

### 3.11 Land Use and Access

The study area for direct and indirect impacts to land use and access is defined as the proposed POO expansion areas, areas associated with copper recovery within the existing POO boundary, and road access to the study area. The CESA for land use and access is defined as the Copper Canyon Allotment (Figure 3.4-1).

#### 3.11.1 Affected Environment

##### 3.11.1.1 Land Use

Lander County comprises approximately 5,621 square miles, 83 percent of which is administered by federal government agencies, including the BLM (4,168 square miles, 74 percent of the land in the county). Approximately 16.5 percent of the county is privately owned and very small portions are Tribal lands (0.02 percent) or are owned by the State of Nevada (0.1 percent) (Lander County 2005). The study area is located in a corridor where alternate square mile sections were granted to the railroad to encourage construction of the original transcontinental rail connection in the 19<sup>th</sup> century. Although there has been some adjustment in intervening years, the “checkerboard” pattern of public/private land ownership still is prevalent in the project vicinity (Figure 2.2-2).

The public lands in the study area are under the jurisdiction of the BLM and administered under the Shoshone-Eureka RMP (BLM 1986b). Included in the RMP are the specified objectives for minerals, in general, and management decisions for “locatable minerals” and “current mineral production areas.” The general minerals objectives are to:

- “Make available and encourage development of mineral resources to meet the national, regional, and local needs consistent with the national objectives for an adequate supply of mineral.”
- “Ensure that mineral exploration, development and extraction are carried out in such a way as to minimize environmental and other resource damage and to provide, where legally possible, for the rehabilitation of lands.”
- “Develop detailed mineral resource data in areas where different resources conflict so that informed decisions may be made that result in optimum use of lands.”

The management decision for locatable minerals is that:

- “All public lands in the planning areas will be open for mining and prospecting unless withdrawn or restricted from mineral entry.”

The management decision for current mineral production areas is to:

- “Recognize these areas as having a highest and best use for mineral production and encourage mining with minimum environmental disturbance. Make thorough mineral examinations of all sites proposed for other Bureau programs in these areas.”

Essentially all of the Shoshone-Eureka Planning Area is open to development of locatable minerals, with the exception of WSAs until final determination is made of their wilderness status.

Lander County adopted a county master plan in 2010 (Lander County 2010). The plan is policy oriented, focusing primarily on the areas in and around the three major communities: Battle Mountain, Austin, and Kingston, although the plan is only generally applicable to the study area. Lander County zoning regulations also apply to the study area (Lander County 1994). The county also adopted a Policy Plan for Federally Administered Lands that addresses the priorities for management of federal lands within its boundaries (Lander County 2005). The study area is zoned A-3, Farm and Ranch District, under Lander

County's zoning code. The A-3 zone requires the proponent of a mining project to obtain a Special Use Permit from the County Planning Commission (Little 2011; Teske 2008). The county does not have a county-wide master plan addressing the study area; only urbanized areas are master planned (Little 2011; Teske 2008). The general statement of the county's objective for public lands states:

"Lander County supports the concept of Multiple Use Management as an overriding philosophy for management of the federally administered lands based on multiple use and sustained yield concepts, and in a way that will conserve natural resources" (Lander County 2005).

The policy document emphasizes the county's support for, and dependence on, mineral resources development. There are eight policies specifically addressing mineral resources; the three most relevant policies to the proposed project are:

Policy 13-1: "Retain existing mining areas and promote expansion of mining operations and areas."

Policy 13-4: "Federal land management agencies should continue to enforce existing reclamation standards to ensure there is no undue degradation of the federally administered lands."

Policy 13-6: "Mine site and exploration reclamation standards should be consistent with the best possible post mine use for each specific area. Specific reclamation standards should be developed for each property rather than using broad-based universal standards. Private properties (i.e., patented claims) should be reclaimed to the standard and degree desired by their respective owners, following state law and regulations" (Lander County 2005).

Existing land use in the study area includes open space, grazing, mining, dispersed recreation, and wildlife habitat. Livestock grazing by both cattle and sheep is an established use within the study area, although it is of lesser economic consequence than mining (see Section 3.6, Range Resources). No prime or unique farmland exists in the study area.

The Town of Battle Mountain is the principal residential community in the study area. The town has an estimated population of 2,967 and is located approximately 12 miles northeast of the study area.

Existing ROWs and other land use authorizations in the study area are summarized in **Table 3.11-1** and shown in **Figure 3.11-1**. Information on these authorizations was derived from BLM Master Title Plats and from the BLM LR2000 system (BLM 2011b,c). Most of the authorizations are for utility ROWs, either electric transmission lines or telephone/fiber optic communication lines. The new alignment for Willow Creek Road (Serial Number N-84251) would replace a segment of the existing Willow Creek Road in this area (N-48143). The new alignment would skirt the west edge of the proposed POO boundary (**Figures 2.2-1** and **2.3-1**).

### 3.11.1.2 Access

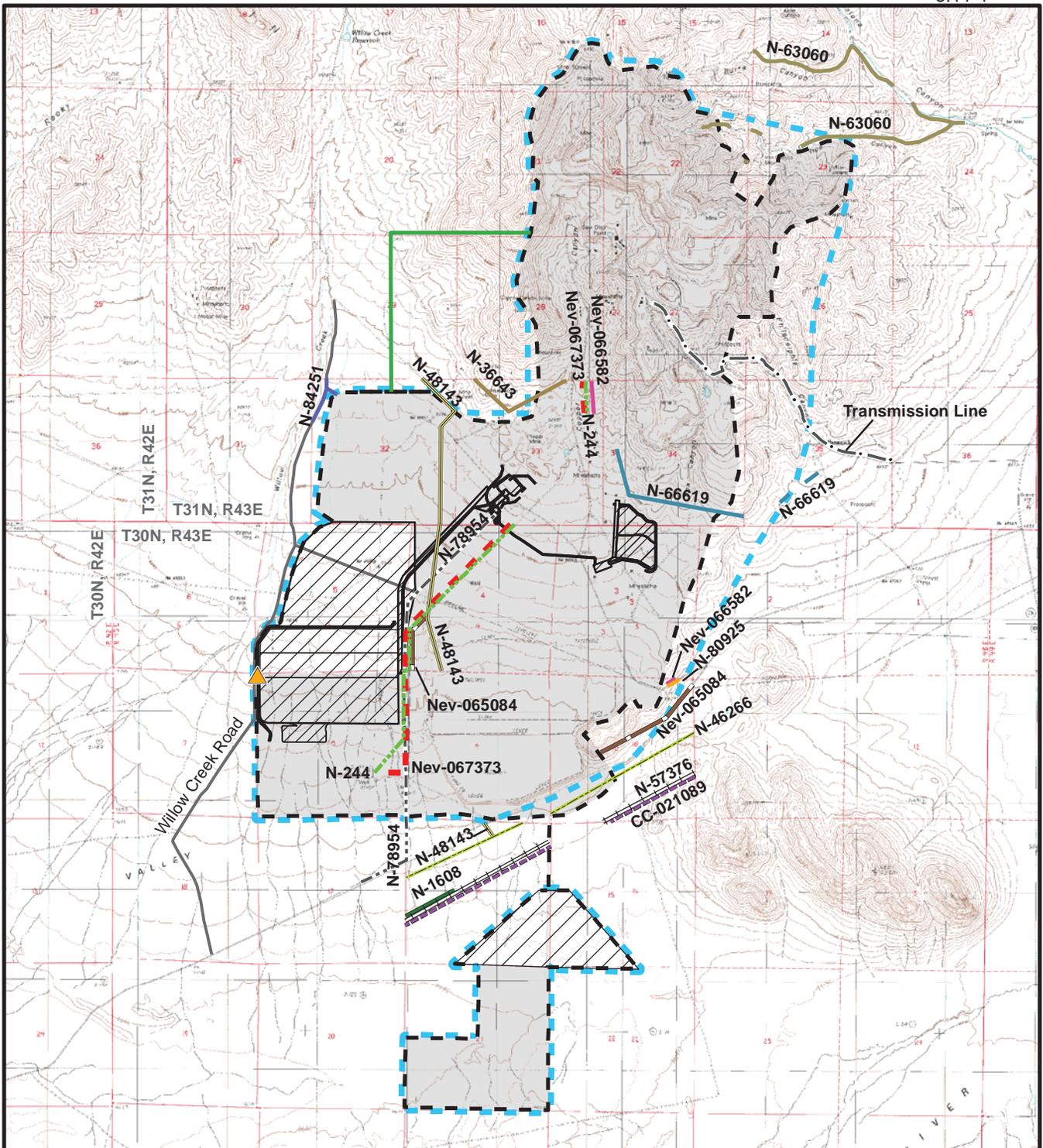
The study area is served by a dispersed network of roadways typical of rural Nevada. I-80 is the primary east-west traffic artery across northern Nevada, connecting northern Lander County with Reno to the west and Elko and Salt Lake City, Utah, to the east. I-80 passes through the edge of the Town of Battle Mountain.

SH 305 provides access to the study area from I-80 and the Town of Battle Mountain. SH 305 is a paved, two-lane highway designated as a "rural major collector" by the Nevada Department of Transportation (NDOT 2010). Existing traffic conditions on SH 305 just north of the Phoenix Mine turn-off are at level of service (LOS) "A." Traffic volumes on that section of roadway averaged an estimated 730 vehicles per day in 2009, which was 37 percent below the peak level of 1,150 vehicles per day experienced in 1997 (NDOT 2010). Peak hour traffic volumes are estimated at less than 5 percent of hourly roadway capacity.

**Table 3.11-1 Land Use Authorizations and ROWs within the Project Boundary**

<b>Serial Number</b>	<b>Grantee</b>	<b>Use</b>	<b>Township</b>	<b>Range</b>	<b>Section(s)</b>	<b>ROW Width (feet)</b>
N-244	BMG/Newmont	Transmission Line	30N 31N	43E 43E	4, 8, 33	25
N-1608	Nevada Bell	Telephone and Telegraph	30N	43E	16	20
CC-021089	Nevada Bell	Fiber Optic Line	30N	43E	10	40
N-36643	BMG/Newmont	Water Pipeline and Access Road	31N	43E	33	60
N-46266	AT&T	Fiber Optic Line (underground)	30N	43E	10, 16	40
N-48143	Lander County	Road	30N 31N	43E 43E	4, 16, 29, 32	60
N-57376	Sierra Pacific Power Company	Electric Distribution Line	30N	43E	10, 16	40
N-63060	BMG/Newmont	Water Pipeline	31N	43E	14, 23, 24	20
Nev-065084	Southwest Gas	Gas Pipeline and Compressor Station	30N	43E	4, 10	50
N-66619	Sierra Pacific Power Company	Transmission Line	31N	43E	27, 26, 35	40
Nev-066582	Nevada Bell	Telephone and Telegraph	30N 31N	43E 43E	10, 33	20
Nev-067373	BMG	Water Pipeline and Plant	30N 31N	43E 43E	4, 8, 33	50
NVN-77262	Newmont	Access ROW	30N	43E	4	N.A.
N-78954	Newmont	Transmission Line	30N	43E	4, 16	40 to 75
NVN-80925	Newmont	Road	30N	43E	10	60
N-84251	Lander County	Road	30N 31N	43E 43E	6, 18, 32	60

Source: BLM 2011b,c.



**Legend**

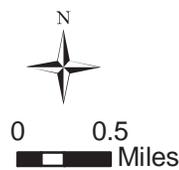
- Proposed POO Boundary
- Proposed Fenceline
- Reona POO Fenceline
- ▲ Proposed Production Well
- Proposed Action
- Proposed Action Linear Feature
- Permitted Disturbance
- N-84251 Road
- N-63060 Water Pipeline
- CC-021089 Fiber Optic Line
- Nev-065084 Gas Pipeline and Compressor
- N-46266 Underground Fiber Optic Line
- Nev-067373 Water Pipeline and Plant
- N-36643 Water Pipeline and Road
- N-57376 Electric Distribution Line
- N-78954 Transmission Line
- Nev-066582 Telecom Line
- N-244 Transmission Line
- N-66619 Transmission Line
- N-1608 Telecom Line
- NVN-80925 Road
- N-48143 Road

Source: BLM 2011b.c.

**Phoenix Copper Leach Project**

Figure 3.11-1

Existing ROWs and Other Land Use Authorizations



Existing traffic conditions on SH 305 just south of Carson Road on the edge of the Town of Battle Mountain also are at LOS “A.” Traffic volumes on that section of roadway averaged 2,900 vehicles per day in 2009, approximately 21 percent below the peak levels experienced in 1997 (NDOT 2010). Peak hour traffic volumes are estimated at approximately 11 percent of hourly roadway capacity. Copper Canyon Road, a Lander County road, carried 550 vehicles per day in 2009, more than 10 times traffic levels prior to 2007 (NDOT 2010).

The Buffalo Valley County Road provides access from SH 305 to the Phoenix Mine. Traffic counts are not available for Buffalo Valley Road.

### 3.11.2 Environmental Consequences

The Proposed Action or alternatives have the potential to affect land use both directly and indirectly. Direct impacts may include the termination or modification of existing land uses or ROWs in the study area. Indirect impacts may result in altered land use patterns to other use areas adjacent to or near the study area. Indirect impacts also would occur if the Proposed Action or alternatives stimulated or encouraged the development of land uses not presently anticipated, or conversely, precluded other planned or proposed uses.

Environmental impacts to land use and access would be significant if the Proposed Action or alternatives to the Proposed Action resulted in any of the following:

- Changes to land use patterns that would threaten the economic viability of existing private enterprises or uses of public lands (e.g., livestock grazing) operating under existing land use authorizations;
- Incompatibility or inconsistency with land use plans, regulations, or policies adopted by local, state, or federal governments;
- A substantial increase in traffic in relation to the existing traffic load and capacity of the roadway system, as measured by exceeding the commonly used LOS planning standard for rural highways of level of service “C” during peak hour periods; or
- Elimination or severe restriction of public access on existing routes of travel.

#### 3.11.2.1 Proposed Action

##### Land Use

The Proposed Action would increase surface disturbance in the study area by approximately 902 acres; 194 acres (21 percent) are BLM-managed public land and 708 acres (79 percent) are Newmont-owned private land (**Table 2.3-1**). Approximately 398 acres of the proposed new disturbance area would be associated with the Section 5 OUA and haul road and utility corridor, which is surrounded on three sides by currently approved mine facilities or activities (**Figure 2.3-1**). An additional 254 acres of new disturbance would occur in Sections 15 and 16, which lie between the approved tailings and clay borrow areas at the south end of the currently approved mine.

The Proposed Action would be consistent with BLM plans and policies that designate land use within the study area as open for mineral exploration and development, as stated in the Shoshone-Eureka Resource Area RMP (BLM 1986b). Although Lander County does not have jurisdiction to regulate land use on federal lands, the proposed project would be consistent with the county’s preference for “multiple use” management and retention of existing mining areas as expressed in the 2005 Policy Plan for Federally Administered Lands (Lander County 2005). The Proposed Action would comply with adopted plans and policies of potentially affected governmental entities.

Currently, public use of the study area is minimal. Grazing and a modest amount of dispersed recreation use (primarily associated with access to the Willow Creek reservoirs), may occur in the study area.

New project-related surface disturbance would reduce the amount of land available for livestock grazing, dispersed recreation, and wildlife habitat (Section 3.5, Wildlife and Fisheries Resources), although the loss would be minimal in the context of the overall area, particularly considering the current limited use levels. Potential impacts to range resources and recreation and wilderness are discussed further in Sections 3.6 and 3.12, respectively. The proposed surface disturbance would constitute approximately 0.8 percent of the 106,430-acre Copper Canyon Allotment. The public/private breakdown would be 194 acres of public land disturbance, or 0.3 percent of the total 61,730 acres of public land, and 708 acres of private land disturbance, or 1.6 percent of the total 44,700 acres of private land.

No conflicts with existing ROWs have been identified for the Proposed Action. Most of the ROWs and use authorizations within the proposed and existing disturbance area exist to serve the mining activities. An existing county road (N-48143) has been replaced by the rerouted Willow Creek Road (N-84251) (BLM 2008h).

Post-reclamation land uses of the proposed disturbance areas would be returned to open space, grazing, dispersed recreation, and wildlife habitat. These uses would be consistent with local and BLM land use plans and guidelines.

### Access

Two primary categories of traffic would be generated by the proposed project: 1) worker commuting traffic; and 2) material deliveries. Worker commuting would be predominantly a minor addition to bus or passenger van traffic, which is the primary mode of commuting at the existing Phoenix Mine. Material deliveries would employ mainly heavy trucks and tractor-trailer rigs.

The Proposed Action would require approximately 150 construction workers for 12 months at the beginning of the project with a 1-month peak of 250 workers. It is assumed that these workers would mostly commute to the mine site by bus plus a small number of light vehicles. It is expected that construction worker traffic would average four buses and six light vehicles at peak hours with a peak of six buses and six light vehicles for 1 month.

The proposed project would add approximately 48 employees for operations, who would be divided into crews rotating through various shift schedules. On average, the new employees would add 10 to 12 workers to inbound and outbound traffic at shift change times. As most employees currently commute by bus or 15-passenger vans, it is assumed that the proposed project would add one inbound and one outbound vehicle trip per shift change.

Considering the scale of the project, it is assumed for analysis purposes that heavy traffic would average 2 loads of fuel and 23 loads of other materials per day for a total of 50 heavy vehicle trips. It is further assumed that no more than 10 of those trips typically would occur during a peak traffic hour.

LOS is a method of qualitatively measuring the operational conditions of traffic flows on roadways, and the perception of those conditions by motorists and passengers (Transportation Research Board [TRB] 2000). LOS are rated "A" through "F"; "A" generally represents free flowing traffic conditions with few restrictions and "F" represents a "forced or breakdown" flow with queues forming and traffic volumes exceeding theoretical capacity of the roadway (TRB 2000). Generally, level "E" represents traffic volumes at the capacity of the roadway.

Based on these traffic assumptions, the proposed project would have very minimal effects on existing traffic levels in the project vicinity. On affected roadways, the LOS would remain at "A" throughout the project life.

Transportation safety concerns related to highway traffic generated by the Proposed Action would be minimal. Lines of sight at intersections are unobstructed and sight distances are ample. Development of the proposed project would have no effect on the physical characteristics of the major intersections or

SH 305. The increase in traffic would be minimal, remaining well within the capacity of the roadways as noted above. The mix of heavy vehicles in the traffic stream would not change substantively. As such, any increase in the risk of traffic accidents would be minor and proportional to the overall increase in traffic.

Based on this analysis, development of the proposed project would not significantly affect highway traffic in the mine vicinity. Any degradation in roadway safety conditions would be minimal.

Access to public and private lands in the project vicinity would be minimally affected by the proposed project.

Based on the analysis and assumptions noted above, the effects of the proposed project on land use and access in the study area would be considered minor.

### **3.11.2.2 Reona Copper Heap Leach Facility Elimination Alternative**

The Reona Copper Heap Leach Facility Elimination Alternative would be the same as the Proposed Action, except that the proposed Reona Copper HLF and associated infrastructure (i.e., solution pipelines) would not be developed. The Reona HLF (Gold) would continue to operate under current permitted authorizations. The effects on land use and access would be the same as the Proposed Action because the Reona Copper HLF would have been entirely internal to the project site where there is currently no public use or access.

### **3.11.2.3 No Action Alternative**

Under the No Action Alternative, the proposed project would not be developed, and the associated impacts to land use and access would not occur. Under this alternative, mining activities associated with the existing Phoenix Project would continue under the terms of current permits and approvals as authorized by the BLM and State of Nevada. Potential impacts to land use and access previously were discussed and analyzed in the Phoenix Project Final EIS (BLM 2002a).

The No Action Alternative is consistent with plans and policies of the BLM that designate land use within the study area as open for mineral exploration and development. Proposed mining activities on private lands are consistent with the Lander County Policy Plan for Federally Administered Lands (Lander County 2005).

### **3.11.3 Cumulative Impacts**

The CESA for land use and access is shown in **Figure 3.4-1**. The past and present actions and RFFAs are identified in **Table 2.8-1**; their locations are shown in **Figure 2.8-1**.

Past and present actions and RFFAs within the CESA have resulted, or would result, in the direct disturbance of approximately 11,390 acres of surface disturbance, of which approximately 8,165 acres have been related to mining activities, approximately 490 acres have been related to exploratory projects, and approximately 2,735 acres have been related to utilities/community actions (e.g., transmission lines, interstate highways, secondary roads, landfills). The Proposed Action incrementally would increase surface disturbance by an additional 902 acres, resulting in a cumulative disturbance of approximately 12,292 acres. It is assumed that a portion of the cumulative disturbance area has been, or would be, reclaimed, including the 902 acres associated with the Proposed Action. The total cumulative disturbance, which is predominantly related to mineral development and to a lesser degree utilities/community infrastructure, would be consistent with Lander County and BLM plans, policies, and ordinances; however, abundant public open space lands remain available for dispersed recreational opportunities. The cumulative loss of this acreage from the Copper Canyon Allotment would represent approximately 11 percent of the total area of the allotment (although not all of the mining-related disturbance has occurred on public land). Of the approximate 2,735 acres associated with

utility/community actions, it is assumed that various utility lines (i.e., telephone, gas, and transmission lines) within the CESA and any associated loss of grazing or other uses, would have been short-term and subsequently reclaimed to support prior use levels.

#### **3.11.4 Monitoring and Mitigation Measures**

No significant impacts to land use, traffic, highway safety, or access were identified; therefore, no additional monitoring and mitigation measures are recommended.

#### **3.11.5 Residual Adverse Effects**

No residual adverse effects to land use, traffic, highway safety, or access are anticipated as a result of the Proposed Action.