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Las Cruces District
and
United States Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division**

**Environmental Assessment
EA# DOI-BLM-NM-L000-2014-086
0164**

**DRIPPING SPRINGS ROAD AND BAYLOR CANYON
ROAD IMPROVEMENT PROJECT**

FHWA NM FLAP CR 11299(1)

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1 INTRODUCTION

The Federal Highway Administration (FHWA), Central Federal Lands Highway Division (CFLHD), in cooperation with Doña Ana County and the Bureau of Land Management (BLM), is proposing improvements to Dripping Springs Road and Baylor Canyon Road. The Federal Lands Access Program, along with a local match, provides funding for the proposed Dripping Springs and Baylor Canyon Road Improvements Project (Project). FHWA and the BLM are cooperating agencies in the development of this environmental assessment (EA). The existing roadways are an unimproved soft surface with multiple substandard curves, failing drainage ways, and require frequent maintenance needs. Approximately 4.9 miles of combined roadway improvements are proposed.

Doña Ana County has submitted an application to the Bureau of Land Management (BLM) to amend right-of-way (ROW) Serial Number NMNM 131088 which currently authorizes maintenance and termination of the existing Baylor Canyon Road. The amendment would include improvements to the road and an increase in width of the ROW from the current 80 feet to 100 feet, which would accommodate the roadway, construction and future maintenance activities.

The County has also submitted an application to amend ROW BLM Serial Number 066392 which currently authorizes the construction, operation, maintenance and termination of a portion of Dripping Springs Road. The amendment would include adding the remaining segments of their RS 2477 claim for Dripping Springs Road by conversion into a Federal Land Policy and Management Act (FLPMA) ROW and improvements to the road. The improvements would include an increase in width of the ROW from the current 60 feet to 90 feet, which would accommodate the roadway, construction and future maintenance activities.

The proposed project is located across the following public lands in Doña Ana County:

New Mexico Principal Meridian, New Mexico

T. 22 S., R. 3 E.,

sec. 27, SE1/4SE1/4SE1/4;

sec. 34, E1/2NE1/4NE1/4, E1/2SE1/4NE1/4, E1/2NE1/4SE1/4, E1/2SE1/4SE1/4.

T. 23 S., R. 3 E.,

sec. 3, lot 1, E1/2SW1/4NE1/4, N1/2SE1/4NE1/4, E1/2SE1/4SW1/4, SW1/4SE1/4SW1/4,
E1/2NW1/4SE1/4, N1/2SW1/4SE1/4;

sec. 9, S1/2SE1/4SW1/4, NE1/4SE1/4, SE1/4NW1/4SE1/4, N1/2SW1/4SE1/4, SW1/4SW1/4SE1/4;

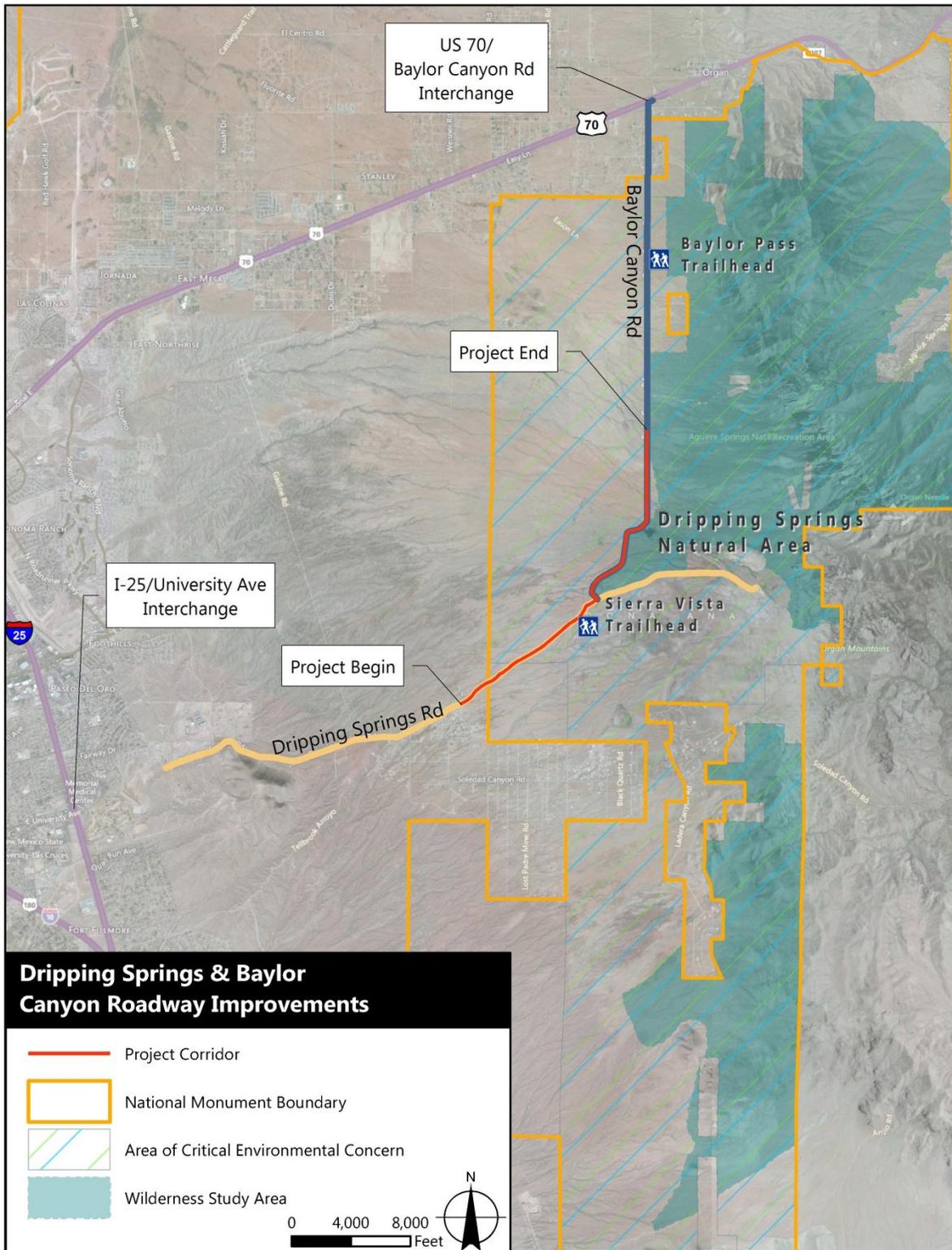
sec. 10, W1/2NE1/4NW1/4, SE1/4NE1/4NW1/4, E1/2SW1/4NW1/4,
SW1/4SW1/4NW1/4, NW1/4SE1/4NW1/4, NW1/4NW1/4SW1/4;

sec. 16, NW1/4NE1/4NW1/4, NW1/4NW1/4.

Portions of the existing roadways are unimproved soft surface with multiple substandard concerns, failing drainageways, and frequent maintenance needs.

Approximately 4.9 miles of combined roadway improvements are proposed (Figure 1). If approved, the project would go to construction in 2016 extending from January to December.

Figure 1. Project Vicinity Map (Regional Scale)



Dripping Springs Road and Baylor Canyon Road provide access to residential land uses on the north and south ends of the project area. In addition, these two roads are the sole access points for the Dripping Springs Natural Area, Baylor Pass Trailhead, and Sierra Vista Trailhead (federal recreation areas located within the recently designated Organ Mountains-Desert Peaks National Monument [OMDPNM]).

Visitors to these resources traveling from points east would likely use Baylor Canyon Road to access these facilities. Visitors from points west would likely use Dripping Springs Road.

1.1 Purpose and Need

The FHWA and BLM, Cooperating Agencies on this project, have a similar goal in improving public safety and access to federal lands, but also have different operational goals and objectives distinct to their respective agencies. FHWA's primary interest is to improve public safety and federal land access by enhancing the existing transportation network. The BLM, as the land manager and multiple-use agency, has an additional purpose, which is to make public land and its resources available for use and development to meet national, regional, and local needs that are consistent with national objectives. The purpose and need of the project, in respect to both agencies, is described below.

The purpose of the project is to improve federal lands access, enhance roadway safety, and reduce ongoing maintenance issues.

The BLM's specific need is to amend Doña Ana County's ROW grants for Baylor Canyon Road and Dripping Springs Road for improvements to the existing roads and to convert its RS 2477 claims on Dripping Springs Road into a FLPMA ROW under Sec. 501(a)(6).

The FHWA specific needs addressed by the project include the following:

- Improve the roadway safety to meet current safety standards, where possible, as the existing soft surface road and substandard curves have resulted in crashes as vehicles leave the roadway.
- Decrease maintenance and improve drainage, as existing and frequent maintenance activities have resulted in berms along the roadway which inhibit drainage.
- Increase connectivity for cyclists, a mode currently discouraged because of the uneven and rough road surface.
- Improve access to BLM-managed lands and recreation amenities, which is currently discouraged because of the poor condition of the existing roads.
- Reduce airborne dust, which is partially a result of a soft surface roadway surface, generates complaints from recreational land users, and reduces motorist visibility.

1.2 Decision to be Made

The decision to be made by the BLM is whether or not to amend the ROW for Baylor Canyon Road for improvements to the existing road and whether or not to amend ROW NMNM 066392 for Dripping Springs Road to convert the segments Dripping Springs Road under RS 2477 claim into a FLPMA ROW and improvements to the existing road.

The decision to be made by FHWA is the identification and determination of the alternative that best satisfies the purpose and need of the project, and whether or not that alternative results in significant impacts to the built or natural environment. Following the public comment period, FHWA will review all comments received and issue a decision regarding proceeding with a roadway alternative.

1.3 Plan Conformance

Dripping Springs and Baylor Canyon Roads both run through the Organ/Franklin Mountains Area of Critical Environmental Concern (ACEC). The *Coordinated Resource Management Plan (CRMP) Record of Decision (ROD)* for the ACEC (1986) approved the upgrading and paving of Dripping Springs Road to reduce maintenance and dust levels. The ROD, without explanation, recommends that Baylor Canyon Road remain unpaved. Conversations with BLM Las Cruces District staff that were present during the 1986 CRMP process state that there were concerns that paving the road would lead to undesirable increases in traffic. The CRMP is an activity plan with implementation projects that do not rise to the level of Land Use Planning (LUP) Decisions, and those decisions may be changed without an amendment to the LUP. The proposed action in this EA would change the CRMP decision regarding Baylor Canyon Road.

On May 21, 2014, President Barack Obama established the OMDPNM via proclamation. Dripping Springs and Baylor Canyon Roads travel through portions of the Organ Mountains unit of the monument. This proclamation lays out the rationale for the national monument designation, and sets forth management direction. BLM is the responsible agency for management of the national monument, and as such, will develop a management plan. The schedule for completion and adoption of this management plan has yet to be determined.

The action alternatives are consistent with the presidential proclamation, which states:

No additional roads or trails shall be established for motorized vehicle or non-motorized mechanized vehicle use unless necessary for public safety or the objects above.

The action alternatives do not create an additional road, but maintain an existing one. The action alternatives leave the existing alignment where doing so enhances public safety.

The proposed action conforms with the following objectives in the *1993 Mimbres Resource Management Plan*:

Page 2-14: “The Mimbres Resource Area grants rights-of-way to qualified governmental entities for the use of public land.”

Page 2-17: “Existing ROWs within exclusion areas are recognized as grandfathered and operation, maintenance, and renewal of these facilities will be allowed to continue within the scope of the right-of-way grant.”

1.4 Internal Scoping and Agency Coordination

Agency coordination began with the initial FLAP application submitted by the County in 2013, extended throughout project development, and will continue through construction.

1.4.1 County Submittal of FLAP Application

Doña Ana County submitted an application to FHWA CFLHD for consideration of the project within FLAP on May 14, 2013. The application identified the following issues associated with Dripping Springs Road and Baylor Canyon Road in its initial FLAP application:

- The existing soft surface road and substandard curves have resulted in crashes as vehicles leave the roadway. The County counted 38 accidents in the project area between 2008 and 2013, with a majority of these of accidents resulting from vehicles leaving the roadway.
- Grading activities have resulted in gravel and soil berms lining the roadway, forcing water to drain along the roadway. This increases erosion, sedimentation into ephemeral drainages, and annual maintenance costs. The berms are up to 3 feet high in areas and block historic drainage patterns, which results in braided drainages as water leaves the roadway.
- Cyclists are discouraged from using the route because of its uneven and rough surface.
- Visitation to BLM-managed lands and recreation amenities, including Dripping Springs Natural Area, the Baylor Pass Trailhead, and the Sierra Vista Trailhead, is currently discouraged because of the poor condition of the existing roadway.

The project was determined to meet the criteria of FLAP. Below are the local and federal agencies meetings that have occurred during the course of project development.

1.4.2 Agency Scoping and Meetings

The local and federal agency meetings that have occurred since project inception are described in Table 1.

Table 1. Local and Federal Agency Scoping Activities

Activity	Date	Summary
Agency Scoping Meeting	August 26, 2013	This meeting was part of the project development process led by FHWA, which helped determine the likelihood of whether or not the project would be eligible for the FLAP. This meeting included a field visit of the project area.
Project Kickoff Meeting	March 4, 2014	The purpose of this meeting to obtain BLM input on the project scope, the approval process, and to discuss the roles and activities involved with the proposed project.
National Environmental Policy Act (NEPA) Coordination Meeting	April 28, 2014	This teleconference included BLM, FHWA, and consultant staff. The purpose of this meeting was to discuss roles and responsibilities, schedule, and communication protocol.
Cultural Resources Coordination Meeting	May 20, 2014	This teleconference included BLM, FHWA, and consultant staff. The purpose was to discuss roles and responsibilities, BLM protocols for surveys, schedule, and paleontological considerations in the project area.
Project Progress Meeting #1	May 29, 2014	This teleconference included BLM, FHWA, and consultant staff. Topics included schedule, public outreach, environmental concerns, traffic control, and design.

Table 1. Local and Federal Agency Scoping Activities

Activity	Date	Summary
Project Progress Meeting #2	August 13, 2014	This teleconference included BLM, FHWA, and consultant staff. Topics included schedule updates, public outreach, environmental concerns, geotechnical concerns, drainage control, and design.
BLM Interdisciplinary Team Meeting	September 15, 2014,	This BLM specific meeting presented the County's proposed action to the BLM Las Cruces District Office (LCDO) NEPA Interdisciplinary Team.
Project Progress Meeting #3	September 30, 2014	This teleconference included BLM, FHWA, and consultant staff. Topics of discussion included the outcome of meetings held between the BLM and a grazing permittee on August 21, August 27 and September 22, 2014, and cultural resource analysis requirements.
Project Progress Meeting #4	October 14, 2014	This meeting, held at the BLM Las Cruces District Office served as a design review. Resource specialists provided input on roadway design, visual impacts, livestock concerns, the environmental process, cultural resources, and the potential presence of federally listed species.
Project Progress Meeting #5:	December 18, 2014	This teleconference included BLM, FHWA, and consultant staff. Topics of discussion included the analysis requirements for the roadway and ROW actions, document formats, recent County Commissioner activity related to the project, and alternatives analysis.
Project Progress Meeting #6:	January 12, 2015	This teleconference included BLM, FHWA, and consultant staff. Topics of discussion included ROW needs, drainage needs, and updates on environmental resources and project schedule.
Project Progress Meeting #7:	January 21, 2015	This teleconference included BLM, FHWA, and consultant staff. Topics of discussion included the wildlife crossings, pullouts, biological resources, and grazing concerns.
Purpose and Need Meeting	January 26, 2015	This teleconference included BLM and FHWA staff to further refine purpose and need to meet the needs of both FHWA and BLM.

Through internal discussion and in the meetings shown above, BLM resources specialists and County staff identified the resource issues detailed in Table 2.

Table 2. Agency Identified Resource Concerns

Resource	Concerns
Area of Critical Environmental Concern (ACEC)	<ul style="list-style-type: none"> ▪ The roads are within the Organ Franklin Mountain ACEC.
Cultural	<ul style="list-style-type: none"> ▪ Impacts to check dams found throughout the project area.
Health and Safety	<ul style="list-style-type: none"> ▪ Concerns of motorists traveling at higher speeds because of the proposed project. ▪ Potential for animal vehicle collisions and livestock vehicle collisions.
Livestock	<ul style="list-style-type: none"> ▪ Moving the roadway closer to areas of livestock concentration, such as water troughs, could endanger motorists and livestock. ▪ The need to keep areas of human activity, such as pullouts, 300 yards away from areas of livestock concentration. ▪ The potential that the existing well along Baylor Canyon Road would be impacted by vibrations resulting from construction and traffic. ▪ Existing infrastructure, such as fencing and a water line, being impacted. ▪ Disturbance to cattle during construction.
Organ Mountains-Desert Peaks National Monument	<ul style="list-style-type: none"> ▪ Both roads are within the recently designated OMDPNM.
Paleo	<ul style="list-style-type: none"> ▪ The presence of geologic strata, approximately 6,000 linear feet of which occur in the project area, with a high potential fossil yield classification, indicating the potential presence of paleontological resources.
Section 4(f)	<ul style="list-style-type: none"> ▪ Impacts to historic resources would occur.
Soils	<ul style="list-style-type: none"> ▪ New soil disturbance, erosion before and after construction, and alterations in water flow.
Visual	<ul style="list-style-type: none"> ▪ The presence of a paved road and additional signage adding new visual elements to the project area.
Wildlife	<ul style="list-style-type: none"> ▪ The road acting as a heat sink, thereby attracting cold-blooded animals, increasing mortality from animal vehicle collision. ▪ Inclusion of a wildlife crossing structure.
Wilderness Study Area	<ul style="list-style-type: none"> ▪ Baylor Canyon Road is the boundary of the Organ Peaks Wilderness Study Area.

The issues that were identified by these agencies during the scoping process were considered throughout project development and included in the impacts analysis and mitigation measures.

1.4.3 External Scoping

Prior to the public outreach activities associated with this project, improvements to Dripping Springs Road and Baylor Canyon Road had been identified for improvements on preliminary lists for the County

Infrastructure Capital Improvement Plan (ICIP) for 2013/2014 and 2014/2015. These lists were presented at public meetings in April 2013 and April 2014. The comments received regarding the Dripping Springs Road and Baylor Canyon Road improvement projects were related to the time frames and funding.

The public outreach and media activity that has occurred specifically for this project is described in Table 3.

Table 3. Public Outreach and Media

Activity	Date	Summary
Grazing Permittee(s) Meeting	August 21 and 27, September 22, and October 8, 2014	The BLM met with the grazing permit holders for the two grazing allotments located in the project area. The permit holders were able to provide input on how the project would affect their operations, and what could be done to minimize those impacts.
Adjacent Landowner Mailing	October 10, 2014	The BLM sent letters to adjacent landowners that provided an overview of the project and advertised two upcoming meetings: the County Commissioner Benjamin Rawson Public Meeting and the Public Open House.
County Commissioner Benjamin Rawson Public Meeting	October 14, 2014	<p>Commissioner Benjamin Rawson and Doña Ana County project staff held a public meeting at the Organ Fire Station to discuss the proposed improvements. The meeting included a presentation and question and answer (Q&A) session.</p> <p>Approximately 41 members of the public attended the meeting, not including 6 County staff and 6 BLM staff.</p> <p>In addition to the Q&A session, comments were collected via email.</p> <p>This meeting was advertised via the County website and Facebook page beginning September 29, 2014. The Las Cruces News newspaper ran an announcement on September 29, 2014, as did the local media outlet, KRWG. This meeting was also announced via the BLM letters to adjacent landowners.</p>
Public Open House	October 21, 2014	<p>FHWA, BLM, and County officials hosted an open house at the New Mexico Farm and Ranch Museum. Attendees had the opportunity to review project-specific boards and ask questions of project staff, watch a presentation, and participate in a Q&A session.</p> <p>Approximately 66 members of the public attended the meeting, not including 4 county staff, 5 BLM staff, 1 FHWA staff, and 2 consultant team members.</p> <p>In addition to the Q&A session, comments were collected via email. The comment period extended from October 21, 2014 through December 4, 2014. Comments received outside of these dates were accepted for consideration during project</p>

Table 3. Public Outreach and Media

Activity	Date	Summary
		development. This meeting was advertised via a BLM mailing to adjacent landowners. It provided an overview of the project and dates for both the Board of County Commissioner Meeting and the Public Open House.
County Website	October 28, 2014	In response to public comments received at the October 21, 2014 Public Open House, the County developed a project webpage. This allowed the public to review all project specific material and to provide additional comments regarding the project.
BLM Public Comment Period Announcement	November 5, 2014	The BLM announced the public comment period on its website, which extended through December 4, 2014. BLM accepted comments prior to this date, as a result of other outreach activities previously described.
BLM Website	November 7, 2014	The BLM included a map and the letter to interested parties on the BLM Las Cruces District Office homepage. The letter extended the comment period from November 20, 2014 to December 4, 2014.
BLM Mailing	November 7, 2014	BLM sent letters to public meeting attendees notifying them that the BLM would be analyzing environmental impacts of the proposed road improvements in an EA and included a summary of oral comments provided at the October 21, 2014, meeting. The letter extended the comment period from November 20, 2014, to December 4, 2014. The letter and a map showing the project area were posted to the BLM website.
Missile Ranger	November 21, 2014	The White Sands Missile Range newspaper, the Missile Ranger, included a project announcement in its November 21, 2014 edition. This announcement included a project description and a call for comments.
BLM NEPA Log	December 3, 2014	The project was added to the BLM New Mexico NEPA log. These logs track initiation and approval of environmental documents that are being or have been completed as part of the BLM's responsibilities under the NEPA.

Comments were received by FHWA, BLM, and the County, and included comments submitted at meetings, and via email and U.S. Postal Service.

While not an inclusive list, general comments and concerns provided by the public included the following:

- Potential for the project to serve as bypass and related issues associated with increased traffic.
- Excessive speeding if the corridor was to be paved.

-
- Wildlife impacts, including an increased barrier to migration and animal vehicle collisions.
 - Disruption to an otherwise rural setting, resulting in quality of life impacts for nearby communities.
 - Paving the roadway would be inconsistent with land use, especially the Wilderness Study Areas.
 - The need to accommodate cyclists, hikers, and equestrian uses.
 - Impacts to land uses north of the project area, in particular the US 70/Baylor Canyon Road Interchange.
 - Dangers posed to motorists and livestock by moving the road closer to water tanks.
 - The need to ensure that any improvements do not preclude ranching activity.
 - Inclusion of turnouts for tourists.

These comments were taken into consideration during project development.

The County, BLM, and FHWA are holding one additional public workshop on May 12, 2015. This workshop will coincide with the 30-day public review period for this Environmental Assessment. The purpose of this public workshop is to receive additional comments and input on the alternatives, impacts, and mitigation measures identified in this Environmental Assessment.

Copies of the Environmental Assessment are available for review at the locations listed below:

- BLM Las Cruces District Office, 1800 Marquess Street, Las Cruces, NM 88005.
- Thomas Branigan Memorial Library, 200 East Picacho Avenue, Las Cruces, NM 88003.
- Doña Ana County Public Works, 845 North Motel Boulevard, Las Cruces, NM 88003.
- Branson Library (NMSU), 1305 Frenger Mall, Las Cruces, NM 88003.
- New Mexico State Library, 1209 Camino Carlos Rey, Santa Fe, NM 87507.

Electronic versions of the Environmental Assessment are available on the BLM website at www.blm.gov/nm/lascruces.

For additional information regarding public involvement, including announcements and the public open house meeting materials, see **Appendix B**. A record of all hard copy comments received throughout the lifetime of the project can be reviewed at the BLM Las Cruces District Office or upon request.

2 PROPOSED ACTION AND ALTERNATIVES

The proposed action (Alternative A) was developed based on the needs identified by the County in the FLAP application. This alternative, in addition to the No Action Alternative, provided the basis for public, local, and federal agency input. Based on this input, additional alternatives, and in some instances design options within those alternatives, were developed and included for analysis within this Environmental Assessment.

2.1 Design Options

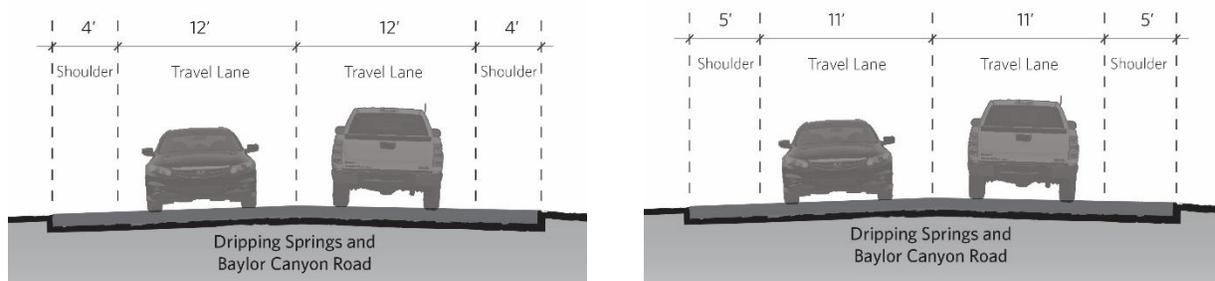
Design options for the project included the cross section, meaning the lane and shoulder width and the grading adjacent to the roadway, the intersection at Baylor Canyon Road and Dripping Springs Road, and wildlife crossing structures. The design options, once decided upon, were carried into the action alternatives (Alternatives A-D) as appropriate. These design options were developed in consideration of public input.

2.1.1 Cross Section Design Options

Two different cross section design options were examined (Figure 2) as described below:

- **Cross Section Design Option 1:** Includes two 12-foot lanes and two 4-foot shoulders, for a total width of 32 feet.
- **Cross Section Design Option 2:** Includes two 11-foot lanes and 2 5-foot shoulders, for a total width of 32 feet.

Figure 2. Cross Section Design Option 1 and Option 2



Cross Section Design Option 1

Cross Section Design Option 2

Cross Section Design Option 2 was recommended as the wider shoulders provide additional room for cyclists, and the narrower lanes serve as passive traffic calming (i.e., slowing traffic) because motorists tend to drive slower when the lanes are narrower.

2.1.2 Intersection Design Options

To improve the crossing and increase safety by softening the existing curve at the arroyo (drainage) north of the intersection of Dripping Springs Road and Baylor Canyon Road, the intersection would be reconstructed to the west of its existing location, as follows:

-
- **Intersection Design Option 1:** The intersection configuration would remain the same, with a stop sign halting traffic on Baylor Canyon Road.
 - **Intersection Design Option 2:** The intersection configuration would be modified with a stop sign halting traffic driving from Dripping Springs Natural Area along Dripping Springs Road. This would allow uninterrupted travel from eastbound Dripping Springs Road to Baylor Canyon Road and vice versa.

These design options are shown in Figure 3 and Figure 4.

Intersection Design Option 1 was recommended as public input indicated the belief that this intersection design, with the stop sign halting traffic between Baylor Canyon Road and Dripping Springs Road, would prove more a deterrent for cut-through traffic. This design option was then further refined to avoid impacting two historic features (rock check dams), which were identified after the October 2014 public open house (Figure 5).

2.1.3 Wildlife Crossing Structure Design Options

A wildlife crossing structure was analyzed for use at an arroyo north of the windmill, located in the northern portion of the project area. To accommodate storm event flows and the movement of large mammals, including cattle, this structure would likely need to be 10 feet high and 12 feet wide. To maximize their effectiveness, wildlife crossing structures require wildlife fencing to direct animals to the crossing point. Because of the cost and a stakeholder desire to minimize new fencing in the project area, a wildlife crossing structure was not included in any of the action alternatives.

2.1.4 Fencing Design Options

Fencing the entire ROW to prevent livestock collisions with vehicles was considered. Fencing the entire ROW was not deemed necessary because of the low volume of traffic anticipated and the low design speed of the road. In addition, livestock management would require additional infrastructure, such as water and gates, complicating current management. Lastly, the eastern edge of Baylor Canyon Road abuts a Wilderness Study Area (WSA) and the fence would need to be erected at the edge of the shoulder, which would result in additional conflicts by increasing the likelihood of trapping larger wildlife species or escaped cattle along the edge of the road. It was decided by the County with BLM and FHWA concurrence, that only fencing impacted by the project would be replaced and no new fencing would be installed.

Figure 3. Intersection Design Option 1

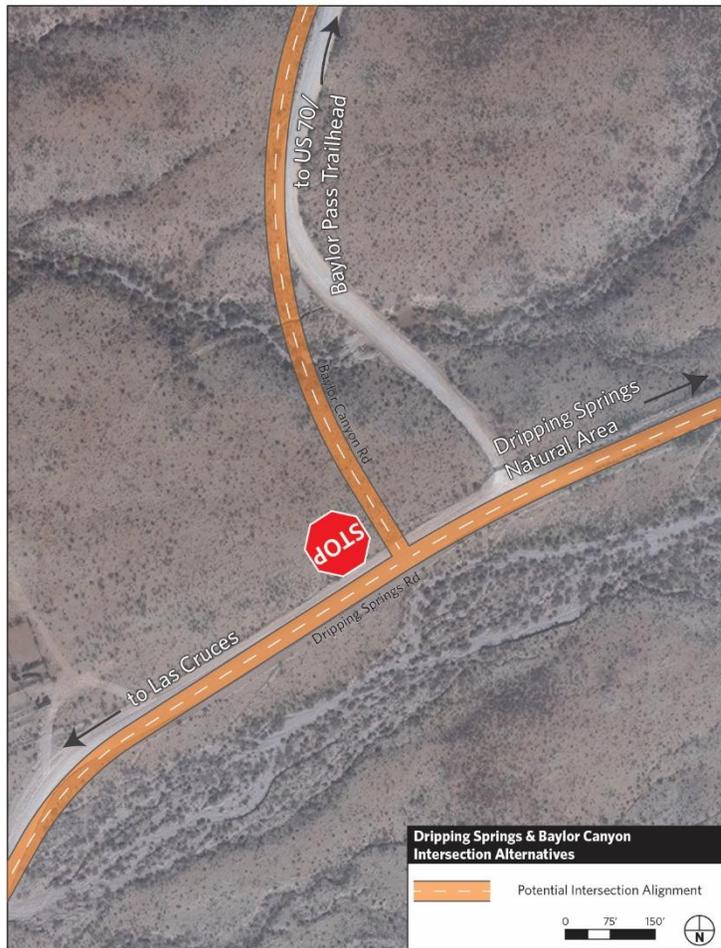


Figure 4. Intersection Design Option 2

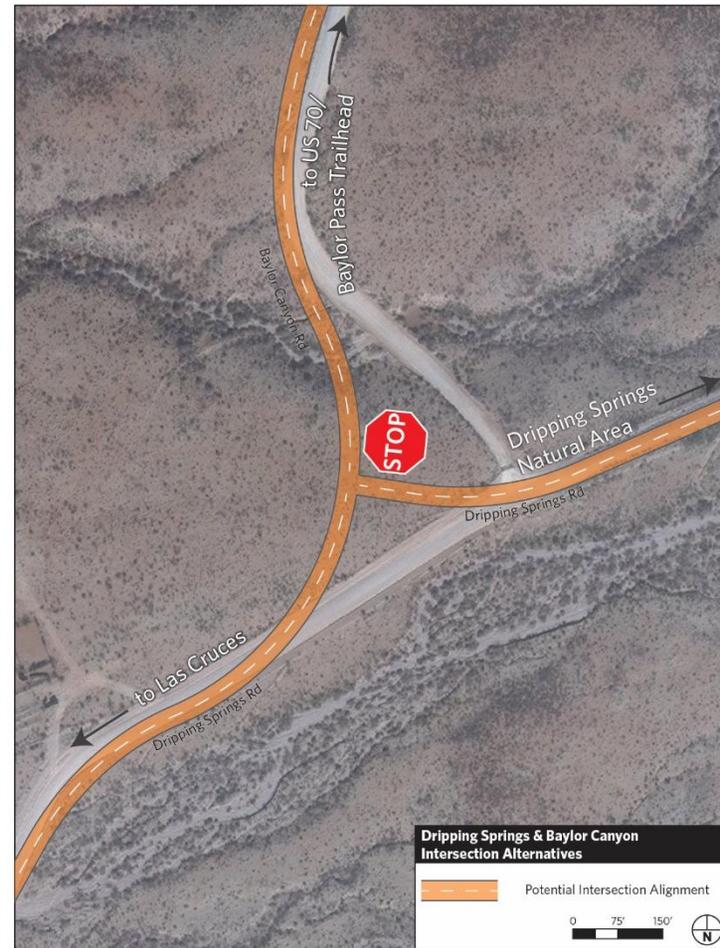
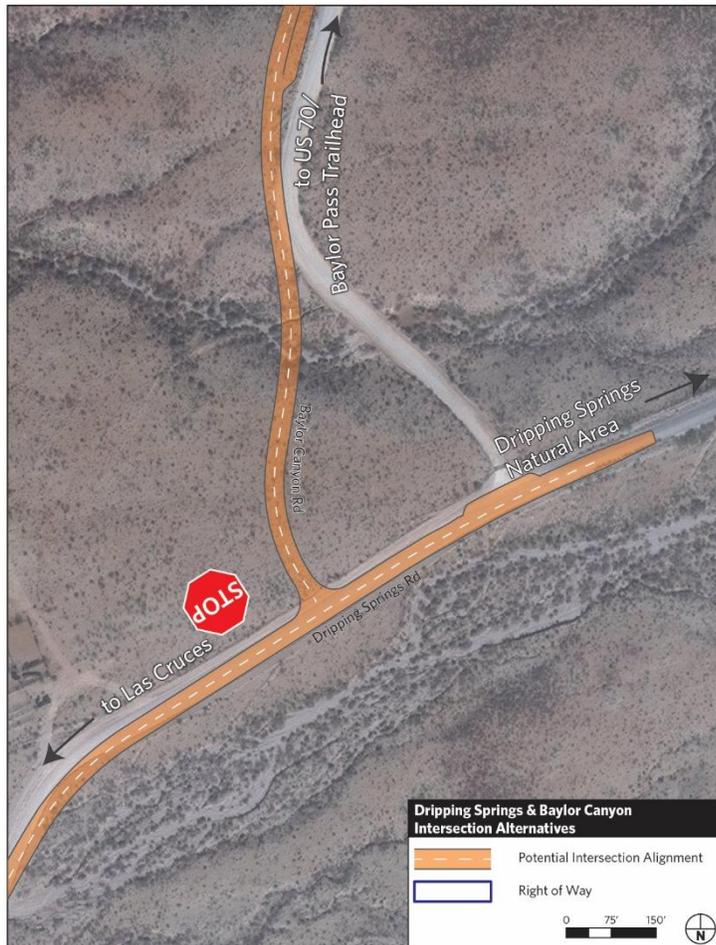


Figure 5. Design Option 1—Refined to Avoid Historic Resources



2.2 Alternatives

Five alternatives, including the No Action Alternative and four action alternatives (Alternatives A-D) were considered. The primary differences between the alternatives are the surface treatment (meaning would the road be paved or left as an improved or unimproved gravel surface?). The differences in action alternatives based on roadway surfaces are summarized in Table 4.

Table 4. Roadway Surface Summary

Alternative	Dripping Springs Road (length, 2.5 miles)	Baylor Canyon Road (length 2.4 miles)
No Action Alternative	Unimproved Gravel Surface	Unimproved Gravel Surface
Alternative A	Paved	Paved
Alternative B	Paved	Improved Gravel Surface
Alternative C	Improved Gravel Surface	Paved
Alternative D	Improved Gravel Surface	Improved Gravel Surface

2.3 Elements Common to all Action Alternatives

All action alternatives (Alternatives A-D) share the following common elements:

- Installation of 18 low water crossings, with 13 on Baylor Canyon Road and 5 on Dripping Springs Road. Water would run over the roadway as there are no culverts in these locations.
- Installation of two culverts and extension of one culvert on Baylor Canyon Road.
- Minor straightening of one curve along Baylor Canyon Road.
- Realignment of the intersection at Baylor Canyon Road and Dripping Springs Road. This realignment would improve safety at one curve and improve drainage at one arroyo where water currently pools behind the roadway.
- Construction of roadside ditches throughout the project corridor.
- Construction of three pullouts, which are generally 120 feet long and 14 feet wide, of which two would be located on Baylor Canyon Road and one located on Dripping Springs Road.
- Signage to enhance safety for cyclists and wildlife – this would include “Share the Road” signs and “Open Range” signs.
- Approximately a 90- to 100-foot wide ROW to allow for construction and maintenance.
- Painting stripes that consist of two yellow, reflective center line stripes and two white, reflective edge marker stripes, on any paved roads.
- Replacement of three cattle guards and any fencing and gates affected by the project, which would include approximately 1.7 miles of barbed wire fence located on the north side of Dripping Springs Road.
- A posted speed limit of 35 miles per hour throughout the project corridor and signage noting the presence of low water crossings with an advisory speed limit of 25 miles per hour.
- Placement of a conduit for a livestock water pipeline to cross under the road near the intersection of Dripping Springs Road and Baylor Canyon Road. Installation of the water pipeline through the conduit to the watering facilities at the livestock pens located north of Dripping Springs Road. Replacement of any water pipeline damaged in the construction process.
- Side slopes would be graded adjacent to the road.

The newly improved segment of Baylor Canyon Road would transition back to the existing improved (paved) portion of the road located at the northern terminus of the project (location per Public Land Survey System: section 27, township 22 south, range 3 east, New Mexico Principal Meridian, New Mexico). The newly improved portion of Dripping Springs Road would transition back to the existing improved (paved) portion of the road located at the southern terminus of the project (location per Public Land Survey System: section. 10, township 23south, range 3east, New Mexico Principal Meridian, New Mexico).

2.4 Alternatives Considered but Eliminated

Two action alternatives were considered, but eliminated from further consideration, as discussed below.

2.4.1 Alternative C

Alternative C would provide for the paving of Baylor Canyon Road and gravel surface improvements along Dripping Springs Road. This alternative was eliminated for the following reasons:

- There was no public support for this alternative, either voiced at public meetings or via written comments. Residents in the community located on Baylor Canyon Road, near US 70, felt that paving only this section would result in a majority of traffic accessing federal lands to pass through their community.
- This alternative lacks the connectivity to the existing bicycle network on Dripping Springs Road, and thereby the larger Las Cruces area bicycle network.

2.4.2 Alternative D

Alternative D would provide for an improved gravel surface on both Dripping Springs Road and Baylor Canyon Road. This alternative was eliminated for the following reasons:

- The continued use of a gravel road throughout the corridor would continue to discourage use by cyclists.
- Over time, the deteriorating roadway would return to the existing condition, thereby limiting access to public lands and not meeting the purpose and need of the project.

2.5 Alternatives Carried Forward for Further Consideration

2.5.1 No Action Alternative

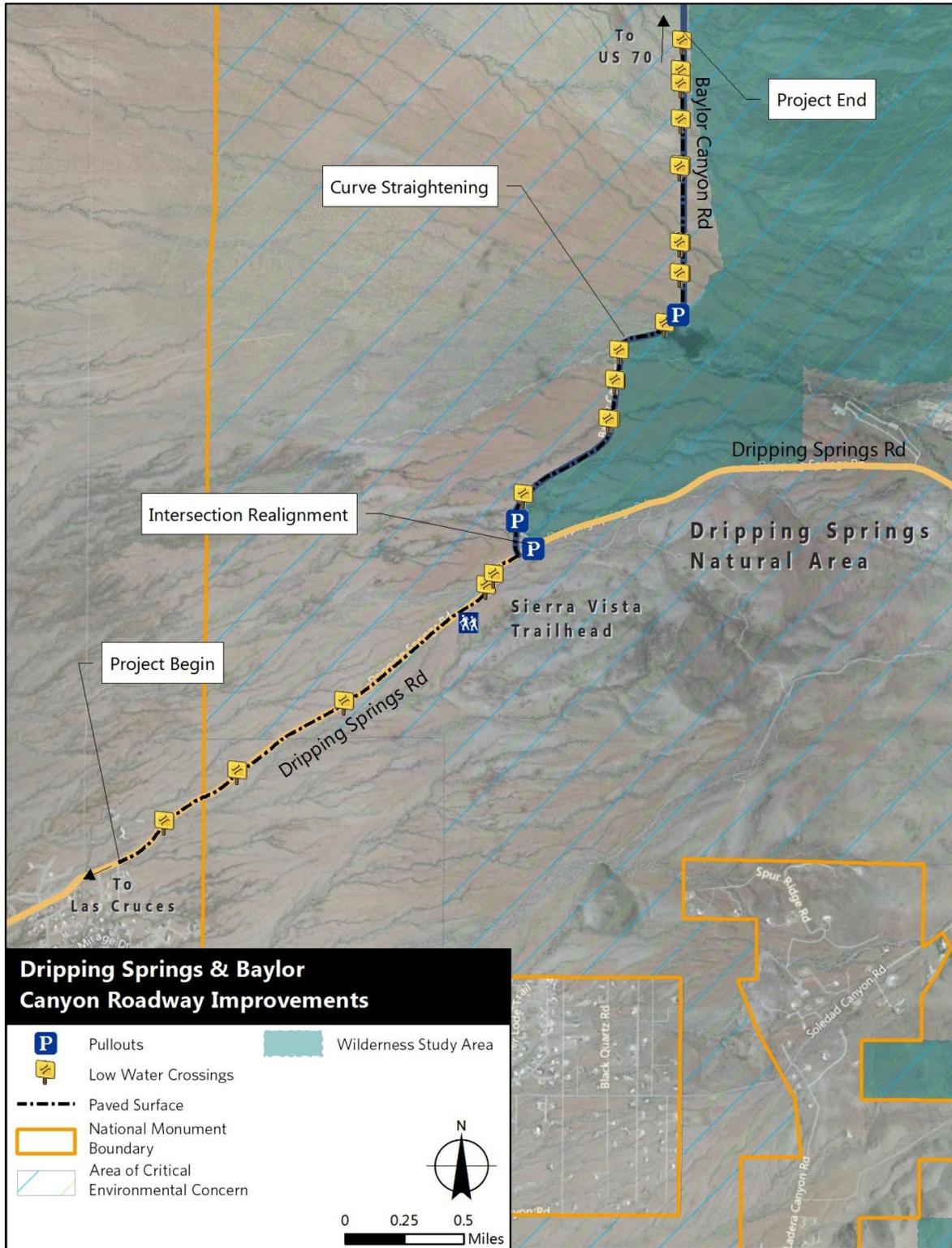
The No Action Alternative consists of only those improvements currently programmed by the County or BLM. Neither agency has programmed improvements on Dripping Springs Road or Baylor Canyon Road, so the No Action Alternative includes only the ongoing maintenance performed by the County, which includes blading to maintain a consistent even driving surface.

2.5.2 Alternative A

In addition to the common elements described in Section 2.3, Alternative A would provide a paved driving surface along Dripping Springs Road and Baylor Canyon Road (Figure 6). Construction is anticipated to last 12 months. It is anticipated that this alternative would result in 30-40 truck trips per day for 160 days. Construction equipment anticipated to be used includes, but is not limited to, haul/dump trucks, graders, bulldozers, loaders, water trucks, asphalt paver, and compaction equipment. The staging area will be selected by the contractor. If staging is to occur on BLM land the contractor will coordinate with BLM to meet all regulatory requirements.

Discussion of the impacts resulting from the implementation of Alternative A is included in *Section 3, Affected Environment and Environmental Impacts*. The mitigation commitments to offset these impacts are included in **Appendix A**.

Figure 6. Alternative A

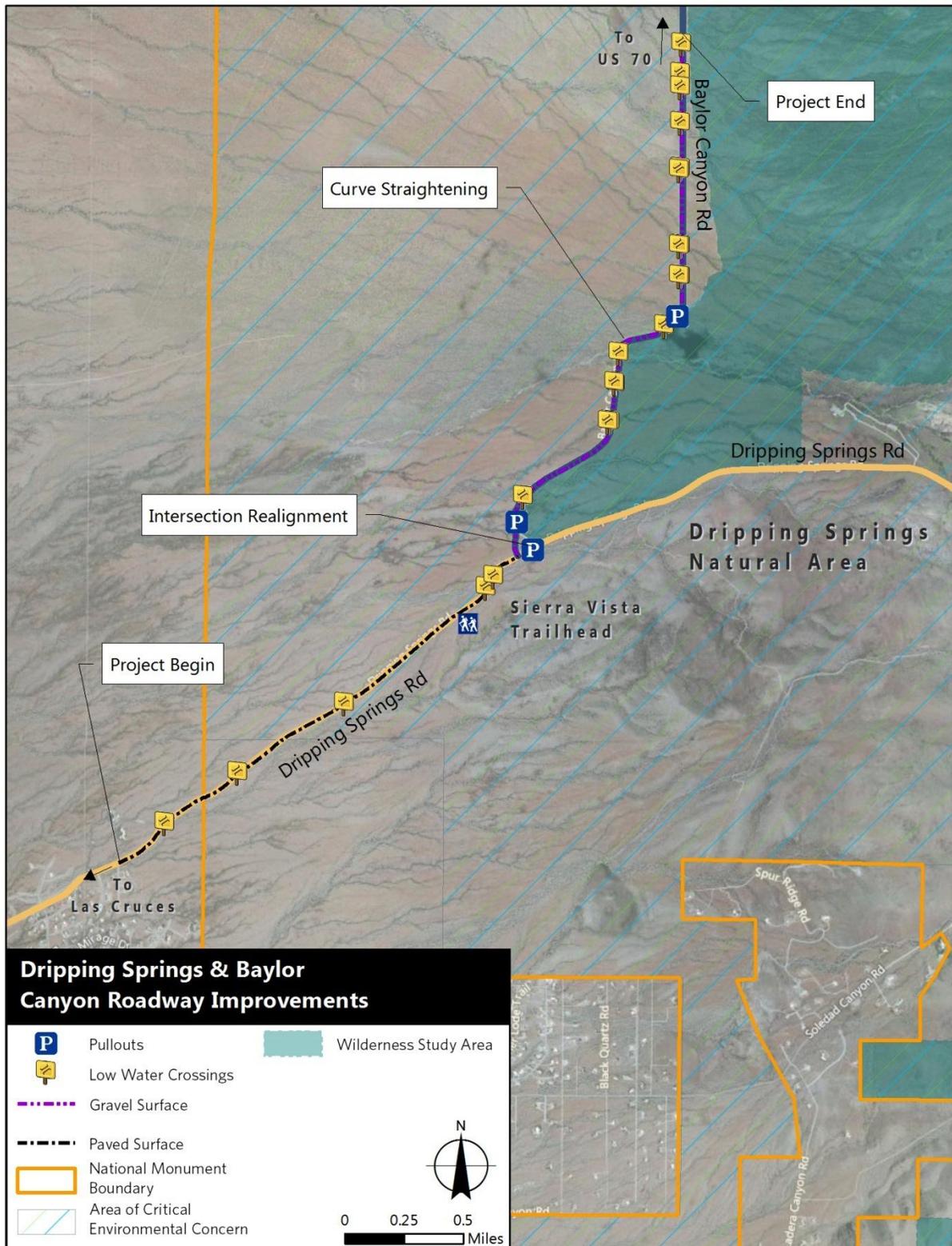


2.5.3 Alternative B

In addition to the common elements described in Section 2.3, Alternative B would provide a paved driving surface along Dripping Springs Road and an improved gravel surface along Baylor Canyon Road (Figure 7). This would be a compacted gravel road. The gravel source has not been identified, but is assumed to be from a local commercial source. Construction is anticipated to last 11 months. It is anticipated that this alternative would result in 30-40 truck trips per day for 160 days. Construction equipment anticipated to be used includes, but is not limited to, haul/dump trucks, graders, bulldozers, loaders, water trucks, asphalt paver, and compaction equipment. The staging area will be selected by the contractor. If staging is to occur on BLM land the contractor will coordinate with BLM to meet all regulatory requirements.

Discussion of the impacts resulting from the implementation of Alternative B is included in *Section 3, Affected Environment and Environmental Impacts*. The mitigation commitments to offset these impacts are included in **Appendix A**.

Figure 7. Alternative B



3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

The project area is located approximately six miles east of Las Cruces, New Mexico, and includes Baylor Canyon Road and Dripping Springs Road. The project area includes a grassland-shrub mixed community in the uplands, and a shrub-dominated community along ephemeral streams, characteristic of the Chihuahuan Desert ecoregion (USEPA, 2011). With the exception of the southern terminus, the project is located entirely on BLM land, within the OMDPNM.

While there are no residential communities located in the project area, Dripping Springs Road and Baylor Canyon Road provide access to residential land uses located on north and south (the Talavera and Soledad Canyon communities) of the project area. In addition, these two roads are the sole access points for the Dripping Springs Natural Area, Baylor Pass Trailhead, and Sierra Vista Trailhead (federal recreation areas located within the OMDPNM). Visitors to these resources traveling from points north and east would likely use Baylor Canyon Road to access these facilities. Visitors from points south and west would likely use Dripping Springs Road.

The existing roads are soft surface and maintained by Doña Ana County. The roadway width for both roads varies throughout the project corridor, ranging from 24 to 42 feet, but averages 30 feet. Neither roadway has roadside ditches, therefore ephemeral streams cross the roads with the road sometimes serving as the primary drainageway, and result in erosion. Neither of these roads have a posted speed limit. Figure 8 shows the existing conditions typical of both roadways.

Figure 8. Existing Typical Conditions



Baylor Canyon Road looking North



Dripping Springs Road looking east

3.1 Unaffected Resources

The following resources would be unaffected by any of the alternatives:

- Hazardous materials
- Section 6(f) properties
- Wild and scenic rivers
- Climate change
- Coastal areas
- Prime and unique farmlands
- Floodplains

3.2 Transportation

Dripping Springs Road and Baylor Canyon Road provide the only accesses to Dripping Springs Natural Area and the Baylor Pass and Sierra Vista Trailheads. Dripping Springs Road provides access from Interstate 25 via East University Avenue on the south side of Las Cruces and dead-ends at the Dripping Springs Natural Area. Baylor Canyon Road provides access from US 70 from the northeast side of Las Cruces and dead-ends at the intersection with Dripping Springs Road, approximately a half-mile from the Dripping Springs Natural Area.

The County took traffic counts over a one week period in October 2014 at two locations on Baylor Canyon Road (Figure 9). These locations were selected to determine the amount of traffic that currently passes through the residential community, and what percentage then continues on to the project area. These counts were taken in response to public input to use the most recent data available. The traffic counts are shown in Table 5 as average daily traffic, which is the number of vehicles over a 24-hour period, and for the AM and PM rush hour traffic, when vehicle counts are highest. These vehicles likely represent a mix of public land visitors and commuters.

Table 5. Traffic Counts on Baylor Canyon Road

Location	Average Daily Traffic	AM Rush Hour	PM Rush Hour
North	230 vehicles	20 vehicles	26 vehicles
South	86 vehicles	13 vehicles	14 vehicles

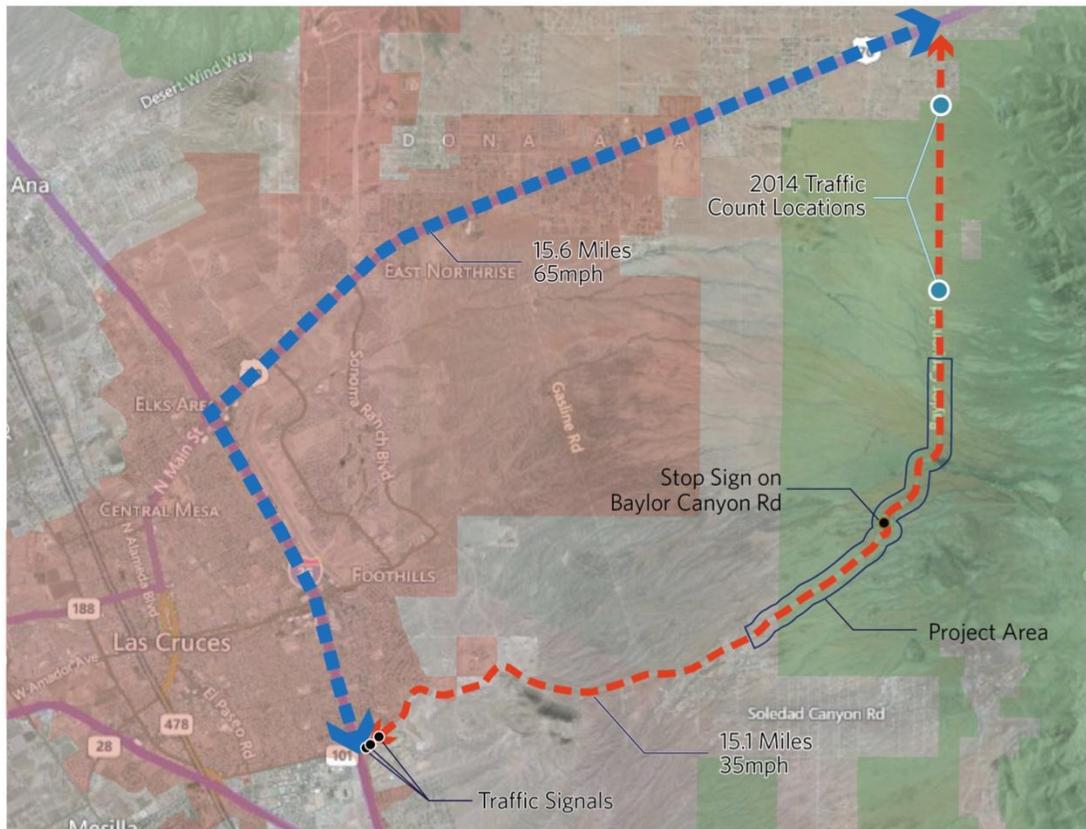
Per New Mexico Department of Workforce Solutions, the growth rate in the County is anticipated to be 1.33 percent (NMDW, 2012). Traffic forecasts based on average daily traffic, a growth rate of 1.33 percent and a 20-year planning horizon indicates an average daily traffic of 299, an increase of 69 cars per day.

It is unknown how visitation, and therefore traffic volumes, will change as a result of the creation of the OMDPNM. A study commissioned by the New Mexico Green Chamber of Commerce predicted that direct spending related to public land visitation resulting from monument designation will increase by 39 percent (BBC 2013). Applying a 39 percent increase to existing traffic results in an estimated 320 vehicles per day. This estimate assumes that all existing traffic is accessing public lands and is not commuter based. An increase in traffic resulting from monument designation would be anticipated regardless of whether or not the existing roads remain in their existing condition or are paved.

Dripping Springs Road and Baylor Canyon Road provide a currently unimproved connection between Interstate 25 and US 70, which along with Interstate 10, are the primary highways in the Las Cruces area. US 70 provides east-west access across the Organ Mountains and to White Sands Missile Range and the NASA White Sands Test Facility, both major employment centers.

Motorists traveling between points east and south of Las Cruces have the option of driving two routes—either traveling on primary highways (meaning Interstate 25 and US 70); or using Dripping Springs Road and Baylor Canyon Roads, both classified as local roads, to provide a link between the two highways (Figure 9).

Figure 9. Alternative Travel Routes (Highways and Local Road Bypass)



A comparison of these two routes based on speed and travel time is detailed in Table 6. This comparison was performed using Google Earth, which reports two values: a travel time based on existing traffic and a travel time assuming no traffic. A travel time of 7:45 a.m. was used to estimate travel time with peak period traffic. Start and end points were at the Interstate 25/University Avenue interchange and the US 70/Baylor Canyon Road interchange. This analysis is based on year 2015 travel conditions.

Table 6. Travel Times in Project Area on Highways versus Local Road

Route	Distance	Speed Limit	Estimated Travel Time (7:45 a.m.)	
			With Traffic	Without Traffic
Interstate 25 and US 70	15.6 miles	65 mph	15 minutes	14 minutes
Dripping Springs and Baylor Canyon Roads	15.1 miles	35 mph	29 minutes	26 minutes

Source: Google Maps

The use of primary highways results in a considerable time savings versus using local roads. This travel time difference assumes the following:

-
- Relatively free-flowing traffic conditions on the highways. A review of existing traffic data on Interstate 25 and US 70 indicate that travel speeds are generally consistent throughout the day, but slower speeds during peak period are possible.
 - It does not account for the proposed 18 low water crossings encountered along Dripping Springs Road and Baylor Canyon Road, each of which would have a 25 miles per hour advisory speed limit.

The most recent transportation plan, *Transport 2040* (LCMPO, 2010), has the following goals:

- Integrate land uses with well-connected transportation systems to develop an economic environment that provides timely access to a wide-range of jobs, services, education, and recreational opportunities
- Balance the built and natural environments to promote physical activity, social interaction, and the sustainable use of resources
- Provide a variety of transportation choices that serve all users through developing safe, reliable, and convenient transportation modes

Although consistent with the goals of *Transport 2040*, neither Dripping Springs Road nor Baylor Canyon Road have been identified for improvements in the plan (LCMPO, 2010). This plan identifies Weisner Road to serve as the southeast quadrant of a loop road, which would provide a bypass of Las Cruces. This loop road would be constructed on new alignment approximately 2.5 miles west of Baylor Canyon Road. No funds have been identified for this segment of the loop road and no such project is currently in development. Funds have been programmed for improvements to Dripping Springs and Baylor Canyon Road, as the project that is included in the Mesilla Valley Metropolitan Planning Organization *4-Year Transportation Improvement Plan*.

Baylor Canyon Road was suggested as an option for the loop road, but was not selected. In the previous transportation plan Baylor Canyon Road was downgraded to a local road in order “to be sensitive to the natural environment at the edge of the BLM recreational management area” (LCMPO, 2010).

3.2.1 Impacts of the No Action Alternative

The No Action Alternative would result in no impacts to the existing transportation network.

3.2.2 Impacts of Alternative A

Alternative A would result in a new paved roadway providing a connection between primary highways. Dripping Springs Road and Baylor Canyon Road would have posted speed limits of 35 miles per hour and a classification as local roads. The use of the route as a bypass would be unlikely because the travel time nearly doubles as a result of low water crossings and several signalized intersections located outside the project area.

A minor increase in traffic volumes is anticipated as recreation visits increase. In addition, residents located adjacent to the southern terminus of the project, such as the Talavera and Soledad Canyon neighborhoods, would see a time savings when traveling to points east of the Organ Mountains. This would add a negligible increase to existing traffic volumes.

The route would be signed for local traffic, limiting commercial truck traffic.

Alternative A is consistent with *Transport 2040*, in that it would increase recreational opportunities, promote physical activity and multimodal travel by improving bicycling conditions, and increase safety and reliability of the local roadway network.

3.2.3 Impacts of Alternative B

Action Alternative B would result in a paved roadway on Dripping Springs Road and a gravel surface roadway on Baylor Canyon Road. Both roadways would remain classified as local with posted signage indicating speed limit of 35 miles per hour. The use of the route as a bypass would be unlikely because of the presence of low water crossings and multiple signalized intersections, located outside this project area, resulting in no time saving when compared to traveling on the highway, combined with Baylor Canyon Road being a gravel road. Although safety improvements would be included in the improvements to Baylor Canyon Road, there would be marginal benefits to attract new motorists to use Baylor Canyon Road unless they are accessing corridor-specific destinations.

Absent a travel time benefit, motorist usage of the roadway would likely not increase. A small portion of regional travelers from points south such as Las Cruces, would use the improved roadway to directly access recreation amenities along the project corridor. Similarly, it is likely that travelers from the north portion of the project area would use the local roadway only to reach destinations along the corridor. Although the improved gravel surface will resolve some of the existing drainage issues, erosion would continue at the low water crossing, and regrading would be necessary to maintain a consistent and safe driving surface.

Residents located adjacent to the southern terminus of the project, such as the Talavera and Soledad Canyon neighborhoods, would potentially be deterred from using Baylor Canyon Road when traveling to points east of the Organ Mountains. This would result in continued out-of-direction travel for these residents if they wish to travel on paved roads. Absent these motorists, there would be a marginal decrease in traffic when compared to Alternative A.

The route would be signed for local traffic, limiting commercial truck traffic.

The paved portion of Dripping Springs Road is consistent with *Transport 2040*, in that it would increase recreational opportunities, promote physical activity and multimodal travel by improving bicycling conditions, and increase safety and reliability of the local roadway network. The improved gravel surface treatment of Baylor Canyon Road would provide a short-term benefit to safety, but would not provide equal services because cyclists would be deterred and eventual deteriorating roadway conditions would continue to deter recreational use.

3.3 Air Quality

One area of Doña Ana County, near Anthony, is in non-attainment area for PM₁₀. This area is approximately 27 miles south of the project area. While the project area is located in an attainment area, dust is a common complaint received at the BLM visitor center. Much of the dust in the Doña Ana County area is caused by natural events, but anthropogenic dust sources are increasing as the County

becomes more populated and development increases (NMED, 2014). Dust sources can include unpaved roads, such as Dripping Springs Road and Baylor Canyon Road.

3.3.1 Impacts of the No Action Alternative

The No Action Alternative would result in the continued entrainment of dust particles as motorists travel the road in dry conditions and high wind events.

3.3.2 Impacts of Alternative A

Alternative A would result in particulate-related improved air quality in the immediate vicinity of the roadway because paving the road would eliminate the entrainment of dust particles by motorists and the need for grading operations for roadway maintenance.

A temporary increase in entrained dust particles would occur as a result of the construction, as well as the localized increase in vehicle emissions due to construction related road delays and use of construction equipment. The increase in entrained dust would be limited through the use of a Dust Abatement Plan, which will identify specific measures to control fugitive dust.

3.3.3 Impacts of Alternative B

The paving of Dripping Springs Road would result in particulate-related improved air quality in the immediate vicinity of the roadway because paving the road would eliminate the entrainment of dust particles by motorists and the need for grading operations for roadway maintenance

Baylor Canyon Road would be a gravel surface, so airborne particulate matter would still be present from motorists and maintenance activities.

There will be an overall decrease in airborne particulate matter compared to the existing condition, but it would not be reduced as low as Alternative A, where the entire project corridor is proposed to be paved.

A temporary increase in entrained dust particles would occur as a result of the construction, as well as the localized increase in vehicle emissions due to construction related road delays and use of construction equipment. The increase in entrained dust would be limited through the use of a Dust Abatement Plan, which will identify specific measures to control fugitive dust.

3.4 Cultural Resources

In coordination with BLM cultural resource specialists, pedestrian surveys of the Area of Potential Effect were completed on November 25, 2014 and January 14, 2015. The surveys identified two new historic sites. Of these features, one was determined to be eligible for listing in the National Register of Historic Places, as described below.

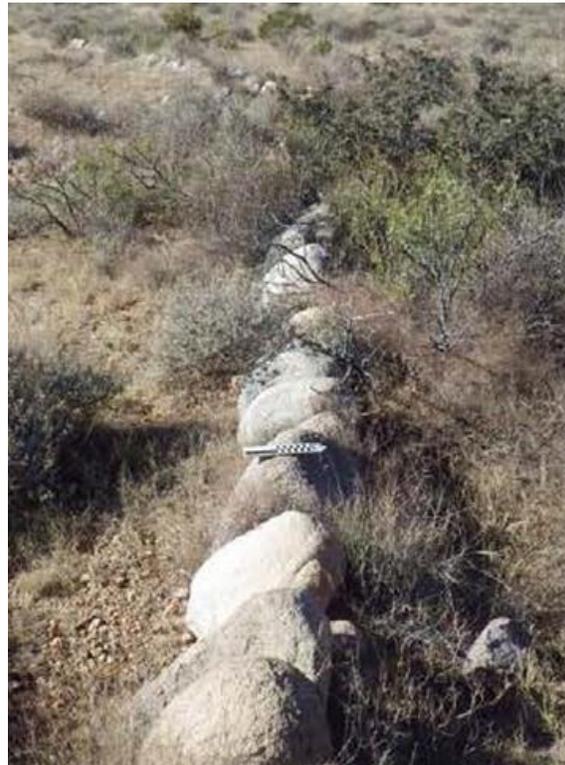
- **Windmill (Site HCPI 36653):** HCPI 36653 is a windmill and water tank with associated fencing (Figure 10). The water tank is constructed of stacked modern tractor tire rims and the windmill features a common motor type. The immediate area is eroded because of livestock activity and alluvial forces. The windmill itself is in good condition. The features cannot be connected to significant events or people, and do not embody unique architectural attributes. It is not recommended eligible for listing in the National Register of Historic Places.

- **Check Dam (Site 36654):** HCPI 36654 is a series of water control features likely constructed by the Civilian Conservation Corps in the late 1930s (Figure 11). Fifty-six (56) of these features are located in the project area, and have an area of approximately 24,700 square feet. Many of these features extend outside the project area, so only a portion of the entire complex was recorded. Individually, the water features/check dams are not unique in age, construction, or material. Individual features are not considered eligible for the National Register of Historic Places; however the entire complex is recommended eligible because of its association with the Civilian Conservation Corps and contribution to the agricultural history and settlement of the area and the potential for it to yield additional information regarding the history of the area.

Figure 10. Windmill



Figure 11. Representative Check Dam



The New Mexico State Historic Preservation Officer (SHPO), in a letter dated April 20, 2015, has concurred that the check dams are an eligible resource and the windmill and water tank are not eligible resources for listing in the National Register of Historic Places.

For additional information, see agency correspondence in **Appendix B**.

3.4.1 Impacts of the No Action Alternative

The No Action Alternative would result in the continuation of ongoing impacts resulting from road maintenance. These impacts would result from the burial and/or obliteration of features as material is graded and pushed to the road edge.

3.4.2 Impacts of Alternative A

Alternative A would result in impacts to 21 of the check dams. The impacts include the removal of approximately 1,825 square feet of these features. Five of the features would be 100 percent impacted, meaning completely removed by the roadway improvements. Within in the project area, these impacts represent 7.2 percent of the total features. In the larger complex of features found throughout the valley, these impacts represent 0.6 percent of the total features present. In a letter dated April 20, 2015. The New Mexico SHPO concurred that the proposed project would result in an adverse effect to the check dams. For additional information, see agency correspondence in **Appendix B**.

FHWA, BLM, and SHPO will enter into a Memorandum of Agreement for mitigation of impacts to the check dams. Preliminary mitigation design includes interpretive signage at two pullouts. Signage will likely include information on the check dams, as well as the work of the Civilian Conservation Corps, but final design will include input and review by FHWA, BLM, and SHPO.

3.4.3 Impacts of Alternative B

Alternative B would result in the same impacts to historic properties as Alternative A, therefore requiring the same mitigation.

3.5 Paleontological Resources

The *Paleontological Resource Impact Evaluation* (HDR, 2014), completed with input from BLM resource specialists, identified four geologic units occurring in the project area. These geologic units are described in Table 7.

Table 7. Geologic Units within the Project Area

Geologic Unit Name	Age	Highest Potential Fossil Yield Classification
Camp Rice Formation (upper Santa Fe Group)	Tertiary-Quaternary	4
Piedmont-Slope Facies/Camp Rice Formation	Tertiary-Quaternary	2/4
River Channel Deposits/Camp Rice Formation: Piedmont-Slope Facies	Quaternary	2/4
Younger Piedmont-Slope Deposits	Quaternary	2

The Camp Rice Formation of the Upper Santa Fe Group is the geologic unit with the highest potential to yield fossils, and therefore of the greatest concern to the BLM. The project area crosses through this geologic unit in three locations.

3.5.1 Impacts of the No Action Alternative

The No Action Alternative would result in no impacts to paleontological resources.

3.5.2 Impacts of Alternative A

Alternative A would disturb paleontological resources, if present, during ground-disturbing activities. A paleontological monitor would be present during ground disturbing activities in PFYC 4 locations in the

project area. In the event of an inadvertent paleontological discovery, construction at that location will halt and the BLM resource specialist will be immediately notified.

3.5.3 Impacts of Alternative B

Alternative B would result in the same paleontological resources impacts as Alternative A.

3.6 Area of Critical Environmental Concern

Both roads proposed for improvement run through the Organ and Franklin Mountains Area of Critical Environmental Concern (ACEC). The ACEC is 56,480 acres and was designated to protect the spectacular scenic resources of the quartz monzonite, rhyolite, and volcanic tuff mountains. Other attributes that led to designation include important riparian springs, unusual cacti assemblages, and special status species such as the Organ Mountain chipmunk, and Sneed's pincushion cactus, as well as National Register-eligible cultural sites, such as La Cueva. Cliffs are considered a natural hazard in the ACEC.

The management goal of the ACEC is to protect biological, scenic, riparian, special status species, and cultural values. Impacts of the ACEC values are addressed in specific resource sections. Vehicle use is limited to designated roads, new ROWs are excluded, and fluid mineral leasing and mineral material leasing are not allowed.

3.6.1 Impacts of the No Action Alternative

The impacts to the ACEC would not change under the No Action Alternative. The public would continue to use the gravel roads to access public lands, or as a thoroughfare between Las Cruces and US 70. Some of the public may continue to be discouraged from accessing public lands because of the rough road conditions. The significant values of the ACEC would continue to be protected.

3.6.2 Impacts of Alternative A

Alternative A would improve access to the public lands, improve arroyo function, and reduce dust emissions. Visitation to the ACEC would increase with road improvements, which would increase the number of people seeking to appreciate the ACEC values. It is difficult to estimate impacts to the ACEC values, but it is expected that most of the use would continue to be concentrated at Dripping Springs Natural Area, Aguirre Springs Campground, and Soledad Canyon Day Use Area.

3.6.3 Impacts of Alternative B

Alternative B would have impacts to the ACEC similar to Alternative A; however, some of the public may be discouraged from accessing lands on Baylor Canyon Road because it would remain gravel.

3.7 Geology/Mineral Resources and Soil

Located west of the Organ Mountains, general geology of this project area is situated in the Pre-Pennsylvanian strata thin northward because of repeated uplifts to the north. Triassic and Jurassic rocks were not deposited or were eroded prior to the Cretaceous seas. Tertiary volcanics are thickest in the Organ and Doña Ana Mountains volcanic centers consisting of igneous parent material, with a gravelly surface and cobbly subsurface.

Land status is Federal Minerals Estate. This is consistent with most of the Las Cruces District. There are several closed lode and placer mining claims and one expired oil and gas lease in this vicinity off Baylor Canyon and Dripping Springs Roads, respectively. Currently, there are no active mineral material sites, mining notices/plans of operation, geothermal leases, or any borrow areas along these proposed routes.

Soils in the project area are classified by the Natural Resources Conservation Service as the Pinaleno-Nolam and Terino-Casito associations.

- The Pinaleno-Nolam association occurs on gently undulating to moderately rolling hills on broad fans, at an elevation ranging from 4,000 to 5,000 feet. The Pinaleno-Nolam association generally consists of deep soil made up of very gravelly sandy loam substrate, with moderately slow permeability.
- The Terino-Casito association is similar to the Pinaleno-Nolam association, occurring at the same elevation and with a very gravelly sandy loam substrate, except that soils are shallower, limiting the depth of the rooting zone.

3.7.1 Impacts of the No Action Alternative

The No Action Alternative would result in continued erosion of the roadway, resulting in an uneven driving surface and the need for continued ongoing maintenance. In addition, continued erosion would impact downstream features, including drainage canals and dammed impoundments. The unpaved portion would continue to deteriorate and degrade with possibility of severe rill formation and head-cutting resulting in sediment loss occurring over time.

3.7.2 Impacts of Alternative A

Approximately 17 acres of currently undisturbed BLM land outside of the existing roadway would be converted to a transportation use as result of roadway construction, intersection realignment, and construction of side slopes and roadside ditches. Short-term impacts resulting from ground-disturbing activity during construction would include erosion, runoff, and sedimentation. Soils would be impacted by grading activities, which would move and/or cover existing soils, and in areas of fill, introduce new soils to the project area. The soil source has not been identified, but is assumed to be from a local commercial source, minimizing the potential of the introduction of new vegetation types. Long-term paving and installation of roadside ditches would reduce erosion, reestablish drainage patterns, and reduce downstream sedimentation.

Because of the proximity to the roadways, impacts to mineral resources would be minimal.

3.7.3 Impacts of Alternative B

Approximately 17 acres of BLM land would be converted to a transportation use as result of roadway construction, intersection realignment, and construction of roadside ditches. Short-term impacts, resulting from ground-disturbing activity during construction, would include erosion, runoff, and sedimentation. Soils would be impacted by grading activities, which would move and/or cover existing soils, and in areas of fill, introduce new soils to the project area. The soil source has not been identified, but is assumed to be from a local commercial source, minimizing the potential of the introduction of new vegetation types.

Long-term paving and installation of roadside ditches would reduce erosion, reestablish drainage patterns, and reduce downstream sedimentation. These benefits would occur primarily on Dripping Springs Road. With time, the conditions on Baylor Canyon Road would deteriorate and the issues similar to today's existing condition would return.

Because of the proximity to the roadways, impacts to mineral resources would be minimal.

3.8 Health and Human Safety

The County identified the existing conditions along Dripping Springs Road and Baylor Canyon Road as a safety concern. In particular, the County noted the soft surface and substandard curves resulted in 38 crashes between 2008 and 2013. In addition, as the roadway surfaces deteriorate through use and storm events, an inconsistent driving surface is created, endangering motorists. The unpaved portions of Dripping Springs Road and Baylor Canyon Road do not have posted speed limits.

3.8.1 Impacts of the No Action Alternative

The No Action Alternative would result in no changes to the existing health and safety conditions in the project area. The substandard curves would persist, as would the variable driving surface.

3.8.2 Impacts of Alternative A

Alternative A would move Baylor Canyon Road closer to the windmill and water troughs, increasing the potential for livestock-vehicle collisions.

Alternative A would result in the minor realignment of one curve, resulting in increased safety. The paved surface would offer greater vehicle control and provide a consistent driving surface throughout the project corridor, meeting driver expectation. The lack of airborne dust would improve visibility for motorists passing one another. The speed limit in the project area would be 35 miles per hour and it would be posted, creating an environment for increased local enforcement.

3.8.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. The gravel improvements along Baylor Canyon Road would result in short-term benefits to safety, as roadside ditches would lessen the impacts of storm events and the newly graded surface would be consistent. With time, the conditions on Baylor Canyon Road would deteriorate and the issues similar to today's existing condition would return. The roadway surface would deteriorate, no longer providing a consistent surface, and airborne dust would continue to limit the visibility for motorists passing one another.

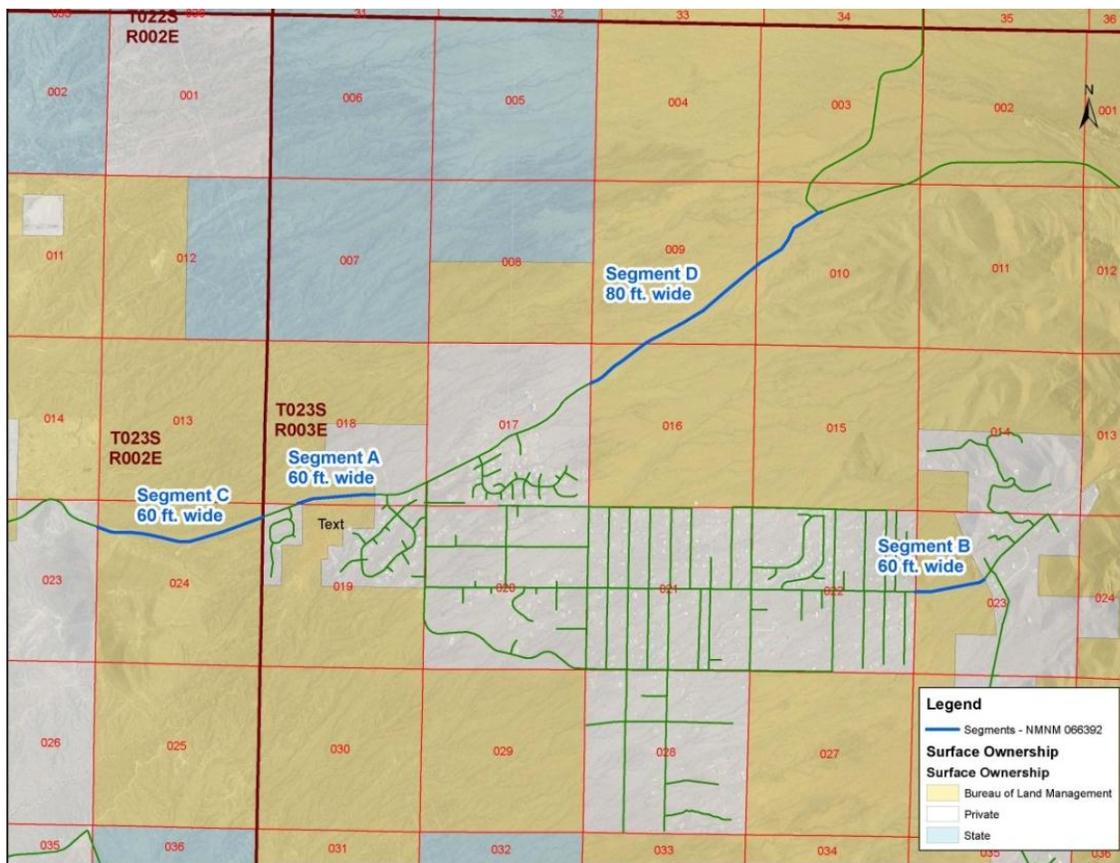
3.9 Lands and Realty

Of the approximately 4.9 miles of the project corridor, 4.4 miles cross land administered by the BLM and 0.46 miles cross privately owned land. Most of the proposed project area on BLM land is within the Organ/Franklin Mountains ACEC, as designated by the Mimbres Resource Management Plan. The project area on Baylor Canyon Road partially borders two Wilderness Study Areas. The southwestern terminus of the project is located on County land.

Baylor Canyon Road is currently authorized under NMNM 131088. The ROW would be amended to include improvements to the unimproved portion of the existing road, which would require additional width of the ROW in some areas.

A segment of Dripping Springs Road (Segment A) in section 18, township 23 south, range 3 east New Mexico Principal Meridian, New Mexico, is currently authorized under BLM Serial Number NMNM 066392. This ROW includes a segment of road (Segment B) in section 23, township 23 south, range 3 east, New Mexico Principal Meridian, New Mexico, for access to Soledad Canyon. ROW NMNM 066392 would be amended to convert the remaining segments of Dripping Springs Road (Segments C & D) currently under RS 2477 in section 24, township 23 south, range 2 east, New Mexico Principal Meridian, New Mexico, and in sections 9, 10 and 16, township 23 south, range 3 east, New Mexico Principal Meridian, New Mexico, into an FLPMA ROW. The amendment would also include the proposed improvement to Segment D. The segments are shown in Figure 12.

Figure 12. Right-of-Way Segments Located on Dripping Springs Roads



Source: BLM

The project area is on lands owned and managed by the BLM. In the areas where the project is on new alignment, an amendment to the existing ROW would be required.

3.9.1 *Impacts of the No Action Alternative*

The No Action Alternative would result in denying the application to amend the ROWs for improvements to the unimproved segments of the existing roads. The existing roads would remain the same, and the segments of Dripping Springs Road currently under RS 2477 status would not convert to a FLPMA ROW.

3.9.2 *Impacts of Alternative A*

Alternative A would require an amendment to ROW NMNM 131088 for improvements to the unimproved segment of Baylor Canyon Road and an amendment to ROW NMNM 066392 for improvements to the unimproved segment of Dripping Springs Road, and conversion of the segments of the existing road currently under RS 2477 status to a FLPMA ROW.

3.9.3 *Impacts of Alternative B*

Alternative B would result in the same ROW impacts as Alternative A.

3.10 Livestock

BLM manages two grazing allotments in the project area, as summarized in Table 8.

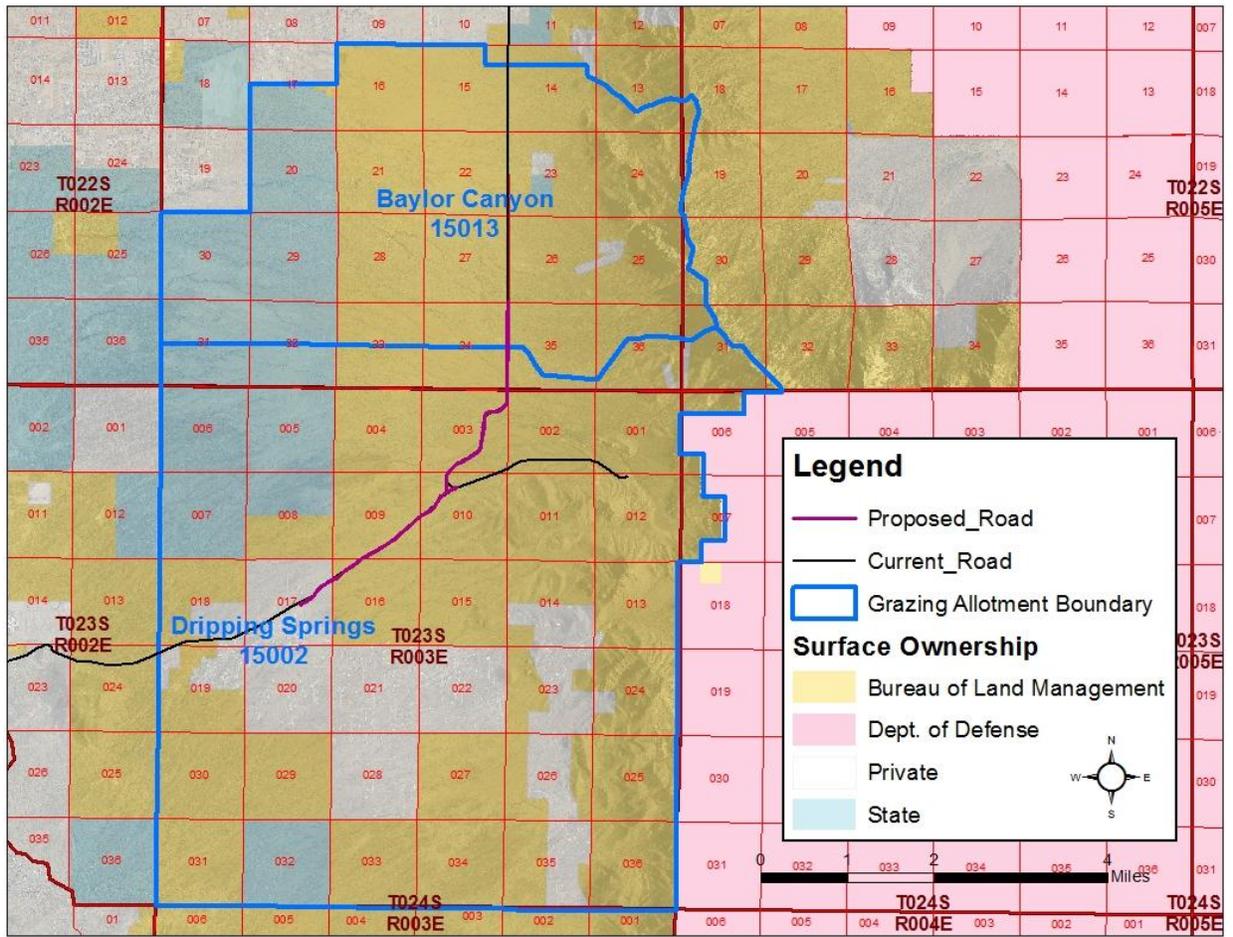
Table 8. Grazing Allotments in the Project Area

Allotment Number	Allotment Name	Public Acres
15013	Baylor Canyon	8,730
15002	Dripping Springs	15,832

Source: Appendix D, Grazing Allotment Summary, Tricounty RMP (BLM, 2013)

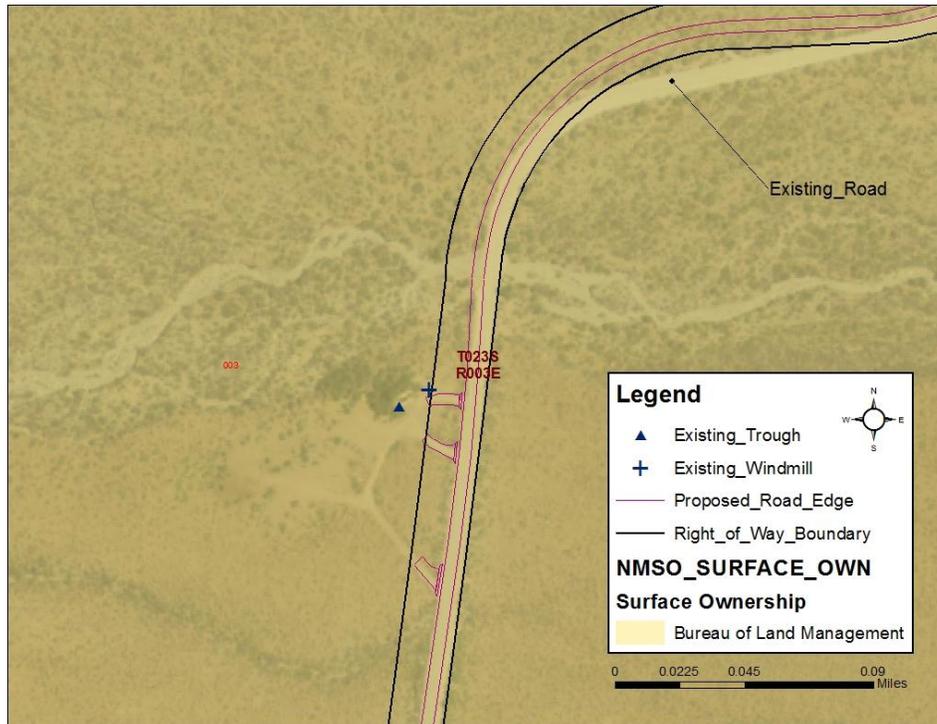
The Dripping Springs Allotment #15002 is permitted for 177 cattle yearlong at 96 percent federal land for 2,039 federal animal unit months (AUMs). The Baylor Canyon Allotment #15013 is permitted for 125 cattle yearlong at 79 percent federal land for 1,185 federal AUMs (Figure 13). Both allotments are run as cow-calf operations. Livestock-specific infrastructure in the project area includes a windmill, troughs, cattle guards, fencing, corrals and a water pipeline that supplies water to two troughs located at the corrals (Figure 14 and Figure 15).

Figure 13. Grazing Allotments



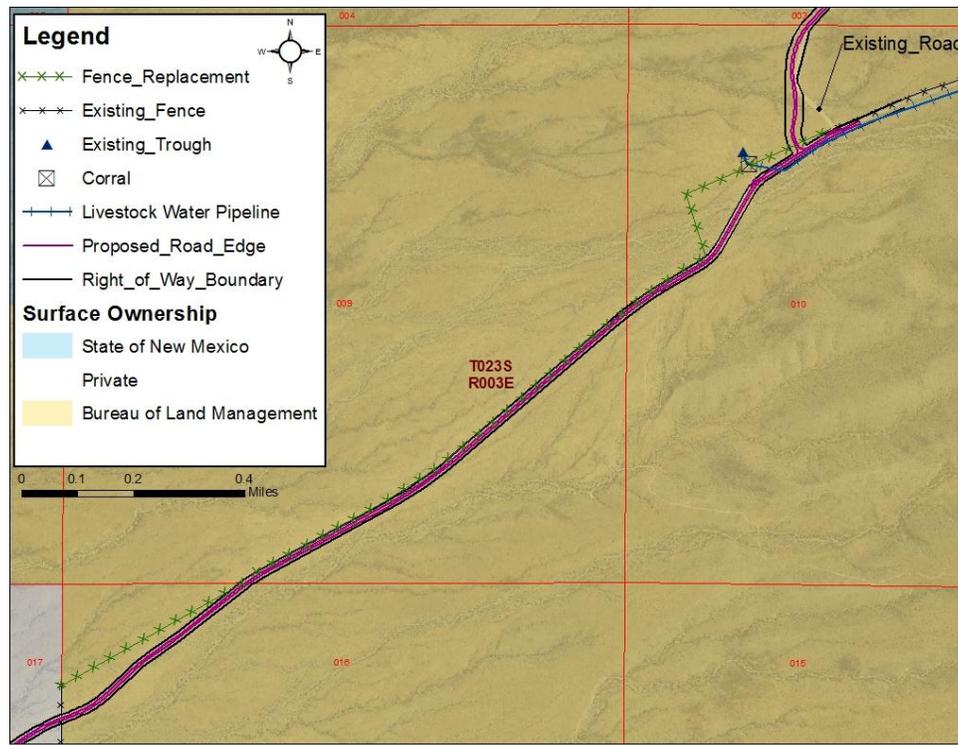
Source: BLM

Figure 14. Livestock Infrastructure near the Windmill



Source: BLM

Figure 15. Livestock Infrastructure Along Dripping Springs Road



Source: BLM

The livestock infrastructure is needed to maintain the grazing distribution on the allotments. The cattle generally graze in the higher elevations in the eastern portion of the allotments during the winter and on the lower elevations in the western portions of the allotments during the summer depending on forage quality and palatability. The mountains provide higher quality grass and browse species than the lower elevations during the dormant season and the lower elevations are grazed after the monsoons begin when more forbs and grasses are available. The troughs at the windmill and at the corrals provide year round water for livestock because they are centrally located between the mountains and lower elevations within the allotments. The troughs at the windmill are the only year round source of water accessible to cattle on the more northern portion of the Dripping Springs Allotment and are vital for maintaining the dormant season grazing in the higher elevations. The cattle currently cross the Baylor Canyon Road to water at the windmill when utilizing the higher elevations especially during the dormant season. The windmill is old and needs regular maintenance and the permittee needs access and room to perform the maintenance work on the windmill to keep it operational to provide water for the cattle. The corrals are needed for the permittee to be able to work cattle and for shipping cattle. Easy access and room for parking at the corrals with large trailers is necessary for the operation. The allotment boundary and pasture fences are needed to maintain the ability to rest pastures and maintain the current grazing distribution.

Local ranchers have voiced concerns that truck traffic could affect the well casing at the windmill. Vibration is a fine movement or low rumble that is radiated through the ground and is felt in the motion of room surfaces. The unit of measure is VdB, which is used to describe vibration-related decibels. Typical background vibration is about 50 VdB. By comparison, a bulldozer would cause vibration level of approximately 90 VdB at a distance of 50 feet. The impact threshold for vibration-sensitive equipment is about 65 VdB, and the planning threshold for residential annoyance ranges from 72 VdB to 80 VdB, depending on event. Vibration from construction and traffic typically does not contribute to structure damage, with the occasional exception of blasting and pile-driving during construction.

3.10.1 Impacts of the No Action Alternative

The No Action Alternative would result in no impacts to current livestock grazing practices.

3.10.2 Impacts of Alternative A

Approximately 17 acres of currently undisturbed BLM land outside of the existing roadway would be converted to a transportation use as result of roadway construction, intersection realignment, and construction of side slopes and roadside ditches. The old roadway would be removed and revegetated using a seed mix selected in coordination with the BLM, which in time would partially offset the loss of grazing lands from project construction. Permitted livestock numbers would remain the same.

The new alignment of Baylor Canyon Road would move the roadway closer to the windmill, troughs and corrals, but would not result in any direct impacts. The windmill would be approximately 65 feet from the edge of the pavement and 100 feet at the corrals (Figure 14 and Figure 15). Some grazing infrastructure, such as cattle guards and fencing, would be removed and be replaced, resulting in decreased ongoing maintenance compared to the existing condition for the replaced portions. Cattle may not want to come into water temporarily during the construction phase due to noise and activity occurring at or near the windmill or corrals. These impacts would occur when construction is in the immediate area, but with

daily construction shutdowns livestock would have the opportunity to access water from the late afternoon to the following morning.

Alternative A would not result in vibration impacts to the well located at the windmill.

The addition of pullouts along the roads would potentially reduce the amount of cars parking at the windmill and corrals which spooks the cattle away from the water. The BLM requires motorists to limit parking near a man-made livestock water to 30 minutes and requires people to camp at least 300 yards from a man-made livestock water. It is a common to have people parked by the water troughs at the windmill and the corrals to take pictures of the mountains. Having additional pullouts along the road would provide alternate areas to stop and take photographs, encouraging people to stop elsewhere along the roads. Increased traffic along the Dripping Springs Road and Baylor Canyon Road could increase the risk of mortality or injury to cattle that are crossing the road or standing/laying in or near the edge of the road especially at night. Cattle may be more attracted to the roadsides after paving due to increased runoff leading to more vegetation growing along the edges of the roads which could increase the risk of cattle being hit by motorists.

3.10.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. Traffic volumes are anticipated to be slightly lower because the gravel surface roadway would deter some motorists. Livestock would be less attracted to the gravel portion of the road on Baylor Canyon because there would be less runoff and therefore less vegetation growing on the road edges decreasing the chances of cattle being hit by vehicles on Baylor Canyon Road. With slightly fewer motorists in the project area, the likelihood of livestock vehicle collisions on Baylor Canyon Road would be less when compared to Alternative A.

3.11 Noise

The noise environment in the project area is typical of rural lands. The predominant noise source is vehicular traffic on Dripping Springs Road and Baylor Canyon Road. The only sensitive noise receptors in the project area are located in the neighborhood at the southwest terminus of the project, where two residences are within 500 feet of the roadway.

This project meets the criteria for a Type III project established in 23 CFR 772 because it does not involve construction of new through lanes or auxiliary lanes (other than turn lanes), does not involve changes in the horizontal or vertical alignment of the roadway that would halve the distance between the roadway and noise-sensitive receptors, would not expose noise sensitive land uses to a new or existing highway noise source, and does not involve any other activity classified as a Type I or Type II project. Therefore, the project requires no analysis for highway traffic noise impacts. FHWA acknowledges that a noise analysis is required if changes to the proposed project result in reclassification to a Type I project.

3.11.1 Impacts of the No Action Alternative

The No Action alternative would result in no noise impacts.

3.11.2 Impacts of Alternative A

Construction would generate noise from the short-term use of equipment, such as excavators, compressors, generators, and trucks; and diesel-powered earth-moving equipment, such as dump trucks and bulldozers, and back-up alarms on certain equipment.

3.11.3 Impacts of Alternative B

Alternative B would result in the same noise impacts as Alternative A.

3.12 Organ Mountains-Desert Peaks National Monument

The project is located within the OMDPNM on lands owned and managed by the BLM. The monument was established by Presidential Proclamation in May 2014 and the Resource Management Plan for the monument has not yet been developed. The proclamation states: “The protection of the OMDPNM area will preserve its cultural, prehistoric, and historic legacy and maintain its diverse array of natural and scientific resources, ensuring that the prehistoric, historic, and scientific values of this area remain for the benefit of all Americans.”

3.12.1 No Action Alternative

Doña Ana County’s ROW amendment would be rejected in the No Action Alternative and no roadway improvements would be made. An increase in visitation to the area as a result of the new monument designation may result in accelerated road damage and degradation which could impact cultural and prehistoric resources in the vicinity of the roadbed. Natural resources, such as soil and vegetation, could be further impacted by continued or accelerated erosion.

3.12.2 Impacts of Alternative A

Alternative A is consistent with the presidential proclamation because it does not create an additional road, but maintains an existing one, and only leaves the current roadway alignment where doing so enhances public safety. It is difficult to assess the impacts of increased visitation to the monument but it is assumed that most visitation would continue to concentrate at Dripping Springs Natural Area, Aguirre Springs Campground, and Soledad Day Use Area. There would be an increase in dispersed recreation along the improved roads

3.12.3 Impacts of Alternative B

Alternative B would result in the similar impacts to the National Monument as Alternative A.

3.13 Recreation

Managed as multi-use land, the BLM hosts hikers, bikers, wildlife viewers, equestrian users, tourists, hunters, and more in the project area. Following are the major recreational destination in the project area.

- **Baylor Pass Trailhead:** This is the western terminus of the Baylor Pass Trail, a six-mile-long National Recreation Trail. The trail takes hikers over Baylor Pass and provides hiking access between the east and west sides of the Organ Mountains. This trail is open to hiking and equestrian use. This trailhead is located outside the project area, but Dripping Springs Road and

Baylor Canyon Road provide access for recreation users traveling from points south of Las Cruces.

- **Sierra Vista Trailhead:** This is the northern terminus of the Sierra Vista Trail, a 29-mile long National Recreation Trail. It is open to hiking, equestrian uses, and mountain biking, and connects to a trail system located in Texas.
- **Dripping Springs Natural Area:** This facility provides hiking, picnic area, interpretive displays, and wildlife viewing opportunities. There are many trails and important historical sites. Popular options include the Fillmore Canyon Trail, Modoc Mine, the Rock House, Crawford Trail, Dripping Springs Trail, and La Cueva Trail.

In addition to the recreational facilities on BLM land, the widened shoulder along the existing paved portion of Dripping Springs Road, located on County land south of the project area, is included in the County's inventory of in-road facilities for cyclists.

3.13.1 Impacts of the No Action Alternative

The No Action Alternative would not include roadway improvements. Access to federal lands would remain as is, with the unimproved roadway potentially deterring visitation.

3.13.2 Impacts of Alternative A

Impacts to recreational resources would include temporary construction-related access issues due to traffic delays. Typical traffic delays during construction are anticipated to be up to 30 minutes. Specific construction activities, such as installation of low water crossings, may require minimal temporary roadway closures.

Recreation resources would benefit from improved access. This includes cyclist access, as cyclists would have a consistent and smooth surface upon which to ride, thereby increasing safety. The 5-foot shoulders proposed on Dripping Springs Road would tie into the existing shoulders located south of the project corridor, creating a continuous paved route for cyclists accessing recreational facilities or wanting to ride within the OMDPNM. Cyclists could then continue north on Baylor Canyon Road. At the northern terminus of the project the shoulders would tie into the existing roadway, which does not include shoulders.

3.13.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. Alternative B would serve the needs of regional or area travelers accessing the federal lands and recreation areas, but would lack the paved shoulders that cyclists would use.

With time, the conditions on Baylor Canyon Road would deteriorate and the issues similar to today's existing condition would return, potentially deterring visitation or resulting in out-of-direction, meaning motorists could not take the most direct route to their destination.

3.14 Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 protects significant public recreational resources and historic sites that may be impacted by transportation projects. The study area includes both historic and recreation properties protected by Section 4(f), as follows:

- **Historic Properties:** Check Dams constructed by the Civilian Conservation Corps
- **Recreation Facilities:** Baylor Pass Trailhead, Sierra Vista Trailhead, and Dripping Springs Natural Area

Section 4(f) includes a nationwide programmatic evaluation (programmatic evaluation) for certain federally assisted transportation improvement projects on existing or new alignments that will use property of a Section 4(f) property, which the view of FHWA and the official(s) with jurisdiction over the Section 4(f) property, the use of the Section 4(f) property will result in a net benefit to the Section 4(f) property.

The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection. This programmatic evaluation satisfies the requirements of Section 4(f) for projects meeting the applicability criteria listed below. An individual Section 4(f) evaluation will not need to be prepared for such projects:

- The proposed transportation project uses a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site.
- The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection.
- For historic properties, the project does not require the major alteration of the characteristics that qualify the property for the National Register of Historic Places such that the property would no longer retain sufficient integrity to be considered eligible for listing. For archeological properties, the project does not require the disturbance or removal of the archaeological resources that have been determined important for preservation in-place rather than for the information that can be obtained through data recovery. The determination of a major alteration or the importance to preserve in-place will be based on consultation consistent with 36 CFR part 800.
- For historic properties, consistent with 36 CFR part 800, there must be agreement reached amongst the SHPO and/or Tribal Historic Preservation Officer, as appropriate, the FHWA and the Applicant on measures to minimize harm when there is a use of Section 4(f) property. Such measures must be incorporated into the project.
- The official(s) with jurisdiction over the Section 4(f) property agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property.

-
- The Administration determines that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination, and Public Involvement sections of this programmatic evaluation.

This programmatic evaluation can be applied to any project regardless of class of action under NEPA.

3.14.1 Impacts of the No Action Alternative

The No Action Alternative would not include roadway improvements. Access to Section 4(f) resources would remain as is, with the unimproved roadway potentially deterring visitation.

3.14.2 Impacts of Alternative A

Alternative A would not result in a use of any recreation facilities.

Alternative A will result in impacts to the historic 4(f) resource which includes removal of portions of 21 of the check dams, from a few square feet of some to the complete removal of 5 of the features.

However, Alternative A would result in a net benefit to the Section 4(f) historic property.

Measures to minimize harm to HCPI 36654 include:

- Steepened the side slopes of the roadway to reduce the footprint of the proposed roadway.
- Made changes to the horizontal alignment at the Baylor Canyon Road / Dripping Springs Road intersection to avoid two previously undisturbed features by weaving the road between the features.

Measures to mitigate impacts to HCPI 36654 such that a Net Benefit is realized include:

- The proposed project will better define the limits of disturbance with the installation of roadside ditches to channelize water away from the roadway to minimize damage during rain events. Since there are no ditches on the existing road, roadway maintenance activities have pushed soil and gravel to the edges of the roadway and have previously impacted the 4(f) property.
- The proposed project will install and improve low-water crossings on the roadway and include roadside ditches, thus carrying waters into historic drainage paths and reducing the risk of out of channel flood damage to the 4(f) property.
- Two pullouts with interpretive signage will be constructed with information about the 4(f) property and history of the area.
- The paved surface will further reduce the risk of damage to the 4(f) property because less maintenance will be required to maintain the roadway surface. Semi-annual grading, which would no longer be necessary with a paved roadway, of the road has resulted in the check dams being buried or obliterated.

The New Mexico SHPO was notified of CFLHD's intent to make a determination of net benefit in a letter dated April 14, 2015. In a letter dated April 20, 2015 the New Mexico SHPO concurred with the determination of net benefit. See **Appendix B** for agency correspondence.

3.14.3 Impacts of Alternative B

Alternative B would result in similar benefits to Alternative A. The primary difference being that the eventual resumption of grading activities would have the potential to impact the historic features.

3.15 Environmental Justice

Executive Order 12898 (EO 12898) on Environmental Justice requires the analysis of potential effects on social and economic conditions to identify disproportionate and adverse impacts on low income or minority population groups, accessibility to community services, or other factors that affect community wellbeing, employment and economic development. EO 12898 seeks to prevent federal policies and actions from creating disproportionately high or adverse health and environmental impacts to minority or low-income populations. Table 9 presents the most recently obtained census data on income, poverty, race, and ethnicity for the two-county area, New Mexico, and the United States.

Per review of U.S. Census 2010 census tract data, for a household size of three, approximately 28 percent of Doña Ana County residents live below the poverty guidelines as set by the U.S. Department of Human and Health Services (HHS, 2014). In the census tracts intersected by the project area, approximately 14 percent of the residents live below the poverty guidelines.

Per review of U.S. Census 2010 census block data, approximately 26 percent of Doña Ana County residents can be classified a minority. In the census block groups intersected by the project area approximately 21 percent of residents can be classified a minority. Hispanic and/or Latino populations within the county are approximately 68 percent and within the project area are approximately 43 percent. The demographics of Doña Ana County and the project area are included in Table 9.

Table 9. Demographic Characteristic of the Project Area

Race and/or Ethnicity	Doña Ana County	Project Area
White	154,989 (74.1 %)	3,044 (79.5%)
African American	3,656 (1.7%)	78 (2.0%)
American Indian and Alaska Native	3,147 (1.5%)	32 (0.8%)
Asian	2,227 (1.1%)	45 (1.2%)
Native Hawaiian and Other Pacific Islander alone	185 (0.1)	3 (0.1%)
Hispanic or Latino of any race	137,514 (65.7%)	1,651 (43.1%)
Some other race	38,685 (18.5%)	499 (13.0%)
Two or more races	6,344 (3%)	130(3.4%)
Total population	209,233 (100%)	3,831 (100%)

Source: 2010 Census, U.S. Census Bureau.

A majority of the project occurs on BLM land, where residential populations are absent, although they are present north and south of the project area. Other portions of Dripping Springs Road and Baylor Canyon Road located outside of the project area support adjacent residential uses, where minority and low-income communities may exist.

3.15.1 Impacts of the No Action Alternative

The No Action Alternative would not have any disproportionately high and adverse effects on minority and low-income populations.

The No Action Alternative would not include roadway improvements. Access to federal lands would remain as is, with the unimproved roadway potentially deterring visitation.

3.15.2 Impacts of Alternative A

All roadway users would benefit from increased and safer access to federal recreational areas. All roadway users would also be affected by any construction related delays. Alternative A would not have any disproportionately high and adverse effects on any populations.

Roadway widening, intersection realignment, and construction of roadside ditches would result in the conversion of approximately 17 acres of active range to a transportation facility. The old roadway would be removed and revegetated using a native seed mix selected in coordination with the BLM, which in time would partially offset the loss of grazing lands from project construction. This would result in negligible economic impacts to livestock grazing.

Alternative A would improve bicycle access to recreation resources sites located within the Organ Mountains-Desert Peaks National Monument, including Dripping Springs Natural Area, the Baylor Pass Trailhead, and the Sierra Vista Trailhead. Improved access has the potential to increase visitation in these areas, resulting in positive economic impacts.

Impacts to recreational resources, which are the primary attraction within the project area, would include temporary construction-related access issues due to traffic delays. Typical traffic delays during construction are anticipated to be up to 30 minutes. Specific construction activities, such as installation of low water crossings, may require temporary roadway closures.

3.15.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. Alternative B would serve the needs of regional or area travelers accessing the federal lands and recreation areas, but would lack the paved shoulders that cyclists would use, resulting in less bicycle friendly infrastructure. With time, the conditions on Baylor Canyon Road would deteriorate and the issues similar to today's existing condition would return, potentially deterring visitation or resulting in out-of-direction as motorists use Dripping Springs Road for access, both resulting in negative economic impacts.

3.16 Special Status Species and Migratory Birds

The U.S. Fish and Wildlife Service (USFWS) IPaC website (USFWS, 2014) and the Biota information System of New Mexico (New Mexico BISON, 2014) were reviewed to determine federally listed species protected by the Endangered Species Act with the potential to occur in Doña Ana County. Subsequent coordination with BLM wildlife biologists determined that only two of these species—the Yellow-billed Cuckoo (*Coccyzus americanus*) and the Bell's Vireo (*Vireo bellii*)—have the potential to occur in the project area.

Habitat surveys were completed on May 19 and 20, 2014, and it was determined that adequate habitat for either species is not present in the project area, although it exists in the Organ Mountains, located to the east. Additional coordination with BLM biologists indicate that the nearest known nesting site is a Yellow-billed Cuckoo nest, located approximately one mile east of the project area.

Other special status species, which include BLM sensitive species and state listed species, have the potential to occur in the project area. These species are shown in Table 10.

Table 10. Special Status Species Potentially Occurring in the Proposed Project Area

Species	Status
American peregrine falcon	State threatened
Baird's sparrow	State Threatened
Bald Eagle	State Threatened
Bell's Vireo	State Threatened
Bendire's Thrasher	BLM Sensitive Species
Broad-billed Hummingbird	New Mexico Threatened
Costa's Hummingbird	New Mexico Threatened
Loggerhead Shrike	New Mexico Sensitive Species
Northern Aplomado Falcon	State Endangered
Painted Bunting	BLM Sensitive Species
Varied Bunting	New Mexico Threatened
Big Free-tailed Bat	New Mexico Sensitive Species
Common Hog-nosed Skunk	New Mexico Sensitive Species
Fringed Myotis	New Mexico Sensitive Species
Long-legged Myotis	New Mexico Sensitive Species
Occult Little Brown Bat	New Mexico Sensitive Species
Red Fox	New Mexico Sensitive Species
Ringtail	New Mexico Sensitive Species
Rock Pocket Mouse	New Mexico Sensitive Species
Spotted bat	New Mexico Threatened
Townsend's Big-eared Bat	New Mexico Sensitive Species
Western Small-footed Myotis	New Mexico Sensitive Species
Western Spotted Skunk	New Mexico Sensitive Species
Night-blooming Cereus	New Mexico Endangered

Additionally, there are 19 birds of conservation concern with the potential to occur in the project area. Table 11 details these species and whether adequate foraging or nesting habitat is present within the project area.

Table 11. Birds of Conservation Concern with Potential to Occur in the Project Area

Bird (Common Name/Scientific Name)	Foraging Habitat Present	Nesting Habitat Present
Bald eagle (<i>Haliaeetus leucocephalus</i>)	No	No
Bell's Vireo (<i>Vireo bellii</i>)	Yes	Yes
Bendire's Thrasher (<i>Toxostoma bendirei</i>)	No	No
Black-chinned Sparrow (<i>Spizella atrogularis</i>)	Yes	Yes
Brewer's Sparrow (<i>Spizella breweri</i>)	Yes	No
Burrowing Owl (<i>Athene cunicularia</i>)	Yes	No
Cassin's Sparrow (<i>Aimophila cassinii</i>)	Yes	Yes
Chestnut-collared Longspur (<i>Calcarius ornatus</i>)	No	No
Flammulated owl (<i>Otus flammeolus</i>)	No	No
Golden eagle (<i>Aquila chrysaetos</i>)	Yes	No
Gray vireo (<i>Vireo vicinior</i>)	No	No
Lark Bunting (<i>Calamospiza melanocorys</i>)	Yes	No
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Yes	Yes
Lucy's warbler (<i>Vermivora luciae</i>)	Yes	No
McCown's Longspur (<i>Calcarius mccownii</i>)	Yes	No
Painted Bunting (<i>Passerina ciris</i>)	Yes	Yes
Sonoran Yellow Warbler (<i>Dendroica petechia ssp. sonorana</i>)	Yes	Yes
Swainson's hawk (<i>Buteo swainsoni</i>)	Yes	Yes
Williamson's Sapsucker (<i>Sphyrapicus thyroideus</i>)	No	No

Source: USFWS, 2014

3.16.1 Impacts of the No Action Alternative

The No Action Alternative would result in no effect to special status species.

3.16.2 Impacts of Alternative A

Alternative A would result in “no effect” to federally threatened and endangered species or BLM sensitive species. Alternative A would result in an insignificant increase in traffic volumes, therefore the incidence of animal vehicle collisions for most species in the project area would increase proportionally.

No direct mortality of birds of conservation concern is anticipated as a result of Alternative A. Limited tree removal in arroyos would remove bird habitat and these species would likely avoid the project area during construction.

3.16.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. Traffic volumes are anticipated to be slightly lower because the gravel

surface roadway would deter some motorists. With slightly fewer motorists in the project area, the likelihood of animal vehicle collisions is marginally less when compared to Alternative A.

3.17 Vegetation and Weeds

The upland vegetation within the project area consists of a grassland-shrub mixed community dominated by the following:

- Creosote bush (*Larrea tridentata*)
- Jointfir (*Ephedra sp.*)
- Sixweeks grama (*Bouteloua barbata*)
- Whitethorn acacia (*Acacia constricta*)
- Purple threeawn (*Aristida purperea*)
- Brownplume wirelettuce (*Stephanomeria pauciflora*)
- Sandmat (*Chamaesyce spp.*)

Vegetation along ephemeral streams within the project area was dominated by the following:

- Littleleaf sumac (*Rhus microphylla*)
- Splitleaf brickellbush (*Brickellia laciniata*)
- Berlandier's wolfberry (*Lycium berlandieri*)
- Catclaw acacia (*Acacia greggii*)

Vegetation also included scattered occurrences of the following:

- Stinging serpent (*Cevallia sinuate*)
- Silver beardgrass (*Bothriocloa laguroides*)
- Hall's panicgrass (*Panicum hallii*)

Per field reconnaissance conducted May 19-20, 2014, no species listed by the New Mexico Department of Agriculture Noxious Weeds List (NMDA, 2009) were found within the project area.

3.17.1 Impacts of the No Action Alternative

The No Action Alternative would not result in any earth disturbance; therefore, no impacts to vegetation or noxious weeds would occur.

3.17.2 Impacts of Alternative A

Alternative A would impact approximately 17 acres of grassland-shrub mixed community. Any vegetation within the proposed paved route and/or along the proposed road side slopes may be destroyed during construction. Vegetation within the right of way but outside of the paved area may be destroyed or damaged during the construction activities. Some vegetation would likely grow within the gravel side slopes of the road following completion of construction due to higher water availability. Impacts were

minimized by following the existing alignment to the greatest extent practical. Disturbing previously undisturbed areas increases the potential for weed establishment. Mitigation measures to treat weeds would reduce the likelihood of weeds establishing. Reclaiming the old road surface and areas disturbed during construction with native vegetation would decrease the chances of weeds establishing in those areas.

3.17.3 Impacts of Alternative B

Alternative B would result in the same impacts to vegetation and/or noxious weeds as Alternative A.

3.18 Visual Resources

Visual resource management (VRM) is conducted in accordance with BLM Manual H-8410-1 (BLM 1986). Visual Resource Management (VRM) classes are used as minimum management objectives for identified visual management units. Each VRM class describes differing degrees of modification allowable in basic landscape elements. The primary character of the landscape will be retained regardless of the degree of modification from the proposed alternatives. There are two VRM classifications in the project area: VRM Class I and VRM Class III. These are defined as follows:

- **Class I Objective:** To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
- **Class III Objective:** To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate (BLM 2014).

The project area is located west of the Organ Mountains, which are the dominant feature visible from the project area. The topography is generally flat, with occasional rolling hills. The project area is crossed by ephemeral drainages, but no perennial streams, and the vegetation is characteristic of a desert grassland-shrub scrub community. There are a number of existing berms along the road, which are caused by roadway maintenance and are up to three feet high in areas, disrupting visual continuity in the project area. Figure 16 shows the project area visual characteristics.

Figure 16. Looking East on Dripping Springs Road



3.18.1 Impacts of the No Action Alternative

The No Action Alternative would result in no impacts to the visual character of the project area. Airborne dust would remain a visual impact when motorists are present and the roadside berms would continue to interrupt the local topography and visual continuity of the area.

3.18.2 Impacts of Alternative A

Alternative A would result in a change to the visual landscape because the existing unimproved soft surface road, which is the same color as the surrounding area, would be replaced by an asphalt road. This asphalt road would have a higher level of contrast with the surrounding landscape. Recreationists at higher elevations, such as on Baylor Pass Trail, would be able to see the entirety of the new roadway. This would have a limited impact on the existing visual landscape because paved roads are currently visible from the Organ Mountains.

Baylor Canyon Road runs parallel to the Organ Mountains and recreational opportunities are located east of the road; therefore, views towards the Organ Mountains would remain mostly unchanged. Dripping Springs Road extends generally northeast-southwest; therefore, motorists traveling east would see the paved road in the foreground. Dripping Springs Road is paved in areas both east and west outside of the project area, therefore the resulting visual change would be considered low.

The existing berms along the road, which are caused by roadway maintenance and are up to three feet high in areas, would be removed. This would help restore the characteristic look of the landscape, which is generally flat. In addition, paving the road would eliminate the visible dust entrainment from passing vehicles. Construction activities would result in additional short-term impacts to visual resources from dust and the presence of construction equipment.

3.18.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A, with the exception of Baylor Canyon Road. Baylor Canyon Road would be improved gravel and therefore not paved. The roadway surface along Baylor Canyon Road would match the existing condition, so the visual change would be less. Airborne dust would remain as a visual impact when motorists are present on Baylor Canyon Road. Over time the maintenance activities would result in berms building back up and drainage patterns being disrupted.

3.19 Water Resources

There are no perennial streams within the project area. Ephemeral drainages within the project area convey stormwater flows west approximately 4-6 miles, into detention dams and stormwater control features; which then ultimately terminate at the Rio Grande located approximately 13 miles west of the project area. Sediment build up behind the detention dams is a concern and effects dam stability and functionality. Water is channelized in the current road bed during high precipitation events. These flows increase sediment movement and sediment transport downstream to the detention dams.

There are stone check dams, built by the Civilian Conservation Corps, in the project area. Constructed originally as flood control measure, 54 of these features occur in the project area. See **Section 3.4, Cultural Resources** for more information regarding these features.

Drainage is conveyed across the road via low water crossings, or beneath the road in the 9 existing culverts in the project area.

There is an active well located adjacent to the windmill on Baylor Canyon Road. This well provides water for livestock, and sees incidental use by wildlife.

Berms caused by roadway maintenance activities are located on each side of the existing roadway. As the berms have built up over time, water flowing across the road has been channelized and often flows down the roadway until there is a break in the berm on the downstream side. This situation leads to erosion of the existing roadway and the introduction of additional sediment into stormwater flows. **Figure 17** shows these berms located along the roadway. In addition, existing low water crossings wash out during high flows.

Figure 17. Berms located along the roadway



3.19.1 Impacts of the No Action Alternative

The No Action Alternative would result in the continued unnatural drainage patterns and erosion of the existing roadway.

3.19.2 Impacts of Alternative A

Alternative A would create approximately 19 acres of new impervious surface. This impervious surface is the result of the paving of the existing roadway and would increase stormwater runoff. In addition, temporary ground disturbance during construction could lead to short-term increases in erosion.

Although Alternative A would create new impervious surface, it would also include the following drainage improvements:

- Eighteen (18) low water crossings which would include concrete reinforcement and riprap on the downstream side to reduce erosion. The low water crossing would serve as gradient control and keep the road from being washed out during storm events.
- Three (3) culvert replacements that would include riprap on the downstream side to reduce erosion.
- Roadside ditches, which would serve to uniformly convey water to the larger natural drainage system.

These improvements would result in reduced erosion and sedimentation in the project area and for downstream areas.

3.19.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A, although there are two primary differences. Alternative B would result in less impervious surface since Baylor Canyon Road would not be paved.

Because it is not paved erosion would continue at the low water crossings, although to a lesser degree than existing conditions. Sediment laden roadway runoff would continue to be flushed downstream. Over time the maintenance activities would result in berms building back up and drainage patterns being disrupted.

3.20 Wetlands and Other Waters of the U.S.

As documented in the *Dripping Springs and Baylor Canyon Roads Wetland Delineation Report* (HDR, 2014) a delineation of open waters and wetlands was conducted in May 2014 pursuant to Sections 404 of the Clean Water Act. The area surveyed for wetlands generally extends 50 feet from the proposed edge of pavement; however, wider areas were surveyed at crossings of waters of the U.S. The surveys were conducted using the Routine Onsite Determination Method, as described in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (USACE, 1987).

No wetlands were identified in the project area.

Forty-four segments of ephemeral streams were identified in the project area. All of these segments are classified as non-relatively permanent waters (non-RPW) and include 21 single and complete crossings. Water flowing in these ephemeral streams eventually flow into the Rio Grande River, 13 miles west of the project area. All of these features were assumed to be under the jurisdiction of the U.S. Army Corps of Engineers. Figure 18 shows representative photos of the drainages in the project area.

Figure 18. Representative Drainages in Project Area



The existing roadway is bermed because of ongoing maintenance, such as grading, which results in unnatural drainage patterns and the roadway itself often carrying runoff.

3.20.1 Impacts of the No Action Alternative

The No Action Alternative would not result in any impacts to wetlands and other waters of the U.S. The existing unnatural drainage patterns would continue and likely be exacerbated over time.

3.20.2 Impacts of Alternative A

Alternative A would result in approximately 0.29 acre of impacts to waters of the U.S. These impacts would result from the placement of fill, such as culverts and pavement associated with low water crossings, into the channels of the ephemeral streams that bisect the roadway. The drainage improvements associated with the project, such as culverts, improved low water crossings, and roadside ditches, would serve to restore drainage patterns and reduce erosion.

3.20.3 Impacts of Alternative B

Alternative B would have the same impacts to Waters of the U.S. but would have less of an overall benefit because erosion would continue at the unpaved low water crossings and sediment laden roadway runoff would continue to be flushed downstream.

3.21 Wilderness Study Areas (WSAs)

The Organ Mountains WSA and the Organ Needles WSA are directly east of Baylor Canyon Road (see Figure 1). Portions of Baylor Canyon Road define the western edge of the WSAs. WSAs possess the wilderness qualities of roadlessness, naturalness, and outstanding opportunities for solitude or primitive recreation. The Organ Mountains and Organ Needles WSAs are considered suitable for wilderness designation and must be managed to retain their wilderness qualities until Congress either designates the areas as wilderness or releases them from wilderness review through legislation.

3.21.1 Impacts of the No Action Alternative

If the BLM were to select the No Action Alternative and reject Doña Ana County's application for a new ROW and an amended ROW, no improvements would be made at this time to Dripping Springs Road or Baylor Canyon Road. There are no known impacts of the road to the two WSAs and none are expected to arise if the road is maintained in its current condition.

3.21.2 Impacts of Alternative A

Alternative A would not directly impact wilderness qualities in the WSA. The anticipated increase in traffic is not expected to affect the attributes and qualities that qualify the area as a WSA.

3.21.3 Impacts of Alternative B

Under Alternative B, impacts to the two WSAs would be similar to the impacts of Alternative A; however, Baylor Canyon Road is anticipated to have less of a traffic increase.

3.22 Wildlife

The proposed project area provides habitat for approximately 160 species of birds, 60 species of mammals, and 10 species of herptiles. Wildlife habitat types along the proposed project route include creosote rolling upland, mixed shrub rolling upland, and arroyo habitat types. The arroyo habitats are the most productive in the area, and support wildlife species not found in the rolling upland types. The upland types include grassland-shrub mixed communities, and arroyos that support shrub-dominated communities, characteristic of the Chihuahuan Desert ecoregion (USEPA, 2011). Habitat surveys for general wildlife were completed on May 19 and 20, 2014. Common habitat types located in the project

area are shown in **Figure 19**. Lists of wildlife species by habitat type and county are available from the BLM Las Cruces District Office,

Figure 19. Tree and Shrub Lined Arroyo and Grassland-Shrub Mixed Community



3.22.1 Impacts of the No Action Alternative

The No Action Alternative would result in few impacts to wildlife compared to the existing condition. Animal vehicle collisions would continue and disturbance and displacement of wildlife would continue to occur. These impacts would be anticipated to moderately increase in response to increased tourism resulting from the National Monument Proclamation.

3.22.2 Impacts of Alternative A

Alternative A would result in an insignificant increase in traffic volumes, therefore the incidence of animal vehicle collisions for most species in the project area would increase. In addition the paved surface of the road would act as a heat sink, with the warm surface attracting cold blooded animals. This would result in increased mortality from animal vehicle collisions. There would be a seasonal effect of such collisions. For example, the Texas Horned Lizards breeds in May and would be expected to bask on roads during this time. The paved roadway surface would also lead to an increase in pressure from reptile collectors, as snakes tend to bask on sun warmed asphalt. Snake mortality would increase, but potentially as a larger percentage when compared to other species, as evidence exists that people intentionally run them over.

Improved access would increase visitation to the project area, in both developed and non-developed areas. The increase in human presence would have the potential to disturb and displace wildlife, and provide an opportunity for increased hunting, legal or otherwise. Conversely, the increased access would provide an opportunity for educating more federal land visitors to the unique habitat found in the project area, raising awareness of issues common at the wildland urban interface.

Construction activities, including noise and human activity, would temporarily displace wildlife from the project area.

3.22.3 Impacts of Alternative B

Alternative B has similar impacts compared to Alternative A. The differences are related to Baylor Canyon Road not being paved. Traffic volumes are anticipated to be slightly lower because the gravel surface roadway would deter some motorists. With less motorists in the project area, the likelihood of animal vehicle collisions is marginally less when compared to Alternative A. Herpetile mortality and collecting would also be lower as herpetiles would not bask on the gravel road.

3.23 Cumulative Impacts

Council on Environmental Quality regulations, which implement NEPA, require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

Past and future actions analyzed for cumulative impacts are urban growth in Doña Ana County, livestock grazing, and road improvements on Baylor Canyon Road:

- Doña Ana County has its roots in agriculture and trade, but now has an economy based in service and retail. Growing from a population of 135,000 in 1990, to 200,000 by 2010, housing construction, particularly on the northeast edge of Las Cruces, has expanded the urban footprint.
- The BLM authorizes livestock grazing in the project area, as described in Section 3.10, with permits renewed on a 10-year cycle.
- Per the County, there are no reasonably foreseeable projects in or adjacent to the project area. Past actions considered in the cumulative impacts analysis are two road improvement efforts along Baylor Canyon; the first project was a chip seal extending south from US 70 for 5000 feet in 2005. The second project, in 2007, extended from the edge of the chip seal for 2,700 feet with asphalt.

Air Quality: Development of dirt roads and construction activity has increased the potential for dust entrainment. The project would not have an additive impact because it would result in a reduction or elimination of dust entrainment by passing vehicles. The past paving and chip seal projects along Baylor Canyon Road have contributed to reduced dust entrainment. The proposed action would eliminate dust entrainment caused by the current condition.

Cultural Resources: Urban Development and construction has harmed and/or destroyed many cultural sites throughout the desert southwest, and Las Cruces is no exception. The action alternatives would result in an adverse effect, with check dams being directly impacted. These impacts would be offset through the creation of interpretive signage and displays located in the project area. There are no such displays now, so it would serve to educate the general public regarding the attributes of the check dams that make them eligible for listing on the National Register of Historic Places.

Health and Safety: Impervious surfaces applied to 3.2 miles of Baylor Canyon Road north of the proposed project area has had mixed impacts: The road is posted at 35 mph but is in a rural area with

infrequent patrols and drivers often exceed this speed limit. Residents of this portion of Baylor Canyon Road have safety concerns such as impacts to cyclists, equestrian riders, school children, and pedestrians that use the roadway.

The 2.5 miles of Baylor Canyon Road to be paved in the proposed action would be of higher engineering standards and design than the northern portion of the road. The design would discourage speeding and would result in a higher likelihood of adherence to the speed limit for that portion.

Soil: Impacts associated with livestock grazing include soil loss or erosion caused by trailing, congregation of animals at watering facilities, and exposure of soils as a result of the removal of vegetative cover. Grazing levels in the allotment are typically light throughout and soil loss as a result of livestock grazing is slight. When combined with potential long term soil loss from road degradation associated with Alternative B, only minor soil would be expected.

Water Quality: Increases in impervious surface have concentrated and channelized flows in urban areas. Roadway runoff, often carrying pollutants and sediments, have had negative impacts on streams. The installation of a paved surface, low water crossings, and roadside ditches would reduce sheetflow and help maintain drainage patterns, thereby reducing erosion, resulting in a net benefit.

Wildlife: Residential and commercial development has eliminated or fragmented wildlife habitat. The paving of Baylor Canyon Road north of the project area has likely increased wildlife mortality. A minor increase in traffic is anticipated to result from implementation of the proposed project, which would result in additional animal vehicle collisions. Improved access could increase hunting pressure and reptile collection and result in herpetiles being struck by vehicles as they bask on the sun warmed road. A 35-mph speed limit and wildlife signage will be used to minimize the effects, but a net increase in wildlife mortality is anticipated.

4 ENVIRONMENTAL COMMITMENTS

Mitigation measures to minimize the impacts described above were developed with input from FHWA, BLM, and the County. Project specific environmental commitments and standard environmental commitments can be found in **Appendix A**.

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