

DRAFT

**ENVIRONMENTAL ASSESSMENT
FOR ANAPRA FENCE REPLACEMENT AND ASSOCIATED ROAD
RENOVATIONS
SUNLAND PARK, NEW MEXICO**



**U.S. Customs and
Border Protection**

July 2015

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SUNLAND PARK, NEW MEXICO
EL PASO SECTOR
U.S. CUSTOMS AND BORDER PROTECTION
DEPARTMENT OF HOMELAND SECURITY**

July 2015

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EXECUTIVE SUMMARY

U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, of the proposed Anapra Fence Replacement and Road Renovations Project.

The Anapra Fence Replacement and Road Renovations Project consists of replacing legacy border fence comprised of either steel landing mat or expanded metal mesh and a 12-foot wide access road used by the United States Border Patrol (USBP), CBP's mobile, uniformed law enforcement arm, to access the area. This tactical infrastructure is critical to the operations of USBP to facilitate the general patrolling of the border to deter and prevent illegal cross-border activity. The area has been subjected to chronic erosion damage and recent monsoon storm events have resulted in severe erosion of both fencing foundations and access roads. The area is located within the USBP El Paso Sector Area of Responsibility (AOR).

The goal of this project is to replace approximately 1.35 miles of existing legacy pedestrian border fencing and improve associated access roads. The project area—which is located along the southern International Border in Sunland Park, New Mexico—includes three zones as shown on Figure 1-1. Zone A is 0.20 miles of legacy fence and border road located in a basin area between the U.S./Mexico border and railroad embankment. The proposed work in Zone A includes replacement of the legacy fence with new primary pedestrian bollard style fence (Type P-3), along with construction of an aggregate surface roadway elevated above the 100-year storm event water surface elevation (WSE) adjacent to the primary pedestrian fence. Zone B is 1.15 miles of legacy fence and border road on the west side of Zone A, extending to the end of the primary pedestrian fence known as J-3. The proposed work in Zone B consists of the replacement of the legacy fence with new primary pedestrian bollard style fence (Type P-3), along with widening the existing border road, placement of an aggregate surface course, and installation of culverts at the wash crossings. Zone C is included in the project area but is not part of the currently proposed action.

There are two alternatives carried forward for evaluation in the EA:

Proposed Action Alternative – Replacement of Legacy Border Fence and Access Road Renovations

The Proposed Action Alternative includes the construction of 1.35 miles of new bollard style pedestrian fence and parallel road segments. In addition CBP would add drainage improvements to allow for better all-weather use of road and prevent accelerated road deterioration due to water damage from heavy rain or flooding. This alternative would consist of upgrading the road to desired specifications. The roadway would be surfaced by hauling, placing, and compacting soil and gravel bases to the required bearing capacity needed to support expected traffic loads.

No Action Alternative - Continued Maintenance and Repair of Existing Road Segments

The No Action Alternative results in continuation of the status quo in the project area. Current maintenance and repair to the existing fence and road infrastructure would continue, but fence replacement, road improvement, and drainage improvements would not occur. The No Action Alternative will serve as a baseline against which the impacts of the other action alternative can be evaluated. However, the No Action Alternative does not satisfy the purpose and need for the project.

Environmental Considerations

- Land Use
- Geology and Soils
- Vegetation
- Terrestrial and Aquatic Wildlife
- Threatened and Endangered Species
- Hydrology and Groundwater
- Surface Waters and Waters of the United States
- Floodplains
- Air Quality
- Noise
- Cultural Resources
- Roadways and Traffic
- Hazardous Materials and Waste Management
- Socioeconomic Resources
- Environmental Justice
- Protection of Children
- Sustainability and Greening
- Aesthetics and Visual Resources
- Climate Change
- Human Health and Safety
- Utilities and Infrastructure

This EA concludes the following impacts for each of the analyzed resources:

| Resource Area | Alternative 1: Proposed Action – Installation of Border Fence and Access Road. | Alternative 2: No-Action |
|--|---|--|
| Land Use: Wildlife Management Areas/National Wildlife Refuges | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Land Use: National Parks and National Recreation Areas | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Land Use (Existing Land Uses and Policies) | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Geology/Soils: Soil | Short-term: Minor, adverse direct and indirect effects on soils from construction. | Short-term: Minor, direct and indirect, adverse impacts on soils. |
| | Long-term: Minor, beneficial direct and indirect effects on soils due to improved drainage. | Long-term: Minor, direct and indirect, adverse impacts on soils. |
| Geology/Soils: Prime Farmland | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Geology/Soils: Seismic Activity | Short-term: No impact. | Short-term: No impact. |
| | Long-term: Minor beneficial direct impact. | Long-term: Minor adverse impact |
| Geology/Soils: Geology | Short-term: Localized, minor, adverse effects that are localized to the areas where ground disturbance has occurred. | Short-term: No impact. |
| | Long-term: Localized minor beneficial effects from stabilization of roadways and drainage structures. | Long-term: No impact. |
| Vegetation | Short-term: Minor direct adverse impacts due to clearing for construction, however, effects would be minimized through the use of appropriate BMPs. | Short-term: Minor to moderate, direct and indirect, adverse effects. |
| | Long-term: Minor adverse direct impact due to road widening. | Long-term: Minor to moderate, direct and indirect, adverse effects. |
| Threatened and Endangered Species (All) | Short-term: CBP concludes this project will have no effect on the seven species considered in this EA. | Short-term: No impact. |
| | Long-term: CBP concludes this project will have no effect on the seven species considered in this EA. | Long-term: No impact. |
| Threatened and Endangered Plant Species | Short-term: No effects | Short-term: No Impact. |
| | Long-term: No effects | Long-term: No Impact. |
| Threatened and Endangered Bird Species | Short-term: No effects | Short-term: No impact. |
| | Long-term: No effects | Long-term: No impact. |
| Hydrology and Groundwater | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Floodplains | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Air Quality | Short-term: Negligible adverse localized short-term impacts during construction. | Short-term: No impact. |
| | Long-term: Moderate beneficial impact. | Long-term: Negligible adverse localized impacts. |

| Resource Area | Alternative 1: Proposed Action – Installation of Border Fence and Access Road. | Alternative 2: No-Action |
|---|---|---|
| Noise | Short-term: Negligible to minor adverse impacts during construction. | Short-term: No impact. |
| | Long-term: No measurable impacts. | Long-term: No impact. |
| Cultural Resources | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Roadways and Traffic | Short-term: Short-term, negligible to minor, adverse effects on transportation. | Short-term: No impact. |
| | Long-term: Long-term, minor to moderate, beneficial effects on transportation. | Long-term: Minor to moderate adverse impacts. |
| Hazardous Materials and Waste Management | Short-term: Negligible to minor adverse impacts. | Short-term: No impact. |
| | Long-term: Negligible to minor, adverse impacts. | Long-term: No impact. |
| Socioeconomic Resources | Short-term: Minor beneficial impact. | Short-term: No impact. |
| | Long-term: Minor beneficial impact. | Long-term: No impact. |
| Environmental Justice | Short-term: No impact. | Short-term: No impact. |
| | Long-term: No impact. | Long-term: No impact. |
| Protection of Children | Short-term: No impact. | Short-term: No impact. |
| | Long-term: Minor beneficial impact. | Long-term: Negligible to minor adverse impacts. |
| Sustainability and Greening | Short-term: Negligible adverse impact. | Short-term: No Impact. |
| | Long-term: Beneficial minor impact. | Long-Term: Minor to moderate adverse impact. |
| Aesthetics and Visual Resources | Short-term: Negligible adverse impact. | Short-term: No impact. |
| | Long-term: Minor beneficial impact. | Long-term: Negligible impact. |
| Climate Change | Short-term: Negligible adverse direct impact. | Short-term: No Impact. |
| | Long-term: Minor beneficial indirect impacts. | Long-term: Minor adverse impact. |
| Human Health and Safety | Short-term: Detailed examination of safety is not included in this EA. | Short-term: No impact. |
| | Long-term: Detailed examination of safety is not included in this EA. | Long-term: Negligible to minor adverse impacts. |
| Utilities and Infrastructure | Short-term: No impact. | Short-term: No Impact. |
| | Long-term: No impact. | Long-term: No Impact. |

As a result of the documentation of analysis of potential environmental consequences associated with the Proposed Action and Alternatives within this EA, CBP concludes this project will not have significant environmental impacts on the human environment, nor would it incrementally contribute to significant cumulative environmental impacts when combined with other past, present, or reasonably foreseeable activities within the area of analysis.

Therefore, CBP intends to prepare a Finding of No Significant Impact (FONSI) for the Proposed Action.

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ABBREVIATIONS AND ACRONYMS

| | |
|-----------------|---|
| ACM | asbestos-containing material |
| BA | Biological Assessment |
| BMP | Best Management Practice |
| CAA | Clean Air Act |
| CBP | Customs and Border Protection |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CEQ | President's Council on Environmental Quality |
| CFR | Federal Conformity Final Rule |
| CH ₄ | methane |
| CO | carbon monoxide |
| COTR | Contracting Officer's Technical representative |
| CO ₂ | carbon dioxide |
| CWA | Clean Water Act |
| dBA | A-weighted decibel |
| DBH | diameter at breast height |
| DDT | dichlorodiphenyltrichloroethane |
| DHS | U.S. Department of Homeland Security |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| FIFRA | Federal Insecticide, Fungicide, and Rodenticide Act |
| ft | feet |
| FONSI | Finding of no Significant Impact |
| FPPA | Farm Land Policy Act |
| GH | Grass and hardwoods |
| GHG | greenhouse gas |
| GL | Grassland |
| GPS | Global Positioning System |
| LBP | lead-based paint |
| m | meters |
| MBTA | Migratory Bird Treaty Act |
| mm/year | millimeters per year |
| mph | miles per hour |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NH | Native hardwood |
| NHPA | National Historic Preservation Act |
| NO ₂ | nitrogen dioxide |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List |
| NRCS | Natural Resources Conservation Service |

| | |
|-------------------|--|
| N ₂ O | nitrous oxide |
| O ₃ | ozone |
| OA | Open area |
| OHWM | ordinary high water mark |
| OSHA | Occupational Safety and Health Administration |
| Pb | lead |
| PCB | polychlorinated biphenyls |
| PCE | Polychloroethelyne |
| PM-10 | Particulate Matter |
| Ppb | parts per billion |
| Ppm | parts per million |
| percent g | 2 percent of the force of gravity |
| RCRA | Resource Conversation and Recovery Act |
| SC | Salt cedar |
| SME | Subject Matter Expert |
| SO ₂ | sulfur dioxide |
| SOP | Standard Operating Procedure |
| SWPPP | Storm Water Pollution Prevention Plan |
| TDS | total dissolved solids |
| TIMR | Tactical Infrastructure Maintenance and Repair |
| TSCA | Toxic Substances Control Act |
| USACE | U.S. Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| USBP | U.S. Border Patrol |
| USDA | U.S. Department of Agriculture |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| µg/m ³ | microgram per cubic meter |
| WMA | Wildlife Management Area |
| WoUS | Waters of the United States |

Chapter 1

INTRODUCTION

1.1 BACKGROUND

U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, of the proposed Anapra Fence Replacement and Road Renovations Project.

The mission of CBP is to secure the borders of the United States and to prevent terrorists and terrorist weapons from entering the United States (CBP 2012). An important component of the mission of the U.S. Border Patrol (USBP), CBP's mobile, uniformed law enforcement arm, is to detect and prevent terrorists and terrorist weapons from entering the country between official ports of entry. USBP will continue to advance its mission to detect, identify, classify, respond, and resolve emerging threats along the sovereign borders of the United States. The primary sources of authority granted to USBP agents are the Immigration and Nationality Act of 1952 (Public Law 82-414) contained in Title 8 of the United States Code (USC) "Aliens and Nationality" and other statutes relating to the immigration and naturalization of aliens. The USBP implemented the 2012–2015 Border Patrol Strategic Plan – Mission: Protect America (CBP 2012), which now puts these capabilities to the most effective use to meet all threats. The Border Patrol Strategic Plan is a new strategy that is a risk-based approach to border security which uses information, integration, and provides indirect support to strengthen the border patrol through better facilities and infrastructure that support rapid response to achieve two overall goals: secure America's Borders and strengthen the Border Patrol.

The Border Patrol Facilities and Tactical Infrastructure Program Management Office is charged with ensuring that all USBP facilities and tactical infrastructure (including fencing, patrol roads, and lighting) are properly focused and maintained for USBP.

The Anapra Fence Replacement and Road Renovations Project consists of replacing legacy border fence comprised of either steel landing mat or expanded metal mesh and a 12-foot wide access road used by USBP to access the area, which has been subjected to chronic erosion damage. Recent monsoon storm events have resulted in severe erosion of both fencing foundations and access roads, which are critical to the operations of USBP to facilitate the general patrolling of the border to deter and prevent illegal cross-border activity.

The goal of this project is to replace approximately 1.35 miles of existing legacy pedestrian border fencing and improve associated access roads. The project area—which is located along the southern International Border in Sunland Park, New Mexico—includes three zones as shown on Figure 1-1. Zone A is 0.20 miles of legacy fence and border road located in a basin area between the U.S./Mexico border and railroad embankment. The proposed work in Zone A includes replacement of the legacy fence with new primary pedestrian bollard style fence (Type P-3), along with construction of an aggregate surface roadway elevated above the 100-year storm event water surface elevation (WSE) adjacent to the primary pedestrian fence. Zone B is 1.15 miles of legacy fence and border road on the west side of Zone A, extending to the end of the primary pedestrian fence known as J-3. The proposed work in Zone B consists of the replacement of the legacy fence

with new primary pedestrian bollard style fence (Type P-3), along with widening the existing border road, placement of an aggregate surface course, and installation of culverts at the wash crossings. Zone C is included in the project area but is not part of the currently proposed action.

This tactical infrastructure is critical to the operations of Border Patrol to facilitate the general patrolling of the border to deter and prevent illegal cross-border activity. This road lies within the USBP El Paso Sector Area of Operation (AO) (Figure 1-1).

1.2 PROJECT LOCATION

The project area is located along the southern International Border in Sunland Park Census Designated Place (CDP), New Mexico in Doña Ana County. The project area is situated west of El Paso, Texas. The project is located within various portions of T29S, R4E, Sections 17 and 18. The existing pedestrian fence begins approximately 5.8 miles east of the Santa Teresa Port of Entry (POE) and continues 1.35 miles east (see Figure 1-1). Figure 1-1 includes Zone C mapping for reference, however, Zone C will not be included in this Proposed Action or analysis.

Zone A is 0.20 miles of legacy fence and border road located in a basin area between the U.S./Mexico border and a railroad embankment;

Zone B is 1.15 miles of legacy fence and border road on the west side of Zone A, extending to the end of the existing primary pedestrian fence known as J-3.

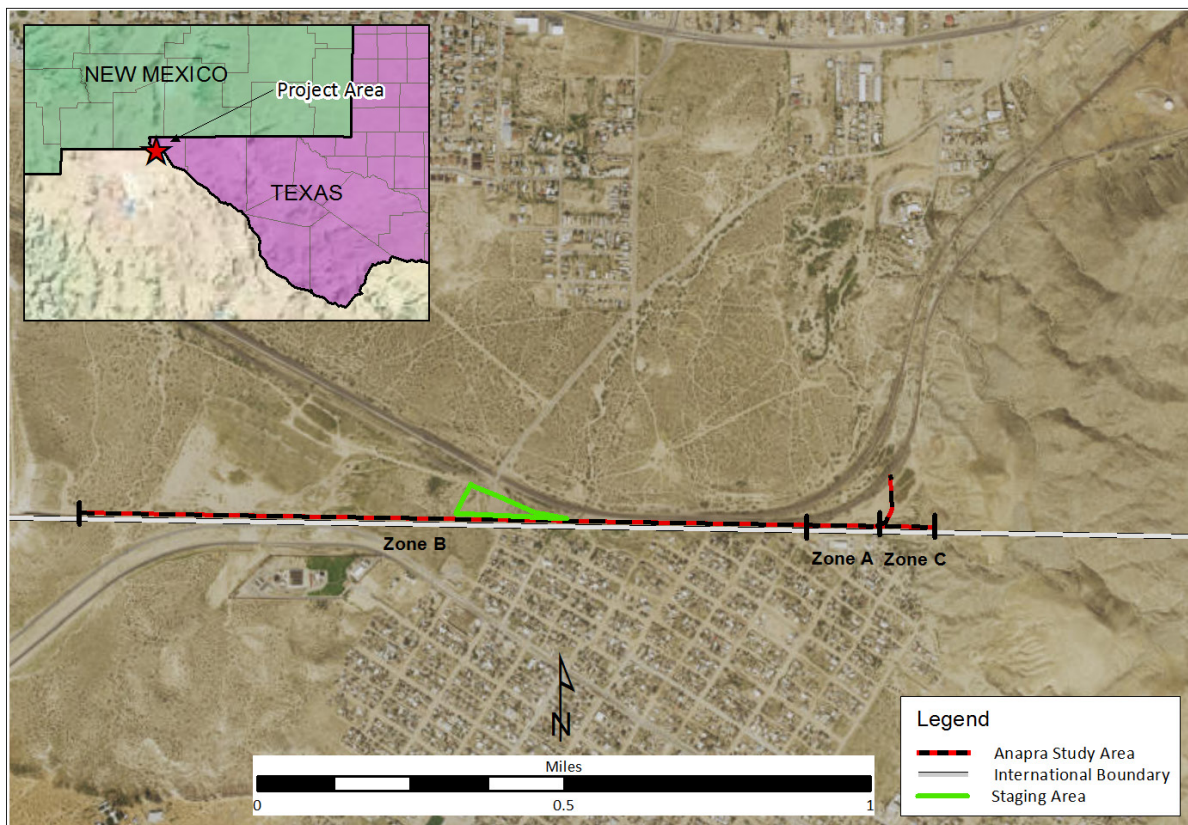


Figure 1-1. General location map.

The coordinates for the fence segments can be found in Table1-1 below:

Table 1-1. Project Location Coordinates.

| Zone | Length (miles) | Start Coordinate | End Coordinate |
|------|----------------|---|---|
| A | 0.2 | Lat 31° 47' 2" N Long 106° 33' 42" W | Lat 31° 47' 2" N Long 106° 33' 30" W |
| B | 1.15 | Lat 31° 47' 2" N Long 106° 34' 50" W | Lat 31° 47' 2" N Long 106° 33' 42" W |

1.3 PURPOSE AND NEED

The purpose of the proposed action is to enhance tactical infrastructure critical to the operations of USBP near the southern U.S. International Border in Sunland Park, New Mexico located within the USBP El Paso Sector Area of Responsibility (AOR) in order to facilitate the general patrolling of the border to deter and prevent illegal cross-border activity. This tactical infrastructure is critical to the operations of USBP to facilitate the general patrolling of the border to deter and prevent illegal cross-border activity.

The need for the proposed project is to maintain USBP capability to patrol the border within the AOR safely and effectively in order to prevent illegal cross-border activity through:

- More efficient and effective means of assessing cross border activities
- Rapid detection and accurate characterization of potential threats
- Coordinated deployment of resources in the apprehension of cross border violators
- Increased surveillance and interdiction efficiency
- Enhanced deterrence of illegal cross-border activity
- Long-term viability of critical infrastructure
- Enhanced safety and security of USBP agents and border communities.

1.4 SCOPE OF THE ANALYSIS

The scope of the EA will include the analysis of effects resulting from the replacement of the existing legacy fence as well as the repair, maintenance, and improvement of associated access roads. There will also be a staging area of up to three acres that will be cleared as part of the project. This analysis does not include an assessment of USBP operations conducted in the field and away from the project area. USBP operations would continue unchanged regardless of whether road improvements are undertaken beyond what is currently proposed.

1.5 RELEVANT POLICY DOCUMENTS, INVOKING ACTIONS, REFULATORY REQUIREMENTS, and STATUS OF COMPLIANCE

The National Environmental Policy Act of 1969 (NEPA) is a Federal statute requiring the identification and analysis of potential environmental impacts of proposed Federal actions before those actions are taken. The Council on Environmental Quality (CEQ) is the principal Federal agency

responsible for the administration of NEPA. CEQ regulations mandate that all Federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment. This process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions.

Within DHS and CBP, NEPA is implemented using DHS Instruction Manual 023-01-001-01, Revision 01, *Implementation of the National Environmental Policy Act (NEPA)*, November 6, 2014, and CBP policies and procedures.

1.6 PUBLIC INVOLVEMENT

Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decision-making process. All persons or organizations having a potential interest in the Proposed Action are encouraged to submit input into the decision-making process.

NEPA and implementing regulations from the CEQ and DHS direct agencies to make their EAs and EISs available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of Federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process.

Consultation and coordination with Federal and state agencies and other stakeholders have been ongoing during the planning and preparation of this document. CBP issued agency coordination letters to potentially affected Federal, state, and local agencies inviting their participation and input regarding this EA as follows:

Federal Agencies:

- International Boundary and Water Commission
- U.S. Environmental Protection Agency Region 8
- USACE, Albuquerque District

State Agencies:

- New Mexico Historic Preservation Division, Department of Cultural Affairs
- New Mexico Energy, Minerals, and Natural Resources Department
- New Mexico Department of Game and Fish
- New Mexico Environment Department

Native American Tribes:

- Jicarilla Apache Nation
- Fort Sill Apache Tribe of Oklahoma
- Apache Tribe of Oklahoma
- Ysleta del Sur Pueblo

The Draft EA and Finding of No Significant Impact (FONSI) are available for public review for 30 days. The Notice of Availability was published in the El Paso Times and the Las Cruces Sun newspapers. A copy of the Notice of Availability text will be included in the final EA. The Draft EA and FONSI are also available electronically at:

<http://www.cbp.gov/about/environmental-cultural-stewardship/nepa-documents/docs-review>

The documents will also be available for review at the Sunland Park Community Library, 1000 McNutt Road, Sunland Park, NM 88063 and the El Paso Main Public Library, 501 N. Oregon, El Paso, TX 79901. Information and concerns are being solicited from local, state, and Federal regulatory agencies and the Draft EA has been distributed to those agencies for comments. All comments received on the Draft EA along with CBP responses will be provided in Appendix C of the Final EA.

1.7 ORGANIZATION OF THIS EA

This EA contains Chapters 1 through 7 and Appendices A through B, as described below.

- Chapter 1: “Introduction” provides background information on the purpose and need for the Proposed Action, describes the scope of this EA, and summarizes the public involvement in developing this EA.
- Chapter 2: “Proposed Action and Alternatives” describes the Proposed Action and the Alternatives, and provides a summary of impacts of the Alternatives.
- Chapter 3: “Affected Environment and Environmental Consequences” describes the potentially affected resources within the project site and describes the potential direct and indirect effects on the environmental resources of the Proposed Alternatives.
- Chapter 4: “Cumulative Effects”
- Chapter 5: References
- Chapter 6: List of Preparers
- Chapter 7: Agencies and Persons Consulted
- Chapter 8: Distribution List

The appendices include descriptions of methods used to estimate environmental impacts of the Alternatives and the detailed information to support the impact analyses. The appendices are as follows:

- Appendix A: Laws and Regulations
- Appendix B: Best Management Practices

Chapter 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section describes the Proposed Action and the No Action Alternative. As discussed in Section 1.5, the NEPA process evaluates potential environmental consequences associated with the proposed action and considers alternative courses of action. Reasonable alternatives must satisfy the purpose of and need for a proposed action, which are defined in Section 1.3. CEQ regulations specify the inclusion of a no action alternative against which potential effects can be compared. There are two alternatives carried forward for evaluation in the EA:

- Alternative 1, The Proposed Action
- Alternative 2, The No Action Alternative

2.1 PROPOSED ACTION - ALTERNATIVE 1 – REPLACE APPROXIMATELY 1.35 MILES OF EXISTING LEGACY FENCE WITH PEDESTRIAN STYLE BOLLARD FENCING AND PERFORM UPGRADES/IMPROVEMENTS TO ASSOCIATED ACCESS ROADS

The Proposed Action Alternative includes the renovation of existing road segments and upgrades to the existing fence. In addition CBP will add drainage improvements to allow for better all-weather use of the road and prevent accelerated road deterioration due to water damage from heavy rain or flooding. The alternative would involve clearing and grubbing as required to expand the width of the existing roadway to 20 to 30 feet plus 2 feet on each side to create usable shoulders. Clearing and grubbing will be completed with side boom mowers, rotary tillers, and/or bladed excavation equipment (e.g., bulldozer, bucket loader). Culverts, guardrails, and drainage structures will then be installed in accordance with approved engineering practices. The roadway will then be surfaced by hauling, placing, and compacting soil and gravel bases to the required bearing capacity needed to support expected traffic loads.

The Bollard fence installation will involve excavation and ground disturbance, and the fence will be constructed with a conventional concrete foundation along the entire length of the project corridor.

Included below are detailed descriptions of the work that would occur as part of the proposed action in Zone A and Zone B.

Zone A is 0.20 miles of legacy fence and border road located in a basin area between the U.S./Mexico border and railroad embankment;

Zone B is 1.15 miles of legacy fence and border road on the west side of Zone A, extending to the end of the primary pedestrian fence known as J-3.

2.1.1 The Following Repairs and Improvements Would Occur in Zone A:

2.1.1.1 Elevated Patrol Road Adjacent to the Fence

- **Existing Road:** The existing road would be widened and modified to be a 30-foot-wide, elevated aggregate surfaced road with two-foot shoulders that parallels the primary fence for approximately 750 feet.
- **Existing Road:** After 750 feet the road would turn to the north along the east side of the basin and widened and modified to be a 20-foot-wide aggregate surfaced road with two foot shoulders connecting to the existing patrol road at the east end of the basin area.
 - o While paralleling the fence the road would be elevated so that it is a few inches above the 100-year WSE which will put it 6 to 12 feet above existing grade to the north.
 - o The embankment slopes along the north side of the road would be 3H:1V to allow vehicles to safely traverse between the patrol road and the basin area.
- **Access Ramp:** A rapid ingress/egress ramp on the west end of the basin area would be constructed and would be at approximately an 11-percent grade located between Washes 6 and 7 (See Figure 2.6 for basin and wash locations).
- **Concrete Wall:** A new concrete retaining wall on the south side of the road would be placed approximately three feet north of the border to contain the roadway fill.
- **Retaining wall:** A new retaining wall to protect from scour (approximately ten feet at Wash 7), between eight and 14-feet tall would be installed.
- **Sheet Pile Walls:** New sheet pile walls to protect the retaining wall from scour are proposed to be installed on the south side of the wall, 15 feet below grade.
- **Box Culverts:** New box culverts with parallel headwalls would be installed under the road at the wash crossings to convey flow into the basin area.
- **Guardrails:** New guardrails would be installed on the culvert headwalls to prevent falling or driving into the open space between the fence and culverts.
- **Concrete Apron:** A 3H:1V concrete apron side slope paralleling the headwall and retaining wall would be installed to allow personnel access to the drainage gates.

2.1.1.2 Fence Repairs

- **Pedestrian bollard style fence:** Fence repairs would include replacing the legacy fence with the primary pedestrian bollard style fence.
- **Concrete foundation:** The fence would be supported on a six-foot deep by 16-inch wide minimum concrete foundation.
- **Retaining Wall Support:** The fence would be supported by the concrete retaining wall outside the wash areas and by a six foot deep by 16-inch wide minimum concrete foundation within the wash areas.
- **Drainage Gates:** New drainage gates would be installed at the three wash crossings to convey water across the border and to maintain USIBWC WSE criteria.
- **Sheet Pile Wall:** Across the limits of the washes, the retaining wall and fence foundation would be protected from scour on the south side with the installation of 15-foot-deep sheet pile walls.
- **Concrete Apron:** The north side of the fence would be protected from scour with a concrete apron between the fence foundation and culvert.

Typical sections for the Zone A access road and fence are shown in Figures 2-1 and 2-2. A typical section for the access road east of the fence alignment is shown in Figure 2-3.

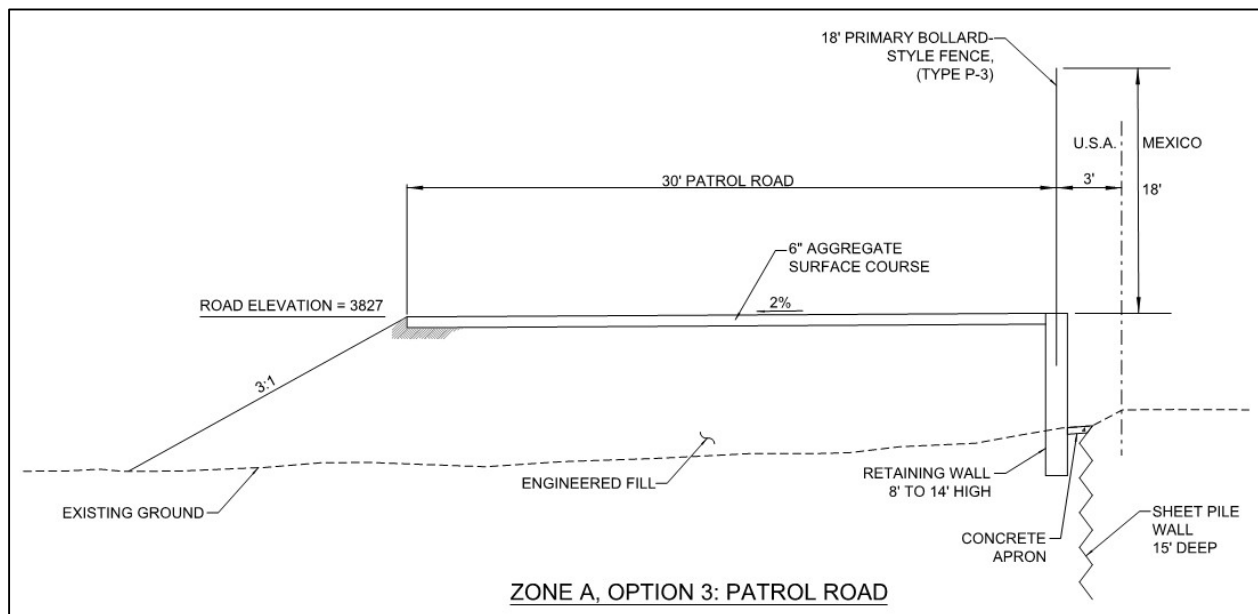


Figure 2-1. Zone A Access Road typical section at fence.

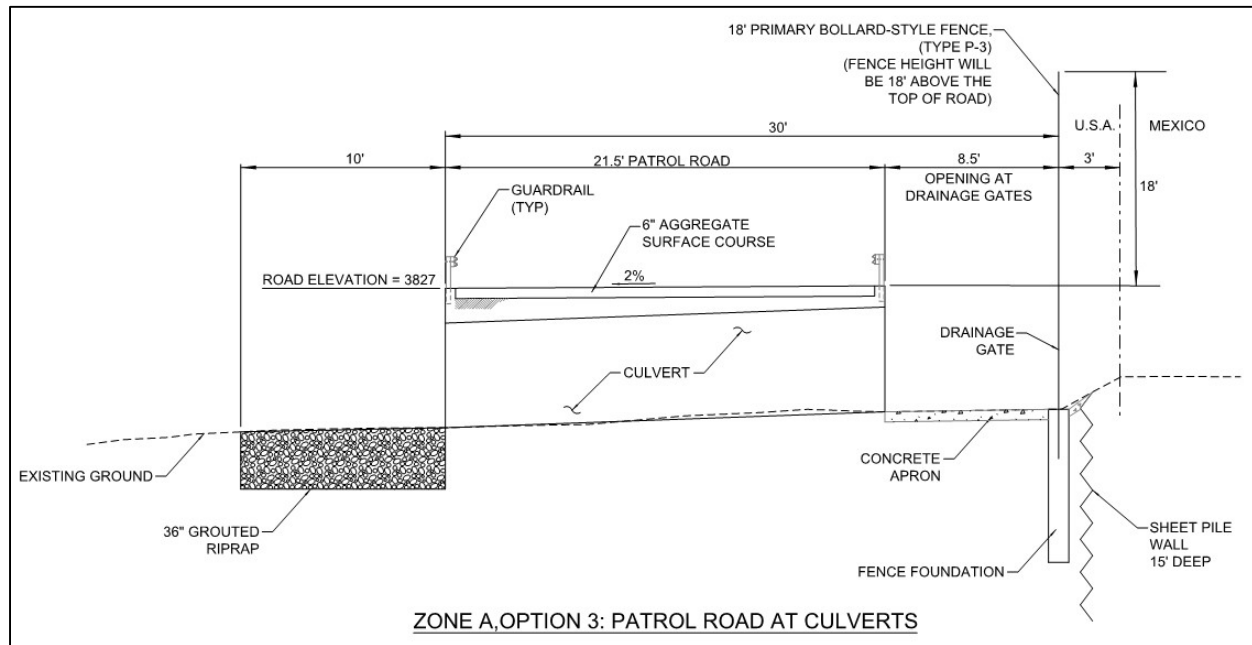


Figure 2-2. Zone A Access Road typical section at culvert.

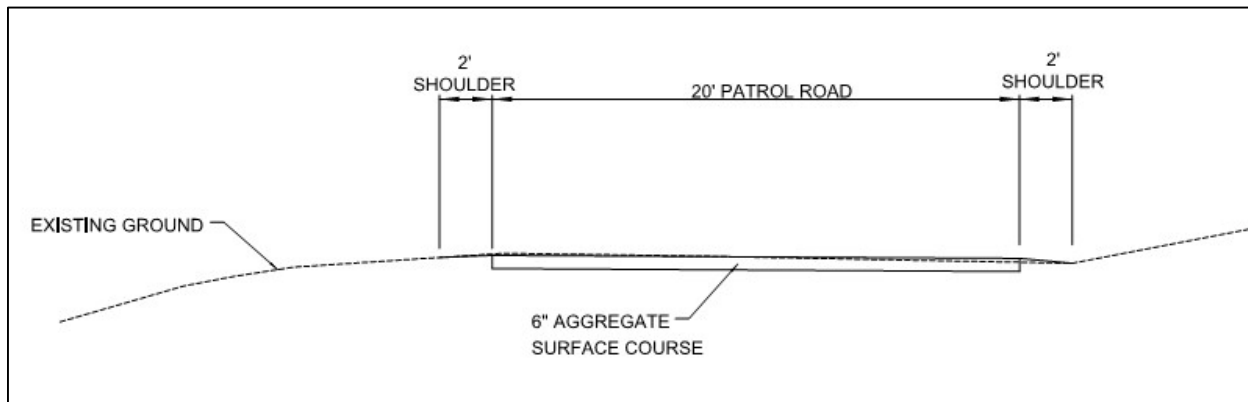


Figure 2-3. Zone A Access Road typical section east of fence.

2.1.2 The Following Repairs and Improvements Would Occur in Zone B:

2.1.2.1 Improved Access Road with Culverts

- **Existing Road:** The existing road would be widened to a 20-foot-wide aggregate surfaced road with two-foot shoulders.
- **Culverts:** Culverts would be installed at three of the wash crossings, and concrete LWCs at two of the wash crossings.

- **Geogrid:** Geogrid would be placed under the aggregate surface course to add stability to the sandy subgrade.
- **Extended road embankment:** In addition, a majority of the patrol road is several feet above the ground to the north; widening the road requires extending the road embankment north along the slope in multiple areas. Another road surfacing option is cement stabilizing the existing native sandy soil.
- **Culverts:** Culverts are being proposed as an option to plan for the total scour anticipated at the wash crossings. Since the drainage channel cannot be maintained south of the border, it is anticipated the soil will eventually erode to the total scour depth. By placing the fence foundation and culverts at the total scour depth, the water would have an opening to continue flowing north.
 - **At Wash 1, two 3-ft x 4-ft box culverts** would be installed along with a 100-foot concrete LWC in order to contain the 100-year storm event.
 - **At Wash 2, two 36-inch diameter culverts and Wash 3, one 48-inch diameter culvert** would be installed to convey the 100-year storm event. The proposed culverts at Washes 2 and 3 would be large enough to convey the entire 100-year flow; therefore, concrete LWCs would not be needed along the road.
- **LWC:** A 200-foot concrete LWC would be installed at Wash 5 over the culverts to contain the 100-year storm event.
- **Riprap.** The north side of the culverts and low water crossings would be protected from erosion with 6-inch grouted riprap from the edge of the LWC to the property line.

2.1.2.2 Fence Repairs

- **Replacing the Legacy Fence:** Fence repairs would include replacing the legacy fence with the primary pedestrian bollard style fence.
- **Concrete foundation:** The fence would be placed three feet north of the border and supported on a six-foot deep by 16-inch wide minimum concrete foundation.
- **Drainage gates:** Drainage gates would be installed at two of the wash crossings (Washes 1 and 5) to convey water across the border and to maintain USIBWC WSE criteria.
- **Sheet Pile Walls:** Within the limits of the washes, the south side of the fence foundation would be protected from scour with the installation of six feet deep sheet pile walls.
- **Concrete Apron:** The north side of the fence would be protected from scour with a concrete apron between the fence foundation and the culvert.

Typical sections for the Zone B access road and fence are shown in Figures 2-4 and 2-5.

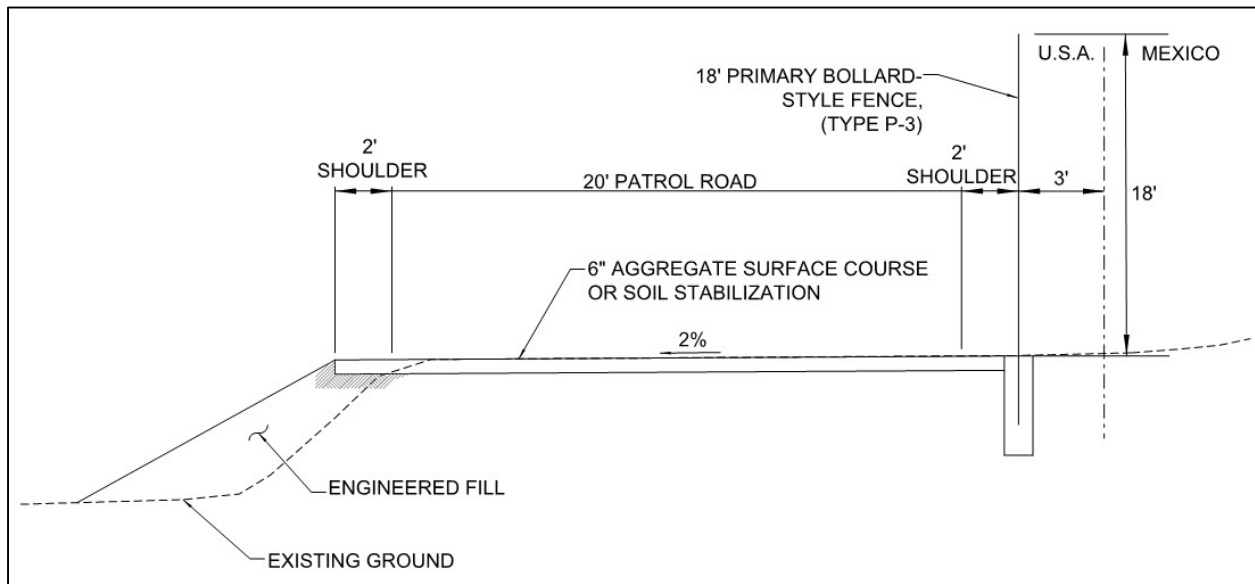


Figure 2-4. Zone B Access Road typical section.

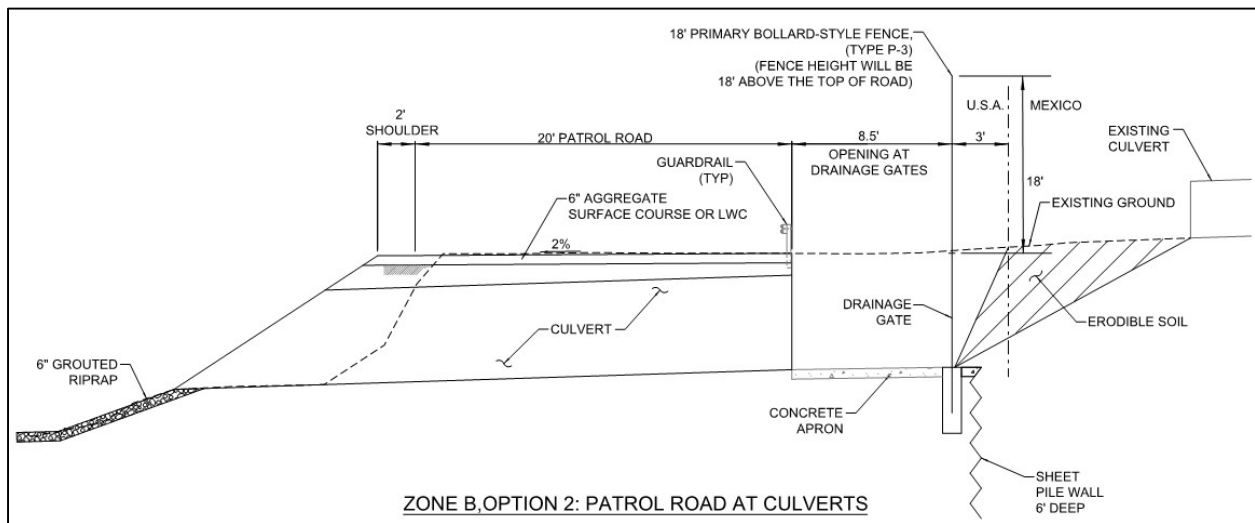


Figure 2-5. Zone B Access Road typical section at culverts.

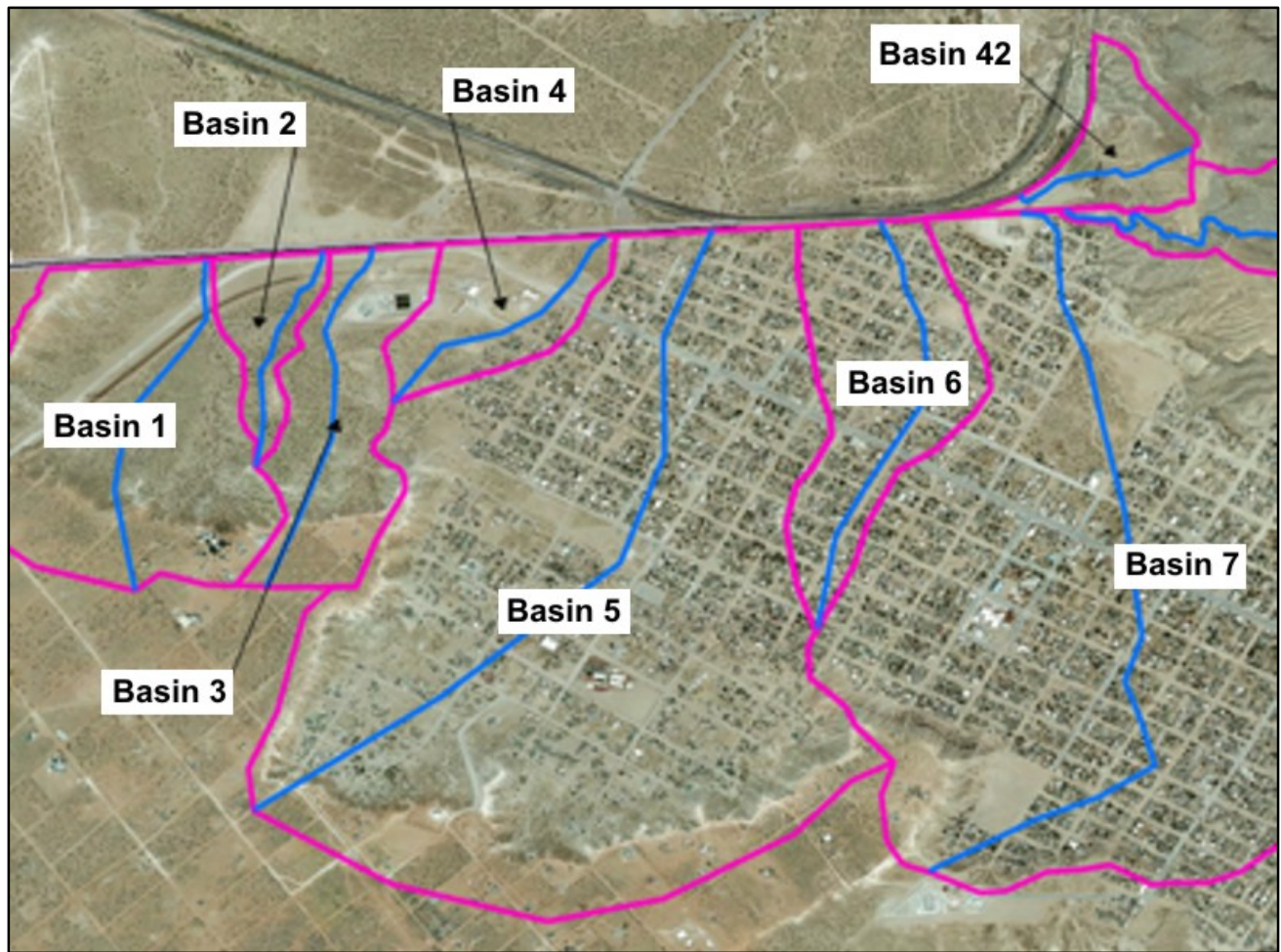


Figure 2-6. Basin and wash map.

2.1.3 Future Maintenance and Repair of Infrastructure in Zone A and Zone B

In addition to the legacy fence replacement and access road improvements discussed above, the proposed action also includes the future maintenance and repair necessary to ensure the continued effectiveness of the constructed infrastructure.

2.1 NO ACTION ALTERNATIVE—CONTINUED MAINTENANCE AND REPAIR OF EXISTING ROAD SEGMENTS

The No Action Alternative results in continuation of the status quo in the project area. Current maintenance and repair to the existing fence and road infrastructure would continue, but fence replacement, road improvement, and drainage improvements would not occur. The No Action Alternative will serve as a baseline against which the impacts of the other Action Alternatives can be evaluated. However, the No Action Alternative does not satisfy the purpose and need for the project.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

2.3.1 Construct 0.2 Miles of New Fencing and Associated Access Road on the Eastern End of the Project Corridor (Zone C)

Consideration was given to constructing 0.2 miles of new pedestrian fencing and associated access road on the eastern end of the project—this is referenced as Zone C on Figure 1-1.

An Environmental Assessment completed in January 2003 titled *Immigration and Naturalization Service, US Border Patrol Pedestrian Fence Along the International Border, USBP El Paso Sector, Texas* (CBP 2003) was completed for this extension and is hereby incorporated by reference. Construction of the new fence was considered but eliminated from further consideration due to prohibitive costs and unavailable funds at this time.

2.3.2 Construct a Concrete Access Road in Zone A

Consideration was given to constructing a concrete access road in Zone A at both existing and elevated grades that would be located north of the border as opposed to the aggregate surface road adjacent to the border that is included in the Proposed Action. Constructing a concrete access road would have higher construction costs and not provide significant benefits over the use of aggregate surface road as included in the Proposed Action and thus is not carried forward for analysis in this EA.

2.3.3 Construct Low Water Crossings at Washes in Zone B

Consideration was given to constructing concrete low water crossings at wash crossings in Zone B as opposed to the installation of box culverts included in the Proposed Action. While installation of Low Water Crossings had the potential to decrease initial project costs, the potential exists that the Low Water Crossings could become impassable during heavy rain events. As such, this option does not meet the purpose and needs of the project regarding efficient access for USBP and thus is not carried forward for analysis in this EA.

Chapter 3

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment and potential environmental and human health impacts that may be associated with implementation of the alternatives considered in this EA, including the No Action Alternative. Environmental impacts are discussed in this chapter for the following resource areas: geology and soils, vegetation, terrestrial and aquatic wildlife, threatened and endangered species, water resources, air quality, noise, cultural resources, roadways and traffic, hazardous materials and waste management, land use, socioeconomic resources, environmental justice, protection of children, sustainability and greening, aesthetics and visual resources, climate change, human health and safety, utilities and infrastructure.

These resource areas were analyzed in a manner commensurate with their importance or the relative expected level of impact using the sliding-scale assessment approach. The general impact assessment methodology used to evaluate each resource area is also discussed in this chapter.

3.1 FRAMEWORK FOR ANALYSIS

NEPA is a Federal statute requiring the identification and analysis of potential environmental impacts of proposed Federal actions before those actions are taken. The CEQ is the principal Federal agency responsible for the administration of NEPA. CEQ regulations mandate that all Federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment. This process evaluates potential environmental consequences associated with a Proposed Action and considers alternative courses of action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions.

The process for implementing NEPA is codified in 40 Code of Federal Regulations (CFR) 1500–1508, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, and DHS Instruction Manual 023-01-001-01, Revision 01, *Implementation of the National Environmental Policy Act (NEPA)*, November 6, 2014, and CBP policies and procedures. The CEQ was established under NEPA to implement and oversee Federal policy in this process. CEQ regulations specify that an EA may be prepared to:

- Briefly provide evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI).
- Aid in an agency's compliance with NEPA when an EIS is unnecessary.
- Facilitate preparation of an EIS when one is necessary.

To comply with NEPA, the planning and decision making process for actions proposed by Federal agencies involves a study of other relevant environmental statutes and regulations.

The NEPA process does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them cooperatively which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action.

According to CEQ regulations, the requirements of NEPA must be integrated “with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively.” Within the framework of environmental impact analysis under NEPA, additional authorities that might be applicable include the Clean Air Act (CAA), Clean Water Act (CWA) (including a National Pollutant Discharge Elimination System [NPDES] storm water discharge permit and Section 404 permit), Section 10 of the Rivers and Harbors Act of 1899, Noise Control Act, Endangered Species Act (ESA), Migratory Bird Treaty Act, National Historic Preservation Act (NHPA), Archaeological Resources Protection Act, Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA), and various Executive Orders (EOs).

3.2 ANALYTICAL METHODS

This section provides a characterization of the affected environment and an analysis of the potential direct and indirect effects each alternative would have on the affected environment.

Each alternative was evaluated for its potential to affect physical, biological, and socioeconomic resources. Cumulative and other effects are discussed in Section 3.14. All potentially relevant resource areas are considered in this EA. General descriptions of the resources and the nature of the characteristics that might relate to impacts on resources.

Short-term or long-term. These characteristics are determined on a case-by-case basis and do not refer to any rigid time period.

- Short-term effects are those that would occur only with respect to a particular activity or for a finite period or only during the time required for maintenance and repair activities.
- Long-term effects are those that are more likely to be persistent and chronic.

Direct or indirect. A direct effect is caused by and occurs contemporaneously at or near the location of the action. An indirect effect is caused by a Proposed Action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action. For example, a direct effect of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect effect of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.

Negligible, minor, moderate, or major. These relative terms are used to characterize the magnitude or intensity of an impact.

- Negligible effects are generally those that might be perceptible but are at the lower level of detection.
- A minor effect is slight, but detectable.
- A moderate effect is readily apparent.
- A major effect is one that is severely adverse or exceptionally beneficial.

Adverse or beneficial. An adverse effect is one having unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial effect is one having positive outcomes on the man-made or natural environment. A single act might result in adverse effects on one environmental resource and beneficial effects on another resource.

Significance. Significant effects are those that, in their context and due to their intensity (severity), meet the thresholds for significance set forth in CEQ regulations (40 CFR Part 1508.27).

Context. The context of an effect can be localized or more widespread (e.g., regional).

Intensity. The intensity of an effect is determined through consideration of several factors, including whether an alternative might have an adverse impact on the unique characteristics of an area (e.g., historical resources, ecologically critical areas), public health or safety, or endangered or threatened species or designated critical habitat. Effects are also considered in terms of their potential for violation of Federal, state, or local environmental law; their controversial nature; the degree of uncertainty or unknown effects, or unique or unknown risks; if there are precedent-setting effects; and their cumulative effects (see Section 4).

3.3 RESOURCES TO BE EVALUATED IN THIS ENVIRONMENTAL ASSESSMENT

This EA evaluates the No Action and the Proposed Action Alternative. Both of the alternatives are evaluated as to their potential impact on the following resource areas:

- Geology and Soils
- Vegetation
- Terrestrial and Aquatic Wildlife
- Threatened and Endangered Species
- Water Resources
- Air Quality
- Noise
- Cultural Resources
- Roadways and Traffic
- Hazardous Materials and Waste Management

Impacts to the following resources are limited due to the lack of direct effect from the Proposed Action and No Action Alternatives and thus these resources are not evaluated further in this EA.

Land Use - No effects on land use plans or policies are anticipated from the implementation of either the Proposed Action or the No Action Alternative. Portions of the project area are occupied by industrial and urban areas, including roads, rail yards, homes, and apartments. These alternatives would be compatible with the existing land uses in the action area and, therefore, would not result in any changes in land use.

Socioeconomic Resources - The significance threshold for impacts to socioeconomic conditions includes displacement or relocation of residences or commercial buildings, increases in long-term demands for public services in excess of existing and projected capacities, and disproportionate impacts on minority and low-income families. Road replacement, repair, and maintenance activities as described by the Proposed Action would result in short-term, minor and beneficial impacts on the region's economy. There would be no adverse impacts on residential areas, populations, or minority or low-income families.

Environmental Justice - Executive Order 12898 of February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" require each Federal agency to identify and address, as appropriate, disproportionate adverse effects of its proposed actions on minority populations and low-income communities. The significance threshold for impacts to environmental justice would be an action that had a disproportionately high and adverse effect on minority and low-income populations. The racial mix of Doña Ana County in 2013 was about 66.6 percent Hispanic or Latino, 21.1 percent white alone, and the remainder comprised of various races. The proposed projects would not displace residences or commercial structures along the project corridor. Therefore, disproportionate effects to minority populations would not be expected.

Doña Ana County has about 27 percent of its total population living at or below poverty levels. The 2013 per capita personal income was estimated to be about \$19,565, which was significantly below the New Mexico state average of \$23,763. The location of the proposed action is in the extreme southern portion of the county and near to low-income neighborhoods. However, no disproportionate adverse effects to low-income populations would be expected from the implementation of the Proposed Action.

Protection of Children - The significance threshold for protection of children impacts would be an action that had a disproportionately high and adverse effect on children. E.O. 13045 requires each Federal Agency "to identify and assess environmental health risks and safety risks that may disproportionately affect children"; and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." This E.O. was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts on the health and safety of children is greater where projects are located near residential areas.

For most of its length the project parallels industrial use land areas such as a railroad. The Proposed Action would not require any additional demands on public services, such as schools or day care facilities, during or after the actions. Construction and maintenance crews would stop work activities if any children are observed approaching the project area, and would safely guide them away from the site before resuming work. Therefore, the Proposed Action would not pose a threat to the health of the children in the project area.

Sustainability and greening - Implementation of the Proposed Action or the No Action Alternative would use negligible amounts of resources. Beneficial effects on long-term sustainability and greening would be expected.

Aesthetics and Visual Resources - The Proposed Action and No Action Alternatives would not have a major impact on aesthetics or visual resources. Existing infrastructure would be renovated, replaced, maintained, or repaired. The Proposed Action area is not an area of public access, and is used only by CBP personnel. Therefore, there would be no impact to public enjoyment and/or appreciation of the resource. The appearance of tactical infrastructure would not be a major change and no major effect on aesthetic and visual resources would be anticipated.

Climate Change- Implementation of the Proposed Action and No Action Alternative would result in a temporary increase in vehicle exhaust emissions during construction and maintenance and would minimally increase GHG emissions. However, long term benefits can also be anticipated. Following completion of the Proposed Action, less fuel would be needed for vehicles on north-south trips per patrol as a result of the improved road conditions.

Human Health and Safety - Safety associated with implementing the Proposed Action and No Action Alternative is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. Occupational Safety and Health Administration (OSHA) and the USEPA issue standards that specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits with respect to workplace stressors. Personnel are exposed to safety risks from the inherent dangers at any maintenance and repair site. Contractors would be required to establish and maintain safety programs at the maintenance and repair site. The Proposed Action would not expose members of the general public to increased safety risks. Therefore, because the Proposed Action would not introduce new or unusual safety risks, and assuming appropriate protocols are followed and implemented, detailed examination of safety is not included in this EA.

Utilities and Infrastructure - Due to the location of the Action Area, impacts on existing utilities and infrastructure would not be expected. No transmission lines would be affected, and although the Proposed Action is somewhat close to rail infrastructure, there would be no impact or right of way infringement. If applicable, existing modern underground utility lines would be located and marked prior to initiating any construction actions.

3.4 GEOLOGY/SOILS

3.4.1 Affected Environment

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography and physiography, geology, soils and, where applicable, geologic hazards and paleontology.

Topography and physiography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features. Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Such information derives from field analysis based on observations of the surface and borings to identify subsurface composition.

The surface topography is predominantly undulating sand hills or ridges, with approximately 100 feet of total elevation range, which is 3830 ft. to 3930 ft. above mean sea level.

The project area is within the Basin and Range geological/physiographic province. This province includes a large portion of the western United States and is characterized by block faulted ranges separated by broad intermontane basins. Modern river valleys are relatively narrow and cut into basin fill or older underlying rock. The dominant modern river in this part of New Mexico is the Rio Grande, which generally crosses the state from north to south roughly through the center of Doña Ana County. Geologically, the corridor predominantly consists of sandy flood deposits. The gently northward sloping terrain appears to represent alluvial fans emanating from higher elevations to the south. However, the vast majority of silt deposition is actually the result of Rio Grande flooding episodes. Trenches and borrow areas observed reveal relatively thick, stratified sand and clay lenses typical of the river flood plain. With the exception of the extreme eastern end of the corridor where parent rock materials of Sierra de Cristo Rey lie exposed, little gravel or rubble occur within the project area.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Soils associated with the site are Bluepoint loamy sand 0 to 5 % slopes, and Bluepoint loamy sand 5 to 15 % slopes (NRCS 2015, Appendix B). The Bluepoint loamy sand is rated by NRCS as, *Not Hydric*, and describes the units as occupying stream terraces. The soil unit is derived from sandy alluvium. The unit is described as somewhat excessively drained and rated as no frequency of flooding or ponding. Other soils of minor percentage associated with the site include Pajarito-Pintura, slopes - 0–5%, and Rock outcrop – Torriorthents, slopes - 15–99%.

Prime farmland is protected under the Farmland Protection Policy Act (FPPA) of 1981. Prime farmland is defined as land that has the best combination of physical and chemical characteristics

and is available for producing food, feed, forage, fiber, and oilseed crops. There are no prime or unique farmlands located within the project area (USDA 1979). No effects on prime farmland would occur as a result of the Proposed Action.

Due to its close proximity to Texas and the El Paso area, seismic hazard information was used from the 2008 Texas Seismic Hazard Map which shows that the seismic hazard for the Texas portion of the U.S./Mexico international border is up to 30 percent along the western boundary with New Mexico, south of El Paso (USGS 2008). This indicates that, during a seismic event, little damage would occur towards the coast, but major damage could occur south of El Paso. Approximately 10 faults have been identified within 30 miles of the Texas portion of the U.S./Mexico international border. Each of the faults has an estimated slip rate of less than 0.2 millimeters per year (mm/year), with the last major ruptures ranging from less than 130,000 years to less than 1.6 million years ago (USGS 2008). Therefore, movement along faults within the action area is unlikely to occur.

3.4.2 Environmental Consequences

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating potential effects of a Proposed Action on geological resources. Generally, adverse effects can be avoided or minimized if proper construction techniques, erosion-control measures, and structural engineering design are incorporated into project development.

Effects on geology and soils would be significant if they would alter the lithology (i.e., the character of a rock formation), stratigraphy (i.e., the layering of sedimentary rocks), and geological structures that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or change the soil composition, structure, or function within the environment.

3.4.2.1 Proposed Action Alternative

No impacts on geology would be anticipated from implementing the Proposed Action. The Proposed Action would be expected to result in short term, minor, adverse effects on soils, primarily from construction disturbance.

Implementing the Proposed Action would be beneficial because it would result in repairs to infrastructure that reduces the potential for erosion and sedimentation, and remove debris from a geological event. Best Management Practices (BMPs) would be implemented to lessen soil erosion and sedimentation. The BMPs for the Proposed Action are included in Appendix B.

3.4.2.2 No Action Alternative

Under the No Action Alternative, tactical infrastructure maintenance and repair activities of the project area would continue and the road would be maintained on an as-needed basis. There would be a potential for short- and long-term, minor, direct and indirect, adverse impacts on soils due to soil disturbance from grading and other ground-disturbing maintenance activities. By completing

maintenance and repair work on an as needed basis, the potential exists for an increased impact on soils from emergency repair activities, such as repair of a road after washout. Therefore, it is possible that greater impacts would occur under the No Action Alternative than the Proposed Action because the potential for erosion and sedimentation would be greater since a proactive approach to maintenance and repair would not occur.

3.5 VEGETATION

Vegetation resources include all terrestrial and aquatic plants that are found within the action area. This section describes the affected environment for native and nonnative vegetation to support discussion of environmental consequences for vegetation.

3.5.1 Affected Environment

The proposed construction site consists of approximately 2.2 acres and is in sparse Chihuahuan desert habitat, specifically in a sand dune-mesquite vegetation community. Characteristic vegetation includes mesquite (*Prosopis glandulosa*), saltbush (*Atriplex canescens*), yucca (*Yucca spp.*), sandsage (*Atrémisia filifolia*), and creosote bush (*Larrea tridentate*). Vegetation density of the project area is low, five to 10 percent, with most of the area being almost void of vegetative cover. Presence of additional species, such as ocotillo (*Fouqueria splendens*), tarbush (*Flurensia cernua*), Texas rainbow cactus (*Echniocereus dayacanthus*), and prickly pear (*Opuntia violacea*), increases with elevation on the ridge slopes. A complete list of vegetation observed on the project site as recently as June 2015 can be found in the Biological Evaluation (CBP 2015a) in the Project Record.

The project area demonstrates major modification and disturbance of the native substrate and vegetation structure. The construction of roads, border fence, erosion control structures, and railroad grades have impacted the project area.

3.5.2 Environmental Consequences

Effects on vegetation resources would be significant if the species or habitats are adversely affected over relatively large areas. Effects would also be considered significant if disturbances cause substantial or permanent reductions in population size or distribution of a species.

The significance of effects on vegetation is based on the following:

- The importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource
- The portion of the resource that would be affected relative to its occurrence in the region
- The sensitivity of the resource to proposed activities
- The duration of ecological ramifications

3.5.2.1 Proposed Action Alternative

This alternative would produce negligible additional impacts to vegetation and should substantially reduce secondary impacts to vegetation from illegal entry within the project area. Mesquite and creosotebush are important in reducing erosion of the dry sandy soil. Stabilized dunes provide important habitat for burrowing animals and other wildlife. Vegetation communities (mesquite and creosotebush) in the area surrounding the proposed project area could be impacted by construction activities. The most important factor for consideration is intensity of use. There would be minimal direct destruction of vegetation with the implementation of the proposed fence replacement.

Under the Proposed Action there would be minor short-term effects to vegetation during replacement of the fence, road widening, and installation of flood control features. A long-term, beneficial impact on vegetation would occur from the reduced potential for erosion and sedimentation. Adverse impacts on vegetation would be minimized through the use of appropriate BMPs as outlined in Appendix B.

3.5.2.2 No Action Alternative

Under the No Action Alternative, short- and long-term, minor to moderate, direct and indirect, adverse effects on vegetation would occur. Under the No Action Alternative, CBP would continue current maintenance and repair activities, and tactical infrastructure would be maintained and repaired on an as-needed basis. It is possible that greater impacts would occur under the No Action Alternative than the Proposed Action, as the potential for habitat disturbances would be greater due to a lack of a proactive approach to maintenance and repair.

3.6 TERRESTRIAL AND AQUATIC WILDLIFE RESOURCES

3.6.1 Affected Environment

This section describes the affected environment of terrestrial and aquatic wildlife resources typical of Chihuahuan desert habitat including wildlife species observed during on-the-ground surveys, or that could be expected to be found within the action area.

3.6.1.1 Wildlife Communities

The affected environment for native and nonnative wildlife, including native birds, migratory birds, mammals, reptiles, and amphibians to support discussion of environmental consequences for wildlife is discussed in the following sections.

3.6.1.1.1 Birds

Bird fauna of the project area is typical of the desert environment and associated habitats. Common species include scaled quail (*Callipepla squamata*), mourning dove (*Zenaida macroura*), ground dove (*Columbina passerine*), roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles actupennis*), pyrrhuloxia (*Cardinalis sinuatus*), cactus wren (*Campylorhynchus brunneicapillus*), crissal thrasher (*Toxostoma crissale*), black-throated sparrow (*Amphispiza bilineata*), horned lark

(*Eremophila alpestris*), western meadowlark (*Sturnella neglectsa*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamasiensis*), and northern harrier (*Circus cyaneus*). The spring migration of birds through the southwestern United States occurs during March through May. Table 3-1 lists birds that were observed on the project area during a survey as recent as June 2015 (CBP 2015a).

3.6.1.1.2 Mammals

Non-game mammals, mostly small rodents, comprise a large basis of the food supply for carnivorous mammals and raptors. Common rodents include spotted ground and rock squirrels (*Spemophilus pilosoma* and *S. veriegatus*), plains and desert pocket mice (*Perognathus flavescens* and *P. penicillatus*), kangaroo rats (*Dipodomys* sp.), and several other species of mice (*Peromyscus* spp.). Blacktail jackrabbits (*Lepus californicus*) are also commonly found near the project site. However, sparse vegetation and generally poor habitat of the project area support few mammals. Table 3-1 lists mammals recently observed on the project area in the June 2015 survey (CBP 2015a).

3.6.1.1.3 Reptiles

Reptiles are the most abundant and diverse group of vertebrate animals in the area surrounding the site of proposed construction. Characteristic lizards include greater earless (*Cophosaurus texanus*), round-tail horned (*Phrynosoma modestum*), whiptails (*Cnemidophorus* spp.), and spiny (*Sceloporus* spp.). Common snakes of the area include whipsnakes (*Masticophis taenatus*), coachwhips (*M. flagellum testaceus*), ratsnakes (*Elaphe* spp.), and rattlesnakes (*Crotalus atrox*, *C. molussus*, and *C. viridis*). No reptiles were observed in the project area during a recent field survey.

Table 3-1. Wildlife Observed in the Action Area.

| Common Name | Scientific Name |
|-------------------------------------|--------------------------------|
| Black-chinned hummingbird | <i>Archilochus alexandri</i> |
| Whiptail spp. | <i>Aspidoscelis</i> spp. |
| Swainson's hawk | <i>Buteo swainsoni</i> |
| Gambel's quail | <i>Callipepla gambelii</i> |
| American vulture | <i>Coragyps atratus</i> |
| Greater roadrunner | <i>Geococcyx californianus</i> |
| Black-tailed jackrabbit | <i>Lepus californicus</i> |
| Grasshopper spp. | <i>Orthopteran</i> spp. |
| Brewer's sparrow | <i>Spizella breweri</i> |
| Western kingbird | <i>Tyrannus verticalis</i> |
| White-winged dove | <i>Zenaida asiatica</i> |
| Mourning dove | <i>Zenaida macroura</i> |
| Observed Wildlife Signs | |
| Fox (tracks) | <i>Vulpes</i> |
| Coyote (tracks) | <i>Canis latrans</i> |
| Rodent (active burrow and tracks) | <i>Rodentia</i> |
| Desert cottontail (tracks and scat) | <i>Sylvilagus audubonii</i> |

3.6.2 Environmental Consequences

The significance threshold for wildlife and aquatic resources includes a substantial reduction in ecological processes or populations that would threaten the long-term viability of a species, or result in the substantial loss of a sensitive habitat that could not be offset or otherwise compensated. Habitat losses can be temporary (e.g. disturbance of brush piles, or noise that disturbs wildlife) or permanent (e.g. permanent loss of habitat).

3.6.2.1 Proposed Action Alternative

The Proposed Action would have temporary minor short-term direct impacts due to general wildlife disturbance from replacement of the fence, road renovation, and flood control structures. There could be short-term temporary loss of habitat due to vegetation clearing and adverse wildlife effects due to noise, but the effects should be short-term in nature, and be negligible. This disturbance is short term and will not persist beyond the construction period. Habitat for all species likely to occur on the site is highly disturbed and provides low function as habitat for native wildlife species. A long term beneficial effect could be expected from the improvements proposed by the Proposed Action by controlling erosion and run-off and providing better conditions for establishment of vegetation and better habitat for general wildlife. Thus, the Proposed Action would not have any adverse impact on wildlife resources. The long-term viability of wildlife species and communities in the area of the Proposed Action would not be impacted.

No additional direct impacts to wildlife resources are expected from the conversion or expansion of the existing fence since both sides of the existing fence are developed. No additional wildlife habitat would be altered. Additionally, wildlife communities would be spared from constant disturbance resulting from continuous illegal foot traffic in these isolated areas. However, the fence replacement could create a barrier to wildlife movement, especially for larger mammals and herpetiles. However, there are no wildlife populations in the project corridor that are sensitive to potentially slight reductions in genetic variability. Therefore, impeding some local wildlife movement in this area is considered a negligible impact.

In addition, prior to project activities that occur during the nesting season (February 1 through September 1), site surveys for migratory bird species' nests, and their avoidance or relocation and other appropriate mitigation measures, as deemed necessary, would be implemented.

3.6.2.2 No Action Alternative

The No Action Alternative would have minor impacts similar to the Proposed Action. Repair of existing roads can be expected to have similar short-term impacts on removal of brush and noise. The long-term effects of the No Action Alternative should have marginally higher impacts than the Proposed Action Alternative given that repairs would be on an as-needed basis and more frequent in occurrence. The nature of repairs scheduled after they are needed rather than in a

planned manner is that damage to the road would likely cause erosion of soils and sedimentation prior to the repair being implemented.

3.7 THREATENED AND ENDANGERED SPECIES

3.7.1 Affected Environment

The following determinations were made for the proposed Anapra Pedestrian Border Fence & Road Renovation project. The determinations take into consideration if any suitable habitat occurs in the project area, with regard to any federally endangered, threatened, and candidate species, and species of concern that may occur in Doña Ana County, New Mexico, according to lists obtained from the U. S. Fish and Wildlife Service (USFWS) and the New Mexico Department of Game and Fish (NMDG&F). Candidate species and species of concern are not protected under the Endangered Species Act, as amended. However, the status of these species is monitored by USFWS. These determinations have been made based on a site visit to the project area and on available information for the species. Additionally, New Mexico rare plants, noxious weeds and migratory birds were taken into consideration during the site visits. As described below, CBP has determined there will no effect to federally endangered, threatened, and candidate species.

This EA contains descriptions, distributions, habitat requirements, and threats for each of the federally listed and candidate endangered species and analyzes the impacts on those species. This chapter details the elemental occurrences of federally endangered species in the action area documented by USFWS, Environmental Conservation Online System. Table 3-2 lists Threatened and Endangered species of particular concern to Doña Ana County.

Table 3-2. Threatened and Endangered Species of Particular Concern to Doña Ana County.

| Group | Name | Population | Status | Lead Office | Recovery Plan Name | Recovery Plan Action Status | Recovery Plan Stage |
|--------|--|------------------|---|---|--------------------------------------|-----------------------------|---------------------|
| Birds | Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) | Western U.S. DPS | Threatened | Sacramento Fish and Wildlife Office | - | - | - |
| | Northern aplomado falcon (<i>Falco femoralis septentrionalis</i>) | U.S.A (AZ, NM) | Experimental Population, Non- Essential | Office of the Regional Director | - | - | - |
| | Least tern (<i>Sterna antillarum</i>) | interior pop. | Endangered | Mississippi Ecological Services Field Office | Least Tern (Interior Pop.) | Implementation Progress | Final |
| | Sprague's pipit (<i>Anthus spragueii</i>) | | Candidate | Assistant Regional Director-Ecological Services | - | - | - |
| Plants | Sneed pincushion cactus (<i>Coryphantha sneedii</i> var. <i>sneedii</i>) | | Endangered | New Mexico Ecological Services Field Office | Sneed/Lee Pincushion Cactus (2 spp.) | Implementation Progress | Final |

Source: USFWS 2015; TPWD 2015a

Note: C = Candidate, E = Endangered, LE = Listed endangered, LE-PDL = Listed endangered-Proposed for delisting, T = Threatened.

3.7.1.1 Yellow-Billed Cuckoo

This species has been listed as Threatened. The Yellow-billed Cuckoo (*Coccyzus americanus*) is a fairly large, long, and slim bird. The bill is almost as long as the head, thick and slightly downcurved. They have a flat head, thin body, and very long tail. Wings appear pointed and swept back in flight (USFWS 2015).

This species was federally listed as threatened on October 3, 2014 (79 Federal Register 59991 60038). Critical habitat has been proposed for this species (79 Federal Register 67154 67155 and 79 Federal Register 71373 71375).

Habitat: The yellow-billed cuckoo, a threatened species, is an obligate riparian nester. They mostly breed in streamside forests, especially areas dominated by white alder (*Alnus rhombifolia*), sycamore (*Plantanus* sp.), bigleaf maple (*Acer macrophyllum*), willow (*Salix* sp.) and cottonwood stands (*Populus* sp.). Other habitat characteristics include moist thickets, overgrown pastures and orchards. This species ranges from California, to Minnesota and southern New Brunswick and southward. The cuckoo winters in South America. The western populations are separated from the eastern populations by the Rocky Mountains in Montana, Wyoming, the northern and central parts of Colorado, and by the eastern crest of the Rio Grande watershed in southern Colorado, New Mexico and western Texas. They are regular migrants and breeders throughout New Mexico where suitable riparian habitat is available, such as along the Rio Grande, Pecos River, Gila River, Mogollon Creek, San Francisco River Valley, Tularosa River, Ute Creek, Canadian River and on the Gray Ranch in Hidalgo County. They feed on caterpillars, grasshoppers, beetles, ants, wasps, frogs, lizards, small fruit and various other insects.

3.7.1.2 Northern Aplomado Falcon

This species has been listed as Endangered and Experimental Population, Non-Essential. The Northern Aplomado Falcon (*Falco femoralis septentrionalis*) is a medium-sized falcon, approximately 14 to 18 inches in length with a wingspan of 31 to 40 inches. Sexes are similar in appearance, but females tend to be larger than males (USFWS 2015).

This species was federally listed as Endangered on February 2, 1986 (51 FR 6686 6690). No critical habitat has been published for this species.

Habitat: Northern aplomado falcons are known to have bred historically in southern New Mexico, Arizona and Texas. They range primarily in Mexico, with the southwestern United States at the northern limit of their range. They inhabit grassland, savanna and other open woodland habitats. In New Mexico, Chihuahuan desert areas with open grassland and scattered mesquite and soap-tree yucca or Torrey yucca are typical habitats. Recent releases of northern aplomado falcons have occurred along the southern border of Texas. As of 2002, only one nest has been observed along the border of Mexico and New Mexico, southeast of Deming, New Mexico. The USFWS has proposed to reintroduce a nonessential experimental population of northern aplomado falcons in New Mexico and Arizona. The proposed nonessential population area covers all of New Mexico and Arizona, with the expectation that falcons would only persist within the Chihuahuan desert, which extends from Mexico into southern Texas, southern New Mexico and southeast Arizona.

According to a U. S. Department of Interior News Release (August 1, 2006) and The Peregrine Fund website, 11 northern aplomado falcons were released in August 2006 at the Armenderis Ranch east of Truth or Consequences, New Mexico. This population is considered to be an experimental, non-essential population.

3.7.1.3 Interior Least Tern

The least Tern has been listed as Endangered. The least tern (*Sterna antillarum*) is a small bird—at 9 inches long, the smallest member of the gull and tern family. Its body is predominately gray and white, with black streaking on the head. Least terns have a forked tail and narrow pointed wings. Those less than one year old have less distinctive black streaking on the head and less of a forked tail (USFWS 2015).

The interior population of the least tern, or interior least tern, was federally listed as endangered May 28, 1985 (50 Federal Register 21784 21792). No critical habitat has been listed for this species.

Habitat: The habitat of the interior least tern typically consists of barren to sparsely vegetated sandbars along rivers, sand and gravel pits, or lake and reservoir shorelines where there is a source of fish which they feed on, according to the USFWS. The range of the interior least tern includes isolated areas along the Mississippi, Missouri, Ohio, Red and Rio Grande river systems. In New Mexico, they have been observed nesting at Brantley Lake and Bitter Lake National Wildlife Refuge. Their winter home is not well known, but probably includes coastal areas of Central and South America, according to reported observations.

Nesting habitat of the interior least tern includes sparse vegetation or bare sand, shell, or gravel beaches. Also suitable are sandbars, islands, and salt flats associated with rivers and reservoirs, so long as they are bare or mostly devoid of vegetation. Nesting locations are often at the higher elevations away from the water's edge, since nesting usually starts when river levels are high. The size of the nesting areas depends on water levels and the extent of associated sandbars and beaches. Terns are very adapted to nesting in disturbed sites, such as building sites, ash disposal areas, and sand and gravel pits (TWPD 2015b). Terns move colony sites annually if necessary to obtain the preferred habitat type, depending on landscape disturbance and vegetation growth at established colonies. Interior least terns need shallow water with an abundance of small fish for feeding. They prefer shallow water areas of lakes, ponds, and rivers located close to nesting areas.

3.7.1.4 Southwestern Willow Flycatcher

This species has been listed as Endangered. The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a small bird, usually less than 6 inches in length including the tail. The wings exhibit a conspicuous light-colored wingbar and had a body that is brownish-olive to gray-green with a yellowish belly (USFWS 2015).

The Southwestern Willow Flycatcher was federally listed as endangered on February 2, 1995 (60 Federal Register 10695 10715). Critical habitat has been listed for this species (78 Federal Register 343 534).

Habitat: The habitat of the endangered southwestern willow flycatcher typically consists of dense riparian habitat along rivers, streams, marshes or other wetlands. Their habitat is within close proximity of water or very saturated soil and is usually dominated by vegetation such as willows, cottonwood, tamarisk and perhaps Russian olive trees. Their breeding range includes southern California, extreme northern Baja California del Norte and Sonora, Arizona, New Mexico, extreme southern portions of Nevada and Utah, extreme southwestern Colorado and western Texas. They occur throughout New Mexico during migration and mainly use riparian woodlands during the breeding season. They feed mainly on insects which they will catch in mid-air and glean off of foliage.

3.7.1.5 Spragues Pipit

This species is candidate for threatened or endangered status. The Spragues Pipit (*Anthus spragueii*) is a medium-sized songbird with a Brown and striped body and a thin bill. It exhibits white outer tail feathers (Cornell Lab of Ornithology, www.allaboutbirds.org).

The Spragues Pipit was first proposed for threatened and endangered species status on November 10, 2010 (75 Federal Register 69222 69294).

Habitat: Sprague's Pipits are terrestrial omnivorous birds found in temperate regions with Savanna or grassland biomes comprised between 4288 and 4964 feet above mean sea level. They can also be found in agricultural dominated landscapes. They breed in the northern prairies of the Great Plains, their northern limit is Saskatchewan, with the western limit near the Rocky Mountains. *Anthus spragueii* can also be found in the Dakotas, western Minnesota, Montana and parts of British Columbia. *Anthus spragueii* winters in Arizona, New Mexico, Texas, Oklahoma, Arkansas, Mississippi, Louisiana and areas in Northern Mexico. It has also been observed in Michigan, western Ontario, Ohio and Massachusetts. They prefer grassland habitats with few shrubs and high visibility. They prefer native grasses like wheatgrass, June grass, blue grama, Canby blue, green needle grass, smooth brome and crested wheat.

3.7.1.6 Sneed's Pincushion Cactus

This species is listed as Endangered. The Sneed's Pincushion Cactus (*Coryphanta sneedii* var. *sneedii*) is a small cactus that grows in mounds. It flowers from April to September.

The Sneed's Pincushion Cactus was listed as endangered on December 17, 1979 (44 Federal Register 64741 64743). No critical habitat has been listed for this species.

Habitat: The Sneed's pincushion cactus grows on limestone ledges and the rocky slopes of mountains in desert and desert grassland habitats. This species is presently known to occur on most of the Franklin Mountains of El Paso County, Texas and Doña Ana County, New Mexico. It also occurs in the southern portion of the Organ Mountains of New Mexico and in the Guadalupe Mountains of Texas and New Mexico. In total, there are 20 documented localities for Sneed Pincushion cactus – nine in the Franklin Mountains, two in the Organ Mountains, and nine in the Guadalupe Mountains.

3.7.1.7 Mexican Spotted Owl

This species has been listed as Threatened. The Mexican Spotted Owl (*Strix occidentalis lucida*) is the smallest of the spotted owls with dark eyes and an ashy-charcoal colored body. There are white and brown spots on its abdomen, back and head. (USFWS 2015).

The Mexican Spotted Owl was listed as Threatened on March 16, 1993 (58 Federal Register 14248 14271). Critical habitat was listed on August 1, 2004 (69 Federal Register 53182 53298).

Habitat: The Mexican spotted owl commonly inhabits old-growth mixed coniferous forests and has been observed in areas with steep slopes and canyons with rocky cliffs. Other habitat characteristics of this species include high canopy closure, high stand density, a multi-layered canopy, uneven-aged stands, numerous snags and downed woody matter. According to the USFWS, Mexican spotted owls nest, roost, forage and disperse in a diverse assemblage of biotic communities. Mixed-conifer forests are commonly used by the owls throughout most of the range which may include Douglas fir and/or white fir, with codominant species including southwestern white pine, limber pine and ponderosa pine. The understory often contains the above coniferous species as well as broadleaved species such as Gambel oak, maples, box elder and/or New Mexico locust. In southern Arizona and Mexico, Madrean pine-oak forests are also commonly used. These forests are typically dominated by an overstory of Chihuahua and Apache pines (and probably other species in Mexico) in conjunction with species such as Douglas fir, ponderosa pine and Arizona cypress. Evergreen oaks are typically prominent in the understory. In the northern part of the range, including southern Utah, southern Colorado and far northern Arizona and New Mexico, owls occur primarily in rocky canyons.

Spotted owls nest and roost primarily in closed-canopy forests or rocky canyons, such as on cliff ledges, in stick nests built by other birds, on debris platforms in trees and in tree cavities. In southern Utah, Colorado and some portions of northern New Mexico, most nests are in caves or on cliff ledges in rocky canyons.

Elsewhere, they also use caves and cliffs, but the majority of nests appear to be in trees. Forests used for roosting and nesting often contain mature or old-growth stands with complex structure, are typically uneven-aged, multi-storied and have high canopy closure. A wider variety of trees are used for roosting, but again Douglas fir is the most commonly used species. The range of this species extends from southern Utah and Colorado, through Arizona, New Mexico and west Texas, to the mountains of central Mexico. They feed on small mammals, such as mice, rats, voles, gophers, and cottontail rabbits.

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action Alternative

The Proposed Action will have no effect on the seven species considered in this EA (Table 3-3).

Table 3-3. Threatened and Endangered Species of Concern for the State of New Mexico and Determination of Effect.

| Species | Listing status | CBP determination |
|--|--|--|
| Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) | Threatened | Based on observations and on available data, the preferred habitat of the yellow-billed cuckoo does not appear to be present within the project area. The effect determination for the yellow-billed cuckoo is “no effect.” |
| Northern aplomado falcon (<i>Falco femoralis septentrionalis</i>) | Experimental Population, Non-Essential | Based on available information and site visits, the project area does not have the preferred habitat of the northern aplomado falcon. No aplomado falcons or nests were observed during the survey. The effect determination for the northern aplomado falcon is “no effect.” |
| Least tern (<i>Sterna antillarum</i>) | Endangered | Based on available information and site visits to the project area, the preferred habitat of the interior least tern does not appear to exist within the project area. The effect determination for the least tern is “no effect.” |
| Sprague's pipit (<i>Anthus spragueii</i>) | Candidate | Based on available information and site visits to the project area, the preferred habitat of the Sprague's Pipits does not appear to exist within the project area. The effect determination for the Sprague's Pipit is “no effect.” |
| Sneed pincushion cactus (<i>Coryphantha sneedii</i> var. <i>sneedii</i>) | Endangered | Based on available data, descriptions of the Sneed pincushion cactus, and observations of the project area, the Sneed pincushion cactus does not occur within the proposed project area. Preferred habitat such as limestone ledges and rocky slopes do not exist in the project area. The effect determination for the Sneed pincushion cactus is “no effect.” |
| Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>) | Endangered | Based on the site visits to the project area, and based on available information, the preferred habitat of the southwestern willow flycatcher does not occur within the project area. Furthermore, there is no designated critical habitat for the flycatcher in or near the project area. The effect determination for the southwestern willow flycatcher is “no effect.” |
| Mexican Spotted Owl (<i>Strix occidentalis lucida</i>) | Endangered | Based on designated critical habitat unit maps available from the USFWS, there is no designated critical habitat for the Mexican spotted owl within or near the project area. In addition, the preferred habitat is not present in the project area. The effect determination for the Mexican spotted owl is “no effect.” |

3.7.2.2 Species of Concern

Although they are not protected by the Endangered Species Act, federal species of concern and New Mexico species of concern (see the Biological Survey Report [CBP 2015a] located in the project record) were also taken into consideration during the site visits. Recent lists of species of concern for Doña Ana County were obtained from USFWS and NMDG&F. Based on field observations and available information on these species of concern, the preferred habitat is not located in the project

area. No species of concern were observed in the project area. The effect determination for species of concern is “no effect.”

3.7.2.3 Rare Plants

During the site evaluation, care was given to look for New Mexico rare plants, according to a list (by county) obtained from the New Mexico Rare Plant Technical Council website. The list for Doña Ana County is provided in the BA (CBP 2015a) in the project record. No listed rare plants were observed in the project area.

3.7.2.4 No Action Alternative

With respect to endangered species, critical habitat, Species of Concern, and Rare Plants, the no action alternative is not substantially different than the Proposed Action. Under the no action alternative there would be no new construction of roads to replace those lost to erosion, but maintenance and repair would continue on the existing road segments. The no action alternative’s activities would take place within and immediately adjacent to the footprint of those existing roads and would not cross any known populations of endangered species or any critical habitat.

3.8 WATER RESOURCES

3.8.1 Affected Environment

3.8.1.1 Hydrology and Groundwater

The New Mexico Water Quality Control Commission (WQCC) regulates water quality statewide and regularly collects water quality data from 18 U.S. Geological Survey sites each year. However, no streams, lakes or monitoring stations are located within the proposed project area.

The Rio Grande Basin supplies most of the useful groundwater for the project area. This aquifer is a basin-fill system that consists of alluvial and terrace deposits. This aquifer is highly vulnerable. Potential groundwater contamination sources for the proposed construction site are concentrations of municipal waste water and industrial waste from non-municipal site sources. Most of the associated contamination is natural and synthetic organic compounds from commercial and industrial sites, petroleum products from service stations, railroad spills, and leaking underground storage tanks.

3.8.1.2 Waters of the United States

A survey was conducted in the project area on June 5, 2015 for the purpose of delineating any potentially jurisdictional Waters of the United States (WoUS), including wetlands, that may be located within the project area.

The proposed project would cross two (2) arroyos that are considered to be potentially jurisdictional WoUS. The two arroyos are ephemeral, with defined banks, sandy channel bottoms, and exhibiting

an ordinary high water mark (OHWM). The anticipated impacts will be less than one-tenth acre (≤ 0.10) in each of the arroyos. No wetland areas were observed within the project area.

Projects that cause the discharge of dredge or fill material into WoUS require Section 404 permitting by the USACE. Linear transportation projects that impact less than one-half acre (≤ 0.50) of WoUS qualify under the Nation Wide Permit (NWP) program. Due to the ephemeral nature of project area arroyos and small acreage of project impacts (≤ 0.10 acre), the project qualifies for the NWP #14 Linear Transportation Projects permit. General and Regional permit conditions for New Mexico will be satisfied in conjunction with the NWP #14 stipulations.

3.8.1.3 Floodplains

The proposed project is not located within the 100-year or 500-year floodplain.

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action Alternative

The Proposed Action is expected to have no adverse impacts to groundwater, water supply, or floodplains. Some local water would be required during the construction phase, and in some instances of maintenance as a dust suppressant. Employment of construction BMPs (listed in Appendix B) such as silt fencing, employment of a Storm Water Pollution Prevention Plan (SWPPP), etc would occur. There would be no long term effects of road construction on WoUS. There would be installations of certain erosion control structures to minimize erosion from and damage to the roads.

Standard construction procedures would be implemented to minimize the potential for erosion and sedimentation during construction. All work would cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. Because the impact area is greater than 1 acre, as part of the National Pollutant Discharge Elimination System permit process, a SWPPP and Notice of Intent will be submitted to the New Mexico Environmental Department prior to the start of construction.

3.8.2.2 No Action Alternative

The No Action Alternative is expected to continue to have some adverse impacts to groundwater, water supply, or floodplains due to sewage contamination that can pool on the project area during heavy storm and run-off events. Some local water would be required during instances of maintenance of those existing roads as a dust suppressant. It is possible that there would be temporary impacts to WoUS during rain events during maintenance and repair of these existing roads due to siltation and runoff. These effects are expected to be minimal due to the employment of construction BMPs (listed in Appendix B) such as silt fencing, employment of a Storm Water Pollution Prevention Plan, etc. There would be no long term effects of road maintenance on WoUS.

3.9 AIR QUALITY

3.9.1 Affected Environment

The State of New Mexico has adopted National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) as the state's air quality criteria. However, New Mexico's standards for sulfur dioxide (SO₂), carbon monoxide (CO), and nitrogen dioxide (NO₂) are stricter than the national standards, and New Mexico has adopted standards for total suspended particulates (TSP) and photochemical oxidants (Table 3-4).

Table 3-4. New Mexico Ambient Air Quality Standards.

| Pollutant | Standard Value |
|-------------------------------------|----------------------------|
| Total Suspended Particulates | |
| 24-hour average | 150 μ g/m ³ |
| 7-day average | 110 μ g/m ³ |
| 30-day average | 90 μ g/m ³ |
| Annual geometric mean | 60 μ g/m ³ |
| Sulfur Dioxide (SO ₂) | |
| 24-hour average | 0.10 ppm |
| Annual arithmetic average | 0.02 ppm |
| Hydrogen Sulfide (HS) | |
| 1-hour average* | 0.10 ppm |
| Total Reduced Sulfur | |
| ½-hour average | 0.003 ppm |
| Carbon Monoxide (CO) | |
| 8-hour average | 8.7 ppm |
| 1-hour average | 13.1 ppm |
| Nitrogen Dioxide (NO ₂) | |
| 24-hour average | 0.10 ppm |
| Annual arithmetic average | 0.05 ppm |

* not to be exceeded more than once per year

μ g/m³ – micrograms per cubic meter

ppm – parts per million

Source: NMED 2002.

Primary standards are established to protect public health while secondary standards provide protection for the public's welfare including wildlife, climate, recreation, transportation, and economic values. Regulations in the Clean Air Act Prevention of Significant Deterioration (PSD) provisions (40 CFR Part 52 - P18 of Air Quality) were enacted in order to maintain or improve existing air quality in all Intrastate Air Quality Control Regions (AQCR) and National Rural and Wilderness Areas by creating various classifications using existing NAAQS pollutants. These classifications relate to the available increment above an established baseline concentration of a pollutant within which some increase will be allowed; Class I is most restrictive. The PSD provisions were designed to ensure that areas with air quality much better than the NAAQS would not be allowed to degrade to standard levels but would be allowed some limited degradation to accommodate development within an area.

Class I areas are areas where visibility is important as designated under the Clean Air Act Amendments (CAAA) of 1977 (40 CFR Part 81, Subpart D) by the Administrator of U.S. Environmental Protection Agency (USEPA), in consultation with the Secretary of the Interior. Emphasis in Federal and state air quality management and planning is placed on protecting these areas from air quality degradation. There are no mandatory Federal Class I areas within Doña Ana County.

Doña Ana County, New Mexico is considered part of the Paso del Norte air shed, which includes El Paso County, Texas, and Ciudad Juarez, Mexico. This region of the state has historically had air quality problems, including particulate matter and ozone pollution.

There is presently one nonattainment area within Doña Ana County. In Anthony, NM, which lies on the border of Texas and New Mexico, there is a particulate matter 10 microns or less in size (PM10) nonattainment area. This area was designated nonattainment for PM10 by the U.S. Environmental Protection Agency (EPA) in 1991.

In 1995, the EPA declared a 42 square-mile region in the southeast corner of the county on the border of Texas and Mexico as a marginal nonattainment area for the 1 – hour ozone standard. The nonattainment area included the City of Sunland Park, Santa Teresa, and La Union, New Mexico. The 1 – hour ozone standard was revoked by EPA in 2004 with the adoption of the new 8 – hour ozone standard. Due to the revocation of the 1 – hour ozone standard, Sunland Park was re-designated to maintenance for the new 8 – hour ozone standard.

In March of 2008, the federal government lowered the NAAQS for ozone from 0.08 parts per million (ppm) to 0.075 (ppm). Due to the lowering of the federal standard, Governor Richardson recommended that Sunland Park, NM (including the communities of Santa Teresa and La Union) be designated as nonattainment of the new 8 – hour ozone standard. However, the EPA has never acted on that recommendation due to their reconsideration of the 0.075 standard. No areas of Doña Ana County are currently nonattainment for ozone.

Monitoring sites are near the project as part of New Mexico's Environmental Divisions, Air Quality Bureau, "O3 Network." The network consists of 16 O3 monitoring stations statewide, and includes stations at nearby Sunland Park (35-013-0017) and Santa Teresa (35-013-0022).

There are a number of anthropogenic sources of air contaminants that affect air quality of the proposed construction site. These include industrial emissions, mobile emissions, area emissions, dust resulting from wind erosion of agriculturally disturbed lands, and pollutants transported into the construction area on winds blowing from major urban/industrial areas.

Pollutants from nearby El Paso and Juarez can have an additional impact on the air quality of the project area. Many residences in Juarez burn non-conventional fuels such as wood scraps, cardboard, and tires to provide warmth in winter. Estimates of area source pollutants for El Paso-Juarez alone, near 400,000 tons per year, range much higher than others found throughout New Mexico and Texas. Therefore, air quality conditions at the project area, although acceptable, are heavily deteriorated.

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action Alternative

Under all proposed alternatives, there would be adverse short-term impacts to local air quality due to emissions from the construction equipment required for the project. The movement of earth could also create fugitive dust during construction. The vehicle emissions and construction dust impacts would contribute minor unmeasurable amounts of particulates to existing levels for the short duration of construction activity. BMPs would be followed to minimize these impacts by requiring constant dust control, as specified in Appendix B.

In the long run (after construction is complete), the renovated roads result in lower levels of fugitive dust in areas that are currently serviced by dirt roads due to improved road quality.

3.9.2.2 No Action Alternative

Under the No Action Alternative, there would be no impact on air quality due to construction activities. However, in some sections of the project area, the current dirt roads would remain in use and continue to generate fugitive dust that could adversely impact particulate levels in the local area to a greater degree than the renovated roads under the Proposed Action.

3.10 NOISE

3.10.1 Affected Environment

Sound is defined as a particular auditory effect produced by a given source. Noise is defined as any sound that is undesirable because it interferes with communication, is strong enough to damage hearing, or is otherwise bothersome. Noise can be sporadic or continuous, steady or spontaneous, and can include any number of sources and frequencies. Noise can be readily distinguishable or generally nondescript. Human response to increased sound levels varies according to the source type, features of the sound source, distance between source and receptor, receptor sensitivity, and time of day. Affected receptors are specific (e.g., churches, schools, or hospitals) or broad areas (e.g., nature preserves or designated Districts) in which occasional or insistent sensitivity to noise is above ambient levels.

3.10.1.1 Noise Metrics and Regulations

Although human response to noise varies, measurements can be calculated with instruments that record instantaneous sound levels in decibels. A-weighted decibel (dBA) is used to characterize sound levels that can be sensed by the human ear. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 135 dBA. A whisper is normally 30 dBA and considered to be very quiet, while an air conditioning unit 20 feet away is considered an unpleasant noise at 60 dBA. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud.

3.10.1.2 Construction Sound Levels

Maintenance and repair work can cause an increase in sound that is well above the ambient level. A variety of sounds are emitted from loaders, trucks, saws, and other work equipment. Table 3-5 lists noise levels associated with common types of construction equipment.

Table 3-5. Equipment Predicted Noise Level.

| Equipment | at 50 feet (dBA) |
|-------------------|------------------|
| Bulldozer | 80 |
| Grader | 80–93 |
| Truck | 83–94 |
| Roller | 73–75 |
| Backhoe | 72–93 |
| Jackhammer | 81–98 |
| Concrete Mixer | 74–88 |
| Welding Generator | 71–82 |
| Paver | 86–88 |

3.10.2 Environmental Consequences

Noise impacts are based on the potential changes to the existing noise environment that would result from implementation of a Proposed Action. Potential changes in the acoustical environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels or reduce the ambient sound level), negligible (i.e., if the total number of sensitive receptors exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased sound exposure to unacceptable noise levels or ultimately increase the ambient sound level). Projected noise effects were evaluated for the alternatives considered.

3.10.2.1 Proposed Action Alternative

Short-term, periodic, negligible to minor, adverse effects on the ambient noise environment would occur. The specific noise levels and effects would vary depending on the location, type, and quantity of maintenance or repair being performed, and the distance from the source of the noise to sensitive populations. Maintenance and repair activities usually involve the use of more than one piece of equipment simultaneously (e.g., paver and haul truck). It is likely that the few pieces of construction apparatus active at any given construction repair or maintenance period would be indiscernible from ambient noise from the adjacent railroad. BMPs are listed in Appendix B to deal with noise and include dawn to dusk scheduling of activities to avoid excessive noise.

Noise-sensitive receptors in remote areas could be more sensitive to noise disturbances than those in urban environments; however, the noise from equipment used for maintenance and repair activities would be localized, short-term, and intermittent during machinery operations and would also be likely to be indistinguishable from the existing ambient noise provided by the railroad.

3.10.2.2 No Action Alternative

Impacts on noise from the No Action Alternative would be similar to those described for the Proposed Action. However, it can be reasonably anticipated that the maintenance and repair activities could occur more frequently without the ability to repair the roads to an all-weather status. There would be no period of construction of new replacement road sections. However, short-term impacts on noise from implementing the No Action Alternative could be greater than the Proposed Action because it is possible that the reactive activities would occur on a larger scale.

3.11 CULTURAL RESOURCES

3.11.1 Affected Environment

The term “cultural resources” refers to a broad range of properties relating to history, prehistory or places important in traditional religious practices. While not formally in NEPA, or other heritage related laws and Executive Orders, several Federal laws and EOs, including the NHPA, the Archeological and Historic Preservation Act (ARHA), the American Indian Religious Freedom Act (AIRFA), the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act (NAGPRA) refer to cultural resources. The NHPA focuses on property types such as prehistoric and historic sites, buildings and structures, districts, and other places that have physical evidence of human activity considered important to a culture or a community for scientific, traditional, religious, or other reasons. These resources can prove useful in understanding and describing the cultural practices of past peoples or retain cultural and religious significance to modern groups. Resources judged significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP). The NRHP refers to these places as “historic properties” and are protected under the NHPA.

The NHPA requires federal agencies to take into account the effects of their activities and programs on NRHP-eligible properties. Regulations for Protection of Historic Properties (36 CFR Part 800) present a process for federal agencies to consult with the appropriate State Historic Preservation Office (SHPO), Native American groups, other interested parties, and when appropriate, the Advisory Council on Historic Preservation (ACHP). This is to ensure that the impacts from the undertaking are adequately considered on historic properties.

NAGPRA is a Federal law passed in 1990 and provides a process for museums and Federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations.

CBP completed a Phase I archaeological field survey and an evaluation of 14.4 acres along the U.S.-Mexico International Border south of Sunland Park, Doña Ana County, New Mexico (CBP 2015c). The project area includes a 2.4 acre staging area and 12 acres along the border. The fieldwork for this project was designed to address Department of Homeland Security Directive (D) 023-01 and CBP requirements that ensure CBP compliance with Section 106 of the National Historic Preservation Act and guidelines established by the State of New Mexico’s Historic Preservation Division (HPD). Inspection of the project area included examination of documented

records, the ground surface, and nearby cultural sites that are either listed in, or eligible for inclusion in the National Register.

The records check revealed that no previously recorded cultural resources were located within the archaeological Area of Potential Effect (APE). Further, no newly identified cultural resources were located within the archaeological APE during the survey. In addition to the potential direct impacts for the proposed undertaking, CBP assessed potential indirect effects within the one-half mile visual APE. No NRHP listed historic properties are located within one-half mile of the project area; the eligibility status of one NRHP eligible site and the additional unevaluated archaeological sites will not be affected by any visual impacts. The archaeological survey resulted in the recommendation of no historic properties affected for both the archaeological APE and the visual APE.

No significant cultural resources or isolated occurrences were discovered during survey (see Figure 3-1). Disturbance to the project area is extensive.

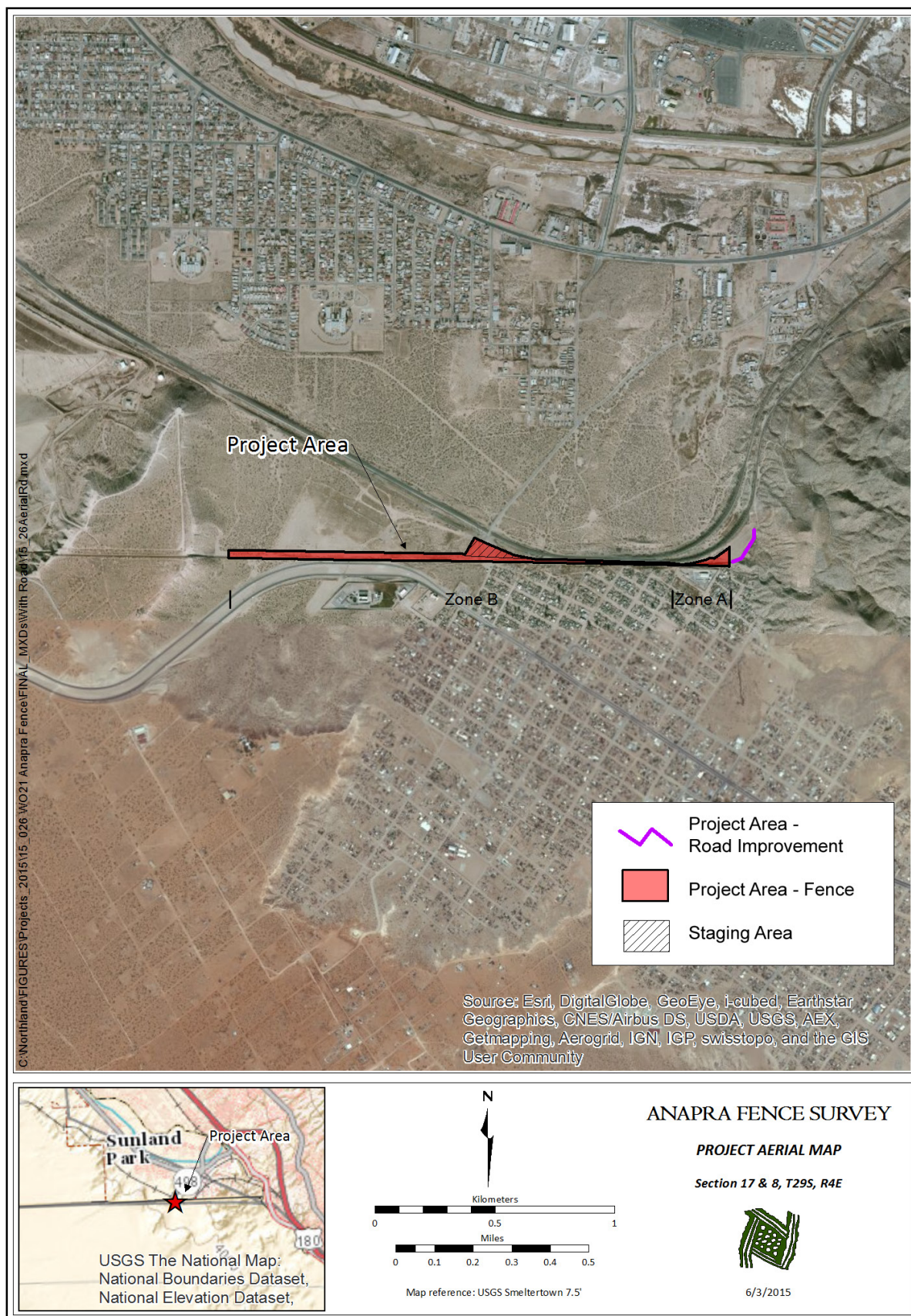


Figure 3.1 – Anapra Fence and Roads Cultural Resource Surveys.

3.11.2 Environmental Consequences

Cultural resources can be impacted in a variety of ways. Subsurface resources can be damaged by construction activities such as trenching and excavation. Surface resources can be impacted visually and physically. The Proposed Action involves replacement of the existing legacy fence with bollard style pedestrian fence and renovation of associated access roads.

3.11.2.1 Proposed Action Alternative

There were no significant cultural resources or isolated occurrences located on the project site, so there will be no direct or indirect effects to any known cultural resources.

It is important to note that if previously unidentified cultural resources are encountered during the proposed fence and road improvements, all ground disturbing activities in the vicinity of the discovery would stop and the area secured. CBP personnel would report such discoveries to EED within 24 hours and wait for instructions from EED. If the discovery includes human remains the New Mexico State Police would be contacted immediately. If the remains are determined to be historic or prehistoric the New Mexico Historic Preservation Division would also be notified per the Native American Graves Protection and Repatriation Act (NAGPRA), and the New Mexico Cultural Properties Act, Section 18-6-11 NMSA, 1978, as amended, and appropriate tribal organizations must be consulted.

3.11.2.2 No Action Alternative

The No Action Alternative would not result in any direct effects to cultural resources. However, as illegal traffic and the consequent enforcement actions continue, indirect effects to known and undiscovered sites could be incurred.

3.12 ROADWAYS AND TRAFFIC

3.12.1 Affected Environment

Access to the project will be through existing roads and access routes. This access is primarily used by the USBP to limit illegal border intrusion and very little public traffic is present.

3.12.2 Environmental Consequences

Impacts on transportation are evaluated by how well existing roadways can accommodate changes in traffic. Adverse effects would occur if drivers experience high delays because the Proposed Action altered traffic patterns beyond existing lane capacity or resulted in the closures or detours of roadways.

3.12.2.1 Proposed Action Alternative

Short-term, negligible to minor, adverse effects on transportation could be experienced from the Proposed Action due to short-term, local, minor increases in traffic from the vehicles of workers

conducting maintenance and repair activities or delivery of equipment or supplies. Long-term, minor to moderate, beneficial effects on transportation would be expected by improving the conditions of the access roads. Due to the limited number of vehicles anticipated to be needed for the proposed maintenance and repair activities, impacts on traffic volume would be negligible to minor.

Improvements to the quality of roads used by USBP would allow for faster, safer, and more efficient responses by USBP to threats. Better quality roads would lessen the wear and tear on USBP vehicles and minimize the potential for blown tires, damaged vehicle components, and stuck vehicles. Improvements to these roadways would not increase the amount of long-term traffic because patrols by USBP would not increase in frequency, and most of the roads proposed for repair and maintenance are not used by the public.

3.12.2.2 No Action Alternative

The roadways proposed by CBP for maintenance and repair under the No Action Alternative would continue to be repaired on an as-needed basis. As such, most roadway repairs would be reactive to immediate issues affecting these roadways and would not address the long-term preventative maintenance requirements. Repairs performed on an as-needed basis would not be considered sustainable in quality because they would result in gradual degradation of these roadways. The No Action Alternative would result in slightly greater impacts on roadways and traffic than the Proposed Action. The No Action Alternative could entail slightly larger and longer disruptions in the flow of traffic due to reactionary maintenance and repair activities that potentially require greater attention than those associated with a preventative maintenance plan. Conversely, the periodic maintenance and repair activities as discussed under the Proposed Action would result in more occurrences of minor roadwork and fewer occurrences of major roadwork, which would be anticipated to result in a shorter disruption to the flow of traffic.

3.13 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Hazardous materials are defined by 49 CFR 171.8 as “hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions” in 49 CFR Part 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR Parts 105–180.

All generators of hazardous oil and gas waste must employ reasonable and appropriate measures (considering the nature and location of the facility and the types and quantities of hazardous oil and gas waste maintained at the site) in the operation and maintenance of the generation site to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous oil and gas wastes or hazardous oil and gas waste constituents to air, soil, or surface water that could threaten human health or the environment. Evaluation of hazardous materials and wastes focuses on the storage, transport, handling, and use of pesticides, herbicides, petroleum products, fuels, solvents, and other hazardous substances. Evaluation also extends to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site. In addition to being a threat to humans, the improper release of hazardous materials

and wastes can threaten the health and well-being of wildlife species, botanical habitats, soil systems, and water resources. In the event of release of hazardous materials or wastes, the extent of contamination varies based on the type of soil, topography, and water resources.

3.13.1 Affected Environment

The management of hazardous substances, petroleum products, hazardous and petroleum wastes, pesticides, solid waste, ACMs, LBP, and PCBs are regulated by Federal and state agencies.

Each state has its own regulatory agency and associated regulations. The state agencies either adopt the Federal regulations or have their own regulations that are more restrictive than the Federal regulations. Likewise, the Federal government and state agencies also have regulations for the handling, disposal, and remediation of special hazards; however, the nature and age of the tactical infrastructure is such that the handling or disposal of these materials is unlikely for the activities associated with the Proposed Action.

The New Mexico Environment Department is the lead agency for the management and notification of spills in the state. USBP or its contractors will store, transport, handle, use, generate, and dispose of various types and quantities of hazardous substances, petroleum products, and hazardous and petroleum wastes during implementation of the Proposed Action. These materials are used for or generated directly from the construction activities, and the operation of the equipment necessary for constructing the road and fence. The primary hazardous substances and petroleum products likely include materials such as lead-acid batteries, motor oil, antifreeze, paint and paint thinners, cleaners, hydraulic oils, lubricants, and liquid fuels (diesel and gasoline). The hazardous substances, petroleum products, and hazardous and petroleum wastes are stored at various USBP or contractor maintenance shops and managed in accordance with each group's respective hazardous materials standard operating procedures (SOPs). The hazardous and petroleum wastes are recycled or disposed of offsite in accordance with Federal, state, and local regulations.

3.13.2 Environmental Consequences

Impacts on hazardous materials management would be considered significant if a Proposed Action resulted in worker, resident, or visitor exposure to these materials above established limits. Impacts on hazardous materials management would be considered significant if the Federal action resulted in noncompliance with applicable Federal and respective state regulations, or increased the amounts generated or procured beyond current CBP hazardous materials management procedures and capacities. An effect on solid waste management would be significant if the Proposed Action exceeded existing capacity or resulted in a long-term interruption of waste management, a violation of a permit condition, or a violation of an approved plan for that utility.

3.13.2.1 Proposed Action Alternative

Only the standard oil, lubricants, fuels, and possibly soil binding materials would be used on or at the project. No adverse impacts due to hazardous substances, petroleum products, hazardous and petroleum wastes, and pesticides would be expected from implementation of the Proposed Action because BMPs will be employed for quick and immediate clean-up of any accidental spills. Any

spill materials accumulated at the site will be disposed of using standard qualified hazardous waste materials disposal services. No impacts due to paints, ACMs, LBP, or PCBs would be expected from implementation of the Proposed Action as the tactical infrastructure is not anticipated to contain paints, ACMs, LBP, or PCBs. No impacts on solid waste management would be expected from the implementation of the Proposed Action. The volumes of solid waste produced during the implementation of the Proposed Action would be minimal and are not anticipated to increase.

3.13.2.2 No Action Alternative

The No Action Alternative is reactive in nature and could eventually result in greater deterioration of tactical infrastructure over time due to lack of preventative maintenance, which could result in more frequent maintenance and repair of tactical infrastructure. This could create greater volumes of solid waste. No impacts due to hazardous substances, petroleum products, hazardous and petroleum wastes, or pesticides would be expected from the implementation of the No Action Alternative. The No Action Alternative would result in the continuation of the existing storage, transport, handling, use, generation, and disposal of hazardous substances, petroleum products, hazardous and petroleum wastes, and pesticides as previously described. The tactical infrastructure would continue to be maintained and repaired on an as-needed basis. There would be no new chemicals or toxic substances used or stored. The No Action Alternative does not guarantee that all BMPs would be implemented during emergency repair activities. Therefore, the No Action Alternative would result in greater impacts associated with hazardous materials and wastes than the Proposed Action.

Chapter 4

CUMULATIVE EFFECTS

Cumulative impacts can result from individually minor but collectively significant past, present, and foreseeable future actions. This section of the EA addresses the potential cumulative impacts associated with the implementation of the alternatives and other projects/programs that are planned for the area.

For the purposes of this EA the Area of Potential Effect (APE) is shown in Figure 1-1. The APE for this Proposed Action is localized near the border with Mexico, Doña Ana County, Texas.

The APE for Cumulative Impacts relative to the Proposed Action is a one-mile radius around the project area.

4.1 PAST, PRESENT, AND FUTURE ACTIONS NEAR THE ANAPRA FENCE REPLACEMENT PROJECT

Past and present actions are those CBP maintenance and repair actions that occurred within the geographic scope of cumulative effects prior to the development of this EA. Present actions consist of the current ad hoc, as-needed approach to the maintenance and repair of existing tactical infrastructure and future actions would consist of the maintenance and repair of all current tactical infrastructure.

Recent, ongoing, and reasonably foreseeable proposed projects would result in cumulative impacts. In particular, within the next 15 years, CBP would expect to implement the 0.2 miles of fence and road construction described as Zone C under Alternatives Considered but Eliminated from Further Analysis, in Section 2.3 of this EA, when funding becomes available. Another project that is imminent and that could begin within the next year is the TIMR project, or Tactical Infrastructure Maintenance and Repair Project (CBP 2015 *Environmental Assessment Addressing Proposed Tactical Infrastructure Maintenance and Repair Along the U.S./Mexico International Border in New Mexico*). This is a project to maintain and repair existing tactical infrastructure along the U.S./Mexico international border in New Mexico. Activities associated with this project could be considered cumulatively for those activities that occur within the USBP El Paso sector.

CBP activities have had many positive cumulative impacts. For example, construction and maintenance activities resulting in reductions in cross border violations such as illegal drug smuggling have had cumulative positive impacts on socioeconomic resources within the border area. INS (now CBP) activities completed from 1994 to 1999 have provided information on over 100 new cultural resources sites potentially eligible for NRHP listing.

4.2 CUMULATIVE IMPACTS ANALYSIS

This EA evaluates cumulative impacts due to the Proposed Action Alternatives and the No Action Alternative. In addition to the past, present and future maintenance activities that are routinely performed by CBP, the two future projects identified above have been evaluated for added effects

to resources that could potentially result in cumulative impacts. If there are no direct or indirect effects to a resource by the Proposed Action or No Action, then there will be no effect that would be additive cumulatively and thus, these resources are not evaluated further in this cumulative impact analysis. Only those resources known to have the potential for a cumulative effect from an applicable past present or future project has been included in this summary

4.2.1 Geology/Soils

The potential for effects on geology and soils is limited to areas where ground disturbance would occur within project. Consequently, the maintenance and repair of past, present, and foreseeable future construction activity would be expected to result in short-term, minor, adverse effects that are localized to the areas where ground disturbance has occurred. Long-term, beneficial effects would be expected from stabilization of roadways and drainage structures throughout the action area. In the event that multiple maintenance and repair activities or any ground-disturbing activities were occurring simultaneously and in proximity, minor, short-term and negligible long-term, adverse, cumulative effects could occur.

4.2.2 Vegetation

Vegetation Control and clearing for road construction and maintenance of the road corridor of plant communities (as identified in the Proposed Action and No Action Alternatives and other proposed projects in the area), would not have an adverse cumulative impact on vegetation, due to the vast amount of similar habitat contained within and surrounding the project area and the juxtaposition of the project area with other disturbed and developed areas. The future project to add 0.2 miles of additional fence replacement and access road enhancements would add that amount of additional disturbance to vegetation. The amount of cumulative effect would depend on how long after the Proposed Action is completed, that the additional disturbance would occur as the direct and indirect effects of the Proposed Action are short term and minor to moderate. Even if this action occurs in the near future this amount of cumulated effect on vegetation would still be considered minor when the vegetation type for the area in is considered as a whole.

4.2.3 Terrestrial and Aquatic Wildlife

As a result of past and planned projects within the El Paso Sector, cumulative short-term impacts due to fragmentation of habitat would be considered minor. Due to the vast amount of similar non-native habitat contained within and surrounding the project area, the juxtaposition of the project area with other disturbed and developed areas, the long-term viability of wildlife species and communities in the project region would not be threatened. In addition, prior to project activities occurring during nesting season (February 1 through September 1), site surveys for migratory bird species' nests, and their avoidance or relocation, and other appropriate mitigation measures, as deemed necessary, would be implemented. Thus, when combined with other ground-disturbing or development projects in the project region, the Proposed Action Alternative would not have a cumulative adverse impact on the region's biological resources. The future project to add 0.2 miles of fence replacement and enhanced road access would not add substantially to the minor direct and indirect impacts on wildlife from the Proposed Action.

4.2.4 Threatened, Endangered, and Candidate Species

This section describes the cumulative impacts of the Proposed Action and other actions in the area on federally threatened, endangered, and candidate species. CBP developed species-specific BMPs to avoid or minimize direct and indirect impacts on these species. Appendix B lists the BMPs that CBP would implement to protect the environment and non-listed species, and those that comply with other regulations, such as the Migratory Bird Treaty Act (MBTA).

As documented in the following analyses, direct and indirect effects on threatened, endangered, and candidate species would be avoided and there would be no effect from the Proposed Action or the No Action Alternatives. Because there is no contribution of the Proposed Action to the cumulative effects on threatened and endangered species, cumulative effects are described here for all species and not discussed further for each individual species or group of species. The future project to do 0.2 miles of fence replacement and access road enhancement would use the same protections as those listed for the Proposed Action and therefore, would not substantially be additive enough to change the finding of no effect on Threatened and Endangered Species.

Project activities that would result in a very small incremental increase in human activities within the action area are short term and do not affect any current habitat. Project activities would occur within and immediately adjacent to disturbed areas and would result in no additional habitat degradation, loss, or fragmentation. BMPs would be implemented to avoid impacts on listed species.

4.2.5 Air Quality

Impacts on air quality would be considered significant if the action results in a violation of air quality standards, obstructs implementation of an air quality plan, or exposes sensitive receptors to substantial pollutant concentrations. The emissions generated during and after the road construction, repair or maintenance would be short-term and minor. Within the Sunland area, no violation of air quality standards, obstruction of air quality plans, or exposure of sensitive receptors would occur. The future project to replace 0.2 miles of fence and access road enhancement would not be additive to effects from the Proposed Action because direct and indirect effects from the Proposed action are short term and would not be present to be additive at the time of the future project.

4.2.6 Noise

Actions would be considered to cause significant impacts if they permanently increase ambient noise levels over 65 dBA. Most of the noise generated by the Proposed Action Alternative would occur during construction and repair activities, would be short-term, and thus, would not contribute to cumulative impacts on ambient noise levels. Routine maintenance of the road surface and corridor would result in slight short-term and sporadic increases in noise levels that would continue to occur over the long-term. Potential sources of noise from other projects in combination with routine maintenance are not enough (temporally or spatially) to increase ambient noise levels above the 65 dBA range. The future project to replace 0.2 miles of fence and enhanced

access road would cause similar negligible short term effects as the Proposed Action, but there would be no cumulative impact because the effects will occur at different times. Thus, the noise generated by the Proposed Action's activities when considered with other existing and proposed projects in the area would not have a cumulative adverse impact.

4.2.7 Cultural Resources

Construction activities can have an adverse effect on cultural resources. Ground-disturbing activities such as blading, bulldozing and excavation can damage surface and subsurface properties. Similarly an undertaking can introduce elements that can destroy, damage or alter historically important elements of the built environment. Ground-disturbing activities related to the proposed undertaking are the most relevant potential impact to significant cultural resources. CBP undertook a cultural resources survey and prepared a detailed document prior to construction (CBP 2015c). No cultural resources were identified as part of that survey and as such this undertaking has no potential to impact historic properties.

The APE for Cumulative Impacts relative to the Proposed Action is a one-mile radius around the project area. This is a standard that is used and accepted by the Secretary of the Interior. There are no recorded cultural resources within this area. The future project to replace 0.2 miles of fence and enhanced access road was surveyed at the same time as the Proposed Action and no sites were found. The activities related to the Proposed Action when added with the future project would have no cumulative effect on cultural resources.

4.2.8 Roadways and Traffic

The potential for delays and disruption of traffic would not occur, as the Proposed Action area is not within a publically travelled area. Equipment for the Proposed Action and other projects in the area would be stockpiled at a temporary staging area, also located within the area of the Proposed Action. Therefore, cumulative impacts on traffic would be minor on the local and regional level, and roadways and traffic would return to normal conditions construction and repair actions. There would be no additive effect from the future project to do an additional 0.2 miles of fence replacement and access road enhancements as the short term minor effects from the Proposed Action will be over and the projects occur at different times.

5. REFERENCES

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Notification Letters

8. DISTRIBUTION LIST

Federal Agencies

International Boundary and Water Commission
U.S. Environmental Protection Agency Region 8
USACE, Albuquerque District
USFWS

State Agencies

New Mexico Historic Preservation Division, Department of Cultural Affairs
New Mexico Energy, Minerals, and Natural Resources Department
New Mexico Department of Game and Fish
New Mexico Environment Department
Doña Ana County

Local Entities

Sunland Park Community Library
El Paso Main Library

Tribal Entities

Jicarilla Apache Nation
Fort Sill Apache Tribe of Oklahoma
Apache Tribe of Oklahoma
Ysleta del Sur Pueblo

APPENDIX A

RELEVANT POLICY DOCUMENTS, INVOKING ACTIONS, REGULATORY REQUIREMENTS, AND STATUS OF COMPLIANCE

The National Environmental Policy Act of 1969 (NEPA) is a Federal statute requiring the identification and analysis of potential environmental impacts of proposed Federal actions before those actions are taken. The Council on Environmental Quality (CEQ) is the principal Federal agency responsible for the administration of NEPA. CEQ regulations mandate that all Federal agencies use a systematic, interdisciplinary approach to environmental planning and the evaluation of actions that might affect the environment. This process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions.

Within DHS and CBP, NEPA is implemented using DHS Directive 023-01 *Environmental Planning Program* and CBP policies and procedures.

Table A-1 summarizes relevant policy documents, invoking actions, regulatory requirements, and compliance status.

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Table A-1. Relevant Policy Documents, Invoking Actions, Regulatory Requirements, and Status of Compliance

| Policy Document | Administrative Authority | Invoking Action | Requirements for Compliance | Status of Compliance |
|---|--|--|---|--|
| Archaeological Resources Protection Act of 1979 16 USC 470 et seq. | Department of Interior | Excavation, removal, damage, or other alteration or defacing; or attempt to excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands. 43 <i>Code of Federal Regulations</i> (CFR) 7.4 | Because activities are exclusively for purposes other than the excavation and/or removal of archaeological resources, even though those activities might incidentally result in the disturbance of archaeological resources, no permit shall be required. | To be addressed in the EA |
| Clean Air Act of 1963 16 USC § 470 et seq. | Environmental Protection Agency (EPA) | Any CBP action where the total of direct and indirect emissions in a non-attainment area would equal or exceed the provided rates. 40 CFR 51 | Project emission levels were determined to be less than <i>de minimis</i> thresholds; therefore, a determination of conformity with applicable implementation plan is not required. | To be addressed in the EA |
| Endangered Species Act of 1973 16 USC § 1531 et seq. | USFWS | All actions in which there is discretionary CBP involvement or control. 50 CFR 402.03 | Determination of effect on listed species and no destruction or adverse modification of critical habitat through consultation with the USFWS. | To be addressed in the EA |
| Farmland Protection Policy Act of 1981 7 USC § 9601 et seq. | Natural Resource Conservation Service | Any CBP action. 7 CFR 658 | Identify and take into account potential adverse effects on the protection of farmland. | To be addressed in the EA |
| Migratory Bird Treaty Act of 1918 16 USC § 703 | USFWS | Any CBP action resulting in the potential take of any migratory bird, or the parts, nests, or eggs of such bird. 50 CFR 21.11 | Avoidance of take or application for permit. | Proposed surveys prior to any construction beginning during nesting season |
| National Historic Preservation Act of 1966 16 USC § 470 et seq. | Advisory Council on Historic Preservation | Any undertaking by CBP. 36 CFR 800.3 | Assessment of effects through consultation with the State Historic Preservation Office. | To be addressed in the EA |
| Occupational Health and Safety Act of 1970 29 USC § 651 et seq. | Occupational Safety and Health Administration, Department of Labor | Employees performing in a workplace. 29 CFR 1910.5(a) | Adherence to occupational health and safety standards. | To be completed by Facilities Management & Engineering during design and operation |

Table A-1. Relevant Policy Documents, Invoking Actions, Regulatory Requirements, and Status of Compliance

| Policy Document | Administrative Authority | Invoking Action | Requirements for Compliance | Status of Compliance |
|---|--|--|---|-----------------------------|
| Executive Order (EO) 11988: Floodplain Management 42 Federal Register (FR) 26,951 (May 24, 1997) | Water Resources Council, Federal Emergency Management Agency, Council on Environmental Quality | Acquisition and management of Federal lands; Federally undertaken, financed, or assisted construction; conducting Federal activities affecting land use. | Determine whether the Proposed Action would occur in a floodplain, then evaluate potential effects of any action in a floodplain. | To be addressed in the EA |
| EO 11990: Protection of Wetlands 42 FR 26,691 (May 24, 1977) | U.S. Army Corps of Engineers, EPA | Acquisition and management of Federal lands; Federally undertaken, financed, or assisted construction; conducting Federal activities affecting land use. | Take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. | To be addressed in the EA |
| EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations 59 FR 7629 (February 11, 1994) | EPA | All programs or activities receiving Federal financial assistance that affect human health or the environment. | Analyze the environmental effects, including human health, economic, and social effects of CBP actions, including effects on minority communities and low-income communities. | To be addressed in the EA |
| EO 13045: Protection of Children from Environmental Health Risks and Safety Risks 62 FR 19883 (April 23, 1997) | EPA | Any CBP action. | Identify and assess environmental health risks and safety risks that may disproportionately affect children. | To be addressed in the EA |

APPENDIX B

BEST MANAGEMENT PRACTICES

The following best management practices (BMPs) will be implemented for all project activities.

GEOLOGY AND SOIL RESOURCES

1. Silt fencing and floating silt curtains should be installed and maintained to prevent movement of soil and sediment and to minimize turbidity increases in water.
2. Implement routine road maintenance practices to avoid making windrows with the soils once grading activities are complete and use any excess soils on site to raise and shape the road surface.
3. Only apply soil-binding agents during the late summer/early fall months to avoid impacts on federally listed species. Do not apply soil-binding agents in or near (within 100 feet) surface waters (e.g., wetlands, perennial streams, intermittent streams, washes). Only apply soil-binding agents to areas that lack any vegetation.
4. Obtain materials such as gravel, topsoil, or fill from sources that are compatible with the project area and are from legally permitted sites. Do not use materials from undisturbed areas adjacent to the project area.

VEGETATION

1. Herbicide and pesticide applications must be made under the supervision of a licensed applicator. A log of the chemical used, amount used, and specific location must be maintained.
2. If mechanical methods are used to remove invasive plants, the entire plant should be removed and placed in a disposal area. If herbicides are used, the plants will be left in place. All chemical applications on federally managed land must be used in coordination with the Federal land manager. Training to identify nonnative invasive plants will be provided for CBP personnel or contractors, as necessary.
3. New guidance from the U.S. Environmental Protection Agency (USEPA) on herbicide application in riparian areas is imminent. Check with Contracting Officer's Technical Representative (COTR) on the status of these regulations prior to applying herbicide in such areas.
4. Coordinate with the CBP environmental subject matter expert (SME) to determine if the maintenance activities occur in a highly sensitive area or an area that poses an unacceptable risk of transmitting diseases and invasive species. If it is determined that maintenance activities occur in such an area, follow the CBP cleaning protocol.
5. A fire prevention and suppression plan will be developed and implemented for all maintenance and repair activities that require welding or otherwise have a risk of starting a wildfire.
6. Identify fill material, sandbags, hay bales, and mulch brought in from outside the project area by its source location. Use sources that are sterile or weed-free.
7. Clearly demarcate the perimeter of all new areas to be disturbed using flagging or temporary construction fencing. Do not allow any disturbance outside that perimeter. Riparian vegetation should be protected during maintenance activities.

8. Avoid the removal of mature trees providing shade or bank stabilization within the riparian area of any waterway during maintenance or repair activities.
9. If vegetation must be removed, allow natural regeneration of native plants by cutting vegetation with hand tools, mowing, trimming, or using other removal methods that allow root systems to remain intact to prevent disturbance that encourages establishment of invasive plant species. In addition, all soils that are disturbed that will not otherwise be stabilized during maintenance activities shall be reseeded using species native to the project vicinity. This BMP does not apply to any nonnative, invasive vegetation control that might occur as part of the proposed action.
10. Vegetation targeted for retention will be flagged for avoidance to reduce the likelihood of being treated.
11. Periodic inspections of tactical infrastructure by the CBP SME will be conducted to evaluate and document conditions, including erosion, and to ensure that prescriptions are followed and performed in the appropriate community types. As necessary, maintenance will be scheduled to minimize erosion and correct other adverse conditions.
12. Clearing of riparian vegetation will not occur within 100 feet of aquatic habitats to provide a buffer area to protect the habitat from sedimentation.

WILDLIFE

1. If hollow bollards are necessary (i.e., those that will be filled with a reinforcing material such as concrete), cover them to prevent wildlife from entrapment. Deploy covers (and ensure they remain fully functioning) when the posts or hollow bollards arrive on the site and are unloaded, until they are filled with reinforcing material.
2. Ensure temporary light poles and other pole-like structures used for maintenance activities have anti-perch devices to discourage roosting by birds.
3. Clearing of riparian vegetation will not occur within 100 feet of aquatic habitats to provide a buffer area to protect the habitat from sedimentation.
4. Minimize animal collisions during maintenance and repair activities by not exceeding speed limits of 35 miles per hour (mph) on major unpaved roads (i.e., graded with ditches on both sides) and 25 mph on all other unpaved roads. During periods of decreased visibility (e.g., night, poor weather, curves), do not exceed speeds of 25 mph.
5. Do not permit pets owned or under the care of the contractor or sector personnel inside the project boundaries, adjacent native habitats, or other associated work areas.
6. To prevent entrapment of wildlife species, ensure excavated, steep-walled holes or trenches are either completely covered by plywood or metal caps at the close of each work day or provided with one or more escape ramps (at no greater than 1,000-foot intervals and sloped less than 45 degrees) constructed of earth fill or wooden planks.
7. Each morning before the start of maintenance activities and before such holes or trenches are filled, ensure they are thoroughly inspected for trapped animals. Ensure that any animals discovered are allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, before maintenance activities resume; or are removed from the trench or hole by a qualified person and allowed to escape unimpeded.

Threatened and Endangered Species and Other Protected Species

GENERAL BMPs

1. Coordinate with COTR or environmental SME to determine which threatened and endangered species could occur in the vicinity of maintenance activities. In areas where there are no threatened and endangered or other species concerns, the personnel performing the maintenance activities are responsible for monitoring the implementation of general maintenance and repair BMPs to avoid impacts on the environment.
2. To protect individuals of listed species within the project area, suspend work in the immediate vicinity of the individual until it moves out of harm's way on its own, or enlist a qualified specialist (individuals or agency personnel with a permit to handle the species) to relocate the animal to a nearby safe location in accordance with accepted species-handling protocols.
3. Check visible space underneath all vehicles and heavy equipment for listed species and other wildlife prior to moving vehicles and equipment at the beginning of each workday and after vehicles have idled for more than 15 minutes.
4. Coordinate with the CBP environmental SME to determine if the maintenance activities occur in a highly sensitive area or an area that poses an unacceptable risk of transmitting diseases and invasive species. If it is determined that maintenance activities occur in such an area, follow the CBP cleaning protocol for all equipment.
5. CBP will not use surface water from aquatic or marsh habitats for maintenance and repair projects, if that site supports aquatic federally listed species or if it contains nonnative invasive species or disease vectors based on the best available information provided by USFWS.
6. CBP will not use surface water from untreated sources, including water used for irrigation purposes, for maintenance and repair projects located within one mile of aquatic habitat for federally listed aquatic species. Groundwater or surface water from a treated municipal source will be used when within one mile of such habitats.

MIGRATORY BIRD BMPs

1. Initial mechanical and chemical vegetation clearing and subsequent mechanical vegetation control should be timed to avoid the migration, breeding, and nesting timeframe of migratory birds (February 1 through September 1). Herbicide retreatments could occur throughout the year. When initial mechanical and chemical vegetation control must be implemented during February 1 through September 1, a survey for nesting migratory birds will be conducted immediately prior to the start of activities. If an active nest is found, a buffer zone (91 meters [300 feet]) will be established around the nest and no activities will occur within that zone until nestlings have fledged and abandoned the nesting area.
2. A survey for migratory birds will also be conducted prior to all other maintenance and repair activities to be implemented during the nesting period in areas where migratory birds might be nesting.
3. If maintenance is scheduled during the migratory bird-nesting season, take steps to prevent migratory birds from establishing nests in the potential impact area. These steps could include covering equipment and structures, and use of various excluders (e.g., noise). Birds can be harassed to prevent them from nesting on the site. Once a nest is

established, they cannot be harassed until all young have fledged and left the nest site. If nesting birds are found during the supplemental survey, defer intrusive maintenance activities until the birds have left the nest. Confirmation that all young have fledged should be made by qualified personnel.

WATER RESOURCES

1. The environmental SME must be consulted to validate the need for site-specific SWPPPs, spill protection plans, and regulatory approvals. Site-specific SWPPPs and spill protection plans will be prepared and regulatory approval sought, if necessary, in cases of highly sensitive work sites and large scopes of work that pose a significant risk. Where a site-specific SWPPP is not necessary, the personnel performing the maintenance will comply with a generic SWPPP and spill protection plan that covers most routine maintenance and repair activities. Prior to arrival on the work site, key personnel will understand correct implementation of these BMPs and their responsibility to address deficiencies.
2. The environmental SME will provide locations that have the potential for wetlands or other waters of the United States. If no current existing U.S. Army Corps of Engineers (USACE) jurisdictional determination is available, a delineation will be conducted and jurisdictional determination will be obtained from the USACE. Prior to conducting any activities that have the potential to affect wetlands and other waters of the United States, all Federal and state Clean Water Act (CWA) Section 404 individual or applicable nationwide permits and 401 and other applicable permits will be obtained.
3. Prepare and implement an SWPPP as required by regulation prior to applicable maintenance activities (greater than one acre of exposed dirt or as required by property manager). Implement BMPs described in the SWPPP to reduce erosion. Consider areas with highly erodible soils when planning the maintenance activities and incorporate measures such as waddles, aggregate materials, and wetting compounds in the erosion control BMPs.
4. Coordinate with the environmental SME to determine which maintenance activities occur within the 100-year floodplain. Maintenance activities within the 100-year floodplain will be conducted in a manner consistent with Executive Order (E.O.) 11988 and other applicable regulations.
5. All maintenance contractors and personnel will review the CBP-approved spill protection plan and implement it during maintenance and repair activities.
6. Coordinate with the environmental SME to ensure that CWA permits are in place for any changes to existing boat ramps.
7. Contact the environmental SME to coordinate with waterway permitting agencies when performing work below the ordinary high water mark.
8. Wastewater from pressure washing must be collected. A ground pit or sump can be used to collect the wastewater. Wastewater from pressure washing must not be discharged into any surface water.
9. If soaps or detergents are used, the wastewater and solids must be pumped and cleaned out and disposed of in an approved facility. If no soaps or detergents are used, the wastewater must first be filtered or screened to remove solids before being allowed to flow off site. Detergents and cleaning solutions must not be sprayed over or discharged into surface waters.

10. If the surrounding area has dense, herbaceous cover (primarily grasses) and there are no listed plant species or habitat for such, the wastewater (with or without detergent) could be discharged directly to the grassy area without collection or filtering as long as it is well dispersed and all the wastewater can percolate into the grass and soil. If wastewater runs off the grassy area, it must be filtered.
11. Prevent runoff from entering drainages or storm drains by placing fabric filters, sand bag enclosures, or other capture devices around the work area. Empty or clean out the capture device at the end of each day and properly dispose of the wastes.
12. Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging, laydown, and dispensing hazardous liquids (e.g., fuel and oil) to designated upland areas.
13. Avoid contamination of ground and surface waters by collecting concrete wash water in open containers and frequently disposing of it on site by application as a binder to riprap areas. Avoid contamination of ground and surface waters by storing any water that has been contaminated (e.g., with maintenance materials, oils, equipment residue) in closed containers on site until removed for disposal. In upland areas, storage tanks must be on-ground containers.
14. Avoid contamination of ground and surface waters by ensuring that water tankers that convey untreated surface water do not discard unused water where it has the potential to enter any aquatic or wetland habitat.
15. Cease work during heavy rains and do not resume work until conditions are suitable for the movement of equipment and materials.
16. Uncured concrete should not be allowed to enter the water.
17. Work should be done from the top of the bank or a floating barge, when practicable. Heavy equipment use within the active flowing channel should be avoided.
18. For all in-water work in streams, sediment barriers will be used to avoid downstream effects of turbidity and sedimentation.
19. Operate pressure-washing equipment according to manufacturer's recommendations.
20. Except for emergency repairs required to protect human life, limit work within drainages to dry periods to reduce effects on downstream water quality.
21. Riprap should be placed on a layer of geotextile fabric to prevent underlying sediment from being washed out through the openings of the riprap.
22. Riprap should be keyed into the wash/streambed to ensure its stability and effectiveness.

NOISE

1. All Occupational Safety and Health Administration requirements will be followed with respect to maintenance and repair noise impacts. Ensure all motorized equipment possess properly working mufflers and are kept properly tuned to reduce backfires. Ensure all motorized generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise abatement methods in accordance with industry standards. For activities involving heavy equipment, seasonal restrictions might be required to avoid impacts on threatened or endangered species in areas where these species or their potential habitat occur. See species-specific BMPs.

CULTURAL RESOURCES

1. If Native American human remains are discovered during maintenance and repair of tactical infrastructure, CBP will consult with culturally affiliated tribes and the Texas State Historic Preservation Officer regarding their management and disposition in compliance with Native American Graves Protection and Repatriation Act.
2. Obtain all pertinent training materials for cultural resources for the areas where maintenance and repair activities will occur. Prior to arrival on the work site, ensure key personnel are aware of the cultural resources potentially occurring in the project area and understand the proper BMPs to implement should cultural resources be encountered in the project area.

ROADWAYS AND TRAFFIC

1. Access maintenance sites using designated, existing roads. Do not allow any off-road vehicular travel outside those areas. Ensure all parking is in designated disturbed areas. For longer-term projects, mark designated travel corridors with easily observed removable or biodegradable markers.
2. All contractors and maintenance personnel will operate within the designed/approved maintenance corridor.

HAZARDOUS MATERIALS AND WASTE MANAGEMENT

1. Where hazardous and regulated materials are handled, workers should collect and store all fuels, waste oils, and solvents in clearly labeled closed tanks and drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein.
2. If maintenance activities will continue at night, direct shielded light only onto the area required for worker safety and productivity. Lights will not exceed 1.5-foot candles within the lit area.
3. Implement proper and routine maintenance of all vehicles and other maintenance equipment such that emissions are within the design standards of all maintenance equipment.
4. Minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain on site more than 12 hours should be properly stored in closed containers until disposal.

SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

No BMPs were identified for socioeconomics, environmental justice, or the protection of children.