

5.0 CUMULATIVE IMPACTS

This chapter describes potential cumulative impacts to the environment that could occur with implementation of the Proposed Action in combination with one or more past, present, or reasonably foreseeable future actions. This chapter is prepared in accordance with the requirements of NEPA; guidance from the CEQ, Considering Cumulative Effects under NEPA; and the BLM NEPA Handbook. The CEQ regulations define a “cumulative impact” for purposes of NEPA as “incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7).

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Cumulative impacts are most likely to arise when a relationship exists between a proposed alternative and other actions that have or are expected to occur in a similar location, time period, or involving similar actions. Projects in proximity to the proposed alternatives would generally be expected to have more potential for cumulative impacts than those more geographically separated.

The cumulative setting (i.e., geographic area) applicable to a particular resource area is described in the cumulative discussion in Section 5.3.

5.1 CUMULATIVE METHODOLOGY

The following steps were taken to analyze cumulative impacts in the project study area. Because of the difficulty of defining the geographic (spatial) and time (temporal) boundaries for each resource, cumulative analyses also relied on specific significance criteria (defined in Chapter 4) determined through scoping, agency coordination, and identification of APEs for each resource. Past, present, and reasonably foreseeable future actions that would be applicable to the Proposed Action and the project study area were identified. The list of projects and brief descriptions of each are in Section 5.2. To determine whether the impacts of any past, present, or reasonably foreseeable future actions in combination with the proposed alternatives would have a cumulative impact on a particular resource, the list of projects (actions) was reviewed. The environmental impacts associated with each proposed alternative were reviewed collectively to determine the significance of the cumulative impacts for each resource area. The potential cumulative impacts for each resource area are in Section 5.3.

As stated, significance varies depending on the context (e.g., the setting) of a proposed action and the intensity of impacts (40 CFR 1508.27). In other cases (e.g., air quality or wetlands), measures of significance have a basis for analysis related to regulatory mandates. It is important to note that the potential cumulative impacts to many resources are not quantifiable. In such cases, qualifiable criteria were used to assess resource impacts. Uncertainties relating to the potential for cumulative impacts are stated in the text.

5.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Past, present, and reasonably foreseeable future actions are defined and discussed in the following sections. Actions discussed in these sections may have overlapping impacts on resources affected by the Proposed Action and are therefore included in the cumulative impacts analysis. Table 5.2-1 summarizes the actions that are presented later in more detail, and is not an exhaustive list of projects in the region of influence. The information in the table can be used to help understand the relative magnitude of representative activity known at this time.

**Table 5.2-1
Surface Disturbance of Past, Present, and Reasonably Foreseeable Future Actions**

Project	Surface Disturbance (acres)	Estimated Construction Duration (years)*	Surface Disturbance (acres per year)
Past			
BLM Las Vegas RMP Revision	N/A	N/A	N/A
Acciona Solar One Power Plant	400	N/A	N/A
Clark County MSHCP	7,334	N/A	N/A
Clark County Regional Flood Control Projects	1,508	N/A	N/A
Clark County Shooting Park	2,925	N/A	N/A
Frehner Construction Sloan Quarry	38	N/A	N/A
Fotowatio Apex Solar Power Project	84	N/A	N/A
Henderson Open Space and Trails Plan	52	N/A	N/A
I-215 Improvement Projects–Northern Beltway	1,065	N/A	N/A
I-215 Improvement Projects–Western Beltway	373	N/A	N/A
Lone Mountain Community Pit	28	N/A	N/A
M Resort and Casino	90	N/A	N/A
Nellis Dunes Off-Road Park	1,211	N/A	N/A
Sloan Canyon NCA RMP and North McCullough Wilderness Management Plan	N/A	N/A	N/A
Temporary Rock Crushing Operation	32 N/A		N/A
U.S. Army Reserve Training Facility, Sloan, Clark County, Nevada	34 N/A		N/A
Past Total	15,174	—	—

**Table 5.2-1
Surface Disturbance of Past, Present, and Reasonably Foreseeable Future Actions**

Project	Surface Disturbance (acres)	Estimated Construction Duration (years)*	Surface Disturbance (acres per year)
Present			
BLM Las Vegas RMP Implementation	N/A	NA	N/A
Clark County Regional Flood Control Projects	125 1.5		83.3
Fotowatio Apex Solar Power Project	85	1	85
Frehner Construction Sloan Quarry	25	1.5	16.7
Henderson Open Space and Trails Plan	50 1.5		33.3
I-15 Sloan Interchange	25	3	8.3
I-15 Widening from Sloan to SR 160	45	3	15
I-215 Improvement Projects– Northern Beltway	408 1.5		272
I-215 Improvement Projects– Southern Beltway	223 1.5		148.7
Las Vegas Boulevard Widening from Sloan to Blue Diamond	47 3		15.7
Lone Mountain Community Pit	28	1.5	18.7
Nevada Army National Guard Readiness Center	7	1.5	4.7
Nextlight Renewable Power, LLC, Silver State Solar Project Phase I	2,967 3		989
Sloan Canyon NCA RMP and North McCullough Wilderness Management Plan Implementation	N/A	N/A	N/A
Southern Nevada Regional Heliport	229	6	38
Temporary Rock Crushing Operation	32 2		16
U.S. Army Reserve Training Facility, Sloan, Clark County, Nevada	45 1.5		30
Upper Las Vegas Wash Conservation Transfer Area Implementation	N/A	N/A	N/A
Present Total	4,341	—	—

**Table 5.2-1
Surface Disturbance of Past, Present, and Reasonably Foreseeable Future Actions**

Project	Surface Disturbance (acres)	Estimated Construction Duration (years)*	Surface Disturbance (acres per year)
Future			
BLM Las Vegas RMP Implementation	Unknown	Unknown	Unknown
Clark County MSHCP Amendment Implementation	215,000 50		4,300
Clark County Regional Flood Control Projects	1,012 30		33.73
Desert Xpress Rail Line	404	2	202
Duke Energy, Searchlight Wind Project	24,400 3		8,133
Frehner Construction Sloan Quarry	12	30	0.4
Henderson Open Space and Trails Plan	173 30		5.8
Lone Mountain Community Pit	27	2	13.5
LVVWD Sloan 2745 Zone Reservoir And 3205 Zone South Pumping Station	30 1		30
Moapa Band of Paiutes Solar Project	650 1.5		433.3
Nextlight Renewable Power, LLC, Silver State Solar Project Phases II and III	5,000 1.5		3,333
Sheep Mountain Parkway	290	1	290
Sloan Canyon NCA RMP and North McCullough Wilderness Management Plan Implementation	N/A	N/A	N/A
Southern California Edison Eldorado Ivanpah Transmission Project	344 3		115
Southern Highlands Casino, Resort and Spa	100 1		100
Southern Nevada Regional Heliport	229	6	38
Southern Nevada Supplemental Airport	5,834 2		2,917
Upper Las Vegas Wash Conservation Transfer Area Implementation	N/A	N/A	N/A
Future Total	235,505	—	—

**Table 5.2-1
Surface Disturbance of Past, Present, and Reasonably Foreseeable Future Actions**

Project	Surface Disturbance (acres)	Estimated Construction Duration (years)*	Surface Disturbance (acres per year)
Sloan Hills Competitive Mineral Material Sales			
Alternative 1	341.3	1.5	227.5
Alternative 2	221.2	1.5	147.5
Alternative 3	126.9	1.5	84.6
Alternative 4	286.1	1.5	190.7
No Action Alternative	0	0	0

* The construction timeline of some projects is unknown at this time because these projects are dependent on economic recovery in the Las Vegas Valley and market demand.

5.2.1 Past Actions

For purposes of this analysis, past actions are projects that are recently completed (e.g., within the past 3 years) or are anticipated to be completed prior to issuance of the ROD for this Proposed Action. For the purpose of the proposed project, past actions are described by their aggregate effect as opposed to analyzing effects of each past action (CEQ, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005). The location of past actions discussed in this section is shown on Figure 5.2-1.

Clark County encompasses nearly 8,000 square miles and includes five incorporated cities (Henderson, North Las Vegas, Las Vegas, Mesquite, and Boulder City). The population of Clark County increased more than 80 percent between 1990 and 2006, from approximately 770,000 to an estimated 1.9 million. While most of this growth has been centered in Las Vegas, other areas of Clark County have also experienced population increases, particularly Henderson. Since 2007/2008, however, development has slowed due to the economic recession.

Past development in the vicinity of the Proposed Action includes adoption of the Sloan Canyon Natural Conservation Area RMP and North McCullough Wilderness Management Plan in May 2006. The plan was adopted in 2006, but implementation of the plan will occur over the next 10 to 20 years. In southern Henderson, the new the 390-room M Resort and Casino opened in Spring 2009. The resort is located on 90 acres at the corner of Las Vegas Boulevard and St. Rose Parkway.

Past actions include construction aggregate and sand gravel mining and crushing operations have on approximately 90 acres within Clark County. The Nellis Dunes Off-Road Park and Clark County Shooting Park were constructed on a total of 4,136 acres. Other past actions include improvements to I-

215, Clark County Regional Flood Control District projects, and implementation of the Henderson Open Space and Trails Plan on a total of 1,490 acres.

Cumulatively, these projects have created the current environmental condition, which is the baseline for this analysis.

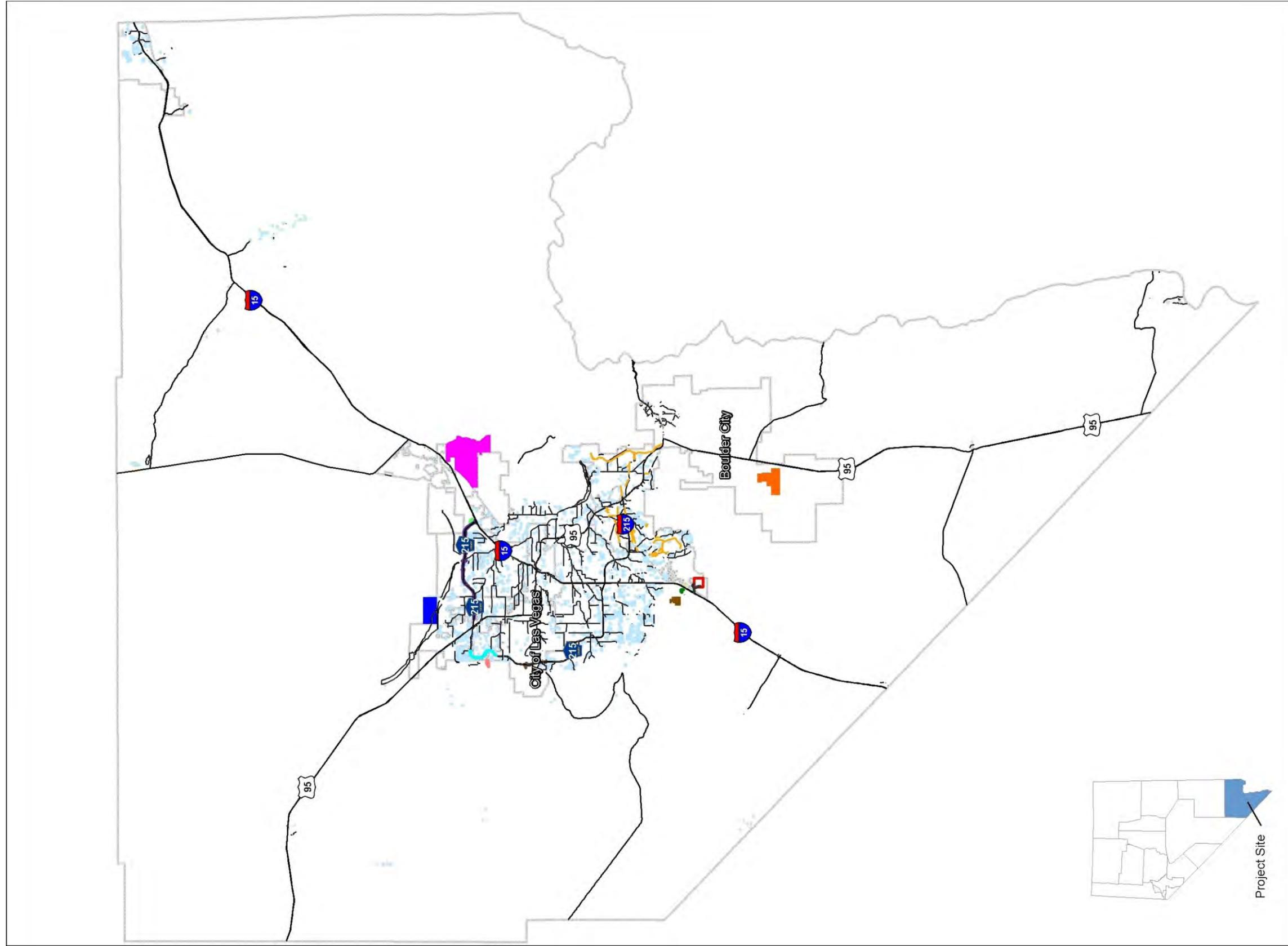
5.2.2 Present Actions

For purposes of the cumulative effects analysis, “current” refers to projects that will be under construction after the ROD is issued for the Proposed Action and before mining operations commence (i.e., site development phase) and is used synonymously with “present.” The location of present projects discussed in this section is shown in Figure 5.2-2.

A temporary rock-crushing operation is located on the east side of Las Vegas Boulevard South and the north side of Sloan Road. The rock-crushing operation is processing piles of rock and other material moved to the site during the construction of the Mandalay Bay Resort Hotel. The approximately 32-acre site will be used for temporary construction storage and rock crushing, and it is anticipated that the operation will cease in the next year and a half to two years (2011/2012). Other current mining projects include the Frehner Construction Sloan Quarry and the Lone Mountain Community Pit that mine sand and gravel and construction aggregates.

There are several current roadway and flood control projects covering a total of 1,761 acres occurring in Clark County. These include the I-15 Sloan Interchange; I-15 widening from Sloan to SR 160; I-215 Northern and Southern Beltway Improvement projects; widening of Las Vegas Blvd. from Sloan to Blue Diamond; and Clark County Regional Flood Control District projects. Two solar power generation projects, the Fotowatio Apex Power Plant and the Nextlight Silver State Solar Project Phase I are occurring on 3,121 acres.

Other current projects include the U.S. Army Reserve Training Facility (45 acres) and the Nevada Army National Guard Readiness Center (7 acres). Additionally, there are several approved master-planned communities in Henderson and in unincorporated Clark County where development is still ongoing, although due to the economic recession, the rate of development has slowed considerably. Because these projects will continue development into the future, they are listed below under Reasonably Foreseeable Future Actions.



Proposed Sloan Hills Competitive Mineral Material Sales Environmental Impact Statement

**Figure 5.2-1
Past Projects**

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Henderson Open Space and Trails Plan
- Clark County Regional Flood Control District Projects
- Boulder City Renewable Energy Projects
- Clark County MSHCP
- Clark County Shooting Park
- Frehner Construction Sloan Quarry
- Lone Mountain Community Pit
- Nellis Dunes Off-Road Park
- Northern Beltway
- Temporary Rock Crushing Operation
- U.S. Army Reserve
- U.S. Army Reserve Training Facility, Sloan
- Western Beltway

1 inch = 10 miles

10 5 0 10 Miles

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

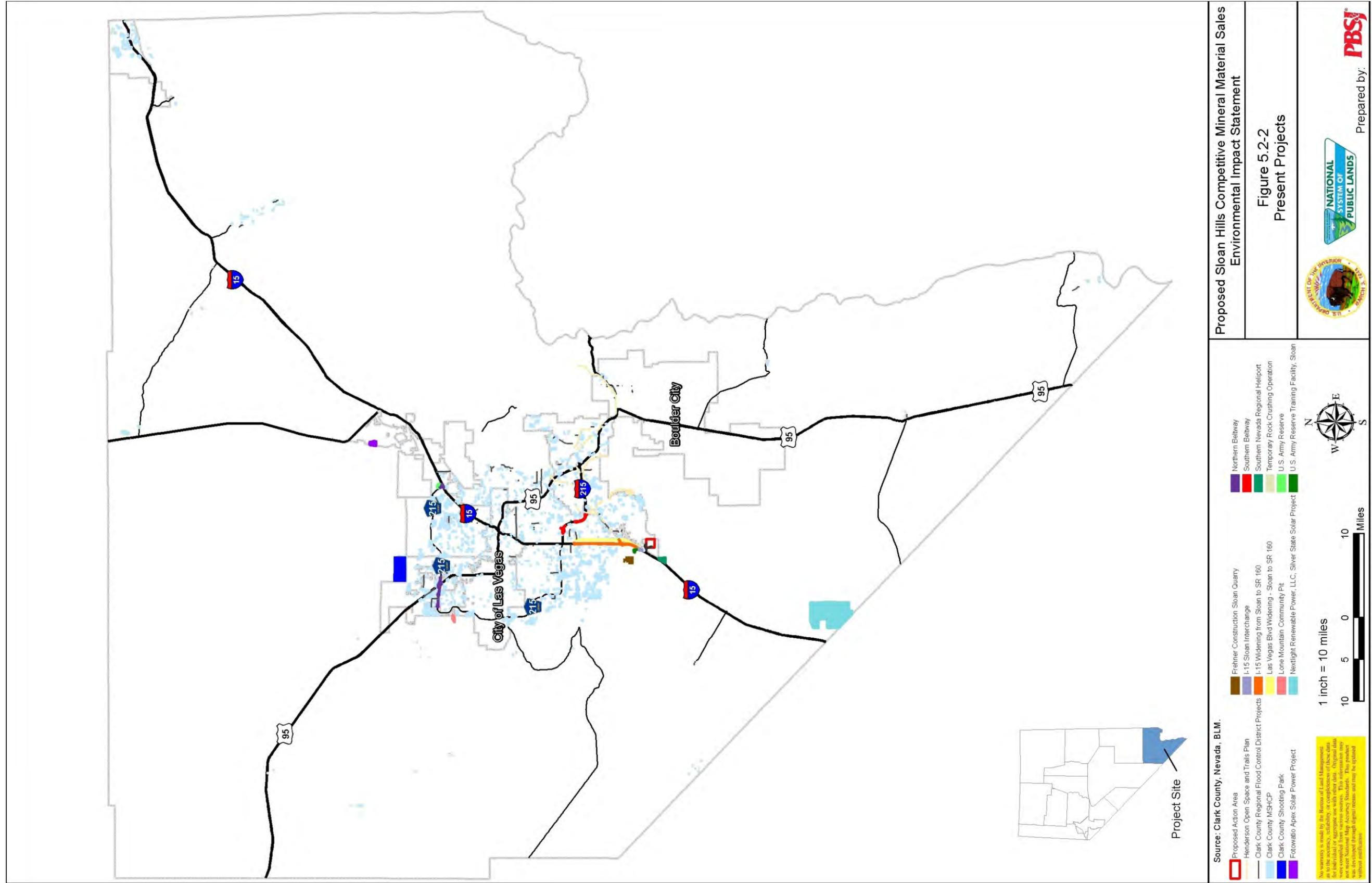
NATIONAL SYSTEM OF PUBLIC LANDS

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5.2.3 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include projects that are likely to commence after the site development phase and during the proposed mining operations. Reasonably foreseeable future actions should not be limited to those that are approved or funded; however, there is no requirement to address speculative actions (BLM, 2008). During coordination to identify reasonably foreseeable actions, specific criteria were used to aid in identifying relevant activities:

- Is there an existing proposal (e.g., permit applications)?
- Is there a commitment of resources (e.g., funding)?
- Is there a pending federal action (e.g., published Notice of Intent)?

Projects identified as reasonably foreseeable future actions are described below and shown in Figure 5.2-3.

Bureau of Land Management Las Vegas Resource Management Plan Revision

The BLM Southern Nevada District, Las Vegas Field Office, and Pahrump Field Office are revising their RMP. This plan revision would cover all lands administered by the BLM in the Las Vegas Area. The draft EIS is currently being prepared and public comments collected.

Clark County Multiple Species Habitat Conservation Plan Amendment

Clark County is amending its current Multiple Species Habitat Conservation Plan to include up to an additional 215,000 acres for development in the county through 2060. The Plan would streamline the process for development on private lands in Clark County by setting up a mechanism to allow development to occur while addressing issues with protected plant and animal species. Clark County and the USFWS are currently developing the EIS for this plan revision. The Final EIS and ROD are expected in late 2011.

Clark County Regional Flood Control District Projects

The Clark County Regional Flood Control District has planned projects within Clark County to provide for flood control. These projects are anticipated to develop approximately 126 acres in multiple locations.

DesertXpress Rail Line

The DesertXpress is a proposed high-speed rail line from Victorville, California, to Las Vegas. The rail line would largely follow the I-15 alignment and would include passenger stations in Victorville and Las Vegas. The DesertXpress is designed to alleviate congestion along I-15 and meet demand for travel between southern California and Las Vegas. The Federal Railroad Administration signed the Draft EIS in 2008. A Final EIS is expected in 2011.

Duke Energy, Searchlight Wind Energy Project

The Searchlight Wind Energy Project is proposed on approximately 24,400 acres of BLM-administered land near Searchlight. Once completed, this facility would generate up to 370 megawatts of electricity from 140 wind turbine generators. The project would require access roads, an overhead transmission line, two substations, staging areas, and other facilities. The release date of the Draft EIS for this project is unknown at this time.

Frehner Construction Sloan Quarry

The Frehner Construction Sloan Quarry is an existing construction aggregates quarry located in the Sloan area. The EA was completed in 2006 and the quarry is expected to run through 2016 and will disturb a total of 75 acres over the life of the project.

Bureau of Land Management Las Vegas Resource Management Plan Revision

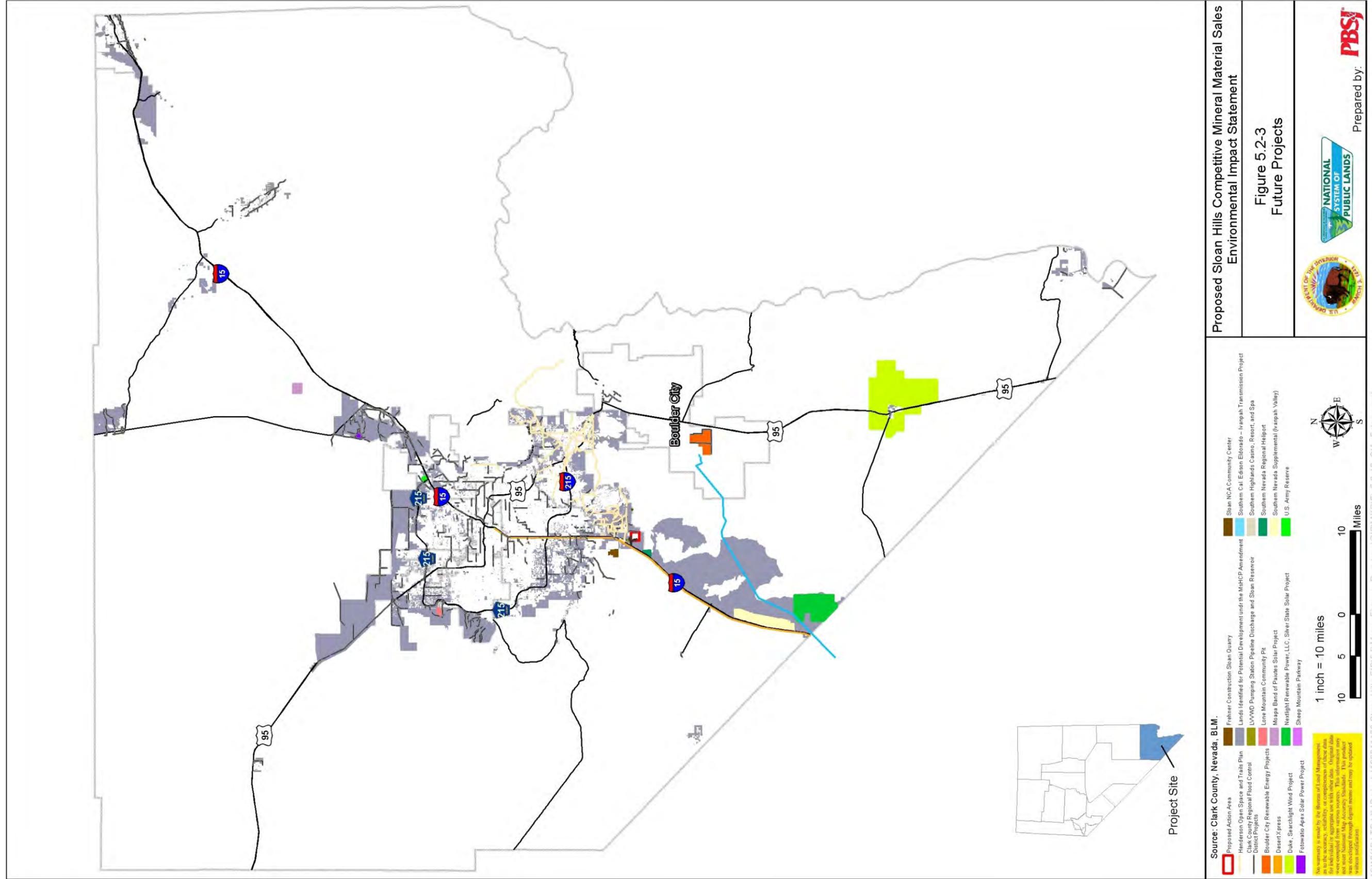
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Henderson Open Space and Trails Plan

The proposed Henderson Open Space and Trails Plan includes 2,350 acres of land set aside for future undeveloped open space and trails. Approximately 170 miles of trails are proposed throughout the city for bicycles, pedestrians, and equestrians. Of the trails to be developed, three (Anthem East Trails, St. Rose Parkway Trails, and McCullough Hills Trail connection) are located relatively close to Sloan Canyon and the proposed project site. The Anthem East Trails is a 10-mile project of hiking and bicycling trails. The approximately 6-mile St. Rose Parkway trails will connect the existing I-215 trail system to the Amargosa Trail, the future West Henderson trail system, and the Clark County Regional Trail systems. The McCullough Hill Trail connection is a 7-mile trail system that is part of a larger system that will eventually connect Boulder City, Henderson, and the Lake Mead National Recreation Area.

Lone Mountain Community Pit

The Lone Mountain Community Pit is owned by Nevada Ready Mix and Las Vegas Paving Corporation. Sand and gravel and construction aggregates are mined at the pit. Total acreage of the pit is approximately 83 acres.

Las Vegas Valley Water District Sloan 2745 Zone Reservoir and 3205 Zone South Pumping Station

The LVVWD has proposed to construct approximately 18,400 linear feet of a 48-inch-diameter pipeline and a 10 million-gallon, below-grade concrete reservoir to provide water services to areas in southern Clark County. The 30-acre site would be located in Henderson just northwest of the project site. The construction schedule cannot be accurately projected at this time.

Moapa Band of Paiutes Solar Project

The Moapa Band of Paiutes Solar Project is a concentrating solar project of up to 100 megawatts located on the Moapa River Indian Reservation. The project will tie into the adjacent transmission corridor on BLM-administered land.

NextLight Renewable Power, LLC, Silver State Solar Project

The Silver State Solar Project is proposed on 2,967 acres approximately 40 miles south of Las Vegas and 2 miles east of Primm. This facility would generate 400 megawatts of electricity using photovoltaic solar arrays. The Draft EIS for this project is available; the date of availability for the Final EIS is not known.

Sheep Mountain Parkway

Sheep Mountain Parkway is a roadway to approximately 22 miles in length to be constructed from U.S. 93 in the north Las Vegas Valley to the Clark County 215 Beltway and would provide a link between U.S. 93, U.S. 95, and I-15.

Sloan Canyon National Conservation Area Resource Management Plan and North McCullough Wilderness Management Plan

Implementation of the Sloan Canyon NCA RMP includes future construction of a road along the northern portion of the NCA to provide access to future trailheads, overlooks, and the canyon itself. The RMP also includes future construction of a visitor center and trails throughout the NCA. The timing and construction of these improvements have not yet been defined.

The North McCullough Wilderness Management Plan provides direction for the management of resources and activities in the North McCullough Wilderness Area to ensure the preservation of the existing wilderness character.

Southern California Edison Eldorado–Ivanpah Transmission Project

Southern California Edison is proposing a 220/115-kilovolt substation near Primm, Nevada, along with upgrades to 35 miles of existing transmission line to provide facilities and capacity to access and deliver power from renewable resources to southern California and Nevada. The 35-mile transmission line

upgrade would occur between Boulder City and the Ivanpah substation. The Draft EIS was released in April 2010. It is anticipated that the project will be constructed and be in service by 2013.

Southern Highlands Casino, Resort, and Spa

The Southern Highlands Casino, Resort, and Spa is proposed on 100 acres along South Las Vegas Boulevard and St. Rose Parkway, east of I-15 in Henderson. Once completed, this resort will include 3,200 rooms, a casino, and other related amenities. Construction has not yet begun on this project, and the timeline for completion is uncertain.

Southern Nevada Regional Heliport

The Southern Nevada Regional Heliport would be located approximately 20 miles south of Las Vegas on a 229-acre site east of I-15, about 6 miles south of St. Rose Parkway. The heliport site would be developed in phases through 2017 to accommodate up to 111 based helicopters. The Federal Aviation Administration issued their Finding of No Significant Impact–Record of Decision for this project in February 2009, and construction is anticipated to be completed in 2017.

Upper Las Vegas Wash Conservation Transfer Area

The Upper Las Vegas Wash Conservation Transfer Area would allow the BLM to dispose of approximately 46,700 acres of land in the north Las Vegas Valley to allow for future growth. The Draft SEIS was completed in January of 2010. The date of the final SEIS is currently unknown.

5.3 POTENTIAL CUMULATIVE IMPACTS

The cumulative impacts of past, present, and reasonably foreseeable future actions in conjunction with the Proposed Action would have short-term and long-term impacts to environmental resources. These impacts would range in severity.

5.3.1 Air Resources

The geographic area used to analyze cumulative impacts on air quality is the Las Vegas Valley Colorado River Basin Hydrographic Area (Hydrographic Area 212) (Figure 5.3-1). Air quality impacts throughout the Proposed Action area would result from construction and operation of Proposed Action due to the operation of heavy construction vehicles and mining and processing equipment and blasting activities. Implementation of mitigation measures that have been proposed would limit the potential air quality effects of short-term construction and long-term operational activities on sensitive receptors.

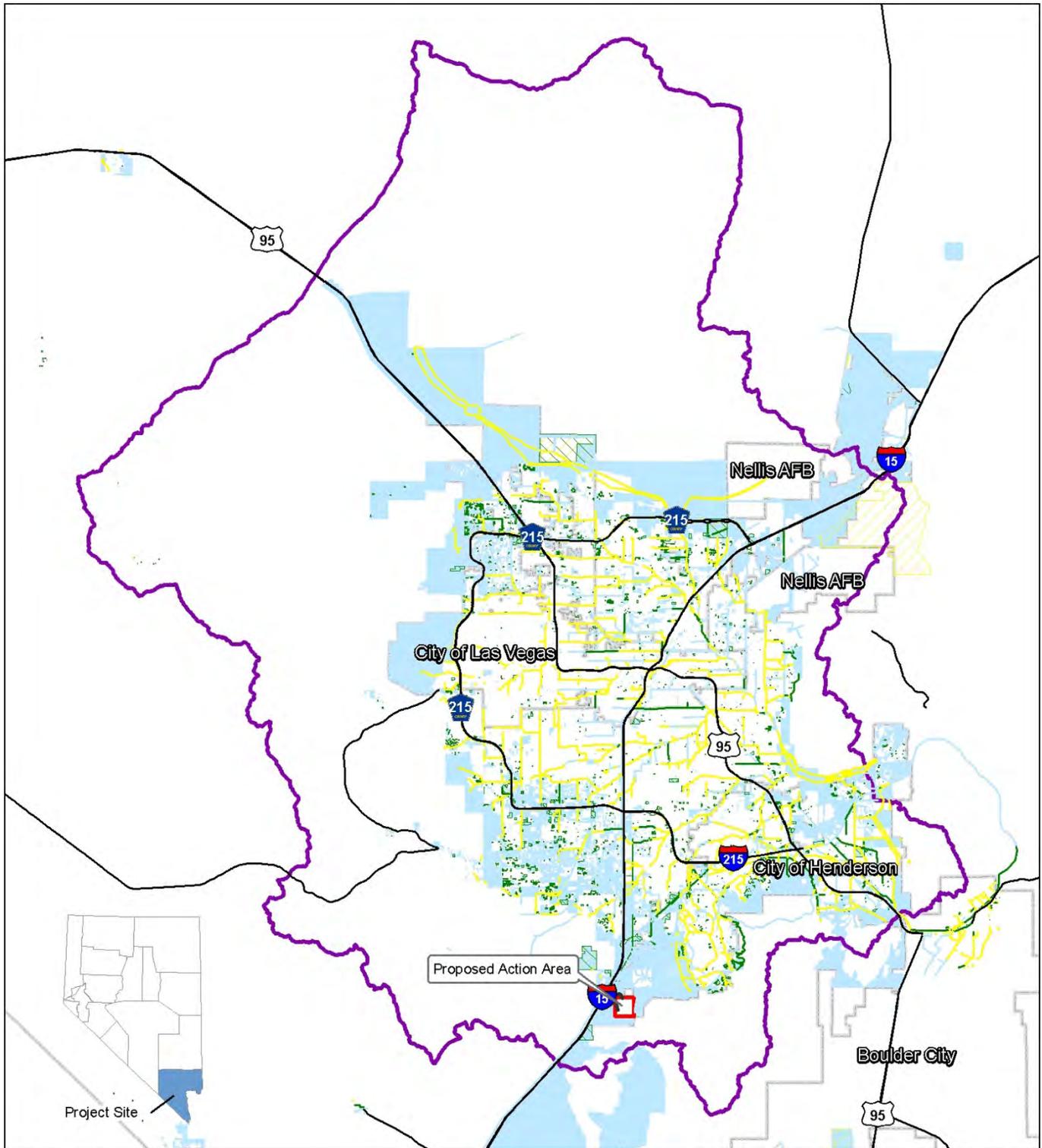
Short-term construction and long-term operational impacts to air quality will result from a number of the projects listed in Section 5.2. Of the future projects, the I-15 corridor projects would be the most likely to contribute to short-term cumulative air impacts. However, it should be noted that the Proposed Action and the other projects would be required to comply with the Clark County Air Quality Regulations and the

State Implementation Plans. Regardless, the implementation of the Proposed Action and/or Project alternatives and the past, present, and future projects listed in Table 5.2-1 will result in short-term air quality impacts. Proposed mitigation measures and phasing would help lessen short-term impacts. It should be noted that the Proposed Action and the other projects would be required to comply with the Clark County Air Quality Regulations and the State Implementation Plans.

Long-term moderate cumulative air quality impacts could potentially occur from the combined operation of the mining alternatives, the Southern Nevada Regional Heliport, and the I-15 projects. Helicopter emissions, combined with emissions from increased highway traffic in the project vicinity resulting from the proposed I-15 projects, emissions from the Proposed Action and/or Project alternatives and the other past, present, and future projects listed in Table 5.2-1, would likely result in undesirable pollutant levels for nearby sensitive receptors. The implementation of operational mitigation measures (AQ1 through AQ10, refer to Section 4.1.9) would, overall, reduce long-term air impacts. It should be noted that the Proposed Action and the other projects would be required to comply with the Clark County Air Quality Regulations and the State Implementation Plans. The Air Quality Regulations have been established, in part, to account for potential cumulative effects of multiple construction projects in the Las Vegas Valley.

Greenhouse gas emissions are of concern on a cumulative level because individual projects do not produce enough emissions to influence climate change. The emissions of greenhouse gases from the Proposed Action and the project alternatives are predominantly from the operation of onsite equipment during mining activities; these include direct source emissions from vehicles used to transport material off site, mining and processing equipment used on site, generators, and employee commuting. Indirect sources of emissions attributable to the Proposed Action include greenhouse gas emissions from electricity use to power on site electrical equipment, lighting, and to pump water for operational activities.

The EPA's Mandatory Reporting of Greenhouse Gases Final Rule (74 FR 56260, October 2009) requires reporting of greenhouse gas emissions for stationary sources that directly emit 25,000 metric tons or more of carbon dioxide equivalents (MTCO₂e) per year. The proposed alternatives' contribution to global climate change is estimated between 3,300 and 6,300 MTCO₂e depending on the alternative selected (Alternative 1: 6,261 MTCO₂e, Alternative 2: 3,391 MTCO₂e, Alternative 3: 4,199 MTCO₂e, and Alternative 4: 3,646 MTCO₂e), which is well below the EPA's reporting threshold. Because project emissions are below this reporting level, the project-level contribution to cumulative greenhouse gas impacts does not warrant further evaluation.



Source: Clark County, Nevada, BLM.

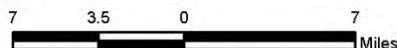
- Proposed Action Area
- Jurisdictional Boundary
- Air Quality Analysis Area
- Present Projects
- Past Projects
- Future Projects

Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-1
Cumulative Impact Analysis Area
for Air Quality

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1 inch = 7 miles



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5.3.2 Earth Resources

The geographic area used to analyze cumulative impacts on geological resources is the Las Vegas Valley physiographic feature (Figure 5.3-2). The Proposed Action would have an impact on the topography of the area through excavation of mineral material. Development and construction from other projects in the region may contribute to further changes in the natural topography. Grading and terracing of hills and mountains for residential developments and golf courses, combined with the proposed mining operations, would affect the overall landscape. Areas that are currently rolling hills and mountains would be terraced and/or reduced in elevation, resulting in a major cumulative effect on topography.

Implementation of the Proposed Action would result in the potential for increased soil erosion. Disturbance of surface soils would occur during construction of the projects considered in this cumulative impacts analysis process. Compliance with erosion, stormwater, and water quality BMPs, and air quality requirements during construction is required throughout Clark County and would minimize the impacts.

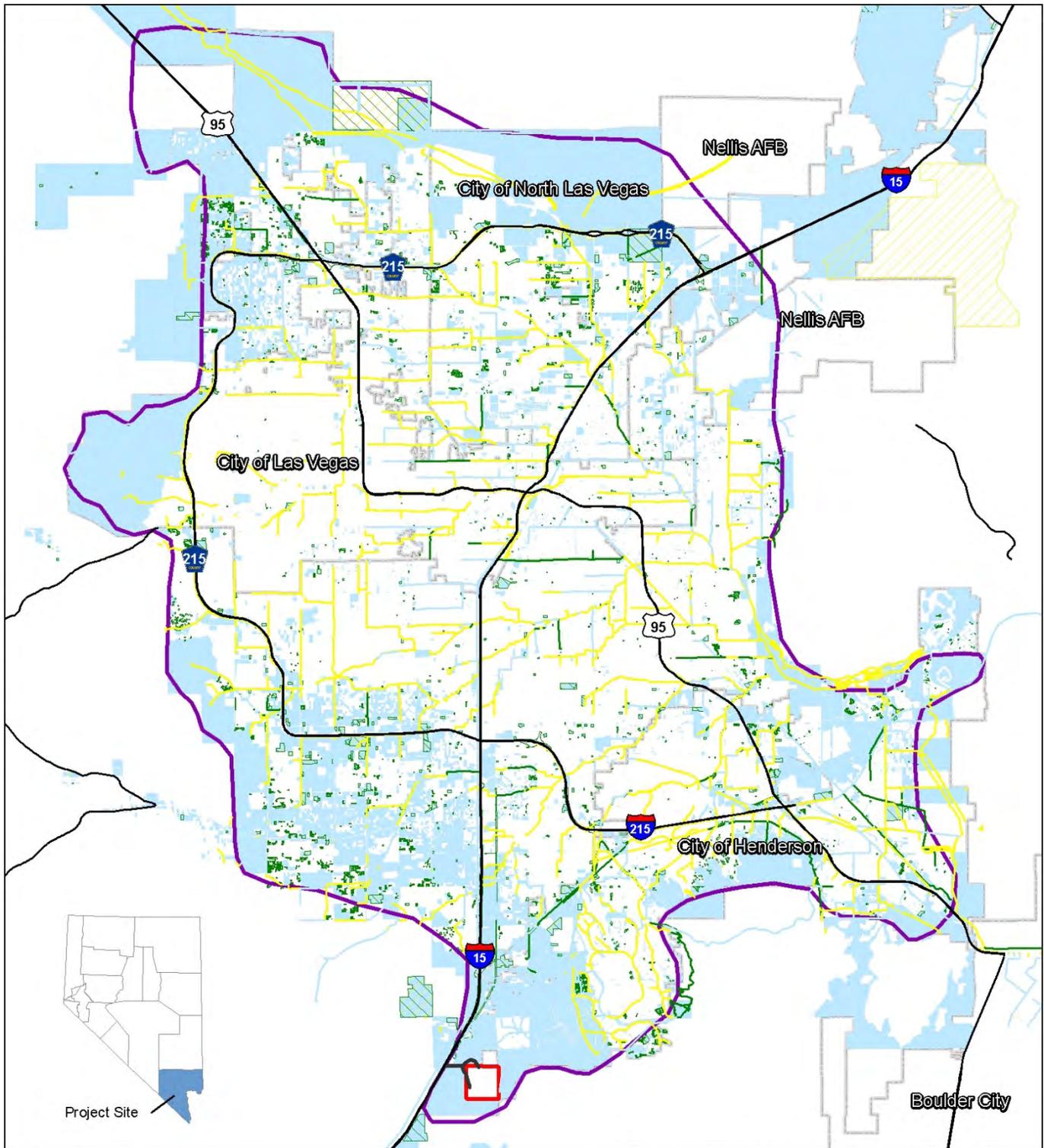
Overall, the past, present, and foreseeable projects would have a minor cumulative impact on surface soils.

5.3.3 Biological Resources

5.3.3.1 Vegetation

The geographic area used to analyze cumulative impacts on vegetation is Clark County (Figure 5.3-3). Although it consists of a variety of vegetation community types, Clark County was selected for the analysis to adequately address wildlife corridors and habitat connectivity. The cumulative effect of past, present, and future projects on vegetation within and in the vicinity of the Proposed Action area would include the removal of more than 273,000 acres of natural desert vegetation, of which a large proportion would be Mojave Desert Scrub. This would permanently remove approximately 8 percent of the Mojave Desert Scrub, or approximately 6 percent of all natural vegetation communities in Clark County. Some localized populations of plant species could be eradicated. Additional vegetation impacts would include a reduction in the local gene pool for many species, which could increase populations' susceptibility to extinction as a result of severe environmental events. Construction activities would cause increases in fugitive dust emissions and reductions in the air quality of the region, which could impact photosynthesis and respiration of plants, causing stunted growth and/or reduced reproduction rates.

Construction activities would also increase traffic through natural desert environments, potentially importing noxious weed seeds into the region. Construction would also increase disturbance to soils, creating suitable environs for noxious weeds to invade and spread.



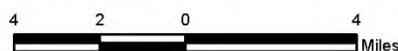
Project Site

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Earth Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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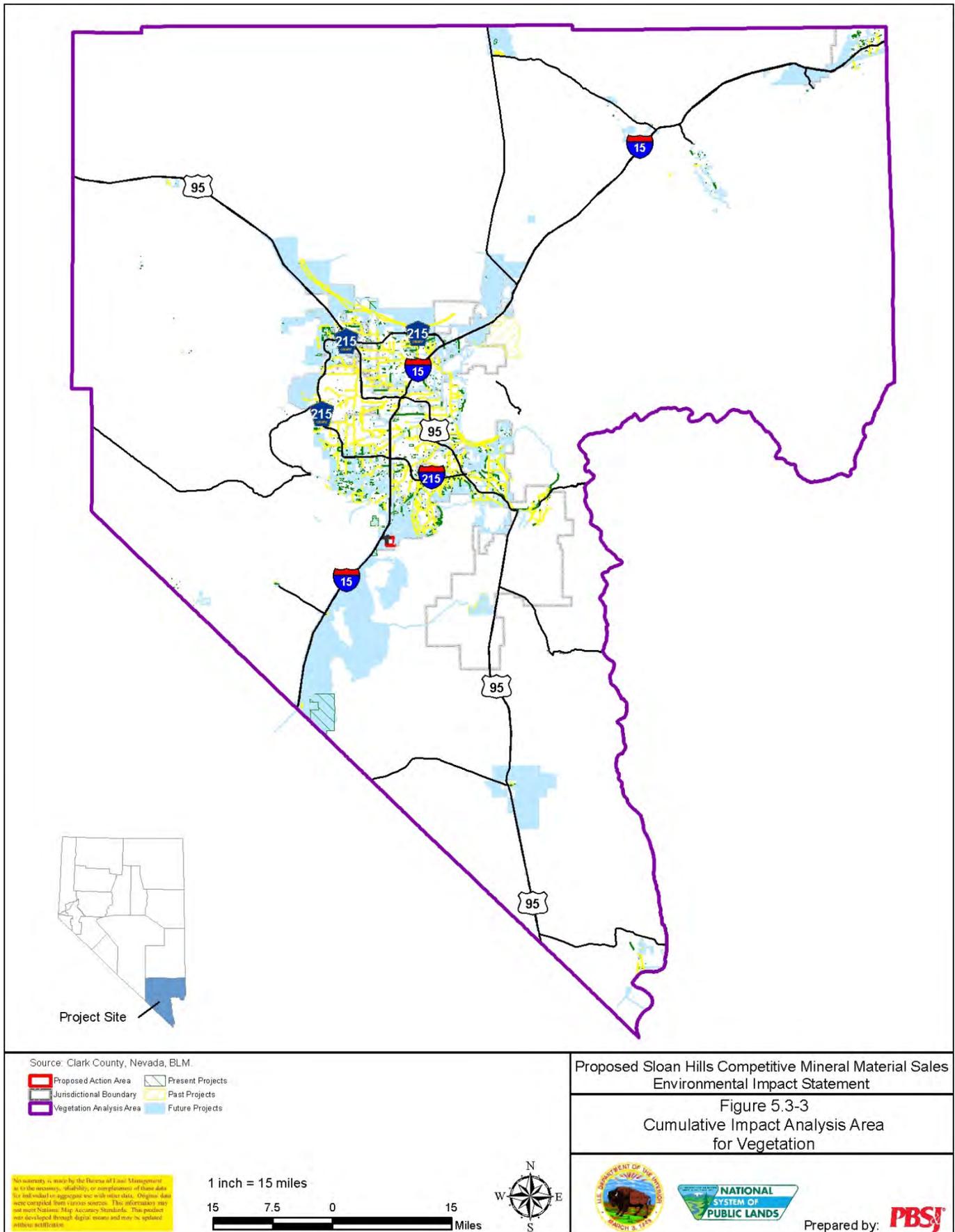
Proposed Sloan Hills Competitive Mineral Material Sales Environmental Impact Statement

Figure 5.3-2
Cumulative Impact Analysis Area
for Earth Resources



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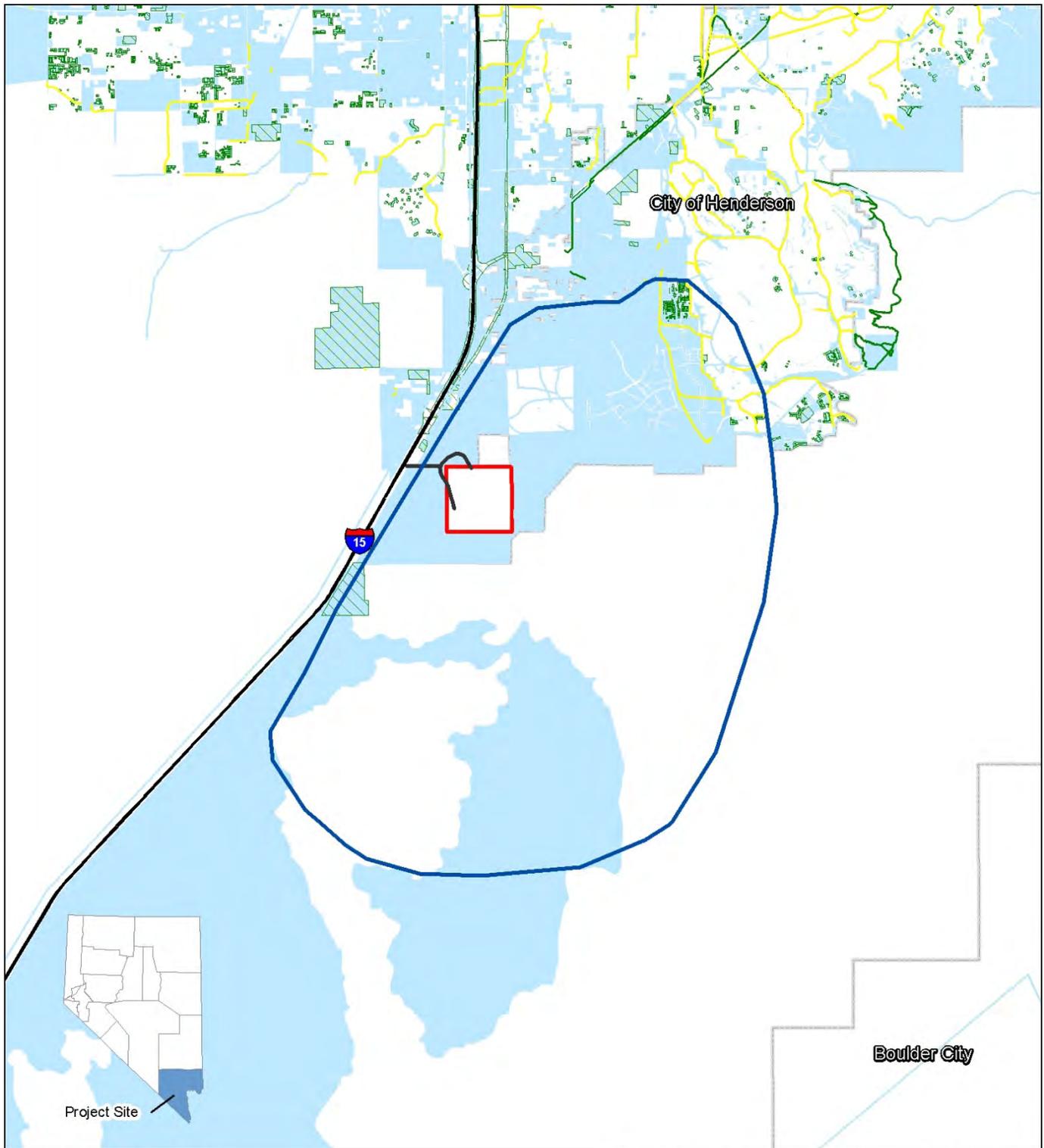


Compliance with federal, state, and local regulations requires impacts to threatened or endangered plant species be avoided or mitigated. Additionally, a substantial portion of the land in Clark County is already managed for the conservation of natural resources, including vegetation. Protected areas include designated wilderness, ACECs, wildlife refuges, state parks, and some recreation areas. Adherence to regulations in conjunction with the preservation of large tracts of land in Clark County would reduce the likelihood that species or populations would become extinct in the foreseeable future. Cumulatively, projects discussed in Section 5.2 would have moderate, long-term impacts to vegetation.

5.3.4 Wildlife

The geographic bounds used to analyze cumulative impacts on wildlife are generally defined by physical barriers and habitat features necessary to meet a species' individual, group or locally distinct population's needs (Figure 5.3-4). Relevant considerations are changes to existing or new physical barriers to wildlife use areas and movement pathways also indicative of effects to regional habitat carrying capacity relative to home range requirements by species intolerant to land use changes. For this analysis, I-15 and urban development represent relatively recent historical and present physical barriers to movement of large, far-ranging wildlife like desert bighorn sheep at least to the north and west. The local bighorn sheep population is representative of the most widely-ranging terrestrial species in numbers that uses the Proposed Action area (only the mountain lion which is present in fewer numbers has a larger habitat area requirement) and will be used to define the eastern and southern boundaries (see Section 4.3 and Figure 4.3-1). A geographic area was not assigned to avian species due to the difficulty of assigning a geographic boundary to the majority of migratory species potentially affected.

Construction of each project listed in Section 5.2 would cumulatively result in the permanent removal of approximately 273,000 acres of habitat along with the consequences to affected wildlife species. If unable to safely disperse, some animals including threatened and/or endangered species could be killed or injured during construction and to a lesser degree during operations. Because the Las Vegas Valley is bounded by mountain ranges and has become a major residential, industrial, and transportation center, dispersal of most individuals representing locally affected terrestrial wildlife outside of the Las Vegas Valley is unlikely (with some exception to most avian species and bighorn sheep).



Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Wildlife Analysis Area
- Present Projects
- Past Projects
- Future Projects

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

1 inch = 2 miles



Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-4
Cumulative Impact Analysis Area
for Wildlife



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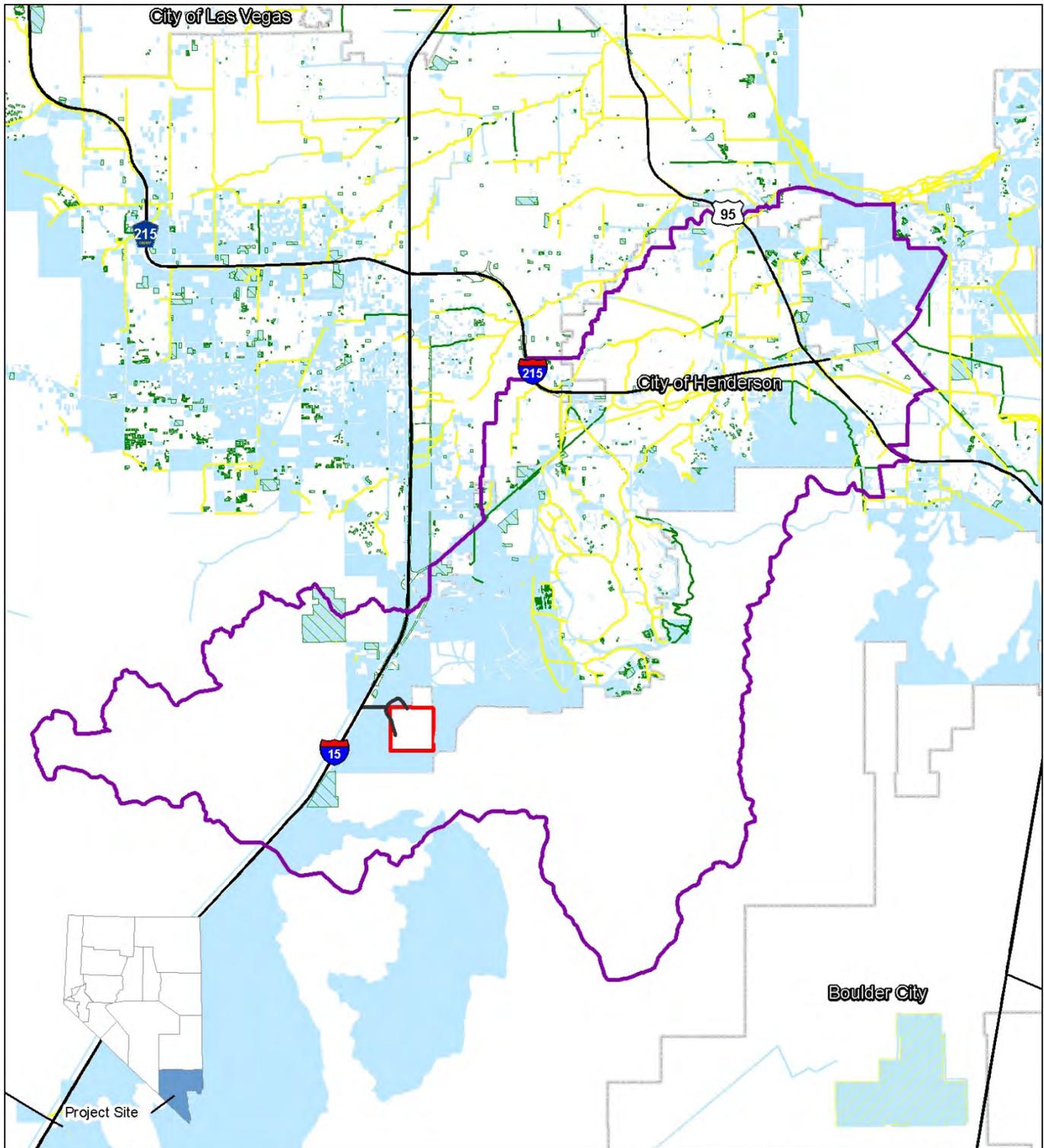
The cumulative impact of development projects in the vicinity would cause wildlife populations in the Las Vegas Valley to become further depressed as more land is developed and the carrying capacity of available habitats remains static or lessened. Depending on the scale of effects considered overall, resulting impacts are largely uncertain as to the potential for significantly adverse effects. Over time, some populations could become extirpated (i.e., completely lost); however, compliance with federal, state, and local regulations requires impacts to special status species including threatened or endangered wildlife be avoided, minimized, or otherwise mitigated.

Permanent loss of wildlife habitat coincident to the permanent conversion of natural desert landscapes and open space recreational areas into urbanized, developed areas would be the result of projects listed in Section 5.2, including the Proposed Action and project alternatives.

5.3.5 Water Resources

The geographic area used to analyze cumulative impacts on surface water is defined as the Pittman Watershed (Figure 5.3-5). The geographic area used to analyze cumulative impacts on groundwater resources is defined as the Las Vegas Valley Groundwater Basin (Figure 5.3-6). The criteria used to assess cumulative impacts generally comply with accepted standards and regulatory guidance, including:

- Standards for stormwater and wastewater quality and any state water quality standards or regulations
- Minimizing alterations to existing drainage patterns to reduce impacts resulting from surface water runoff
- Minimizing actions that would degrade surface and groundwater quality
- Avoiding violations to any federal, state, or local groundwater quality standards (e.g., source water protection mission of EPA's Office of Ground Water and Drinking Water and in accordance with state standards)
- Avoiding depleting groundwater supplies or interfering with groundwater recharge to avoid a net deficit in aquifer volumes or lowering the groundwater table level
- USACE regulations
- Executive Order 11990, Protection of Wetlands

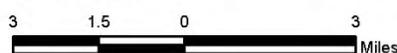


Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Surfacewater Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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1 inch = 3 miles



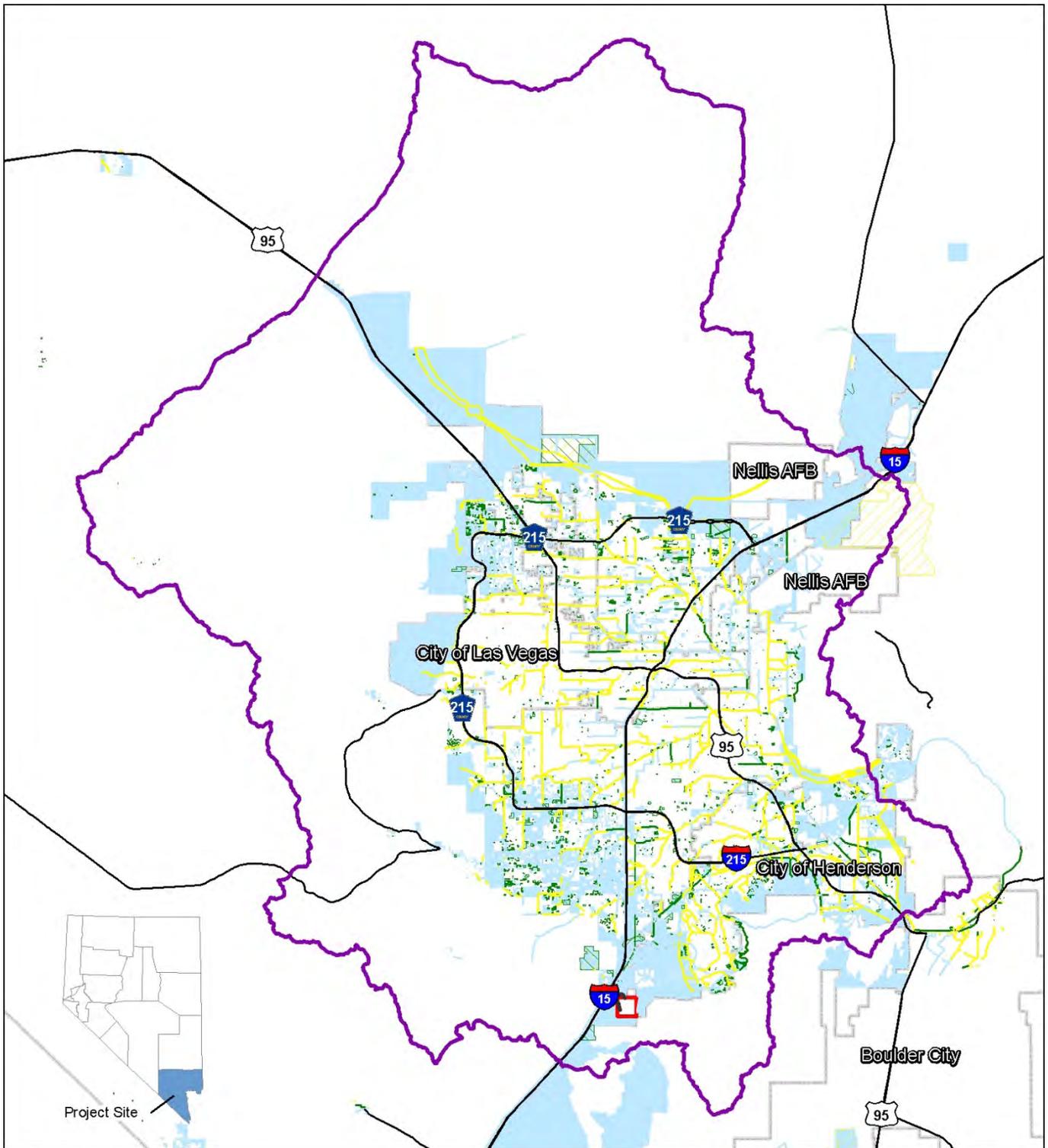
Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-5
Cumulative Impact Analysis Area
for Surfacewater Resources



Prepared by: **PBSJ**

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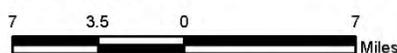


Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Groundwater Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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1 inch = 7 miles



Proposed Sloan Hills Competitive Mineral Material Sales Environmental Impact Statement

Figure 5.3-6
Cumulative Impact Analysis Area for Groundwater Resources



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Actions that contribute to cumulative effects on surface water resources include past, present, and future residential and commercial development in Henderson and unincorporated Clark County; construction of the Southern Highlands Casino, Resort, and Spa; the I-15 corridor projects; I-215 Beltway Improvement Projects; mining activities; power plant development; and construction of the LVVWD 48-inch-diameter pipeline and 10-million-gallon below-grade reservoir. These projects could result in beneficial (diverting floodwaters from development) and adverse (increasing surface runoff) effects on the flow of surface water through the Las Vegas Valley. Additionally, the projects have the potential to cause an increase in surface water pollution. These projects could also lead to increased levels of erosion and sediment transport to surface waters in the area during construction. Impacts on surface water would be both temporary and minor (construction-related impacts) and major and long-term (community-scale changes). County planning efforts and adherence to standard and site-specific requirements, federal, state, and local regulations, and permits for controlling sediment in stormwater runoff would help to reduce the cumulative effect of these projects on surface water resources.

Actions that have impacted groundwater resources include residential developments, which increased approximately 80 percent from 1990 to 2006 and mining activities. Over this time, the total water pumped from the groundwater basin was approximately 75,000 acre-feet (Las Vegas Groundwater Management Program 2010). Artificial recharge has added 200,000 acre-feet back into the groundwater basin since 1988, and in conjunction with natural recharge of the aquifer, the amount being pumped out is still less than the total water that goes back in to the aquifer. As the population continues to increase, the demand on available groundwater resources will also increase. Planning efforts of the Nevada Department of Conservation and Natural Resources, Division of Water Resources, in conjunction with the required permitting process for allocation of water rights in the state, would reduce the potential for over-withdrawal of the groundwater basin. Cumulatively, the Proposed Action in combination with past, present, and reasonably foreseeable future projects would not result in a significant impact on groundwater resources because no new groundwater permits would be issued.

5.3.6 Cultural Resources

The geographical area used to analyze potential cumulative impacts on cultural resources is the Las Vegas subgroup of the Southern Paiute territory (Figure 5.3-7). The Las Vegas Paiute have historically occupied the area immediately surrounding the project area, and this subgroup is most closely related to the Proposed Action area. No Historic Properties (i.e., properties eligible for or already listed on the NRHP) would be affected by the Proposed Action. Additionally, there is a low potential for any aspect of the Proposed Action to affect intact subsurface cultural deposits in the Proposed Action area. Similarly, there would be no cumulative impacts to Historic Properties in the vicinity of the Proposed Action area from past, present, or reasonably foreseeable future actions.

Lands to the west and north of the Proposed Action area have been subjected to numerous episodes of development-related disturbances, such as construction of the I-15 corridor and development of

Las Vegas and Henderson. Further unmitigated impacts to cultural resources and/or Historic Properties located within these lands are unlikely. Impacts to cultural resources located in these areas, such as those located in the Sloan Canyon NCA, will require compliance with federal, state, and/or local regulations, which would likely require mitigation measures to be implemented to lessen those impacts. Thus, further development-related activities in these areas are likely to have no effects on Historic Properties or cultural resources.

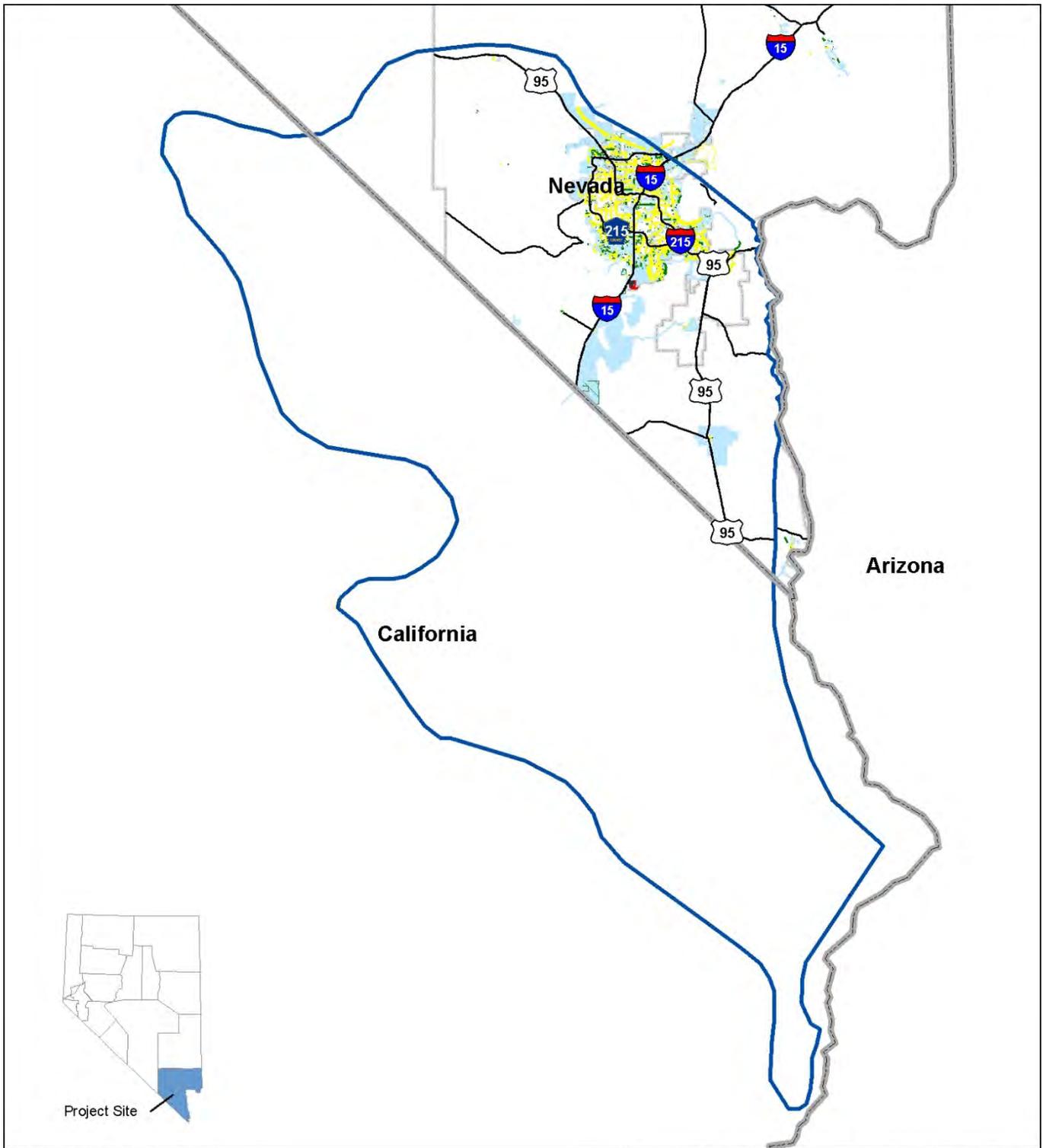
Lands immediately to the east and south of the Proposed Action area (Sloan Canyon NCA and the North McCullough Wilderness Area) are largely undeveloped and administered by the BLM. Several Historic Properties and numerous cultural resources, mainly of Native American origin, are known to occur in these federally administered areas, including the Sloan Canyon Petroglyph Complex (26CK2240 and 26CK2621) located 2.3 miles southeast of the Proposed Action area. Because these areas are federally managed, any past, present, and future land actions would require compliance with both NEPA and BLM guidelines; this includes actions related to the implementation of the Sloan Canyon NCA and North McCullough Wilderness plans, and the Henderson Open Space and Trails Plan. Adherence to these guidelines would prevent significant impacts to Historic Properties and cultural resources.

No cumulative effects as a result of the implementation of the Proposed Action are expected to occur to Historic Properties or to cultural resources located within the Proposed Action area.

5.3.6 Native American Resources

The geographical area used to analyze potential cumulative impacts on Native American resources is the Las Vegas subgroup of the Southern Paiute territory (Figure 5.3-8). No sacred lands, Traditional Cultural Properties, or areas associated with traditional usable resources, such as springs and toolstone sources, are known to be present in the Proposed Action area. Rock art, a cultural practice most often associated with meaningful places for Native Americans, is also lacking in the Proposed Action area. However, such resources (in particular, rock art and areas associated with Native American traditional use) are present in the Las Vegas Paiute territory, especially in the Lower Las Vegas Wash, Las Vegas Springs, the McCullough Mountains, and Sloan Canyon. Also, Native Americans believe that cultural resources are not limited to artifactual and physical remains of their ancestors. All natural resources and geological resources in a region, such as the air, plants, animals, water sources, minerals, and natural landforms, are believed to be important elements in the maintenance and perpetuation of their culture.

The implementation of the Proposed Action and/or project alternatives and the other past, present, and foreseeable future projects listed in Table 5.2-1 may have a cumulative impact on Native American resources. The extent of impact is unknown at this time. Continued consultations with the Native American groups will avoid and/or lessen potential impacts to any sacred lands, Traditional Cultural Properties, or areas of concern.

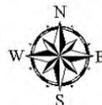
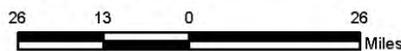


Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Cultural Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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1 inch = 26 miles



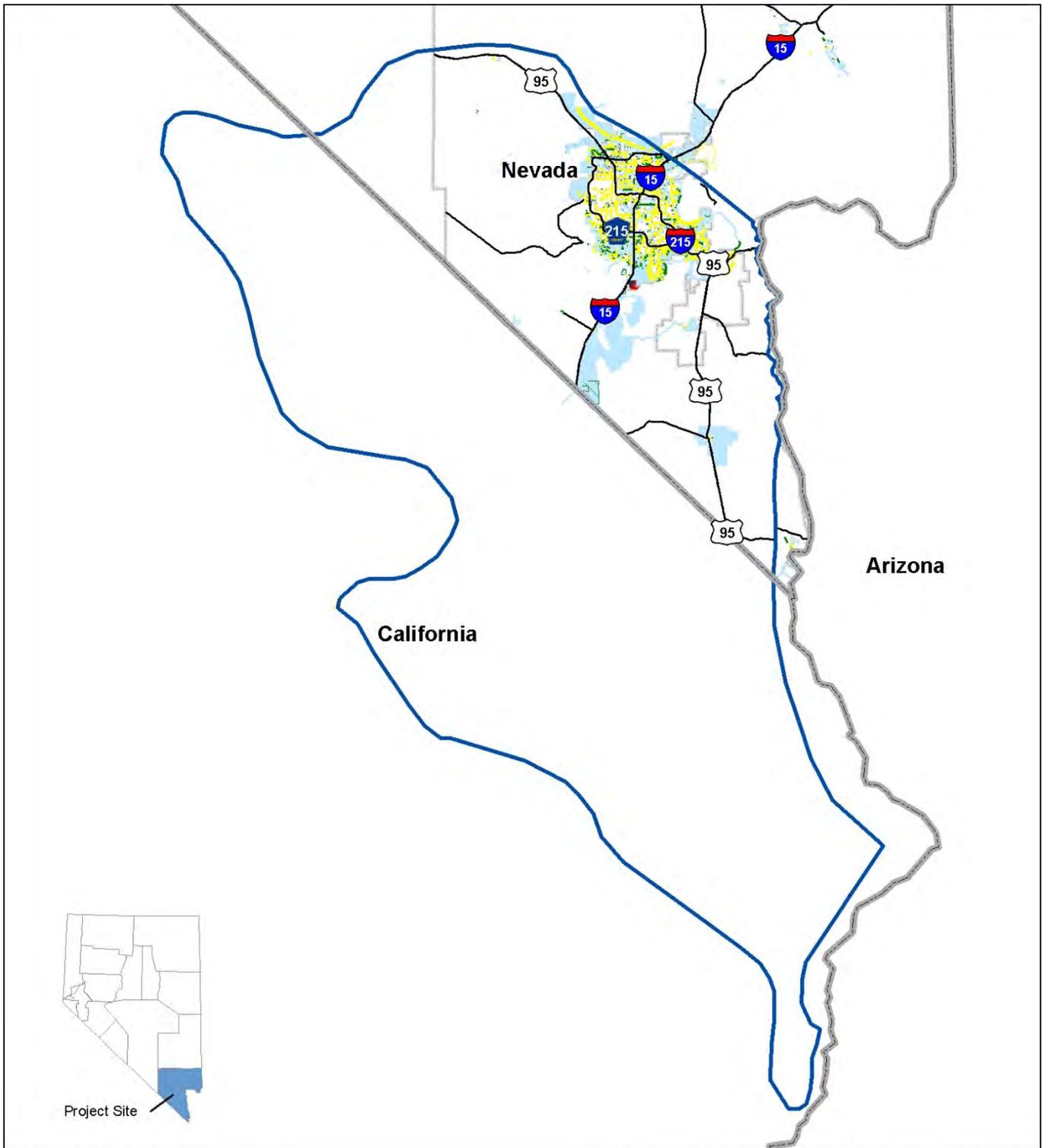
Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-7
Cumulative Impact Analysis Area
for Cultural Resources



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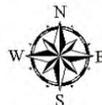
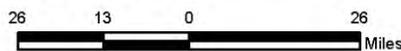
Project Site

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Native American Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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1 inch = 26 miles



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Figure 5.3-8
Cumulative Impact Analysis Area
Native American Resources



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5.3.7 Land Use

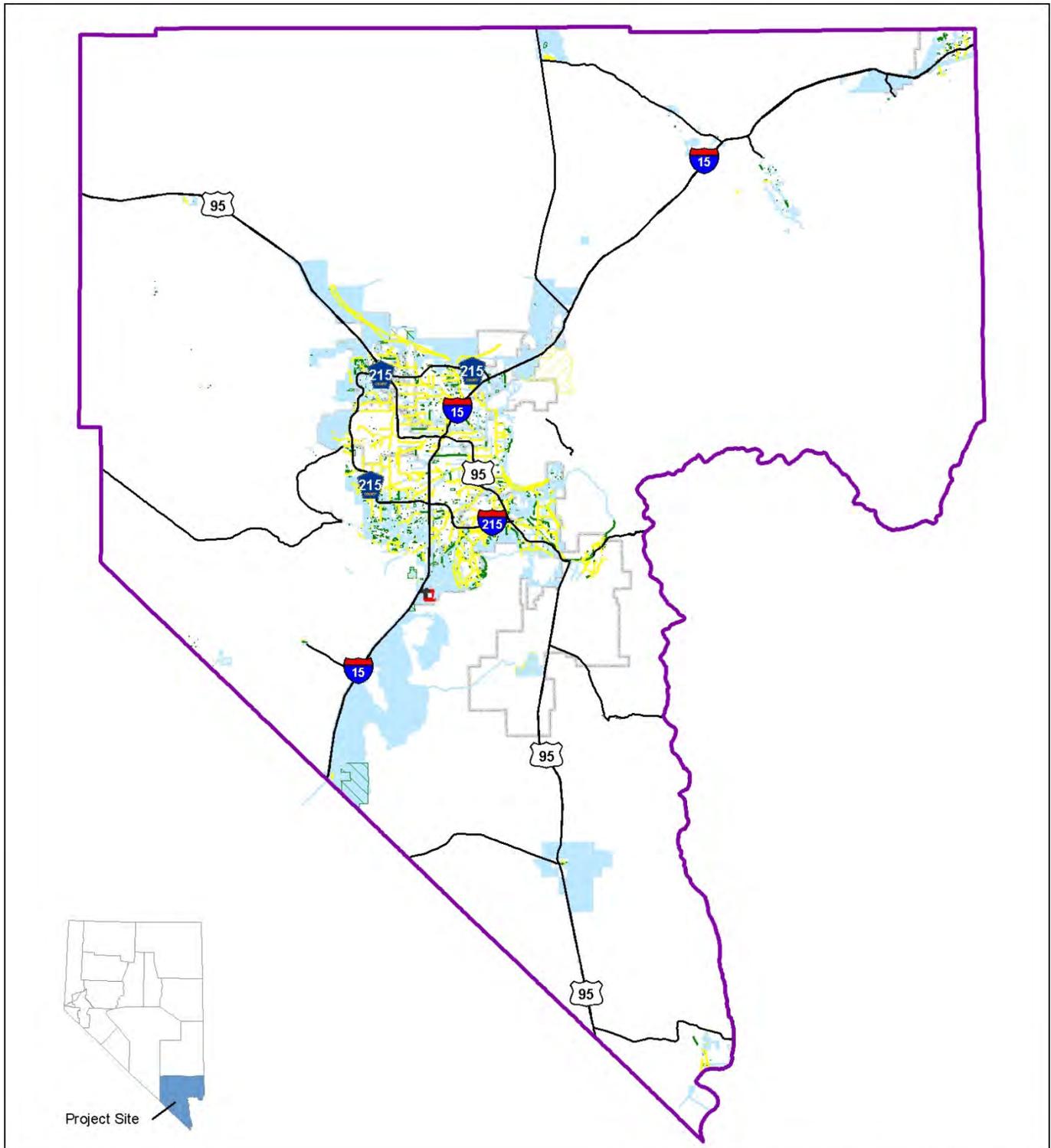
The geographic area used to analyze cumulative impacts to land use is Clark County (Figure 5.3-9). Past actions that have impacted land use include the rapid population increase of Clark County, creation of the Sloan Canyon NCA, and designation of the North McCullough Wilderness Area. Additionally, the construction of the M Resort and Casino, and mining activities have impacted land use in the surrounding area by altering land use patterns.

Current actions impacting land use include the construction of 18,400 linear feet of 48-inch-diameter pipeline and the 10-million-gallon below-grade Sloan 2745 Reservoir (30 acres), and the approved master-planned communities in Henderson and unincorporated Clark County. These projects, particularly the master-planned communities, have converted undeveloped land to urban land uses and as a result have had a long-term major impact on land use patterns in the area.

Future actions that would affect land use include approval of the Clark County Multiple Species Habitat Conservation Plan, which includes 215,000 acres of private land development projects in Clark County and the construction of the DesertXpress rail line, Southern California Edison Eldorado-Ivanpah Transmission Line, Southern Nevada Regional Heliport, approved master-planned communities in Henderson and unincorporated Clark County, and the Southern Highlands Casino, Resort, and Spa. Other future projects that would impact land use include the development of the City of Henderson Open Space and Trails Plan, which provides for an estimated 170 miles of bicycle, pedestrian, and equestrian trails, and the widening of I-15 and I-215. Each of these projects would impact land use by altering land use patterns. Previously undeveloped areas would be converted to urban land uses.

Construction of the Southern Nevada Regional Heliport would impact approximately 229 acres south of the proposed mine sites. Three trail systems are planned in the vicinity of the Proposed Action area.

Past, present, and reasonably foreseeable future projects would cumulatively change the land uses in Clark County. The result of projects listed in Section 5.2 would be and have been the change from open space wildlife habitat/open recreational area and natural desert landscapes to a more urban and suburbanized area.



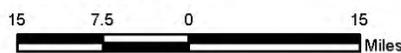
Project Site

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Land Use Analysis Area
- Present Projects
- Past Projects
- Future Projects

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1 inch = 15 miles



Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-9
Cumulative Impact Analysis Area
for Land Use



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5.3.8 Visual Resources

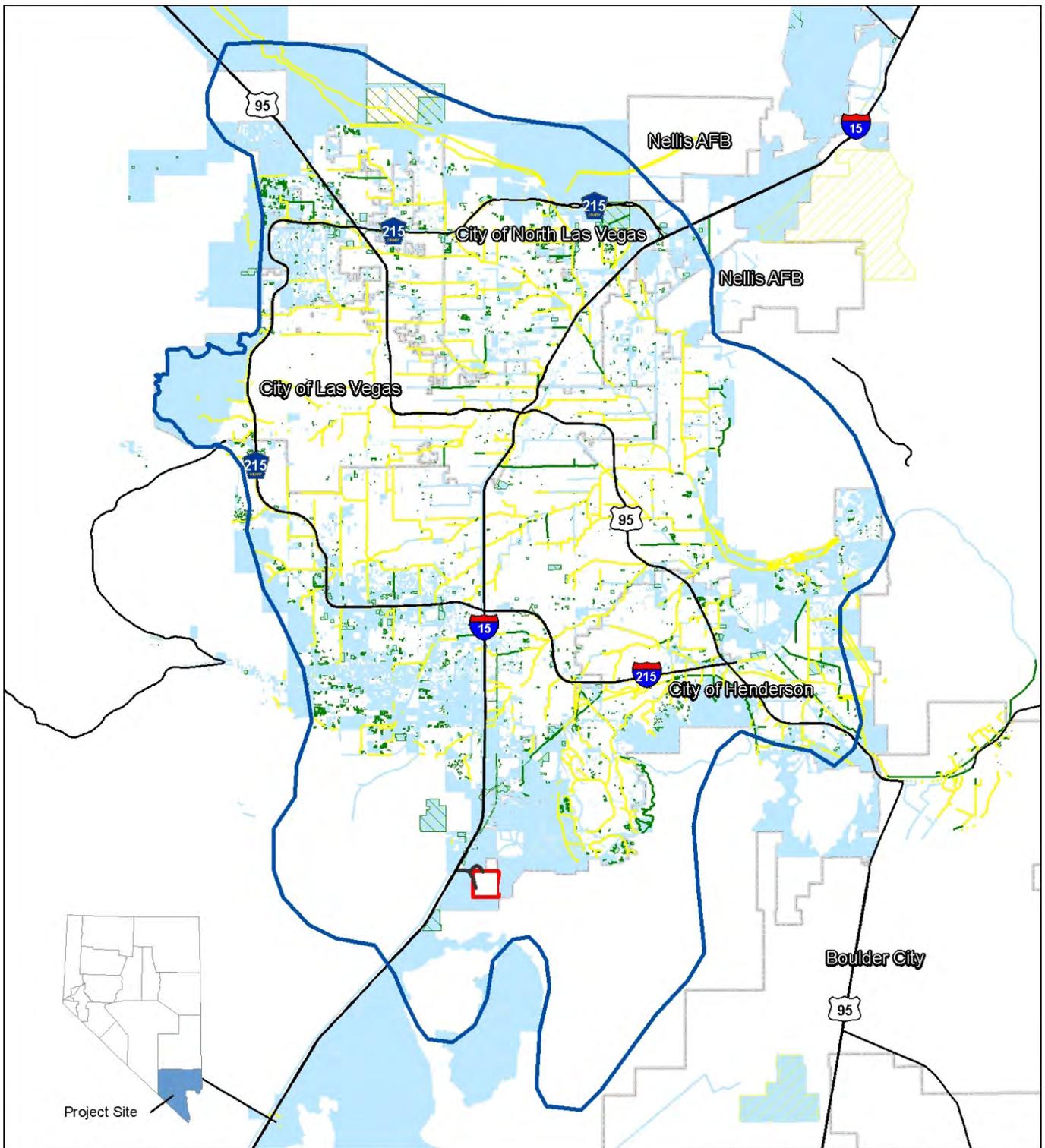
The viewshed used to analyze cumulative impacts on visual resources is the Las Vegas Valley and adjacent mountain ranges (Figure 5.3-10). The visual landscape of the southern Las Vegas Valley is changing due to past, present, and foreseeable future industrial, commercial, and residential development (as described in Section 5.2). Implementation of Proposed Action would result in permanent impacts on the visual setting of the Proposed Action area by causing an irreversible change in the topography of the area. Construction of residential development projects, resort/casino projects, mining projects, LVVWD reservoir and pumping station, and recreation trails would all have a permanent impact on the visual setting of the region. The cumulative impact of these projects would be the conversion of a natural, desert landscape to an urban, highly developed cityscape. This conversion is, however, consistent with city, county, and state planning efforts, and implementation of the Proposed Action would not be substantially more noticeable over the long term than other development projects that are planned for the region.

5.3.9 Noise and Vibration

The geographic area used for determining cumulative impacts from noise and vibration is defined as a 2-mile radius around the Proposed Action area (Figure 5.3-11). This geographic area was used because noise and vibration impacts from the Proposed Action would not be perceptible beyond this distance; therefore, no cumulative impacts would occur beyond 2 miles.

A number of the projects listed in Section 5.2 would generate minor short-term noise and vibration impacts during construction activities (e.g., operation of heavy construction vehicles and equipment) and long-term intermittent noise and vibration impacts during operation of the respective projects (e.g., trains, air traffic noise from airplanes and helicopters, and blasting during mining operations). These projects are being constructed at different locations in the project vicinity and on different schedules. It is therefore expected that, cumulatively, construction would have a minor noise impact. Mitigation measures, such as restricting construction activities to daylight hours and project phasing, would help to mitigate the short-term noise impacts. The long-term noise impacts from operation of the projects would result in a moderate cumulative impact. Mitigation measures that would reduce long-term noise impacts include alternate flight patterns (e.g., restrictions in and near sensitive receptors) and restrictions on operational hours to daylight hours.

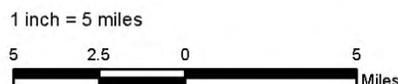
The increased traffic volumes would likely result in long-term increased noise levels along the existing roadways although mitigation measures, such as construction of noise barriers, would reduce noise to acceptable levels. Noise related to construction of the proposed roadway widening projects and any future new roadway construction would be temporary and short-term and could be mitigated for through restrictions on construction activities (e.g., limited to normal business hours).



Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Visual Resources Analysis Area
- Present Projects
- Past Projects
- Future Projects

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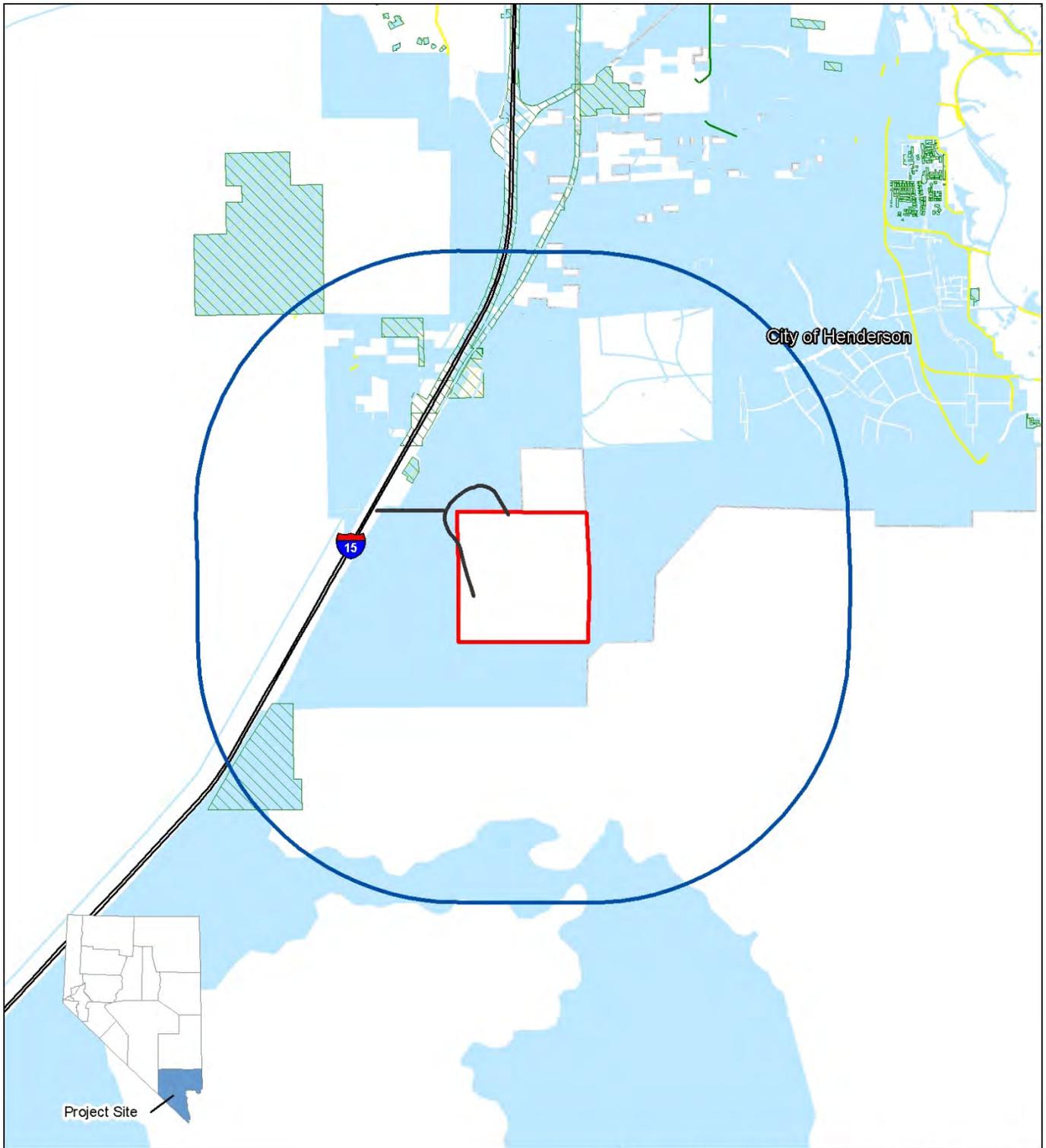
Proposed Sloan Hills Competitive Mineral Material Sales Environmental Impact Statement

Figure 5.3-10
Cumulative Impact Analysis Area
for Visual Resources



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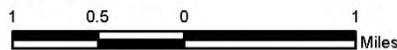


Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Noise and Vibration Analysis Area
- Present Projects
- Past Projects
- Future Projects

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

1 inch = 1 miles



Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-11
Cumulative Impact Analysis Area
for Noise and Vibration



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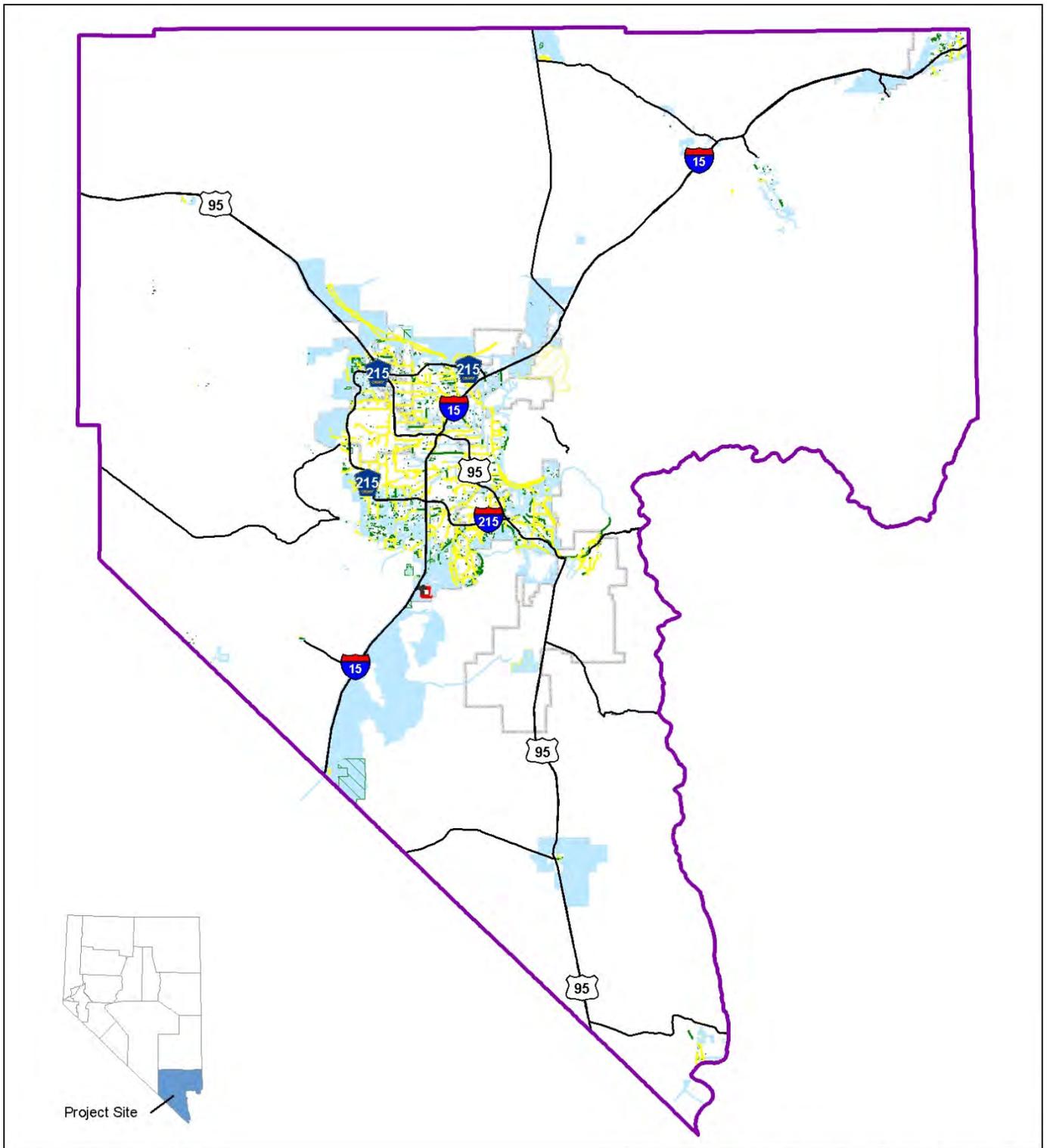
5.3.10 Transportation

The geographic area used to analyze cumulative impacts to transportation is the I-15 south corridor, which includes the interstate highway and the local urban/rural minor collectors and arterials that intersect and parallel I-15 (including Las Vegas Boulevard) (Figure 5.3-12). Several land development projects in addition to the Proposed Action are either currently under construction or planned in the vicinity of the Proposed Action area. These projects have the potential to contribute substantial amounts of traffic to the I-15 south corridor, which may result in both short-term and long-term impacts to the local and regional transportation system.

These projects are in various stages of completion. When completed, however, they will generate new traffic, which would likely result in increased traffic volumes, traffic noise, and may lead to additional future roadway expansions and/or new roadway construction. These projects, along with the Proposed Action, are located along the I-15 south corridor and thus are estimated to have the greatest cumulative impact on I-15 and Las Vegas Boulevard between the proposed Project Area and the Greater Las Vegas urban area to the north, specifically:

- I-15, between Exit 25 (Sloan Road) and Exit 27 (St. Rose Parkway)
- Las Vegas Boulevard, between Sloan Road and St. Rose Parkway

Cumulative “with project” traffic impacts were evaluated for 2020 and 2030 because the mining operation is expected to reach full production by 2020 and is expected to continue for another 10 years. The 2030 projected background traffic in the vicinity of the Proposed Action area was based on traffic volumes developed for the I-15 south corridor project. The 2030 traffic projections used in this project were approved as part of the I-15 South Corridor Improvement Environmental Assessment, (FHWA 2008). Traffic forecasts in this study were produced using the Regional Transportation Commission of Southern Nevada 2004 Regional Travel Demand Model. In accordance with inter-local agreement and established practice, the population and employment projections used in the model were based on those developed by Clark County and local government land use planning staff and are consistent with planned land uses in the area. The Southern Nevada Supplemental Airport and I-15 improvements were accounted for in the projections. The 2020 traffic projections developed for this EIS are based on an interpolation of the 2010 existing traffic volumes and the 2030 projected traffic volumes. Cumulative “with project” 2020 and 2030 conditions were then estimated by adding in the estimated project traffic for the Proposed Action based on the project trip generation and trip distribution discussed in Chapter 4.



Project Site

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Transportation Analysis Area
- Past Projects
- Future Projects

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1 inch = 15 miles



Proposed Sloan Hills Competitive Mineral Material Sales
Environmental Impact Statement

Figure 5.3-12
Cumulative Impact Analysis Area
for Transportation



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The “with project” cumulative conditions were estimated for Alternative 1 (two independent mineral material sales). This alternative would generate the most traffic and, as a consequence, would have the greatest traffic impacts on the surrounding roadway network. Tables 5.3-1, 5.3-2, 5.3-3, and 5.3-4 show 2020 background and the 2020 background plus Alternative 1 conditions for the roadway segments and intersections in the Proposed Action area. Tables 5.3-5, 5.3-6, 5.3-7, and 5.3-8 show 2030 background and the 2030 background plus Alternative 1 conditions for the roadway segments and intersections in the Proposed Action area. The AM peak hour traffic volumes reflect a 1-hour time slice from counts taken between 7:00 a.m. and 9:00 a.m., while the PM peak hour traffic volumes reflect a 1-hour time slice from counts taken between 4:00 p.m. and 6:00 p.m.

Past, present, and reasonably foreseeable future projects would cumulatively result in increased traffic volumes on existing roadways in the I-15 south corridor. Based on the results, however, all roadways are expected to continue to operate at an acceptable LOS in 2020 and 2030 with and without the Proposed Action. This forecast is partially based on the assumption that the proposed I-15 widening projects would be constructed. If any of the widening projects are not built, it is reasonable to expect the LOS for all roadways would change.

**Table 5.3-1
2020 Background Plus Alternative 1 Freeway Traffic Operations Analysis**

Freeway Segment	2020 Background Conditions				2020 Background Plus Alternative 1 Conditions			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
I-15 Northbound								
South of Sloan Road off-ramp	12.1	B	18.1 C		12.3 B		18.2	C
Between Sloan Road on-ramp and St. Rose Parkway off-ramp	15.9 B		20.7	C	16.1 B		21.0	C
North of St. Rose Parkway on-ramp	19.4 C		21.0	C	19.6	C	21.3	C
I-15 Southbound								
North of St. Rose Parkway off-ramp	15.4	B	18.4 C		15.8 B		18.5	C
Between St. Rose Parkway on-ramp and Sloan Road off-ramp	14.8 B		15.9	B	15.2 B		16.1	B
South of Sloan Road on-ramp	13.2	B	13.0	B	13.3	B	13.1	B

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-2
2020 Background Plus Alternative 1 Merge/Diverge Traffic Operations Analysis**

Freeway Segment	Analysis Type	2020 Background Conditions				2020 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
I-15 Northbound									
Sloan Road off-ramp	Diverge	17.7	B	24.5	C	17.9 B		24.6	C
Sloan Road on-ramp	Merge	22.2	C	26.3	C	23.0	C	27.3	C
St. Rose Parkway off-ramp	Diverge	22.4	C	28.1	D	22.7	C	28.4	D
I-15 Southbound									
St. Rose Parkway on-ramp	Merge	19.8	B	21.1	C	20.5	C	21.7	C
Sloan Road off-ramp	Diverge	21.4	C	23.2	C	22.0 C		23.7	C
Sloan Road on-ramp	Merge	17.3	B	17.1	B	17.4	B	17.5	B

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-3
2020 Background Plus Alternative 1 Unsignalized Intersection Traffic Operations Analysis**

Reference Number	Intersection Location	2020 Background Conditions				2020 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
1	Sloan Road at I-15 Southbound on-ramp Westbound Left	7.6	A	7.6	A	7.7	A	7.9	A
9	Las Vegas Boulevard at Site Access Southbound Left Westbound Approach	N/A N/A	N/A N/A	N/A N/A	N/A N/A	8.6 8.8	A A	8.6 9.4	A A

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-4
2020 Background Plus Alternative 1 Signalized Intersection Traffic Operations Analysis**

Reference Number	Intersection Location	2020 Background Conditions				2020 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
2	Sloan Road at I-15 Southbound off-ramp	12.1 B		11.3	B	12.6	B	13.8	B
3	Sloan Road at Las Vegas Boulevard	16.9 B		20.5	C	29.6	C	39.8	D
4	Las Vegas Boulevard at I-15 on-/off-ramps	29.3 C		22.7	C	32.2	C	25.8	C
6	St. Rose Parkway at I-15 on-/off-ramps	36.0 D		37.4	D	36.1	D	38.1	D
7	St. Rose Parkway at Las Vegas Boulevard	41.6 D		42.1	D	46.0	D	48.5	D

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-5
2030 Background Plus Alternative 1 Freeway Traffic Operations Analysis**

Freeway Segment	2030 Background Conditions				2030 Background Plus Alternative 1 Conditions			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
I-15 Northbound								
South of Sloan Road off-ramp	12.5	B	18.0	B	12.6	B	18.0	B
Between Sloan Road on-ramp and Bermuda Road off-ramp	17.0	B	21.5	B	17.1	B	21.8	C
Between Bermuda Road on-ramp and St. Rose Parkway off-ramp	20.2	C	23.2	C	20.3	C	23.4	C
North of St. Rose Parkway on-ramp	22.6	C	22.0	C	22.7	C	22.2	C
I-15 Southbound								
North of St. Rose Parkway off-ramp	15.5	B	21.0	C	15.7	B	21.1	C
Between St. Rose Parkway on-ramp and Bermuda Road off-ramp	15.3	B	19.8	C	15.6	B	20.0	C
Between Bermuda Road on-ramp and Sloan Road off-ramp	13.8	B	16.8	B	14.1	B	16.9	B
South of Sloan Road on-ramp	12.0	B	13.0	B	12.1	B	13.0	B

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-6
2030 Background Plus Alternative 1 Merge/Diverge Traffic Operations Analysis**

Freeway Segment	Analysis Type	2030 Background Conditions				2030 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
I-15 Northbound									
Sloan Road off-ramp	Diverge	19.0	B	26.3	C	19.3 B		26.5	C
Sloan Road on-ramp	Merge	28.2	D	31.9	D	29.5	D	33.3	D
Bermuda Road off-ramp	Diverge	23.6	D	30.1	D	23.7	C	30.4	D
Bermuda Road on-ramp	Merge	30.4	D	31.5	D	30.4	D	31.8	D
St. Rose Parkway off-ramp	Diverge	21.0	C	27.6	C	21.2	C	27.9	C
I-15 Southbound									
St. Rose Parkway on-ramp	Merge	22.5	C	28.3	D	22.8	C	28.5	D
Bermuda Road off-ramp	Diverge	22.3	C	31.1	D	22.6	C	31.3	D
Bermuda Road on-ramp	Merge	18.3	B	22.2	C	18.5 B		22.4	C
Sloan Road off-ramp	Diverge	23.8	C	31.6	D	24.8 C		32.6	D
Sloan Road on-ramp	Merge	16.4	B	17.7	B	16.6	B	18.1	B

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-7
2030 Background Plus Alternative 1 Unsignalized Intersection Traffic Operations Analysis**

vReference Number	Intersection Location	2030 Background Conditions				2030 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
9	Las Vegas Boulevard at Site Access Southbound Left Westbound Approach	N/A	N/A	N/A	N/A	8.6	A	8.6	A
		N/A	N/A	N/A	N/A	9.9	A	11.0	B

Veh/Ln/Mi = Vehicles per lane per mile

**Table 5.3-8
2030 Background Plus Alternative 1 Signalized Intersection Traffic Operations Analysis**

Reference Number	Intersection Location	2030 Background Conditions				2030 Background Plus Alternative 1 Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS	Density (Veh/Ln/Mi)	LOS
3	Sloan Road at Las Vegas Boulevard	16.9 B		14.5	B	27.3	C	32.6	C
5	Sloan Road at I-15 ramps	20.3 C		20.8	C	20.4	C	22.0	C
6	St. Rose Parkway at I-15 on-/off-ramps	38.4 D		42.1	D	38.6	D	42.1	D
7	St. Rose Parkway at Las Vegas Boulevard	43.8 D		50.4	D	46.5	D	50.6	D
8	Bermuda Road at Las Vegas Boulevard	45.3 D		48.0	D	45.5	D	47.7	D

Veh/Ln/Mi = Vehicles per lane per mile

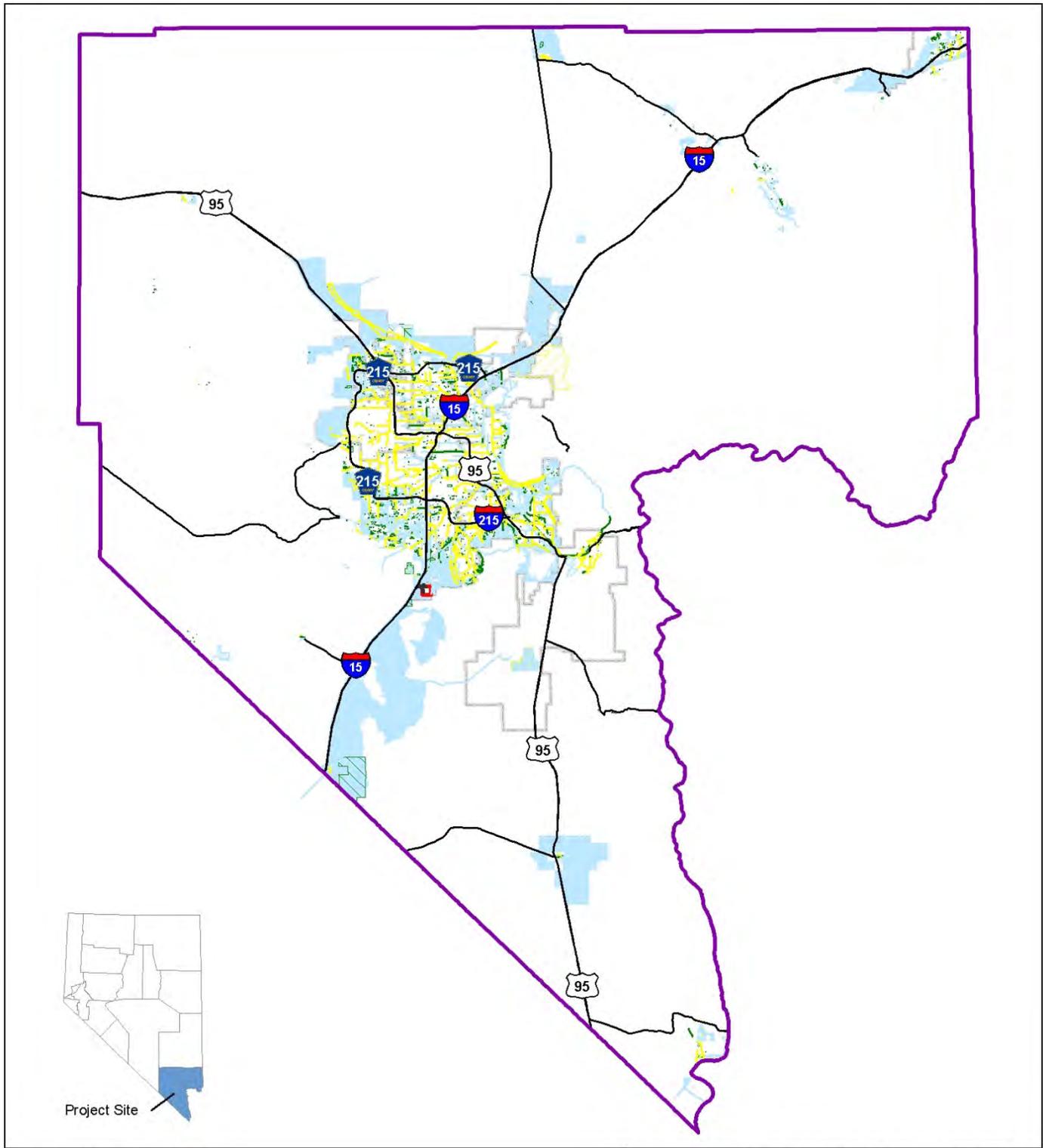
5.3.11 Socioeconomics

The geographic area used to analyze cumulative impacts on socioeconomics is Clark County (Figure 5.2-13). Clark County and the Las Vegas metropolitan area have experienced an increase in population since 1990, and this trend is projected to continue through 2028, despite recent declines due to the economic recession. The current and projected population results in a high demand for infrastructure improvements. These demands would be met by implementation of any of the Proposed Action and the multiple other proposed projects listed in Section 5.2, which are predominantly infrastructure developments or improvements.

The proposed improvements along I-15 from north of Las Vegas through Las Vegas south to the California/Nevada state line would have a beneficial cumulative impact on both regional and local traffic. New interchanges and widening of I-15 would increase safety while decreasing congestion. The improved movement of vehicles would potentially induce new residential and commercial developments, which in turn would promote increased commerce and tourism. The construction of the Southern Nevada Regional Heliport would result in an increase in employment during and after construction as well as an increase in the number of tourists visiting the region, resulting in beneficial economic opportunities.

As a result of the increased and projected population in the Las Vegas metropolitan area, numerous partially completed and/or proposed residential development projects are along I-15. Other plans, such as the Henderson Open Space and Trails Plan Sloan Canyon NCA, would accommodate the current and projected population. These areas would provide recreational opportunities, such as hiking, biking, and wildlife watching activities, which would increase the quality of life in the area.

Some of the proposed projects discussed in Section 5.2.3 have the potential to require increases in water or wastewater rates, increased power requirements, and an increase in tax rates to fund these projects. These increases would be experienced by residents and businesses in the Las Vegas Valley but would not be considered abnormal cost of living increases. Although there may be an increase in rates, these projects would also result in an increase in employment and increased local and state tax revenue associated with economic activity generated by any of the Proposed Action and other proposed projects. No significant cumulative impact to socioeconomics is anticipated as a result of the Proposed Action.



Project Site

Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Jurisdictional Boundary
- Socioeconomic Analysis Area
- Present Projects
- Past Projects
- Future Projects

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Proposed Sloan Hills Competitive Mineral Material Sales
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Figure 5.3-13
Cumulative Impact Analysis Area
for Socioeconomics



Prepared by: **PBSJ**

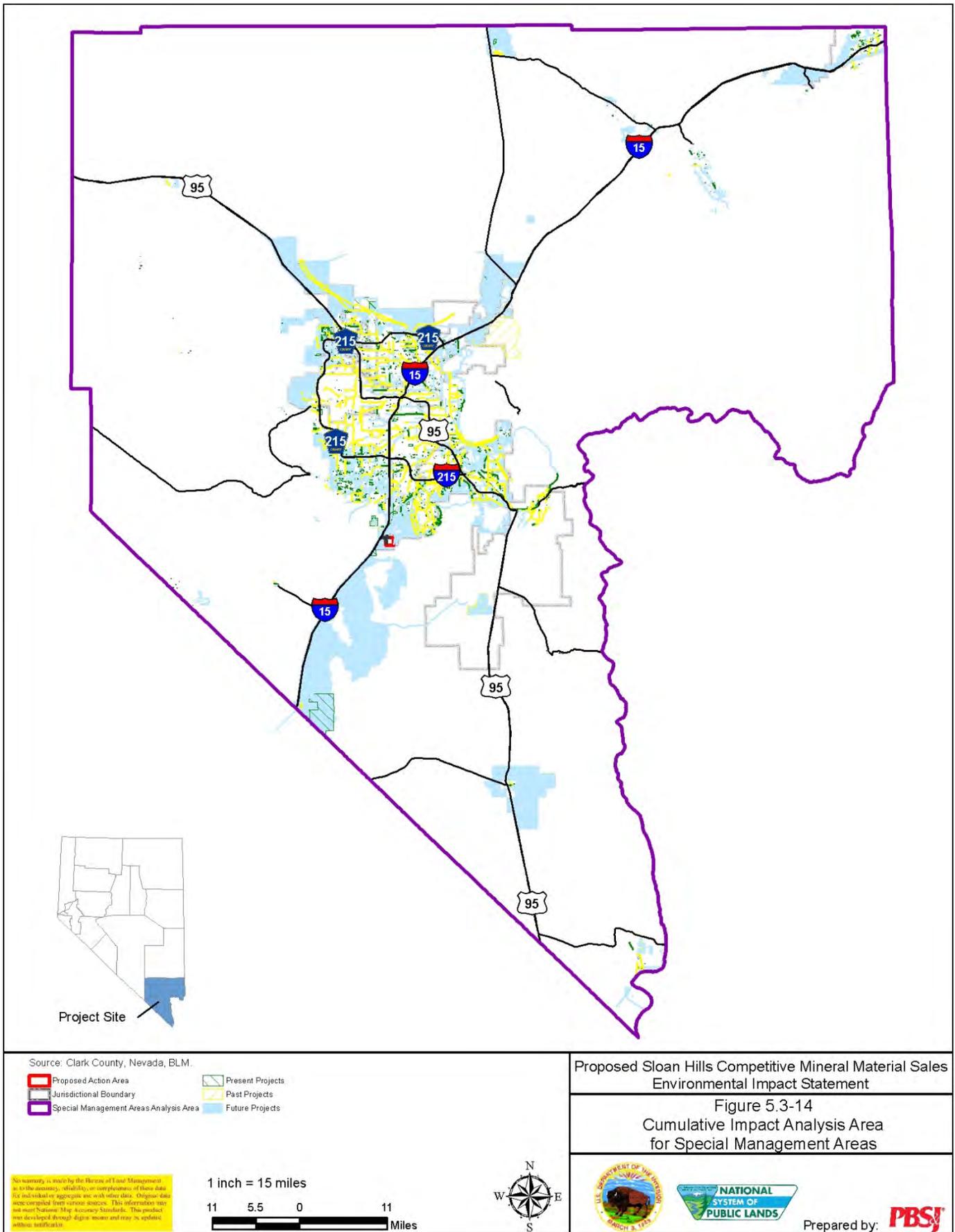
5.3.12 Special Management Areas

The geographical area used to evaluate cumulative impacts of past, present, and foreseeable future projects on special management areas is Clark County (Figure 5.3-14). Past actions that have contributed to cumulative impacts on special management areas include the rapid increase in the population of Clark County, construction of master-planned residential communities, the creation of the Sloan Canyon NCA, the designation of the North McCullough Wilderness Area, the adoption of the Sloan Canyon NCA RMP, and the adoption of the North McCullough Wilderness Management Plan. These actions have promoted conservation of wilderness in some areas.

The population of Clark County increased approximately 80 percent from 1990 to 2006. As the population increased, the number of recreational users also increased. Increased use levels created increased impacts on special management areas and increased conflicts between special management area objectives and other uses. Conversion of undeveloped land into an urban land use reduced the overall area available for wilderness and other special management areas.

The North McCullough Wilderness Area was added to the National Wilderness Preservation System and meets the purpose of wilderness in securing for the American people of present and future generations the benefits of an enduring resource of wilderness. Designation of these special management areas limited the use of motor vehicles, motorized equipment, and mechanized transport in the North McCullough Wilderness Area. Present actions that may impact special management areas include the development of approved master-planned residential communities in Henderson and unincorporated Clark County. Development of these communities has increased the population and the number of users of special management areas. Additionally, the cumulative long-term impact of these development projects is a diminished wilderness character. The increased levels of use of the North McCullough Wilderness Area could decrease opportunities for solitude in the wilderness area. Additionally, the cumulative long-term impact of these development projects is a diminished wilderness character.

Foreseeable future actions that may affect special management areas include the implementation of the North McCullough Wilderness Management Plan as well as the City of Henderson Open Space and Trails Plan. The future implementation of the North McCullough Wilderness Management Plan would help ensure that the wilderness area maintains its wilderness character and that acceptable types of use are available in the future. The future implementation of the North McCullough Wilderness Management Plan would help ensure that the wilderness area maintains its wilderness character and that acceptable types of use are available in the future.



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Proposed Sloan Hills Competitive Mineral Material Sales Environmental Impact Statement

Figure 5.3-14
Cumulative Impact Analysis Area for Special Management Areas

The City of Henderson Open Space and Trails Plan provides for approximately 170 miles of trails throughout the city for bicycles, pedestrians, and equestrians. Three trail systems are planned for the area near the Proposed Action area: the Anthem East Trails, St. Rose Parkway Trails, and the McCullough Hills Trail Connection. These trail systems should improve connectivity to other areas, including the Sloan Canyon NCA, North McCullough Wilderness Area, Boulder City, and the Lake Mead National Recreation Area, and preserve the wilderness character of these areas. The McCullough Hills Trail Connection would provide improved access and would likely lead to higher visitation levels in the North McCullough Wilderness Area. The McCullough Hills Trail Connection would provide improved access and would likely lead to higher visitation levels in the North McCullough Wilderness Area.

Cumulatively, the proposed development projects, such as the master-planned communities and other residential development, would likely have a minor short-term impact on special management areas as a result of restricted access during construction; however, there would be a moderate long-term impact on special management areas as a result of the permanent conversion of previously undeveloped areas into urban land use types and the increase in the number of special management area users. These projects would diminish the wilderness character of the area. The future development of residential communities in Henderson and unincorporated Clark County and the associated increase in population would increase users in the North McCullough Wilderness Area. Increased levels of use in these wilderness areas may decrease opportunities for solitude and diminish the wilderness character of these areas.

5.3.12.1 Sloan Canyon NCA

Sloan Canyon NCA was established to conserve, protect, and enhance for the benefit and enjoyment of the people the various resources contained therein. The Sloan Canyon NCA RMP provides additional guidance and limitations on types of use available in those areas.

Present actions that may impact the Sloan Canyon NCA include the development of approved master-planned residential communities in Henderson and unincorporated Clark County. Development of these communities has increased the population and the number of users of the NCA.

Foreseeable future actions that may affect the Sloan Canyon NCA include the implementation of the Sloan Canyon NCA RMP and the City of Henderson Open Space and Trails Plan. Future actions under the Sloan Canyon NCA RMP would provide for improved roads to access the NCA, the development of trails, and the construction of a visitor center.

The City of Henderson Open Space and Trails Plan provides for approximately 170 miles of trails throughout the city for bicycles, pedestrians, and equestrians. Three trail systems are planned for the area near the Proposed Action area: the Anthem East Trails, St. Rose Parkway Trails, and the McCullough Hills Trail Connection. These trail systems should improve connectivity to other areas, including the Sloan Canyon NCA, North McCullough Wilderness Area, Boulder City, and the Lake Mead National Recreation Area.

Cumulatively, the proposed development projects, such as the planned visitor center, planned additional trailheads, master-planned communities and other residential development, would likely have a minor short-term impact on the Sloan Canyon NCA as a result of restricted access during construction; however, there would be a moderate long-term impact on the NCA as a result of the permanent conversion of previously undeveloped areas into urban land use types and the increase in the number of NCA users. The future development of residential communities in Henderson and unincorporated Clark County and the associated increase in population would increase users in the Sloan Canyon NCA.

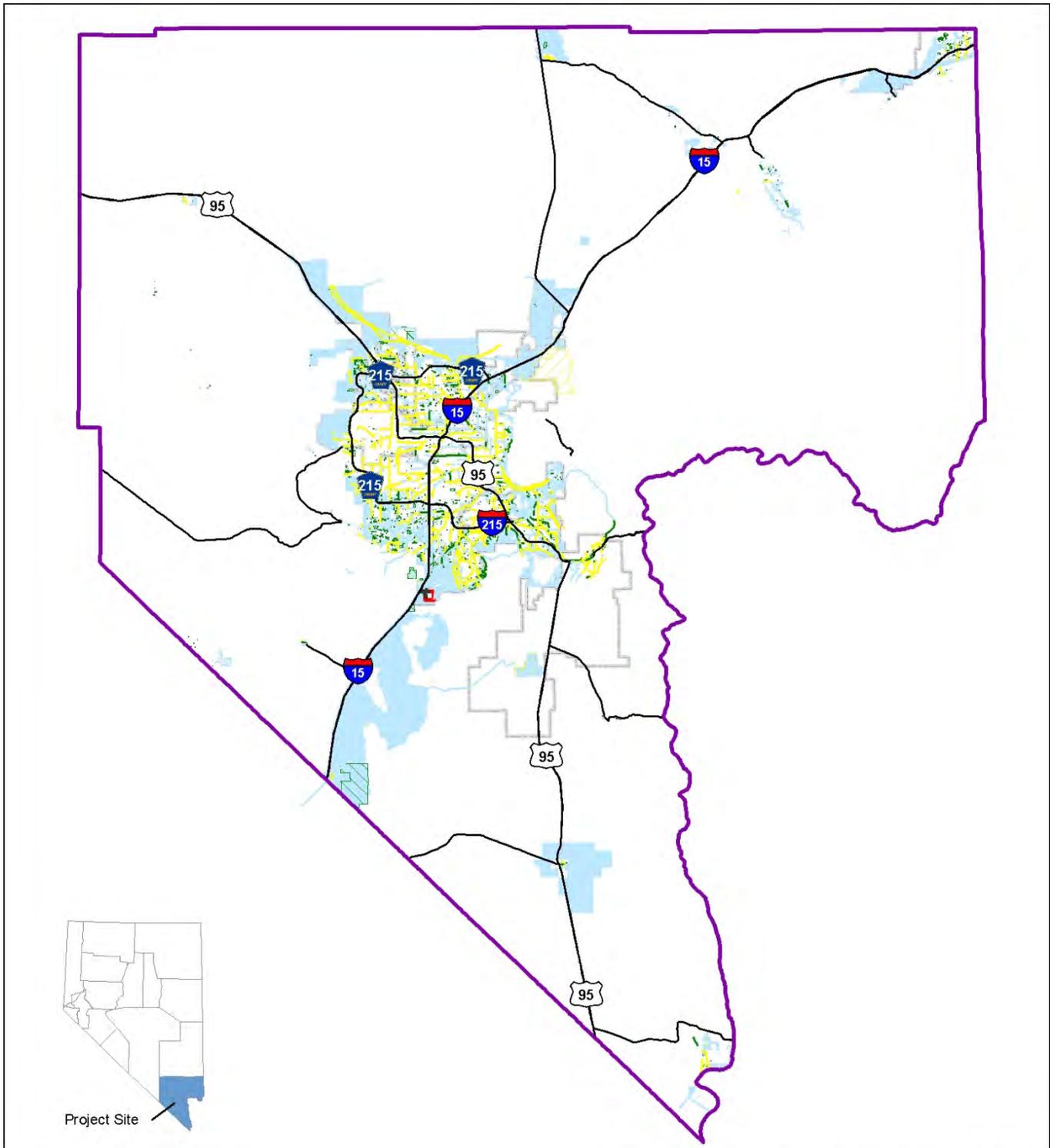
5.3.13 Recreation

The geographical area used to evaluate cumulative impacts of past, present, and foreseeable future projects on recreation is Clark County, excluding military property on which recreational uses are restricted (Figure 5.3-15). Past actions that have contributed to cumulative impacts on recreation include the rapid increase in the population of Clark County, construction of master-planned residential communities, the creation of the Sloan Canyon NCA, the designation of the North McCullough Wilderness Area, the adoption of the Sloan Canyon NCA RMP, and the adoption of the North McCullough Wilderness Management Plan. These actions have limited recreational use of some areas.

The population of Clark County increased approximately 80 percent from 1990 to 2006. As the population increased, the number of recreational users also increased. Increased use levels created increased impacts and increased conflicts between recreational and other land uses. In response to the population increases and the resulting demand for additional housing, master-planned residential communities were constructed in previously undeveloped areas. This development resulted in an overall increase in recreational users and short-term restrictions on access to recreational areas. Restrictions were removed upon completion of construction, but the overall area available for recreation was reduced by the conversion of undeveloped land into an urban land use.

The creation of the Sloan Canyon NCA and North McCullough Wilderness Area limited the use of motor vehicles, motorized equipment, and mechanized transport in these areas. Approval of the Sloan Canyon NCA RMP and North McCullough Wilderness Management Plan provides additional guidance and limitations on types of recreation available in those areas. As a result, some areas were removed for use by off-highway vehicles in the NCA, and horseback riding was restricted in certain portions of the NCA and North McCullough Wilderness Area.

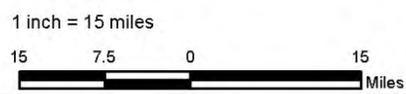
Present actions that may impact recreational uses include the development of approved master-planned residential communities in Henderson and unincorporated Clark County. Development of these communities has increased the population and the number of recreational users. Additionally, similar to past actions, access to recreation areas is temporarily restricted during construction, and the cumulative long-term impact of these development projects is the reduction in available recreation area.



Source: Clark County, Nevada, BLM.

- Proposed Action Area
- Present Projects
- Jurisdictional Boundary
- Past Projects
- Recreation Analysis Area
- Future Projects

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Figure 5.3-15
Cumulative Impact Analysis Area
for Recreation



Prepared by: **PBSJ**

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Foreseeable future actions that may affect recreation include the implementation of the Sloan Canyon NCA RMP and the North McCullough Wilderness Management Plan; the City of Henderson Open Space and Trails Plan; and the development of residential communities in Henderson and unincorporated Clark County and other urban land use development projects, such as the Southern Nevada Regional Heliport, DesertXpress rail line, and Southern California Edison Eldorado-Ivanpah Transmission Line.

Future actions under the Sloan Canyon NCA RMP would provide for more access to recreational opportunities through the development of improved roads to access the NCA, the development of trails, and the construction of a visitor center. The future implementation of the North McCullough Wilderness Management Plan would help ensure that acceptable types of use are available in the future.

The City of Henderson Open Space and Trails Plan provides for approximately 170 miles of trails throughout the city for bicycles, pedestrians, and equestrians. Three trail systems are planned for the area near the Proposed Action area: the Anthem East Trails, St. Rose Parkway Trails, and the McCullough Hills Trail Connection. These trail systems should improve access to recreational opportunities near the mining sites and provide connectivity to other areas, including the Sloan Canyon NCA, North McCullough Wilderness Area, Boulder City, and the Lake Mead National Recreation Area. The McCullough Hills Trail Connection would provide improved access for recreational users to the North McCullough Wilderness Area.

Cumulatively, the proposed development projects, such as the master-planned communities and other residential development, would likely have a minor short-term impact on recreation as a result of restricted access during construction; however, there would be a moderate long-term impact on recreation as a result of the permanent conversion of previously undeveloped areas into urban land use types and the increase in the number of recreational users. These projects would reduce the area available for recreational use. The future development of residential communities in Henderson and unincorporated Clark County and the associated increase in population would increase the demand for recreational opportunities in the area. It also would lead to more recreational users in the Sloan Canyon NCA and North McCullough Wilderness Area.

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6.0 COMMITMENT OF RESOURCES, UNAVOIDABLE IMPACTS, AND RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

6.1 IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

Irreversible resource commitments are those that cannot be reversed (loss of future options), except perhaps in the extreme long term. Irreversible resource commitments relate primarily to non-renewable resources, such as minerals or cultural resources or those resources that are renewable only over long periods of time. A mining operation removes minerals from the ground, resulting in an irreversible loss of the mineral resources.

Irretrievable resource commitments are lost for a period of time. An example is the loss of production or use of natural resources, such as the loss of vegetation until the mining site is reclaimed and revegetation success is achieved. Another example would be the displacement of existing land uses on a long-term basis. Existing wildlife habitat and recreation uses would be disrupted or eliminated during the life of the mine and for a period thereafter. With reclamation of the disturbed lands, land uses would essentially return to current uses and levels of use or could even be enhanced, but this could take a long period of time for some resources.

6.1.1 Irreversible Resource Commitments

Irreversible resource commitments would include the consumption of non-renewable energy or materials, such as diesel fuel and gasoline, and effects to topography and mineral resources.

The topography would be permanently altered by the creation of an open pit. Although it would blend with the landscape following completion of reclamation, a pit would be present where a mountain was once located.

Site preparation, mining activities, and transportation of materials would require the use of fossil fuels for construction vehicles, equipment, and employee vehicles. The mine site(s) would also require electricity. These activities would result in irreversible commitments of non-renewable energy sources. To the extent practicable, use of renewable energy sources would be incorporated into operations to reduce the amount of non-renewable energy sources required; for example, the use of compact fluorescent lighting where feasible would reduce overall energy consumption of the mine site facilities.

The mining of aggregate would be an irreversible use of mineral material reserves; however, this mining would make this resource available for use by society.

Any soil or subsoil materials not salvaged prior to disturbance at the pit site or included as waste rock would result in an irreversible commitment.

The loss of productivity (e.g., forage or wildlife habitat) from lands devoted to mining and ancillary facilities would be an irreversible and irretrievable commitment during the time that those lands are out of production and until they are successfully revegetated. Most of the land would be returned to production after reclamation and revegetation; however, the vegetation community within the open pit mine(s) would be irreversibly lost. To reduce irreversible commitments of vegetation, successful mining applicants could salvage all quality vegetation for use in offsite projects and other restoration efforts.

The use of water during mining operations would be an irretrievable impact. To reduce irretrievable resource commitments of water, a large portion of the water used in crushing and screening plants would be recycled. Water used for dust control purposes would be returned to the hydrological cycle through evaporative processes. However, the process of replenishing local water supplies from evaporated water would take a long time.

Four cultural sites in the area of the mine pit would be lost; however, research values would be recovered prior to the physical loss.

6.1.2 Irretrievable Resource Commitments

Vegetation would be removed in areas of proposed facilities. Proposed mining activities would displace wildlife in the direct area of disturbance (i.e., loss of habitat) and some wildlife in the larger, adjacent areas (i.e., reduced habitat effectiveness due to noise). These effects would likely cause a reduction in wildlife population. Reclamation plans and mitigation measures would eventually restore wildlife habitat, but it would likely not be the same quality and quantity that would be lost. To reduce irretrievable impacts on wildlife, the successful mining applicant(s) could relocate all wildlife in the Proposed Action area to suitable nearby habitats.

Construction and operation of the mine(s) would require labor that would otherwise be unavailable for other projects. The commitment of labor is considered irretrievable. Construction of ancillary facilities would also require the use of various types of raw building materials, including cement, aggregate, and steel. Use of these resources would be irretrievable. Additionally, water resources would be consumed during the life of the mining operations.

Recreation opportunities would be prohibited in the mining operations area during the life of the project.

6.2 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects could occur as a result of implementing an action alternative. Some of these effects would be short term, while others could be long term. A short-term effect occurs only during or immediately after implementation of a proposed action. A long-term effect occurs for an extended period of time after implementation of a proposed action. Unavoidable effects may include:

- The generation of fugitive dust and subsequent decrease in air quality (short-term)

- The consumption of water resources (short-term)
- The increased demand on public services and utilities (short-term)
- Increases in noise levels adjacent to the miner(s) that would affect human aesthetics and wildlife use and effectiveness (short-term)
- The destruction of four cultural resource sites (long-term)
- The destruction of paleontological resources (long-term)
- The permanent alteration of the topography (long-term)
- A change in the visual quality of the area (long-term)
- A change in the land use of the area (long-term)
- The loss of vegetation and wildlife habitat (short- and long-term)

6.3 SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

NEPA requires consideration of the relationship between short-term uses of the environment and long-term productivity associated with the Proposed Action. This involves the consideration of whether the Proposed Action would sacrifice a resource value that might benefit the environment in the long term for some short-term value to the project proponent or the public. For purposes of this discussion, short-term refers to 18 months or less (i.e., site preparation phase) after the issuance of a mineral material sales contract. Long-term refers to 18 months or longer.

Short-term use of the environment during the site preparation phase would result in the temporary loss of some resources, such as loss of some habitat, increased noise, consumption of water, and air quality impacts. Between 63 and 205 acres of land would be permanently lost in the Proposed Action area, and some vegetation and wildlife in and around the proposed mine site(s) would be lost. Longer-term impacts include the permanent loss of mineral materials, a permanent change in the area's topography, a permanent change in the area's visual character, loss of cultural resources, loss of paleontological resources, a permanent change in the area's land use, and the long-term restriction of recreational activities in the area.

In addition to the irreversible and irretrievable commitments of resources noted above, there would be a permanent loss in the overall productivity of the Proposed Action area resulting from the permanent alteration of land for mining in the open pit mine sites.

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7.0 CONSULTATION AND COORDINATION

Throughout the preparation of this EIS, the BLM made both formal and informal efforts to involve other federal agencies, state and local governments, tribes, and the public. Consultation and coordination with federal and intergovernmental agencies, organizations, Native American tribes, and interested groups and individuals are important to ensure that appropriate data have been gathered and employed for analyses and to ensure that agency and public sentiment and values are considered and incorporated into decision-making.

Coordination and collaboration on this EIS were accomplished through written and telephonic communication, meetings, and other cooperative efforts between the BLM and interested federal, state, and local government agencies, tribes, organizations, other interest groups, and the public.

7.1 PUBLIC PARTICIPATION

The BLM decision-making process is conducted in accordance with the requirements of NEPA, CEQ regulations implementing NEPA, and the U.S. Department of the Interior and BLM policies and procedures implementing NEPA.

The CEQ Regulations for Implementing the Procedural Provisions of NEPA, 40 CFR 1501.7 states that:

There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping. As soon as practicable after its decision to prepare an environmental impact statement and before the scoping process the lead agency shall publish a notice of intent in the Federal Register.

The Notice of Intent to prepare an EIS for the Proposed Sloan Hills Competitive Mineral Material Sales was published in the *Federal Register*, Volume 72, Number 111, on July 11, 2007. The Notice of Intent contained a brief description of the proposed project, mailing addresses for submittal of written comments, and the deadline for submittal of comments.

In addition to the publication of the Notice of Intent in the *Federal Register*, notices were published in local newspapers, and door hangers were distributed throughout the Las Vegas Valley announcing the locations, dates, and times of the Proposed Sloan Hills Competitive Mineral Material Sales EIS scoping meetings. Notices were published in the:

- *Las Vegas Review-Journal* Legal Notices on November 20 and December 4, 2007
- *Henderson Home News* Legal Notices on December 29, 2007

Flyers were distributed to local agencies and organizations throughout Henderson notifying them of the scoping meetings. Flyer information included meeting locations, dates, and times, and a brief project description.

The BLM Las Vegas Field Office hosted two scoping meetings to provide the public opportunities to learn about the project and to provide comments (Table 7.1-1).

**Table 7.1-1
December 2007 Public Meeting Attendance**

Meeting Date/Time	Location	Number of Attendees
Wednesday December 5, 2007 6:30 p.m. to 8:30 p.m.	Henderson Executive Airport Community Meeting Room 3500 Executive Terminal Drive Henderson, Nevada	48
Thursday December 6, 2007 6:30 p.m. to 8:30 p.m.	Henderson Executive Airport Community Meeting Room 3500 Executive Terminal Drive Henderson, Nevada	63

One hundred eleven members of the public attended the scoping meetings held at the Henderson Executive Airport Community Room on December 5 and 6, 2007. The meetings allowed attendees opportunities to provide oral comments regarding issues of concern and the alternatives that should be discussed in the EIS. Comments covered a wide range of issues, and many speakers reiterated points that previous individuals had raised. Comments are summarized in the Scoping Report (Appendix B).

During the public meetings, and as requested on the published Notice of Intent, members of the public were encouraged to mail, email, or fax written comments to the project sponsors. Written comments were received from agencies, organizations, and private citizens. Comments received during the scoping period and issues raised in the correspondence are summarized in the Scoping Report.

Public participation is ongoing throughout the EIS process. Members of the public will have the opportunity to comment on the content of the Draft EIS during the 120-day comment period.

The Final EIS will consider all substantive oral and written comments received during the 120-day Draft EIS comment period. The BLM will issue the ROD upon completion and approval of the Final EIS.

7.2 COOPERATING AGENCIES

As part of scoping, federal, state, and local agencies that may have an interest in the Sloan Hills Competitive Mineral Material Sales EIS were invited to participate in the preparation of the EIS as cooperating agencies. A cooperating agency is any federal, state, or local government agency or Native American tribes that have either jurisdiction by law or special expertise regarding environmental impacts

of a proposal or a reasonable alternative for a major federal action affecting the quality of the human environment. The benefits of cooperating agency participation in the analyses for and preparation of this EIS are: (1) disclosure of relevant information early in the analytical process; (2) application of available technical expertise and staff support; (3) avoidance of duplication of other federal, state, local, and tribal procedures; and (4) establishment of a mechanism to address intergovernmental issues.

On September 8, 2008, the BLM sent formal letters inviting 10 agencies to participate as cooperating agencies in the preparation of the Sloan Hills Competitive Mineral Material Sales EIS. The letter invited local and federal agencies to provide comments and facilitate the exchange of views and expertise. The letter was sent to the following recipients:

- City of Henderson
- Clark County DAQEM
- Clark County Department of Aviation
- NDEP
- Nevada Division of Forestry
- NDOT
- NDOW
- U.S. Department of Transportation
- U.S. EPA Agency Region 9
- USFWS

Of those agencies invited, the following agreed to be cooperating agencies in the development of this EIS:

- LVVWD
- NDOW
- Clark County DAQEM
- Clark County Department of Aviation
- City of Henderson

7.3 AGENCY CONSULTATION AND COORDINATION

The BLM held an agency scoping meeting on May 17, 2010, with cooperating agencies to discuss the proposed project. Representatives from the following agencies attended the meeting:

- City of Henderson
- Clark County Department of Aviation
- Clark County DAQEM
- LVVWD
- NDOW

7.3.1 State Historic Preservation Officer

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Section 106 consultations with the Nevada SHPO are conducted as required by the National Historic Preservation Act. BLM will coordinate with SHPO prior to the issuance of a record of decision.

7.3.2 Native American Tribes

Consultation with Native American tribes is part of the NEPA scoping process and is a requirement of FLPMA. The Las Vegas Field Office contacted interested tribes in a letter dated February 2, 2010. The following federally recognized Native American tribes with an established interest in the project area were invited to participate as consulting parties:

- Pahrump Paiute Tribe
- Hualapai Indian Tribe
- Paiute Indian Tribe of Utah
- Chemehuevi Indian Tribe
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Moapa Band of Paiute
- Las Vegas Band of Paiute

Each tribe will be contacted by BLM to see if they would be interested in discussing the Proposed Action in person. Consultation letters are in Appendix C.

7.3.3 U.S. Fish and Wildlife Service

In accordance with the ESA of 1973, as amended, 16 USC 1531, et seq., consultation with the USFWS is required when the action agency determines that the proposed action may affect a listed species or designated critical habitat. The Las Vegas Field Office contacted the USFWS to request a list of threatened and endangered species that may be impacted by the Sloan Hills Competitive Mineral Material Sale. The USFWS provided a list of species to the Las Vegas Field Office in a letter dated November 19, 2007. The BLM has prepared a Biological Assessment that will be submitted to the USFWS requesting consultation on those species that may be impacted by the proposed project. The consultation letters between the USFWS and the Las Vegas Field Office are in Appendix C.

7.4 DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC HEARING

Public hearings on the Draft EIS will be held once the Draft EIS is made available to the public for comment.