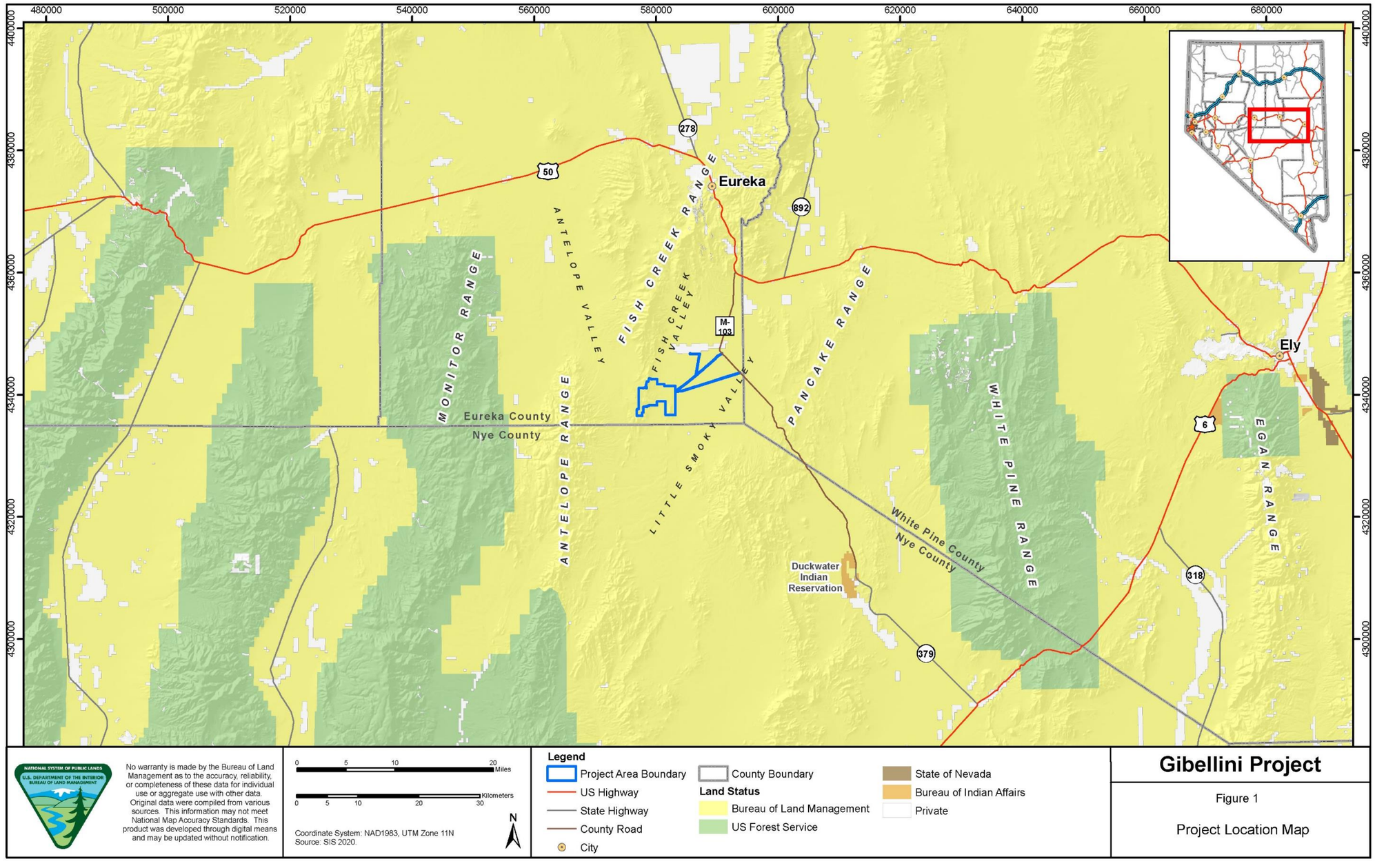
This alternative would include the installation of enough solar electric photovoltaic (PV) capacity so the site would become a net generation facility with battery storage to perform peak smoothing and daily load management as well as providing a sustainable long-term power source servicing the remote electrical needs of southern Eureka County and Northern Nye County.

This alternative would result in approximately 33 additional acres of permanent surface disturbance compared to the Proposed Action because the solar facility would not be reclaimed at the end of the Project. Total surface disturbance for the Renewable Energy Alternative would include 839 acres of public land.

1.4 No Action Alternative

Under the No Action Alternative, the Project would not be developed and associated impacts in the Project area would not occur.

Figure 1. Project Location Map



This page intentionally left blank.

2.0 AFFECTED ENVIRONMENT

This section describes the area of analysis, regulatory framework, and existing conditions for wild horses and burros in the Project area.

2.1 Area of Analysis

The Project is in the southeastern portion of Eureka County, Nevada, at the southern end of the Fish Creek Range (**Figure 1**). The utility corridor and portions of the Project area extend into Fish Creek Valley, to the east of Fish Creek Range. Little Smoky Valley is to the east and south of the Project area and Antelope Valley is west of the Project area.

The area of analysis for Project-related wild horse impacts encompasses the Project area (**Figure 2**). This area of analysis captures the area in which construction, operations, and reclamation activities would occur, including transportation and transmission line routes.

2.2 Regulatory Framework

The regulatory framework described in this section is specific to regulations for wild horse and burro management. See Supplemental Environmental Report 1 – Proposed Action and Project Alternatives (BLM 2021a) for additional federal, state, and county regulatory information.

2.2.1 Wild and Free-Roaming Horse and Burro Act of 1971

The Wild Free-Roaming Horses and Burros Act of 1971, Public Law 92-195, protects wild free-roaming horses and burros from capture, branding, harassment, or death. Wild horses are to be managed to achieve and maintain a thriving natural ecological balance on public lands.

2.2.2 Shoshone-Eureka Resource Area Record of Decision and Resource Management Plan

Resource Management Plan (RMP) objectives for wild horses are:

- To manage viable herds of sound, healthy wild horses in a wild and free-roaming state (BLM 1986);
- To initially manage wild horse populations at existing numbers based on 1982 aerial counts and determine if this level of use can be maintained; and
- To manage wild horses within the areas which constituted their use area at the time the Wild and Free-Roaming Horse and Burro Act became law in 1971 (BLM 1986).

A standard operating procedure for wild horses in the RMP includes: "*Fences in wild horse herd management areas will be located to minimize interference with the normal distribution and movement of wild horses in accordance with Nevada BLM 4730 Manual Supplement. Selected portions of new fences constructed in these areas will be flagged or otherwise marked for one year after construction to make them more visible to horses*" (BLM 1986).

2.3 Existing Conditions

Data sources utilized to describe the existing environment for wild horses within the area of analysis include:

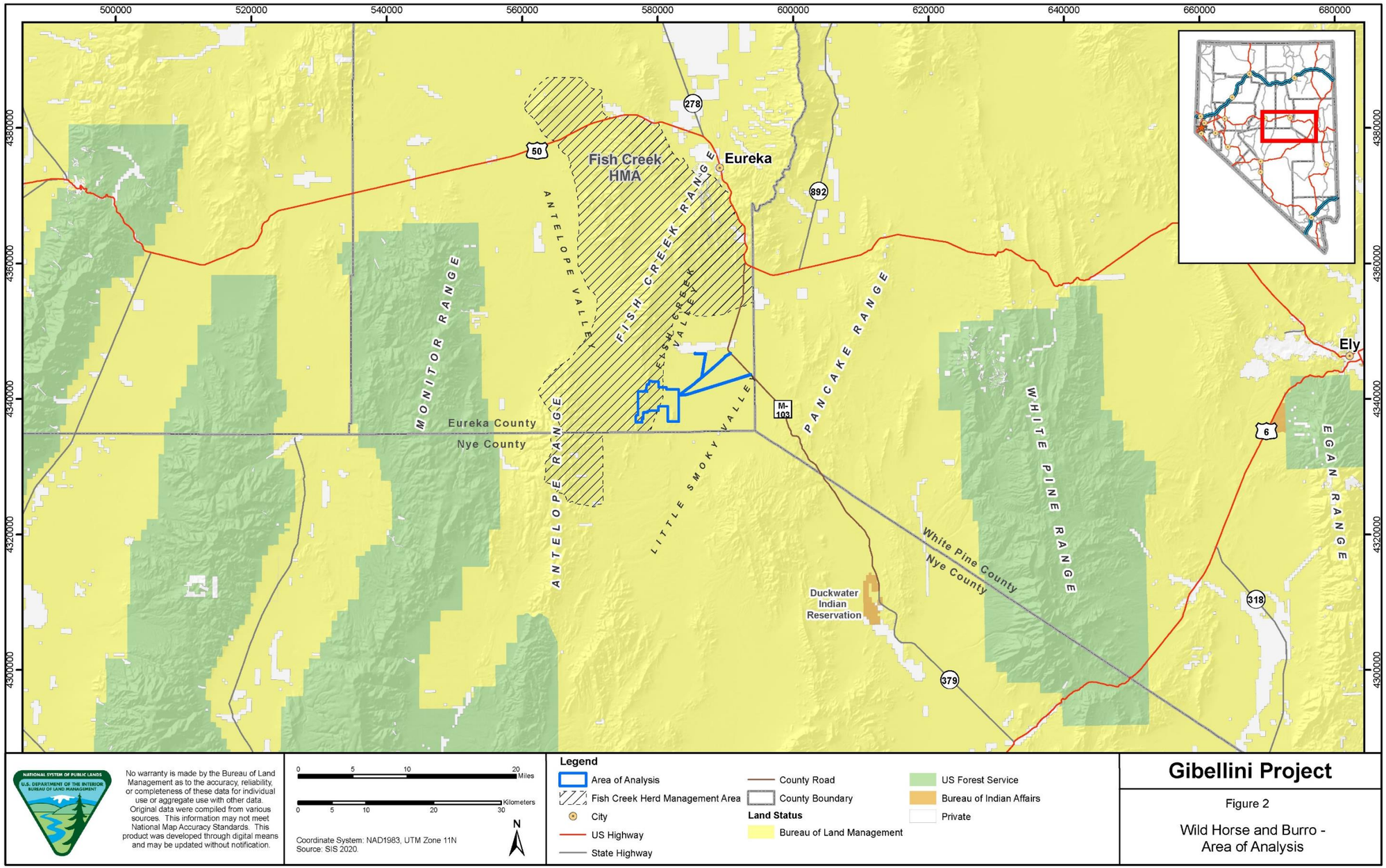
- Existing Appropriate Management Levels (AMLs) designated for the Herd Management Area (HMA);
- Vegetation, use area types, locations of water sources, springs, and other range improvements in relation to the analysis area; and
- Wild horse numbers, distribution, and use patterns currently within the area of analysis.

HMAs are areas identified in land use planning for long term management of wild horses or burros and are designated “Special Management Areas.” The Project intersects with the Fish Creek HMA, for which the AMLs for wild horses have been determined by the Bureau of Land Management (BLM), guided by the applicable RMP. Wild horse distribution and movement patterns within the Fish Creek HMA vary greatly throughout the year and are influenced by climatic factors such as precipitation and temperature, availability of foraging use area, and availability of water. Many of the wild horses move into the higher elevations of the Fish Creek HMA in the summer months, and move into the lower-elevation winterfat communities in Antelope Valley in the winter (BLM 2015).

A portion of the Project area is within the Fish Creek HMA, which encompasses the Antelope and Little Smoky Valleys and the Antelope and Fish Creek Mountains (**Figure 2**). The portion of the Fish Creek HMA south of U.S. Highway 50 includes 233,340 acres of land. The BLM actively manages the Fish Creek HMA through wild horse gathers (BLM 2015, 2019, 2020). The most recent horse gather was conducted in January 2021. The current estimated HMA population is approximately 120 wild horses post-foaling, with an estimated annual population increase of 16 percent to 20 percent (Distel 2021; Richardson 2020). The current AML identified for the Fish Creek HMA is a population of 107 to 180 (BLM 2020). There are no burros in the Fish Creek HMA, and they will not be addressed further in this document.

The BLM has provided haul water to two locations in the northern portion of the Fish Creek HMA (BLM 2015). Water is also supplied by the Davis Pipeline in the southern portion of the HMA and is used to supplement water during the summer months (BLM 2015).

Figure 2. Area of Analysis



This page intentionally left blank.

3.0 APPLICANT-COMMITTED ENVIRONMENTAL PROTECTION MEASURES

NVV has developed the following practices to prevent unnecessary and undue degradation during the life of the Project. These practices are derived from the general requirements established in the BLM's surface management regulations at 43 Code of Federal Regulations 3809 and Nevada Division of Environmental Protection-Bureau of Mining Regulation and Reclamation mining reclamation regulations, as well as other water regulations and BLM guidance documents. These measures are informed by the Enhanced Baseline Reports that identified potential resource conflicts and measures that could be taken to avoid or minimize those resource conflicts and are to be considered part of the operating plan and procedures. The Applicant-committed environmental protection measures listed in this section would apply to all alternatives.

1. All artificial bodies of water that contain any chemical in solution at levels lethal to wildlife (e.g., barren and pregnant solution ponds) would be covered or contained in a manner that would prevent access by birds and bats in accordance with the Nevada Department of Wildlife (NDOW) Industrial Artificial Pond Permit. All covers or containers would be maintained in a manner that would continue to preclude access by wildlife for as long as the pond or containment can hold water.
2. Any chemical-laden fluids that are the result of any process and that are impounded in a pond that is too large to cover or contain (e.g., mill tailings ponds) would be rendered non-lethal to wildlife. The chemical concentration would be measured at a non-lethal level at the point where the fluid flows from a pipe into the pond or open conveyance system. Chemical neutralization and dilution are among methods that could be used to reduce chemical concentration.
3. Process facilities including the warehouse/shop, office, laboratory, adsorption, desorption, and recovery plant, crushing facilities, heap leach pad, and ponds would be fenced to specifications outlined in the BLM Handbook 1741-1, as applicable. Solution ponds would be fenced, in accordance with the required NDOW Industrial Artificial Pond Permit, with 8-foot-high chain link or field fencing.
4. Fences would be constructed to BLM and NDOW standards. Surrounding the active mine area and the process pond area would be a continuous 8-foot-tall woven wire fence, with no breaks, except for gates, that would be kept closed; and smooth or barbed wire would be used above the top horizontal portion of fencing to discourage perching.
5. NVV would prohibit employees, contractors, and sub-contractors from feeding wildlife or wild horses, or making food available for scavenging wildlife.
6. New hire and annual refresher training for all employees and contractors would include wildlife and wild horse protection training that specifically addresses the commitment of NVV to implement the protection program and the need for all employees to avoid harassment and disturbance of wildlife and wild horses, especially during breeding seasons. NVV would work with NDOW and BLM in the development of training materials.
7. Site-specific training would also include internal contact numbers for reporting sick or injured animals in the Project area, as well as reporting procedures to the BLM and NDOW for any wildlife and wild horse mortalities. NDOW Industrial Artificial Pond Permit requirements would include reporting by the next business day any mortalities of wildlife species.
8. Speed limits would be posted at 35 miles per hour on haul roads and 45 miles per hour on access roads. When road conditions are poor, drivers would be required to travel at reduced speeds (below 25 miles per hour).

This page intentionally left blank.

4.0 ENVIRONMENTAL CONSEQUENCES

The potential issues related to wild horses include temporary and permanent loss of foraging areas within the Fish Creek HMA, increased use area fragmentation, animal displacement, potential direct loss of wild horses, and effects associated with water management.

Potential effects on wild horses may include the short-term, long-term, and permanent reduction or loss of use area. Short-term effects arise from use area removal and disturbance from Project-related activities. Effects on wild horses would cease within the completion of linear construction activities (water line and power line), mine closure, and successful reclamation. Long-term effects consist of changes to use areas and the wild horse populations that depend on those use areas, irrespective of reclamation success. Permanent effects typically would be associated with the construction of open pits and facilities that permanently alter the vegetation, soil, and topography of the landscape.

Direct effects on wild horse populations may include limited direct mortalities from Project-related activities (e.g., vehicle collisions), forage loss or alteration, and incremental use area fragmentation. Indirect effects, such as animal displacement and reduced fecundity, could result from increased noise and additional human presence in the Project area. The degree of the effects on wild horses and their use areas would depend on factors such as the sensitivity of the individual animals, seasonal use patterns, type and timing of Project activity, and physical parameters (e.g., topography, cover, forage, and climate). Overall, it is expected wild horses would avoid the disturbance areas during construction and operation activities and increase use in other portions of the HMAs, which could result in changes to usage patterns and distribution within the HMAs.

4.1 Effects Level Definitions

Intensity

Negligible: Effects would not result in any perceptible changes to wild horse and burro use area (e.g., foraging) or distribution.

Minor: Effects would result in minimally observable and/or measurable changes to wild horse and burro use area (e.g., foraging) or distribution. The Proposed Action could result in a temporary displacement of animals. The animal use patterns and/or their habitat is expected to recover in a short period of time (within hours to days) without human intervention.

Moderate: Effects would result in observable and/or measurable changes to wild horse and burro use area (e.g., foraging) or distribution. The Proposed Action could result in displacement of some animals. The animal use patterns and/or habitat are expected to recover within several weeks to several months.

Major: Effects would result in marked changes to wild horse and burro use area (e.g., foraging) or distribution. The Proposed Action could result in displacement of some or all of the animals. The use patterns, distribution, health and/or their use area could recover, but it likely would take a year or more with no guarantees of success.

Duration

Short-term: Less than 1 year.

Long-term: Greater than 1 year.

Permanent: Effects on wild horse and burro use area would be permanent.

Context

Localized: Limited to the area of analysis.

Regional: Affecting areas beyond the area of analysis.

4.2 Proposed Action

4.2.1 Surface Disturbance

The Project would result in 806 acres of surface disturbance and the facilities fencing would exclude wild horse access from an additional 413 acres of undisturbed lands on the 252,772-acre Fish Creek HMA, which would be 0.48 percent of the HMA. The Project area does not represent important or highly used areas by wild horses, rather wild horse use in the Project area is infrequent and incidental. Historic inventories show little use when compared to other more highly used areas in the HMA. This low rate of use may be attributed to limited forage and water, dominant pinyon-juniper woodlands, and difficult terrain associated with the Project area. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with the unreclaimed open pit. Fencing would be built during the construction phase and removed following reclamation. Therefore, direct impacts on wild horses from use area disturbance are anticipated to be minor, long term (permanent for the 85 acres associated with the unreclaimed pit), and localized. The reclaimed plant communities would be composed initially of grasses and forbs, while shrubs establish, which offer better forage for wild horses when compared with the pre-mining communities.

Potential effects on the typical distribution and movement patterns of wild horses likely would be long term in nature, occurring over the 7-year life of the Project. Permanent displacement would occur on the 85 acres at the southeastern portion of the Fish Creek HMA overlapping the Project area. Wild horses likely would use other areas near the Project. However, wild horse use in the Project area is highly variable and typically dependent on forage and water sources that are more common surrounding the Project area.

The effects on wild horse distribution also would affect the utilization of available forage in the Fish Creek HMA. Indirect effects may include the introduction or spread of noxious weeds and invasive species potentially resulting in the reduction of available forage quality and quantity within the Fish Creek HMA. Implementation of NVV's Reclamation Plan would reduce the potential for noxious weeds, invasive, and non-native species to become introduced or spread within the Fish Creek HMA. However, minor populations of weedy annual species (e.g., halogeton [*Halogeton glomeratus*], Russian thistle [*Salsola* sp.], and cheatgrass [*Bromus tectorum*]) may become established in localized areas.

4.2.2 Human Presence and Noise

Effects on wild horses from human presence and noise could cause them to reduce or eliminate use of a larger land area than the Project area itself; therefore, increasing use of other portions of the Fish Creek HMA over the life of the Project. The actual total extent of forage loss as a result of the avoidance response is impossible to predict since the degree of this response varies from animal to animal. During construction it is likely that wild horses would avoid the Project area. However, over time, they are likely to become accustomed to the mining activity and begin to reoccupy areas initially avoided. The Project area is not an important foraging area for wild horses and there are no water sources nearby. Therefore, wild horse use of the area is incidental. Additionally, NVV's environmental protection measures would combine to minimize the potential effects related to increased human presence in the Project area. Therefore, impacts on wild horses are anticipated to be minor, long term, and localized.

4.2.3 Water Management Activities

Effects on wild horses as a result of water management activities would be the same as described in Supplemental Environmental Report 18 – Wildlife and Aquatic Resources (BLM 2021b) for the Project. The water line and associated power line (31 acres) would be immediately reclaimed following construction. The Project would not affect spring or stream flows (see Supplemental Environmental Report 16 – Water Resources and Geochemistry [BLM 2021c]) and would not affect the supplemental watering locations in the HMA, which are outside of the Project area. Therefore, impacts on wild horse impacts from water management activities are anticipated to be negligible, short term, and localized.

4.2.4 Hazardous Materials Spill

Effects on wild horses as a result of a potential hazardous materials spill would be the same as described in Supplemental Environmental Report 18 – Wildlife and Aquatic Resources (BLM 2021b).

4.3 South Access Road Alternative

Under the South Access Road Alternative, the change in location of the access road would result in 38 additional acres of surface disturbance. The South Access Road Alternative would result in 844 acres of surface disturbance and the facilities fencing would exclude wild horses from 413 acres of the 252,772-acre Fish Creek HMA, which totals 0.50 percent of the HMA. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with the unreclaimed open pit. Aside from the increased disturbance acreage, the effects under this alternative would be comparable to the effects under the Proposed Action. Therefore, wild horse impacts as a result of the South Access Road Alternative are anticipated to be negligible, short term, and localized.

4.4 Renewable Energy Alternative

Under the Renewable Energy Alternative, the construction of the field of PV panels and battery storage would result in 33 additional acres of permanent surface disturbance. The Renewable Energy Alternative would result in 839 acres of surface disturbance. The fencing associated with these facilities would not overlap the Fish Creek HMA and therefore, would not exclude wild horses from any portion of the HMA. The surface disturbance associated with the Project would be reclaimed following completion of mining operations except for 85 acres in the Fish Creek HMA associated with

the unreclaimed open pit and the 33-acre solar PV field. Aside from the increased disturbance acreage, the effects under this alternative would be comparable to the effects under the Proposed Action. Therefore, wild horse impacts as a result of the Renewable Energy Alternative are anticipated to be negligible, short term, and localized.

4.5 No Action Alternative

Under the No Action Alternative, the Project would not occur and impacts on wild horses would not occur. Under the No Action Alternative, wild horses and the Fish Creek HMA would continue to be managed as they currently are. Under this alternative, no surface disturbance or permanent loss of land within the Fish Creek HMA would occur. Additional use area fragmentation and animal displacement would not occur, limiting the effects on wild horses to existing conditions. The level of human use would remain the same as the current levels. Therefore, impacts on wild horses from the No Action Alternative are anticipated to be negligible, long term, and localized to the Project area.

5.0 CUMULATIVE EFFECTS

5.1 Introduction

The Cumulative Effects Study Area (CESA) for wild horses encompasses the Project area (including the proposed mine facilities, access road alternatives, and water and power line corridors) and the Fish Creek HMA (**Figure 3**).

The CESA consists of 250,094 acres of BLM-managed land and 2,677 acres of a mixture of private and other public land for a total of 252,772 acres. The CESA boundary for wild horses is based on known distribution and movements of wild horses in this region of Nevada in relation to the BLM's designated Fish Creek HMA. The CESA encompasses the extent of potential effects from activities associated with the Project and interrelated actions may result in cumulative effects when combined with potential effects from past, present, and reasonably foreseeable future actions (RFFAs).

Cumulative effects on wild horses primarily would be directly related to forage loss, use area fragmentation, and animal displacement. Many of the wild horses that occur in the CESA would continue to occupy their respective ranges and breed successfully, although population numbers may decrease relative to the amount of cumulative forage loss and disturbance from incremental development.

5.2 Past, Present, and Reasonably Foreseeable Future Actions

Within the CESA, past and present land uses include mineral development and exploration projects, oil and gas development, sand and gravel operations, utilities, including water, power, roads, and telecommunications rights-of-way; infrastructure and public purpose activities; dispersed recreation; wild horse use, wild horse gathers and fertility control application, fuel reduction projects, and livestock grazing. **Table 1** details the RFFAs in the CESA. Of the 252,772 acres covered by the CESA, 30,073 acres of surface disturbance are associated with past, present, and RFFAs, which is a disturbance of approximately 12 percent of the CESA.

Oil and gas leases have the highest amount of acreage in approved authorizations. Mineral and gravel mining are the dominant land disturbances in the CESA. This precludes other land uses, such as grazing, recreation, use area restoration, or development of other resources. These impacts typically are concentrated in local areas over long time spans. Reclamation plans focus on returning these land uses to the area after mine closure.

Public infrastructure, such as utilities and roads, often have long-term impacts on lands but facilitate other land uses. These can increase access for all other types of disturbances, while easements can limit the types of land use in the immediate area. Some types of infrastructure can prevent other land uses, such as for rangeland or recreation.

Rangeland management, wild horse management, and recreational land uses are other activities that can occur throughout the CESA. Other types of land uses may be compatible and even facilitate these activities (e.g., rural roads).

RFFAs in the CESA would include mineral development and exploration projects and utilities, infrastructure, and public purpose activities. Wildland fires in the CESA may occur in the future, as

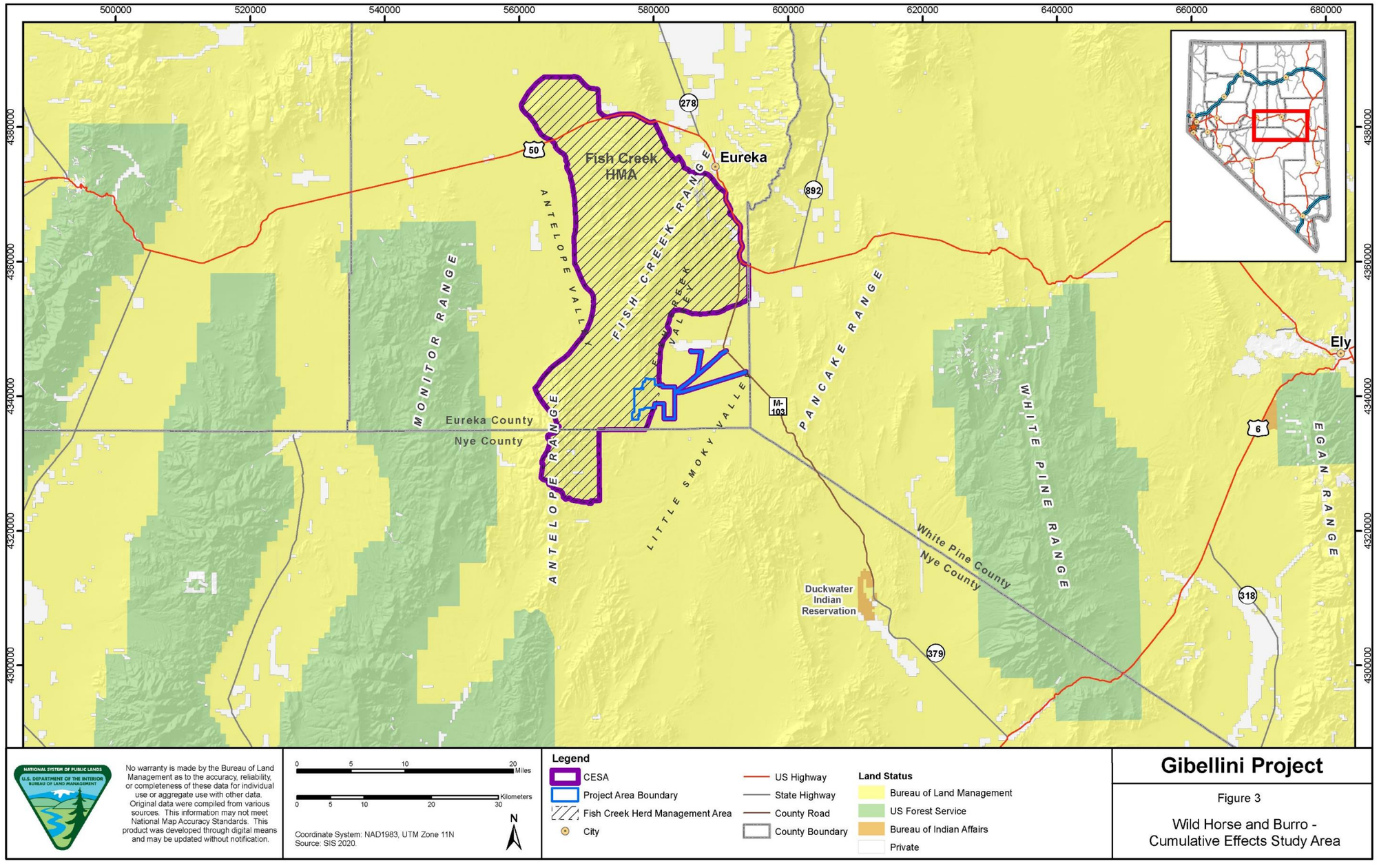
would restoration projects, livestock grazing, and dispersed recreation. These activities would have similar impacts as described for past and present actions.

Table 1. Past, Present, and RFFAs, Disturbances, and Projects

Past, Present, and RFFAs, Disturbances, and Projects	Acres
CESA Acres (Fish Creek HMA and Project Area)	**252,772**
Past Actions	
Mineral Development and Exploration	**756**
Sand & Gravel	370
Mining Notice	180
Mining Exploration/Mine Plan	206
Utilities and Infrastructure	**208**
Power/Communications	141
Water Pipelines/Infrastructure	4
Other ROW	63
Geothermal Lease and Development [1]	**75**
Roads	**12**
Oil and Gas Lease [1]	**21,037**
Past Actions Total	**22,088**
Present Actions	
Mineral Development and Exploration	**347**
Sand and Gravel	283
Nevada Fluorspar/Tertiary Minerals - Mining Notice	4
Allegiant Gold LTD - Mining Notice	4
BH Minerals USA Inc - Mine Plan	56
Utilities and Infrastructure	**1,079**
Power/Communications	1,032
Water Pipelines/Infrastructure	31
Irrigation	10
ROW Other	6
Land Sale	**2,033**
Roads	**565**
Present Actions Total	**4,024**
Reasonably Foreseeable Future Actions	
Mineral Development and Exploration	**186**
American Selco - Buck Mountain Gold - Mine Plan	11
BH Minerals - Windfall - Mine Plan	150
Gullsil - Prospect Mountain	25
Utilities and Infrastructure	**174**
Power/Communications	174
Land Sale	**289**
Oil and Gas Leases	**2,567**
Reasonably Foreseeable Future Actions Total	**3,216**
Total	**29,328**

[1] Assumed that 2% of past projects were developed.

Figure 3. Cumulative Effects Study Area



This page intentionally left blank.

5.3 Proposed Action

The Project incrementally would increase surface disturbance to wild horse use areas by an additional 806 acres (0.32 percent of the CESA) resulting in a total cumulative disturbance of approximately 1,619 acres (approximately 0.64 percent of the CESA). Pending completion of successful reclamation, the incremental additional effects on wild horses as a result of the Project would be mostly temporary in nature for the majority of the Project's surface disturbance area. The 85 acres associated with the unreclaimed open pit would be permanently lost from the CESA. The reclaimed areas, and areas associated with use area conversion, would likely provide better forage for supporting wild horse use than pre-mining communities; however, densities and distribution may change in the long term but are anticipated to be minor and localized.

Indirect effects associated with human presence and noise would incrementally increase in the CESA during the life of the Project. The contribution of the Project to these effects would be minor, long term, and localized and would cease following completion of operations and final reclamation.

The Project is not anticipated to affect the amount and extent of available surface water (e.g., seeps and springs) in the Project vicinity or associated wetland use area for wild horses within the CESA.

5.4 South Access Road Alternative

Under South Access Road Alternative, the change in location of the access road would result in 38 additional acres of surface disturbance. The South Access Road Alternative would result a reduction of forage resources for wild horses on 844 acres, or 0.33 percent of the 252,772-acre CESA, and the effects in the CESA under this alternative would be comparable to the Proposed Action.

5.5 Renewable Energy Alternative

Under Renewable Energy Alternative, the construction of the field of PV panels and battery storage would result in 33 additional acres of surface disturbance, which would not be reclaimed. The Renewable Energy Alternative would result in a reduction of forage resources for wild horses on 839 acres, or 0.33 percent of the 252,772-acre CESA and the effects in the CESA under this alternative would be comparable to the Proposed Action.

5.6 No Action Alternative

Under the No Action Alternative, the Project would not be constructed, and past, present, and RFFAs would continue in the CESA. As a result, there would be no potential for the Project to contribute to cumulative impacts on wild horses. Wild horses and the HMA would continue to be managed as they currently are. Cumulative impacts on wild horses under the No Action Alternative would be less than those under the Proposed Action but would still be anticipated to be negligible, long term, and minor.

This page intentionally left blank.

6.0 RESIDUAL IMPACTS

Residual effects on wild horses under the Proposed Action would include the permanent loss of 85 acres of the Fish Creek HMA due to the unreclaimed open pit. In areas that would be disturbed by the Project but later reclaimed, the loss of shrub-dominated communities within these HMAs would represent a long-term change in use area composition (i.e., shrub-dominated communities to grass/ forb dominated communities) because it would take approximately 25 years for mature shrubs to become re-established in these communities. The increased availability of grasses and forbs would have a beneficial impact on forage availability for wild horses.

This page intentionally left blank.

7.0 REFERENCES

Bureau of Land Management (BLM). 1986. *Shoshone-Eureka Resource Area Record of Decision*. U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Battle Mountain, Nevada. Available: https://eplanning.blm.gov/epl-front-office/projects/lup/77513/103648/126944/1986_Shoshone-Eureka_RMP_Record_of_Decision.pdf. Accessed: March 2020.

———. 2015. *Final Fish Creek Herd Management Area Wild Horse Gather Plan Environmental Assessment.* DOI-BLM-NV-B010-2015-0011-EA. Available: https://eplanning.blm.gov/epl-front-office/projects/nepa/42687/54582/59284/508_FishCreekFinatEAPosting.pdf. Accessed: March 2020.

———. 2019. Mount Lewis Field Office Press Release - BLM to Conduct the Fish Creek HMA Wild Horse Gather. Released Wednesday, August 28, 2019.

———. 2020. Fish Creek Herd Management (HMA) Website. Available: https://www.blm.gov/programs/wild-horse-and-burro/herd-management/herd-management-areas/nevada/fish-creek-hma. Accessed: March 12, 2020.

———. 2021a. *Gibellini Vanadium Project - Supplemental Environmental Report 1 – Proposed Action and Project Alternatives*.

———. 2021b. *Gibellini Vanadium Project - Supplemental Environmental Report 18 – Wildlife and Aquatic Resources*.

———. 2021c. *Gibellini Vanadium Project - Supplemental Environmental Report 16 – Water Resources and Geochemistry*.

Distel, S. 2021. Personal communication from Scott Distel, Bureau of Land Management Mount Lewis Field Office, with Madeline Terry, ICF, May 19, 2021.

Richardson, S. 2020. Personal communication from Shawna Richardson, Wild Horse and Burro Specialist, Bureau of Land Management Mount Lewis Field Office, with Alexandra Shin, Environmental Planner, SWCA Environmental Consultants, March 23, 2020.