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Bureau of Land Management
and
Federal Highway Administration –
Central Federal Lands Highway Division

Environmental Assessment No: DOI-BLM-NV-S020-2021-0008-EA

Draft Environmental Assessment
for
Proposed Trail and Intersections Improvements Analysis for
BLM-FHWA Red Rock Canyon National Conservation Area:
NV FLAP 500(1)
Red Rock Trail and Intersections Improvements Project

January 2022

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Proposed Trail and Intersections Improvements Analysis for BLM-FHWA Red Rock Canyon National Conservation Area: Red Rock Trail and Intersections Improvements Project

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Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	American with Disabilities Act
BLM	U.S. Bureau of Land Management
BMP	best management practice
CFLHD	Central Federal Lands Highway Division
CFR	Code of Federal Regulations
EA	Environmental Assessment
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GHG	greenhouse gas
I-	Interstate
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MEA	management emphasis area
mph	mile(s) per hour
NAC	Nevada Administrative Code
NCA	National Conservation Area
NDNH	Nevada Division of Natural Heritage
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NLCS	National Landscape Conservation System
NRS	Nevada Revised Statutes
project	Red Rock Trail and Intersections Improvements Project
PUP	pesticide use proposal
RMP	Resource Management Plan
RRCNCA	Red Rocks Canyon National Conservation Area
SNDO	Southern Nevada District Office
SR	state route
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
VRI	visual resource inventory
VRM	visual resource management

1.0 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental effects of the Proposed Action, which includes a combination of roadway safety and recreation access improvements to address safety, access, conservation, and recreational needs. The main elements of the Proposed Action include a 5.5-mile-long, multi-use trail connecting the Summerlin residential development and existing Interstate (I)-215 West Beltway Trail to the Red Rock Canyon National Conservation Area (RRCNCA) Scenic Drive Fee Area, extended deceleration lanes at the Calico Basin Road and RRCNCA Scenic Drive Fee Area intersections with State Route (SR)-159, three parking areas, and relocation of the “Red Rock Canyon” rock sign.

In 2009, the U.S. Bureau of Land Management (BLM) completed the *SR-159 Corridor Trail Feasibility Study and Programmatic Environmental Assessment* (2009). The programmatic EA established BLM’s vision for a multi-use trail spine that roughly parallels SR-159 from West Charleston Boulevard to SR-160 and provides connections to various nodes within RRCNCA for recreational use. This EA advances the Programmatic Environmental Assessment Zone 2 trail, from the Summerlin residential area to the Scenic Drive Fee Area, with site-specific impact analysis and mitigations.

This EA will assist the BLM Red Rock/Sloan Field Office and Federal Highway Administration – Central Federal Lands Highway Division (FHWA-CFLHD), in determining whether any significant effects could result from the Proposed Action, planning the Red Rock Trail and Intersections Improvements Project (project), and ensuring compliance with the National Environmental Policy Act (NEPA). Following the requirements of NEPA (Code of Federal Regulations Title 40 Section 1508.9(a) [40 CFR 1508.9(a)]), this EA describes the potential impacts of the No Action Alternative and the Proposed Action, including the comparison of two alternative alignments for a 1.5-mile portion of the multi-use trail. If the BLM and FHWA-CFLHD determine the Proposed Action is not expected to have significant impact, a Finding of No Significant Impact would be issued, and a Decision Record would be issued by BLM. If significant impacts are anticipated, the BLM and FHWA-CFLHD would prepare an Environmental Impact Statement or select the No Action Alternative.

1.1 Identifying Information

Project Name: Proposed Trail and Intersections Improvements Analysis for U.S. Bureau of Land Management – Federal Highway Administration Central Federal Lands Highway Division Red Rock Canyon National Conservation Area: NV FLAP 500(1) Red Rock Trail and Road Intersections Improvements Project

Environmental Assessment No: DOI-BLMB-NV-S020-2021-0008-EA

Prepared Date: November 2021

1.2 Location of Proposed Action

Red Rock Canyon National Conservation Area
Las Vegas, Nevada
Mount Diablo Prime Meridian
T21S. R59E. Sec 3-5, 7, 8

1.3 Name and Location of Preparing Offices

Bureau of Land Management
Red Rock/Sloan Field Office
4701 N Torrey Pines Drive
Las Vegas, Nevada 89130

Federal Highway Administration
Central Federal Lands Highway Division
12300 West Dakota Avenue
Lakewood, Colorado 80228

1.4 Purpose and Need for Action

The purpose of the project is to (1) improve the safety of SR-159 for all users between the Summerlin residential development and the RRCNCA Scenic Drive Fee Area, (2) improve access to RRCNCA and the recreational nodes at the Scenic Drive Fee Area and along Calico Basin Road, (3) promote the preservation of natural resources within RRCNCA, and (4) create a new high-quality recreational experience through creation of a multi-use trail. The project's purpose is derived directly from these needs identified during the project scoping and analysis phases, and with input from expert BLM staff with years of first-hand experience managing RRCNCA. The corresponding need for each of the four components of the project's purpose is explained in detail in the subsections that follow.

1.4.1 Improving the Safety of SR-159 for All Users

SR-159 has a posted speed limit of 50 miles per hour (mph) and is experiencing an increase in motorized and non-motorized use. Between 2011 and 2019, average daily traffic on SR-159 increased from 4,100 to 4,600 vehicles (NDOT 2020). In the absence of any formalized trail, vehicles, bicycles, and pedestrians must use SR-159 to access Calico Basin Road, the RRCNCA Visitor Center, and the numerous recreational nodes along Scenic Loop Drive. Varying between approximately 5 feet and 1 foot wide, the existing SR-159 shoulders are narrow, creating an unsafe mix of motorized and non-motorized users. The Nevada Department of Transportation (NDOT) analyzed crash data on SR-159 between the Scenic Loop Drive exit intersection with SR-159 and Sky Vista Drive. Five intersections with SR-159 occur in this segment including the Scenic Loop Drive exit, Scenic Drive Fee Area, Calico Basin Road, Moenkopi Road, and Sky Vista Drive.

During a 5-year period between July 1, 2013, and July 1, 2018, a total of 70 crashes occurred—an average of 14 per year. Severe crashes (fatal and injury) represented nearly 60 percent of the total crashes, including three separate fatal accidents. Four crashes involved a bicycle, and seven crashes involved a motorcycle. All the bicycle-related crashes involved an injury (NDOT 2019). In 2019, a double fatality occurred when a westbound vehicle made an authorized U-turn and was struck by an eastbound vehicle. A nearby cyclist traveling on the shoulder was able to jump from their bicycle moments before the airborne vehicle landed on top of it. Although in this instance the cyclist was able to escape severe injury or death, the crash data evaluated for this project clearly demonstrate the need to provide the option for non-motorized users a safe means of accessing RRCNCA from the east.

In addition to the narrow shoulders, three of the five intersections within this stretch of SR-159 were identified as crash hotspots in the safety analysis. Thirty-seven percent of the crashes occurred at the intersections; these crashes represented 44 percent of the severe crashes. Of the three fatal accidents identified in the NDOT crash data, one occurred at the Calico Basin Road/SR-159 intersection and another at the RRCNCA entrance/SR-159 intersection (NDOT 2019). The existing deceleration lanes at Calico Basin Road and Scenic Drive Fee Area are too short to meet American Association of State Highway and Transportation Officials (AASHTO) guidance for 50-mph roadway facilities. During days of heavy visitation, the deceleration lanes become filled with vehicles waiting to enter RRCNCA. The existing deceleration lanes are not long enough to handle the traffic queues, and vehicles are forced to use the shoulder when waiting, further contributing to unsafe roadway conditions for vehicles, cyclists, and pedestrians. Furthermore, the advanced signage at these two intersections is not consistent with current Manual on Uniform Traffic Control Devices guidelines (FHWA 2012). Thus, drivers occasionally decelerate abruptly to turn into the entrance, and following drivers may not be prepared for this sudden change in speed.

The lack of adequate deceleration lane length is also present at the "Red Rock Canyon" rock sign. This sign is visible when approaching RRCNCA from the east and is a popular place for visitors to take photographs. Without a formalized parking area or deceleration lane near the sign, visitors traveling westbound park along the narrow shoulders on the northern side of SR-159 and walk to the sign area. Visitors traveling

eastbound park along the southern side of SR-159 and cross the highway to reach the entrance sign. A crest vertical curve located just west of the sign limits visibility of pedestrians to eastbound drivers, creating an unsafe scenario for pedestrians crossing the high-speed roadway. The Traffic Safety Analysis Memorandum completed for the project is included as Appendix D to this EA.

1.4.2 Improving Access to RRCNCA

SR-159 is the only option for visitors to access the RRCNCA Visitor Center and the numerous parking areas and trailheads along Scenic Loop Drive. It is also the only access to Calico Basin Road. To access these areas, bicyclists and pedestrians must use the narrow SR-159 shoulders. By constructing a multi-use path connecting the Summerlin residential area and I-215 West Beltway Trail to the Fee Area, a new access option would be created that would provide a new route for bicycles and pedestrians to access the area without using the SR-159 shoulders. The option would remain for bicycles and pedestrians to continue using the SR-159 shoulder.

1.4.3 Preserving RRCNCA Natural Resources

As RRCNCA popularity and visitation has increased, the pressure on the rare and diverse natural resources within RRCNCA has also increased. During development of the RRCNCA Resource Management Plan (RMP) (BLM 2005), the BLM recognized the need for management emphasis areas (MEA) to allow for scientific study, public interest, and recreational use while also protecting the integrity of the natural resources. The proposed trail would be located within RRCNCA east of Scenic Loop Drive, in an area designated as a Roded Natural Area. Management of this area emphasizes providing recreational opportunities and preserving the natural environment.

Vegetative disturbance also occurs when the deceleration lanes at Calico Basin Road and the Scenic Drive Fee Area become overloaded during peak visitation. The vehicles unable to queue in the deceleration lanes are forced to park on the shoulder and adjacent vegetated areas, resulting in impacts to soils, vegetation, and habitat from passengers exiting the vehicles and hiking through vegetated areas not designated as trails.

1.4.4 Creating a High-quality Recreation Experience

RRCNCA is a unique area that offers a wide array of high-quality recreational experiences ranging from sightseeing and photography to world-renowned rock climbing and cycling. Located just 30 minutes from the Las Vegas Strip, RRCNCA is BLM's most heavily visited and recreated National Conservation Area (NCA). The BLM estimates 2,500,000 visitors came to RRCNCA in 2016, representing a 150 percent increase in visitation from the 1,000,000 visitors RRCNCA experienced in 2012, just 4 years prior (BLM 2018). In 2019, visitation surpassed 3,000,000 for the first time. The BLM anticipates 2021 visitation will be approximately 3,500,000. RRCNCA visitation is expected to continue increasing in the immediate and long-term future, driven by increasing population in Clark County and growth in tourism. BLM recognizes the need to develop new recreational opportunities, to conform with the management directives of this portion of RRCNCA, and to address increasing recreational demand within RRCNCA.

1.4.5 Overview of Trail Design and Intersections Improvements

The proposed design and intersections improvements would include the following elements to address the project's needs:

- A multi-use trail connecting the existing I-215 West Beltway Trail at the Charleston Boulevard and Sky Vista Drive intersections near the Summerlin residential area with the Scenic Drive Fee Area.
 - The trail would be situated on the northern side of SR-159, the same side as the RRCNCA Scenic Drive Fee Area.

- The trail would require constructing up to approximately 11 new wash crossings. Two crossing locations of Red Rock Wash would require new bridge structures.
- Several road safety and access improvements along SR-159 consisting of the following:
 - Widening SR-159 to extend the existing deceleration lanes at the RRCNCA Scenic Drive Fee Area and Calico Basin Road intersections. Lengthening the deceleration lanes would help reduce traffic congestion during heavy-use periods and manage the traffic flow.
 - Formalizing an existing dirt parking lot where the proposed trail would cross Calico Basin Road on BLM-managed land. This would provide additional trail access, reduce the number of cars parking along the existing 20+-foot-wide unpaved shoulders along Calico Basin Road, and minimize disturbance to the surrounding sensitive environmental resources.
 - Relocating the “Red Rock Canyon” rock sign away from its current location where motorists pull off the road shoulder to a different location on BLM-managed land to resolve the existing safety issue.
 - Adding a small parking lot with a deceleration lane where the “Red Rock Canyon” rock sign would be relocated. The proposed parking lot would provide safe, short-term parking for people taking photos.
 - Adding a parking lot on Clark County land at the beginning of the trail near the Summerlin development to provide trail access and parking and to connect the proposed trail with the existing I-215 West Beltway multi-use trail.

Figure 1-1 identifies the proposed trail alignment, parking lots, and intersection improvements.

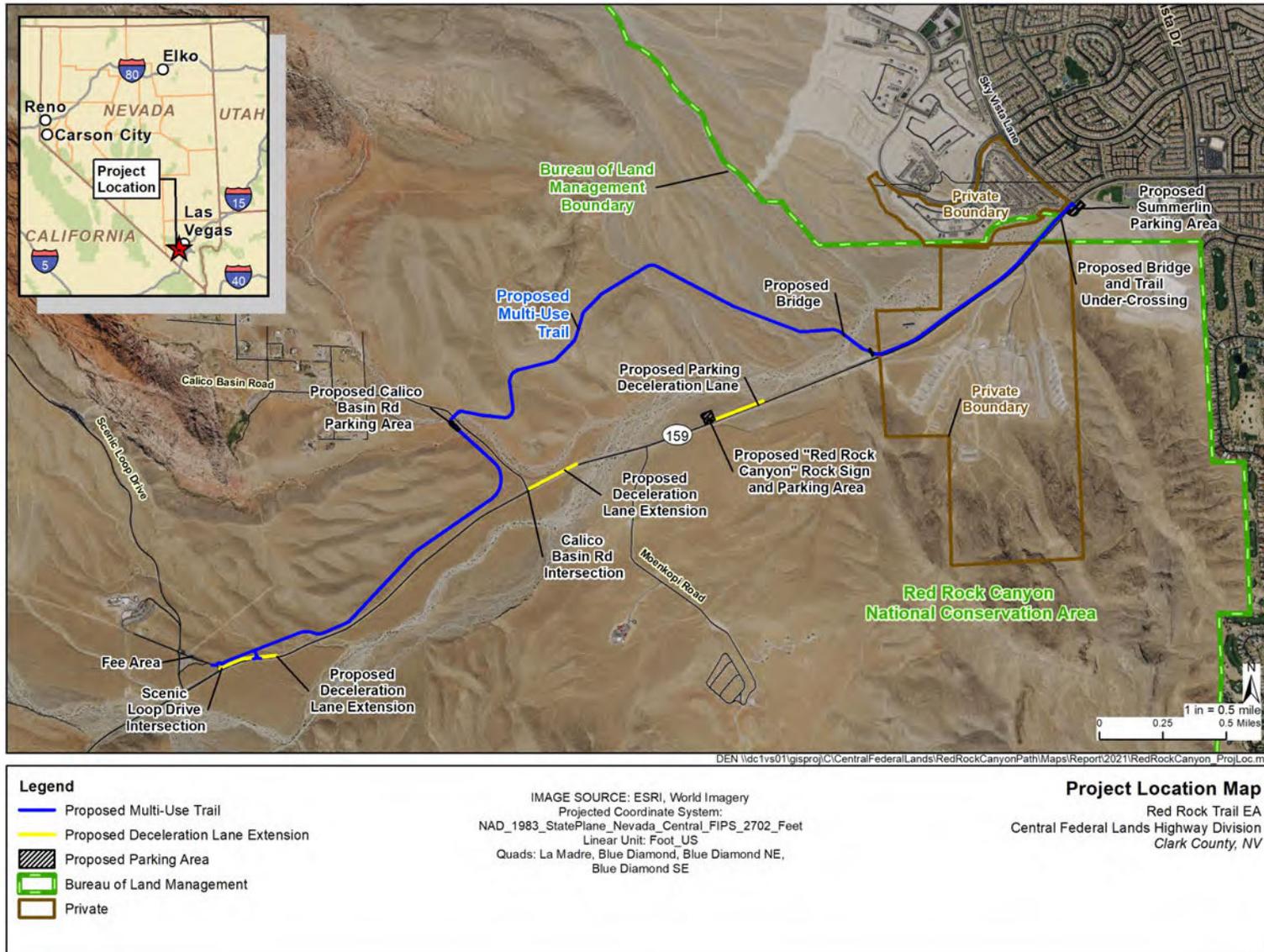


Figure 1-1. Project Location

1.5 BLM and FHWA-CFLHD Decision to be Made

The BLM and FHWA-CFLHD will decide whether to deny the proposed trail and intersection improvements, grant the trail and intersection improvements, or grant the trail and intersection improvements with modifications. The BLM and FHWA-CFLHD may include any terms, conditions, and stipulations it determines to be in the public interest and may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). In the decision process, the BLM must consider how its resource management goals, objectives, opportunities, and/or conflicts relate to this non-federal use of public lands.

1.6 Scoping, Public Involvement, and Issues

Internal scoping was performed to identify potential issues present with the Proposed Action. Although not limited to these, issues identified were specific to the following:

- Fish and wildlife (excluding federally listed species)
- Right-of-way
- Invasive species/noxious weeds
- Migratory birds and bald and golden eagles
- Threatened and endangered and candidate animal species
- Vegetation (excluding federally listed species)
- Woodland/forestry

Public review and comment will be considered and included in the Decision Document. A public meeting will be held following the notification of the draft EA's availability for public review on the NEPA register website. A 30-day public review and comment period, in accordance with 40 CFR 1506.6(b), will coincide with the draft EA notification and public meeting.

2.0 Proposed Action and Alternatives

2.1 Description of the Proposed Action

The Proposed Action includes a variety of elements to address safety, access, conservation, and recreation needs of the BLM and RRCNCA users. These improvements have been designed in accordance with NDOT, FHWA-CFLHD, and AASHTO Highway Design Standards, and with stakeholder input. Figure 1-1 depicts the elements of the Proposed Action. Construction of the Proposed Action is anticipated to take approximately 1 year, beginning in early 2023 and concluding in 2024.

2.1.1 Multi-Use Trail

To separate bicycles and pedestrians from motorized travel on SR-159, to improve access to the RRCNCA, and to reduce the development of social trails, the project includes a 5.5-mile-long multi-use trail connecting the Summerlin parking area to the Scenic Drive Fee Area. The multi-use trail would consist of a 12-foot-wide paved section with 1-foot-wide gravel shoulders on each side (Figure 2-1). The trail alignment generally follows an existing, informal social trail. Trail grades would range from 0.5 to 8.0 percent with 1.5 percent grade landing areas. The trail would meet American with Disabilities Act (ADA) compliance requirements.

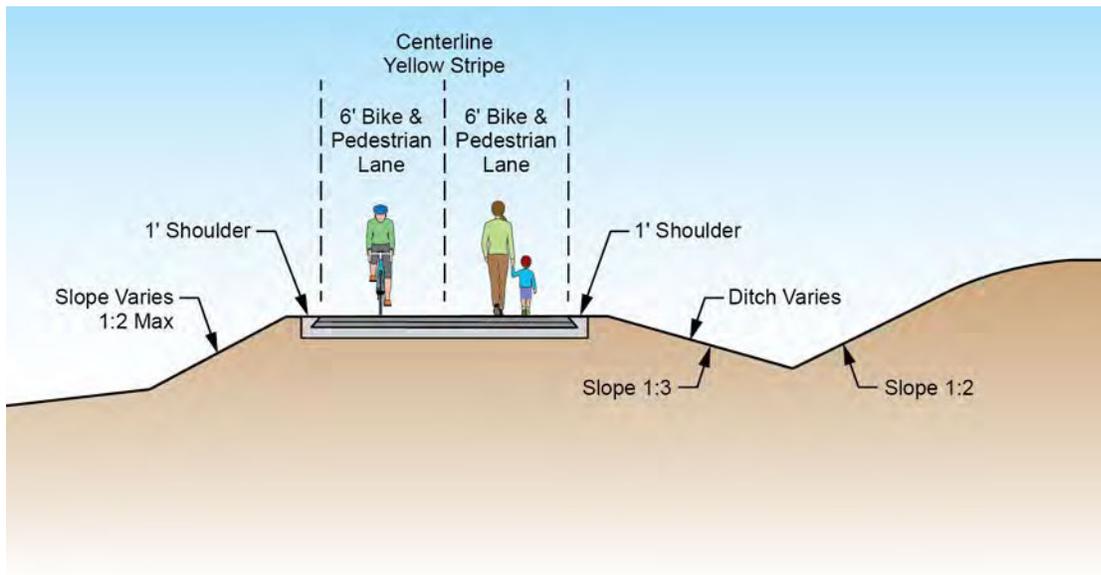


Figure 2-1. Multi-Use Trail Typical Section

2.1.2 Deceleration Lanes

To address the substandard deceleration distances and lack of queuing capacity at Calico Basin Road and the Scenic Drive Fee Area intersections, SR-159 would be widened to the north by approximately 12 feet to accommodate lengthened deceleration lanes. The deceleration lane at Calico Basin Road would be lengthened from approximately 120 feet to 500 feet and the paved shoulder width increased from approximately 1 to 6 feet. The deceleration lane at the Scenic Drive Fee Area intersection would be lengthened from 300 feet to 600 feet and the shoulder widened from 1 to 6 feet. For cyclists who choose to continue using the SR-159 shoulder, an additional 5 feet of widening and bike lane striping would clearly demarcate the trail for non-motorized travel through the entrance and Scenic Drive Fee Area intersection.

2.1.3 Bridges and Other Structures

The existing two-span SR-159 bridge over Red Rock Detention Basin would remain. A new two-span bridge approximately 230 feet long and 14 feet wide is proposed parallel to the existing SR-159 that would carry the multi-use trail across Red Rock Wash and connect to the Summerlin residential area and I-215 West Beltway Trail. The braided Red Rock Wash has a substantial flow, as indicated by the highway bridge. Upstream of this location, a new seven-span bridge is also proposed to carry the multi-use trail over Red Rock Wash where the trail turns north near the existing “Red Rock Canyon” rock sign. This bridge is anticipated to be approximately 280 feet long and 14 feet wide. At their highest points above Red Rock Wash, the new bridge structures are anticipated to be approximately 20 feet above existing grade. The other structures included for the smaller wash locations would consist of low-water crossings and box culverts.

2.1.4 Parking Areas

To provide access to the new multi-use trail and to reduce the number of vehicles parked on the SR-159 shoulder, the project includes three parking area improvements.

Beginning at the eastern end of the project on the southern side of SR-159 at its intersection with Sky Vista Drive, a 9,300-square-foot asphalt parking area providing approximately 31 parking spaces would be constructed to serve as trailhead parking for the new multi-use path. Crossing SR-159 would be grade-separated via an undercrossing of the Red Rock Wash bridge.

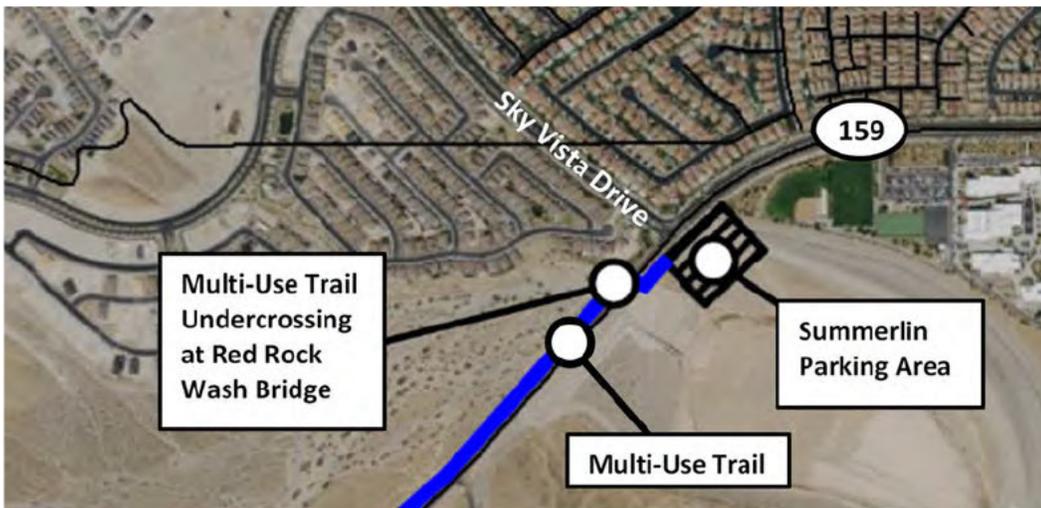


Figure 2-2. Summerlin Parking Area and Trail Undercrossing

Continuing east, a new 10,000-square-foot asphalt parking area providing approximately 23 parking spaces—including two bus stalls—would be constructed on the northern side of SR-159 approximately 0.75 mile east of the Calico Basin Road intersection. The existing RRCNCA gateway sign would be moved to this location where visitors would have adequate space to park and take photos with the popular gateway sign. A 530-foot deceleration lane requiring a 12-foot widening of SR-159 would also provide access to this parking area.

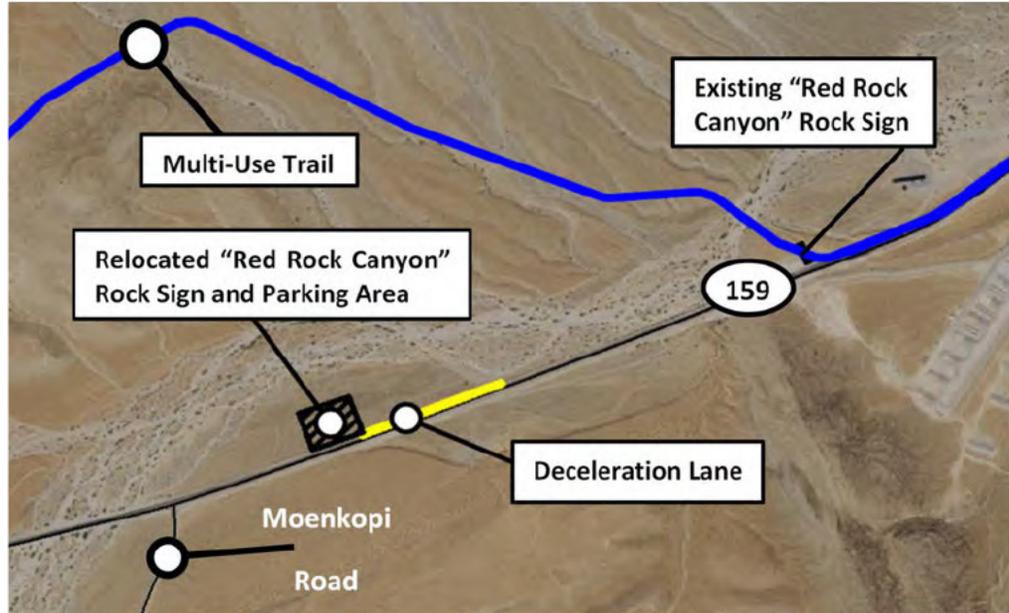


Figure 2-3. Relocated Sign and Parking Area

At the northwestern corner of the Calico Basin Road/SR-159 intersection, a small 5,400-square-foot parking lot would provide access to the multi-use trail. The existing gravel parking area would be formalized through the placement of boulders and wheel stops. This parking area would remain a dirt lot providing additional trail access and approximately 18 parking spaces.

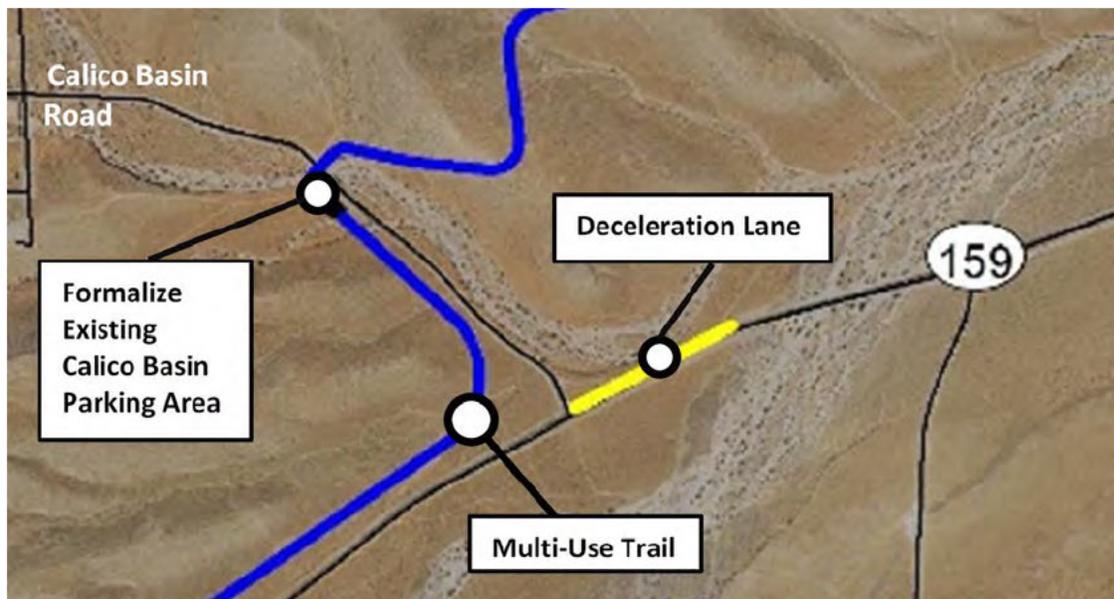


Figure 2-4. Calico Basin Parking Lot

2.1.5 Right-of-Way

The multi-use trail, SR-159 improvements, and new parking areas can be constructed within the existing BLM, NDOT, and Clark County (i.e., public) right-of-way. No right-of-way swaps, easements, or other property ownership changes would occur as a result of the Proposed Action.

2.2 Design Features

Design features are defined as features that can be incorporated into the Proposed Action to reduce or avoid adverse effects (BLM 1998a). The following design features would be used to avoid effects to resources that have been incorporated into the Proposed Action.

2.2.1 Air Resources

- The Proposed Action would comply with the Clark County Department of Air Quality regulations for construction, and all necessary permits would be acquired before work begins.
- Best management practices (BMPs) to mitigate fugitive emissions from the project would be implemented.

2.2.2 Cultural Resources

- In the event of an archaeological or historic resource discovery, the BLM archaeologist would be notified immediately, and the area where the discovery is located would be avoided until the BLM assesses the find. The area to be avoided is a 30-meter circumference around the discovery.

2.2.3 Fuels/Fire Management

- The Proposed Action would comply with fire restrictions, if any, at the time of implementation.

2.2.4 Geology/Mineral Resources/Energy Production

- All mineral materials produced during construction would be used onsite during construction reclamation and restoration.
- If excavation that produces mineral materials within this project is necessary, the mineral materials must be used within the project area or stockpiled onsite for disposal by the BLM. If mineral materials are to be stockpiled onsite for future disposal, specific BLM use authorization in the form of a contract, free-use permit, or material site right-of-way would be necessary before the stockpiled mineral materials can be removed from the project area.

2.2.5 Invasive Species/Noxious Weeds

- A Weed Plan would be developed using BLM's Weed Management Template and would be approved by the BLM weed management specialist before construction.
- The Contractor would coordinate project activities with the BLM Southern Nevada District Office (SNDO) Weed Management Specialist (phone: 702-515-5295) regarding any proposed herbicide treatment. If herbicide treatment is needed, the Contractor would prepare, submit, obtain, and maintain a pesticide use proposal (PUP) for the Proposed Action.
- The Proponent is responsible for the control of noxious and non-native weeds for the lifetime of their right-of-way. The standard of the SNDO BLM is that the applicant is responsible for the following:
 - Surveying for and treating all noxious weeds within the right-of-way during biologically appropriate times and before the noxious weeds have gone to seed.
 - Surveying for and treating non-native weeds within the right-of-way during biologically appropriate times and before the non-native weeds have gone to seed. Non-native weeds that were common in the project area before disturbance must be kept at levels (cover and density) less than or equal to pre-disturbance. Non-native weeds that were not common or non-existent in the project area before disturbance must all be treated (this also applies to new introductions that spread off right-of-way).

- Monitoring for and reporting to BLM any non-native and noxious weeds occurrence, spread, and treatment for the lifetime of the right-of-way.
- A signed PUP would be obtained by the Proponent before any ground-disturbing activity. The Proponent would submit a new PUP 6 months before their current PUP’s expiration date.
- Maintenance and reporting of the project area would follow the schedule proposed in Table 2-1.

Table 2-1. 6-Year Restoration Maintenance and Reporting Schedule for the RRCNCA Trail and Intersections Improvements Site

Task	Year 1	Year 2	Years 3-5	Year 6
Maintenance				
Weeding (including herbicide use)	Monthly	Monthly	Quarterly	Quarterly
Trash removal	Monthly	Monthly	Quarterly	Annually
Reporting				
Upon completion of construction	As-Built			
Progress reports via email	Quarterly	Quarterly	Biannually	NA
Annual report	Yes	Yes	Yes	Yes

2.2.6 Land Use/Access

- RRCNCA would remain open during visitor hours. With the exception of shoulder construction on SR-159, the construction of the trail and intersection improvements would occur off-road and would not affect access to Scenic Loop Drive, Calico Basin Road, or other amenities within this portion of RRCNCA.
- The BLM Project Manager would be part of the communication loop for the traffic and recreation coordination between BLM Red Rock Canyon staff and construction crew. Implementation of BLM-approved traffic control measures, such as construction cones and construction lights, would help to direct recreation and visitor use away from the Proposed Action location as well as minimize traffic delays on SR-159.

2.2.7 Migratory Birds/Bald and Golden Eagles

- The Proposed Action would comply with the Migratory Bird Treaty Act (MBTA) and avoid potential impacts to protected birds within the project area.

2.2.8 Paleontological Resources

- In the event of a paleontological discovery, the discovery would be immediately reported to the BLM Authorized Officer. The area where the discovery is located would be avoided until the BLM assesses the locality and the BLM Authorized Officer authorizes the work to proceed. The area to be avoided is a 30-meter circumference around the discovery.

2.2.9 Recreation

- The Proposed Action would implement traffic control and coordination with BLM staff to minimize any temporary effects that occur during construction. Construction along the SR-159 would comply with NDOT traffic control requirements. Because the proposed trail alignment is primarily off-road, impacts to visitor access would be minor.

2.2.10 Soils

- The Proposed Action would implement erosion control measures to minimize impacts.

2.2.11 Threatened and Endangered Species

- The Proposed Action would comply with the minimization measures stipulated in the RRCNCA Programmatic Biological Opinion (File No. 1-5-04-F-526) and minimization measures outlined in the Biological Opinion to be issued for this project.

2.2.12 Travel and Transportation

- The Proposed Action would not result in lane closures or access modification. All construction along the SR-159 shoulder would be completed in accordance with the NDOT Traffic Control Permit.

2.2.13 Vegetation (Excluding Federally Listed Species)

- The Restoration Plan (Appendix F) has been developed using BLM's Restoration Plan Template and approved by the BLM botanist before construction.
- All areas of disturbance would be restored immediately after completion of the Proposed Action.

2.2.14 Visual Resources

- The design of the fence on the approach to the bridge and fences used in trail segments along fill slopes should be refined to use railings that are thinner and more likely to recede into the view.

To reduce the visual contrast of the bridge over Red Rock Wash, explore the use of alternative colors, selecting a color that will blend in better with the surrounding landscape.

2.2.15 Water Resources/Quality

- The project would comply with all Nevada water laws.
- If groundwater is intercepted during construction, these areas would be reclaimed appropriately.
- If artesian water is encountered, it would be controlled as required in Nevada Revised Statute 534.060(3).

2.2.16 Wild Horses and Burros

- Individuals would be informed to not harass (i.e., feed, pet, chase, or similar) wild horses and burros if encountered at or near the construction areas. If contractors see any wild horses and burros, they should keep a safe distance.

2.2.17 Woodland/Forestry

- Unless otherwise directed by the BLM Botanist, all replanted cactus and yucca plants would be watered and otherwise maintained for a period of 1 year.
- Cacti and yucca within temporary disturbance areas would be salvaged and used in the restoration site. Vegetation would also be salvaged to use within temporarily disturbed areas.
- To ensure successful salvage and transplant, all cactus and yucca plants would be salvaged using a Contractor (or other approved by the BLM Botanist) with at least 3 years of experience salvaging and maintaining plant materials in the Mojave or Sonoran deserts.

2.3 Disturbance

The Proposed Action would result in temporary disturbances related to construction activities and permanent disturbance resulting from grading and paving of the multi-use trail, parking areas, and roadway

widening for deceleration lanes. The new multi-use trail follows existing informal social trail for intermittent portions of the proposed alignment. Previously disturbed areas also exist along SR-159 near the deceleration lanes where vehicles often park during peak visitation. Design features have been incorporated to avoid impacts where possible, and mitigation measures included to minimize impacts to a minor or negligible degree where avoidance is not feasible. Table 2-2 identified the disturbance acreages for each project element; existing disturbed areas have been excluded when calculating disturbance areas.

Table 2-2. Summary of Project Disturbances

Project Element	Permanent Impact (acres)	Temporary Impact (acres)
<i>Parking Areas</i>		
Summerlin	0.57	0.33
Relocated Red Rock Canyon sign	0.52	0.40
Calico Basin	0.02	0.05
<i>SR-159 Widening for Deceleration Lanes</i>		
Relocated Red Rock Canyon sign	0.01	0.11
Calico Basin Road	0.07	0.10
Scenic Drive Fee Area	0.14	0.14
<i>Multi-Use Trail</i>		
Multi-Use Trail	18.40	14.30
Total	19.72	15.44

A disturbance map book identifying the areas reflected in Table 2-2 is included as Appendix B. Construction of the project would require a variety of construction equipment, including both tracked and wheeled vehicles. Although the construction contractor would have the flexibility to use the equipment needed to construct the project, anticipated construction equipment may include but is not limited to the following:

- Bulldozer used primarily used for soil excavation, salvage, removal, and grading.
- Scraper used for soil excavation, salvage, removal, and grading.
- Front end loaders used for soil excavation, salvage, and removal.
- Crane to construct the two new bridges over Red Rock Wash.
- Road-legal haul trucks to move materials to and from the construction areas.
- Paver for laying asphalt on the multi-use trail, parking areas, and in areas of SR-159 widening.
- Staging for construction equipment would occur onsite. Construction phasing may be implemented so the parking areas could be graded first and used as staging for construction of the other project elements. Construction means and methods are ultimately determined by the construction contractor within the stipulations and parameters of this EA.

2.4 Maintenance

Maintenance activities included in this EA would be limited to the disturbance areas and improvements resulting from the Proposed Action. Anticipated maintenance activities include, but are not limited to, removing rock and debris from the trail, removing sediment and debris from culverts, resealing or

resurfacing pavements, repairing potholes, sealing cracks in asphalt and concrete, routine grading to maintain roadway shoulders at the deceleration lane locations, removing invasive vegetation, restriping, replacing signs, removing graffiti, and repainting bridges.

Clark County has agreed to maintain the multi-use trail, including the low-water crossings located at approximately nine wash crossings along the length of the trail. The low-water crossings would need to be cleared of wash debris in the event of a precipitation event resulting in debris being deposited on the trail. BLM would be responsible for maintenance of the new parking areas. The new parking areas represent approximately 1.1 acres of new pavement requiring routine maintenance. The deceleration lane improvements on SR-159 are within the NDOT right-of-way and would be maintained in the future as part of NDOT's maintenance activities for its roadway facilities.

Weeds would be maintained through weed surveys and treatments per the weed management terms and conditions.

2.5 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, resource impacts as described in the Environmental Effects section would not occur from the approximately 35 acres of disturbance within the RRCNCA. Ongoing safety concerns between vehicles and bicyclists along SR-159 and vehicle queuing in the deceleration lanes during peak visitation days would not be alleviated.

2.6 Alternatives Considered but not Analyzed in Detail

An alternative alignment (Alternative 1b) was considered for the eastern 1.5 miles of the multi-use path beginning at the Sky Vista Drive near the Summerlin residential area. Instead of crossing Red Rock Wash, Alternative 1b would pivot north and continue along the edge of the Summerlin residential development before reconnecting with the Proposed Action alignment. Although Alternative 1b would meet the project's needs, it would result in greater environmental impacts than the Proposed Action. Specifically, Alternative 1b would result in the need to salvage approximately 830 more cactus and yucca plants. Cactus and yucca plants are essential components of the Mojave ecosystem and protected BLM resources, therefore the difference in the number of plants requiring salvage would be a meaningful differentiation between the two action alternatives. Alternative 1b also would result in approximately 5 fewer acres of permanent disturbance to Mojave desert tortoise (*Gopherus agassizii*) habitat, a federally listed threatened species. Additionally, Alternative 1b would not be able to be constructed within the existing public right-of-way. The BLM intends to construct the project within the existing public right-of-way and avoid any impacts to adjacent private property owners. Because Alternative 1b would result in greater environmental and community impacts, it was eliminated from further consideration. The alternatives analysis comparing the two trail alignment alternatives is included as Appendix C of this EA.

The proposed Calico Basin Road Large Parking Area was considered during internal discussions and planning, but it was determined that the parking area could conflict or affect the future Resource Area Management Plan that is being conducted to address high visitation, multiple recreation management, and natural resource management in the Calico Basin area, within the RRCNCA.

2.7 Conformance

The RRCNCA RMP (BLM 2005) is the overarching management plan and guidance document for activities within RRCNCA. MEAs were created to guide the evolution of RRCNCA and create a framework for evaluating the appropriateness of current and future uses. RRCNCA is divided into five MEA zones. The

Proposed Action is located within a Roaded Natural Area MEA zone. According to the RMP, the guidelines for this zone include:

- Developments limited to improved access and those consistent with the natural environment
- The recreational experience is based on the natural setting
- May include roads, trails and camping areas (new improvements for resource protection only)
- Human interaction level is low to moderate, more often on the low side
- On site controls present, but subtle (BLM 2005, p.24)

Chapter 2 of the RMP establishes standard operating procedures for recreation, including the commitment that “trails and other means of public access would continue to be maintained and developed where necessary to enhance recreation opportunities and allow public use.” (BLM 2005, p.64)

The RMP establishes the need for user-friendly, designated trails. By constructing a formalized trail and associated parking areas through this section of RRCNCA, the BLM would conform with the standard operating procedures and MEA guidelines for Roaded Natural Areas.

The proposed trail and intersection improvements would also support safety and parking improvements along SR-159. A key management question the RMP addresses is how to manage RRCNCA’s road and trail systems while maintaining the natural environment as the highest priority. SR-159 is the only option for motorists to access the RRCNCA Visitor Center and recreational nodes along Scenic Loop Drive. The Proposed Action would reduce the number of vehicles parking on the shoulder waiting to enter RRCNCA and increase the safety of travelers on SR-159. By improving the roadway and parking system along SR-159, BLM would be in conformance with the management directives in the RMP.

The project is identified in the Nevada-approved 2021 Statewide Transportation Improvement Program as project number CL20200123 (NDOT 2021) and the Regional Transportation Commission of Southern Nevada 2021-2050 Regional Transportation Plan and 2021-2025 Transportation Improvement Program as project number RTCSNV 21-11 (RTC 2021).

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3.0 Affected Environment

Table 3-1 summarizes the environmental attributes that have been reviewed, whether they would be affected by the Proposed Action, and the rationale for that determination. Elements that would not be affected will not be discussed further. Resources that may be affected are analyzed in further detail in Section 4, Environmental Effects, of this document. After identifying anticipated environmental effects, mitigation measures are detailed at the end of Section 4 to ensure environmental impacts are minimized.

Table 3-1. Affected Resources Form

Resource	Not Present	Present/ Not Affected	Present/ May be Affected	Rationale for Determination
Air Resources		X		<p>The Proposed Action is located within Clark County hydrographic area 212, which is designated as a non-attainment area (i.e., an area not meeting the National Ambient Air Quality Standards [NAAQS]) for 8-hour ozone, maintenance area for particulate matter less than 10 micrometers and carbon monoxide, and attainment for all other criteria pollutants. Projects that receive federal funds/approval and that are located in non-attainment and maintenance areas would be subject to the transportation conformity requirements (40 CFR 93). The Proposed Action includes improvements to bicycle and pedestrian facilities and widening of narrow pavements to accommodate lengthening of deceleration lanes (no additional travel lanes). Therefore, per 40 CFR 93.126, this project would be exempt from transportation conformity requirements and no further analysis is needed. Fugitive emissions from construction activities would be temporary and would not create any lasting impacts to the environment.</p> <p>Design features would reduce the risk of any negative impacts to air quality. All construction activity within the project area must be covered under a dust control permit through the Department of Air Quality in Clark County, and all permit stipulations must be in compliance for the duration of the activity.</p>
Areas of Critical Environmental Concern	X			The Proposed Action would not occur within an Area of Critical Environmental Concern.
BLM Natural Areas	X			The Proposed Action would not occur within any BLM natural areas.
Cultural Resources		X		A class III Cultural Resources Inventory was completed in June 2020. No historic properties are known within the Area of Potential Effect. The cultural investigation resulted in a finding of <i>no historic properties affected</i> . Per the Nevada State Historical Preservation Office State Protocol Agreement (BLM 2014), actions that result in no adverse effect determinations are considered “under-threshold” and are not included in the class of undertakings requiring State Historical Preservation Office consultation.

Environmental Justice	X		The Proposed Action occurs entirely within the public right-of-way and would not result in any residential or business displacements. The multi-use trail and safety improvements to SR-159 would benefit all users. Furthermore, there are no private residences within RRCNCA, and therefore there would be no impact to minority or low-income populations as defined by Executive Order 12898.
Farmlands (Prime or Unique)	X		The Proposed Action would not occur within any prime or unique farmlands.
Fish and Wildlife (Excluding Federally Listed Species)		X	The Proposed Action has the potential to impact wildlife species, including BLM sensitive species. Impacts are assessed in this EA.
Floodplains		X	The Proposed Action would traverse the Federal Emergency Management Agency (FEMA) 100-year Zone A (100-year) floodplain along Red Rock Wash in two locations via new bridge structures. The bridge structures would require abutments, piers, and grading to occur within the floodplain. A hydraulic analysis was completed for the Proposed Action (refer to Appendix J) and confirmed the addition of the aforementioned bridge elements would result in less than a 1-foot rise in the 100-year flood event water surface elevation. Therefore, floodplain impacts have been determined to be minimal and within the 1-foot rise FEMA regulatory thresholds for Zone A floodplain development. Aside from Red Rock Wash, no other floodplains are present in the project area.
Fuels/Fire Management		X	Compliance with BLM fire restrictions and fire prevention measures would mitigate any risks introduced by the Proposed Action.
Geology/Mineral Resources/ Energy Production		X	The Proposed Action would result in the permanent removal of rock material during excavation activities. Approximately 41,500 cubic yards of waste rock material is anticipated to be hauled from the construction site as net waste material. Before mineral materials can be removed from the site, it is required that a contract or a free-use permit is authorized. Impacts are assessed in this EA.
Greenhouse Gas (GHG) Emissions		X	Currently, there are no emission limits for suspected GHG emissions, and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, efforts to address GHG emissions from federal activities, including BLM-authorized uses in future planning documents, are ongoing.
Hydrologic Conditions		X	The Proposed Action includes approximately 24 culverts and 9 low-water crossings along the multi-use trail to convey drainage flows and prevent scour and erosion during precipitation events. These drainage features would be designed to convey the 100-year flow. Two new bridges, both designed and constructed to convey the 100-year storm event, would also be required to carry the trail over Red Rock Wash. These localized drainage

			<p>improvements would convey the wash flows and therefore would have negligible impact on water surface elevation. Furthermore, these improvements do not fundamentally alter the hydrologic conditions of Red Rock Wash basin or the unnamed washes that feed into it. During precipitation events, water would continue to flow down the washes unhindered, transporting the natural sediments to Red Rock Wash consistent with the existing hydrologic conditions of the washes. A hydrologic analysis was completed for the Proposed Action (refer to Appendix J) and confirmed impacts to hydrologic flows in Red Rock Wash are minor and within FEMA floodplain development regulation requirements.</p>
Invasive Species/ Noxious Weeds		X	<p>The Proposed Action has the potential to impact invasive species and noxious weeds. Impacts are assessed in this EA.</p>
Land Use/Access		X	<p>The Proposed Action would result in the conversion of undeveloped Mojave Desert landscape to a transportation and recreational use. Impacts are assessed in this EA.</p> <p>The multi-use trail would improve access to RRCNCA by providing a new bicycle and pedestrian route to the RRCNCA Fee Area. The extended deceleration lanes would further improve access by increasing vehicle queue storage and reducing lane backups that could impact SR-159 during peak visitation.</p>
Lands with Wilderness Characteristics	X		<p>The Proposed Action would not occur within any designated lands with wilderness characteristics in the project area.</p>
Livestock Grazing	X		<p>The Proposed Action would not occur in any authorized grazing allotments.</p>
Migratory Birds/Bald and Golden Eagles		X	<p>The Proposed Action has the potential to impact migratory birds and bald and golden eagles. Impacts are assessed in this EA.</p>
National Landscape Conservation System (NCA)		X	<p>Driven by the population increase in Clark County and growth in tourism, an increase in visitation to RRCNCA is projected with or without the Proposed Action. The recreational, access, and transportation improvements included in the Proposed Action may contribute to this increase in visitation; however, these same improvements also provide the opportunity for improving the function of RRCNCA as a National Landscape Conservation System (NLCS) and are consistent with RRCNCA's management guidelines in the RMP. Therefore, the Proposed Action would not impact RRCNCA's designation, boundary, of use as a conservation area within the NLCS.</p>
Native American Religious Concerns	X		<p>Tribal consultation occurred in the summer of 2020. None of the consulting parties have expressed concerns or formally commented at the time of this EA preparation. The Moapa Band of Paiutes have expressed interest and the BLM is coordinating with the them to schedule a field visit to the project area.</p>

Noise	X		According to 23 CFR 772, a noise analysis is required for Type I projects. However, because the Proposed Action does not meet the definition of a Type I project, this project would be considered a Type III project, and a noise analysis is not required.
Paleontological Resources		X	Based on literature review and relevant maps, the Proposed Action would occur in a Potential Fossil Yield Classification category 2 area, indicating low potential for paleontological resources. Design features would reduce the risk of any negative impacts to paleontological resources if an unexpected discovery were to occur.
Rangeland Health Standards	X		The Proposed Action would not affect underlying ecological conditions of the area. This portion of RRCNCA is not grazed or managed to support livestock.
Recreation		X	The Proposed Action has the potential to impact recreational resources. Impacts are assessed in this EA. The multi-use trail would improve the recreational resources to RRCNCA by providing a new multi-use trail.
Section 4(f)	X		The Proposed Action would occur within a Roaded Natural Area MEA zone within RRCNCA. The guidelines for Roaded Natural MEA zones limit development and emphasize natural resource protection. While trail development is permitted within this zone, it should be “based on the natural setting” (BLM 2005). The existing trail network in this portion of RRCNCA consists of unauthorized social trails that result in the disturbance of sensitive wildlife habitat and vegetation and that are not based on the natural setting. Furthermore, these trails are not identified in the RMP. Because this portion of RRCNCA is managed as a Roaded Natural Area, and no developed recreational facilities exist, this area of RRCNCA is not identified as a Section 4(f) property, as defined by 23 CFR 774. No historic 4(f) resources exist in the project area. In the absence of any non-historic or historic Section 4(f) resources, the Proposed Action has no use of Section 4(f) as defined in 23 CFR 774.17.
Socioeconomics		X	The Proposed Action has the potential to impact socioeconomic resources. Impacts are assessed in this EA. The trail project would have long-term social and economic benefits by providing improved access, safety, and the recreational experience for visitors.
Soils		X	The Proposed Action would have local impacts to soils in the areas of the multi-use trail, parking lots, and deceleration lane extensions. In these areas, native soils would be excavated, paved over, or compacted. The impacts area is assessed in this EA.
Threatened, Endangered, or Candidate Animal Species		X	The Proposed Action could potentially affect the federally threatened Mojave desert tortoise. Impacts are assessed in this EA. No other federally listed species or candidates for federal listing have the potential to occur in the area.

No designated critical habitat for any federally listed animal species occurs in the area.

Threatened, Endangered, or Candidate Plant Species	X	No federally listed threatened or endangered plant species or candidates for federal listing have the potential to occur in the Proposed Action area. No designated critical habitat for any federally listed plant species occurs in the area.
Travel/ Transportation	X	The Proposed Action would benefit travel and the transportation system through lengthening deceleration lanes, constructing new parking areas, improving striping on SR-159, and constructing the new multi-use trail. The Proposed Action has the potential to impact travel and transportation. Impacts are assessed in this EA.
Vegetation (Excluding Federally Listed Species)	X	The Proposed Action would permanently disturb approximately 19.72 acres of native vegetation. Impacts are assessed in this EA. The yellow twotone beardtongue (<i>Penstemon bicolor</i> ssp. <i>bicolor</i>), a BLM sensitive species, is known to occur in the area. Impacts are assessed in this EA.
Visual Resources	X	The Proposed Action occurs in a Visual Resource Management Class II area. The multi-use trail, parking lot, and bridges would create new visual elements with low levels of contrast with the Mojave landscape. Impacts are assessed in this EA.
Wastes (hazardous or solid)	X	While no hazardous waste concerns have been identified in the Proposed Action location, design features are included that detail the steps to be taken should hazardous waste release occur during Proposed Action implementation.
Water Resources/ Quality (drinking/ surface/ground)	X	Water resources in the Proposed Action area consist of ephemeral desert washes that carry surface water flows only during precipitation events. The Proposed Action would not affect these desert washes. Furthermore, there are no drinking water intake structures or other drinking water resources in the Proposed Action area.
Wetlands/ Riparian Zones	X	The Proposed Action would not occur in an area with wetlands or in a riparian zone.
Wild and Scenic Rivers	X	The Proposed Action would not occur in or near any wild and scenic rivers.
Wild Horses and Burros	X	The Proposed Action would occur in the Red Rock Herd Management Area. Impacts to the wild horses and burros are not anticipated, as individuals are not known to frequent the vicinity of the Proposed Action. The construction crew would be educated about wild horse and burro procedures, including non-harassment, before commencing activity.
Wilderness/ Wilderness Study Areas (WSAs)	X	The Proposed Action would not occur within and would not affect access to any wilderness or WSAs.
Woodland/ Forestry	X	Cacti and yucca are prevalent across the Mojave landscape and are located in areas that would be temporarily and

permanently disturbed by the Proposed Action. Impacts are assessed in this EA.

3.1 Fish and Wildlife Species (Excluding Federally Listed Species)

RRCNCA supports a diverse community of nearly 300 wildlife species specially adapted to survive the hot and dry conditions of the Mojave Desert (BLM 2005). Wildlife species in the general area include rodents, rabbits and hares, perching and non-perching birds, raptors, reptiles, amphibians, small mammals, carnivores, hoofed animals, bats, and invertebrates. Based on ecological sensitivity factors of individuals, populations, and habitats, the three groups of priority management concern within RRCNCA are bats, raptors, and reptiles and amphibians. Wild horses and burros are also found within RRCNCA.

BLM sensitive species are those species requiring special management consideration to avoid potential future listing under the Endangered Species Act (ESA) and that have been identified in accordance with procedures set forth in BLM Manual 6840, Special Status Species (BLM 2008). BLM sensitive wildlife species with the potential to occur in the Proposed Action vicinity include the banded Gila monster (*Heloderma suspectum cinctum*), common chuckwalla (*Sauromalus ater*), desert collared lizard (*Crotaphytus collaris*), desert glossy snake (*Arizona elegans eburnata*), desert horned lizard (*Gambelia wislizenii*), long-nosed leopard lizard (*Phrynosoma platyrhinos*), Mojave desert sidewinder (*Crotalus cerastes cerastes*), Mojave shovel-nosed snake (*Chionactis occipitalis occipitalis*), western red-tailed skink (*Plestiodon [Eumeces] gilberti rubricaudatus*), Brewer's sparrow (*Spizella breweri*), Crissal thrasher (*Toxostoma crissale*), golden eagle (*Aquila chrysaetos*), LeConte's thrasher (*Taosostoma lecontei*), loggerhead shrike (*Lanius ludovicianus*), peregrine falcon (*Falco peregrinus*), phainopepla (*Phainopepla nitens*), sage thrasher (*Oreoscoptes montanus*), and western burrowing owl (*Athene cunicularia hypugaea*) (BLM 2017). Bighorn sheep (*Ovis canadensis*), a BLM sensitive species, occur within RRCNCA but are not found in the Proposed Action vicinity and would not be affected by its implementation.

The Nevada Administrative Code (NAC) classifies certain wildlife species as Protected or Threatened if one or more of the following criteria exist (NAC 503.103):

1. The species is found only in Nevada and its population, distribution, or habitat is limited
2. The species has a limited population or distribution within Nevada that is likely to decline as a result of human or natural causes
3. The species' population is threatened as a result of the deterioration or loss of its habitat
4. The species has ecological, scientific, educational, or other value that justifies its classification as protected
5. Available data are not adequate to determine the exact status of the population of the species but do indicate a limited population, distribution, or habitat
6. The species is listed by the U.S. Fish and Wildlife Service (USFWS) as threatened or endangered or is a candidate for listing
7. Other evidence exists to justify classifying the species as protected

The Nevada Division of Natural Heritage (NDNH) maintains a database of known occurrences of state-listed and other special status species. A search of this database listed two state-listed wildlife species as having known occurrences in the Proposed Action vicinity: the banded Gila monster (Protected Reptile) and the Mojave desert tortoise (Threatened Reptile) (refer to Section 3.4) (NDNH 2020) (NAC 503.080).

3.1.1 Banded Gila Monster

The banded Gila monster inhabits desert scrub, semi-desert grassland, and woodland communities along mountain foothills in extreme southwestern Utah, southern Nevada, and adjacent southeastern California south through southern Arizona, southwestern New Mexico, and much of Sonora to Sinaloa, Mexico (NatureServe 2020). Common habitat components include rock crevices, boulders, burrows, and packrat middens used for shelter, typically at elevations above 1,280 feet (NNHP 2020). This species eats bird and reptile eggs and juvenile mammals, including cottontail rabbits and rodents. They are most active from late April through June. Because most of their time is spent in burrows, this species is infrequently seen, and population information may be incomplete. Banded Gila monsters are known to occur within the vicinity of the Proposed Action but are unlikely to be seen because of their secretive nature (NDNH 2020).

3.1.2 Common Chuckwalla

The common chuckwalla inhabits rocky desert environments with a creosote bush (*Larrea tridentata*) component across southern Nevada, southern Utah, southeastern California, and western Arizona south to southern Baja California and west-central Sonora, Mexico (NatureServe 2020). Common habitat components include lava flows, large boulder piles, and outcrops with rock crevices used for sheltering. Chuckwallas are strict herbivores, preferring flower heads and moist leaves of annual plant species, although perennial plants may also be eaten (NNHP 2020). Within Nevada, common chuckwallas are found at elevations between 3,300 and 4,500 feet and are active from March through August. Chuckwallas are relatively common throughout their Nevada range and may occur within the vicinity of the Proposed Action but would be localized on rock outcroppings.

3.1.3 Desert or Great Basin Collared Lizard

The desert collared lizard, also known as the Great Basin collared lizard, inhabits xeric, sparsely vegetated rocky areas from southeastern Oregon and southern Idaho south through northeastern California, Nevada, and western and lowland central Utah to southeastern California and western Arizona (NatureServe 2020). Desert collared lizards are diurnal, mainly eat arthropods and other reptiles, and are inactive during cold winter weather. Within Nevada, they are found at elevations between 3,160 and 6,300 feet (NNHP 2020). These lizards may occur within the vicinity of the Proposed Action but would be localized on rock outcroppings.

3.1.4 Desert Glossy Snake

The desert glossy snake is a burrowing snake inhabiting barren sandy desert, arid scrub, and rocky washes in southern Nevada, Arizona, and southern Utah (NatureServe 2020). Desert glossy snakes are nocturnal and hibernate during the winter. They mainly eat lizards and occasionally small mammals and other snakes. Within Nevada, desert glossy snakes are found at elevations between 3,180 and 4,400 feet (NNHP 2020). These snakes may occur within the vicinity of the Proposed Action but are unlikely to be seen because of their nocturnal habit.

3.1.5 Desert Horned Lizard

The desert horned lizard inhabits desert shrublands, particularly areas of bare ground exist among openly spaced shrubs, ranging from southeastern Oregon, southwestern Idaho, and northern Utah south through eastern and southern California, Nevada, and western Arizona to northeastern Baja California, Mexico (NatureServe 2020). Desert horned lizards are diurnal, primarily eat ants and beetles, and hibernate during cold winter weather. Within Nevada, they are found at elevations between 3,110 and 6,330 feet (NNHP 2020). Suitable habitat for these lizards occurs throughout the vicinity of the Proposed Action.

3.1.6 Long-nosed Leopard Lizard

The long-nosed leopard lizard inhabits desert and semi-desert areas with scattered shrubs or other low plants from Oregon, southern Idaho, Utah, and western Colorado south through eastern and southern California, Nevada, Arizona, New Mexico, and western Texas to northeastern Baja California and north-central mainland Mexico (NatureServe 2020). Long-nosed leopard lizards are diurnal, eat insects, spiders, lizards, and small rodents, and are inactive during cold winter weather. Within Nevada, these lizards are found at elevations between 3,100 to 7,115 feet (NNHP 2020). Suitable habitat for these lizards occurs throughout the vicinity of the Proposed Action.

3.1.7 Mojave Desert Sidewinder

The Mojave desert sidewinder is a nocturnal snake inhabiting open desert terrain with fine windblown sand, sandy washes, or sand dunes sparsely vegetated with creosote bush or mesquite (*Prosopis* spp.) across southeastern California, southern Nevada, and extreme southwestern Utah and parts of Arizona (NatureServe 2020). This snake sometimes occurs in rocky or gravelly areas, especially near washes and densely vegetated areas where mammal burrows are common. Prey includes lizards, pocket mice, kangaroo rats, and other small mammals, and occasionally small birds and snakes. Within Nevada, these snakes are found at elevations between 3,088 and 4,567 feet and are active from early to mid-spring until late summer or early fall (NNHP 2020). They may occur within the vicinity of the Proposed Action but are unlikely to be seen because of their nocturnal habit.

3.1.8 Mojave Shovel-nosed Snake

The Mojave shovel-nosed snake is a burrowing snake inhabiting sparsely vegetated areas in the Mojave Desert, ranging from southwestern Nevada and southeastern California east to south-central Arizona (NatureServe 2020). These areas are vegetated with mesquite creosote bush, desert grass, and cactus, and include rocky slopes, dunes, washes, and sandy flats. Mojave shovel-nosed snakes are nocturnal, feed primarily on insects, spiders, scorpions, and centipedes, and are active most of the year (NNHP 2020). Within Nevada, Mojave shovel-nosed snakes are found at elevations between 2,780 and 4,250 feet. These snakes may occur within the vicinity of the Proposed Action but are unlikely to be seen because of their nocturnal habit.

3.1.9 Western Red-tailed Skink

The western red-tailed skink is a lizard found in a wide variety of habitats in the foothills and middle elevations of southern Sierra Nevada Mountains and South Coast Ranges and south into Baja California (NatureServe 2020). Within Nevada, these lizards are found at elevations between 3,780 and 7,750 feet in areas of sagebrush (*Artemisia* spp.) with widely scattered junipers (*Juniperus* spp.), along the blackbrush (*Coleogyne ramosissima*)/sagebrush ecotone, and in creosote bush (NNHP 2020). Western red-tailed skinks are diurnal, eat insects and spiders, and hibernate during the winter. Suitable habitat for these lizards occurs at higher elevations throughout the vicinity of the Proposed Action.

3.1.10 Brewer's Sparrow

Brewer's sparrow is a small sparrow found throughout western North America, ranging from southern Canada and Alaska through southern Baja California and Sonora, Mexico, during the breeding season (NatureServe 2020). During the nonbreeding season, this bird is found across the southern portions of California, Nevada, Arizona, and New Mexico, western Texas, and south to central Mexico. Brewer's sparrows are strongly associated with sagebrush-steppe habitat, especially areas with scattered shrubs and short grass, but can also be found in mountain mahogany (*Cercocarpus* spp.), rabbitbrush (*Chrysothamnus* spp. and *Ericameria* spp.), bitterbrush (*Purshia* spp.), ceanothus (*Ceanothus* spp.), and manzanita (*Arctostaphylos* spp.), in bunchgrass grasslands with shrubs, and large openings in pinyon (*Pinus*

monophylla) juniper. Winter habitat includes a range of desert scrub consisting mainly of saltbush (*Atriplex* spp.) and creosote bush (BLM 2017). Brewer's sparrows forage mainly on the ground, eating insects in spring and summer and seeds in fall and winter. In Nevada, these birds are found at elevations between 3,415 and 6,190 feet (NNHP 2020). Suitable winter habitat for Brewer's sparrows occurs throughout the vicinity of the Proposed Action.

3.1.11 Crissal Thrasher

The crissal thrasher is a large thrasher residing year-round in southeastern California, southern Nevada, southwestern Utah, northwestern and central Arizona, central New Mexico, and western Texas south to northeastern Baja California, and central Sonora and Chihuahua (NatureServe 2020). Preferred habitat includes desert scrub, mesquite, and tall riparian brush, and nesting usually occurs beneath dense cover. Crissal thrashers eat insects, berries, and sometimes small lizards. Although uncommon in Nevada (BLM 2017), these birds could occur throughout the vicinity of the Proposed Action.

3.1.12 Golden Eagle

The golden eagle is a large raptor with a widespread distribution throughout the Northern Hemisphere (NatureServe 2020). Habitat includes open and semi-open country such as prairies, sagebrush, savannah, or sparse woodland, and barren areas, especially in hilly or mountainous regions, in areas with sufficient mammalian prey base and near suitable nesting sites (GBBO 2010). Golden eagles mainly eat small mammals, such as rabbits, marmots, and ground squirrels, but may also eat insects, snakes, birds, juvenile ungulates, and carrion (NNHP 2020). Within Nevada, golden eagles are found at elevations between 4,235 and 7,545 feet, nesting predominantly on rock ledges in cliff habitat, and occasionally in large trees. Breeding generally occurs from December 1 through August 31. The USFWS Information for Planning and Consultation (IPaC) list identifies the golden eagle as having potential to occur in the vicinity of the Proposed Action (2020).

3.1.13 LeConte's Thrasher

LeConte's thrasher is a large thrasher residing year-round in the San Joaquin Valley and Mojave Desert of California and Nevada, south through the lower Sonoran Desert of California and Arizona, and south into western Sonora and eastern Baja California, Mexico (NatureServe 2020). Habitat consists of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills dominated by one or more species of saltbush, shadscale (*Atriplex confertifolia*), and cylindrical cholla cactus (*Cylindropuntia* spp.). LeConte's thrashers primarily eat insects, spiders, scorpions, small fruits, and seeds, and occasionally lizards and small snakes (NNHP 2020). Within Nevada, these thrashers are found in saltbush flats and wash systems at elevations between 1,990 and 5,600 feet. Suitable habitat for LeConte's thrasher occurs throughout the vicinity of the Proposed Action.

3.1.14 Loggerhead Shrike

The loggerhead shrike is a medium-sized songbird residing year-round throughout the southern half of the U.S., with breeding populations across central Canada and the north-central U.S. (NatureServe 2020). These shrikes are found in open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns, as well as riparian areas, desert scrublands, savannas, prairies, and pastures. Loggerhead shrikes feed primarily on large insects and other invertebrates, small birds, lizards, frogs, and rodents. Within Nevada, these shrikes are found at elevations between 3,170 and 5,890 feet (NNHP 2020). Suitable habitat for loggerhead shrikes occurs throughout the vicinity of the Proposed Action.

3.1.15 Peregrine Falcon

Peregrine falcons are a nearly cosmopolitan raptor species, breeding on every continent except Antarctica (NatureServe 2020). These birds use various open environments including open water, desert shrub, and

marshes usually in close association with suitable nesting cliffs, but are also found in the mountains, open forested regions, and human population centers. Within Nevada, peregrines often nest on ledges or holes on the face of rocky cliffs or crags, but also use ledges of city high-rise buildings. Peregrine falcons feed primarily on birds, ranging from medium-size songbirds to small waterfowl, but may also eat small mammals, lizards, and fish. Within Nevada, peregrine falcons are found at elevations above 2,050 feet (NNHP 2020). Suitable habitat for peregrine falcons occurs in the mountains adjacent to the Proposed Action, although they may use the vicinity for hunting.

3.1.16 Phainopepla

Phainopeplas are slightly smaller than cardinals, and having a breeding range extending from central California, southern Nevada, southern Utah, southern New Mexico, and western Texas south to southern Baja California and central mainland of Mexico (NatureServe 2020). Overwintering range occupies a similar geography. Preferred habitat includes desert scrub, mesquite, juniper and oak woodlands, and riparian woodland and orchards. Breeding occurs between February and May. Within Nevada, phainopeplas are found in old-growth mesquite with moderate to heavy mistletoe (*Phoradendron* spp.) clumps at elevations between 1,000 and 5,775 feet (NNHP 2020). Suitable habitat for phainopeplas occurs in mesquite thickets associated with Red Rock Wash.

3.1.17 Sage Thrasher

The sage thrasher is a medium-sized bird with a large range in western North America (NatureServe 2020). Its breeding range extends from southern British Columbia, central Idaho, and south-central Montana southward to eastern California, northeastern Arizona, and west-central and northern New Mexico. The nonbreeding range extends from central California, southern Nevada, central Arizona, central New Mexico, and central Texas south to southern Baja California, northern Sonora, Chihuahua, Durango, Guanajuato, northern Nuevo Leon, and northern Tamaulipas, Mexico. Breeding occurs exclusively in shrub-steppe habitats, with relatively dense ground cover for concealment. Sage thrashers also use arid or semiarid open country with scattered bushes, grasslands, and open pinyon juniper woodlands. Sage thrashers eat a wide variety of insects, including grasshoppers, beetles, weevils, ants, and bees, but also fruits and berries. Sage thrashers are unlikely to breed in the vicinity of the Proposed Action but may forage in the area.

3.1.18 Western Burrowing Owl

The western burrowing owl inhabits salt desert scrub, Mojave shrub, and some sagebrush habitat throughout Nevada, frequently overwintering in southern Nevada (BLM 2017). They occur sporadically in valley bottoms, at elevations between 1,644 and 6,240 feet (NNHP 2020). These owls rarely excavate their own burrows, preferring to enlarge or modify existing burrows dug by other species. Burrowing owls are diurnal and roost on the ground or on low perches, such as fence posts or dirt mounds. They feed primarily on large insects and rodents, and occasionally eat birds and amphibians. Western burrowing owls may occur within the vicinity of the Proposed Action in areas containing previously excavated burrows.

3.2 Geology/Mineral Resources/Energy Production

Mineral materials within the project area are public property and administered by the BLM under the regulations at 43 CFR 3600 (Mineral Materials Disposal) and the Federal Aid to Highway Act. Mineral materials are authorized for disposal by the Las Vegas RMP and Final Environmental Impact Statement (BLM 1998b). The regulations at 43 CFR 3600 establish procedures for the exploration, development, and disposal of mineral material resources on the public lands, and for the protection of the resources and the environment. The regulations apply to free-use permits and contracts for sale of mineral materials. The sale, free use, or issuance of a material site right-of-way for mineral materials must be in conformance with the RMP, Minerals Management Section (Code MN), the Federal Aid to Highway Act, and the regulations found

in 43 CFR 3600. Any mineral materials extracted, severed, or removed from public lands without a contract, free-use permit, or material site right-of-way constitutes unauthorized use. Unauthorized users are liable for damages to the United States and are subject to prosecution for such unlawful acts.

3.3 Invasive Species/Noxious Weeds

The Nevada Revised Statutes (NRS) defines a noxious weed as "any species of plant which is, or likely to be, detrimental or destructive and difficult to control or eradicate" (NRS 555.130). Forty-seven species are currently listed as noxious weeds within Nevada (NAC 555.010). Several populations of African mustard, also known as Sahara mustard, were identified in the vicinity of the Proposed Action during the botanical resources survey in May 2020 (Figure 3-1) (Jacobs 2020b). Other noxious weeds found in the RRCNCA include Malta starthistle (*Centaurea melitensis*), tamarisk (*Tamarix* spp.), silverleaf nightshade (*Solanum elaeagnifolium*), giant reed (*Arundo donax*), and puncturevine (*Tribulus terrestris*). Invasive plant species in the RRCNCA include red brome (*Bromus rubens*), cheatgrass (*B. tectorum*), rip gut brome (*B. diandrus*), Bermuda grass (*Cynodon dactylon*), Mediterranean grass (*Schismus* spp.), tumble mustard (*Sisymbrium altissimum*), crossflower (*Chorispora tenella*), African mustard (*Malcolmia africana*), curvseed butterwort (*Ranunculus testiculatus*), common dandelion (*Taraxacum officinale*), Jersey cudweed (*Gnaphalium luteoalbum*), Russian olive (*Elaeagnus angustifolia*), Russian thistle (*Salsola tragus*), and woolly distaff thistle (*Carthamus lanatus*).

New weeds are introduced into RRCNCA on a regular basis because of various factors like disturbance, propagule pressure from adjacent lands, and vectoring from human activities. Noxious weeds are spread through many vectors, including wildlife and visitors to RRCNCA. Soil disturbance and loss of native plant species increase the spread of noxious and invasive species. Non-native plants or invasive weeds are a major concern because of their potential to cause permanent damage to the natural plant communities.

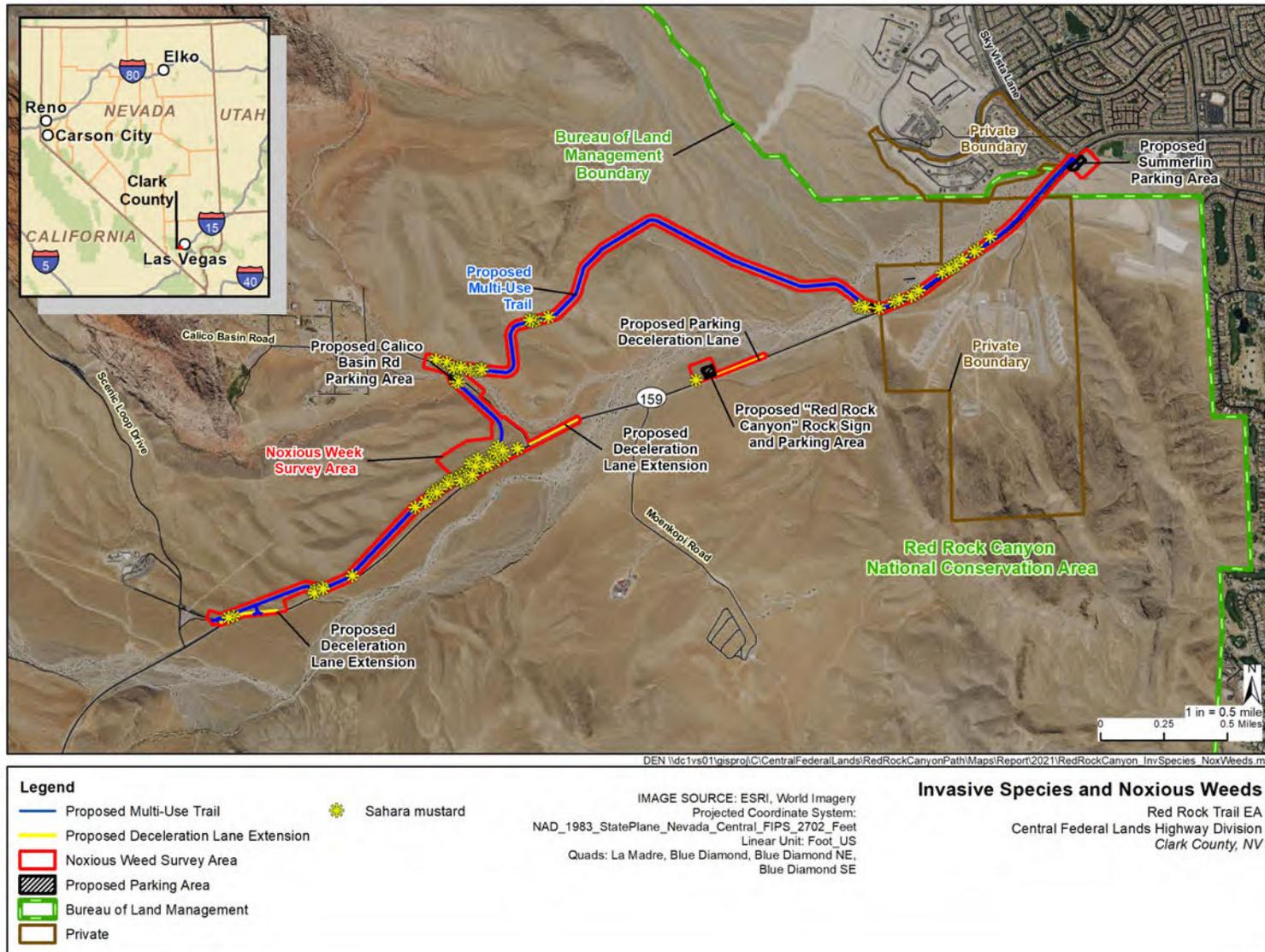


Figure 3-1. Invasive Species and Noxious Weed Locations

3.4 Land Use/Access

RRCNCA comprises more than 300 square miles of area with varied land uses aimed at balancing recreational needs with the need to conserve the area's unique natural and social resources. Although the vast majority of RRCNCA is BLM (i.e., publicly) owned, small areas of privately owned land do exist within RRCNCA and within the Proposed Action area along SR-159 and Calico Basin Road (refer to Figure 3-2). The Summerlin residential area is adjacent to the eastern project limits. The SR-159 corridor, an NDOT-owned and maintained roadway facility, borders the Proposed Action area to the south. To provide a framework for land use within RRCNCA, the BLM divided RRCNCA into five MEAs and established guidelines for each area (BLM 2005). The Proposed Action would occur within a portion of RRCNCA designated in the RMP as a Roaded Natural Area. The land use guidelines for Roaded Natural Areas include the following:

- Developments limited to improved access and those consistent with the natural environment
- The recreational experience is based on the natural setting
- May include roads, trails and camping areas (new improvements for resource protection only)
- Human interaction level is low to moderate, more often on the low side
- Onsite controls present, but subtle

The land uses in the Proposed Action area can be characterized as a mix of conservation and recreation. The existing trail network in this portion of RRCNCA consists of a patchwork of informal social trails connecting Calico Basin Road and the Scenic Drive Fee Area. These social trails are used to access climbing and hiking in the Calico Hills, and in some instances can be used by pedestrians and cyclists to bypass the fee booth. Both Calico Basin Road and the Scenic Loop Drive Fee Area are recreational nodes that support activities in the Calico Hills and along Scenic Loop Drive. It is important to note the social trail network that has formed is not identified in the RMP, results in disturbance to the Mojave ecosystem, and results in non-compliant entry to RRCNCA.

SR-159 is the only access to the popular Scenic Loop Drive, Calico Basin, and its connected recreational amenities. SR-159 is also the sole access route for Calico Basin Road.

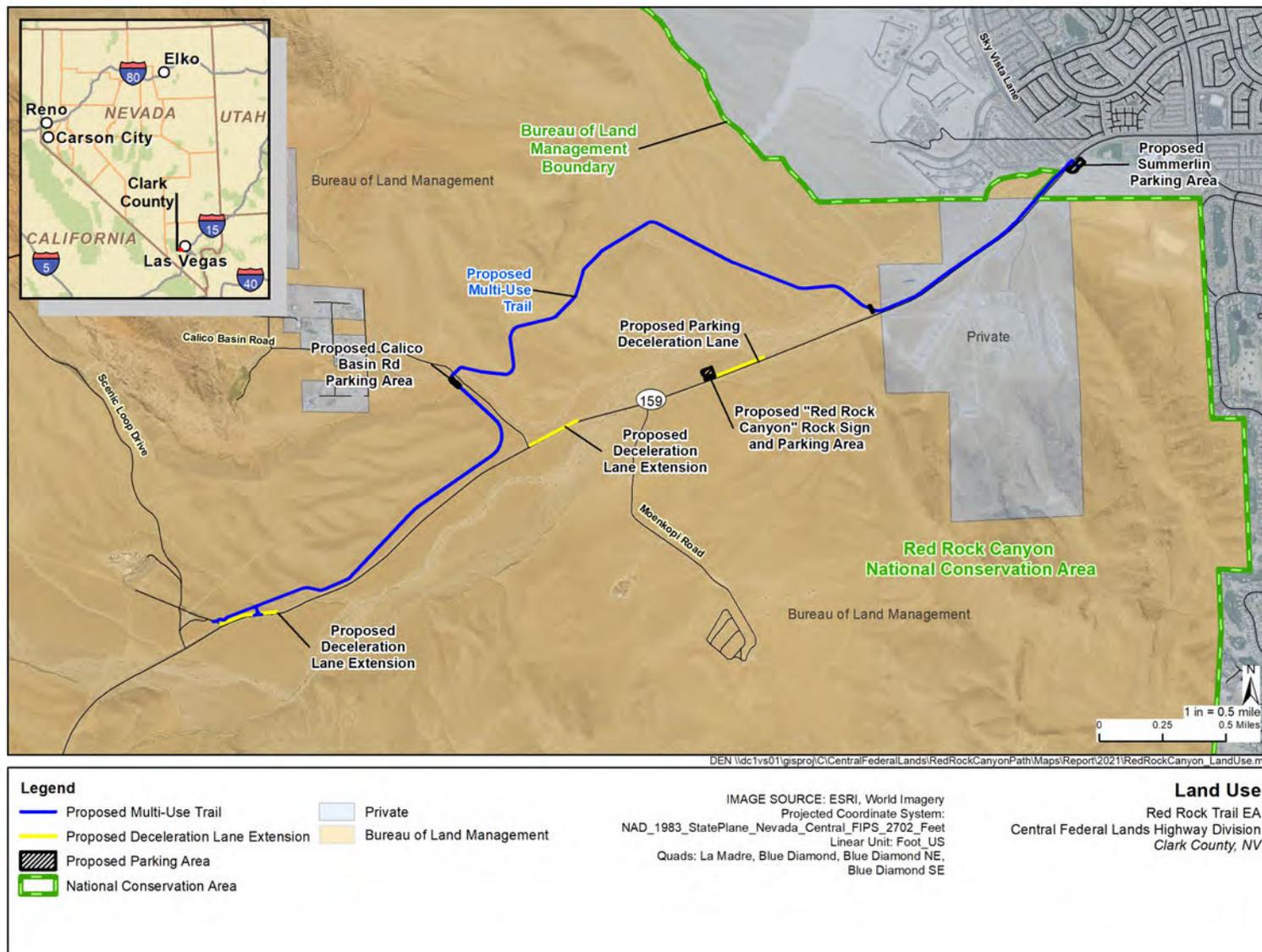


Figure 3-2. Land Use

3.5 Migratory Birds/Bald and Golden Eagles

The MBTA (16 U.S. Code [U.S.C.] 703 et. seq.) protects migratory birds that are native to the U.S. or U.S. territories and their nests (nests with eggs or young). The MBTA prohibits the take of protected migratory bird species without prior authorization by the USFWS. "Take" includes killing, capturing, selling, trading, and transporting a protected species. An updated list of protected migratory bird species can be found in 50 CFR 10.13. The USFWS IPaC list identifies seven birds of conservation concern with the potential to occur in the vicinity of the Proposed Action (USFWS 2020). These species are Bendire's thrasher (*Toxostoma bendirei*), black-chinned sparrow (*Spizella atrogularis*), Costa's Hummingbird (*Calypte costae*), gray vireo (*Vireo vicinior*), Le Conte's thrasher, rufous hummingbird (*Selasphorus rufus*), and rufous-winged sparrow (*Aimophila carpalis*). These species nest within the cacti, yuccas, and shrubs found within the RRCNCA. The combined breeding season for these species generally occurs from January 15 through September 30.

The Bald and Golden Eagle Protection Act (16 U.S.C. 668 et. seq.) prohibits the take of bald (*Haliaeetus leucocephalus*) and golden eagles. Golden eagles are discussed in Section 3.1.12. Bald eagles are found in Nevada mainly during the winter, preferentially roosting in thick cottonwood (*Populus deltoides*) groves, among other tall trees, or on cliffs near bodies of water providing a food base (NNHP 2020). There are no known occurrences of bald eagles in the vicinity of the Proposed Action, nor is there suitable habitat.

3.6 Recreation

Recreational amenities within RRCNCA include hiking, biking, climbing, sightseeing, photography, and camping within designated areas. While this portion of RRCNCA has no formalized trails, numerous unauthorized social trails are present. These unauthorized trails branch out from SR-159, Calico Basin Road, Scenic Loop Drive, and various parking areas. No dispersed camping is permitted in this portion of RRCNCA. Scenic Loop Drive is the primary access to recreation in this portion of RRCNCA, providing direct access to numerous trailheads along the 13-mile Scenic Loop Drive. Calico Hills, accessed from Calico Basin Road and the social trail network to the east, is a world-renowned rock-climbing destination.

3.7 Socioeconomic

As described in detail in Section 1.4.4, driven by increasing population in Clark County and growth in tourism, visitation to RRCNCA has steadily increased. Numerous recreational tour and outdoor recreation-related companies use the Scenic Loop Drive and connecting trails as part of their service offerings. The RRCNCA Visitor Center is an informational hub for visitors filled with indoor and outdoor exhibits, plant specimens from throughout the canyon, and live desert tortoise habitats, and is a popular field trip destination for area from elementary to post-doctorate students. In this way, the recreational amenities in RRCNCA support the socioeconomic health of Clark County and the adjacent Las Vegas metropolitan area.

3.8 Soil

Soils in the Proposed Action area have developed on alluvial and colluvial fans of coarse material derived from limestone, sandstone, and granitic materials that have been eroded from the surrounding mountains. Soils that have formed in this area are generally gravelly loams or gravelly sandy loams. Younger soils have formed in the active drainages and there are little or no diagnostic soil horizons (entisols). Older soils on higher ground on ridges between the drainages may contain soils with some developed pedogenic features (aridisols). The limestone and sandstone parent materials have high calcium carbonate content. The dispersal of carbonate material by wind erosion has resulted in carbonate accumulation in almost all soils. Under the arid conditions, little downward movement of the soluble constituents has occurred. Wind and water erosion is low to moderate, but over time fine particles have been removed from the surface, leaving a 1- to 3-inch layer of thick coarse gravel loam or gravelly sandy loam on the surface. Weathering has also

left rock fragments on the surface. The organic matter content of the soil surface layer is very low, typically less than 0.5 percent. The soils are very fragile and susceptible to ground disturbance from animals, humans, and motorized vehicles (BLM 2012).

Biological soil crusts are found throughout the Proposed Action area. These crusts are composed of moss, lichens, algae, and cyanobacteria, and they prevent soil erosion by binding soil particles (Belnap et al. 2001). The presence of biological soil crusts is an indicator of soil surface stability.

3.9 Threatened, Endangered, or Candidate Animal Species

Federally listed threatened and endangered animal species are managed by the USFWS and receive protection under the ESA, as amended (16 U.S.C. 1531 et. seq.). Candidate species are those species that may warrant future protection under the ESA. The USFWS IPaC list identifies four listed species with the potential to occur in the vicinity of the Proposed Action: the southwestern willow flycatcher (*Empidonax traillii extimus*; federally endangered), the Yuma Ridgway's rail (*Rallus obsoletus yumanensis*; federally endangered), the Mojave desert tortoise (federally threatened), and the Pahrump poolfish (*Empetrichthys latos*; federally endangered) (USFWS 2020). No designated critical habitat for any species occurs within this portion of RRCNCA. The Mojave desert tortoise is the only federally listed species with known occurrences in the vicinity of the Proposed Action.

The Mojave desert tortoise inhabits a variety of habitats, from flats and slopes dominated by creosote bush scrub at lower elevations to rocky slopes in blackbrush and juniper woodland transition zones at higher elevations (NNHP 2020). Within Nevada, they are found at elevations between 650 to 4,770 feet. They spend most of their time in their burrows, and eat a wide variety of herbaceous vegetation, especially grasses and the flowers of annual plants. They are also known to eat woody perennials, cacti, and non-native species, such as red brome and red-stem filaree (*Erodium cicutarium*). NDNH lists known occurrences of the Mojave desert tortoise in the Proposed Action vicinity (NDNH 2020). Several Mojave desert tortoises were observed in the vicinity of the Proposed Action during biological surveys in May 2020 (Jacobs 2020a).

3.10 Travel and Transportation

SR-159 has a posted speed limit of 50 mph and is experiencing increased motorized and non-motorized use. In the absence of any formalized trail, vehicles, bicycles, and pedestrians must use SR-159 to access Calico Basin Road, the RRCNCA Visitor Center, and the numerous recreational nodes along Scenic Loop Drive. Varying between approximately 5 feet and 1 foot wide, the existing SR-159 shoulders are narrow, creating an unsafe mix of motorized and non-motorized users. As described in detail in Section 1.4.1, numerous fatalities and vehicle-bicycle crashes have occurred on this segment of SR-159 since 2013. In addition to the narrow shoulders, three of the five intersections within this stretch of SR-159 were identified as crash hotspots in the safety analysis. During days of heavy visitation, the deceleration lanes become filled with vehicles waiting to enter RRCNCA and cars park sporadically along the Calico Basin Road shoulder. The existing deceleration lanes are not long enough to handle the traffic queues, and vehicles are forced to use the shoulder when waiting.

3.11 Vegetation (Excluding Federally Listed Species)

The Proposed Action passes through several vegetation community types, as described in the RRCNCA RMP and Record of Decision (BLM 2005). The creosote bush community generally occurs on valley floors and benches at elevations below 3,600 feet. In addition to creosote bush, other dominant species in this community include white bursage (*Ambrosia dumosa*), desert-thorn (*Lycium andersonii*), hopsage (*Grayia spinosa*), several cactus species, and the invasive grasses red brome and cheatgrass. The blackbrush community generally occurs on bajada terraces with shallow soils at elevations between 3,500 and 6,000 feet. Other dominant species found in this community include Joshua tree (*Yucca brevifolia*), banana

yucca (*Y. baccata*), Mormon tea (*Ephedra* spp.), and horsebrush (*Tetradymia* spp.). Grass species include big galleta (*Hilaria rigida*) and desert needle grass (*Achnatherum speciosum*). The desert wash community bisects the creosote bush and blackbrush communities and is composed of a variety of species. Dominant species include rabbitbrush, desert almond (*Prunus fasciculata*), desert willow (*Chilopsis linearis*), and screwbean mesquite (*Prosopis pubescens*). Vegetation may also be a continuation of vegetation communities on adjacent terraces traversed by the wash.

Three BLM sensitive plant species have the potential to occur in the Proposed Action area: Blue Diamond cholla (*Cylindropuntia multigeniculata*), yellow twotone beardtongue (*Penstemon bicolor* ssp. *bicolor*), and rosy twotone beardtongue (*P. bicolor* ssp. *roseus*) (Kobelt, pers. comm. 2019). Several populations of yellow twotone beardtongue were identified in the vicinity of the Proposed Action during the botanical resources survey in May 2020; however, none occur within the disturbance limits of the Proposed Action (Figure 3-3) (Jacobs 2020b). No populations of Blue Diamond cholla or rosy twotone beardtongue were found.

The yellow twotone beardtongue is endemic to Clark County, Nevada, and is known from approximately 31 occurrences scattered on mostly BLM and private lands immediately adjacent to the Las Vegas urban area (NNHP 2001). It inhabits calcareous or carbonate soils in washes, roadsides, rock crevices, outcrops, or similar places receiving enhanced runoff at elevations between 2,500 and 5,480 feet. Associated vegetation communities include creosote-bursage, blackbrush, mixed-shrub, and lower juniper zones.

The NAC defines fully protected species of native flora as “the list of critically endangered species of native flora that may not be removed or destroyed except pursuant to a permit issued by the State Forester” (NAC 527.090). A search of the NDNH database listed no known occurrences of state-listed, fully protected species of native flora in the Proposed Action vicinity (NDNH 2020).

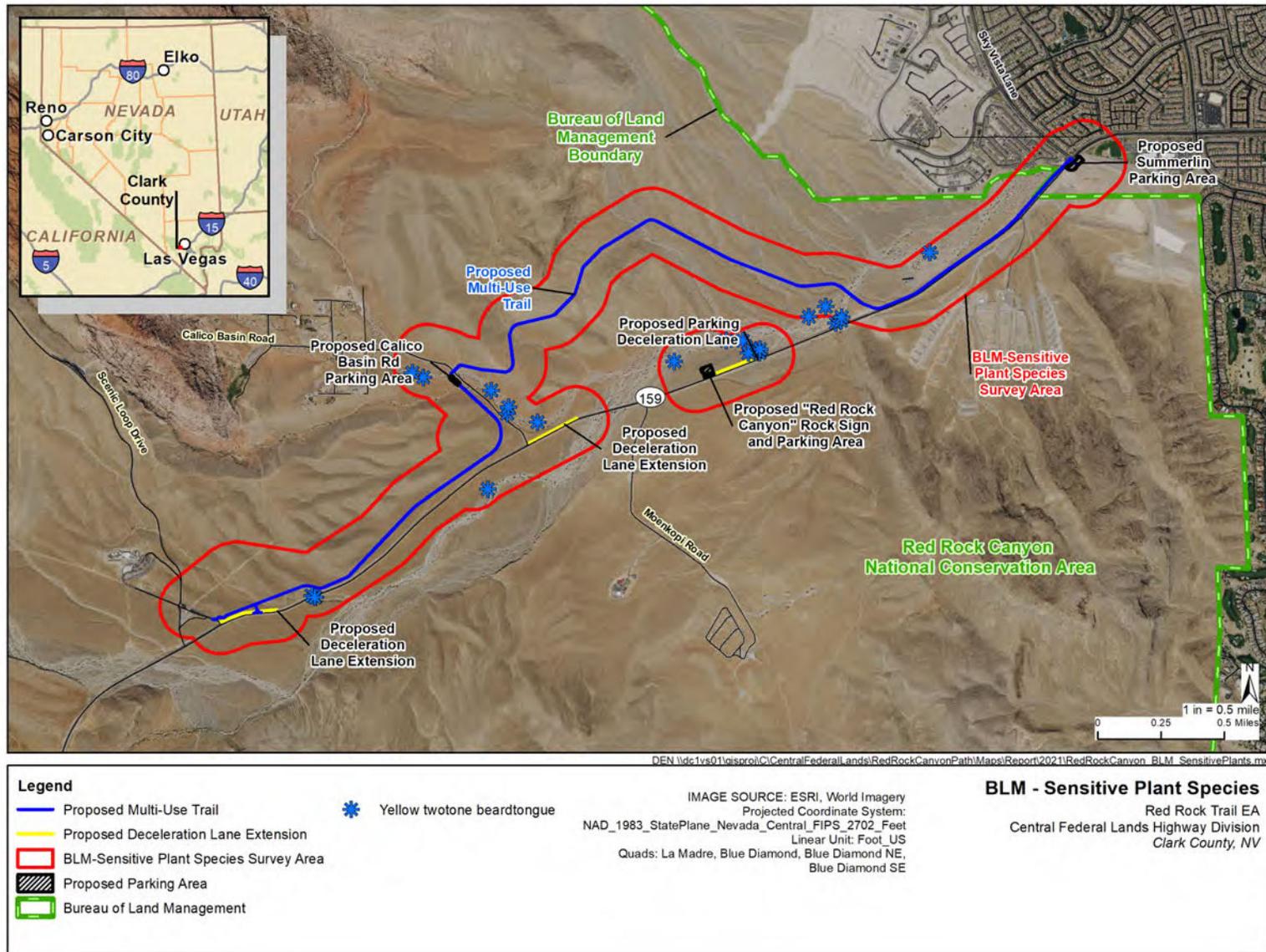


Figure 3-3. Sensitive Plant Species Locations

3.12 Visual Resources

The Red Rock Canyon was conferred NCA status because the features are exceptional scientific, cultural, ecological, historical, and recreational values. Its designation arises from its unique geologic features, plants, and animals that represent the Mojave Desert. Today, it is one of only three NCAs designated within Nevada. NCAs are designated by Congress to conserve, protect, enhance, and manage public lands for the benefit and enjoyment of present and future generations. The visual setting of Red Rock Canyon includes large horizontal cliffs, jagged rock outcrops, and a ridgeline of a purple-gray mountain. Vegetation in this area is indicative of small, scattered shrubs, mix of grasses, low, shrubby vegetation, and small trees. These vegetative communities produce muted green and brown color patterns. Very few bodies of water or human-made structures occur along SR-159.

BLM-administered lands are placed into one of four visual resource inventory (VRI) classes based on value of the visual resources. Lands placed in VRI Class I and II are the most valued; lands in VRI Class III are of moderate value, while lands in VRI Class IV are of least value. The RMP establishes how the public lands will be used for different purposes and considers visual values, along with public input, throughout the RMP process. The RMP for the RRCNCA assigned the visual resource management (VRM) classification of Class II to the lands in the Proposed Action area.

The objective of VRM Class II is to retain the existing character of the landscape, and it specifies that the level of change to the characteristic landscape should be kept low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

3.13 Woodland/Forestry

Cactus and yucca plants are protected by the RRCNCA RMP and fall under BLM forestry regulations. “Cactus” includes any member of the Cactaceae family, and “yucca” includes any member of the genus *Yucca* (NRS 527.060). Ten cactus and yucca species were observed in the Proposed Action area during the botanical resources survey in May 2020 (Jacobs 2020b). These include silver cholla (*Cylindropuntia echinocarpa*), pencil cholla, cottontop cactus (*Echinocactus polycephala*), strawberry hedgehog cactus (*Echinocereus engelmannii*), desert pincushion (*Escobaria chlorantha*), barrel cactus (*Ferocactus cylindraceus*), dead cholla (*Grusonia parishii*), beavertail cactus (*Opuntia basilaris*), Joshua tree, and Mojave yucca. The density of cactus and yucca plants within the survey area is approximately 90 individuals per acre. Table 3-2 presents the number of cactus and yucca individuals within temporary and permanent disturbance areas associated with the Proposed Action. Figure 3-4 shows the locations of cactus and yucca plants within the survey area. This portion of RRCNCA represents a very diverse vegetation community, particularly for cacti.

Table 3-2. Number of Cactus/Yucca Individuals within Each Disturbance Area

Cactus or Yucca Species	Temporary Disturbance Area	Permanent Disturbance Area
Silver cholla (<i>Cylindropuntia echinocarpa</i>)	37	72
Pencil cholla (<i>Cylindropuntia ramosissima</i>)	11	82
Cottontop cactus (<i>Echinocactus polycephala</i>)	8	88
Strawberry hedgehog cactus (<i>Echinocereus engelmannii</i>)	8	22
Desert pincushion (<i>Escobaria chlorantha</i>)	1	5
Barrel cactus (<i>Ferocactus cylindraceus</i>)	12	32
Matted/dead cholla (<i>Grusonia parishii</i>)	3	5
Beavertail cactus (<i>Opuntia basilaris</i>)	7	29
Joshua tree (<i>Yucca brevifolia</i>)	44	113
Mojave yucca (<i>Yucca schidigera</i>)	795	1760
Total	926	2208

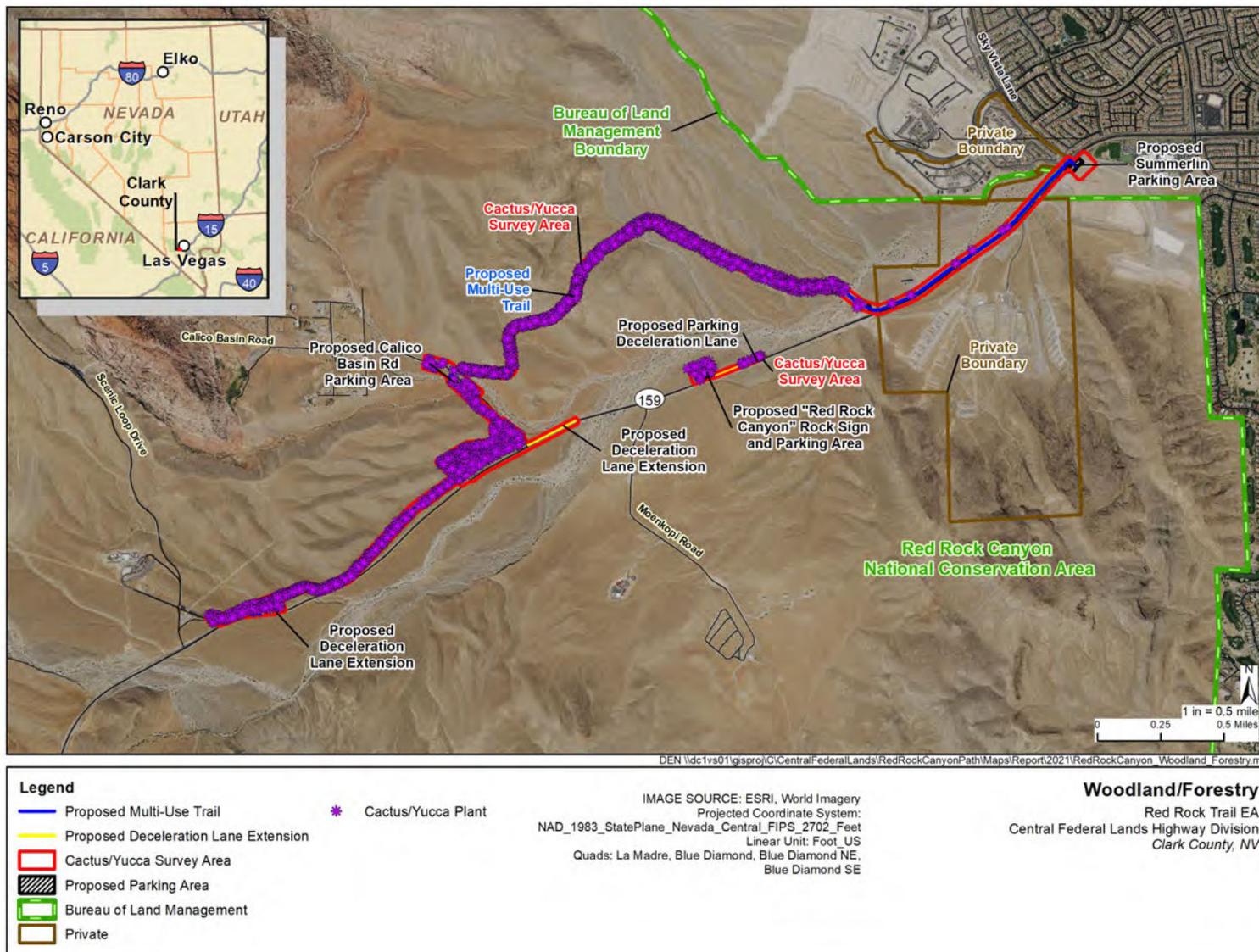


Figure 3-4. Cactus/Yucca Locations

4.0 Environmental Effects

This section provides an analysis of the environmental effects that may occur by implementing either the Proposed Action or the No Action Alternative. The resources identified in Section 3 as being present and potentially impacted by the Proposed Action are analyzed. This section also outlines mitigation measures that would be implemented to reduce negative impacts to the environment or local resources.

4.1 Fish and Wildlife Species (Excluding Federally Listed Species)

4.1.1 Proposed Action

4.1.1.1 Wildlife

Implementation of the Proposed Action would have long-term effects on wildlife. The construction of the new trail, parking areas, and road widening would result in the permanent loss of approximately 19.72 acres of wildlife habitat. Construction of the new trail would sever habitat connectivity between areas close to SR-159 and larger undisturbed areas northwest of the Proposed Action area. However, most animals requiring larger expanses of undisturbed land likely do not use the proposed trail alignment area, as this area is frequently visited by humans using the various social trails crossing the landscape. Further, large areas of undisturbed habitat adjacent to the Proposed Action provide sufficient habitat for any species in the path of construction; therefore, any habitat losses would not be significant.

Formalizing social trails and subsequently increasing human use could lead to an increase in wildlife/human interactions and human-caused injury and mortality, particularly by bicyclists. However, most wildlife remaining in the area is already habituated to human presence and would likely avoid crossing the trail during high-use times. While injuries and mortalities would be unavoidable, any increase is unlikely to jeopardize existing wildlife populations in the area. Concentrating human use in the surrounding area via a paved trail would likely decrease ongoing degradation of existing wildlife habitat through the unauthorized development of social trails. Therefore, long-term effects on wildlife are expected to be insignificant.

Implementing the Proposed Action would result in short-term effects to wildlife species through the presence of the construction crews and equipment, which generate noise, vibration, and dust during construction. Most animals present in the Proposed Action area would be disturbed and would likely leave the area. This dispersal would be temporary, as these animals would likely return after construction is completed. Animals unable to move out of the construction equipment's path could be killed or maimed. However, wildlife species in the general area are common and widely distributed, and the loss of some individuals would not have a significant impact on populations throughout the region.

Effects to fish and wildlife species from the Proposed Action are anticipated to be insignificant. Mitigation measures in Section 4.11 would help reduce impacts on wildlife.

4.1.1.2 BLM Sensitive Species

Effects to BLM sensitive species would be the same as those to general wildlife. These effects are not anticipated to lead to further decline of any species range-wide and would not contribute to listing under the ESA.

4.1.2 No Action Alternative

Implementation of the No Action Alternative would have no effect on fish and wildlife species, including BLM sensitive species.

4.2 Geology/Mineral Resources/Energy Production

4.2.1 Proposed Action

The Proposed Action would produce 41,500 cubic yards of excess mineral materials. These mineral materials would need to be used within the project or stockpiled within the project for future use at this or another location. If mineral materials were to be stockpiled within the project boundaries for future use, they would need to be obtained in accordance with the regulations found at 43 CFR 3600 or under the Federal Aid to Highways Act in the form of a contract, free-use permit, or material site right-of-way before they could be removed from the right-of-way.

If a contract, free-use permit, or material site right-of-way is necessary for the export of excess mineral materials, the BLM would issue the required contract, free-use permit, or material site right-of-way so long as it falls within the analyzed area.

4.2.2 No Action Alternative

Implementation of the No Action Alternative would have no effect on geological or mineral resources or energy production.

4.3 Invasive Species/Noxious Weeds

4.3.1 Proposed Action

Implementation of the Proposed Action would affect invasive species and noxious weeds present within the Proposed Action area. Short-term effects to invasive species and noxious weeds would include the introduction of weed propagules through contaminated material transported into the construction area. Construction equipment and vehicles traveling from areas containing invasive species could introduce invasive plant seeds to previously undisturbed areas and increase the distribution or abundance of existing populations in previously disturbed areas. The use of weed-free construction material would help reduce these effects to insignificance. Further, all equipment and vehicles would be cleaned of soil and plant materials before entering and leaving BLM-managed public lands.

Vegetation removal and soil disturbance during construction would create conditions for the establishment of invasive plant species and noxious weeds. Disturbance would be greatest along the proposed trail, new parking areas, and areas of SR-159 widening, where land would be graded and paved. Existing noxious weed populations in known disturbance areas would be treated before construction would begin. Further, these temporarily disturbed areas would be reclaimed and revegetated with a BLM-approved, weed-free seed mix once project construction is complete.

Long-term effects would include the continuous introduction and establishment of invasive weed populations along the new trail and any new social trails developed off the new trail alignment. The development and use of new social trails would result in the introduction and establishment of invasive weed species into currently pristine areas, leading to further degradation of the surrounding habitat. These areas would require ongoing weed monitoring and treatment.

Noxious weeds and other invasive species would be treated with the appropriate BLM-approved herbicide by a licensed applicator, following the maintenance schedule outlined in Table 2-1. Weed treatment would occur during biologically appropriate times for each species, preferably before individuals are able to produce seed. Accidental spraying of nontarget species could result in a decline of native vegetation in the surrounding area, although these effects would not be widespread. The trail's paved surface would facilitate access by authorized vehicles used to treat invasive weeds, thus helping to reduce the spread of weeds immediately adjacent to the new trail. Areas farther away from the new trail would require the use of backpack sprayers.

Effects to invasive weeds and noxious weeds from the Proposed Action would be long term and potentially significant. Mitigation measures in Section 4.11 would help to reduce the potential for introduction or spread of invasive plant species.

4.3.2 No Action Alternative

Implementation of the No Action Alternative would not result in an additional vector for invasive species and noxious weeds. Spread and establishment of invasive species would be expected to continue at their current rate.

4.4 Land Use/Access

4.4.1 Proposed Action

The Proposed Action would impact land use through the conversion of land that is currently undisturbed, or has developed as unauthorized social trails, into a transportation and formalized recreational use. As identified in the Alternatives Analysis Table in Appendix C, the Proposed Action would result in the permanent conversion of approximately 19.72 acres of land from the new pavement and grading needs to support the project elements of parking areas, SR-159 widening, and the trail. While the new pavement, grading, and other construction materials represent a physical change to the land, this change is consistent with the land use MEA guidelines for this portion of RRCNCA identified in the RMP. Specifically, MEA guidelines for Roaded Natural Areas permit the development of trails that are based on the natural setting and improve access. Compared to the existing conditions in which the recreation experience is not based on improving access or the natural setting, the Proposed Action is more consistent with BLM's land use guidelines. Furthermore, by focusing recreational use on a formalized path, thereby reducing social trail development, the multi-use path better supports the conservation of sensitive biological resources. Although the Proposed Action would result in physical changes to how the land is used, because these changes are consistent with the MEA guidelines and support the preservation of resource, these impacts are not considered adverse or significant.

Project elements along SR-159, including the deceleration lane extension and new parking areas, would be constructed using traffic control measures in accordance with the NDOT Traffic Control Permit. Construction could result in minor, temporary delays accessing the RRCNCA Scenic Drive Fee Area, Calico Basin Road, or continuing on SR-159 to other destinations due to lane closures for work along SR-159; however, access to RRCNCA and Calico Basin Road would be maintained throughout construction.

Effects to land use and access from the Proposed Action are anticipated to be insignificant. Mitigation measures in Section 4.11 would help to reduce impacts on land use.

4.4.2 No Action Alternative

Implementation of the No Action Alternative would have no impact on land use or access. This portion of RRCNCA would continue to experience disturbance from social trail development and from visitors parking on the shoulder of SR-159 during peak visitation when the queue lane backs up at the SR-159/RRCNCA Fee Station intersection. As visitation grows, the need for access improvement would increase and the negative effects on the natural resources would intensify as more visitors park along the SR-159 shoulder and use the social trails for non-compliant access to Scenic Loop Drive.

4.5 Migratory Birds/Bald and Golden Eagles

4.5.1 Proposed Action

Implementation of the Proposed Action would impact migratory birds present within the Proposed Action area. Permanent impacts would include the loss of nesting and foraging habitat removed by construction.

Increased visitor use resulting from the Proposed Action would likely preclude the use of any areas immediately adjacent to the new facilities. However, large swaths of adjacent suitable habitat would remain undisturbed. The new trail would occur in areas already receiving high visitor use. Any birds using this area would likely move to adjacent undisturbed areas or are already accustomed to human presence, thus reducing these impacts to a level of insignificance. Further, restoration of temporarily disturbed areas along the trail would create a buffer between trail users and undisturbed habitat.

Temporary impacts would be associated with noise and dust created by construction equipment and workers. The year-round construction season would increase the potential to disturb nesting birds immediately adjacent to the Proposed Action area. A qualified biologist would perform preconstruction surveys for active migratory bird nests in all suitable habitats that would be disturbed. If active bird nests are identified within the project area, a qualified biologist would determine the appropriate avoidance strategy, subject to approval by the Contracting Officer, and determine the need for a no-work buffer. If necessary, no work would occur until the young have fledged or the nest is no longer active. Other birds in the area would temporarily disperse and could potentially return after construction completion. The project Proponent would comply with the MBTA and avoid potential impacts to protected birds within the Proposed Action area. Additionally, mitigation measures outlined in the next section would be implemented throughout the life of the project.

The Proposed Action is unlikely to adversely affect bald or golden eagles. No suitable bald eagle habitat is present; therefore, no bald eagles are likely to be affected. Any golden eagles in the area would be temporarily disturbed but would return after construction completion. No potential nesting habitat for golden eagles would be disturbed.

Effects to migratory birds and bald and golden eagles from the Proposed Action are anticipated to be insignificant. Additionally, mitigation measures outlined in Section 4.11 would help to reduce impacts on these birds.

4.5.2 No Action Alternative

Implementation of the No Action Alternative would have no effect on migratory birds or bald or golden eagles.

4.6 Recreation

4.6.1 Proposed Action

The Proposed Action would improve the recreational experience in RRCNCA by providing a new recreational opportunity in the form of a multi-use trail. Trail users would experience the unique natural setting of RRCNCA in a new way. None of the existing recreational resources within RRCNCA would be impacted by the Proposed Action. The informal social trails that have formed in this area of RRCNCA are not recognized as or planned to become formalized recreational facilities. Unauthorized social trail development would be reduced through construction of the multi-use trail, which would include signage prohibiting users from leaving the trail corridor (i.e., the 12-foot paved trail and 1-foot gravel shoulders).

4.6.2 No Action

Implementation of the No Action Alternative would result in continued use of informal social trails.

4.7 Socioeconomics

4.7.1 Proposed Action

Access to the recreational amenities on and around SR-159 and within RRCNCA would be maintained during construction. The Proposed Action includes implementation of traffic control measures, in accordance with

NDOT Traffic Control Permit. Roadside construction would not interfere with visitors accessing RRCNCA or any recreational activities within. The project may provide short-term economic benefit in employment during construction. The trail project would have long-term social and economic benefits by providing improved access, safety, and the recreational experience for visitors.

4.7.2 No Action

Implementation of the No Action Alternative would have no effect on socioeconomics.

4.8 Soil

4.8.1 Proposed Action

The Proposed Action would result in the permanent impact of approximately 19.72 acres of previously undisturbed soil for the installation and operation of the new trail. Most of the area paved as a part of the project would occur on soils previously disturbed by the parking areas and social trails. The trail would cross some undisturbed soil, therefore impacting previously undisturbed soils. The Proposed Action would result in 41,500 cubic yards of soil being removed from the site. This soil would go to a waste site that takes excess dirt.

The Proposed Action would not affect the types of soil found in the Proposed Action area (gravelly loam) but would result in temporary and permanent soil disturbance. Project paving of the parking areas, the addition of the deceleration lanes, and the formalized trail would result in new disturbed soil. The project would result in the permanent impact of approximately 19.72 acres of previously undisturbed soil. Of the 19.72 acres, approximately 10.92 acres of soil would be converted to asphalt. The remaining 8.8 acres of impacted soil represents the new cut and fill slopes, which would be revegetated.

In accordance with 40 CFR 122.26(b)(14), because the project's construction area is greater than 1.0 acre, a Nevada Construction Storm Water Permit must be obtained before construction. Permit acquisition includes the development of a storm water pollution prevention plan as stated in the mitigation measures section of this EA. Impacts to soils during construction would be minimized through the BMPs implementation outlined in the storm water pollution prevention plan.

The Proposed Action would not result in a significant impact to soils because the amount of permanent soil disturbance (19.72 acres) is small when compared to the 195,000 acres that encompasses RRCNCA. The project would have an overall benefit on the erosion control by providing a formalized trail for visitors and reducing the use of informal social trails. Effects to soils from the Proposed Action are anticipated to be insignificant. Mitigation measures in Section 4.11 would help to reduce impacts on soils.

4.8.2 No Action

Under the No Action Alternative, none of the elements included in the project would be constructed. The location, pattern, and amount of soil would continue to erode as visitors persist in making and in using informal social trails.

4.9 Threatened, Endangered, or Candidate Animal Species

4.9.1 Proposed Action

Implementation of the Proposed Action could adversely affect the federally threatened Mojave desert tortoise, but these effects would be less than significant. The Proposed Action would occur within known occupied habitat for Mojave desert tortoise, and several individuals were observed in the vicinity during biological surveys in May 2020 (Jacobs 2020a). Implementation of the Proposed Action would permanently disturb approximately 19.72 acres and temporarily disturb approximately 15.44 acres of desert tortoise habitat. However, large areas of undisturbed habitat adjacent to the Proposed Action provide sufficient

habitat for the Mojave desert tortoise, so habitat losses resulting from the Proposed Action would not be significant.

The formalization of existing social trails and subsequent increase in human use could lead to an increase in human-caused injury and mortality, particularly by bicyclists. While many of these injuries and mortalities would be unavoidable, any increase is unlikely to warrant a change in the listing status of the Mojave desert tortoise from threatened to endangered under the ESA. Concentrating human use in the surrounding area via a paved trail would likely decrease ongoing degradation of existing Mojave desert tortoise habitat through the unauthorized development of social trails. Therefore, long-term impacts on the Mojave desert tortoise are expected to be insignificant.

Short-term effects would be associated with the presence of the construction crew and related noise. Desert tortoises are slow-moving and spend much of their time in burrows, and any animals in the construction path could be crushed. A biological monitor would walk in advance of the construction equipment to identify potential burrows to avoid and move any desert tortoises out of harm's way. The Proposed Action would also implement the minimization measures described in the RRCNCA Programmatic Biological Opinion (File No. 1-5-04-F-526), which would reduce the number of potential mortalities occurring through construction. While some tortoises could still be killed, the number of potential tortoise mortalities resulting from the construction of the Proposed Action would not warrant a change in listing status from threatened to endangered under the ESA.

Formal Section 7 consultation is required with USFWS because of ground disturbance in known Mojave desert tortoise habitat. This consultation entails an appendment to the RRCNCA Programmatic Biological Opinion. The request for appendment was submitted to USFWS on October 25, 2021; consultation typically takes approximately 45 days. Minimization measures in the biological opinion would be implemented to reduce potential impacts to desert tortoise.

Effects to the Mojave desert tortoise from the Proposed Action are anticipated to be insignificant. Additionally, mitigation measures as described in the programmatic biological opinion appendment and outlined in Section 4.11 would help to reduce impacts on this species. The Proposed Action would have no effect on any other federally listed species, candidate species for federal listing, or designated critical habitat.

4.9.2 No Action Alternative

Implementation of the No Action Alternative would result in the continued disturbance of Mojave desert tortoise habitat with visitors using social trails instead of a formalized trail. However, individuals would not be killed or maimed as a result of construction activities or use of the formalized trail.

4.10 Travel and Transportation

4.10.1 Proposed Action

The Proposed Action would benefit travel and the transportation system through lengthening deceleration lanes, constructing new parking areas, improving striping on SR-159, and constructing the new multi-use trail. The deceleration lanes would increase stopping distance, reduce shoulder parking, and provide increased vehicle queuing capacity. The parking areas would reduce shoulder parking and provide an improved location for visitors (including tour buses) to safely navigate away from SR-159 and take pictures at the popular "Red Rock Canyon" rock sign.

The multi-use trail also would provide a new travel route between the RRCNCA Scenic Loop Drive Fee Area and the Summerlin residential area. The Summerlin residential area is also the connection point with the existing I-215 West Beltway Trail, an 11.5-mile paved trail along Las Vegas's western border. In this respect,

the new multi-use trail would improve bicycle and pedestrian connectivity with benefits extending beyond the immediate Proposed Action area.

It is anticipated that the Proposed Action would result in temporary delays during construction. Temporary lane closures may be required during construction of the deceleration lanes and work adjacent to SR-159, resulting in minor, temporary delays to SR-159 users. All construction occurring on the SR-159 shoulder would be completed in accordance with the NDOT Traffic Control Permit, and access to RRCNCA would be maintained at all times

4.10.2 No Action

Implementation of the No Action Alternative would lead to the ongoing traffic congestion and queuing on SR-159 for visitors trying to access the RRCNCA.

4.11 Vegetation (Excluding Federally Listed Species)

4.11.1 Proposed Action

4.11.1.1 Vegetation

Implementation of the Proposed Action would adversely affect vegetation within the Proposed Action area. Surface disturbance related to the construction of the project would result in the permanent removal of 19.72 acres of vegetation and temporary disturbance to an additional 15.44 acres. This includes disturbance to long-lived and highly valued species such as cacti and yucca. Additional disturbance could result from the development of new social trails branching from the new paved trail. Weed invasions resulting from soil disturbance associated with the project could result in changes to vegetation communities and a higher fire risk, to which native species are not adapted.

Temporary disturbance of vegetation through construction activities would be limited to approximately 15.44 acres of land previously undisturbed by social trail development. Upon completion of project construction, these areas would be reclaimed and revegetated with plants that were salvaged before construction and a BLM-approved, weed-free seed mix. Seed for the project would be collected from the appropriate seed transfer zones; no non-local seed sources would be used. The project Proponent would be responsible for restoring the temporary disturbance areas to the restoration standard for RRCNCA, which is 100 percent cover and diversity of shrubs and perennial grasses present in adjacent vegetation communities. While impacts to vegetation in these areas would be temporary, it would require years before new growth would be similar to the existing vegetation.

Effects to vegetation from the Proposed Action are anticipated to be significant but would be mitigated through implementation of a BLM-approved restoration plan, salvage of native plants for restoration of the temporary disturbance areas post construction, and regular weed monitoring and treatment. Mitigation measures are discussed in Section 4.11.

4.11.1.2 BLM Sensitive Species

The Proposed Action is unlikely to affect yellow twotone beardtongue. While several individuals were identified in the vicinity of the Proposed Action, none were located within the proposed path alignment and its buffer (Jacobs 2020b). The majority of the Proposed Action would occur outside the preferred habitat for this species, and any effects to its habitat would be temporary. Individuals could be encountered along roadsides and along wash fringes, but the biological monitor would guide construction equipment away from these plants. No effects to the yellow twotone beardtongue are anticipated.

4.11.2 No Action Alternative

Implementation of the No Action Alternative would result in no change to the current trajectory of vegetation communities within the RRCNCA. Disturbance of 35 acres would not occur, and there would be no removal of native plant species for trail construction. Implementation of the No Action Alternative would lead to the ongoing degradation of the surrounding vegetation as visitors would continue using current social trails and establish new unauthorized trails.

4.12 Visual Resources

4.12.1 Proposed Action

According to the visual impact assessment, the development of the proposed bridge and trail would introduce a new linear element into view through the landscape near the existing road corridor and therefore result in a permanent impact to the RRCNCA viewshed. The trail would detract from the currently undeveloped character of the desert landscape views. The surface of the parking lot that would be developed in the area just north of SR-159 and west of Calico Basin Road would not be readily visible from SR-159, but the vehicles parked in the lot would be visible.

Implementation of the Proposed Action would introduce new visual elements with low levels of contrast with the Mojave landscape. Simulations were prepared at key points along the project to visualize anticipated visual impacts from the project (refer to Figures 4-1 through 4-3). A portion (approximately 1.0 mile) of the multi-use trail and a new bridge would be visible in the foreground to motorists on SR-159 approaching RRCNCA from the east. Cut and fill slopes along the multi-use trail would be visible to motorists traveling on SR-159. The color of the new asphalt, the smooth trail texture, and the yellow stripe running down the trail's center would contrast with the colors and textures of the surrounding natural landscape.

However, in the context of the expansive Mojave viewshed available to RRCNCA visitors and motorists on SR-159, the 12-foot widening of SR-159 represents a minor change to the existing landscape. Through implementation of mitigation measures—including salvaged plantings along the cut and fill areas of the trail, landscape islands in the parking areas, and a low visual impact bridge design—the level of visual impact would be reduced and conform with the VRM objectives of the area. The complete visual impact assessment is attached to the EA as Appendix K.



Figure 4-1. Visual Simulation 1

Simulation of the view as it would appear looking west along SR-159 with the trail and its bridge over Red Rock Wash in place.



Figure 4-2. Visual Simulation 2

Simulation of the view as it would appear after the relocation of the existing “Red Rock Canyon” rock sign and with the trail and its bridge over Red Rock Wash in place.



Figure 4-3. Visual Simulation 3

Simulation of the view looking northwest toward Calico Basin Road from SR-159.

Minor temporary visual impacts would result from construction of the project. During construction, work crews and equipment would be visible moving throughout the project area. Construction materials and equipment would be staged onsite and be visible from SR-159. Dust from vehicle movements and grading activities would be visible at times during construction but would be temporary in nature. Temporary visual impacts during construction would be mitigated to a negligible level through dust control and construction BMPs identified in the Section 4.11 of this EA.

4.12.2 No Action Alternative

Implementation of the No Action Alternative would have no effect on visual resources.

4.13 Woodland/Forestry

4.13.1 Proposed Action

Implementation of the Proposed Action would affect cactus and yucca plants within the construction areas. Approximately 87 cactus and 839 yucca plants located in temporary disturbance areas would be salvaged before construction and replanted after construction is completed. These plants would be used to revegetate temporarily disturbed areas along the trail and around parking lots. Cacti and yucca from permanent disturbance areas that were not used for replanting would be relocated to a BLM storage area by the Proponent.

Before the start of construction, cactus and yucca plants within the disturbance path would be identified onsite with flagging tape, with the north orientation marked for all cacti. All yucca clusters would be counted as separate plants. A list describing quantity and species and their densities along the trail would be provided to the BLM at least 1 month before construction. Cacti and yucca, if they are distributed along elevation or soil gradients, would be transplanted back into the same area post construction. Before any ground disturbance, an organized accessible and secure nursery site of appropriate size would be identified and established. All succulents would be dug bareroot and replanted within 24 hours at the nursery site. Yucca clusters would be broken into individual stems before replanting at nursery. All cacti would be planted with the same north orientation as they organically grew (+/- 15 degrees). Complete details are provided in the Restoration Plan (Appendix F).

There would be significant and permanent effects to cacti and yucca within the Proposed Action area through direct removal of these species for trail construction. Salvage of cacti and yucca in disturbance areas and subsequent replanting would help reduce mortality. Mitigation measures described in Section 4.15 would help reduce impacts on this resource.

4.13.2 No Action Alternative

Implementation of the No Action Alternative would continue to erode soils. The location, pattern, and amount of soil would continue to erode as visitors continue to make and use informal social trails.

4.14 Cumulative Effects

Cumulative impacts are defined in the BLM *NEPA Handbook* (1998a) as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions.

Table 4-1. Past, Present, and Reasonably Foreseeable Future Planning and Projects

Factor	Action	Description	Area Affected
Past Planning	RRCNCA RMP (2005)	RMP describes the appropriate uses and development of the conservation area as it provides management guidance and identifies land use decisions to be implemented for management.	198,000 acres of public lands in the RRCNCA in Clark County.
Past Project	Red Rock Scenic Drive Trail System (1995)	A 13--mile one-way paved road and 46 miles of paved and unpaved trails.	Located within the core area, the Red Rock Scenic Loop Drive is for visitors to drive, bike, or hike. The remaining miles of trail system provide access to other areas within the core area and beyond. The Red Rock Scenic Loop Drive Trail System is used for casual recreation

			use as well as for permitted activities. The system of trails continues to be maintained today.
Past Project	Cottonwood Valley Trail System (1996)	Approximately 60 miles of trails in the Cottonwood Valley area.	Located adjacent to the core area, the Cottonwood Valley Trail System provides a network of access to areas south of the core area. It is used for casual recreational use as well as for permitted activities. The system of trails continues to be maintained today.
Past Project	Graffiti removal from the Lost Creek archaeological site	Removal of graffiti from rock art panels.	Rock art panels located in the Lost Creek archaeological site in the core area of RRCNCA were vandalized in 2010. It is a popular destination for visitors. Removal of graffiti restored the cultural site and discouraged further vandalism from occurring.
Past Project	Visitor center (April 2010)	Construction of new visitor center, amphitheater, and outdoor interpretive space. Old visitor center converted to BLM office facility.	Located within the core area, the newly constructed visitor center provides additional indoor and outdoor space for viewing and educational interpretation for enhanced visitor experience. The additional BLM office space created by the conversion of the former visitor center allows for more staff workspace, enabling enhanced onsite support for RRCNCA. It was anticipated that visitation would increase as a result of the new infrastructure and additional staff support.
Past Project	SR-159 Corridor Trail feasibility study and programmatic EA (BLM 2009)	The programmatic EA analyzed a network of trails intended to enhance connections from municipalities and the county into Red Rock Canyon. Inter-connectivity to trails in other municipalities and federal lands. The Zone 2 trail is consistent with the planned systems trails that would make connections to non-motorized trails outside the RRCNCA. In addition, the Zone 2 trail would connect to widely used existing on-road bicycle undesignated routes.	Planning for this project included consultation with trail planners from Clark County. This proposed trail alignment was intended to connect nodes within RRCNCA, including both ends of the Scenic Drive. In the next phase of design, the proposed trail segments would add connections to the campground, Spring Mountain Ranch State Park, and Bonnie Springs.
Past Project	Wastewater system upgrade to RRCNCA Visitor Center	RRCNCA Visitor Center upgrade of septic system.	RRCNCA Visitor Center is located within the core area. Improvements to the wastewater system accommodated the increased use and address human health and safety.
Past Project	Underground distribution lines	15-kilovolt electrical lines to fire station and campground.	The new electrical lines extend along SR-159 and Moenkopi Road.
Past Project	Transportation feasibility study	Analysis of current core area transportation infrastructure (Scenic Drive, trails, trailheads, and parking) to find solutions	The core area of the RRCNCA including the Scenic Drive, adjacent facilities, and transportation infrastructure.

to current transportation concerns and potential future issues because of increased visitor use.

Past Project	RRCNCA RMP Amendment — Bolting in Wilderness	Analysis of the current bolting restrictions in RRCNCA wilderness to find solutions for safe climbing.	La Madre Mountain and Rainbow Mountain wilderness areas, approximately 27,879 acres and 20,311 acres (respectively) of which are located within RRCNCA.
Past Project	Special recreation permits for the Cottonwood Valley Trail System	EA analyzing several special recreation permits for issuance over a given period of time within the Cottonwood Valley Trail System of RRCNCA. This was done by identifying and clarifying areas approved for multiple recreation uses to meet current and future special recreation permit annual needs for an approximate 5-year period (2012–2017).	Located adjacent to the core area, the Cottonwood Valley Trail System provides a network of access to areas south of the core area with various casual recreation use and permitted activities occurring there regularly.
Past Project	Upgrades to Red Rock fire station	Facility improvements included: <ul style="list-style-type: none"> ▪ Upgrade of septic system ▪ Installation of a well ▪ Installation of communication system 	Red Rock fire station is located in the core area and improvements to the facility accommodated use and addressed health and safety for onsite staff members who provide for protection of resources.
Past Project	Upgrades to existing Red Rock campground	Campground improvements included installation of: <ul style="list-style-type: none"> ▪ Campsite parking stalls and parking lot ▪ Well ▪ Shade structures ▪ Solar panels for electricity to the site ▪ Concrete pads for picnic tables 	Campground is located in the core area, and improvements to the facility resulted in improved visitor experience and potential increased usage.
Past Project	Red Rock Hazardous Fuels Reduction Project	Treatment using herbicide, mowing, blading, or combination of these methods to remove invasive/noxious weeds and to create fuel breaks.	Fuels reduction treatments in and around the core area of RRCNCA have treated invasive/noxious weeds adjacent to roads, trails, and in previously burned areas to create fuel breaks and limit potential fire spread in the event of a wildland fire. Native plant species were avoided.
Past Project	Geotechnical Investigation for BLM-FHWA RRCNCA Scenic Loop Drive Improvement	Borings and seismic survey to provide geotechnical analysis and recommendations for inclusion into the Red Rock Canyon Low Water Crossing	Along Scenic Loop Drive within the paved surface of the existing roadway and shoulder; did not result in any new disturbance. Drilling at the low-water crossing location resulted in a minimal amount of new temporary disturbance, which were reclaimed immediately following completion of each

	Project (excluding Moenkopi Road)	and Pavement Improvement Project.	boring. Seismic testing did not result in additional disturbance.
Past Project	RRCNCA Visitor Center Well and Water Line Replacement Project	Replacement of the tank and water line that provide water to the visitor center.	RRCNCA Visitor Center is located within the core area. Improvements to the well and water line improved functionality and service.
Past Project	RRCNCA Low Water Crossing and Roads Improvements Project	Bridges to replace the low-water crossings at Sandstone Wash and Red Rock Wash, and parking lot improvements at the visitor center.	Located within the core area. Construction is complete. This project facilitated the safe movement of vehicles, bicyclists, and pedestrians at the low-water crossings. Visitor center circulation has been improved as a result of this project.
Past Project	RRCNCA Scenic Loop Drive and Parking Areas Improvements Project	Improvements to several areas of RRCNCA within the vicinity of Scenic Loop Drive and includes improvements to roadways, parking areas, construction of a new return route on a new alignment connecting Sandstone Quarry to the visitor center, pavement rehabilitation, and signage.	Located within the core area. Construction is complete.
Current Project	SR-159 antenna nodes	Seven antenna nodes attached to non-lighted, low-profile steel poles are needed to provide cell coverage where there is currently a gap in service. Each node is a non-lighted steel pole approximately 40 feet high to the top of the antenna.	Located along SR-159.
Current Project	SR-159 multi-use trail — Zone 2	The 3.1-mile Zone 2 trail roughly parallels SR-159 on the western side and extends from the RRCNCA Visitor Center to the Scenic Drive Exit lot.	Located within the core area, the Zone 2 trail is one segment of the five-segment SR-159 corridor trail intended to connect to trails in other municipalities and federal lands. With the EA completed in early 2012, the Zone 2 project is shelf-ready and pending funding for construction. This hiking/biking/equestrian riding trail would provide access into RRCNCA for casual recreation users as well as for permitted activities. It is anticipated that visitation may increase as a result of the completion of the trail.
Future Project	Transportation and Travel Management Plan	Analyzing, defining, and designating current and future roads, trails, signage, and information systems within the RRCNCA.	198,000 acres of public lands in the RRCNCA in Clark County.
Future Projects	Phases 2,3,4, and 5 of Red Rock Trail Project.	Completion of entire Red Rocks Trail project.	Phase 5 of the trail is currently being designed by FHWA and is outside RRCNCA, but within the jurisdiction of the Southern Nevada Office

of BLM. Phases 2, 3, and 4 are being added to FHWA/BLM program of projects for future construction and are within RRCNCA. This hiking/biking/equestrian riding trail would provide access into RRCNCA for casual recreation users as well as for permitted activities. It is anticipated that visitation may increase as a result of the completion of the trail.

4.14.1 Fish and Wildlife Species (Excluding Federally Listed Species)

4.14.1.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to adversely affect wildlife during construction periods and through post-construction visitor use. These actions are located within or adjacent to areas of RRCNCA where BLM sensitive wildlife species are likely to occur. These and other wildlife species can be displaced, injured, or killed when lands are disturbed during construction periods and through post-construction visitor use. As the aforementioned projects are completed, visitor use may increase, which could increase the potential for visitor-wildlife interactions and may lead to an increase in animal displacement, harassment, or mortality. However, these projects have been developed to concentrate visitor use in designated areas and reduce overall effects to wildlife and habitat.

Implementation of the Proposed Action is expected to have short-term, less-than-significant effects on wildlife. Therefore, when combined with other past, present, and reasonably foreseeable future projects, the Proposed Action is not anticipated to contribute to any adverse cumulative effects.

4.14.1.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on wildlife species.

4.14.2 Geology/Mineral Resources/Energy Production

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to increase the effects on geological and mineral resources. The production of 41,500 cubic yards of excess mineral materials could add to any excess material from other projects. These mineral materials would need to be used within the project or stockpiled within the project for future use at this or another location. Mineral materials should be stockpiled within the project boundaries for future use. If material is removed from this site or any of the sites of the aforementioned projects, it must be authorized by a Fee Use Permit.

Because of this material stockpiling, implementation of the Proposed Action is expected to have short-term, less-than-significant effects on geological and mineral resources. Therefore, when combined with other past, present, and reasonably foreseeable future projects, the Proposed Action is not anticipated to contribute to any adverse cumulative effect.

4.14.2.1 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects to geological or mineral species or energy production.

4.14.3 Invasive Species/Noxious Weeds

4.14.3.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to increase invasive species and noxious weeds through the introduction and spread of seeds and increase in disturbed

areas. An increase by invasive species and noxious weeds would have an adverse effect on the environment. The implementation of BMPs during design and construction of these projects would reduce these effects. Additionally, the design and intent of most projects mentioned in Table 4-1 are to encourage visitors to use designated areas, potentially reducing the introduction and spread of noxious weeds.

Implementation of the Proposed Action is expected to increase invasive species and noxious weeds, and therefore would have adverse effects on the RRCNCA. Thus, when combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects.

4.14.3.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects to invasive species or noxious weeds.

4.14.4 Land Use and Access

Past, present, and reasonably foreseeable future activities include the development of roads, parking areas, facilities, and infrastructure that have improved access and visitor enjoyment of RRCNCA. The Proposed Action would address problems identified within the RRCNCA RMP (e.g., inadequate parking, parking in undesignated areas, vehicle--bicycle conflicts) and would improve the visitor experience to many of the unique features and recreational amenities for which the RRCNCA was designated. Additionally, the Proposed Action would benefit search and rescue and emergency service activities occurring in the vicinity of Calico Hills and Sandstone Quarry by providing a more direct route to the area's exit. Impacts to wildlife habitat would be minor in comparison to the available habitat within RRCNCA. As a result, the Proposed Action, when combined with other past, present, and reasonably foreseeable future actions, is not expected to result in adverse cumulative effects to National Conservation Lands.

Implementation of the Proposed Action is expected to result in short-term, less-than-significant adverse effects to the soils. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects, but these are expected to be minor.

4.14.4.1 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects to land use and access.

4.14.5 Migratory Birds/Bald and Golden Eagles

4.14.5.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1, which include development and improvements of roads, trails, and infrastructure, have the potential to affect migratory birds and golden eagles during construction periods and through increased post-construction visitor use. These effects would include harassment, mortality, or displacement resulting from habitat loss and fragmentation. The implementation of BMPs during design and construction of these projects would reduce these effects. Additionally, the design and intent of most projects mentioned in Table 4-1 are to encourage visitors to use designated areas and avoid wildlife habitat and could result in long-term benefits to migratory birds and golden eagles. No effects to bald eagles are anticipated because no suitable habitat is present for this species.

Implementation of the Proposed Action is expected to result in short-term, less-than-significant adverse effects to migratory birds and golden eagles. Thus, when combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action is not anticipated to contribute to any adverse cumulative effects.

4.14.5.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects to migratory birds or bald and golden eagles.

4.14.6 Recreation

4.14.6.1 Proposed Action

Implementation of the Proposed Action is expected to result in a benefit to recreation to and within the RRCNCA. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action would not contribute to adverse cumulative effects to recreation.

4.14.6.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on recreation.

4.14.7 Socioeconomics

4.14.7.1 Proposed Action

Implementation of the Proposed Action is expected to result in a benefit to socioeconomic activities within the RRCNCA. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action would not contribute to adverse cumulative effects to socioeconomics.

4.14.7.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on socioeconomics.

4.14.8 Soils

4.14.8.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 are not expected to result in cumulative impacts to soils. Minimal soil disturbance would be created, and any residual effects would be minimized through the implementation of BMPs and mitigation measures. In addition, the Proposed Action would result in a minor increase in impervious surface.

The Proposed Action would result in a conversion of approximately 10.92 acres of previously undisturbed soils to impervious, asphalt surface. Given the addition of impervious surfaces, acreage of new soil disturbance in relation to the size of each wash, and the infrequency of heavy precipitation events, soil impacts from stormwater runoff are expected to be minimal. When combined with other past, present, and reasonably foreseeable future projects, the Proposed Action would not result in adverse cumulative effects to soils in the RRCNCA because soil disturbance and impervious surface area increases would be minimal.

Implementation of the Proposed Action is expected to result in short-term, less-than-significant adverse effects to the soils. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects, but these are expected to be minor.

4.14.8.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects to land use and access.

4.14.9 Threatened, Endangered, or Candidate Animal Species

4.14.9.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to adversely affect the federally threatened Mojave desert tortoise during construction periods and through post-

construction visitor use. These effects include harassment, mortality, or displacement as a result of the loss and fragmentation of habitat. The implementation of BMPs and the minimization measures stipulated in the RRCNCA Programmatic Biological Opinion (File No. 1-5-04-F-526) during design and construction of these projects would reduce these effects. Additionally, the design and intent of most projects previously mentioned are to encourage visitors to use designated areas and avoid wildlife habitat, which could result in long-term benefits to the desert tortoise.

Implementation of the Proposed Action is expected to result in short-term, less-than-significant adverse effects to the desert tortoise. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects, but these are expected to be minor.

4.14.9.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on federally listed species, candidate species for federal listing, or any designated critical habitat.

4.14.10 Travel and Transportation

4.14.10.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to temporarily affect the travel and transportation for users of the RRCNCA. However, minor delays in travel due to the movement of construction equipment and temporary lane closures are outweighed by the safety and access benefits this project would have for both vehicles and bicycle and pedestrian users of RRCNCA.

Implementation of the Proposed Action is expected to result in a benefit to transportation to and within the RRCNCA. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action would not contribute to adverse cumulative effects to transportation.

4.14.10.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on transportation.

4.14.11 Vegetation (Excluding Federally Listed Species)

4.14.11.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to adversely affect vegetation during construction periods and through post-construction visitor use. These actions are located within or adjacent to areas of RRCNCA where native plant communities and BLM sensitive plants species, including the yellow twotone beardtongue, are known to occur. Yellow twotone beardtongue populations have declined in recent years because of human encroachment and development (Smith 2005). As current and planned projects are completed and growth in the Las Vegas Valley continues, visitor use in RRCNCA would likely increase, which could increase the potential for adverse effects to vegetation and BLM sensitive plant species.

Implementation of the Proposed Action is expected to result in significant adverse effects to vegetation, including the yellow twotone beardtongue. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects. Construction BMPs would be used to further avoid impacts to vegetation.

4.14.11.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on vegetation.

4.14.12 Visual Resources

4.14.12.1 Proposed Action

Past, present, and reasonably foreseeable future activities include development and improvements to roads, trails, and infrastructure that may have affected or have the potential to affect visual resources. However, any roads, trails, parking lots, or transportation infrastructure would be constructed following VRM Class II guidelines that would keep a low natural profile and maintain the natural beauty of the RRCNCA.

With the implantation of mitigation measures, the project would not have a significant visual impact. As a result, the Proposed Action combined with other past, present, and reasonably foreseeable future actions is not expected to result in adverse cumulative effects to visual resources because the actions would conform to VRM II guidelines.

Implementation of the Proposed Action is expected to result in less-than-significant adverse effects to the visual resources. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action may contribute to adverse cumulative effects, but these are expected to be minor.

4.14.12.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on visual resources.

4.14.13 Woodland/Forestry

4.14.13.1 Proposed Action

The past, present, and reasonably foreseeable future actions in Table 4-1 have the potential to adversely affect woodland and forestry during construction periods and through post-construction visitor use. These actions are located within or adjacent to areas of RRCNCA where cactus and yucca plants are known to occur. As current and planned projects are completed and growth in the Las Vegas Valley continues, visitor use in RRCNCA will likely increase, which could increase the potential for adverse effects to cactus and yucca plants.

Implementation of the Proposed Action is expected to result in significant adverse effects to cactus and yucca plants. When combined with the aforementioned past, present, and reasonably foreseeable future actions, the Proposed Action would contribute to adverse cumulative effects.

4.14.13.2 No Action Alternative

Implementation of the No Action Alternative would result in no cumulative effects on woodland/forestry.

4.15 Mitigation Measures

Mitigation measures are those implemented to avoid or reduce adverse impacts to resources identified in Sections 4.1 through 4.9 and Table 4-1 (BLM 1998a).

4.15.1 Fish and Wildlife Species (Excluding Federally Listed Species)

- The Nevada Department of Wildlife's (NDOW's) encounter protocol for the banded Gila monster would be followed, and any observations would be reported to NDOW personnel.

4.15.2 Geology/Mineral Resources/Energy Production

- All mineral materials need to be used onsite within the right-of-way or stockpiled onsite for disposal by the BLM. If mineral materials are stockpiled onsite for future disposal by the BLM, a mineral material contract, free-use permit, or material site right-of-way must be issued by the BLM before those mineral materials may be used.

4.15.3 Invasive Species/Noxious Weeds

- A weed management plan would be implemented by the Contractor to control the spread of noxious weeds and invasive species throughout construction and reclamation. The weed management plan must be approved by the BLM weed management specialist before construction.
- The biologist onsite would try to minimize construction equipment travel over weed species, especially state-listed noxious weeds. The biologist would occasionally check under vehicles to ensure seed or plant parts are not stuck to the construction equipment.
- Use of construction equipment while the soil is wet is not permitted as this is much more likely to spread invasive species through adherence of the seeds to mud and vehicles.
- The Holder is defined as the entity to whom the BLM has issued a right-of-way grant; if no grant is issued, the Holder is the BLM. The Holder would keep their Proposed Action area free of state-listed noxious weeds, such as Sahara mustard, for the life of the project. The Holder would perform monitoring for invasive species and noxious weeds. Any detections of noxious weeds should be reported to the BLM SNDO noxious weed coordinator immediately (702-515-5000) to determine best course for treatment.
- The use of pesticide treatment requires the Holder to coordinate with the BLM SNDO weed management specialist (702-515-5000) and prepare, submit, obtain, and maintain a PUP to use pesticides for project activities.
- In order to reduce the accidental spread of noxious weeds, the Holder and any contractors would avoid or minimize all types of travel through state-listed noxious weed-infested areas that can be carried to the Proposed Action area. In order to minimize the threat of spreading noxious weeds project-related equipment (e.g., undercarriages and wheel wells) should be cleaned of all mud, dirt, and plant parts before moving into relatively weed-free areas or out of relatively weed-infested areas. Project workers would inspect, remove, and dispose weed seed and plant parts found on their clothing and personal equipment, bag the product, and dispose in a dumpster. The Holder and any contractors would consult with the BLM SNDO weed management specialist, should any questions arise.
- During construction and maintenance activities, the Holder would perform the following:
 - Review the annual weed inventory before any ground disturbance.
 - Limit the size of any vegetation or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed.
 - Begin activities in weed-free areas whenever feasible before operating in weed-infested areas.
 - Locate equipment storage, machine and vehicle parking, or any other area needed for the temporary placement of people, machinery, and supplies in areas that are relatively weed free.
 - Avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods when the spread of seed or plant parts are least likely.

4.15.4 Migratory Birds/Bald and Golden Eagles

- A qualified biologist would perform preconstruction surveys for active migratory bird nests in all suitable habitats that would be disturbed. If active bird nests are identified within the project area, a qualified biologist would determine the appropriate avoidance strategy, subject to approval by the Contracting Officer, and determine the need for a no-work buffer. If necessary, no work would occur until the young have fledged or the nest is no longer active.

4.15.5 Recreation

- Implementation of BLM-approved traffic control measures, such as construction cones and construction lights, would be used to minimize traffic delays.
- All areas within the RRCNCA that are currently open to the public would remain open to the public. The BLM or the Contractor would advise visitors of construction activities. Construction updates and advisements would be available at the field office or visitor center.
- Access to Scenic Loop Drive and visitor center would be maintained during visitor hours.
- Construction activities and coordination with any special recreation permits would be ongoing.

4.15.6 Soils

- A storm water pollution prevention plan would be developed before construction and implemented throughout the life of the project.
- Impacts to soils would be minimized through implementation of BMPs as identified in the Nevada Department of Environmental Protection (NDEP) BMP Handbook (1994).

4.15.7 Threatened, Endangered, or Candidate Animal Species

The Proposed Action would comply with the minimization measures stipulated in the RRCNCA Programmatic Biological Opinion (File No. 1-5-04-F-526). The complete list of minimization measures is found in Appendix H. These include, but are not limited to, the following:

- Vehicles: All project- and event-related individuals would check underneath stationary vehicles before moving them.
- Vehicle traffic: Would be restricted to SR-159 and Scenic Loop Drive, unless otherwise authorized by BLM and the USFWS (those construction along the proposed trail alignments).
- Tortoise mortality and injury: BLM wildlife staff (702-515-5000) and USFWS (702-515-5230) must be notified of any desert tortoise death or injury from project implementation by close of business on the following workday. In addition, USFWS's Division of Law Enforcement would be notified in accordance with the reporting requirements of this biological opinion.
- Tortoise activity: The period of greatest tortoise activity is generally defined as March 1 through October 31. However, unseasonably warm weather or precipitation outside this period may result in tortoise activity, particularly by hatchling and juvenile tortoises, and thus warrant adherence to requirements established for periods of greater activity. Similarly, BLM may determine that additional measures are appropriate for projects planned for the end or beginning of either period if conditions are suitable for desert tortoises to be active.
- Education Program: BLM or their designee would present a tortoise education program to all workers, permittees, and other employees or participants involved on projects covered under this opinion. The program would consist of either a presentation or fact sheet as determined by project-level consultation between BLM and USFWS. The program or fact sheet would include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of federal and state laws, general tortoise activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of the biological opinion, and personal measures employees can take to promote the conservation of desert tortoises. The definition of "take" would also be explained. Workers and project associates would be encouraged to carpool to and from the project sites. Specific and detailed instructions would be provided on the proper techniques to capture and move tortoises that appear onsite if appropriate, in accordance with USFWS-approved protocol.

Currently, USFWS-approved protocol is *Guidelines For Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council 1994).

- **Biologist approval:** BLM and USFWS staff must approve the biologists implementing the terms and conditions of the biological opinion or permit issued by BLM. Any biologist or firm not previously approved must submit a statement of qualifications in the USFWS-developed format and be approved by the wildlife staff before being authorized to represent BLM in complying with the terms and conditions of the biological opinion. Other personnel may assist with implementing conservation measures but must be under direct field supervision by the authorized biologist.
- **Biologist qualifications:** In accordance with *Procedures for Endangered Species Act Compliance for the Mojave desert tortoise* (USFWS 1992), an authorized desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields as determined by BLM and the USFWS. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum 60 days of field experience. All tortoise biologists would comply with the USFWS-approved handling protocol (Desert Tortoise Council 1994). In addition, the biologist would have the ability to recognize and accurately record survey results and must be familiar with the terms and conditions of the biological opinion that resulted from project-level consultation between BLM and USFWS.
- **Tortoises in harm's way:** If a tortoise is found within the project or activity site, all potentially harmful activity would cease until the tortoise moves or is moved out of harm's way by an authorized biologist. If a desert tortoise is in imminent danger, the tortoise would be moved out of harm's way and onto adjacent BLM land, using techniques described in the tortoise education program.
- **Moving tortoises:** Tortoises that are moved offsite and released into undisturbed habitat on public land must be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with the tortoise handling protocol. Tortoises encountered would be treated in a manner consistent with the appropriate measures in this biological opinion.
- **Permits:** All appropriate state and federal permits, including NDOW and USFWS permits for handling desert tortoises or their parts, must be acquired by the tortoise biologists or other personnel before project initiation and before handling any desert tortoise or their parts, or conducting any activity requiring a permit.
- **Project oversight:** A BLM representative(s) would be designated who would be responsible for overseeing compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and re-initiation requirements contained in this biological opinion. The designated representative would provide coordination among the permittee, project Proponent, BLM, and the USFWS.
- **Desert tortoise burrows:** A desert tortoise monitor would walk in front of the construction equipment in proposed construction areas to look for tortoise burrows and live tortoises. If a tortoise is found, all activities would cease until the tortoise moves out of the area of its own accord.
- **Reporting:** The project Proponent, permittee, or project lead (if an internal action), must submit a document to the BLM wildlife biologist within 30 days of completion of the project showing the number of acres disturbed and number of tortoises observed or taken, which includes those captured and displaced, killed, injured, or harassed by other means, during implementation of programmatic actions.

- Project boundaries: All activities would be confined to designated areas.
- Construction would be backfilled or covered at the end of each day during hours of inactivity to prevent animals from inadvertently falling in.
- Either a tortoise monitor or temporary fencing would be used to mitigate potential impacts. The exact method would be determined during final design. A tortoise monitor (qualified biologist) and an authorized biologist would be onsite for project construction during the period of greatest tortoise activity (generally March 1 through October 31). An authorized tortoise biologist would be on call at all times.
- If construction equipment remains onsite at the end of each day, then they must either be snow-fenced around them to prevent tortoises from sheltering underneath the vehicles at the end of each day, or the authorized biologist and tortoise monitor (qualified biologist) must search and check under the trucks each morning before they are moved for any tortoises.

The Proposed Action would comply with the Reasonable and Prudent Measures with Terms and Conditions in Programmatic Biological Opinion File No. 1-5-04-F-526.

4.15.8 Vegetation (Excluding Federally Listed Species)

- A biologist would be onsite during all construction activities.
- The biologist would document damage to vegetation that occurs during construction. All vegetation that has been crushed to the extent that it may not recover would be tallied by species, photographed, and reported to BLM.
- All vehicle travel would be within the proposed trail alignment.
- Any yellow twotone beardtongue near the path of the construction equipment would be flagged for avoidance by the biologist. The BLM would implement offsite conservation measures consistent with BLM MS 1794 Mitigation Manual (2016), should any impacts to this species occur.
- A BLM-approved restoration plan approved by the BLM botanist and consistent with guidelines for the RRCNCA would be put in place before construction.
- All areas of disturbance would be restored immediately after completion of the Proposed Action.

4.15.9 Visual Resources

- In all areas where the trail parallels SR-159, as much as possible of the existing vegetation that lies between SR-159 and the trail should be retained, and additional vegetation should be planted in this zone, particularly in areas where the vegetation can benefit from runoff from the highway and the trail.
- Where feasible, additional vegetation should be planted in bare areas alongside the trail in locations where runoff from the trail can help support the plantings.
- To the extent feasible, vegetation removed from the area developed with the trail should be transplanted to the cut and fill slopes to reduce the degree of visual contrast these slopes have the potential to create.
- To reduce the visual contrast of the bridge over Red Rock Wash, explore the use of alternative colors, selecting a color that would blend in with the surrounding landscape.
- The design of the fence on the approach to the bridge and fences used in trail segments along fill slopes should be refined to use railings that are thinner and more likely to recede into the view.

- Shrubs removed from the trail alignment should be transplanted in the area in front of the fence along the trail segment approaching the bridge over Red Rock Wash and in front of fences in trail segments along fill slopes to provide partial screening.
- To attenuate the visual contrasts created by the parking lots and the vehicles parked in them, the design of the parking lots should be refined to retain islands of large vegetation in order to break up the expanse of the parking lot's surface and to provide partial screening of views into the lot.
- For the roadway widening, ensure that any areas of disturbance along the roadway are covered with topsoil to avoid exposure of lighter colored sub-soils and to encourage revegetation.
- For the formalization of the parking lots, ensure that any areas of disturbance along the edges of the parking lot are covered with topsoil to avoid exposure of lighter colored sub-soils and to encourage revegetation.
- For the signage that would be installed along SR-159, low-profile signs should be designed using the Look and Feel Modernization Initiative for NLCS units (BLM 2015).

4.15.10 Woodland/Forestry

- A biologist would be onsite during all construction activities.
- Cactus and yucca plants are considered government property under the forestry program. Cactus and yucca plants within the path of disturbance would be salvaged and replanted in densities equivalent to the site before disturbance following completion of construction.
- Unless otherwise directed by the BLM botanist, all replanted cactus and yucca plants would be watered and otherwise maintained for a period of 1 year.
- To ensure successful salvage and transplant, all cactus and yucca plants would be salvaged using a contractor (or other approved by the BLM botanist) with at least 3 years of experience salvaging and maintaining plant materials in the Mojave or Sonoran deserts.
- All flagging would be removed after the construction equipment leaves the area.
- All reporting on cactus and yucca plants and vegetation impacts would be provided to BLM within 30 days of construction completion.

4.16 Residual Effects

Residual effects are defined as effects remaining after mitigation measures have been applied (BLM 1998a). It is anticipated that the Proposed Action's mitigation measures would eliminate any residual adverse effects to land use/access, migratory birds/bald and golden eagles, soils, and visual resources.

4.16.1 Fish and Wildlife Species (Excluding Federally Listed Species)

Residual effects to wildlife could occur through use of the multi-use trail. The new trail would accommodate bicyclists traveling at a higher speed through the Mojave ecosystem than would be possible walking, increasing the likelihood a local wildlife species could be injured or killed. While the Proposed Action would include signage along the trail alerting trail users of potential wildlife crossings, there is no feasible way to completely mitigate a potential wildlife-bicycle conflict without fencing both sides of the trail. Fencing was considered but ultimately not included in the design because it would create a new barrier to wildlife movement and would result in visual impacts beyond the VRM Class II objectives. The BLM believes the likelihood of wildlife-bicycle conflict is low and that bicyclists would be able to avoid conflicts on most occasions.

4.16.2 Invasive Species/Noxious Weeds

Residual effects of the spread of invasive species and noxious weeds would occur through the use of the multi-use trail. The trail would provide a new access route to RRCNCA and trail users could inadvertently spread noxious weeds into RRCNCA simply by using the trail. While the BLM-approved weed management plan would mitigate some of these risks, there is no feasible way to reduce these risks to zero. Further, development of the formalized multi-use trail could lead to the development of new social trails, and subsequent spread of invasive species and noxious weeds in currently pristine areas.

4.16.3 Threatened, Endangered, or Candidate Animal Species

Residual effects to the Mojave desert tortoise would be similar to those potentially occurring to other wildlife species through the use of the multi-use trail. The new trail would accommodate bicyclists traveling at a higher speed through the Mojave ecosystem than would be possible walking, increasing the likelihood a desert tortoise could be injured or killed. While the Proposed Action would include signage along the trail alerting trail users of potential tortoise crossings, there is no feasible way to completely mitigate a potential tortoise conflict without fencing both sides of the trail. Fencing was considered but ultimately not included in the design because it would create a new barrier to tortoise movement and would result in visual impacts beyond the VRM Class II objectives. The BLM believes the likelihood of tortoise conflict is low and that bicyclists would be able to avoid conflicts on most occasions.

4.16.4 Vegetation (Excluding Federally Listed Species)

Residual effects to vegetation would occur through the construction and use of the multi-use trail. Approximately 19.72 acres of Mojave Desert vegetation would be permanently replaced with the multi-use trail and associated structures. There is no feasible way to mitigate this level of permanent disturbance. An additional 15.44 acres would be temporarily disturbed. While perennial plant salvage and replanting would help with recovery of the vegetative community in temporarily disturbed areas, these areas would be subject to repeated invasions by non-native species and noxious weeds. These invasions could increase the risk of wildfire, contributing to the ongoing degradation of previously pristine habitat. The new trail also increases the potential for additional social trails to be created in currently undisturbed habitat, furthering disturbance to native vegetation.

4.16.5 Visual Resources

Residual effects to visual resources would occur through the change in views because of the operation of the multi-use trail and parking areas. The minor change to the visual landscape would be permanent.

4.16.6 Woodland/Forestry

Residual effects to cactus and yucca would occur through the construction and use of the multi-use trail. There is no feasible way to ensure the survival of every individual of the approximately 330 cactus and 1,880 yucca plants needing to be salvaged from permanent disturbance areas. While many of these plants would be used to achieve 100 percent survival in restored areas, some would be planted offsite. The new trail also increases the potential for additional social trails to be created in currently undisturbed habitat, furthering disturbance to cactus and yucca.

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5.0 Agency Consultations

Table 5-1. List of Persons, Organizations, and Agencies Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
USFWS	Formal Section 7 consultation is ongoing and will be completed prior to issuing the Final EA.	Comply with minimization measures as stipulated in the RRCNCA Programmatic Biological Opinion (File No. 1-5-04-F-526). Comply with measures stipulated in the Biological Append, once obtained.
Tribal Consultation	<p>A tribal consultation letter for this project was sent by the BLM to the following tribes during summer 2020:</p> <ul style="list-style-type: none"> ▪ 29 Palms Band of Mission Indians ▪ Chemehuevi Indian Tribe ▪ Colorado River Indian Tribes ▪ Ely Shoshone Tribe ▪ Fort Mojave Indian Tribe ▪ Fort Independence Paiute ▪ Kaibab Band of Paiutes ▪ Las Vegas Paiute Tribe ▪ Moapa Band of Paiutes ▪ Timbisha Shoshone Tribe ▪ San Juan Southern Paiute Tribe ▪ Paiute Indian Tribe of Utah 	<p>The Moapa Band of Paiutes has responded and are interested in a site visit to see the project area.</p> <p>As of preparation of this EA, no other responses from any of the tribes have been received by the BLM.</p>

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6.0 List of Preparers

Table 6-1. List of Preparers

Name	Title	Responsible for the Following Sections
<i>BLM Staff</i>		
Raymond Tsui	Civil Engineer	Project Manager, Civil Engineering
Kathy August	Outdoor Recreation Planner	LCSNCANLCS (NCA), Recreation, Travel/ Transportation, Visual Resources, Wild and Scenic Rivers
Lisa Christianson	Air Resource Specialist	Air Resources/GHG Emissions/Wastes (hazardous or solid)
Lorri Dukes	Geologist	Geology/Mineral Resources/Energy Production
Mary Ellis	Geologist	Paleontology
Susan Farkas	Planning and Environmental Coordinator	NEPA Coordination
Braydon Gaard	Wilderness Specialist	BLM Natural Areas/Lands with Wilderness Characteristics/Wilderness/ Wilderness Study Area
Joanie Guerrero	Realty Specialist	Lands/Access
Lara Kobelt	Botanist	Livestock Grazing/Rangeland Health Standards/ Threatened, Endangered, or Candidate Plant Species/Vegetation Excluding Federally Listed Species/Woodland/Forestry
Corey Lange	Wildlife Biologist	Areas of Critical Environmental Concern/Fish and Wildlife Excluding Federally Listed Species/ Migratory Birds/Threatened, Endangered, or Candidate Animal Species
Sean McElderly	Fuels Specialist	Fuels/Fire Management
Jeremiah Wagener	Geologist	Geology/Mineral Resources/Energy Production
Tarl Norman	Weeds Management Specialist	Invasive Species/Noxious Weeds
Annette Neubert	Archaeologist	Cultural Resources/Native American Religions Concerns
Mary Ellis	Paleontologist	Paleontology
Boris Poff	Hydrologist	Floodplains/Hydrologic Conditions/Soils/Water Resources/Quality (drinking/surface/ground)/ Wetlands/Riparian Zones
Tabitha Romero	Wild Horse and Burro Specialist	Wild Horses and Burros

FHWA-CFLHD Staff

Emilio Burgos	Project Manager	Project Delivery
Opal Forbes	Environmental Protection Specialist	Environmental Compliance
<i>Consultant Staff (Jacobs)</i>		
Danielle Yearsley, P.E.	Project Manager	Project Delivery
George Woolley	Senior Environmental Planner	Environmental Lead/Quality Control
Rachel Saunders	Environmental Planner	Lead NEPA Author
Rachel Newton	Senior Biologist	Natural Resources/Threatened and Endangered Species
Tom Priestley	Visual Resource Specialist	Visual Resources
Kimberly Kintz	Principal Investigator	Cultural Resources
Julie Trumpoldt, P.E.	Project Engineer	Roadway Design Lead
Doug Stewart, P.E.	Project Engineer	Drainage Design
John Rohner, P.E.	Project Engineer	Structure Design

P.E. = professional engineer

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