

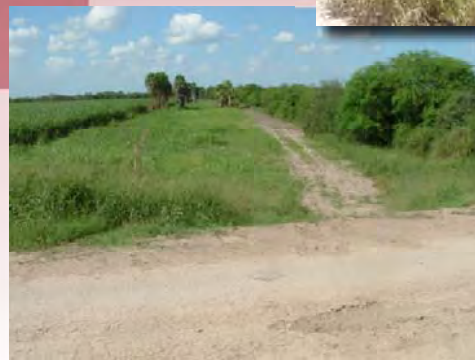


*Draft*

# **ENVIRONMENTAL IMPACT STATEMENT FOR CONSTRUCTION, MAINTENANCE, AND OPERATION OF TACTICAL INFRASTRUCTURE Rio Grande Valley Sector, Texas**



**U.S. Department of Homeland Security  
U.S. Customs and Border Protection  
U.S. Border Patrol**



**November 2007**



# COVER SHEET

**DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR  
CONSTRUCTION, MAINTENANCE, AND OPERATION OF TACTICAL INFRASTRUCTURE  
RIO GRANDE VALLEY SECTOR, TEXAS**

**Responsible Agencies:** U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP).

**Cooperating Agencies:** U.S. Army Corps of Engineers (USACE) Galveston District and the U.S. Section of the International Boundary and Water Commission (IBWC).

**Affected Location:** U.S./Mexico international border in southernmost portions of Starr, Hidalgo, and Cameron counties, Texas.

**Proposed Action:** The Proposed Action includes the construction, maintenance, and operation of tactical infrastructure to include pedestrian fencing, patrol roads, and access roads along approximately 70 miles of the U.S./Mexico international border within the USBP Rio Grande Valley Sector, Texas. The Proposed Action would be implemented in 21 discrete sections. Individual sections would range from approximately 1 mile to more than 13 miles in length.

**Report Designation:** Draft Environmental Impact Statement (EIS).

**Abstract:** CBP proposes to construct, maintain, and operate approximately 70 miles of tactical infrastructure, including pedestrian fencing, patrol roads, and access roads along the U.S./Mexico international border in southernmost portions of Starr, Hidalgo, and Cameron counties, Texas.

The Proposed Action includes the installation of tactical infrastructure in 21 discrete sections along the international border in the vicinity of Roma, Rio Grande City, McAllen, Progreso, Mercedes, Harlingen, and Brownsville, Texas. Individual tactical infrastructure sections would range from approximately 1 mile to more than 13 miles in length. For much of its length, the proposed tactical infrastructure would follow the International Boundary and Water Commission (IBWC) levee along the Rio Grande. Some portions of the tactical infrastructure would encroach upon privately owned land parcels and would cross multiple land use types, including rural, agricultural, suburban, and urban land. It would also encroach upon portions of the Lower Rio Grande Valley National Wildlife Refuge and Texas state parks in the Rio Grande Valley.

The EIS process will serve as a planning tool to assist agencies with decisionmaking authority associated with the Proposed Action and ensure that the required public involvement under the National Environmental Policy Act (NEPA) is accomplished. The EIS presents potential environmental impacts

1 associated with the Proposed Action and provides information to assist in the  
2 decisionmaking process addressing whether and how to implement the Proposed  
3 Action.

4 Throughout the NEPA process, the public may obtain information concerning the  
5 status and progress of the Proposed Action and the EIS via the project web site at  
6 *www.BorderFenceNEPA.com*, by emailing *information@BorderFenceNEPA.com*,  
7 or by written request to Mr. Charles McGregor, Environmental Manager, U.S. Army  
8 Corps of Engineers (USACE), Fort Worth District, Engineering Construction  
9 Support Office (ECISO), 814 Taylor Street, Room 3B10, Fort Worth, TX 76102; and  
10 Fax: (757) 282-7697.

11 You may submit written comments to CBP by contacting the SBI Tactical  
12 Infrastructure Program Office. To avoid duplication, please use only one of the  
13 following methods:

14 (a) Electronically through the web site at: *www.BorderFenceNEPA.com*;

15 (b) By email to: *RGVcomments@BorderFenceNEPA.com*;

16 (c) By mail to: Rio Grande Valley Tactical Infrastructure EIS, c/o e<sup>2</sup>M, 2751  
17 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or

18 (d) By fax to: (757) 282-7697.

#### 19 **Privacy Notice**

20 Your comments on this document are due by December 31, 2007. Comments  
21 will be addressed in the Final EIS and made available to the public. Any  
22 personal information included in comments will therefore be publicly available.



***DRAFT***

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**ENVIRONMENTAL IMPACT STATEMENT  
FOR  
CONSTRUCTION, MAINTENANCE, AND OPERATION  
OF TACTICAL INFRASTRUCTURE  
RIO GRANDE VALLEY SECTOR, TEXAS**

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**U.S. Department of Homeland Security  
U.S. Customs and Border Protection  
U.S. Border Patrol**

**NOVEMBER 2007**





## EXECUTIVE SUMMARY





## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

The U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP) proposes to construct, maintain, and operate approximately 70 miles of tactical infrastructure, including pedestrian fence and associated patrol roads, and access roads along the U.S./Mexico international border in the USBP Rio Grande Valley Sector, Texas.

The mission of CBP is to prevent terrorists and terrorist weapons from entering the United States, while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, USBP is charged with establishing and maintaining effective control of the border of the United States. USBP's mission strategy consists of five main objectives:

- Establish substantial probability of apprehending terrorists and their weapons as they attempt to enter illegally between the Ports of Entry (POEs)
- Deter illegal entries through improved enforcement
- Detect, apprehend, and deter smugglers of humans, drugs, and other contraband
- Leverage "smart border" technology to multiply the effect of enforcement personnel
- Reduce crime in border communities and consequently improve quality of life and economic vitality of targeted areas.

This Draft Environmental Impact Statement (EIS) has been prepared through coordination with Federal and state agencies to identify and assess the potential impacts associated with the proposed construction, maintenance, and operation of tactical infrastructure. This EIS is also being prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) of 1969.

### **PURPOSE AND NEED**

The purpose of the Proposed Action is to increase border security within the USBP Rio Grande Valley Sector through the construction, operation, and maintenance of tactical infrastructure in the form of fences, roads, and supporting technological and tactical assets. The USBP Rio Grande Valley Sector has identified several areas along the border that experience high levels of illegal cross-border activity. This activity occurs in areas that are remote and not easily accessed by USBP agents, near POEs where concentrated populations might live on either side of the border, contain thick vegetation that can provide concealment, or have quick access to U.S. transportation routes.

1 The Proposed Action is needed to provide USBP agents with the tools necessary  
2 to strengthen their control of the U.S. borders between POEs in the USBP Rio  
3 Grande Valley Sector. The Proposed Action would help to deter illegal cross-  
4 border activities within the USBP Rio Grande Valley Sector by improving  
5 enforcement, preventing terrorists and terrorist weapons from entering the United  
6 States, reducing the flow of illegal drugs, and enhancing response time, while  
7 providing a safer work environment for USBP agents.

## 8 **PUBLIC INVOLVEMENT**

9 CBP initiated the public scoping process for this Draft EIS on September 24,  
10 2007, with the publication in the *Federal Register* of a Notice of Intent (NOI) to  
11 prepare an EIS. The NOI requested public comments on the scope of the EIS  
12 and provided information on how the public could submit comments by mail,  
13 facsimile, electronic mail, or through the project-specific Web site. Public  
14 comments submitted as part of the scoping process were considered during the  
15 development of this Draft EIS. Additional opportunities for public involvement will  
16 occur throughout the EIS development process.

## 17 **DESCRIPTION OF THE PROPOSED ACTION**

18 CBP proposes to construct, maintain, and operate tactical infrastructure  
19 consisting of pedestrian fence and associated patrol roads, and access roads  
20 along the U.S./Mexico international border in the USBP Rio Grande Valley  
21 Sector, Texas. Proposed tactical infrastructure includes installation of fence  
22 sections in areas of the border that are not currently fenced. The proposed  
23 locations of tactical infrastructure are based on a USBP Rio Grande Valley  
24 Sector assessment of local operational requirements where tactical infrastructure  
25 would assist USBP agents in reducing illegal cross-border activities. The Fiscal  
26 Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295) provided  
27 \$1,187,565,000 under the Border Security Fencing, Infrastructure, and  
28 Technology appropriation for the installation of fencing, infrastructure, and  
29 technology along the border.

## 30 **ALTERNATIVES ANALYSIS**

### 31 **Alternative 1: No Action Alternative**

32 Under the No Action Alternative, the proposed tactical infrastructure would not be  
33 built and there would be no change in fencing, roads, or other facilities along the  
34 U.S./Mexico international border in the proposed project locations within the  
35 USBP Rio Grande Valley Sector. The No Action Alternative would not meet  
36 USBP mission or operational needs. However, inclusion of the No Action  
37 Alternative is prescribed by the Council on Environmental Quality (CEQ)  
38 regulations implementing NEPA and will be carried forward for analysis in this  
39 Draft EIS. The No Action Alternative also serves as a baseline against which to  
40 evaluate the impacts of the Proposed Action.

## **Alternative 2: Routes A and B**

Under this alternative, proposed tactical infrastructure would be constructed in 21 distinct sections along the international border within the USBP Rio Grande Valley Sector in the southernmost portions of Starr, Hidalgo, and Cameron counties, Texas. Individual fence sections might range from approximately 1 mile in length to more than 13 miles in length.

Two alternatives for the alignment of the infrastructure (Route Alternatives) are being considered under Alternative 2. Route A is the route initially identified by the USBP Rio Grande Valley Sector as meeting its operational requirements. Route B was developed through coordination with Federal and state agencies and incorporates input received through the public scoping period. The Route B alignment meets current operational requirements with less environmental impact, and is CBP's Preferred Alternative.

## **Alternative 3: Secure Fence Act Alignment Alternative**

Under this alternative, two layers of fence, known as primary and secondary fence, would be constructed approximately 130 feet apart along the same alignment as Route B. This alternative would be most closely aligned with fence described in the Secure Fence Act of 2006, P.L. 109-367, 120 Stat. 2638, codified at 8 United States Code (U.S.C.) 1701.

This alternative would also include construction and maintenance of access and patrol roads. The patrol roads would be constructed between the primary and secondary fences. The design of the tactical infrastructure for this alternative would be similar to that of Alternative 2.

## **SUMMARY OF ENVIRONMENTAL IMPACTS**

**Table ES-1** provides an overview of potential impacts anticipated under each alternative considered, broken down by resource area. **Section 4** of this Draft EIS addresses these impacts in more detail.

USBP would follow design criteria to reduce adverse environmental impacts and would implement mitigation measures to further reduce or offset adverse environmental impacts. Design criteria to reduce adverse environmental impacts include selecting a location for tactical infrastructure that would avoid or minimize impacts on environmental and cultural resources, consulting with Federal and state agencies and other stakeholders to avoid or minimize adverse environmental impacts and develop appropriate Best Management Practices (BMPs), and avoiding physical disturbance and construction of solid barriers in wetlands/riparian areas and streambeds. BMPs would include implementation of a Construction Mitigation and Restoration (CM&R) Plan; Spill Prevention Control and Countermeasures (SPCC) Plan; Dust Control Plan; Fire Prevention and Suppression Plan; and Unanticipated Discovery Plan for Cultural Resources to protect natural and cultural resources.

1 **Table ES-1. Summary of Anticipated Environmental Impacts, by Alternative**

Resource Area	Alternative 1: No Action Alternative	Alternative 2		Alternative 3: Secure Fence Act Alignment
		Route A	Route B (Preferred Alternative)	
<b>Air Quality</b>	No new impacts would occur.	Short- and long-term negligible to minor adverse impacts.	Short- and long-term negligible to minor adverse impacts.	Impacts would be similar to, but greater than, the impacts described under Alternative 2.
<b>Noise</b>	No new impacts would occur.	Short-term moderate adverse impacts would be expected.	Short-term moderate adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Land Use</b>	Long-term minor to major adverse impacts would continue to occur.	Short- and long-term minor adverse and long-term beneficial impacts would occur.	Short- and long-term minor adverse and long-term beneficial impacts would occur.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Geology and Soils</b>	Long-term minor adverse impacts would continue to occur.	Short- and long-term negligible to minor adverse impacts would be expected.	Short- and long-term negligible to minor adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Water Resources</b>	Long-term minor adverse impacts would continue to occur.	Short-term and long-term negligible to minor adverse impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.



Resource Area	Alternative 1: No Action Alternative	Alternative 2		Alternative 3: Secure Fence Act Alignment
		Route A	Route B (Preferred Alternative)	
<b>Vegetation</b>	Long-term minor to major adverse impacts would continue to occur.	Short- and long-term negligible to major beneficial and adverse impacts would be expected.	Short- and long-term negligible to major beneficial and adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Wildlife and Aquatic Resources</b>	Long-term minor adverse impacts would continue to occur.	Short- and long-term negligible to moderate adverse and minor beneficial impacts would be expected.	Short- and long-term negligible to moderate adverse and minor beneficial impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Special Status Species</b>	Long-term minor to moderate adverse impacts would continue to occur.	Short- and long-term minor to major adverse and long-term negligible to minor beneficial impacts would be expected.	Short- and long-term minor to moderate adverse and long-term negligible to minor beneficial impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Cultural Resources</b>	Long-term minor adverse impacts would continue to occur.	Long-term minor to major adverse impacts would be expected.	Long-term minor to major adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Aesthetics and Visual Resources</b>	No new impacts would occur.	Short- and long-term minor to major adverse impacts would be expected.	Short- and long-term minor to major adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.

*Rio Grande Valley Sector Proposed Tactical Infrastructure*

Resource Area	Alternative 1: No Action Alternative	Alternative 2		Alternative 3: Secure Fence Act Alignment
		Route A	Route B (Preferred Alternative)	
<b>Socioeconomic Resources, Environmental Justice, and Safety</b>	Long-term minor to major adverse impacts would continue to occur.	Short- and long-term minor to moderate adverse and short-term beneficial impacts would be expected.	Short- and long-term minor to moderate adverse and short-term beneficial impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Utilities and Infrastructure</b>	No new impacts would occur.	Short-term negligible to minor adverse impacts would be expected.	Short-term negligible to minor adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.
<b>Hazardous Materials and Waste</b>	No new impacts would occur.	Short-term negligible adverse impacts would be expected.	Short-term negligible adverse impacts would be expected.	Impacts would be similar to, but slightly greater than, the impacts described under Alternative 2.



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## SECTION 1

### Introduction





# 1. INTRODUCTION

The U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP) proposes to construct, maintain, and operate approximately 70 miles of tactical infrastructure, including 21 discrete sections of pedestrian fence and associated patrol roads, and access roads along the U.S./Mexico international border in the USBP Rio Grande Valley Sector, Texas.

The Proposed Action includes the installation of tactical infrastructure in 21 discrete fence sections (designated O-1 through O-21) along the international border with Mexico in the vicinity of Roma, Rio Grande City, McAllen, Progreso, Mercedes, Harlingen, and Brownsville, Texas (see **Figure 1-1**). The locations of the individual tactical infrastructure sections were proposed based on the situational and operational requirements of the USBP Rio Grande Valley Sector. Although some of the fence sections would be contiguous, each fence section would represent an individual project and could proceed independent of the other sections. Detailed descriptions of the fence sections are presented in **Section 2.2.2**. Individual sections would range from approximately 1 mile to more than 13 miles in length. For much of its length, the proposed tactical infrastructure would follow the International Boundary and Water Commission (IBWC) levee along the Rio Grande. The IBWC enforces and oversees the boundary and water treaties of the United States and Mexico and settles differences that arise in their application (IBWC 2007a). The tactical infrastructure would cross multiple land use types, such as agricultural, rural, suburban, and urban. Impacted parcels are both publicly and privately owned. The Proposed Action would also encroach upon portions of the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) and Texas state parks in the Rio Grande Valley. A detailed description of the Proposed Action and the alternatives considered is presented in **Section 2**.

This Draft Environmental Impact Statement (EIS) is divided into eight sections and appendices. **Section 1** provides background information on USBP missions, identifies the purpose of and need for the Proposed Action, describes the area in which the Proposed Action would occur, and explains the public involvement process. **Section 2** provides a detailed description of the Proposed Action, alternatives considered, and the No Action Alternative. **Section 3** describes existing environmental conditions in the areas where the Proposed Action would occur. **Section 4** identifies potential environmental impacts that could occur within each resource area under the alternatives evaluated in detail. **Section 5** discusses potential cumulative impacts and other impacts that might result from implementation of the Proposed Action, combined with foreseeable future actions. **Sections 6 and 7** provide references and acronyms, respectively. **Section 8** identifies the preparers of the Draft EIS.

Rio Grande Valley Sector Proposed Tactical Infrastructure

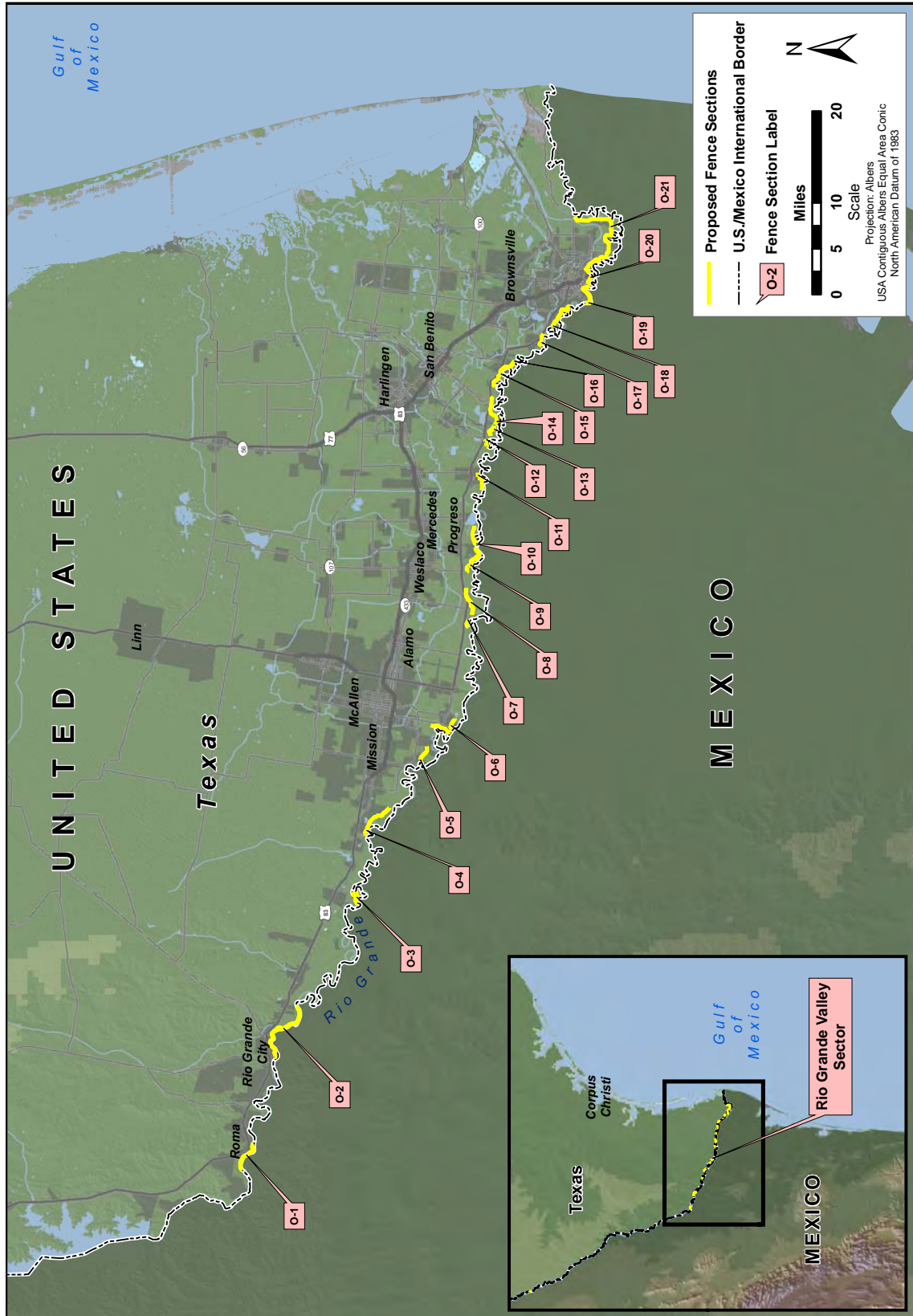


Figure 1-1. General Location of the Proposed Action – Rio Grande Valley Sector, Texas

Source: ESRI StreetMap USA 2005

**Appendix A** contains a listing of those laws, regulations, and executive orders potentially applicable to the Proposed Action. **Appendix B** presents the Scoping Summary Report which includes the *Federal Register*, Notice of Intent (NOI), the newspaper ads posted in local papers, and agency coordination letters. **Appendix C** will present materials related to the Draft EIS comment process and public involvement. **Appendix D** contains a detailed description of the 21 proposed tactical infrastructure sections along Routes A and B. **Appendix E** provides potential fence designs and a description of the proposed tactical infrastructure. **Appendix F** contains detailed maps of each of the 21 proposed tactical infrastructure sections. **Appendix G** contains detailed soil maps of each of the 21 proposed tactical infrastructure sections. **Appendix H** contains a detailed summary of soils in Starr, Hidalgo, and Cameron counties. **Appendix I** contains the Draft Biological Survey Report. **Appendix J** contains preliminary cultural resource findings. **Appendix K** presents air quality information.

## 1.1 USBP BACKGROUND

The mission of CBP is to prevent terrorists and terrorist weapons from entering the United States, while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, USBP is charged with establishing and maintaining effective control of the border of the United States. USBP's mission strategy consists of five main objectives:

- Establish substantial probability of apprehending terrorists and their weapons as they attempt to enter illegally between the Ports of Entry (POEs)
- Deter illegal entries through improved enforcement
- Detect, apprehend, and deter smugglers of humans, drugs, and other contraband
- Leverage "smart border" technology to multiply the effect of enforcement personnel
- Reduce crime in border communities and consequently improve quality of life and economic vitality of targeted areas.

USBP has nine administrative sectors along the U.S./Mexico international border. Each sector is responsible for implementing an optimal combination of personnel, technology, and infrastructure appropriate to its operational requirements. The Rio Grande Valley Sector is responsible for 17,000 square miles of land in southeastern Texas, including the following counties: Cameron, Willacy, Hidalgo, Starr, Brooks, Kenedy, Kleberg, Nueces, San Patricio, Jim Wells, Bee, Refugio, Calhoun, Goliad, Victoria, Dewitt, Jackson, and Lavaca (CBP 2007). The areas affected by the Proposed Action include the southernmost portions of Starr, Hidalgo, and Cameron counties, Texas, within the Rio Grande Valley Sector.

## 1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to increase border security within the USBP Rio Grande Valley Sector through the construction, operation, and maintenance of tactical infrastructure in the form of fences, roads, and supporting technological and tactical assets. The USBP Rio Grande Valley Sector has identified 21 discrete areas along the border that experience high levels of illegal cross-border activity. This activity occurs in areas that are remote and not easily accessed by USBP agents, near POEs where concentrated populations might live on either side of the border, contain thick vegetation that can provide concealment, or have quick access to U.S. transportation routes.

The Proposed Action is needed to provide USBP agents with the tools necessary to strengthen their control of the U.S. borders between POEs in the USBP Rio Grande Valley Sector. The Proposed Action would help to deter illegal cross-border activities within the USBP Rio Grande Valley Sector by improving enforcement, preventing terrorists and terrorist weapons from entering the United States, reducing the flow of illegal drugs, and enhancing response time, while providing a safer work environment for USBP agents.

## 1.3 PROPOSED ACTION

USBP proposes to construct, maintain, and operate tactical infrastructure consisting of pedestrian fence and associated patrol roads, and access roads along 21 discrete areas of the U.S./Mexico international border in the USBP Rio Grande Valley Sector, Texas (examples of pedestrian fence are included in **Appendix E**). Proposed tactical infrastructure includes installation of fence sections in areas of the border that are not currently fenced. The proposed locations of tactical infrastructure are based on a USBP Rio Grande Valley Sector assessment of local operational requirements where such infrastructure would assist USBP agents in reducing illegal cross-border activities. The Fiscal Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295) provided \$1,187,565,000 under the Border Security Fencing, Infrastructure, and Technology appropriation for the installation of fencing, infrastructure, and technology along the border (CRS 2006). **Figure 1-1** illustrates the location of the proposed tactical infrastructure within the Rio Grande Valley Sector. Details of the Proposed Action are included in **Section 2.2.2**.

## 1.4 FRAMEWORK FOR ANALYSIS

The process for implementing the National Environmental Policy Act (NEPA) is codified in Code of Federal Regulations 40 (CFR) Parts 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, and DHS's related Management Directive (MD) 5100.1, *Environmental Planning Program*. The Council on Environmental Quality (CEQ) was established under NEPA to implement and oversee Federal policy in this process.



1 An EIS is prepared when a proposed action is anticipated to have potentially  
2 “significant” environmental impacts, or a proposed action is environmentally  
3 controversial. An EIS generally presents separate chapters specifically tailored  
4 to address the following:

- 5 • The purpose and need for the Proposed Action
- 6 • Reasonable alternatives to the Proposed Action
- 7 • A characterization of the affected environment
- 8 • The nature and extent of potential environmental impacts associated with  
9 the Proposed Action and alternatives (including the No Action Alternative)
- 10 • A listing of agencies and persons contacted during the EIS preparation  
11 process and public involvement efforts.

12 To comply with NEPA, the planning and decisionmaking process for actions  
13 proposed by Federal agencies involves a study of other relevant environmental  
14 statutes and regulations. The NEPA process, however, does not replace  
15 procedural or substantive requirements of other environmental statutes and  
16 regulations. It addresses them collectively in the form of an Environmental  
17 Assessment (EA) or EIS, which enables the decisionmaker to have a  
18 comprehensive view of major environmental issues and requirements associated  
19 with the Proposed Action. According to CEQ regulations, the requirements of  
20 NEPA must be integrated “with other planning and environmental review  
21 procedures required by law or by agency so that all such procedures run  
22 concurrently rather than consecutively.”

23 Within the framework of environmental impact analysis under NEPA, additional  
24 authorities that may be applicable include the Clean Air Act (CAA), Clean Water  
25 Act (CWA) (including a National Pollutant Discharge Elimination System  
26 [NPDES] storm water discharge permit and Section 404 permit), Section 10 of  
27 the Rivers and Harbors Act of 1899, Noise Control Act, Endangered Species Act  
28 (ESA), Migratory Bird Treaty Act (MBTA), National Historic Preservation Act  
29 (NHPA), Archaeological Resources Protection Act, Resource Conservation and  
30 Recovery Act, Toxic Substances Control Act, and various Executive Orders  
31 (EOs). A summary of laws, regulations, and EOs that might be applicable to the  
32 Proposed Action are shown in **Appendix A. Table 1-1** lists major Federal and  
33 state permits, approvals, and interagency coordination required to construct,  
34 maintain, and operate the proposed tactical infrastructure.

35 The Proposed Action and analysis in this Draft EIS is complementary to that in a  
36 recent EIS prepared by CBP. The *Environmental Impact Statement for*  
37 *Operation Rio Grande*, April 2004 (DHS 2004), was prepared to address tactical  
38 infrastructure needs within the Rio Grande Valley Sector (formerly McAllen  
39 Sector) associated with Operation Rio Grande. Operation Rio Grande is a  
40 strategy that was initiated in August 1997 to aid in reducing illegal immigration  
41

**Table 1-1. Major Permits, Approvals, and Interagency Coordination**

Agency	Permit/Approval/Coordination
U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS)	<ul style="list-style-type: none"> <li>- Section 7 ESA consultation</li> <li>- MBTA coordination</li> <li>- Special Use Permits for access to National Wildlife Refuge areas</li> </ul>
U.S. Environmental Protection Agency (USEPA)	<ul style="list-style-type: none"> <li>- CWA NPDES permit</li> </ul>
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> <li>- CWA Section 404 permit Rivers and Harbors Act of 1899, Section 10</li> </ul>
Texas Commission on Environmental Quality (TCEQ)	<ul style="list-style-type: none"> <li>- CWA Section 401 State Water Quality Certification</li> <li>- CAA permit consultation</li> </ul>
Texas General Land Office (TxGLO)	<ul style="list-style-type: none"> <li>- Coastal Zone Management Act (CZMA) - Consistency Determination</li> </ul>
Texas Parks and Wildlife Department (TPWD)	<ul style="list-style-type: none"> <li>- Texas Endangered Species Act coordination</li> </ul>
National Park Service	<ul style="list-style-type: none"> <li>- NHPA Section 106 consultation for National Historic Landmarks (NHLs)</li> </ul>
Texas Historical Commission (THC)	<ul style="list-style-type: none"> <li>- NHPA Section 106 consultation</li> </ul>
Federally recognized American Indian Tribes	<ul style="list-style-type: none"> <li>- Consultation regarding potential effects on cultural resources</li> </ul>
Advisory Council on Historic Preservation (ACHP)	<ul style="list-style-type: none"> <li>- NHPA Section 106 consultation</li> </ul>

and drug trafficking along the Rio Grande corridor of the Rio Grande Valley Sector. The tactical infrastructure proposed and analyzed in the Operation Rio Grande EIS includes permanent and portable lighting, road improvement, fence construction, boat ramp construction, and maintenance mowing. The Record of Decision (ROD) for the Operation Rio Grande EIS was signed on April 15, 2005. The discussion and analysis in the Operation Rio Grande EIS are incorporated into this EIS by reference because the proposals analyzed in each EIS are complementary to each other.

## **1.5 PUBLIC INVOLVEMENT**

Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decisionmaking process. All persons or organizations having a potential interest in the Proposed Action are encouraged to participate in the decisionmaking process.

1 prior to any decisionmaking on what actions are to be taken. The premise of  
2 NEPA is that the quality of Federal decisions will be enhanced if proponents  
3 provide information to the public and involve the public in the planning process.

4 Public scoping activities for this EIS were initiated on September 24, 2007, when  
5 a NOI to prepare this EIS was published in the *Federal Register* (72 FR 184, pp.  
6 54276–77, see **Appendix B**). Besides providing a brief description of the  
7 Proposed Action and announcing CBP's intent to prepare this EIS, the NOI also  
8 established a 20-day public scoping period. The purpose of the scoping process  
9 was to solicit public comments regarding the range of issues, including potential  
10 impacts and alternatives that should be addressed in the EIS. Public comments  
11 received during the public scoping period were taken into consideration as part of  
12 the preparation of this Draft EIS (see **Appendix B**).

13 In addition to the NOI published in the *Federal Register*, newspaper notices  
14 coinciding with the NOI was published in *The Monitor*, *The Brownsville Herald*,  
15 and *The Valley Morning Star* on September 24 and 30, 2007. A notice was also  
16 published in Spanish in *La Frontera* and *El Nuevo Herald* on September 24,  
17 2007. Copies of the newspaper notices are included in **Appendix B**.

18 The U.S. Environmental Protection Agency (USEPA) will publish the Notice of  
19 Availability (NOA) for this Draft EIS in the *Federal Register*. The purpose of the  
20 USEPA NOA is to announce to the public the availability of this Draft EIS, and to  
21 begin a 45-day public comment period. In addition to the USEPA NOA, CBP will  
22 publish a separate NOA in the *Federal Register* announcing the dates, times,  
23 and places for public informational meetings and to request comments on the  
24 Draft EIS. All comments received will be taken into consideration in the  
25 development of the Final EIS and subsequent to this draft will also be included in  
26 **Appendix C**. Upon completion, CBP will make the Final EIS available to the  
27 public for 30 days. At the conclusion of the 30-day period, a Record of Decision  
28 (ROD) regarding the Proposed Action can be signed and published in the  
29 *Federal Register*.

30 Through the public involvement process, USBP also notified relevant Federal,  
31 state, and local agencies of the Proposed Action and requested input on  
32 environmental concerns they might have regarding the Proposed Action. The  
33 public involvement process provides USBP with the opportunity to cooperate with  
34 and consider state and local views in its decision regarding implementing this  
35 Federal proposal. As part of the EIS process, USBP coordinated with the  
36 USEPA; U.S. Fish and Wildlife Service (USFWS); Texas State Historic  
37 Preservation Office (SHPO); and other Federal, state, and local agencies (see  
38 **Appendix B**). Input from responses received by these agencies has been  
39 incorporated into the analysis of potential environmental impacts.

40 This Draft EIS also serves as a public notice regarding impacts on floodplains.  
41 EO 11988 directs Federal agencies to avoid floodplains unless the agency  
42 determines that there is no practicable alternative. Where the only practicable

alternative is to site in a floodplain, a specific process must be followed to comply with EO 11988. This eight-step process is detailed in the Federal Emergency Management Agency (FEMA) document "Further Advice on EO 11988 Floodplain Management." The eight steps are as follows:

1. Determine whether the action will occur in, or stimulate development in, a floodplain
2. Receive public review/input of the Proposed Action
3. Identify and evaluate practicable alternatives to locating in the floodplain
4. Identify the impacts of the Proposed Action (when it occurs in a floodplain)
5. Minimize threats to life, property, and natural and beneficial floodplain values, and restore and preserve natural and beneficial floodplain values
6. Reevaluate alternatives in light of any new information that might have become available
7. Issue findings and a public explanation
8. Implement the action.

Steps 1, 3, and 4 have been undertaken as part of this Draft EIS and are further discussed in **Sections 3.6** and **4.6**. Steps 2 and 6 through 8 are being conducted simultaneously with the EIS development process, including public review of the Draft EIS. Step 5 relates to mitigation and is currently undergoing development.

Anyone wishing to provide written comments, suggestions, or relevant information regarding the Proposed Action may submit comments to CBP by contacting SBI, Tactical Infrastructure Program Office. To avoid duplication, please use only one of the following methods:

- (a) Electronically through the web site at: [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- (b) By email to: [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
- (c) By mail to: Rio Grande Valley Tactical Infrastructure EIS, c/o e<sup>2</sup>M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or
- (d) By fax to: (757) 282-7697.

Throughout the NEPA process, the public may obtain information concerning the status and progress of the EIS via the project web site at [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com), by emailing [information@BorderFenceNEPA.com](mailto:information@BorderFenceNEPA.com), or by written request to Mr. Charles McGregor, Environmental Manager, U.S. Army Corps of Engineers (USACE), Fort Worth District, Engineering Construction Support Office (ECISO), 814 Taylor Street, Room 3B10, Fort Worth, TX 76102; and Fax: (757) 282-7697.

## **1.6 COOPERATING AND COORDINATING AGENCIES**

The USACE-Galveston District and the IBWC as cooperating agencies, and the USFWS as a coordinating agency, also have decisionmaking authority for components of the Proposed Action and intend for this EIS to fulfill their requirements for compliance with NEPA. The CEQ regulations implementing NEPA instruct agencies to combine environmental documents to reduce duplication and paperwork (40 CFR 1506.4).

The USACE-Galveston District Engineer has the authority to authorize actions under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [U.S.C.] 403). Applications for work involving the discharge of fill material into waters of the United States and work in, or affecting, a navigable water of the United States will be submitted to the USACE-Galveston District Regulatory Program Branch for review and a decision on issuance of a permit will be reached.

Section 7 of the ESA (16 U.S.C. Section 1531–1544) states that any project authorized, funded, or conducted by any Federal agency should not “...jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical.” The USFWS is a coordinating agency regarding this Proposed Action to determine whether any federally listed, proposed endangered, or proposed threatened species or their designated critical habitats would be adversely impacted by the Proposed Action. As a coordinating agency, the USFWS will assist in completing the Section 7 consultation process, identifying the nature and extent of potential effects, and developing measures that would avoid or reduce potential effects on any species of concern. The USFWS will prepare the Biological Assessment and will issue the Biological Opinion (BO) of the potential for jeopardy to species of concern. If the USFWS determines that the project is not likely to jeopardize any listed species, it can also issue an incidental take statement as an exception to the prohibitions in Section 9 of the ESA.

The Proposed Action would encroach upon multiple component parcels of the LRGVNR. In order to proceed with geotechnical studies, and natural and cultural resources surveys prior to fence and road construction on LRGVNR lands, the USFWS would need to issue special use permits for the proposed studies and surveys to commence.

For much of the proposed fence sections, the tactical infrastructure would follow the Rio Grande levee rights-of-ways (ROWs) administered by the IBWC. The IBWC is an international body composed of a U.S. Section and a Mexican Section, each headed by an Engineer-Commissioner appointed by their respective president. Each Section is administered independently of the other. The U.S. Section of the IBWC is a Federal government agency headquartered in El Paso, Texas, and operates under the foreign policy guidance of the

1 Department of State (IBWC 2007a). The U.S. Section of the IBWC would  
2 provide access and ROWs to construct proposed tactical infrastructure along its  
3 levee system within the Rio Grande Valley Sector. It will also ensure that design  
4 and placement of the proposed tactical infrastructure does not impact flood  
5 control process and does not violate treaty obligations between the United States  
6 and Mexico. For purposes of the analysis in this EIS, the phrase “north of the  
7 proposed project corridor” refers to the area on the U.S. side of the tactical  
8 infrastructure.



## **SECTION 2**

### **Proposed Action and Alternatives**







## 2. PROPOSED ACTION AND ALTERNATIVES

This section provides detailed information on USBP's proposal to construct, maintain, and operate tactical infrastructure along the U.S./Mexico international border in the Rio Grande Valley Sector, Texas. The range of reasonable alternatives considered in this EIS is constrained to those that would meet the purpose and need described in **Section 1** to provide USBP agents with the tools necessary to achieve effective control of the border in the Rio Grande Valley Sector. Such alternatives must also meet essential technical, engineering, and economic threshold requirements to ensure that each is environmentally sound, economically viable, and complies with governing standards and regulations.

### 2.1 SCREENING CRITERIA FOR ALTERNATIVES

The following screening criteria were used to develop the Proposed Action and evaluate potential alternatives. The USBP Rio Grande Valley Sector is working to develop the right combination of personnel, technology, and infrastructure to meet its objective to gain effective control of the border in the Rio Grande Valley Sector.

- USBP Operational Requirements. Pedestrian border fencing must support USBP mission needs to hinder or delay individuals crossing the border illegally. Once individuals have entered an urban area or suburban neighborhood, it is much more difficult for USBP agents to identify and apprehend suspects engaged in unlawful border entry. In addition, around populated areas it is relatively easy for cross-border violators to find transportation into the interior of the United States.
- Threatened or Endangered Species and Critical Habitat. The construction, maintenance, and operation of the proposed tactical infrastructure would be designed to minimize adverse impacts on threatened or endangered species and their critical habitat to the maximum extent practical. USBP is working with the USFWS to identify potential conservation and mitigation measures.
- Wetlands and Floodplains. The construction, maintenance, and operation of the proposed tactical infrastructure would be designed to avoid and minimize impacts on wetlands, surface waters, and floodplain resources to the maximum extent practical. USBP is working with the USACE-Galveston District and IBWC to avoid, minimize, and mitigate potential impacts on wetlands, surface waters, and floodplains.
- Cultural and Historic Resources. The construction, maintenance, and operation of the proposed tactical infrastructure would be designed to minimize impacts on cultural and historic resources to the maximum extent practical. USBP is working with the Texas SHPO to identify potential conservation and mitigation measures.

- Suitable Landscape. Some areas of the border have steep topography, highly erodible soils, unstable geology, or other characteristics that could compromise the integrity of fence or other tactical infrastructure. For example, in areas susceptible to flash flooding, fence and other tactical infrastructure might be prone to the effects of erosion that could undermine the fence's integrity. Areas with suitable landscape conditions would be prioritized.

## 2.2 ALTERNATIVES ANALYSIS

The following sections describe the alternative analysis for this Proposed Action. **Section 2.2.1** presents the No Action Alternative, **Section 2.2.2** provides specific details of the Proposed Action, and **Section 2.2.3** discusses the Secure Fence Act Alternative. **Section 2.3** discusses alternatives considered but not analyzed in detail, **Section 2.4** is a summary comparison of the alternatives, and **Section 2.5** is the identification of the preferred alternative.

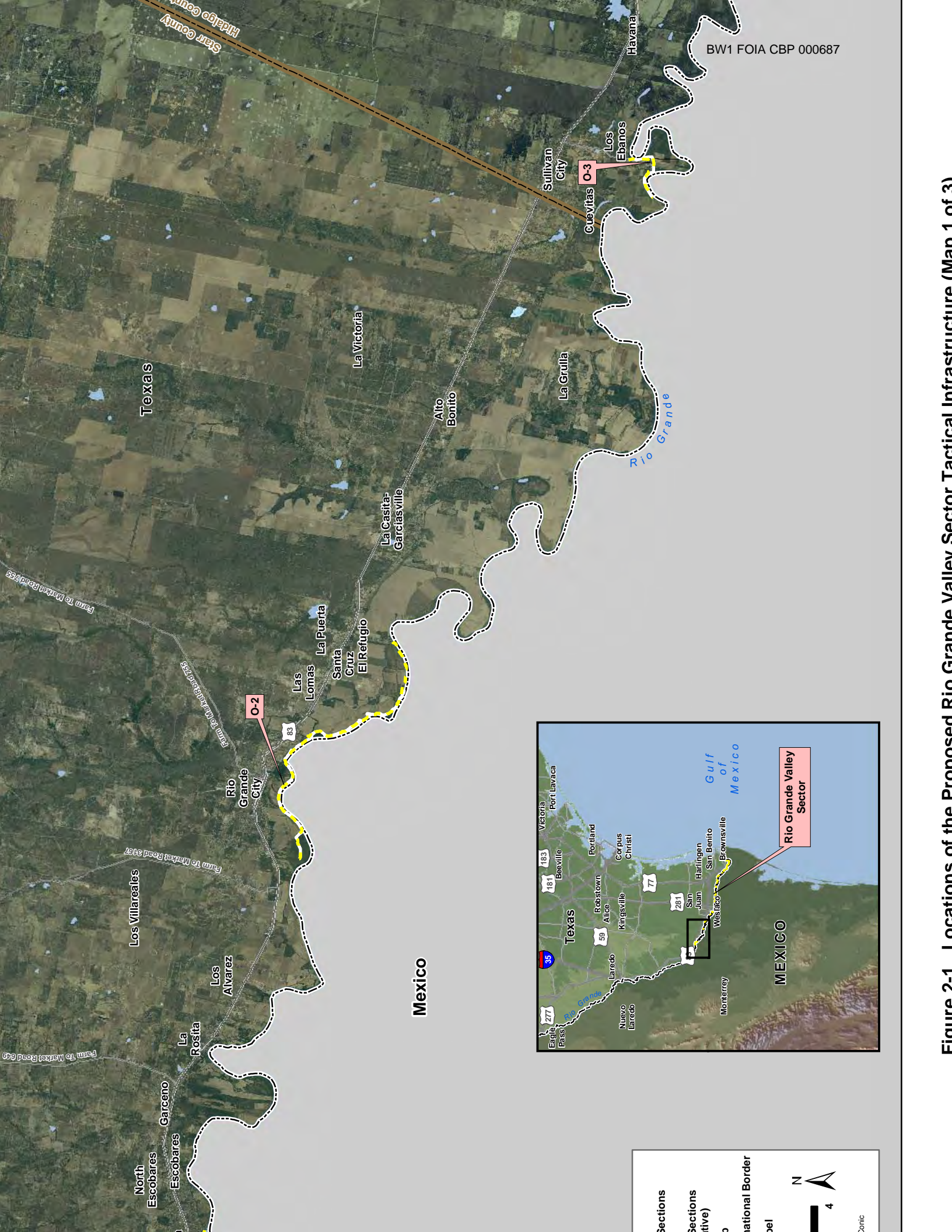
### 2.2.1 Alternative 1: No Action Alternative

Under the No Action Alternative, proposed tactical infrastructure would not be built and there would be no change in fencing, access roads, or other facilities along the U.S./Mexico international border in the proposed project locations within the Rio Grande Valley Sector. The No Action Alternative would not meet USBP mission or operational needs. However, inclusion of the No Action Alternative is prescribed by the CEQ regulations implementing NEPA and will be carried forward for analysis in the EIS. The No Action Alternative also serves as a baseline against which to evaluate the impacts of the alternatives.

### 2.2.2 Alternative 2: Routes A and B

USBP proposes to construct, maintain, and operate tactical infrastructure consisting of pedestrian fence, patrol roads, and access roads along the U.S./Mexico international border in the Rio Grande Valley Sector, Texas. Congress has appropriated funds for the construction of the proposed tactical infrastructure. Construction of additional tactical infrastructure might be required in the future as mission and operational requirements are continually reassessed.

The proposed tactical infrastructure would be constructed in 21 distinct sections along the border within the Rio Grande Valley Sector in Starr, Hidalgo, and Cameron counties, Texas. Individual fence sections might range from approximately 1 mile in length to more than 13 miles in length. Each proposed tactical infrastructure section would be an individual project and could proceed to completion independent of the other sections. These 21 sections of pedestrian fence are designated as Sections O-1 through O-21 on **Figures 2-1** through **2-3** and are shown in more detail in **Appendix F**. **Table 2-1** presents general information for each of the 21 proposed sections.





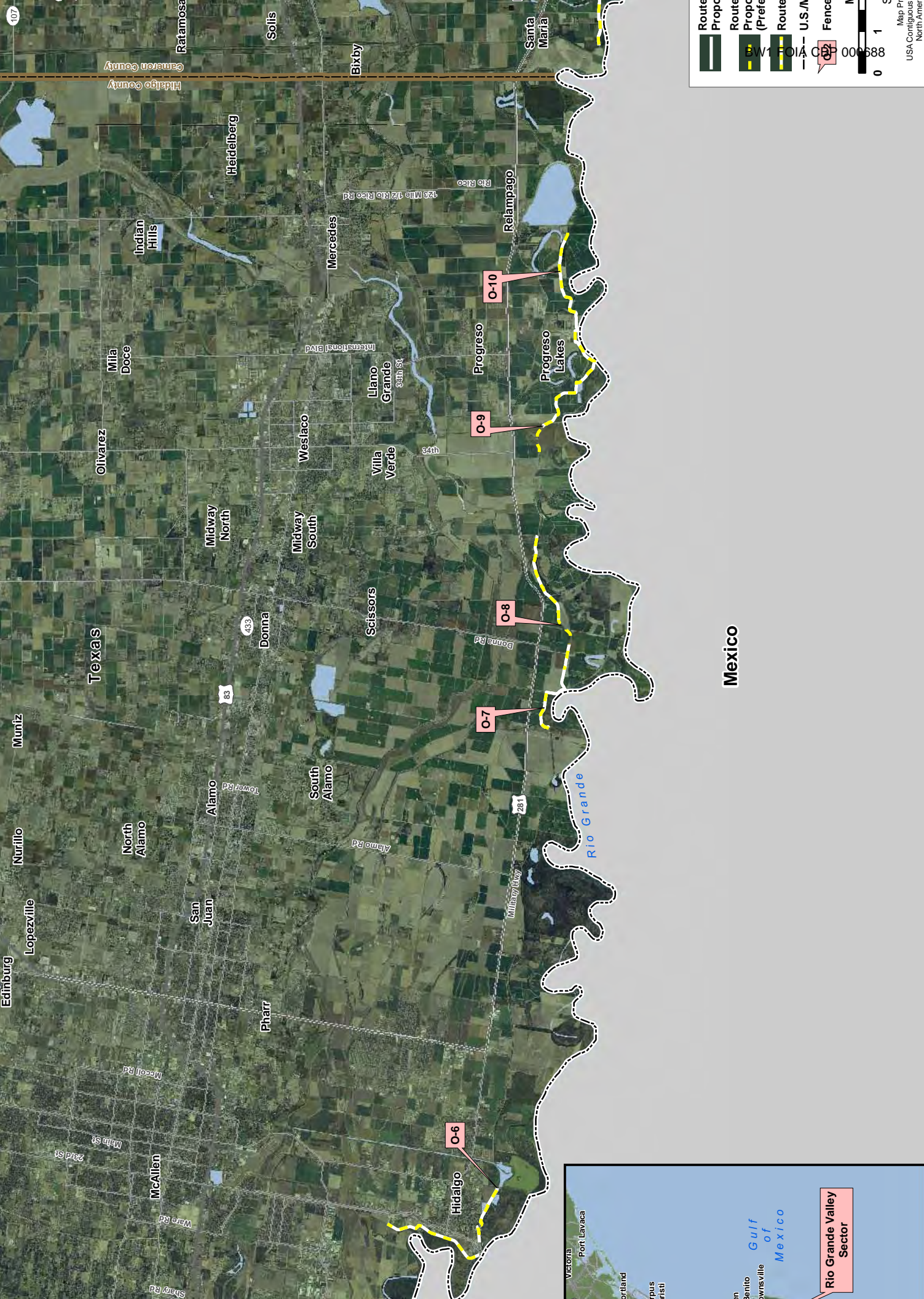
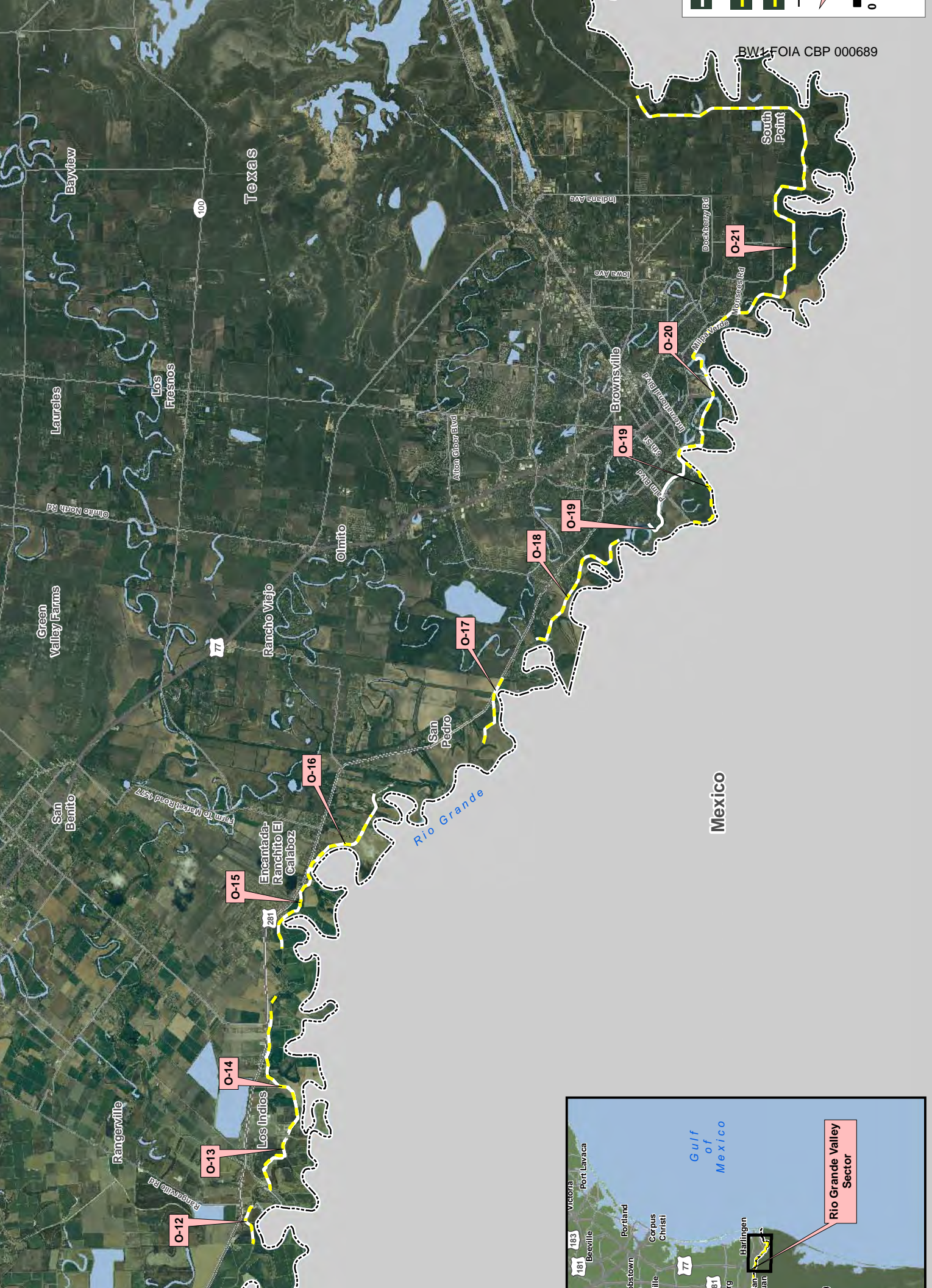


Figure 2.3 | sections of the Drummond River Grande Valley Sector Technical Infrastructure / March 2 of 20





**FIGURE 2 | Locations of the Drained Rio Grande Valley Center Treated Infrastructure / March 2 of 2019**

1      **Table 2-1. Proposed Fence Sections Under the Proposed Action**

Fence Section Number	Associated Border Patrol Station	General Location	Length of Fence Section (in miles)	
			Route A	Route B
O-1	Rio Grande City	Near Roma POE	5.26	3.75
O-2	Rio Grande City	Near RGC POE	7.30	8.74
O-3	McAllen	Los Ebanos POE	1.86	1.90
O-4	McAllen	From Penitas to Abram	4.35	4.35
O-5	McAllen	Future Anzalduas POE	1.73	1.76
O-6	McAllen	Hidalgo POE	3.86	3.85
O-7	Weslaco	Proposed Donna POE	2.43	0.90
O-8	Weslaco	Retamal Dam	2.05	3.25
O-9	Weslaco	West Progreso POE	3.02	3.87
O-10	Weslaco	East Progreso POE	2.43	2.33
O-11	Harlingen	Joe's Bar - Nemo Road	2.33	2.31
O-12	Harlingen	Weaver's Mountain	0.96	0.92
O-13	Harlingen	West Los Indios POE	1.58	1.58
O-14	Harlingen	East Los Indios POE	3.07	3.59
O-15	Harlingen	Triangle - La Paloma	1.93	1.93
O-16	Harlingen	Ho Chi Minh - Estero	2.97	2.97
O-17	Brownsville	Proposed Carmen Road Freight Train Bridge	1.63	1.61
O-18	Brownsville	Proposed Flor De Mayo POE to Garden Park	3.58	3.58
O-19	Brownsville	Brownsville/Matamoros (B&M) POE to Los Tomates	3.33	3.37
O-20	Brownsville	Los Tomates to Veterans International Bridge	0.91	0.93
O-21	Fort Brown	Veterans International Bridge to Sea Shell Inn	13.30	12.99
<b>Total</b>			<b>69.87</b>	<b>69.84</b>

- 2
- 3 Design criteria that have been established based on USBP operational needs
- 4 specify that, at a minimum, any fencing must meet the following requirements:
- 5      • Built 15 to 18 feet high and extend below ground
- 6      • Capable of withstanding vandalism, cutting, or various types of penetration

- 1 • Semi-transparent, as dictated by operational need
- 2 • Designed to survive extreme climate changes
- 3 • Designed to reduce or minimize impacts on small animal movements
- 4 • Engineered to not impede the natural flow of surface water
- 5 • Aesthetically pleasing to the extent possible.

6 Typical pedestrian fence designs that could be used are included in **Appendix E**.  
7 The combined preliminary estimate to construct the proposed individual tactical  
8 infrastructure sections is approximately \$210 million.

9 Two alternatives for the alignment of the infrastructure (Route A and B) are being  
10 considered under Alternative 2. Route A is the route initially identified by the  
11 USBP Rio Grande Valley Sector as meeting its operational requirements. Route  
12 B was developed through coordination with Federal and state agencies and  
13 incorporates input received through the public scoping period. The Route B  
14 alignment continues to meet current operational requirements with less  
15 environmental impact, and is USBP's Preferred Alternative. Differences between  
16 Routes A and B are shown in **Figures 2-1** through **2-3** and are presented in  
17 detail in **Appendices D** and **F**.

18 Routes A and B would follow the IBWC levee system associated with the Rio  
19 Grande along Sections O-4 through O-21. In most cases, the proposed section  
20 alignments along the IBWC levee would be placed approximately 30 feet from  
21 the toe of the levee (i.e., lowest point of the base of the structure facing away  
22 from the Rio Grande). This configuration would allow the proposed infrastructure  
23 to be placed in an existing levee ROW without disturbing current IBWC  
24 operations or USBP patrol roads. However, several proposed locations along  
25 the levee ROW would require the relocation of private residences or other  
26 structures that encroach upon the levee ROW.

27 Under both route alternatives, the tactical infrastructure within several of the 21  
28 sections would also encroach on multiple privately owned land parcels. Some  
29 proposed fence sections could also encroach upon portions of the LRGVNWR  
30 and Texas state parks in the Rio Grande Valley.

31 The proposed project corridor would impact an approximate 60-foot-wide  
32 corridor. This corridor would include fences and patrol roads. Vegetation would  
33 be cleared and grading would occur where needed. The area that would be  
34 permanently impacted by the construction of tactical infrastructure (both Routes  
35 A and B) would total approximately 508 acres. Unavoidable impacts on  
36 jurisdictional waters of the United States, including wetlands, would be mitigated.  
37 Wherever possible, existing roads and previously disturbed areas would be used  
38 for construction access and staging areas. **Figure 2-4** shows a schematic of  
39 typical impact areas for tactical infrastructure for both Route A and B.

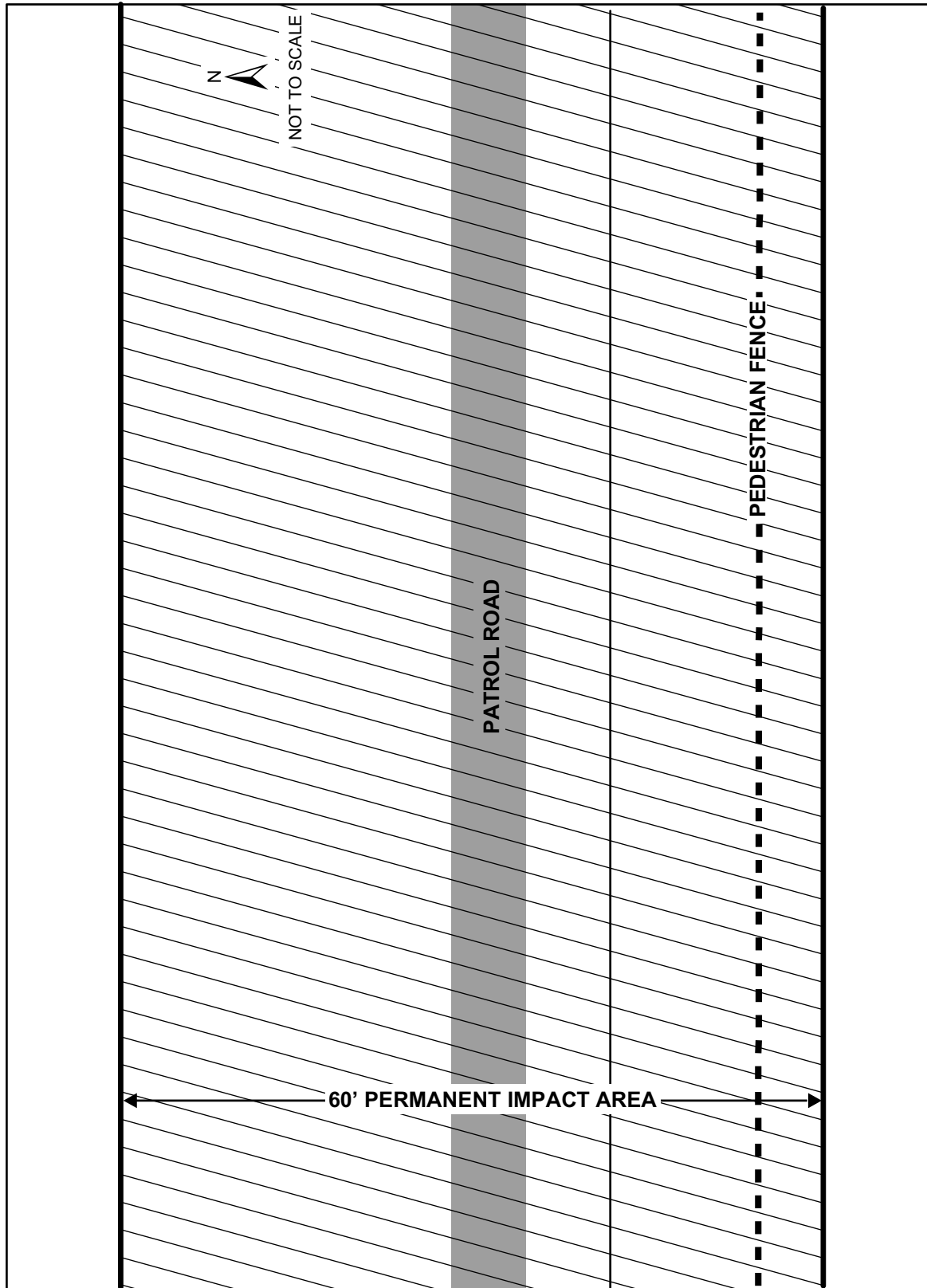


Figure 2-4. Schematic of Proposed Project Corridor – Alternative 2



Rio Grande Valley Sector activities routinely adapt to operational requirements, and would continue to do so under this alternative. Overall, the Rio Grande Valley Sector operations would retain the same flexibility to most effectively provide a law enforcement resolution to illegal cross-border activity.

USBP is working closely with local landowners and others potentially affected by the proposed infrastructure. For both Route Alternatives, gates would be constructed to allow USBP personnel and landowners access to land, the Rio Grande and other water resources, and infrastructure. Route B would include the construction of approximately 90 secure access gates (see **Appendix D**). In agricultural areas, gates would be wide enough to allow access for necessary farming equipment. In other cases, gates would be situated to provide access to existing recreational amenities; water resources, including pump houses and related infrastructure; grazing areas; existing parks; and other areas. On a case-by-case basis, the USACE might purchase the land between the fence and the Rio Grande on behalf of USBP, if operationally necessary.

If approved, construction of the proposed tactical infrastructure would begin in Spring 2008 and continue through December 2008.

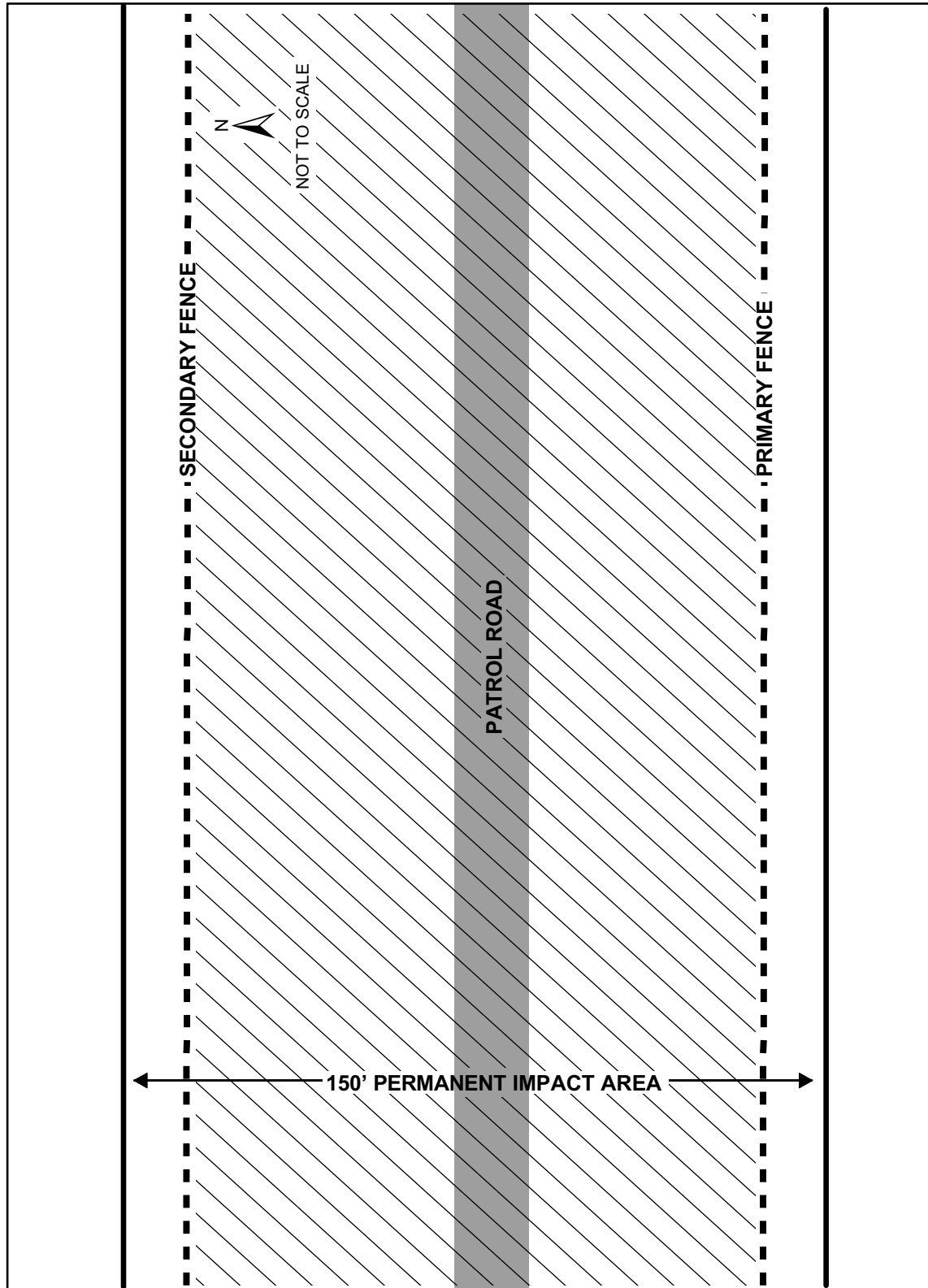
To the extent that additional actions in the study area are known, they are discussed in this EIS in **Section 5**, Cumulative Impacts. Both Routes A and B under Alternative 2 are viable and are carried forward for detailed analysis in this EIS.

### **2.2.3 Alternative 3: Secure Fence Act Alignment Alternative**

In addition to Routes A and B described above, an alternative of two layers of fence, known as primary and secondary fence, is analyzed in this EIS. Under this alternative, the two layers of fence would be constructed approximately 130 feet apart along the same alignment as Route B and would be most closely aligned with the fence description in the Secure Fence Act of 2006, P.L. 109-367, 120 Stat. 2638, codified at 8 U.S.C. 1701. This alternative would also include construction and maintenance of access and patrol roads. The patrol road would be between the primary and secondary fences.

**Figure 2-5** shows a schematic of typical project corridor areas for this alternative. The design of the tactical infrastructure for this alternative would be similar to that of Alternative 2.

Construction of the proposed tactical infrastructure would impact an approximate 150-foot wide corridor for 70 miles along the 21 fence sections. This construction corridor would accommodate fencing and patrol and access roads. Vegetation would be cleared and grading would occur where needed. Unavoidable impacts on jurisdictional waters of the United States, including wetlands, would be mitigated. Wherever possible, existing roads would be used for construction



**Figure 2-5. Schematic of Proposed Project Corridor – Alternative 3**

1 access. This is a viable alternative and is carried forward for detailed analysis in  
2 this EIS.

## 3 **2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER** 4 **DETAILED ANALYSIS**

5 USBP evaluated possible alternatives to be considered for the Proposed Action.  
6 This section addresses options that were reviewed but not carried forward for  
7 detailed analysis.

### 8 **2.3.1 Additional USBP Agents in Lieu of Tactical Infrastructure**

9 USBP considered the alternative of increasing the number of USBP agents  
10 assigned to the border as a means of gaining effective control of the border.  
11 Under this alternative, USBP would hire and deploy a significantly larger number  
12 of agents than are currently deployed along the U.S./Mexico international border  
13 and increase patrols to apprehend cross-border violators. USBP would deploy  
14 additional agents as determined by operational needs, but might include 4-wheel  
15 drive vehicles, all terrain vehicles, helicopters, or fixed-wing aircraft. Currently,  
16 USBP maintains an aggressive hiring program and a cadre of well-trained  
17 disciplined agents.

18 This alternative was determined not to meet the screening criteria of USBP  
19 operational requirements. The physical presence of an increased number of  
20 agents could provide an enhanced level of deterrence against illegal entry into  
21 the United States, but the use of additional agents alone, in lieu of the proposed  
22 tactical infrastructure, would not provide a practical solution to achieving effective  
23 control of the border in the Rio Grande Valley Sector. The use of physical  
24 barriers has been demonstrated to slow cross-border violators and provide USBP  
25 agents with additional time to make apprehensions (USACE 2000).

26 A Congressional Research Service (CRS) report (CRS 2006) concluded that  
27 USBP border security initiatives such as the 1994 "Operation Gatekeeper"  
28 required a 150 percent increase in USBP manpower, lighting, and other  
29 equipment. The report states that "It soon became apparent to immigration  
30 officials and lawmakers that the USBP needed, among other things, a 'rigid'  
31 enforcement system that could integrate infrastructure (i.e., multi-tiered fence  
32 and roads), manpower, and new technologies to further control the border  
33 region" (CRS 2006).

34 Tactical infrastructure, such as a pedestrian fence, is a force multiplier to allow  
35 USBP to deploy agents efficiently and effectively. As tactical infrastructure is  
36 built, some agents would be redeployed to other areas of the border within the  
37 sector. Increased patrols would aid in interdiction activities, but not to the extent  
38 anticipated by the Proposed Action. As such, this alternative is not practical in  
39 the USBP Rio Grande Valley Sector and will not be carried forward for further  
40 detailed analysis.

### 2.3.2 Technology in Lieu of Tactical Infrastructure

USBP would use various forms of technology to identify cross-border violators. The use of technology in certain sparsely populated areas is a critical component of *SBlnet* and an effective force multiplier that allows USBP to monitor large areas and deploy agents to where they will be most effective. However, the apprehension of cross-border violators is still performed by USBP agents and other law enforcement agents. In the more densely populated areas within the Rio Grande Valley Sector, physical barriers represent the most effective means to control illegal entry into the United States, as noted above. The use of technology alone would not provide a practical solution to achieving effective control of the border in the Rio Grande Valley Sector. Therefore, this alternative would not meet the purpose and need as described in **Section 1.2** and will not be carried forward for further detailed analysis.

### 2.3.3 Native Thorny Scrub Hedge in Lieu of Tactical Infrastructure

During the public scoping process, an alternative was proposed to maintain a 200- to 300-yard-wide mowed area outside the Rio Grande floodplain and plant a 100-yard-wide hedge of dense, short native thorny scrub brush (a hedge row) within the mowed area. This alternative would also incorporate technology such as sensors, cameras, and lights pointed towards the Rio Grande from the cleared area. The primary benefit associated with this alternative would be its ability to provide suitable habitat for the endangered ocelot (*Leopardus (=Felis) pardalis*) and jaguarundi (*Herpailurus (=Felis) yaguarondi*), which would find suitable habitat along the riverbank travel corridor and within the hedge. The hedge could also serve to connect the LRGVNR units into a larger habitat area.

The primary deficiency with this alternative is that a hedge would not be as durable as a fence (pathways could be cut or burned through or under the hedge), it would be relatively slow to grow, and it might require more maintenance than a fence. USBP experience indicates that cross-border violators are willing to traverse dangerous terrain to avoid being caught. A 100-yard-wide hedge could become a haven where they could hide. If a cross-border violator was to become injured and trapped in the hedge, USBP agents would likely have to cut through the hedge to rescue the person, damaging or destroying the hedge in the process. For these reasons, this alternative was determined to not meet the screening criteria of USBP operational requirements, is not a viable alternative, and was not carried forward for further detailed analysis.

### 2.3.4 Fence Within the Rio Grande

During the public scoping process, an alternative was proposed to construct a fence in the middle of the Rio Grande. This alternative would consist of installing poles in the river with cables stretched between the poles. A screen fence could be suspended from the cables and anchored to the river bottom. This alternative

was not considered in detail due to multiple concerns, including technical uncertainty, regulatory and permitting challenges, cost considerations, the likelihood of significantly altering the natural flow of the river and impacting additional aquatic resources, and the potential to cause violations of international treaty obligations. Therefore, this alternative would not meet the screening criteria of USBP operational requirements and will not be carried forward for additional analysis.

### **2.3.5 Brownsville Weir and Reservoir Project in Lieu of Tactical Infrastructure**

During the public scoping process, the proposed Brownsville Weir and Reservoir Project was identified as an alternative in lieu of portions of the proposed tactical infrastructure. The Public Utilities Board of Brownsville, Texas, is proposing to construct a weir and reservoir system on the Rio Grande as a water conservation project. Under this alternative, it was suggested that the resulting reservoir would create a body of water large enough that it would serve as an effective deterrent to cross-border violators.

The Brownsville Weir and Reservoir Project (Department of Army Permit Number 21977) would not create a permanent body of water large enough to serve as an effective deterrent to illegal border crossing. The reservoir was designed as a temporary retention basin, not a permanent detention basin. It would only fill with water during localized heavy rain events or during upstream releases from the Falcon or Amistad Reservoirs, which are further up the Rio Grande basin. The temporal nature of this option means it would only exist during wet years, and be nonexistent during drought conditions. Even when full, the reservoir project would not significantly increase the river width and would represent only a 100-yard obstacle at its widest point when full of water. This alternative also might flood sabal palm groves, flood the riparian vegetation along more than a dozen miles of the river, disturb the movements of the jaguarundi and ocelot along the river, and disturb a key estuary where the Rio Grande enters the Gulf of Mexico. In addition, a larger water barrier might not deter cross-border violators but rather only lead to a potentially larger numbers of drownings. For these reasons, this alternative was determined not to meet the screening criteria of USBP operational requirements, was not considered a viable alternative, and will not be carried forward for further detailed analysis.

### **2.3.6 Raising Levees in Lieu of Tactical Infrastructure**

During the public scoping process, an alternative was proposed to reconstruct river levees as 18-foot-high reinforced earthen barriers. USBP considered an alternative of constructing concrete barriers into the levees and installing an additional fence on top of those concrete barriers. There are numerous legal obstacles to this alternative, such as concerns over levee ownership and maintenance, which were identified by the U.S. Section of the IBWC during coordination. The U.S. Section of the IBWC also informed USBP that it would

not support any construction near the international boundary that increases, concentrates, or relocates overland drainage flows into Mexico or the United States. Therefore, because of legal and infrastructure uncertainties, this alternative did not meet the screening criteria of USBP operational requirements, was not considered a viable alternative, and will not be carried forward for further detailed analysis.

## 2.4 SUMMARY COMPARISON OF ACTION ALTERNATIVES

**Table 2-2** presents a summary comparison of the action alternatives carried forward for analysis in the EIS.

**Table 2-2. Comparison of Action Alternatives**

	Alternative 2		Alternative 3: Secure Fence Act Alignment Alternative
	Route A	Route B	
<b>Description</b>	21 individual tactical infrastructure sections comprised of pedestrian fence, patrol roads, and access roads	21 individual tactical infrastructure sections comprised of pedestrian fence, patrol roads, and access roads	21 individual tactical infrastructure sections comprised of primary and secondary pedestrian fence constructed 130 feet apart, patrol roads between fences, and access roads
<b>Proposed Total Route Length</b>	69.87 miles	69.84 miles	69.84 miles
<b>Proposed Project Corridor</b>	60 feet	60 feet	150 feet
<b>Acreage of Proposed Project Corridor</b>	508 acres	508 acres	1,270 acres

## 2.5 IDENTIFICATION OF THE PREFERRED, LEAST-DAMAGING PRACTICABLE ALTERNATIVE

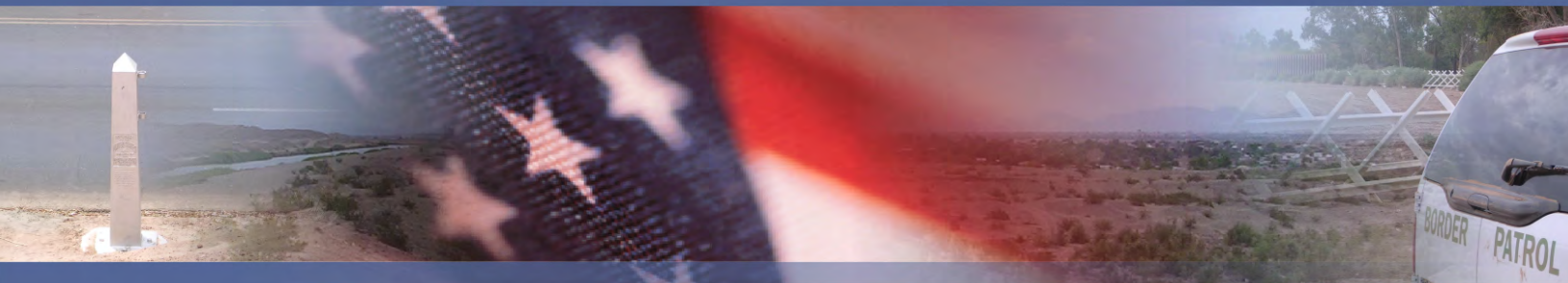
CEQ's implementing regulation 40 CFR 1502.14(c) instructs EIS preparers to "Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference." USBP has identified the environmentally preferred, least-damaging practicable alternative as Alternative 2, Route B.

1 Implementation of Alternative 2, Route B would meet USBP's purpose and need  
2 described in **Section 1.2**. The No Action Alternative would not meet USBP's  
3 purpose and need. Alternative 2, Route A would meet the purpose and need  
4 described in **Section 1.2**, but it would cause environmental impacts greater than  
5 the impacts identified for Alternative 2, Route B. Alternative 3 would meet  
6 USBP's purpose and need described in **Section 1.2** but would have greater  
7 environmental impacts compared to the Preferred Alternative. USBP might need  
8 to implement this alternative at some point in the future depending on future  
9 USBP operational requirements. While USBP believes that this level of tactical  
10 infrastructure is not required at this time it is a viable alternative and will be  
11 carried forward for detailed analysis.

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## **SECTION 3**

### Affected Environment





### 3. AFFECTED ENVIRONMENT

#### 3.1 INTRODUCTION

All potentially relevant resource areas were initially considered in this EIS. In compliance with NEPA, the CEQ guidelines, and DHS MD 5100.1, the following evaluation of environmental impacts focuses on those resource areas and conditions potentially subject to impacts and on potentially significant environmental issues deserving of study, and deemphasizes insignificant issues. Some environmental resource areas and conditions that are often selected for analysis in an EIS have been omitted from detailed analysis in this EIS. Some were eliminated from detailed examination because of their inapplicability to this proposal. The following paragraphs provide the basis for such exclusions.

**Climate.** The Proposed Action would neither affect nor be affected by the climate. However, air emissions and their impacts on air quality are discussed in **Section 3.2** and **Section 4.2**.

**Sustainability and Greening.** EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (January 24, 2007) promotes environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products, and maintaining cost-effective waste prevention and recycling programs in Federal facilities. The Proposed Action would use minimal amounts of resources during construction and maintenance. Therefore, the Proposed Action would have negligible impacts on sustainability and greening.

**Construction Safety.** Construction site safety 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. The 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.

Construction workers at any of the proposed construction sites would be exposed to greater safety risks from the inherent dangers at construction sites. Contractors would be required to establish and maintain safety. The proposed construction would not expose members of the general public to increased safety risks. Therefore, because the proposed construction would not introduce new or unusual safety risks, and assuming construction protocols are carefully followed, detailed examination of safety is not included in this EIS.

## 3.2 AIR QUALITY

**National Ambient Air Quality Standards.** In accordance with Federal CAA requirements, the air quality in a given region or area is measured by the concentrations of various pollutants in the atmosphere. The measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm), milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological “air basin,” and the prevailing meteorological conditions.

The CAA directed USEPA to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to impact human health and the environment. USEPA established both primary and secondary NAAQS under the provisions of the CAA. NAAQS are currently established for six criteria air pollutants: ozone ( $\text{O}_3$ ), carbon monoxide (CO), nitrogen dioxide ( $\text{NO}_2$ ), sulfur dioxide ( $\text{SO}_2$ ), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [ $\text{PM}_{10}$ ] and particulate matter equal to or less than 2.5 microns in diameter [ $\text{PM}_{2.5}$ ]), and lead (Pb). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources along with maintaining visibility standards.

The Federal CAA and USEPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. The State of Texas has adopted the NAAQS as the Texas Ambient Air Quality Standards (TAAQS) for the entire state of Texas. **Table 3.2-1** presents the primary and secondary USEPA NAAQS that apply to the air quality in the State of Texas. The Texas Commission on Environmental Quality (TCEQ) has established air pollution control regulations. These regulations are contained in Texas Administrative Code (TAC) Title 30. The TCEQ has also promulgated rules regulating the emissions of toxic substances which are defined as those chemicals listed in TAC Title 30, Chapter 113 plus any other air pollutant that is considered a health hazard, as defined by OSHA.

These air pollutant control programs are detailed in State Implementation Plans (SIPs), which are required to be developed by each state or local regulatory agency and approved by USEPA. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any changes to the compliance schedule or plan (e.g., new regulations, emissions budgets, controls) must be incorporated into the SIP and approved by USEPA.

1

**Table 3.2-1. National Ambient Air Quality Standards**

Pollutant	Standard Value		Standard Type
CO			
8-hour Average <sup>a</sup>	9 ppm	(10 mg/m <sup>3</sup> )	Primary and Secondary
1-hour Average <sup>a</sup>	35 ppm	(40 mg/m <sup>3</sup> )	Primary
NO <sub>2</sub>			
Annual Arithmetic Mean	0.053 ppm	(100 µg/m <sup>3</sup> )	Primary and Secondary
O <sub>3</sub>			
8-hour Average <sup>b</sup>	0.08 ppm	(157 µg/m <sup>3</sup> )	Primary and Secondary
1-hour Average <sup>c</sup>	0.12 ppm	(240 µg/m <sup>3</sup> )	Primary and Secondary
Pb			
Quarterly Average		1.5 µg/m <sup>3</sup>	Primary and Secondary
PM <sub>10</sub>			
Annual Arithmetic Mean <sup>d</sup>		50 µg/m <sup>3</sup>	Primary and Secondary
24-hour Average <sup>a</sup>		150 µg/m <sup>3</sup>	Primary and Secondary
PM <sub>2.5</sub>			
Annual Arithmetic Mean <sup>e</sup>		15 µg/m <sup>3</sup>	Primary and Secondary
24-hour Average <sup>f</sup>		35 µg/m <sup>3</sup>	Primary and Secondary
SO <sub>2</sub>			
Annual Arithmetic Mean	0.03 ppm	(80 µg/m <sup>3</sup> )	Primary
24-hour Average <sup>a</sup>	0.14 ppm	(365 µg/m <sup>3</sup> )	Primary
3-hour Average <sup>a</sup>	0.5 ppm	(1,300 µg/m <sup>3</sup> )	Secondary

Source: USEPA 2007a

Notes: Parenthetical values are approximate equivalent concentrations.

<sup>a</sup> Not to be exceeded more than once per year.

<sup>b</sup> To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

<sup>c</sup> The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1. As of June 15, 2005, USEPA revoked the 1-hour ozone standard in all areas except the 14 8-hour ozone nonattainment Early Action Compact Areas.

<sup>d</sup> To attain this standard, the expected annual arithmetic mean PM<sub>10</sub> concentration at each monitor within an area must not exceed 50 µg/m<sup>3</sup>.

<sup>e</sup> To attain this standard, the 3-year average of the annual arithmetic mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m<sup>3</sup>.

<sup>f</sup> To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m<sup>3</sup>.

- 2 USEPA classifies the air quality in an air quality control region (AQCR), or in  
3 subareas of an AQCR according to whether the concentrations of criteria  
4 pollutants in ambient air exceed the primary or secondary NAAQS. All areas

1 within each AQCR are therefore designated as either “attainment,”  
2 “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria  
3 pollutants. Attainment means that the air quality within an AQCR is better than  
4 the NAAQS, nonattainment indicates that criteria pollutant levels exceed NAAQS,  
5 maintenance indicates that an area was previously designated nonattainment but  
6 is now attainment, and unclassified means that there is not enough information to  
7 appropriately classify an AQCR, so the area is considered in attainment.

8 The General Conformity Rule requires that any Federal action meet the  
9 requirements of a SIP or Federal Implementation Plan. More specifically, CAA  
10 conformity is ensured when a Federal action does not cause a new violation of  
11 the NAAQS; contribute to an increase in the frequency or severity of violations of  
12 NAAQS; or delay the timely attainment of any NAAQS, interim progress  
13 milestones, or other milestones toward achieving compliance with the NAAQS.

14 The General Conformity Rule applies only to actions in nonattainment or  
15 maintenance areas and considers both direct and indirect emissions. The rule  
16 applies only to Federal actions that are considered “regionally significant” or  
17 where the total emissions from the action meet or exceed the *de minimis*  
18 thresholds presented in 40 CFR 93.153. An action is regionally significant when  
19 the total nonattainment pollutant emissions exceed 10 percent of the AQCR’s  
20 total emissions inventory for that nonattainment pollutant. If a Federal action  
21 does not meet or exceed the *de minimis* thresholds and is not considered  
22 regionally significant, then a full Conformity Determination is not required.

23 Title V of the CAA Amendments (CAAA) of 1990 requires states and local  
24 agencies to permit major stationary sources. A major stationary source is a  
25 facility (i.e., plant, base, or activity) that can emit more than 100 tons per year  
26 (tpy) of any one criteria air pollutant, 10 tpy of a hazardous air pollutant, or 25 tpy  
27 of any combination of hazardous air pollutants. However, lower pollutant-specific  
28 “major source” permitting thresholds apply in nonattainment areas. For example,  
29 the Title V permitting threshold for an “extreme” O<sub>3</sub> nonattainment area is 10 tpy  
30 of potential volatile organic compound (VOC) or nitrogen oxide (NO<sub>x</sub>) emissions.  
31 The purpose of the permitting rule is to establish regulatory control over large,  
32 industrial-type activities and monitor their impact on air quality.

33 Federal Prevention of Significant Deterioration (PSD) regulations also define air  
34 pollutant emissions from proposed major stationary sources or modifications to  
35 be “significant” if (1) a proposed project is within 10 kilometers of any Class I  
36 area, and (2) regulated pollutant emissions would cause an increase in the  
37 24-hour average concentration of any regulated pollutant in the Class I area of 1  
38 µg/m<sup>3</sup> or more [40 CFR 52.21(b)(23)(iii)]. A Class I area includes national parks  
39 larger than 6,000 acres, national wilderness areas and national memorial parks  
40 larger than 5,000 acres, and international parks. PSD regulations also define  
41 ambient air increments, limiting the allowable increases to any area’s baseline air  
42 contaminant concentrations, based on the area’s class designation (40 CFR  
43 52.21(c)).

1 **Greenhouse Gases.** Many chemical compounds found in the Earth's  
2 atmosphere act as "greenhouse gases." These gases allow sunlight to enter the  
3 atmosphere freely. When sunlight strikes the Earth's surface, some of it is  
4 reflected back towards space as infrared radiation (heat). Greenhouse gases  
5 absorb this infrared radiation and trap the heat in the atmosphere. Over time, the  
6 trapped heat results in the phenomenon of global warming.

7 In April 2007, the U.S. Supreme Court declared that carbon dioxide (CO<sub>2</sub>) and  
8 other greenhouse gases are air pollutants under the CAA. The Court declared  
9 that the USEPA has the authority to regulate emissions from new cars and trucks  
10 under the landmark environment law.

11 Many gases exhibit these "greenhouse" properties. The sources of the majority  
12 of greenhouse gases come mostly from natural sources but are also contributed  
13 to by human activity. Additional information on sources of greenhouse gases is  
14 included in **Appendix K**.

## 15 **Route A**

16 The Proposed Action is within the southernmost portions of Starr County, Hidalgo  
17 County, and Cameron County, Texas, within the Brownsville-Laredo Intrastate  
18 Air Quality Control Region (BLIAQCR). The BLIAQCR is composed of Cameron  
19 County, Hidalgo County, Jim Hogg County, Starr County, Webb County, Willacy  
20 County, and Zapata County, Texas. The BLIAQCR is classified as being in  
21 attainment/unclassified for all criteria pollutants.

## 22 **Route B**

23 Route B would also be within the BLIAQCR. Therefore, the affected environment  
24 for air quality associated with Route B is the same as described for Route A.

## 25 **3.3 NOISE**

26 Sound is defined as a particular auditory effect produced by a given source, for  
27 example the sound of rain on a rooftop. Sound is measured with instruments  
28 that record instantaneous sound levels in decibels. A-weighted sound level  
29 measurement is used to characterize sound levels that can be sensed by the  
30 human ear. "A-weighted" denotes the adjustment of the frequency range for  
31 what the average human ear can sense when experiencing an audible event.  
32 C-weighted sound level measurement correlates well with physical vibration  
33 response of buildings and other structures to airborne sound. Impulsive noise  
34 resulting from demolition activities and the discharge of weapons are assessed in  
35 terms of C-weighted decibels (dBC).

36 Noise and sound share the same physical aspects, but noise is considered a  
37 disturbance while sound is defined as an auditory effect. Noise is defined as any  
38 sound that is undesirable because it interferes with communication, is intense

1 enough to damage hearing, or is otherwise annoying. Noise can be intermittent  
2 or continuous, steady or impulsive, and can involve any number of sources and  
3 frequencies. It can be readily identifiable or generally nondescript. Human  
4 response to increased sound levels varies according to the source type,  
5 characteristics of the sound source, distance between source and receptor,  
6 receptor sensitivity, and time of day. How an individual responds to the sound  
7 source will determine if the sound is viewed as music to one's ears or as  
8 annoying noise. Affected receptors are specific (i.e., schools, churches, or  
9 hospitals) or broad (e.g., nature preserves or designated districts) areas in which  
10 occasional or persistent sensitivity to noise above ambient levels exists.  
11 Predictors of wildlife response to noise include noise type (i.e., continuous or  
12 intermittent), prior experience with noise, proximity to a noise source, stage in the  
13 breeding cycle, activity, and age. Potential impacts of noise on wildlife are  
14 discussed in **Section 4.8**.

15 Most people are exposed to sound levels of 50 to 55 A-weighted decibels (dBA)  
16 or higher on a daily basis. Studies specifically conducted to determine noise  
17 impacts on various human activities show that about 90 percent of the population  
18 is not significantly bothered by outdoor sound levels below 65 dBA (USEPA  
19 1974). Studies of community annoyance in response to numerous types of  
20 environmental noise show that A-weighted Day Night Average Sound Level  
21 (ADNL) correlates well with impact assessments and that there is a consistent  
22 relationship between ADNL and the level of annoyance.

23 **Ambient Sound Levels.** Noise levels in residential areas vary depending on the  
24 housing density and location. As shown in **Figure 3.3-1**, a suburban residential  
25 area is about 55 dBA, which increases to 60 dBA for an urban residential area,  
26 and 80 dBA in the downtown section of a city.

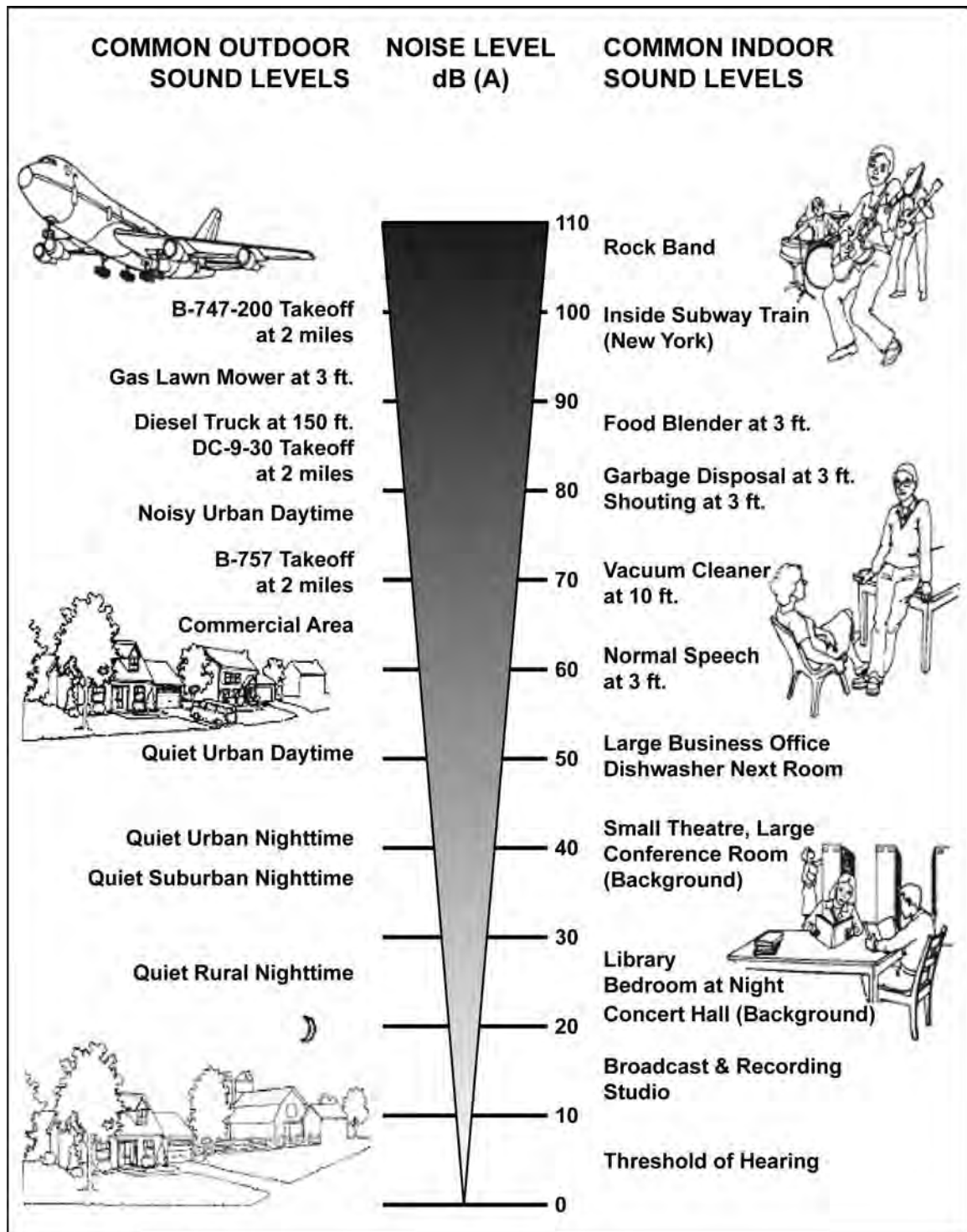
27 **Construction Sound Levels.** Building construction, modification, and  
28 demolition work can cause an increase in sound that is well above the ambient  
29 level. A variety of sounds come from graders, pavers, trucks, welders, and other  
30 work processes. **Table 3.3-1** lists noise levels associated with common types of  
31 construction equipment that are likely to be used under the Proposed Action.  
32 Construction equipment usually exceeds the ambient sound levels by 20 to 25  
33 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area.

## 34 **Route A**

35 The proposed tactical infrastructure for the USBP Rio Grande Valley Sector  
36 passes through areas with different acoustical environments. The ambient  
37 acoustical environment in the USBP Rio Grande Valley Sector is primarily  
38 impacted by vehicular traffic, aircraft operations, agricultural equipment, and  
39 industrial noise sources.



1



Source: Landrum & Brown 2002

Figure 3.3-1. Common Noise Levels

**Table 3.3-1. Predicted Noise Levels for Construction Equipment**

Construction Category and Equipment	Predicted Noise Level at 50 feet (dBA)
<b><i>Clearing and Grading</i></b>	
Bulldozer	80
Grader	80–93
Truck	83–94
Roller	73–75
<b><i>Excavation</i></b>	
Backhoe	72–93
Jackhammer	81–98
<b><i>Building Construction</i></b>	
Concrete mixer	74–88
Welding generator	71–82
Pile driver	91–105
Crane	75–87
Paver	86–88

Source: USEPA 1971

The Rio Grande Valley area is composed of many different cities, towns, and communities. The City of Brownsville is in the eastern section of the Rio Grande Valley project area, and Rio Grande City is on the western edge of the project area. In between these two cities lie the municipalities of McAllen, Alamo, Weslaco, Progreso, Mercedes, Harlingen, and San Benito. Several subdivisions and smaller communities also exist along the border. Each of these cities and towns has its own ambient sound level depending on the size of the municipality and the nearby activities.

State Route (SR) 83 passes in the vicinity of Rio Grande City and SR 281 is adjacent to Progreso, Texas. County Route (CR) 433 traverses the towns of McAllen, Alamo, Weslaco, and Mercedes. SR 77 traverses the cities of Harlingen and Brownsville. CR 56 is also a major transportation route into the Rio Grande Valley. Traffic along each of these roads contributes to the ambient acoustical environment in the Rio Grande Valley.

Brownsville/South Padre Island International Airport is approximately 4 miles east of the city of Brownsville. An average of 126 aircraft operations are performed at the Brownsville/South Padre Island International Airport daily (AirNav 2007a). There is a railroad track on the west side of Brownsville that traverses north from the U.S./Mexico international border. The B&M Railroad, MP Railroad, and Union Pacific Railroad are stationed at this location. In addition, there are numerous industrial facilities in the city. It is estimated that proposed sites near

Brownsville have ambient noise levels comparable to an urban environment (50–80 dBA). McAllen Miller International Airport is approximately 2 miles south of the city of McAllen (Section O-6). An average of 172 aircraft operations occur daily at McAllen Miller International Airport (AirNav 2007b).

Along the U.S./Mexico international border in areas west of Brownsville, agricultural activities are prominent. Agricultural equipment used in these areas can produce noise levels up to 100 dBA (OSU 2007). While farms are generally spread out, noise from agricultural activities is likely to extend past the farm boundaries. Agricultural activities contribute to the ambient acoustical environment in the USBP Rio Grande Valley Sector. The proposed project corridor also crosses and borders remote wildlife areas such as the LRGVNR. These areas and the USBP Rio Grande Valley Sector in general likely have ambient noise levels that are comparable to rural or suburban areas (25 to 55 dBA) (see **Figure 3.3-1**).

## **Route B**

Route B would be within the same ambient acoustical environment as described for Route A. Therefore, the affected environment associated with Route B is the same as described for Route A.

## **3.4 LAND USE**

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws. There is, however, no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, “labels,” and definitions vary among jurisdictions.

Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Compatibility among land uses fosters the societal interest of obtaining the highest and best uses of real property. Tools supporting land use planning include written master plans/management plans and zoning regulations. In appropriate cases, the location and extent of a proposed action needs to be evaluated for its potential impacts on a project site and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project site, the types of land uses on adjacent properties and their proximity to a proposed action, the duration of a proposed activity, and its “permanence.”

Recreational resources are both natural and improved lands designated by Federal, state, and local planning entities to offer visitors and residents diverse opportunities to enjoy leisure activities. Natural recreational resources are those

places or amenities set aside as parklands, trails (e.g., hiking, bicycling, equestrian), open spaces, aesthetically pleasing landscapes, and a variety of other locales. Manmade recreational resources can include parks, manmade lakes, recreational fields, or sport or recreational venues. National, state, and local jurisdictions typically have designated land areas with defined boundaries for recreation. Other less structured activities like hunting are performed in broad, less-defined locales. A recreational setting might consist of natural or manmade landscapes and can vary in size from a roadside monument to a multimillion-acre wilderness area.

## Route A

Major land uses within the Rio Grande Valley include agriculture, rangeland, recreation/special use, urban, and water. Specific land uses in each classification are described below (USACE 1994).

- Agriculture – Specific land uses within this classification include highly developed croplands, pasture, small grains, forage crops, hay production, and orchards. The land may be irrigated or non-irrigated.
- Rangeland – Specific land use includes the grazing of cattle, horses, sheep, goats, and other domestic animals. This is based on the presence of naturally occurring grasses, grasslike plants and forbs, or shrubs suitable for grazing and browsing. This classification would include natural grasslands, savannas, some wetlands, and other areas with the potential to support certain forb and shrub communities under prudent and normally accepted land management practices.
- Recreation/Special Use – This land use classification includes barren land, or land with sparse vegetation cover during most of the year. Areas of sand dunes or shifting soil would also be included. This classification includes tourist recreation and natural and wildlife management areas.
- Urban – Specific land uses within this classification include residential, industrial, transportation, commercial, educational, medical, recreational, open space for environmental protection (i.e., floodway, utility easements, and ROW), and underdeveloped land within political boundaries (i.e., cities, towns, and villages).
- Water – This land use classification includes naturally occurring and man-made lakes, reservoirs, gulfs, bays, rivers, streams, and coastal wetlands.

The existing land use in the Rio Grande Valley ranges from well developed urban centers of commerce (i.e., Laredo and Brownsville), to areas of intensive agricultural activities, to extensive areas of recreation and wildlife management activities. The following is a brief description of the existing land use in Cameron, Hidalgo, and Starr Counties (USACE 1994).

- Cameron County – A large percentage of Cameron County is devoted to highly intensive and specialized farming (54 percent). Major crops are

citrus, cool-season vegetables, cotton, and grain sorghum. A large portion of the urban land is devoted to recreation activities. The county supports fishing, hunting, water sports, and a variety of other recreational activities year round. Major recreational activities are centered around South Padre Island and National Wildlife Refuges (i.e., Santa Ana). Major urban areas are Brownsville, Harlingen, and San Benito.

- Hidalgo County – The major land use is agriculture (63 percent). Agricultural crops include cotton, grains, vegetables, citrus, and sugar cane. Rangeland (26 percent) is used primarily for cattle production. Commercial activities include food processing, shipping, tourism, and mineral operations. Tourism peaks during the winter season and centers around the Bentson-Rio Grande Valley State Park, Santa Ana National Wildlife Refuge, and other recreational facilities. Major urban areas are McAllen, Pharr, and Edinburg.
- Starr County – Rangeland constitutes 87 percent of the county's land use with the majority of the activities involving the production of cattle, sheep, hogs, and horses. Most agricultural land (12 percent) is irrigated and is used for the production of sorghum, cotton, and vegetables. Rio Grande City is the county seat and a major urban center. A major recreational area is International Falcon Reservoir.

The Rio Grande Valley contains numerous recreational/special land use areas. Most of these special land use areas are outside of highly urbanized centers. These lands have been established for various recreational activities but also for flood control, scenic, historic, and wildlife management uses. **Figure 3.4-1** presents parks and refuges in the Rio Grande Valley. **Appendix F** presents detailed maps of the areas surrounding the proposed fence sections. **Section 3.11** describes the aesthetics and visual resources of the Rio Grande Valley.

## Route B

Route B would traverse the same land uses as described for Route A. Therefore, the affected environment associated with Route B is the same as described for Route A.

## 3.5 GEOLOGY AND SOILS

Geology and soils resources include the surface and subsurface materials of the earth. Within a given physiographic province, these resources typically are described in terms of topography, soils, geology, minerals, and paleontology, where applicable.

Topography is defined as the relative positions and elevations of the natural or human-made features of an area that describe the configuration of its surface. Regional topography is influenced by many factors, including human activity,

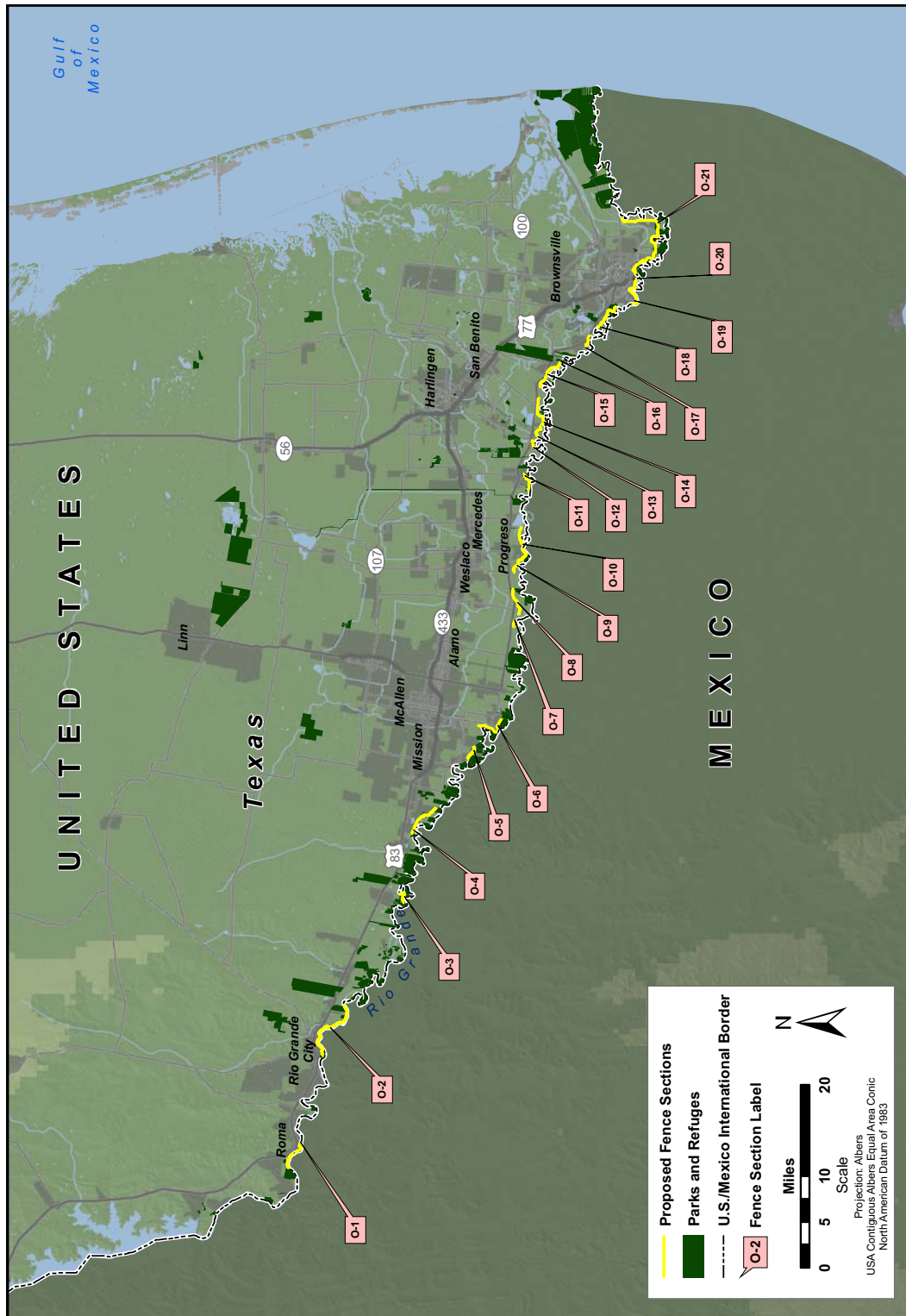


Figure 3.4-1. Parks and Refuges in the Rio Grande Valley

1

2

1 seismic activity of the underlying geologic material, climatic conditions, and  
2 erosion. Information describing topography typically encompasses surface  
3 elevations, slope, and physiographic features (i.e., mountains, ravines, hills,  
4 plains, deltas, or depressions).

5 Site-specific geological resources typically consist of surface and subsurface  
6 materials and their inherent properties. Principal factors influencing the ability of  
7 geologic resources to support structural development are seismic properties (i.e.,  
8 potential for subsurface shifting, faulting, or crustal disturbance), topography, and  
9 soil stability.

10 Soils are the unconsolidated materials overlying bedrock or other parent material.  
11 They develop from the weathering processes of mineral and organic materials  
12 and are typically described in terms of landscape position, slope, and physical  
13 and chemical characteristics. Soil types differ in structure, elasticity, strength,  
14 shrink-swell potential, drainage characteristics, and erosion potential, which can  
15 affect their ability to support certain applications or uses. In appropriate cases,  
16 soil properties must be examined for compatibility with particular construction  
17 activities or types of land use.

18 Prime and unique farmland is protected under the Farmland Protection Policy Act  
19 (FPPA) of 1981. Prime farmland is defined as land that has the best combination  
20 of physical and chemical characteristics for producing food, feed, forage, fiber,  
21 and oilseed crops, and is also available for these uses. Unique farmland is  
22 defined as land other than prime farmland that is used for the production of  
23 specific high-value food and fiber crops. It has the special combination of soil  
24 quality, location, growing season, and moisture supply needed to economically  
25 produce sustained high quality or high yields of a specific crop when treated and  
26 managed according to acceptable farming methods. Soil qualities, growing  
27 season, and moisture supply are needed for well-managed soil to produce a  
28 sustained high yield of crops in an economic manner. The land could be  
29 cropland, pasture, rangeland, or other land, but not urban built-up land or water.  
30 The intent of the FPPA is to minimize the extent that Federal programs contribute  
31 to the unnecessary conversion of farmland to nonagricultural uses. The FPPA  
32 also ensures that Federal programs are administered in a manner that, to the  
33 extent practicable, will be compatible with private, state, and local government  
34 programs and policies to protect farmland.

35 The implementing procedures of the FPPA and Natural Resources Conservation  
36 Service (NRCS) require Federal agencies to evaluate the adverse impacts (direct  
37 and indirect) of their activities on prime and unique farmland, as well as farmland  
38 of statewide and local importance, and to consider alternative actions that could  
39 avoid adverse impacts. Determination of whether an area is considered prime or  
40 unique farmland and potential impacts associated with a proposed action is  
41 based on preparation of the Farmland Conversion Impact Rating Form AD-1006  
42 for areas where prime farmland soils occur and by applying criteria established at  
43 Section 658.5 of the FPPA (7 CFR Part 658). The NRCS is responsible for

overseeing compliance with the FPPA and has developed the rules and regulations for implementation of the Act (see 7 CFR Part 658, 5 July 1984).

### Route A

**Physiography and Topography.** The USBP Rio Grande Valley Sector occupies Starr, Hidalgo, and Cameron counties in Texas along the U.S./Mexico international border. The USBP Rio Grande Valley Sector occurs in a subtropical semi-arid zone in the Gulf Coastal Plains Physiographic Province of Texas. The proposed project corridor would occur in the Coastal Prairies and Interior Coastal Plains subprovinces, of the larger Gulf Coastal Plains. Fence Sections O-7 to O-21 occur in the Coastal Plains subprovince, which is characterized by young deltaic sands, silts, and clays that have eroded to nearly imperceptible slopes occupied by flat grasslands. Trees are uncommon except along streams; on coarser underlying sediments of ancient streams; within fencerows; on lands protected as refuges; and along the Rio Grande, where sugarberry, Texas ebony, honey mesquite, Mexican palm trees, and citrus plantations can be found. Sections O-1 to O-7 occur in the Interior Coastal Plains subprovince, which is characterized by alternating belts of resistant uncemented sands among weaker shales that erode into long, sandy ridges. In the proposed project corridor, trees are few, and barretal shrublands dominate (Wermund 2007). The topographic profile of the surrounding area is a nearly level to rolling, slightly to moderately dissected plain that has formed between the Balcones Escarpment to the north, the Rio Grande to the southwest, and the Gulf of Mexico to the southeast. Elevations in the proposed project corridor range from approximately mean sea level (MSL) to 10 feet above MSL along Section O-21 and grade gently higher with slightly steeper topography to the west to approximately 50 to 80 feet above MSL along Section O-1 (TopoZone.com 2007).

**Geology.** The surface geology of the Gulf Coastal Plains is characterized by broad subparallel bands of sedimentary rocks deposited in the Tertiary and Quaternary Periods of the Cenozoic Era. The western end of the proposed project corridor is in the Breaks of the Rio Grande, a region of steep-sided, narrow, and deep valleys created as the north-south trending Rio Grande tributaries eroded the resistant Tertiary formations. The Breaks of the Rio Grande terminate near the Starr-Hidalgo County line and define the beginning of the Rio Grande Valley, which consists of Quaternary alluvial sediments. From oldest to youngest (west to east), the Tertiary-deposited sediments include the Jackson Group (made up of the Whitsett, Manning, Wellborn, Caddell, Yazoo, and Moodys Branch formations), the Catahoula and Frio formations undivided, the Goliad Formation, and Uvalde gravels. Quaternary-deposited sediments of the Rio Grande Valley include fluvial terrace deposits, the Lissie and Beaumont formations, wind-blown deposits, and the most recent alluvium deposits (DHS 2004).

The Jackson Group consists of volcanic and marine sediments deposited during the Eocene Epoch of the Tertiary Period. It is composed mostly of sandstone



1 and tuffaceous clay with some crossbeds of white volcanic ash. The Jackson  
2 Group is overlain by the Catahoula and Frio formations, which are composed of  
3 mudstone; sandstone; light-brown clays; gray sandy clays; and, in the basal  
4 layer, dark greenish sandy clays. Towards the end of the Tertiary period, large  
5 river systems deposited calcareous muds formed from Cretaceous-age marls  
6 and limestones, over broad areas of the low coastal plain. Overlaying the  
7 Catahoula and Frio formations is the Goliad Formation and Uvalde gravels. The  
8 Goliad Formation includes clay, sand, marble, and caliche with abundant  
9 reworked Cretaceous Period invertebrate fossils; the caliche is locally popular,  
10 used to surface roads. The Uvalde gravels are found on interstream ridges and  
11 divides and are composed of rounded flint pebbles and cobbles weathered from  
12 Lower Cretaceous-age formations (DHS 2004).

13 During the Quaternary period, a series of interglacial and glacial periods  
14 produced an active environment of fluvial deposition and subsequent erosion.  
15 Ancient river systems transported enormous quantities of suspended sand and  
16 mud and, during interglacial periods, deposited the sediments into accumulating  
17 deltas and fluvial plains at the Gulf of Mexico. During glacial periods, the drop in  
18 sea level eroded underlying fluvial deposits creating new deltas miles into the  
19 gulf. During this time, the ancestral Rio Grande cut through the older Tertiary  
20 formations and remnant meander scars in the floodplain were converted into 3 to  
21 10 foot high river terraces composed of unsorted coarse sand and gravel (DHS  
22 2004).

23 The Lissie Formation consists of thick beds of sand interbedded with clay and silt  
24 with the clays predominating in the upper part. It contains thin lenses of rounded  
25 gravels composed of ferruginous sandstones, quartz, and other siliceous rocks.  
26 Large amounts of silicified wood are found among the gravel sheets. This  
27 formation is characterized by many undrained circular or irregular depressions  
28 and relict windblown sand and clay dunes that are stabilized in a northwest-  
29 trending direction. The sands and clays of the Lissie formation are overlain by  
30 the bluish-gray clays of the Beaumont Formation, which were deposited by  
31 ancient rivers in the form of deltas or natural levees. Broad faint ridges,  
32 containing more sand than the flats between them, are the remnants of natural  
33 levees that formed as the ancient river shifted across the coastal lowlands. The  
34 flat lowlands of the Beaumont Formation form a featureless and often marshy  
35 plain, called the Coastal Prairie, as it approaches the Gulf Coast (DHS 2004).

36 The recent alluvial deposits of the Rio Grande Valley are composed of  
37 sedimentary rocks resulting from dissection of previous sedimentation and  
38 floodplain deposition during the Modern-Holocene Period. In the Pleistocene  
39 Epoch, interglacial deltas formed by the Rio Grande were combined into a larger  
40 delta that extended farther beyond the current Gulf Coast. The modern coastal  
41 barrier island system was formed by the subsidence and compaction of this  
42 ancient delta. During the sea level rise of the Holocene, brackish water  
43 inundated the ancient valley, creating an estuarine environment that was

eventually replaced by fertile floodplain deposits of the Rio Grande Valley as it graded to its present level (DHS 2004).

**Soils.** Generally the soils occurring in the proposed project corridor are loamy to clayey, moderately to slowly permeable, and occur on nearly level to gentle slopes. None of the soil map units occurring within the portion of the proposed project corridor in Starr County are designated as farmland of importance. Hydric soils are soils that are saturated, flooded, or have ponding long enough during the growing season to develop anaerobic (oxygen-deficient) conditions in upper horizons. The presence of hydric soil is one of the three criteria (i.e., hydric soils, hydrophytic vegetation, and wetland hydrology) used to determine that an area is a wetland based on the USACE *Wetlands Delineation Manual*, Technical Report Y-87-1 (USACE 1987).

In Hidalgo County, soils of the Camargo, Cameron, Laredo, Matamoros, Olmito, Reynosa, Rio Grande, and Runn series within the proposed project corridor are classified as prime farmland soils; and soils of the Arents and Raymondville series within the proposed project corridor are classified as prime farmland soils if irrigated. In Cameron County, soils of the Camargo, Cameron, Laredo, Matamoros, Olmito, and Rio Grande series within the proposed project corridor are classified as prime farmland soils; and the Harlingen series and Laredo-Olmito complex soils within the proposed project corridor are classified as prime farmland soils if irrigated. In Starr County, no soils that potentially occur within the proposed project corridor are classified as hydric. In Hidalgo County, soils of the Grulla series occur within the proposed project corridor and are classified as partially hydric. In Cameron County, Ustifluvents and soils of the Chargo, Grulla, and Sejita series occur within the proposed project corridor soils and are classified as partially hydric (NRCS 2007).

See **Appendix G** for maps of soil units within the project area. The properties of soil map units identified within the proposed project corridor in Starr, Hidalgo, and Cameron counties can be found in **Appendix H**.

## **Route B**

The physiographic, topographic, and geologic resources associated with Route B are similar to Route A. The soil resources of Route B are largely similar to Route A with the exception of the Tiocano soil series of Cameron County which occurs only in the eastern portion of Section O-13 in Route B. This soil series is classified as partially hydric (NRCS 2007).

## **3.6 WATER RESOURCES**

**Hydrology and Groundwater.** Hydrology consists of the redistribution of water through the processes of evapotranspiration, surface runoff, and subsurface flow. Hydrology results primarily from temperature and total precipitation that determine evapotranspiration rates, topography which determines rate and

1 direction of surface flow, and soil properties that determine rate of subsurface  
2 flow and recharge to the groundwater reservoir. Groundwater consists of  
3 subsurface hydrologic resources. It is an essential resource that functions to  
4 recharge surface water and is used for drinking, irrigation, and industrial  
5 processes. Groundwater typically can be described in terms of depth from the  
6 surface, aquifer or well capacity, water quality, recharge rate, and surrounding  
7 geologic formations.

8 **Surface Water and Waters of the United States.** Surface water resources  
9 generally consist of wetlands, lakes, rivers, and streams. Surface water is  
10 important for its contributions to the economic, ecological, recreational, and  
11 human health of a community or locale.

12 The CWA (33 U.S.C. 1251 *et seq.*) established the Federal authority for  
13 regulating discharges of pollutants into waters of the United States. Section 404  
14 of the CWA (33 U.S.C. 1344) establishes a Federal program to regulate the  
15 discharge of dredged and fill material into waters of the United States. The  
16 USACE administers the permitting program for authorization of actions under  
17 Section 404 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires that  
18 proposed dredge and fill activities permitted under Section 404 be reviewed and  
19 certified by the designated state agency that the proposed project will meet state  
20 water quality standards. The Federal permit under Section 404 is not valid until it  
21 has received Section 401 water quality certification. Section 402 of the CWA  
22 authorizes the discharge of any pollutant, or combination of pollutants, into  
23 navigable waters of the United States under an NPDES permit. Pursuant to  
24 Texas Water Code 26.040 and CWA Section 402, all construction that would  
25 result in a soil disturbance of greater than 5 acres requires authorization under  
26 the TCEQ Construction General Permit (TXR150000). Section 303(d) of the  
27 CWA requires states and USEPA to identify waters not meeting state water-  
28 quality standards and to develop Total Maximum Daily Loads (TMDLs) and an  
29 implementation plan to reduce contributing sources of pollution.

30 Waters of the United States are defined within the CWA of 1972, as amended.  
31 USEPA and the USACE assert jurisdiction over (1) traditional navigable waters,  
32 (2) wetlands adjacent to navigable waters, (3) nonnavigable tributaries of  
33 traditional navigable waters that are relatively permanent where the tributaries  
34 typically flow year-around or have continuous flow at least seasonally, and  
35 (4) wetlands that directly abut such tributaries.

36 The CWA (as amended in 1977) established the basic structure for regulating  
37 discharges of pollutants into the waters of the United States. The objective of the  
38 CWA is restoration and maintenance of chemical, physical, and biological  
39 integrity of U.S. waters. To achieve this objective several goals were enacted,  
40 including (1) eliminate discharge of pollutants into navigable waters by 1985;  
41 (2) achieve water quality which provides for the protection and propagation of  
42 fish, shellfish, and wildlife and provides for recreation in and on the water by  
43 1983; (3) prohibit discharge of toxic pollutants in toxic amounts; (4) provide

1 Federal financial assistance to construct publicly owned waste treatment works;  
2 (5) develop and implement the national policy that areawide waste treatment  
3 management planning processes to ensure adequate control of sources of  
4 pollutants in each state; (6) establish the national policy that a major research  
5 and demonstration effort be made to develop technology necessary to eliminate  
6 the discharge of pollutants into navigable waters, waters of the contiguous zone,  
7 and the oceans; and (7) establish the national policy that programs developed  
8 and implemented in an expeditious manner so as to enable the goals to be met  
9 through the control of both point and nonpoint sources of pollution. The USACE  
10 regulates the discharge of dredge and fill material (e.g., concrete, riprap, soil,  
11 cement block, gravel, sand) into waters of the United States including wetlands  
12 under Section 404 of the CWA and work on or structures in or affecting  
13 navigable waters of the United States under Section 10 of the Rivers and  
14 Harbors Act of 1899.

15 Wetlands are an important natural system and habitat, performing diverse  
16 biologic and hydrologic functions. These functions include water quality  
17 improvement, groundwater recharge and discharge, pollution mitigation, nutrient  
18 cycling, wildlife habitat provision, unique flora and fauna niche provision, storm  
19 water attenuation and storage, sediment detention, and erosion protection.  
20 Wetlands are considered as a subset of the waters of the United States under  
21 Section 404 of the CWA. The term “waters of the United States” has a broad  
22 meaning under the CWA and incorporates deepwater aquatic habitats and  
23 special aquatic habitats (including wetlands). The USACE defines wetlands as  
24 “those areas that are inundated or saturated with ground or surface water at a  
25 frequency and duration sufficient to support, and that under normal  
26 circumstances do support, a prevalence of vegetation typically adapted to life in  
27 saturated soil conditions. Wetlands generally include swamps, marshes, bogs,  
28 and similar areas” (33 CFR Part 328).

29 **Floodplains.** Floodplains are areas of low-level ground and alluvium adjacent to  
30 rivers, stream channels, or coastal waters. Such lands might be subject to  
31 periodic or infrequent inundation due to runoff of rain or melting snow. Risk of  
32 flooding typically hinges on local topography, the frequency of precipitation  
33 events, and the size of the watershed upstream from the floodplain. Flood  
34 potential is evaluated by FEMA, which defines the 100-year floodplain. The 100-  
35 year floodplain is the area that has a 1 percent chance of inundation by a flood  
36 event in a given year. Certain facilities inherently pose too great a risk to be  
37 constructed in either the 100- or 500-year floodplain, including hospitals, schools,  
38 or storage buildings for irreplaceable records. Federal, state, and local  
39 regulations often limit floodplain development to passive uses, such as  
40 recreational and preservation activities, to reduce the risks to human health and  
41 safety.

42 EO 11988, *Floodplain Management*, requires Federal agencies to determine  
43 whether a proposed action would occur within a floodplain. This determination  
44 typically involves consultation of appropriate FEMA Flood Insurance Rate Maps

(FIRMs), which contain enough general information to determine the relationship of the project area to nearby floodplains. EO 11988 directs Federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988 outlined in the FEMA document "Further Advice on EO 11988 Floodplain Management." As a planning tool, the NEPA process incorporates floodplain management through analysis and public coordination of the EIS.

**Coastal Zone Management.** The CZMA of 1972 gives states with federally approved coastal management programs the responsibility of reviewing Federal agency actions and activities to ensure that they are consistent with the state program's goals and policies. Any project that is in or may affect land and water resources in the Texas coastal zone and that requires a federal license or permit, is a direct activity of a federal agency, or is federally funded, must be reviewed for consistency with the Texas Coastal Management Program. The purpose of the Texas Coastal Management Program (CMP) is to improve the management of the state's coastal natural resource areas and to ensure the long-term ecological and economic productivity of the coast. The Coastal Coordination Council was established as a forum for coordinating Federal, state, and local programs and activities of the Texas coast (TxGLO 2007).

CBP has determined that a portion of Section O-19, and all of Sections O-20 and O-21 are within the Texas coastal zone. Therefore, a consistency certification and application for consistency review will be made to the Texas CMP office. This review process, overseen by the Texas Consistency Review Coordinator, will compliment the CWA Section 404 permit process, and the CWA Section 401 state water quality certification process, if required.

## **Route A**

**Hydrology and Groundwater.** The proposed project corridor is in the Rio Grande Drainage Basin, which composes an area of approximately 355,500 square miles. Much of the Rio Grande drainage basin is composed of rural, undeveloped land used primarily for farming and ranching. Water development projects in the Rio Grande Valley have disrupted natural flow regimes, including structures such as Anzalduas Dam, Falcon Dam, and Amistad Dam. Substantial quantities of surface water are diverted from the Rio Grande to meet municipal, industrial, and agricultural demands in Texas and Mexico, with a significant portion used in the Rio Grande Valley for farming and urban applications. Most of the water diverted in the Rio Grande Valley is not returned to the river as irrigation tailwater or treated wastewater effluent because the land naturally slopes away from the river channel. The return flows are usually discharged into constructed drainage ditches/channels and floodways that eventually flow into the Laguna Madre estuary, and ultimately into the Gulf of Mexico (Moore et al. 2002).

1 The major aquifer in the Rio Grande Valley is the Gulf Coast Aquifer. The aquifer  
2 consists of alternating beds of clay, silt, sand, and gravel that are hydrologically  
3 connected to form a large, leaky, artesian system. Challenges related to  
4 withdrawal of groundwater from the Gulf Coast Aquifer include land-surface  
5 subsidence, increased chloride content in the groundwater from the  
6 southwestern portion of the aquifer, and saltwater intrusion along the coast  
7 (USACE 2000).

8 In Cameron County, the major source of groundwater is the Rio Grande Valley  
9 Alluvium Aquifer, which consists of recent deposits of unconsolidated sand, silt,  
10 gravel, and clay. This aquifer is close to the Rio Grande in an area bounded by  
11 the river on the south and Highway 83 on the north. Water in the Rio Grande  
12 Valley Alluvium Aquifer is characterized by high concentrations of chloride,  
13 dissolved solids, boron, and sodium. This water does not meet U.S. drinking  
14 water standards and is used primarily for agricultural uses (USACE 2000).

15 **Surface Waters and Waters of the United States.** The predominant surface  
16 water feature in the area is the Rio Grande (called the Rio Bravo in Mexico). The  
17 Rio Grande drainage is one of the longest rivers in North America, and an  
18 important river basin to both the United States and Mexico. The allocation of Rio  
19 Grande water between the two countries is governed by a treaty signed in 1944.

20 The main channel of the Rio Grande lies south of the proposed project corridor  
21 (Moore et al. 2002). In 1932, an agreement was reached between the United  
22 States and Mexico to develop a coordinated plan to protect the Rio Grande  
23 Valley against flooding from the Rio Grande in both countries (IBWC 2007b).  
24 This agreement was developed by the IBWC and resulted in the Lower Rio  
25 Grande Flood Control Project (LRGFCP) (IBWC 2007b).

26 The LRGFCP is designed for flood protection of urban, suburban, and highly  
27 developed irrigated farm lands in the Rio Grande delta in both countries. The  
28 LRGFCP levees are grass-covered earthen structures, with a distance between  
29 the U.S. and Mexico levees ranging from approximately 400 feet to 3 miles. The  
30 LRGFCP is jointly operated by the U.S. IBWC and Mexican IBWC to convey  
31 excess floodwaters of the Rio Grande to the Gulf of Mexico via the river channel  
32 and U.S. and Mexican interior floodways (IBWC 2007b). The LRGFCP includes  
33 approximately 180 miles of levees in the Rio Grande Valley.

34 Surface water features that could be potentially classified as waters of the United  
35 States in the proposed project corridor include arroyos, resacas, lakes, ponds,  
36 drainage canals, channelized streams, and wetlands including those formed from  
37 irrigation wastewater flows or groundwater seepage (see **Appendix F**). Arroyos  
38 are deep, narrow intermittently flooded drainages that flow down bluff faces into  
39 the Rio Grande. Resacas are oxbow lakes that have formed in historic floodplain  
40 channels of the Rio Grande. Dams and levees for flood control and water  
41 storage along the Rio Grande have severed the natural surface water connection  
42 between the river and most of the resacas, although groundwater flows are

1 thought to be intact. Resacas are typically filled by pumping water from the Rio  
2 Grande, rainfall, or input of irrigation return flows.

3 The proposed project corridor for Sections O-1, O-2, and O-3 are characterized  
4 by rugged river banks and steep bluffs, arroyos, and rapid erosion; there are no  
5 levees constructed within these sections. The proposed project corridor for  
6 Sections O-4 through O-21 are characterized by lakes, ponds, levees, public  
7 water canals, irrigation canals, and drainage ditches.

8 Some surface water features occur adjacent to or within the proposed project  
9 corridor associated with Route A (see **Appendix F**). Approximately 1.01 miles of  
10 Section O-1 would follow the Rio Grande to the Arroyo Mesa annex of the  
11 LRGVNR and approximately 0.33 mile would follow the Rio Grande to the Los  
12 Negro Creek Annex of the LRGVNR. Section O-2 crosses arroyos.  
13 Approximately 0.70 miles of Section O-3 would follow the Rio Grande boundary  
14 of the Los Ebanos annex of the LRGVNR. Section O-5 would run from the  
15 intersection of the northern levee and the Anzalduas Park access road and follow  
16 the levee for 1.73 miles, crossing an irrigation canal. Section O-6 would follow  
17 the Pharr San Juan Main Canal. Section O-7 would follow the Donna Canal to  
18 the Donna pump station. Section O-9 would cross between an irrigation district  
19 settling basin and Moon Lake in the Progress Lakes area. Section O-11 would  
20 begin at a point where the IBWC levee meets the Santa Maria Canal and would  
21 continue following the levee to the La Feria Canal, crossing over the canal.  
22 Section O-12 would cross over the Harlingen Canal and follow the north side of  
23 the canal. Section O-13 would begin at a point where the IBWC crosses the San  
24 Benito Canal. Section O-18 would begin at a point where the IBWC levee  
25 intersects the Los Fresnos pump canal on the east side of the canal. Section  
26 O-21 would run a short distance along the El Jardin Canal.

27 Wetlands are also potentially jurisdictional waters of the United States and can  
28 be associated with all of the above surface water features. Potential jurisdictional  
29 wetlands have been identified along the proposed project corridor based on  
30 vegetation and hydrology. Wetland indicator species are listed in **Appendix I**  
31 and include (1) Mule's Fat Shrubland, (2) Black Willow Woodland/Shrubland, (3)  
32 Giant Reed Herbaceous Vegetation, (4) Common Reed Herbaceous Vegetation,  
33 (5) Alkali Sacaton Herbaceous Vegetation, (6) Narrowleaf Cattail, and (7)  
34 Smartweed Herbaceous Vegetation. A few floating aquatic communities have  
35 also become established on some small ponds. A more complete description of  
36 these potential wetland communities is presented in **Appendix I**. Mule's Fat  
37 Shrubland is associated with near to surface groundwater or occasional standing  
38 water, characterized by stands in Sections O-3 and O-13. Black Willow  
39 Woodland/Shrubland is associated with Rio Grande canals, drainage ditches,  
40 and ponds, characterized by stands in Sections O-3, O-8, O-13, O-14, and O-20.  
41 Giant Reed Herbaceous Vegetation is associated with ditch and canal banks,  
42 standing water in ditches, and near to surface groundwater, characterized by  
43 stands in Sections O-2, O-9, and O-14. Common Reed Herbaceous Vegetation  
44 was observed in narrow strips along canal banks and is relatively rare within the

proposed project corridor. Alkali Sacaton Herbaceous Vegetation occupies shallow depressions that likely capture runoff, and was observed only in Section O-4. Narrowleaf Cattail stands occur along perennial water bodies, specifically pond shorelines as characterized in Section O-8. Smartweed Herbaceous Vegetation was observed in the bottom of one canal or large irrigation ditch in Section O-14.

The most current information available to identify wetlands within the proposed project corridor is the National Wetland Inventory (NWI) (USFWS 2007a), presented on the figures provided in **Appendix F**. No NWI coverage is currently available for Sections O-1, O-2, O-3, O-5, O-6, O-7, and O-8. Approximately 7 acres of wetlands are within the remaining sections of the proposed project corridor of Route A (see **Table 3.6-1**).

**Table 3.6-1. NWI Identified Wetlands that Occur Within the Proposed Project Corridor for Route A**

Section	Wetland Type	Acreage
O-4	Freshwater Pond	0.1
O-9	Freshwater Pond	negligible
	Freshwater Emergent Wetland	0.8
O-10	Freshwater Emergent Wetland	0.7
O-13	Riverine	0.4
	Freshwater Emergent Wetland	0.3
	Freshwater Emergent Wetland	0.2
O-15	Freshwater Emergent Wetland	1.4
O-17	Freshwater Emergent Wetland	0.8
O-18	Freshwater Emergent Wetland	negligible
O-20	Freshwater Emergent Wetland	0.6
	Freshwater Emergent Wetland	0.7
O-21	Freshwater Emergent Wetland	0.8
	Freshwater Pond	0.2

Source: USFWS 2007a

Note: Wetland acreage is based on NWI data. No NWI coverage is currently available for Sections O-1, O-2, O-3, O-5, O-6, O-7, O-8.

Identification and delineation of waters of the United States (i.e., jurisdictional wetlands and waters) within the proposed project corridor is an ongoing process. Wetland delineations will be finalized once rights of entry (ROEs) and LRGVNR Special Use Permits have been obtained. The unavoidable impacts on jurisdictional waters and wetlands will be reviewed as part of the USACE Section 404 permit process. The proposed tactical infrastructure would be



1 designed to avoid or minimize impacts on wetlands and drainages, and to  
2 prevent impounding or otherwise altering waters.

3 Wetland delineations will be conducted using the *USACE Wetlands Delineation*  
4 *Manual, Technical Report Y-87-1*. The parameters required when performing  
5 wetland boundary assessment typically include (1) the predominance (greater  
6 than 50 percent) of hydrophytic (wetland) vegetation, (2) the presence of hydric  
7 (wetland) soils, and (3) evidence of wetland hydrology. In undisturbed field  
8 conditions for wetlands, all three of these diagnostic criteria must be present to  
9 fulfill wetlands classification criteria (USACE 1987). The Cowardin classification  
10 of wetlands will then be used to characterize aquatic resource habitats (wetlands  
11 and streams) in the project area. The Cowardin wetland classification uses a  
12 hierarchical classification approach, beginning with Systems and Subsystems,  
13 and narrows to a more specific level of Classes, Subclasses, and Dominance  
14 Types based on habitat types. Each System is a “complex of wetlands and  
15 deepwater habitats that share the influence of similar hydrologic, geomorphic,  
16 chemical, or biological factors” (Cowardin et al. 1979). There are five Systems in  
17 the Cowardin wetland classification nomenclature: Marine, Estuarine, Riverine,  
18 Lacustrine, and Palustrine. Once completed, wetland delineations are followed  
19 by a jurisdictional determination (JD) by the USACE prior to any construction  
20 activities.

21 The use of irrigation and application of fertilizers, pesticides, and herbicides has  
22 resulted in the contamination of agricultural drainage ditches and resacas in the  
23 Rio Grande Valley. These waters are eventually discharged into the Laguna  
24 Madre (USFWS 1991). Because resacas are also integral parts of the urban  
25 storm water drainage system in the Rio Grande Valley, they are subject to urban  
26 nonpoint source pollution such as pesticides (e.g., chlordane), automotive oil,  
27 grease, metals, fertilizers, sewage, and dissolved salts. Resacas are also  
28 affected negatively if they receive contaminated river water for municipal water  
29 storage or irrigation. In addition, illegal dumping into resacas has contributed to  
30 the contamination within these waterways (DOI 1996).

31 **Floodplains.** The proposed project corridor associated with Section O-1 is  
32 depicted as occurring in the 100-year floodplain of the Rio Grande, as identified  
33 on the January 24, 1978, FEMA FIRM Panel No. 4805750010A for Starr County,  
34 Texas. The proposed project corridor associated with Section O-2 is depicted as  
35 occurring in the 100-year floodplain of the Rio Grande, as identified on the  
36 January 24, 1978, FEMA FIRM Panel Nos. 4805750014A and 4805750015A for  
37 Starr County, Texas. Sections O-1 and O-2 are designated as Zone A. Zone A  
38 areas on FEMA flood insurance maps indicate areas that correspond to the 100-  
39 year floodplain determined in the Flood Insurance Study (FIS) by approximate  
40 methods (FEMA 1987, FEMA undated). Due to the uncertainty of the  
41 methodology, it cannot be determined if portions of the proposed project corridor  
42 associated with Sections O-1 and O-2 occur in the 100-year floodplain, as they  
43 are located on bluffs and the valley rim. As described in **Section 3.5.2**, the

topography of these sections is characterized by rugged river banks (at the Rio Grande), arroyos, and heavy erosion with no levees.

The proposed project corridor associated with Section O-3 is also depicted as occurring in the 100-year floodplain of the Rio Grande, as identified on the January 2, 1981, FEMA FIRM Panel No. 4803340375B for Hidalgo County, Texas. Section O-3 would be within FEMA Zone A23, which is one of the flood insurance rate zones that correspond to the 100-year floodplains that are determined in the FIS by detailed methods (FEMA 1987, FEMA undated). The topography and surface waters of Section O-3 are similar to that of Sections O-1 and O-2.

The proposed project corridor associated with Sections O-4 through O-21 does not lie within the 100-year floodplain. These proposed fence sections would follow either privately owned or the IBWC levee system as discussed in **Section 2.3**, and would be outside the current FEMA 100-year flood zone and the IBWC international drainage. Areas outside the 100-year flood zone are generally zoned B, C, and X. FEMA defines Zones B, C, and X as zones that correspond to areas outside the 100-year floodplains, areas of 100-year sheet flow flooding where average depths are less than 1 foot, areas of 100-year stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 100-year flood by levees (FEMA 1987, FEMA undated).

## **Route B**

**Groundwater and Hydrology.** The groundwater and hydrology associated with the proposed project corridor of Route B would be identical to Route A.

**Surface Waters and Waters of the United States.** There are several differences between the surface water features that occur adjacent or within the proposed project corridors for Routes A and B. Section O-1 of Route B would traverse less riparian areas than Route A. Section O-2 of Route B would avoid some arroyos that would be crossed by Route A. Section O-3 of Route B represents adjustments to avoid some natural riparian areas along the Rio Grande. Section O-5 of Route B represents a slight realignment where the proposed project corridor would cross over the irrigation canal. Section O-7 would end at the Donna Canal, and would not cross over the canal or run along it. Section O-11 for Route B represents an alternative to realignment for crossing La Feria Canal. Section O-21 of Route B represents a slight realignment around El Jardin Canal compared to Route A.

The wetland communities for Sections of O-1 through O-21 of Route B are very similar to Route A. The most current information available to identify wetlands in Route B is the NWI (USFWS 2007a), presented in **Appendix F**. No NWI coverage is currently available for Sections O-1, O-2, O-3, O-5, O-6, O-7, and O-8. Approximately 7.3 acres of wetlands are within the remaining sections of the proposed project corridor of Route B (see **Table 3.6-2**).

**Table 3.6-2. NWI Identified Wetlands that Occur within the Proposed Project Corridor for Route B**

Section	Wetland Type	Acreage
O-4	Freshwater Pond	0.2
O-9	Freshwater Pond	negligible
	Freshwater Emergent Wetland	0.8
O-10	Freshwater Emergent Wetland	0.7
	Lake	0.1
O-11	Freshwater Forested/Shrub Wetland	negligible
O-13	Riverine	0.2
	Freshwater Emergent Wetland	0.3
	Freshwater Emergent Wetland	0.2
	Freshwater Emergent Wetland	0.8
O-15	Freshwater Emergent Wetland	0.8
O-17	Freshwater Emergent Wetland	0.8
O-19	Riverine	0.5
O-20	Freshwater Emergent Wetland	0.9
	Freshwater Forested/Shrub Wetland	negligible
O-21	Freshwater Emergent Wetland	0.8
	Freshwater Pond	0.2

Source: USFWS 2007a

Note: Wetland acreage is based on NWI data. No NWI coverage is currently available for Sections O-1, O-2, O-3, O-5, O-6, O-7, O-8.

**Floodplains.** The floodplains associated with the proposed project corridor of Route B would be identical to Route A.

### 3.7 VEGETATION

Vegetation resources include native or naturalized plants and serve as habitat for a variety of animal species. This section describes the affected environment for native and nonnative vegetation, including the climate that drives the development of plant communities in this region, basic classification of these plant communities, and a summary of plant species and communities documented within the proposed project corridor during surveys conducted in 2007. More detailed information on the vegetation resources documented during field surveys conducted in 2007, including methodologies and classification schemes, is presented in the Draft Biological Survey Report (see **Appendix I**).

## **Route A**

The climate within the proposed project corridor is semiarid-subtropical/subhumid within the Modified Marine climatic type, in which summers are long and hot and winters are short, dry, and mild (Larkin and Bomar 1983, Bailey 1995). The marine climate results from the predominant onshore flow of tropical maritime air from the Gulf of Mexico. Onshore air flow is modified by a decrease in moisture content from east to west and by intermittent seasonal intrusions of continental air.

Average temperatures in Brownsville range from a low of 50 degrees Fahrenheit [°F] in January to a low of 76 °F in July, and a high of 64 °F in December to a high of 97 °F in August. Annual low and high temperatures for Brownsville range from 12 °F to 63 °F and 93 °F to 107 °F, respectively. The average annual precipitation of the Rio Grande Delta recorded in Brownsville ranges from 22 to 30 inches (Brownsville recorded 21.68 inches for 2006), and the distribution of rainfall is irregular. Wind speeds are stable ranging from 10.4 miles per hour (mph) to 17.3 mph during the year. A long growing season is experienced for the proposed project region, from 314 to 341 days. The evaporation rate during the summer season is high, about twice the amount of precipitation.

The vegetation of the Rio Grande Delta of southern Texas has generally been classified under the Dry Domain, Tropical/Subtropical Steppe Division (Bailey 1995). The area surrounding the proposed project corridor is more finely classified as the Southwestern Plateau and Plains Dry Steppe and Shrub Province. The Texas Parks and Wildlife Department (TPWD 2007a) provides discussion and describes vegetation geography to biotic provinces and natural regions using topographic features, climate, vegetation types, and terrestrial vertebrates. This system places the project area in the Tamaulipan Biotic Province, South Texas Brush Country (Rio Grande Basin) Natural Region, and the Level III Ecoregions of the Southern Texas Plains and Western Gulf Coastal Plain.

Occurring within the Rio Grande Valley (technically a delta) of southern Texas and northern Mexico, Tamaulipan Brushland represents a unique ecosystem (USFWS 1988). The characteristic natural vegetation is dense and thorny, and plant species distribution can be correlated with geologic formations. The Rio Grande floodplain supports tall, dense riparian forest, woodland, shrubland, and herbaceous vegetation while the xeric upland areas support mostly spiny shrubs, short-stature trees, and dense nonnative grasslands. Between the 1920s and 1980s more than 95 percent of the native brushland and 90 percent of the riparian vegetation had been converted to agriculture and urban land use (USFWS 1988). In 1988, it was estimated that 98 percent of the lush, subtropical region of the Rio Grande Delta had been cleared of native vegetation in the United States and a large but unknown percentage cleared in Mexico.

1 NatureServe (2007) has defined ecological systems to represent recurring  
2 groups of biological communities that are found in similar physical environments  
3 and are influenced by similar dynamic ecological processes such as fire or  
4 flooding. Ecological systems represent classification units that are readily  
5 identifiable by conservation and resource managers in the field. For this reason,  
6 the results of the field surveys conducted in 2007 are presented in terms of  
7 ecological systems as defined by NatureServe (2007): (1) Tamaulipan  
8 Calcareous Thornscrub, (2) Tamaulipan Mesquite Upland Scrub, (3) Tamaulipan  
9 Mixed Deciduous Thornscrub, (4) Tamaulipan Savanna Grassland,  
10 (5) Tamaulipan Arroyo Shrubland, (6) Tamaulipan Floodplain, (7) Tamaulipan  
11 Palm Grove Riparian Forest, and (8) North American Arid West Emergent Marsh.  
12 Further details on these ecological systems, including photodocumentation, are  
13 provided in **Appendix I**.

14 Habitats observed, sampled, and photographed within the proposed project  
15 corridor range from upland thorn-scrub on the western end of Section O-1, upper  
16 and mid-valley riparian forest and woodland communities throughout the  
17 proposed middle sections, and sabal palm and mid-delta thorn forests within  
18 Section O-21. Much of the vegetation cover along the sections consists of  
19 nonnative grassland species that are themselves dominant or often support an  
20 overstory of honey mesquite, retama, or huisache shrubs or small trees.  
21 Agricultural fields occur along much of the corridor as proposed and include  
22 sugar cane, sorghum, Johnsongrass, sunflowers, cotton, row crop vegetables  
23 particularly onions, citrus trees (grapefruit and orange), or fields that were fallow  
24 at the time of site visit. Urban development and private property with single  
25 homes occurs adjacent to several tactical infrastructure sections.

26 A description of each plant community observed within the proposed project  
27 corridor is provided in **Appendix I**. **Table 3.7-1** provides a summary of the  
28 ecological systems observed in the proposed project corridor during the 2007  
29 survey addressed in **Appendix I**.

30 Plant species recorded within the proposed project corridor for Sections O-1  
31 through O-21 and their wetland indicator status (NRCS 2007) when appropriate  
32 are included in **Appendix I**. A total of 236 plant species were recorded. Of  
33 these 236 species, 129 were found in one fence section, and 6 (huisache,  
34 Bermuda grass, prickly pear, switchgrass, buffelgrass, and honey mesquite)  
35 were found in all 21 sections.

36 Section O-1 was the most species diverse, with 145 plant species recorded. This  
37 was the only section in which Tamaulipan Calcareous Thornscrub was observed.  
38 This species rich ecological system contributed to the high number of plants  
39 recorded for this section.

40

**Table 3.7-1. Ecological Systems Present in Each Proposed Tactical Infrastructure Section**

Ecological System	Fence Sections																				
	O-1	O-2	O-3	O-4	O-5	O-6	O-7	O-8	O-9	O-10	O-11	O-12	O-13	O-14	O-15	O-16	O-17	O-18	O-19	O-20	O-21
Tamaulipan Calcareous Thornscurb	X																				
Tamaulipan Mesquite Upland Scrub	X	X	X	X	X			X		X							X	X			
Tamaulipan Mixed Deciduous Thornscurb	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tamaulipan Savanna Grassland						X							X					X			
Tamaulipan Arroyo Shrubland	X	X																			
Tamaulipan Floodplain	X	X	X			X		X	X	X	X	X	X	X						X	X
Tamaulipan Palm Grove Riparian Forest																					
North American Arid West Emergent Marsh				X				X	X					X							
Non-native species	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

1 Section O-2 was the second-most diverse with 82 plant species recorded. This  
2 section presented all the ecological systems that Section O-1 did, with the  
3 exception of the species rich Taumalipan Calcareous Thornscrub; hence its  
4 lower diversity.

5 Numbers of plant species for Sections O-3 through O-21 ranged from 9 (Section  
6 O-19) to 47 (Section O-14), with an average of 30 plant species per fence  
7 section. Section O-21 contained Tamaulipan Palm Grove Riparian Forest, the  
8 only other ecological system besides Taumalipan Calcareous Thornscrub to be  
9 represented in only one section.

## 10 **Route B**

11 Route B shares the same general habitat descriptions as Route A. However,  
12 Route B would avoid some habitat rich areas, including the Arroyo Ramirez  
13 annex of the LRGVNWR (Section O-1), the Culebron Banco annex (Section O-  
14 13), and the Tahuachal Banco annex (Section O-16). In Section O-2, Route B  
15 would completely traverse the Los Velas West and Los Velas annexes to the  
16 LRGVNWR, whereas Route A would only partially encroach into the Los Velas  
17 West annex.

## 18 **3.8 WILDLIFE AND AQUATIC RESOURCES**

19 Wildlife and aquatic resources include native or naturalized animals and the  
20 habitats in which they exist.

### 21 **Route A**

22 The Rio Grande Valley is a highly distinctive subregion of the South Texas  
23 Plains. The South Texas Plains ecoregion consists mostly of level to rolling  
24 terrain characterized by dense brush. Usually defined as Cameron, Willacy,  
25 Hidalgo, and Starr counties, the Rio Grande Valley contains the only subtropical  
26 area in Texas. The Rio Grande Valley brushland is considered an ecological  
27 transition zone between Mexico and the United States. This key community  
28 supports many rare, threatened, and endangered species and is a stopover for  
29 migrating neotropical birds (TPWD 2007a).

30 Most of the 70 miles of the proposed project corridor has been heavily disturbed  
31 by agriculture and grazing; however, some high-quality habitat was identified  
32 during an October 2007 survey (see **Appendix I**). Unique habitat includes  
33 wetlands, riparian areas, arroyos, the LRGVNWR, Texas state parks, and  
34 Wildlife Management Areas (WMA).

35 There are presently three National Wildlife Refuges (NWRs) in the Rio Grande  
36 Valley: the Santa Ana NWR and LRGVNWR, which form a complex rather than  
37 two separate entities; and Laguna Atascosa NWR, which is outside the project  
38 area.

1 Santa Ana NWR contains one of the largest remaining tracts of subtropical  
2 riparian forest and native brushland in south Texas and provides habitat for more  
3 endangered and threatened species than any other U.S. NWR (USFWS 1988).

4 The LRGVNWR, established February 2, 1979, is a component of a multipartner  
5 effort attempting to connect and protect blocks of rare and unique habitat, known  
6 locally as a Wildlife Corridor. The Wildlife Corridor partnership includes the  
7 USFWS, the Texas Parks and Wildlife Department (TPWD), National Audubon  
8 Society, and private owners. Found within the lower four counties of Texas, the  
9 refuge currently contains more than 90,000 acres and is considered a top priority  
10 acquisition area by the USFWS. The refuge provides breeding and foraging  
11 habitat for numerous coastal wetland, inland wetland, and upland migratory bird  
12 species, and numerous other amphibians, reptiles, and mammal species  
13 (USFWS 2007b). Biotic communities located along the survey corridor are  
14 described in **Section 3.7**.

15 There are several tracts of land owned by TPWD and private conservation  
16 organizations throughout the Rio Grande Valley. The TPWD administers the Las  
17 Palomas WMA in Cameron, Hidalgo, Presidio, Starr, and Willacy counties.  
18 Bentsen-Rio Grande State Park is southwest of McAllen adjacent to the Rio  
19 Grande. The National Audubon Society's Texas Sabal Palm Sanctuary is south  
20 of Brownsville along the Rio Grande (USFWS 1988).

21 The fauna representative of the Rio Grande Valley region is characterized as  
22 semi-tropical, with some tropical species at the northern limit of their ranges and,  
23 additionally, some Chihuahuan desert species. This region was once open  
24 grassland with a scattering of shrubs, low trees, and wooded floodplains along  
25 rivers. Overgrazing, the suppression of prairie fires, and other changes in land  
26 use patterns have transformed most of the grasslands into a thorn forest,  
27 covered with subtropical shrubs and trees (CBP 2003).

28 Common wildlife species observed during the October 2007 surveys are listed in  
29 **Appendix I**. Ninety-one species of vertebrates were recorded during an October  
30 2007 survey, including 2 species of fish, 7 amphibians, 6 reptiles, 63 birds, and  
31 13 mammals (see **Appendix I**). Section O-1, as with vegetation, was the most  
32 species-rich with 26 wildlife species recorded.

33 Past collections of fish from the Rio Grande suggest two indigenous faunal  
34 assemblages, upstream and downstream. A total of 104 species of fish have  
35 been recorded from the Rio Grande (Falcon Reservoir to Boca Chica). The  
36 upstream fauna is dominated by minnows and sunfishes, while the downstream  
37 fauna includes dominant estuarine and marine species of herrings, drums, and  
38 jacks (USACE 1994).

39 Two fish species, Texas cichlid (*Herichthys cyanoguttatus*) and mosquito fish  
40 (*Gambusia affinis*), were observed in irrigation ditches during an October 2007  
41 survey (see **Appendix I**).



**Route B**

The description of the affected environment for Route B is generally similar to that for Route A. However, Route B would avoid some habitat rich areas, including the Arroyo Ramirez annex of the LRGVNR (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16). In Section O-2, Route B would completely traverse the Los Velas West and Los Velas annexes to the LRGVNR, whereas Route A would only partially encroach into the Los Velas West annex.

**3.9 SPECIAL STATUS SPECIES**

Three groups of special status species are addressed in this EIS: Federal-threatened and -endangered species, state-threatened and -endangered species, and migratory birds. Each group has its own definitions, and legislative and regulatory drivers for consideration during the NEPA process; these are briefly described below.

The ESA, as amended (16 U.S.C. 1531–1544 *et seq.*) provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. Section 7 of the ESA outlines procedures for Federal agencies to follow when taking actions that could jeopardize listed species, and contains exceptions and exemptions. Criminal and civil penalties are provided for violations of the ESA.

Section 7 of the ESA directs all Federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the USFWS, to ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of Federal lands as well as other Federal actions that could affect listed species, such as approval of private activities through the issuance of Federal permits, licenses, or other actions.

Under the ESA, a Federal endangered species is defined as any species that is in danger of extinction throughout all or a significant portion of its range. The ESA defines a Federal threatened species as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

In 1973, the Texas legislature authorized the TPWD to establish a list of endangered animals in the state. State endangered species are those species which the Executive Director of the TPWD has named as being “threatened with statewide extinction.” Threatened species are those species which the TPWD has determined are likely to become endangered in the future (TPWD 2007b).

In 1988 the Texas legislature authorized TPWD to establish a list of threatened and endangered plant species for the state. An endangered plant is one that is "in danger of extinction throughout all or a significant portion of its range." A threatened plant is one that is likely to become endangered within the foreseeable future (TPWD 2007b).

TPWD regulations prohibit the taking, possession, transportation, or sale of any of the animal species designated by state law as endangered or threatened without the issuance of a permit. State laws and regulations prohibit commerce in threatened and endangered plants and the collection of listed plant species from public land without a permit issued by TPWD. Listing and recovery of endangered species in Texas is coordinated by the TPWD. The TPWD Wildlife Permitting Section is responsible for the issuance of permits for the handling of listed species (TPWD 2007b).

The MBTA (16 U.S.C. 703–712) as amended, implements various treaties for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful without a valid permit. Under EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, the USFWS has the responsibility to administer, oversee, and enforce the conservation provisions of the MBTA, which includes responsibility for population management (e.g., monitoring), habitat protection (e.g., acquisition, enhancement, and modification), international coordination, and regulations development and enforcement. The MBTA defines a migratory bird as any bird listed in 50 CFR 10.13, which includes nearly every native bird in North America.

The MBTA and EO 13186 require Federal agencies to minimize or avoid impacts on migratory birds listed in 50 CFR 10.13. If design and implementation of a Federal action cannot avoid measurable negative impact on migratory birds, EO 13186 requires the responsible agency to consult with the USFWS and obtain a Migratory Bird Depredation Permit.

### 3.9.1 Route A

#### Federal Species

Although 19 federally listed species have the potential to occur within the proposed project corridor (**Table 3.9-1**), the following 14 are not anticipated to be impacted by the proposed construction, maintenance, and operation of the tactical infrastructure:

- Green sea turtle (*Chelonia mydas*)
- Hawksbill sea turtle (*Eretmochelys imbricata*)
- Kemp's Ridley sea turtle (*Lepidochelys kempii*)
- Leatherback sea turtle (*Dermochelys coriacea*)
- Loggerhead sea turtle (*Caretta caretta*)
- Brown pelican (*Pelecanus occidentalis*)

1  
2

**Table 3.9-1. Federal- and State-Threatened and Endangered Species  
in Texas, by County**

Common Name	Scientific Name	County	Federal Status	State Status
<b>FISH</b>				
Blackfin goby	<i>Gobionellus atripinnis</i>	C		T
Opossum pipefish	<i>Microphis brachyurus</i>	C		T
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	S, H, C		E
River goby	<i>Awaous banana</i>	H, C		T
<b>AMPHIBIANS</b>				
Black spotted newt	<i>Notophthalmus meridionalis</i>	S, H, C		T
Mexican burrowing toad	<i>Rhinophrynus dorsalis</i>	S		T
Mexican treefrog	<i>Smilisca baudinii</i>	S, H, C		T
Sheep frog	<i>Hypopachus variolosus</i>	S, H, C		T
South Texas siren (large form)	<i>Siren sp 1</i>	S, H, C		T
White-lipped frog	<i>Leptodactylus labialis</i>	S, H, C		T
<b>REPTILES</b>				
Black-striped snake	<i>Coniophanes imperialis</i>	H, C		T
Green sea turtle	<i>Chelonia mydas</i>	C	E	T
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	C	E	E
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	C	E	E
Leatherback sea turtle	<i>Dermochelys coriacea</i>	C	E	E
Loggerhead sea turtle	<i>Caretta caretta</i>	C	T	T
Indigo snake	<i>Drymarchon corais</i>	S, H, C		T
Northern cat-eyed snake	<i>Leptodeira septentrionalis septentrionalis</i>	S, H, C		T
Reticulate collared lizard	<i>Crotaphytus reticulatus</i>	S, H		T
Speckled racer	<i>Drymobius margaritiferus</i>	H, C		T
Texas horned lizard	<i>Phrynosoma cornutum</i>	S, H, C		T
Texas scarlet snake	<i>Cemophora coccinea lineri</i>	C		T
Texas tortoise	<i>Gopherus berlandieri</i>	S, H		T
<b>BIRDS</b>				
American peregrine falcon	<i>Falco peregrinus anatum</i>	S, H, C		E
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	S, H, C		T
Brown pelican	<i>Pelecanus occidentalis</i>	C	E	E
Cactus ferruginous pygmy-owl	<i>Glaucidium brasilianum cactorum</i>	S, H, C		T
Common black-hawk	<i>Buteogallus anthracinus</i>	S, H, C		T
Eskimo curlew	<i>Numenius borealis</i>	C		E
Gray hawk	<i>Asturina nitida</i>	S, H, C		T
Least tern	<i>Sterna antillarum</i>	S, H, C	E	E

Rio Grande Valley Sector Proposed Tactical Infrastructure

Common Name	Scientific Name	County	Federal Status	State Status
<b>BIRDS (continued)</b>				
Mexican hooded oriole	<i>Icterus cucullatus cucullatus</i>	S		T
Northern Aplomado falcon	<i>Falco femoralis septentrionalis</i>	H, C	E	E
Northern beardless-tyrannulet	<i>Camptostoma imberbe</i>	S, H, C		T
Piping plover	<i>Charadrius melodus</i>	H, C	T	T
Reddish egret	<i>Egretta rufescens</i>	H, C		T
Rose-throated becard	<i>Pachyrhamphus aglaiae</i>	S, H, C		T
Sooty tern	<i>Sterna fuscata</i>	C		T
Texas Botteri's sparrow	<i>Aimophila botterii texana</i>	H, C		T
Tropical parula	<i>Parula pitiayumi</i>	S, H, C		T
White-faced ibis	<i>Plegadis chihi</i>	H, C		T
White-tailed hawk	<i>Buteo albicaudatus</i>	S, H, C		T
Whooping crane	<i>Grus americana</i>	S, H, C	E	E
Wood stork	<i>Mycteria americana</i>	S, C		T
Zone-tailed hawk	<i>Buteo albonotatus</i>	S, C		T
<b>MAMMALS</b>				
Coues' rice rat	<i>Oryzomys couesi</i>	S, H, C		T
Gulf Coast jaguarundi	<i>Herpailurus (=Felis) yaguarondi</i>	S, H, C	E	E
Ocelot	<i>Leopardus (=Felis) pardalis</i>	S, H, C	E	E
Southern yellow bat	<i>Lasiurus ega</i>	H, C		T
White-nosed coati	<i>Nasua narica</i>	S, H, C		T
<b>PLANTS</b>				
Ashy dogweed	<i>Thymophylla tephroleuca</i>	S	E	E
Johnston's frankenia	<i>Frankenia johnstonii</i>	S	E	E
South Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	C	E	E
Star cactus	<i>Astrophytum asterias</i>	S, H, C	E	E
Texas ayenia	<i>Ayenia limitaris</i>	H, C	E	E
Walker's manioc	<i>Manihot walkerae</i>	S, H	E	E
Zapata bladderpod	<i>Lesquerella thamnophila</i>	S	E	E

Sources: TPWD 2007a and USFWS 2007b

Notes:

S = Starr County, Texas

H = Hidalgo County, Texas

C = Cameron County, Texas

E = Endangered

T = Threatened

- Least tern (*Sterna antillarum*)
- Northern Aplomado falcon (*Falco femoralis septentrionalis*)
- Piping plover (*Charadrius melodus*)
- Whooping crane (*Grus americana*)

- 1 • Ashy dogweed (*Thymophylla tephroleuca*)
- 2 • Johnston's frankenia (*Frankenia johnstonii*)
- 3 • South Texas ambrosia (*Ambrosia cheiranthifolia*)
- 4 • Star cactus (*Astrophytum asterias*)

5 Sea turtles and brown pelican are coastal species, occupying habitats  
6 geographically separate from the proposed project corridor and any reasonably  
7 predictable impacts of fence construction, maintenance, and operation. While  
8 the historic ranges of the remaining species included this region of South Texas,  
9 available data indicate no known records of these species within or proximal to  
10 the proposed project corridor. Therefore, these 14 species are dismissed from  
11 further consideration.

12 The following sections provide brief descriptions of the known distribution and  
13 habitat preferences of, and threats to, the federally listed species considered  
14 further in this EIS. Additional details on the biology of these species are provided  
15 in **Appendix I**.

16 **Gulf Coast jaguarundi (*Herpailurus [=Felis] yaguarondi*).** The Gulf Coast  
17 jaguarundi, listed as endangered on June 14, 1976, is a secretive species for  
18 which little about its exact distribution in Texas is known. The only documented  
19 sighting of a jaguarundi in Texas was a road-killed specimen found in Cameron  
20 County. Possible counties where the jaguarundi might exist include Cameron,  
21 Duval, Hidalgo, Jim Wells, Kenedy, Kleberg, Live Oak, Nueces, San Patricio,  
22 Starr, Willacy, and Zapata. Jaguarundi still roam Latin and South America in  
23 greater numbers than seen in the United States (USFWS 1990).

24 The habitat of the jaguarundi is similar to the ocelot and is found within the  
25 Tamaulipan Biotic Province which includes several variations of subtropical  
26 thornscrub brush. Potential habitat includes four areas of the Rio Grande Valley:  
27 Mesquite-Granjeno Parks, Mesquite-Blackbrush Brush, Live Oak Woods/Parks,  
28 and Rio Grande Riparian. Jaguarundi prefer dense thornscrub habitats with  
29 greater than 95 percent canopy cover.

30 The greatest threat to jaguarundi populations in the United States is habitat loss  
31 and fragmentation in southern Texas. The jaguarundi requires a large hunting  
32 area and appropriate habitat is being lost to development and agriculture. This  
33 creates islands of habitat where the jaguarundi cannot migrate from area to area,  
34 leaving them vulnerable.

35 **Ocelot (*Leopardus [=Felis] pardalis*).** The ocelot, listed as endangered on  
36 March 28, 1972, is found from the southern extremes of Texas and Arizona and  
37 northern Mexico into northern Argentina, Paraguay, and Uruguay. Little is known  
38 of the exact distribution of the ocelot in Texas. Ocelots recorded by trapping or  
39 photo documentation include several areas within five counties: Cameron,  
40 Willacy, Kenedy, Jim Wells, and Hidalgo. Counties that have been identified as  
41 having potential ocelot habitat include Cameron, Duval, Hidalgo, Jim Wells,

1 Kenedy, Kleberg, Live Oak, Nueces, San Patricio, Starr, Willacy, and Zapata  
2 (USFWS 1990).

3 The habitat of the ocelot is found within the Tamaulipan Biotic Province which  
4 includes several variations of subtropical thornscrub brush. Potential habitat  
5 includes four areas of the Rio Grande Valley: Mesquite-Granjeno Parks,  
6 Mesquite-Blackbrush Brush, Live Oak Woods/Parks, and Rio Grande Riparian.  
7 Ocelots prefer dense thornscrub habitats with greater than 95 percent canopy  
8 cover.

9 Habitat loss and fragmentation especially along the Rio Grande pose a critical  
10 threat to the long-term survival of the ocelot. Efforts are underway to preserve  
11 key habitat and biological corridors necessary for ocelot survival (USFWS 1990).

12 **Texas ayenia (*Ayenia limitaris*).** The Texas ayenia was listed as endangered  
13 on September 23, 1994. This plant is an endemic species of southern Texas and  
14 northern Mexico whose historical range included Cameron and Hidalgo counties,  
15 Texas, and the states of Coahuila, Nuevo Leon, and Tamaulipas in Mexico. The  
16 status of Mexican populations is unknown at the time. The only confirmed  
17 population of the Texas ayenia lies on private property within Hidalgo County.

18 The Texas ayenia occupies dense subtropical woodland communities at low  
19 elevations. The current population occupies a Texas Ebony – Anacua  
20 (*Pithecellobium ebano-Ehretia anacua*) plant community. This plant community  
21 occurs on well-drained riparian terraces with canopy cover close to 95 percent.  
22 Species found in this community include la coma (*Bumelia celastrina*), brasil  
23 (*Condalia hookeri*), granjeno (*Celtis pollicki*), and snake-eyes (*Phaulothamnus*  
24 *spinesceris*). La coma was not documented in the proposed project corridor, but  
25 granjeno was common throughout most of the proposed project corridor and co-  
26 occurred with brasil and snake-eyes in Sections O-1 and O-2, indicating that  
27 these areas might provide suitable habitat for Texas ayenia. However, no Texas  
28 ayenia were observed during the October 2007 survey (see **Appendix I**).

29 Habitat loss and degradation from agriculture or urban development have  
30 reduced the Texas Ebony – Anacua vegetation community by greater than 95  
31 percent. Texas ayenia has been reduced to one known population of 20  
32 individuals that is extremely vulnerable to extinction.

33 **Walker's manioc (*Manihot walkerae*).** Walker's manioc was listed as  
34 endangered on October 2, 1991. This plant is an endemic species of the Rio  
35 Grande Valley of Texas and northern Mexico. One population exists in  
36 Tamaulipas, Mexico, and one population has been observed in the United States  
37 in Hidalgo County, Texas. However, it consists of only one plant (USFWS 1993).  
38 High-quality habitat for Walker's manioc was observed in the proposed project  
39 corridor for Section O-1; however, no individuals of this species were found.

Walker's manioc usually grows among low shrubs, native grasses, and herbaceous plants, either in full sunlight, or in partial shade of shrubs. It is found in sandy, calcareous soil, shallowly overlying indurated caliche and conglomerate of the Goliad Formation on rather xeric slopes and uplands, or over limestone.

More than 95 percent of Walker's manioc native brush habitat has been cleared in the United States for agriculture, urban development, and recreation. The United States population has been reduced to a single plant that makes the species extremely vulnerable to extinction in the United States (USFWS 1993).

**Zapata bladderpod (*Lesquerella thamnophila*).** The Zapata bladderpod was listed as endangered on November 22, 1999. This plant is an endemic species to southern Texas and possibly northern Mexico. Four populations are known in Starr County: two populations are found on the LRGVNR and two occur on private land. Three populations are known from Zapata County: two are located on highway ROWs between the towns of Zapata and Falcon and another lies near Falcon Lake (USFWS 2004). High-quality habitat for Zapata bladderpod was observed in the survey corridor for Section O-1; however, no individuals of this species were found.

The Zapata bladderpod occurs on graveled to sandy-loam upland terraces above the Rio Grande floodplain. It is associated with highly calcareous sandstones and clays. The bladderpod is a component of an open *Leucophyllum fretescens* – *Acacia berlandieri* shrubland alliance. The shrublands are sparsely vegetated and include the following species *Acacia ridigula*, *Prosopis* sp., *Celtis pallida*, *Yucca treculeana*, *Zizyphus obtusifolia*, and *Guaiaecum angustifolium* (USFWS 2004).

Habitat modification and destruction from increased road and highway construction and urban development; increased oil and gas exploration and development; and conversion of plant communities to improve pastures, overgrazing, and vulnerability due to low population numbers are all threats to the Zapata bladderpod (USFWS 2004).

### State Species

There are 52 state-listed species that have the potential to occur within or proximal to the proposed project corridors in the southernmost portions of Starr, Hidalgo, and Cameron counties: 4 fish, 6 amphibians, 8 reptiles, 22 birds, 5 mammals, and 7 plants (see **Table 3.9-1**). Of these, 12 are also federally listed species: 3 birds; 2 mammals; and 7 plants. No Federal threatened or endangered species were observed during an October 2007 survey (see **Appendix I**). State-listed species observed during an October 2007 survey included the Mexican treefrog (*Smilisca baudinii*) and the Texas horned lizard (*Phrynosoma cornutum*). Potential habitats for the white-lipped frog (*Leptodactylus labialis*) and Mexican burrowing toad (*Rhinophrynus dorsalis*) were observed in Sections O-8 and O-2, respectively.

1 The following paragraphs provide brief descriptions of the distribution and habitat  
2 of state-listed species for which individuals or suitable habitat were observed  
3 during the October 2007 survey (see **Appendix I**).

4 **Mexican treefrog (*Smilisca baudinii*)**. The Mexican treefrog is found along the  
5 coast of the Gulf of Mexico and inland from South Texas into northern Mexico. In  
6 Texas, it is found in the extreme southern tip of the state. This nocturnal frog  
7 prefers subhumid regions and breeding occurs year-round with rainfall. It is seen  
8 near streams and in resacas. It finds shelter under loose tree bark or in damp  
9 soil during the heat of the day (University of Texas 1998). This species was  
10 observed in Section O-10.

11 **Texas horned lizard (*Phrynosoma cornutum*)**. The Texas horned lizard  
12 ranges from the south-central United States to northern Mexico, throughout much  
13 of Texas, Oklahoma, Kansas, and New Mexico. It can be found in arid and  
14 semiarid habitats in open areas with sparse plant cover. Because horned lizards  
15 dig for hibernation, nesting, and insulation purposes, they commonly are found in  
16 loose sand or loamy soils (TPWD 2007c). This species was observed in  
17 Section O-2.

18 **White-lipped frog (*Leptodactylus labialis*)**. The white-lipped frog is found in  
19 the extreme southern tip of Texas. This frog's habitat consists of various moist  
20 places including roadside ditches, irrigated fields, and low grasslands. This  
21 nocturnal frog burrows in the damp soil during the day and forages at night.  
22 Breeding takes place in the Spring with heavy rains (University of Texas 1998).  
23 Potential habitat for this species was observed in Section O-8, but no individuals  
24 were found (see **Appendix I**).

25 **Mexican burrowing toad (*Rhinophrynus dorsalis*)**. The Mexican burrowing  
26 toad is found in extreme South Texas. This nocturnal toad prefers low areas with  
27 loose soil (e.g., cultivated fields) and feeds on termites and ants. Breeding  
28 occurs after heavy rains (University of Texas 1998). Potential habitat for this  
29 species was observed in Section O-2, but no individuals were found (see  
30 **Appendix I**).

### 31 **Migratory Birds**

32 The Rio Grande Valley provides important habitat for migratory birds. The  
33 Central and Mississippi flyways meet here and the most southern tip of Texas is  
34 also the northernmost range for many bird species (USFWS 2001). Nearly 500  
35 bird species, including neotropical migratory birds, shorebirds, raptors, and  
36 waterfowl, can be found in the Rio Grande Valley. For species such as the plain  
37 chachalaca, green jay, great kiskadee, and least grebe, this is the only area in  
38 the nation in which they can be observed (USFWS 2001).



### **3.9.2 Route B**

The description of the affected environment for Route B is generally similar to that for Route A. However, Route B would avoid some habitat rich areas, including the Arroyo Ramirez annex of the LRGVNR (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16). In Section O-2, Route B would completely traverse the Los Velas West and Los Velas annexes to the LRGVNR, whereas Route A would only partially encroach into the Los Velas West annex.

## **3.10 CULTURAL RESOURCES**

Cultural resources are commonly subdivided into archaeological resources (prehistoric or historic sites where human activity has left physical evidence of that activity but no structures remain standing), architectural resources (buildings or other structures or groups of structures that are of historic, architectural, or other significance), and traditional cultural resources (e.g., traditional gathering areas, locations referenced in origin myths or traditional stories).

Archaeological resources comprise areas where human activity has measurably altered the earth or where deposits of physical remains of human activity are found. Architectural resources include standing buildings, bridges, dams, and other structures of historic, architectural, engineering, or aesthetic significance. Traditional cultural resources include traditional cultural properties (TCPs), which are properties eligible for or listed in the National Register of Historic Places (NRHP) that Native Americans or other groups consider essential for the preservation of traditional cultures. Examples of TCPs are archaeological resources, prominent topographic features, habitat, plants, minerals, or animals and their physical location or resource referent.

The NRHP is the official listing of properties significant in U.S. history, architecture, or prehistory, and includes both publicly and privately owned properties. The list is administered by the National Park Service (NPS) on behalf of the Secretary of the Interior. Cultural resources that are listed in or eligible for listing in the NRHP (36 CFR 800.16(I)) are called historic properties. Properties are determined to be eligible for listing in the NRHP by the Secretary of the Interior (NPS) or by consensus of a Federal agency official and the SHPO. Generally, resources must be more than 50 years old to be considered for listing in the NRHP. More recent resources, such as Cold War-era buildings, might warrant listing if they have the potential to gain significance in the future or if they meet "exceptional" significance criteria. NRHP-listed properties of exceptional national significance can also be designated as National Historic Landmarks (NHLs) by the Secretary of the Interior.

Buildings, structures, sites, objects, or districts are property types that might be historic properties. To be listed in or eligible for listing in the NRHP, a resource

1 must be one of these property types, generally should be at least 50 years of age  
2 or older, and must meet at least one of the four following criteria (36 CFR 60.4):

- 3 • The resource is associated with events that have made a significant  
4 contribution to the broad pattern of history (Criterion A).
- 5 • The resource is associated with the lives of people significant in the past  
6 (Criterion B).
- 7 • The resource embodies distinctive characteristics of a type, period, or  
8 method of construction; represents the work of a master; possesses high  
9 artistic value; or represents a significant and distinguishable entity whose  
10 components might lack individual distinction (Criterion C).
- 11 • The resource has yielded, or could be likely to yield, information important  
12 in prehistory or history (Criterion D).

13 In addition to meeting at least one of the above criteria, a historic property must  
14 also possess integrity of location, design, setting, materials, workmanship,  
15 feeling, and association. Integrity is defined as the authenticity of a property's  
16 historic identity, as evidenced by the survival of physical characteristics it  
17 possessed in the past and its capacity to convey information about a culture or  
18 group of people, a historic pattern, or a specific type of architectural or  
19 engineering design or technology. Resources that might not be considered  
20 individually significant can be considered eligible for listing on the NRHP as part  
21 of a historic district. According to the NPS, a historic district possesses a  
22 significant concentration, linkage, or continuity of sites, buildings, structures, or  
23 objects that are historically or aesthetically united by plan or physical  
24 development.

## 25 Route A

26 **Area of Potential Effect.** According to 36 CFR Part 800, the Area of Potential  
27 Effect (APE) of a Federal undertaking is defined as the geographical area within  
28 which impacts on historic properties might occur if such properties hypothetically  
29 exist. The APE should account for both direct and indirect impacts. 36 CFR  
30 800.5(a)(2) specifically cites visual impacts and changes to the setting of a  
31 historic property where the setting contributes to the significance of the property  
32 as adverse. Other possible adverse impacts include damage or destruction of  
33 historic properties due to grading, construction, noise, or vibrations.

34 Under Alternative 2, direct construction impacts would occur within a 60-foot-  
35 wide corridor that accounts for grading of vegetation and fence construction.  
36 Under Alternative 3, the construction APE would directly affect a 150-foot-wide  
37 corridor. A larger APE has been developed for both Alternatives 2 and 3 for  
38 impacts to architectural resources. Topography, type and density of vegetation  
39 and intervening development, orientation of streets and properties in relation to

the alternatives, traffic patterns, and surrounding development all are factors to be considered in the definition of this latter APE.

Several Native American tribes with ancestral ties to lands within the Rio Grande Valley Sector have been contacted for input into the cultural resources survey as required under NHPA (see **Appendix B**).

**Archaeological and Historical Overview.** The history of the Rio Grande Valley is rich, unique, and important. The Rio Grande has been a critical conduit for trade and transportation, and a natural border between interests to the north and the south. Evidence of human occupation in the region is abundant. The area's archaeological record is dominated by open-air sites, burned rock middens, lithic artifact scatters, clay dunes in the Rio Grande delta, and shell middens near the coast. These sites are difficult to identify and date because of heavy erosion, shallow soil horizons, and extensive artifact removal by collectors. The lack of excavation of deeply stratified subsurface sites means that the chronology of the south Texas plains is poorly understood.

The pre-Contact history of the South Texas plains can be divided into three general cultural periods:

1. The Paleoindian period represents the first documented human occupation of the region. Evidence of the earliest Paleoindian complexes, Clovis and Folsom, has been found throughout South Texas, although most of this evidence is from surface collections of the distinctive fluted points that characterize these complexes.
2. The Archaic period in South Texas is divided into the early, middle, and late subperiods based on subtle changes in material cultural and settlement patterns. During this period, hunting and gathering continued as the primary means of subsistence, but populations responded to fluctuations in regional climate by exploiting an increasingly wide range of plant and animal resources and geographic settings for settlement and subsistence. Late Archaic sites are relatively common in the project area, suggesting increasing population density through time (Hester et al. 1989).
3. The Late Prehistoric period (A.D. 700–European Contact) is well-documented in the region and is characterized by the appearance of pottery and the bow and arrow, although point typologies have not been formalized (Hester et al. 1989).

The post-Contact history of the region is typically broken into the Spanish colonial period (ca. 1519–1822), Early Anglo-European period (1822–1845), the Texas Republic period (1836–1846), and the American period (1848–present). A detailed discussion of these periods can be found in **Appendix J**, Preliminary Cultural Resources Findings.

**Known Resources within the APE.** The proposed project corridor would cross two historic districts that are designated NHLs: the Roma Historic District and Fort Brown. It would extend adjacent to or within the bounds of four additional NRHP-listed properties: Fort Ringgold Historic District, Louisiana-Rio Grande Canal Company Irrigation System Historic District (including Hidalgo Pumphouse), Neale House, and Old Brulay Plantation. It would be in the general vicinity of many other NRHP-listed properties, such as the Rancho Toluca Historic District, the La Lomita Historic District, the Gems Building, and the Stillman House. It is known that additional architectural resources eligible for the NRHP but not formally nominated for listing also occur in the vicinity of the proposed project corridor. Other resources that meet the NRHP eligibility criteria but that have not been inventoried or evaluated are expected. Historic-era property types in the Rio Grande Valley area include historic residential, commercial, and institutional buildings both in settled communities and in rural contexts; military forts; transportation resources (ferry crossing and ferry, suspension bridge); cemeteries; religious complexes; industrial resources (irrigation systems and associated water pumphouses); and farmsteads, plantations, and ranch complexes. These might occur as standing structures or historic archaeological sites.

In general, historic archaeological sites might be expected to include forts, shipwrecks, early Republic and American-period sites, homesteads, industrial archaeological sites such as potteries and early irrigation and agricultural sites and features, and historic trash scatters. It also is possible that early Spanish and Mexican colonial remains might be found. Additional types of historic archaeological sites might be identified upon further research. Two historical archaeological sites previously recorded within the APE are listed on the NRHP (Fort Ringgold and Fort Brown, the latter designated an NHL). A detailed discussion of these historic resources can be found in **Appendix J**.

Previously reported prehistoric archaeological resources within a mile of the proposed project corridor are primarily open-air campsites and lithic scatters. Temporal and cultural affiliations of the sites are unclear, and few sites are very extensive. The recorders did not evaluate the NRHP eligibility of most of them. Additional prehistoric sites are expected to be found. Should any sites be found through archaeological surveys, they will be considered for various treatment options such as redesigning the project or data recovery.

An archaeological survey of a 150-foot-wide corridor for each proposed tactical infrastructure section (inclusive of the direct impact APEs for both Alternatives 2 and 3) is in progress, as well as an architectural survey. The goal of these surveys is to identify historic properties potentially affected by the Proposed Action. The preliminary findings of surveys within the proposed tactical infrastructure sections completed to date are presented in **Appendix J**. The completed surveys and final findings will be provided in the Final EIS. Information about previously recorded archaeological, historical, and architectural sites within the 150-foot survey corridor and within a 1-mile radius of the corridor

1 was gathered from the Texas Historical Commission (THC) Historic Sites Atlas  
2 and Archaeological Sites Atlas. This information was plotted on project maps,  
3 aerial photographs, and topographic maps to identify areas of interest for further  
4 identification and evaluation.

5 Consultations with tribes is ongoing; as of November 2007, no resources of  
6 traditional, religious, or cultural significance to Native American tribes have been  
7 identified within the APE (direct construction impacts) (see **Appendix B**).

## 8 **Route B**

9 The historic context and cultural resource setting for Route B is generally the  
10 same as that described for Route A. However, to the extent that the impacts to  
11 specific cultural resources may be different along Route B, those specific  
12 resource differences are described in **Section 4.10.2**.

## 13 **3.11 AESTHETICS AND VISUAL RESOURCES**

14 USBP does not currently have a standard methodology for analysis and  
15 assessment of impacts on visual resources. Accordingly a standard  
16 methodology developed by another Federal agency was adopted for the analysis  
17 and assessment of impacts on visual resources for this EIS. Methodologies  
18 reviewed included those developed by the NPS, the Bureau of Land  
19 Management (BLM), and the Federal Highway Administration (FHWA). It was  
20 determined that the FHWA methodology was the most applicable for this analysis  
21 due to its focus on linear corridors that include a variety of features and cross-cut  
22 a variety of landscapes. The FHWA methodology examines visual resources in  
23 similar ways (texture, contrast, visual quality) as those of NPS and BLM, but  
24 unlike those methodologies, the FHWA does not tie the assessment to the  
25 management goals for a given parcel of land (i.e., BLM- and NPS-owned land  
26 parcels typically have specific management goals and the assessment of impacts  
27 on visual resources within a given parcel is tied to the management priorities for  
28 those parcels).

29 The discussion in the following paragraphs summarizes the methodology presented  
30 in FHWA Publication No. FHWA-HI-88-054: *Visual Impact Assessment for*  
31 *Highway Projects* (USDOT undated). Under the FHWA approach, the major  
32 components of the visual analysis process include establishing the visual  
33 environment of the project, assessing the visual resources of the project area,  
34 and identifying viewer response to those resources.

35 ***Establishing a Visual Environment.*** Two related steps are performed to  
36 characterize the visual environment: (1) develop a framework for visual  
37 assessment that will help compare project alternatives and (2) define the physical  
38 limits of the visual environment that each alternative might affect. The landscape  
39 classification process establishes the general visual environment of a project and  
40 its place in the regional landscape. The starting point for the classification is an

1 understanding of the landscape components that make up the regional  
2 landscape, which then allows comparisons between landscapes. Regional  
3 landscapes consist of landforms (or topography) and land cover. It should be  
4 noted that land cover is not equivalent to land use, as that term is defined and  
5 used in **Section 3.4**. Land cover is essential of identification of what features  
6 (e.g., water, vegetation, type of man-made development) dominate the land  
7 within a given parcel. Examples of land cover would include agricultural field,  
8 housing development, airport, forest, grassland, and reservoir. While there is  
9 some overlap with land use, land cover does not distinguish function or  
10 ownership of parcels.

11 Relatively homogenous combinations of landforms and land cover that recur  
12 throughout a region can be considered landscape types. To provide a framework  
13 for comparing the visual impacts of the project alternatives, regional landscape is  
14 divided into distinct landscape units; these are usually enclosed by clear  
15 landform or land cover boundaries and many of the views within the unit are  
16 inward-looking. Landscape units are usually characterized by diverse visual  
17 resources, and it is common for several landscape types to be in view at any one  
18 time.

19 **Assessing the Visual Resources.** An assessment of the visual resources  
20 within a project area involves characterization of the character and quality of  
21 those resources. Descriptions of visual character can distinguish at least two  
22 levels of attributes: pattern elements and pattern character. Visual pattern  
23 elements are primary visual attributes of objects; they include form, line, color,  
24 and texture. Awareness of these pattern elements varies with distance. The  
25 visual contrast between a project and its visual environment can frequently be  
26 traced to four aspects of pattern character: dominance, scale, diversity, and  
27 continuity.

28 Visual quality is subjective, as it relies on the viewer's enjoyment or interpretation  
29 of experience. For example, there is a clear public agreement that the visual  
30 resources of certain landscapes have high visual quality and that plans for  
31 projects in those areas should be subject to careful examination. Approaches to  
32 assessing visual quality include identifying landscapes already recognized at the  
33 national, regional, or local level for their visual excellence (e.g., NHLs, National  
34 Scenic Rivers); asking viewers to identify quality visual resources; or looking to  
35 the regional landscape for specific resource indicators of visual quality. One  
36 evaluative approach that has proven useful includes three criteria: vividness (the  
37 visual power or memorability of the landscape), intactness (the visual integrity of  
38 the natural and man-made landscape and its freedom from encroaching  
39 elements), and unity (the visual coherence and compositional harmony of the  
40 landscape considered as a whole). A high value for all three criteria equates to a  
41 high visual quality; combinations of lesser values indicate moderate or low visual  
42 quality. It should be noted that low visual quality does not necessarily mean that  
43 there will be no concern over the visual impacts of a project. In instances such

1 as urban settings, communities might ask that projects be designed to improve  
2 existing visual quality.

3 **Identifying Viewer Response.** An understanding of the viewers who might see  
4 the project and the aspects of the visual environment to which they are likely to  
5 respond is important to understanding and predicting viewer response to the  
6 appearance of a project. The receptivity of different viewer groups to the visual  
7 environment and its elements is not equal. Viewer sensitivity is strongly related  
8 to visual preference; it modifies visual experience directly by means of viewer  
9 activity and awareness, and indirectly by means of values, opinions, and  
10 preconceptions. Because viewers in some settings are more likely to share  
11 common distractions, activities, and awareness of their visual environment, it is  
12 reasonable to distinguish among project viewers located in residential,  
13 recreational, and industrial areas.

14 Visual awareness is the extent to which the receptivity of viewers is heightened  
15 by the immediate experience of visual resource characteristics. Visual change  
16 heightens awareness, for example, a landscape transition, such as entering a  
17 mountain range or a major city, can heighten viewer awareness within that  
18 particular viewshed. Measures that modify viewer exposure, such as selective  
19 clearing or screening, can also be deliberately employed to modify viewer  
20 awareness. Viewers also tend to notice and value the unusual, so they might  
21 see more value in preserving the view towards a particularly dramatic stand of  
22 trees than the view towards more ubiquitous landscape features.

23 Local values and goals operate indirectly on viewer experience by shaping view  
24 expectations, aspirations, and appreciations. For example, at a regional or  
25 national level, viewers might be particularly sensitive to the visual resources and  
26 appearance of a particular landscape due to its cultural significance, and any  
27 visual evidence of change might be seen as a threat to these values or  
28 resources. Concern over the appearance of the Proposed Action often might be  
29 based on how it will affect the visual character of an area rather than on the  
30 particular visual resources it will displace.

31 Aesthetics is the science or philosophy concerned with the quality of visual  
32 experience. One cannot meaningfully assess the impacts of an action on visual  
33 experience unless one considers both the stimulus (visual resources) and the  
34 response (viewers) aspects of that experience.

35 **Visual Environment.** Based on the Physiographic Map of Texas (University of  
36 Texas 2006), the proposed project corridor crosses portions of the Coastal  
37 Prairies and Interior Coastal Plains subprovinces of the Gulf Coast Plains  
38 physiographic province. Within the Coastal Prairies subprovince (Sections O-7  
39 through O-21), young deltaic sands, silts, and clays erode to nearly flat  
40 grasslands that form almost imperceptible slopes to the southeast. Minor steep  
41 slopes, from 1 foot to as much as 9 feet high, result from subsidence of deltaic  
42 sediments along faults. The Interior Coastal Plains subprovince (Sections O-1

1 through O-6) composes alternating belts of resistant uncemented sands among  
2 weaker shales that erode into long, sandy ridges.

3 Primary landform types present within the APEs include the Rio Grande channel,  
4 its active floodplain and terraces, the man-made levee and floodway system,  
5 arroyos feeding into the Rio Grande, low to moderate height cliffs formed through  
6 subsidence, soil erosion, downcutting of arroyos into the soft sediments, various  
7 irrigation canals and ditches, vegetation-covered dunes, small ponds, and low  
8 sand ridges. Within the relict floodplain are a number of abandoned meander  
9 loops, some containing water (ponds) and some only visible as traces on aerial  
10 photographs. The terraces and floodplain of the Rio Grande, which are parallel  
11 or adjacent to the river, range from extremely narrow landforms to broad level  
12 expanses as much as 3 miles wide in places. Flooding on the nearly level  
13 terraces along the Rio Grande is controlled by seven watershed structures built  
14 under P.L. 566.

15 Landcover overlying these landforms can be simplified into four primary types:  
16 agriculture, park/refuge, developed, and undeveloped. Each type can be broken  
17 down further (e.g., developed lands could be separated by the density or type of  
18 development, such as town vs. city, or residential vs. commercial). There are  
19 also certain features that cross-cut or link landcover types, such as transportation  
20 features (e.g., highways, paved and unpaved roads, bridges) or flood control  
21 features (e.g., the levee system).

22 At the macro level of analysis, the Rio Grande Valley is a distinct land unit.  
23 Within that larger land unit, combinations of landform types with the range of land  
24 cover types form smaller land units:

- 25 • Park/refuge land unit. This unit includes portions of the Rio Grande  
26 floodplain and terraces that have been subject to minimal development, so  
27 that the natural vegetation and topography dominate. Landcover types  
28 subsumed within this land unit include park/refuge and undeveloped.  
29 Landforms include the Rio Grande floodplain and terrace, vegetated dune  
30 ridges, arroyos, and cliffs. Transportation features include paved and  
31 unpaved roads, bridges, and trail networks; flood control features include  
32 the levee and floodway. This land unit can also include occasional  
33 structures and buildings. Primary examples are the discontinuous  
34 sections of the LRGVNR (see **Figure 3.11-1**). This land unit is present  
35 within the proposed project corridor Sections O-1, O-2, O-3, O-4, O-5, O-  
36 7, O-8, O-10, O-11, O-13, O-16, O-18, and O-21.





**Figure 3.11-1. Photograph View of Arroyo within Wildlife Refuge (Section O-1)**

- 1       • Rural land unit. This unit includes the terraces of the Rio Grande where  
2       they are overlain by agriculture and range lands; however, the character of  
3       the underlying landforms is still clearly visible and plays a role in the  
4       placement of overlying features (see **Figure 3.11-2**). Typical features  
5       include field breaks, irrigation features, unpaved roads, occasional  
6       farmsteads or ranches typically located in clusters of trees, occasional  
7       water towers, and larger metal utility towers. This land unit is present  
8       within all 21 proposed tactical infrastructure sections.



**Figure 3.11-2. Photograph View of Typical Rural Land Unit (Section O-17)**

- 9       • Town/Suburban Development land unit. This unit includes the terraces of  
10       the Rio Grande where they are overlain by low- to moderate-density  
11       development, often connected with gridded road networks (paved and  
12       unpaved). The underlying landforms are visible in places but, except for  
13       water sources (e.g., ponds, reservoirs, or lakes), the topography and form  
14       of the land do not play a significant role in the layout or location of  
15       overlying features. Typical features include houses, small outbuildings,  
16       driveways, planned landscaping, clumps or lines of trees, small  
17       commercial buildings, water towers, and overhead power lines on poles

rather than towers. Examples would be the town of Los Ebanos in Section O-3 (see **Figure 3.11-3**), the town of Granjeno in Section O-5, and the subdivisions of Joann and Galaxia in Section O-18. This land unit is present within the proposed project corridor Sections O-1, O-3, O-4, O-5, O-6, O-9, O-14, O-15, O-16, O-17, O-18, O-19, O-20, and O-21.



**Figure 3.11-3. Photograph View of Town of Los Ebanos (Section O-3)**

- Urban/Industrial land unit. This unit includes the terraces of the Rio Grande where they are overlain by moderate- to high-density mixed use development. The underlying landforms are almost completely masked by man-made features and play little or no role in the layout or location of overlying features. Typical features include buildings of varying heights, sizes, and materials; a mixture of gridded and more organic road networks (primarily paved); planned park areas (often near water sources); open paved areas (e.g., parking areas); the larger POEs; industrial and commercial areas; overhead utility lines on poles; elevated roadways and overpasses; and elevated signage. Examples include the city of Roma in Section O-1, Rio Grande City in Section O-2 (see **Figure 3.11-4**), and Hidalgo in Section O-6. This land unit is present within the proposed project corridor Sections O-2, O-4, O-6, O-10, O-14, O-17, O-19, O-20, and O-21.



**Figure 3.11-4. Photograph View of Rio Grande City POE  
(Section O-2)**

1 **Character and Quality of Visual Resources.** Tables 3.11-1 and 3.11-2 provide  
 2 summaries of the visual character and quality, respectively, of visual resources  
 3 observed within the land units within the Rio Grande Valley Sector. Values  
 4 reflect visual character and visual quality of resources visible from distances of  
 5 50 feet to 1,000 feet (see **Figure 3.11-5**). It should also be noted that, at these  
 6 distances, direct views of the Rio Grande and active floodplain are typically seen  
 7 only from the vantage of riverfront parks, refuge trails, bridges across the river  
 8 (POEs), tall office or residential buildings, or from the top of the levee. For  
 9 viewers not occupying one of these vantage points, typical views toward the  
 10 proposed fences are obstructed by the levees, buildings, or vegetation.

11 Additionally, the amount of visual clutter between the viewer and the proposed  
 12 project corridors increases with distance.

13 In terms of visual quality, the analysis presumes that any view that includes the  
 14 Rio Grande constitutes a high-quality view, except for views dominated by  
 15 industrial or commercial elements (e.g., views of the POEs). Similarly, given that  
 16 quality of view can be somewhat subjective, it is possible to find at least one low-  
 17 and one high-quality view within any land unit type. For example, someone with  
 18 an interest in old railroad bridges might find the view of the bridge in Section  
 19 O-17 to be memorable, while other viewers might only see a large rusted metal  
 20 structure blocking an otherwise natural view. Rather than simply provide a range  
 21 of ratings of low to high for each, the quality of the most common views within a  
 22 given land unit type was used.

23 In addition to these averaged assessments of visual character and quality of  
 24 resources within each land unit type, there are a number of specific visual  
 25 resources considered to be of particular importance because of their natural or  
 26 cultural value, such as those listed in the following:

**Table 3.11-1. Character of Visual Resources within Typical Rio Grande Valley Land Units (Current Conditions)**

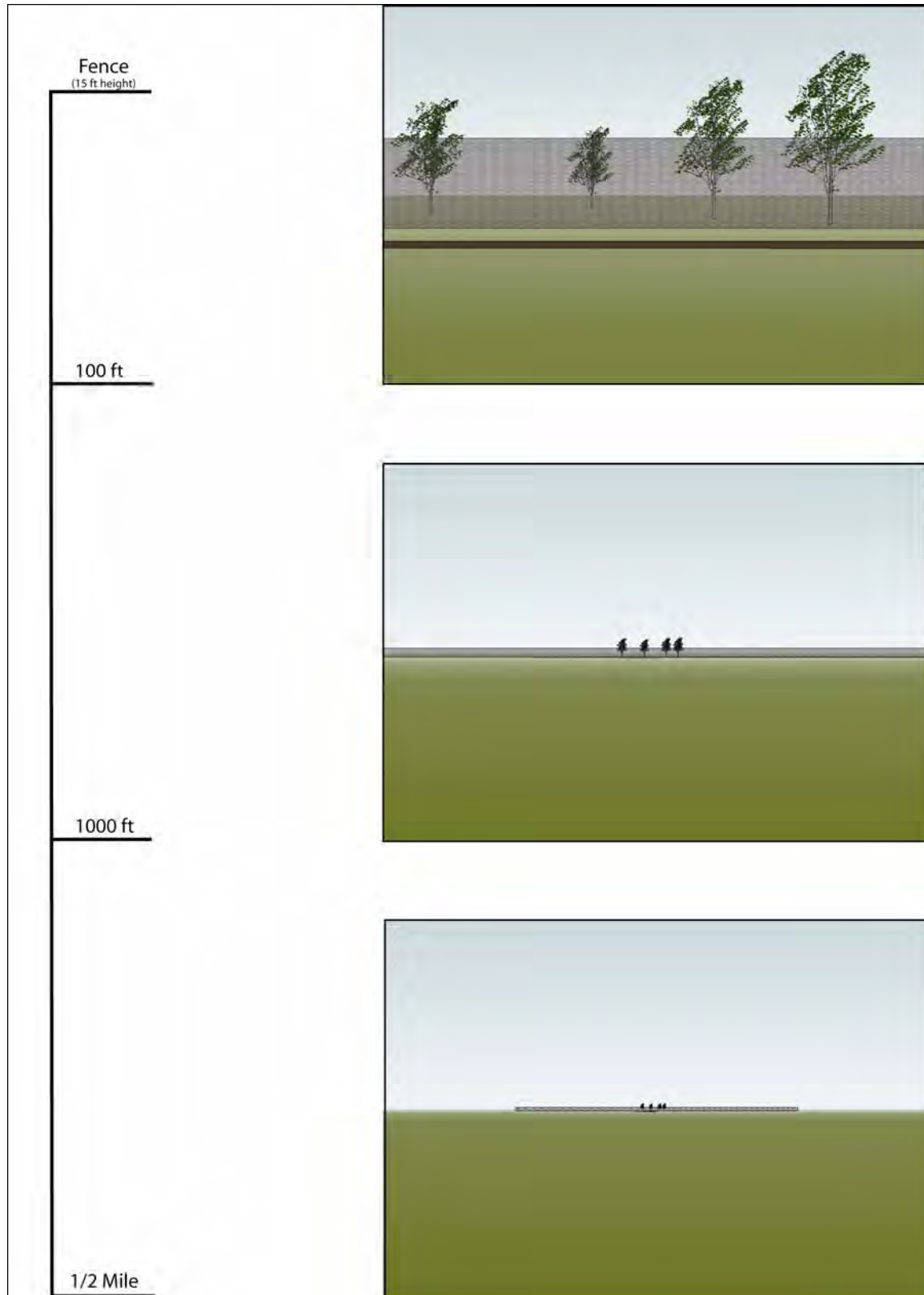
Land Unit	Line	Color	Form	Texture
<b>Park/Refuge</b>	Mostly horizontal and gentle curves	Earthy (browns, greens) punctuated by seasonal brightness	Mostly curved, organic shapes	Low to moderate variety depending on mix of vegetation and inclusion of water elements
<b>Rural</b>	Primarily horizontal lines (fields, roads, canals), with occasional vertical elements (silos, utility towers, tree lines, buildings)	Earthy colors (bare earth and crops)	Mixture of angled and curved forms (roads and buildings vs. rolling hills and meandering river)	Relatively subtle variations in texture (mostly bare earth or crops)
<b>Town/Suburban Development</b>	Mixed vertical (trees, utility poles, water towers, buildings) and horizontal (similar heights of buildings, lines of trees or shrubs, roads, lawns) lines	Variety of colors due to mix of man-made and natural elements	Variety of forms due to mixture of man-made and natural elements	Variety of textures due to mix of man-made and natural elements
<b>Urban/Industrial</b>	Vertical lines more prominent than horizontal	Often a high variety of colors associated with buildings, signs, green spaces	Primarily rectilinear forms but can be punctuated by curves from more elaborate architecture or organic shapes of natural elements	Variety of textures related to different building materials against natural textures in green spaces

**Table 3.11-2. Quality of Visual Resources within Typical Rio Grande Valley Land Units (Current Conditions)**

	<b>Vividness</b>	<b>Intactness</b>	<b>Unity</b>	<b>Rating</b>
<b>Park/Refuge</b>	Moderate/High	Moderate/High	Moderate/High	Moderate/High
<b>Rural</b>	Moderate	Moderate/High	Moderate/High	Moderate/High
<b>Town/Suburban Development</b>	Moderate	Low/Moderate	Low/Moderate	Low/Moderate
<b>Urban/Industrial</b>	Low to High	Moderate	Low to High	Moderate

- LRGVNR (Sections O-1, O-2, O-11, O-13, O-16, O-18, O-20, and O-21)
- Roma World Birding Center and Overlook (Section O-1)
- Roma Historic District and NHL (Section O-1)
- Fort Ringgold Historic District/Site 41SR142 (earthworks) (Section O-2)
- Los Ebanos Ferry Crossing (Section O-3)
- Peñitas Cemetery (Section O-4)
- Bentsen Rio Grande Valley State Park (Section O-4)
- La Lomita Historic District (Section O-5)
- Town of Granjeno and Granjeno Cemetery (Section O-5)
- Old Hidalgo Pumphouse Nature Park (Section O-6)
- Louisiana-Rio Grande Canal Company Irrigation System Historic District (Section O-6)
- Toluca Ranch Historic District (Section O-10)
- Sabas Cavazos Cemetery (Section O-13)
- Hope Park (Section O-19)
- Neale House (Section O-19)
- Fort Brown Historic District and NHL (Section O-19)
- City of Brownsville Lincoln Park (Section O-20)
- Stillman House (Section O-20)
- Santa Rosalia Cemetery (Section O-21)
- Audubon Texas Sabal Palm Sanctuary (Section O-21)





**Figure 3.11-5. Schematic Showing Visibility of Fencing at Various Distances**

- 1       • Berry Farms Cemetery (Section O-21)
- 2       • Old Brulay Plantation Historic District and Brulay Cemetery (Section
- 3       O-21).

4       **Viewer Response.** The pool of viewers making up the affected environment  
5 includes single individuals, such as rural landowners on whose property the  
6 fence would be constructed, and groups of individuals such as residents of the  
7 towns of Los Ebanos or Granjeno, business owners within the City of Hidalgo, or  
8 recreational users of public access recreation areas. Viewers could also include  
9 avocational groups such as local historical societies or local chapters of the  
10 National Audubon Society that have interests in preserving the settings of cultural  
11 or natural resources. These viewers are likely to have both individual responses  
12 to specific resources related to their experiences and emotional connection to  
13 those resources, as well as collective responses to visual resources considered  
14 to be important on a regional, state, or national level. Although individual viewer  
15 responses will be captured where possible from viewer comments, for the  
16 purposes of this analysis, the pool of affected viewers will be grouped into the  
17 following general categories:

- 18       • Residential viewers
  - 19           – Rural landowners, primarily farmers and ranchers
  - 20           – Town lots and suburban developments
  - 21           – Urban residents
- 22       • Commercial viewers
  - 23           – Rural farms, ranches, and isolated businesses
  - 24           – Town-based businesses
  - 25           – Urban businesses
- 26       • Industrial viewers
  - 27           – Rural industries (e.g., pump stations, pipeline monitors)
  - 28           – Town and urban
- 29       • Recreational viewers
  - 30           – Visitors to parks and wildlife refuges
  - 31           – Tourists visiting towns and cities
- 32       • Special interest viewers
  - 33           – Native American tribes
  - 34           – Local historical societies
  - 35           – Local chapters of conservation societies (e.g., Audubon Society)
  - 36           – Park commissions
  - 37           – Regulatory agencies (e.g., USFWS, THC)

- Intermittent viewers (view primarily from transportation corridors)
  - Commuters
  - Commercial (e.g., truck drivers, railroad operators, ferry operator).

Within each of these categories, viewer response will also vary depending on the typical duration of exposure to visual resources and the typical distance from which they view those resources. For example, a residential viewer who currently has an unobstructed view of a high-quality resource from their backyard will be impacted differently than a residential viewer who lives several streets away and already has an obstructed view of those resources. Similarly, a viewer that only views a resource such as the LRGVNWR from the highway as they pass through the region will have a different viewer response relative to that resource than a viewer that regularly hikes the trails within the LRGVNWR.

### 3.12 SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND SAFETY

***Socioeconomic Resources.*** Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity.

Socioeconomic data in this section are presented at the community and county levels to characterize baseline socioeconomic conditions in the context of regional and state trends. Data have been collected from previously published documents issued by Federal, state, and local agencies; and from state and national databases (e.g., U.S. Census Bureau).

***Environmental Justice, Protection of Children, and Safety.*** There are no Federal regulations specifically addressing socioeconomics; however there is one EO that pertains to environmental justice issues. This EO is included in the socioeconomics section because it relates to various socioeconomic groups and the health effects that could be imposed on them. On February 11, 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This EO requires that Federal agencies' actions substantially affecting human health or the environment do not exclude persons, deny persons benefits, or subject persons to discrimination because of their race, color, or national origin. The purpose of the EO is to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, tribal, and local programs and policies. Consideration of environmental justice concerns includes race, ethnicity, and the poverty status of populations in the



vicinity of a proposed action. Such information aids in evaluating whether a proposed action would render vulnerable any of the groups targeted for protection in the EO.

EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, addresses the Federal policy of protection of children from exposure to disproportionate environmental health and safety risks. This EO established that each agency has a responsibility to ensure that its policies, programs, activities, and standards address risk to children that result from environmental health risks or safety risks.

## Route A

CBP proposes to construct, maintain, and operate tactical infrastructure in the southernmost portions of Starr, Hidalgo, and Cameron counties in Texas. Therefore, these counties constitute the study area for the Region of Influence (ROI). The proposed project corridor would cross multiple land use types, including rural, urban, suburban, and agricultural.

**Population Growth and Characteristics.** Cameron, Hidalgo, and Starr counties, Texas, have a total population of 1.15 million. According to the U.S. Census Bureau, Cameron County has a population of 387,717, and is home to Brownsville, the city with the largest population in the ROI (U.S. Census Bureau 2007a). Hidalgo County has the largest county population of 700,634 in 2006. Starr County at the western end of the ROI is the least populated of the three counties, with an estimated population of 61,780 in 2006 (U.S. Census Bureau 2007a).

The population in the ROI has grown rapidly since 1980, increasing by 31 percent in the 1980s and 39 percent in the 1990s (BEA 2007). Over the past 6 years, some portions of the ROI have been among the fastest growing areas in the United States. Both Hidalgo County and Brownsville in Cameron County had a 23 percent increase in population between 2000 and 2006 (U.S. Census Bureau 2007a). Brownsville has had the 24th highest growth rate of any city with more than 100,000 residents in the United States. **Table 3.12-1** compares population trends in the ROI with the state of Texas between 1980 and 2006. **Table 3.12-2** extrapolates continued trends in the ROI as compared to the rest of Texas through the year 2020.

Cameron County has more than 40 miles of beaches along its eastern side, including the southernmost section of Padre Island. Brownsville, with a 2006 population of 172,437, is the southernmost city in Texas, and is across the Rio Grande from the City of Matamoros, Mexico (U.S. Census Bureau 2007a). Other large cities in the county include Harlingen and San Benito; however, these cities are farther away from the proposed project corridor. Together these three cities account for 68 percent of the county's population. Cameron County also

**Table 3.12-1. State and County Population Trends Comparison  
 in the ROI 1980 to 2006**

Year	State of Texas	Cameron County	Hidalgo County	Starr County
1980	14,338,208	211,944	286,540	27,666
1985	16,272,722	245,894	341,145	34,274
1990	17,056,755	261,728	387,200	40,805
1995	18,958,751	304,928	487,593	49,598
2000	20,851,820	335,227	569,463	53,597
2006	23,507,783	387,717	700,634	61,780
Change 1980 to 1990	19.0%	23.5%	35.1%	47.5%
Change 1990 to 2000	22.2%	28.1%	47.1%	31.3%
Change 2000 to 2006	12.7%	15.7%	23.0%	15.3%

Source: BEA 2007

**Table 3.12-2. County Population Trends, 2000 to 2020**

Year	State of Texas	Cameron County	Hidalgo County	Starr County
2000	20,851,820	335,227	569,463	53,597
2005	22,928,508	378,905	678,652	60,479
2010	24,330,612	415,307	752,909	67,528
2015	26,156,715	457,255	854,936	74,905
2020	28,005,788	499,380	959,669	82,205
Projected Change 2000 to 2010	16.7%	23.9%	32.2%	26.0%
Projected Change 2010 to 2020	15.1%	20.2%	27.5%	21.7%

Sources: BEA 2007; U.S. Census Bureau 2006a and 2007b; TSDC 2006

comprises the Brownsville-Harlingen-San Benito Metropolitan Statistical Area (MSA). Five other cities and nine towns, including La Feria, South Padre Island, and Bayview, account for another 10 percent of the county population. The remaining county population (22 percent) lives outside of these cities and towns. The county is home to the University of Texas at Brownsville and Texas Southmost College (U.S. Census Bureau 2007a).

In Hidalgo County, the McAllen-Edinburg-Mission MSA includes the entire county area and is made up of the three principal cities of McAllen, Edinburg, and Mission. McAllen and Mission do not border Mexico, but are less than 10 miles from the Mexican city of Reynosa. Other larger cities in the county include Pharr,

San Juan, and Weslaco. Sixteen other cities have populations ranging from 311 (Granjeno) to 16,287 (Alamo) and make up 15 percent of the county population. The remaining county population lives in outlying rural areas or unincorporated communities and makes up 31 percent of the county's population (U.S. Census Bureau 2007a). The bulk of the county's population is in the southern half of the county within 20 miles of the Mexican border. The county is home to the University of Texas–Pan American (U.S. Census Bureau 2007a).

The largest cities in Starr County are Rio Grande City and Roma. These cities, plus the smaller La Grulla, are at or near the Mexican border, with the Mexican cities of Camargo and Miguel Aleman just a short distance away. Outside of these three cities, the population of 34,945 represents 57 percent of the county population (U.S. Census Bureau 2007a). The largest employer in the county is Starr Produce with 1,500 to 2,000 employees, followed by the county, school districts and Wal-Mart. Rio Grande City is home to the South Texas Community College, and the University of Texas–Pan American has a campus there.

Population projections through 2010 from the Texas state demography office show a 29 percent growth rate and continued growth of 25 percent through the following decade (TSDC 2006). Key factors contributing to the rapid growth include both domestic and international migration related to the expanding availability of job opportunities, an influx of retirees, and an increasing number of children related to the many younger households that have migrated into the area, particularly in Hidalgo County.

While the ROI's population growth has more than doubled since 1980, the ROI's racial and ethnic characteristic remains predominantly Hispanic (U.S. Census Bureau 2007b) (see **Table 3.12-3**). While the non-Hispanic population has increased 8 percent in the past 6 years, the Hispanic population has grown by more than 20 percent over the same period (U.S. Census Bureau 2007b). The proportion of Hispanics in the ROI is 88.7 percent, about 2.5 times the proportion of Hispanics in the state of Texas. Estimates for 2006 indicate that the ROI is 9.9 percent non-Hispanic whites, and only 1.3 percent other races (U.S. Census Bureau 2007b).

## **Employment and Income**

Starr, Hidalgo, and Cameron counties have seen great improvement in the local economy in the past two decades. The total number of jobs in the ROI has increased by 236 percent since 1980, and as of 2005 there were approximately 443,000 jobs in the ROI (BEA 2007).

As a result, the unemployment rate has dropped more than 20 percent, to 7.3 percent (BLS 2007). Per capita income (adjusted for inflation) has increased 18 percent in Starr County, 19 percent in Hidalgo County, and 18 percent in Cameron County.

1 **Table 3.12-3. Racial and Ethnic Characteristics in the ROI, 2000 to 2006**

	<b>2000 Census</b>	<b>2006 Estimate</b>	<b>Change 2000 to 2006</b>	<b>Portion of Total Population: 2006 Estimate</b>
<b>State of Texas</b>	<b>20,851,820</b>	<b>23,507,783</b>	<b>12.7%</b>	<b>100.0%</b>
Hispanic	6,669,666	8,385,139	25.7%	35.7%
<i>Non-Hispanic Population by Race:</i>				
White Alone	10,986,965	11,351,060	3.3%	48.3%
Black Alone	2,378,444	2,687,401	13.0%	11.4%
Asian	567,528	763,381	34.5%	3.2%
Other Races	249,217	320,802	28.7%	1.4%
<b>Cameron County</b>	<b>335,227</b>	<b>387,717</b>	<b>15.7%</b>	<b>100.0%</b>
Hispanic	282,736	333,733	18.0%	86.1%
<i>Non-Hispanic Population by Race:</i>				
White Alone	49,133	49,460	0.7%	12.8%
Black Alone	923	1,311	42.0%	0.3%
Asian	1,568	1,996	27.3%	0.5%
Other Races	867	1,217	40.4%	0.3%
<b>Hidalgo County</b>	<b>569,463</b>	<b>700,634</b>	<b>23.0%</b>	<b>100.0%</b>
Hispanic	503,100	626,742	24.6%	89.5%
<i>Non-Hispanic Population by Race:</i>				
White Alone	60,033	63,641	6.0%	9.1%
Black Alone	1,976	3,133	58.6%	0.4%
Asian	3,261	5,126	57.2%	0.7%
Other Races	1,093	1,992	82.3%	0.3%
<b>Starr County</b>	<b>53,597</b>	<b>61,780</b>	<b>15.3%</b>	<b>100.0%</b>
Hispanic	52,278	60,193	15.1%	97.4%
<i>Non-Hispanic Population by Race:</i>				
White Alone	1,111	1,294	16.5%	2.1%
Black Alone	8	26	225.0%	0.0%
Asian	141	202	43.3%	0.3%
Other Races	59	65	10.2%	0.1%

Source: U.S. Census Bureau 2007b

Note: Census 2000 population differs slightly in the estimates file as compared to the Census 2000 data.

1 Several industries have seen substantial growth thus creating local jobs in the  
2 ROI. The biggest employers include the private industry, health care, retail and  
3 tourism, and local manufacturing. **Table 3.12-4** details employment by industrial  
4 sector.

5 Private employment has increased by 17 percent across the ROI from 2001 to  
6 2005 (as compared to 6 percent for the State of Texas) (BEA 2007).

7 The health care industry has been a key economic driver in terms of job growth.  
8 With the population 65 years and older increasing by 17 percent from 2000 to  
9 2006 and other increases in demands for health services, this sector has grown  
10 by nearly 40 percent in the ROI and now makes up 18 percent of the area's jobs  
11 (BEA 2007).

12 Retail trade accounts for 13 percent of the ROI's jobs in 2005, a 12 percent  
13 increase since 2001. This expansion has also been important to the regional  
14 economy and is due in part to retirees coming into the ROI in the winter and  
15 shopping in the border areas. Mexican nationals also cross the border legally to  
16 enjoy the broad selection of products at retail outlets in the ROI (BEA 2007,  
17 FRDB 2005).

18 The local manufacturing sector has declined by nearly 30 percent from 2001 to  
19 2005 in terms of employment (BEA 2007). Manufacturing jobs now make up 4  
20 percent of the ROI's economy. However, the border economy benefits from  
21 maquiladoras, manufacturing and assembly establishments in Mexico that use  
22 U.S. inputs, and then import finished products and sub-assemblies via POE  
23 crossings in these counties for further distribution. Related to this are jobs in the  
24 wholesale trade, transportation, and warehousing industries, which make up  
25 another 6 percent of the ROI's jobs and that have increased by 9 percent since  
26 2001 (BEA 2007).

27 Other growth sectors are related to the general boom in housing and population.  
28 Construction jobs make up 7 percent of the jobs in the 2005 economy in the ROI,  
29 increasing in number by 9 percent since 2001 (BEA 2007). Large increases  
30 have also been seen in finance and insurance (22 percent growth) and real  
31 estate (28 percent growth) (BEA 2007).

32 Cameron County is the home of South Padre Island, which attracts many tourists  
33 over the winter and early spring. Besides vacationers at the beach, Cameron  
34 County is also home to nine World Bird Centers (developed by the Texas  
35 Department of Parks and Recreation to boost tourism in the area) and the  
36 National Audubon Society's (Audubon Texas) Sabal Palms Sanctuary in  
37 Brownsville. Tourism-related businesses have experienced an expansion in the  
38 past 5 years with growth in the arts, entertainment, and recreation industries at 9  
39 percent and growth in accommodation and food services at 11 percent. These  
40 industries now make up about 7 percent of the ROI's jobs (BEA 2007).

**Table 3.12-4. Employment by Industrial Sector in the ROI, 2005**

Sector or Summary Level	Texas	Percent of Texas Total	Cameron County	Hidalgo County	Starr County	ROI Total	Percent of ROI Total, 2005
<b>TOTAL EMPLOYMENT</b>	<b>13,088,946</b>	<b>100.0</b>	<b>156,193</b>	<b>267,366</b>	<b>20,365</b>	<b>403,194</b>	<b>100</b>
Wage and salary employment	10,269,066	78	127,700	215,817	13,768	329,749	82
Proprietors employment	2,819,880	22	28,493	51,549	6,597	73,445	18
Farm employment	281,727	2	1,714	3,057	1,217	3,554	1
Nonfarm employment	12,807,219	98	154,479	264,309	19,148	399,640	99
Private employment	10,979,216	84	126,595	215,653	13,832	328,416	81
Forestry, fishing, related activities, and other	68,253	1	2,897	6,925	(D)	(D)	n/a
Mining	244,837	2	216	2,282	114	2,384	1
Utilities	51,045	0	322	783	45	1,060	0
Construction	899,172	7	8,748	18,234	1,777	25,205	6
Manufacturing	951,778	7	7,808	9,355	211	16,952	4
Wholesale trade	530,192	4	4,167	8,417	239	12,345	3
Retail Trade	1,417,748	11	19,205	35,027	2,217	52,015	13
Transportation and warehousing	469,746	4	5,628	8,638	491	13,775	3
Information	262,195	2	1,489	3,252	46	4,695	1
Finance and insurance	631,849	5	4,204	8,171	284	12,091	3
Real estate, rental, leasing	524,931	4	4,958	6,574	199	11,333	3
Professional and technical services	828,786	6	4,601	7,678	346	11,933	3

Sector or Summary Level	Texas	Percent of Texas Total	Cameron County	Hidalgo County	Starr County	ROI Total	Percent of ROI Total, 2005
Management of companies and enterprises	69,896	1	323	472	40	755	0
Administrative and waste services	843,486	6	8,327	13,823	626	21,524	5
Educational services	178,321	1	1,479	1,946	103	3,322	1
Health care and social assistance	1,168,205	9	28,803	46,870	4,243	71,430	18
Arts, entertainment, and recreation	200,551	2	1,895	2,225	(D)	(D)	n/a
Accommodation and food services	879,593	7	11,406	17,687	(D)	(D)	n/a
Other services, except public administration	758,632	6	10,119	17,294	1,733	25,680	6
<b>Government and government enterprises</b>	<b>1,828,003</b>	<b>14</b>	<b>27,884</b>	<b>48,656</b>	<b>5,316</b>	<b>71,224</b>	<b>18</b>
Federal, civilian	181,107	1	2,352	2,710	396	4,666	1
Military	161,205	1	984	1,530	136	2,378	1
State government	337,769	3	4,021	5,265	132	9,154	2
Local government	1,147,922	9	20,527	39,151	4,652	55,026	14

Source: BEA 2007

Note: D = Not shown to avoid disclosure of confidential information, but the estimates for this item are included in the totals.

1 Large increases in jobs have also been seen in information industry, professional  
2 and technical services, management companies and enterprises, and  
3 administrative and waste services. These four industries have had growth rates  
4 of more than 20 percent and together make up 9 percent of the jobs in the ROI  
5 (BEA 2007).

6 Government employment has increased by 8 percent in the ROI. Federal civilian  
7 employment has increased by 7 percent, and these jobs now make up 1 percent  
8 of the area's employment (BEA 2007). State employment over the period has  
9 increased by only 1 percent while local government employment has seen the  
10 largest increase by 10 percent (BEA 2007). As a portion of total jobs, local  
11 government makes up 14 percent of the total economy, and local school districts  
12 and other local government entities are among the biggest employers in these  
13 counties (BEA 2007).

14 Although the economy has improved in the ROI, the area remains relatively poor.  
15 The unemployment rate in the ROI is high (7.3 percent) when compared to the  
16 Texas unemployment rate of 4.9 percent (BLS 2007). **Table 3.12-5** shows how  
17 the unemployment rate in the ROI compares with the state. The 2005 per capita  
18 income of \$16,490 for the ROI is about half of the per capita income of the rest of  
19 the State of Texas (\$32,460) (BEA 2007).

20 **Table 3.12-5. State and ROI Labor Force and Unemployment Rate Averages**

	2000	2003	2004	2005	2006
<b>State of Texas</b>					
Labor Force	10,347,847	10,999,132	11,127,293	11,282,845	11,487,496
Unemployment Rate	4.4%	6.7%	6.0%	5.4%	4.9%
<b>Cameron County</b>					
Labor Force	127,011	143,231	143,439	142,204	144,709
Unemployment Rate	7.0%	9.6%	8.8%	7.6%	6.6%
<b>Hidalgo County</b>					
Labor Force	210,984	247,486	257,511	264,251	269,586
Unemployment Rate	9.2%	10.4%	9.1%	7.9%	7.4%
<b>Starr County</b>					
Labor Force	17,722	21,308	21,625	21,471	21,758
Unemployment Rate	16.8%	15.9%	14.5%	13.0%	11.7%

Source: BLS 2007

21 According to the U.S. Census Bureau's Small Area Income and Poverty  
22 Estimates program, the poverty rate among all individuals has dropped in the  
23 area from 44.8 percent in 1989 to 30.3 percent in 2004. However, **Table 3.12-6**



shows the ROI's poverty rate is still almost twice the 16.2 percent poverty rate for the State of Texas (U.S. Census Bureau 2006b).

**Table 3.12-6. Poverty Rates and Median Income**

Geographic Area	Overall Poverty Rate	Child Poverty Rate (Under 18)	Median Income (2004 dollars)
State of Texas	16.2%	22.7%	\$41,645
Cameron County	29.4%	40.4%	\$26,719
Hidalgo County	30.5%	41.2%	\$26,375
Starr County	34.8%	46.6%	\$19,775

Source: U.S. Census Bureau 2006b

#### Agriculture

Higher poverty rates in the area are attributed in part to the agriculture industry. Moreover, the counties in the vicinity of the proposed project corridor have a very low median income when compared to the State of Texas. Although nonfarm private sector employment has increased by nearly 17 percent, farm employment has declined by 12 percent from 2001 to 2005 across these three counties, now accounting for slightly more than 1 percent of the area's 2005 jobs (BEA 2007). Though Texas might be famous for cattle, farm income from crops far outweighs income from livestock in Cameron and Hidalgo counties. In the ROI, crops made up 73 percent of the 2005 farm income as compared to 12 percent for livestock and related products (BEA 2007). In the 2002 Agricultural Census, 41 percent of the farms raised cattle in the ROI, and 56 percent of the land was identified as cropland. Sugar cane is a major crop in the proposed project corridor (USDA 2004). **Table 3.12-7** characterizes local farms.

#### Selected Public Services

**Public Education.** School enrollment and the demographics of school enrollment generally match those of the population of the three counties. In Cameron County, 10 school districts provide educational services to 98,010 students in 130 schools in school year 2007 (TEA 2006a). In Hidalgo County, 20 school districts, including five charter school districts, provide educational services to 190,501 students in school year 2007. In Starr County, three school districts provide educational services to 16,645 students in 23 schools in school year 2007 (TEA 2006a). Similar to demographics of the area, the demographic characteristics of the students enrolled in these schools are predominantly Hispanic and predominantly low income (TEA 2006b). **Table 3.12-8** provides detailed ethnic information by county and school district in the ROI.

1

**Table 3.12-7. Characteristics of Local Agriculture, 2002**

Description	Texas Counties			ROI Total
	Cameron	Hidalgo	Starr	
<b>Number of Farms</b>	1,120	2,104	870	4,094
<b>Acres in Farms</b>	350,437	593,158	570,430	1,514,025
Total Cropland (acres)	253,571	405,094	193,688	852,353
Harvested Cropland (acres)	151,923	277,406	41,759	471,088
<b>Farms by Size, 2002</b>				
1 to 9 Acres	191	393	5	589
10 to 49 Acres	470	866	50	1,386
50 to 179 Acres	184	401	281	866
180 Acres or more	275	444	534	1253
<b>Farms by Value of Sales, 2002</b>				
Less than \$5,000	603	958	573	2,134
\$5,000 to \$49,999	294	814	263	1,371
\$50,000 or more	223	332	34	589
<b>Principal Occupation, 2002</b>				
Farming	666	1,115	492	2,273
Other	454	989	378	1,821
<b>Hired Farm Labor</b>				
Farms with hired workers	337	671	341	1,349
Farms with 1 worker	201	295	103	599
Farms with 2 or more workers	136	376	238	750
<b>Select Livestock, 2002</b>				
Farms with Cattle/Calves	402	614	671	1,687

Source: USDA 2004

2 **Law Enforcement.** Law enforcement and other community services are  
3 provided by 40 law enforcement agencies in the ROI. Cameron County is served  
4 by 16 different agencies with 628 commissioned officers. Hidalgo County is  
5 served by 21 different agencies with 1,052 commissioned officers. Starr County  
6 is served by 3 different agencies with 77 commissioned officers (TDPS 2006).  
7 **Table 3.12-9** shows the breakdown of non-Federal law enforcement by county  
8 and agency.

**Table 3.12-8. Ethnic and Racial Distribution by County and Independent School District (ISD) in the ROI**

School District	School Year 2007 Enrollment	Total Schools	Percent Hispanic 2004	Percent White 2004	Percent Other Races 2004	Percent Economically Disadvantaged 2004
<b>Cameron County</b>						
Brownsville ISD	48,334	49	98.0%	2.0%	0.0%	93.1%
Harlingen CISD	17,684	24	88.0%	11.0%	1.0%	71.8%
La Feria ISD	3,186	8	91.0%	9.0%	0.0%	79.2%
Los Fresnos CISD	8,935	10	93.0%	6.0%	1.0%	85.5%
Point Isabel ISD	2,597	4	85.0%	15.0%	0.0%	88.3%
Rio Hondo ISD	2,292	5	95.0%	5.0%	0.0%	81.9%
San Benito CISD	10,694	18	98.0%	2.0%	0.0%	83.9%
Santa Maria ISD	633	5	100.0%	0.0%	0.0%	97.8%
Santa Rosa ISD	1,195	3	97.0%	3.0%	0.0%	96.8%
South Texas ISD	2,460	4	76.0%	16.0%	8.0%	53.1%
<b>Hidalgo County</b>						
Donna ISD	13,363	17	99.0%	1.0%	0.0%	91.3%
Edcouch-Elsa ISD	5,598	9	99.0%	0.0%	1.0%	90.6%
Edinburg CISD	28,772	36	97.0%	3.0%	0.0%	85.2%
Hidalgo ISD	3,331	6	100.0%	0.0%	0.0%	92.2%
Idea Academy	2,073	1	94.0%	6.0%	0.0%	82.2%
La Joya ISD	25,130	27	100.0%	0.0%	0.0%	90.5%
La Villa ISD	615	4	100.0%	0.0%	0.0%	89.8%
McAllen ISD	24,570	32	89.0%	8.0%	3.0%	69.5%
Mercedes ISD	5,279	10	99.0%	1.0%	0.0%	92.1%
Mid-Valley Academy	252	2	94.0%	6.0%	0.0%	84.2%
Mission CISD	15,462	20	98.0%	2.0%	0.0%	84.3%
Monte Alto ISD	603	2	96.0%	3.0%	1.0%	88.6%
One Stop Multiservice Charter School	5,536	3	97.0%	3.0%	0.0%	92.8%
Pharr-San Juan-Alamo ISD	28,868	36	99.0%	1.0%	0.0%	90.0%
Progreso ISD	1,989	5	100.0%	0.0%	0.0%	94.2%
Sharyland ISD	8,208	9	85.0%	13.0%	2.0%	52.6%
Technology Education Charter High	451	1	97.0%	3.0%	0.0%	85.8%
Valley View ISD	4,099	5	100.0%	0.0%	0.0%	94.1%
Vanguard Academy	369	1	93.0%	7.0%	0.0%	87.4%
Weslaco ISD	15,933	20	97.0%	2.0%	1.0%	86.5%
<b>Starr County</b>						
Rio Grande City CISD	9,969	11	100.0%	0.0%	0.0%	84.5%
Roma ISD	6,417	10	100.0%	0.0%	0.0%	89.2%
San Isidro ISD	259	2	95.0%	5.0%	0.0%	81.1%

Source: TEA 2006a, TEA 2006b

1      **Table 3.12-9. Law Enforcement Agencies and Personnel in the ROI \***

	Commissioned	Civilian	Total
<b>Cameron County</b>			
Cameron County Sheriff's Office	94	258	352
Local Police Departments (15)	534	234	768
<b>Total</b>	<b>628</b>	<b>492</b>	<b>1,120</b>
<b>Hidalgo County</b>			
Hidalgo County Sheriff's Office	217	435	652
Local Police Departments (20)	835	346	1,181
<b>Total</b>	<b>1,052</b>	<b>781</b>	<b>1,833</b>
<b>Starr County</b>			
Starr County Sheriff's Office	33	57	90
Local Police Departments (2)	34	14	58
<b>Total</b>	<b>77</b>	<b>71</b>	<b>148</b>

Source: TDPS 2006

Note: \* Does not include Federal law enforcement.

## 2      **Environmental Justice**

3      The CEQ oversees the Federal government's compliance with EO 12898 and the  
4      NEPA process. Based on CEQ guidance, this EIS uses the following three-step  
5      methodology to evaluate potential environmental justice impacts:

- 6      • Identify potential environmental justice populations located in the project  
7      area or that could otherwise be affected by the Proposed Action
- 8      • Identify the potential human health and environmental effects of the  
9      proposed alternatives
- 10     • Assess whether there are potential significant adverse effects on minority  
11     and low-income populations that would be disproportionately high and  
12     adverse.

13      A demographic analysis assessed the presence of a potential environmental  
14      justice prescribed population living near the project area. Census 2000  
15      information is available for racial, ethnic, and economic characteristics at the  
16      census tract level. The census tracts in which the proposed project corridor  
17      would be located were identified. All are just north of the Rio Grande. Some of  
18      these census tracts have a substantial amount of land and population in areas  
19      removed from the proposed project corridor; however, these census tracts have  
20      demographic characteristics similar to those of the persons living at or near the  
21      proposed construction activities. In some cases, the population in the census  
22      tract closest to the project area would seem to be lower in income than the  
23      population in the same census tract farther away from the river. **Table 3.12-10**  
24      identifies the minority populations associated with the project area and its  
25      associated composition.

**Table 3.12-10. Racial and Ethnic Population Composition in Geographic Comparison Areas**

Geographic Area by Census Tract	Percentage of Total Population						Difference in Percent Minority Population Above/Below the State Average
	White and not Hispanic or Latino (A)	Asian and not Hispanic or Latino (B)	Black or African American and not Hispanic or Latino (C)	Other Races, Two or More Races, and not Hispanic or Latino (D)	Hispanic or Latino Ethnicity (E)	Total Racial and Ethnic Minorities (B) + (C) + (D) + (E)	
<b>United States</b>	69.1%	3.6%	12.0%	2.8%	12.5%	30.9%	-16.7%
<b>Texas</b>	52.4%	2.6%	11.3%	1.7%	32.0%	47.6%	--
<b>Cameron County</b>	14.5%	0.4%	0.3%	0.3%	84.5%	85.5%	37.9%
Census Tracts Included in Project Area	<b>7.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>92.2%</b>	<b>92.3%</b>	<b>44.8%</b>
Census Tracts Not Included in Project	15.3%	0.5%	0.4%	0.3%	83.5%	84.7%	37.1%
<b>Hidalgo County</b>	10.4%	0.5%	0.4%	0.3%	88.4%	89.6%	42.0%
Census Tracts Included in Project Area	<b>6.3%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>93.5%</b>	<b>93.7%</b>	<b>46.1%</b>
Census Tracts Not Included in Project	10.7%	0.6%	0.4%	0.3%	88.1%	89.3%	41.8%

Geographic Area by Census Tract	Percentage of Total Population						Total Racial and Ethnic Minorities (B) + (C) + (D) + (E)	Difference in Percent Minority Population Above/Below the State Average
	White and not Hispanic or Latino (A)	Asian and not Hispanic or Latino (B)	Black or African American and not Hispanic or Latino (C)	Other Races, Two or More Races, and not Hispanic or Latino (D)	Hispanic or Latino Ethnicity (E)			
Starr County	1.6%	0.3%	0.0%	0.0%	98.1%		98.4%	50.8%
Census Tracts Included in Project Area	2.0%						98.0%	50.4%
Census Tracts Not Included in Project	1.4%	0.4%	0.0%	0.0%	98.2%		98.6%	51.0%
ROI	11.3%	0.5%	0.3%	0.3%	87.6%		88.7%	41.1%

Source: U.S. Census Bureau 2002a

1 As shown in **Table 3.12-11**, each census tract has a potential environmental  
 2 justice community based upon its racial and ethnic characteristic of being more  
 3 than 50 percent minority and also a substantially higher percentage than the  
 4 general population in both Texas and the United States. Each census tract has a  
 5 potential environmental justice community based upon the presence of a large  
 6 proportion of persons with incomes at or below the poverty level and based upon  
 7 this proportion being meaningfully greater than the proportion of persons with  
 8 incomes at or below the poverty rate for the general populations in both the State  
 9 of Texas and the United States. Based upon Census 2000 information, the  
 10 population living in each of these census tracts meet these two criteria as a  
 11 potential environmental justice population.

12 **Table 3.12-11. Census Tract Detail of Demographic Characteristics**  
 13 **Relevant to Environmental Justice**

Geographic Area	Proportion of Total Population: Racial and Ethnic Minorities	Difference in Proportion of Minority Population above the State Proportion	Proportion of Total Population: Below Poverty Level	Difference in the Proportion of Low Income Population above the State Proportion
<b>Cameron County Census Tracts</b>				
119.03	98.0%	50.4%	46.5%	31.2%
121	79.1%	31.5%	35.4%	20.1%
125.05	95.4%	47.8%	34.5%	19.2%
125.07	96.4%	48.8%	42.0%	26.6%
125.08	89.3%	41.7%	29.8%	14.4%
128	97.4%	49.8%	33.5%	18.2%
133.07	100.0%	52.4%	55.2%	39.8%
140.01	93.4%	45.8%	57.6%	42.2%
141	96.9%	49.3%	32.4%	17.1%
<b>Hidalgo County Census Tracts</b>				
213.01	98.1%	50.5%	43.8%	28.4%
228	96.2%	48.6%	45.6%	30.2%
242.01	98.6%	51.0%	52.1%	36.7%
242.02	87.3%	39.7%	37.1%	21.7%
<b>Starr County Census Tracts</b>				
9501.02	97.8%	50.2%	42.3%	26.9%
9501.03	97.9%	50.3%	53.9%	38.6%
9502.02	98.4%	50.8%	45.7%	30.4%

Source: U.S. Census Bureau 2002a and 2002b

**Route B**

The affected environment for socioeconomic resources, environmental justice, and safety in the ROI looks at resources at the census tract, community, county, and state level. Therefore, the ROI for Route B would be the same for Route A for socioeconomic, environmental justice, and safety resources.

**3.13 UTILITIES AND INFRASTRUCTURE**

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly human-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as “urban” or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to the economic growth of an area. Below is a brief overview of each infrastructure component that could be affected by each alternative.

**Route A**

**Water Supply Systems.** The principal source of water for irrigation and municipal water in the proposed project corridor is the Rio Grande. Approximately 74,000 acres of agricultural lands are irrigated in the Rio Grande Valley (Fipps and Pope 1998). The irrigation system is characterized by approximately 642 miles of canals, 10 miles of pipelines, and 45 miles of resacas (i.e., former channels or oxbows of the Rio Grande) (Fipps and Pope 1998). Pumps and pump houses are also part of the irrigation system.

Municipal water systems in the Rio Grande Valley take raw water from the water distribution networks of irrigation districts. In Hidalgo and Cameron counties, 39 municipal treatment plants take raw water from 14 irrigation districts. These municipal supply networks consist of 92 miles of lined canals, 168 miles of unlined canals, 25 miles of pipelines, 377 acres of resacas, and 3,845 acres of reservoirs (Fipps 2004). Known water supply infrastructure that occurs in the proposed project corridor is presented in **Table 3.13-1**.

**Drainage Systems.** Agricultural irrigation return and storm water runoff in the area of the proposed project corridor in Hidalgo and Cameron Counties drain into the Arroyo Colorado and eventually into the Laguna Madre (TSSWCB undated). Irrigation and storm water runoff is collected in drainage ditches and resacas (USFWS 1991). Numerous agricultural and storm water drainages occur within the proposed project corridor. Known drainage infrastructure that occurs in the proposed project corridor is presented in **Table 3.13-1**.

**Municipal Sanitary Sewer Systems.** Some municipal sanitary sewer systems in the proposed project corridor discharge into the Rio Grande. Known municipal sanitary sewer infrastructure within the proposed project corridor includes outfall pipes (see **Table 3.13-1**).



**Table 3.13-1. Known Water Supply, Drainage, and Sanitary Sewer Infrastructure Within the Proposed Project Corridor**

Proposed Tactical Infrastructure Section	Infrastructure
O-1	Roma intake pipes Roma sewer outfall pipes 1 private water pump
O-2	7 private water pumps
O-4	Peñitas pump house
O-6	Runs along Pharr San Juan Main Canal Old Hidalgo pump house intakes Mac Pump intakes McAllen pump house intakes
O-7	Runs along Donna Canal Pipelines
O-9	8 irrigation stand pipes Donna pump station 2 irrigation pumps Pipelines Section would end before the settling basin
O-11	Section would start at Santa Maria canal La Feria pump house La Feria Canal Irrigation pump and stand pipe Pipelines
O-12	Harlingen Canal
O-13	San Benito Canal
O-14	IBWC pump
O-16	Cameron County irrigation pump Private irrigation pumps
O-17	Irrigation stand pipes Irrigation pumps
O-18	Section would start at Los Fresnos Canal
O-19	Pump houses Pumps
O-21	El Jardin Canal El Jardin water pump for Brownsville

**Solid Waste Management.** Solid waste management primarily relates to the availability of landfills to support a population's residential, commercial, and industrial needs. Alternative means of waste disposal might involve waste-to-energy programs or incineration. In some localities, landfills are designed specifically for, and limited to, disposal of construction and demolition debris. Recycling programs for various waste categories (e.g., glass, metals, papers, asphalt, and concrete) reduce reliance on landfills for disposal.

As of 2005, there were three active municipal landfills in Starr County, three active municipal landfills in Hidalgo County, and one active municipal landfill in Cameron County. The remaining capacity in terms of years for these landfills was determined in 2005, based on compaction rate and the amount disposed in 2005 (TCEQ 2006). The remaining capacity of these landfills as of 2005 is reported in **Table 3.13-2**.

**Table 3.13-2. Remaining Capacity of Local Municipal Landfills as of 2005**

Landfill Name	County	Remaining Capacity (Years)
City of Roma	Starr	30
City of La Grulla	Starr	109.67
Starr County Landfill	Starr	0.70
Edinburg Regional Sanitary Landfill	Hidalgo	21.70
Peñitas Landfill	Hidalgo	3.58
BFI Rio Grande Landfill	Hidalgo	5.30
Brownsville	Cameron	80.20

Source: TCEQ 2006

Note: Remaining capacity based on rate of compaction and amount disposed in 2005.

**Transportation Systems.** The Texas Department of Transportation (TDOT), in cooperation with local and regional officials, is responsible for planning, designing, building, operating, and maintaining the state's transportation system. Highway systems in the vicinity of the proposed project corridor include SR 83, State Highway 374, U.S. Highway 281, State Highway 415, SR 77, State Highway 48, and State Highway 4. In addition, there are numerous municipal city roads, farm roads, county roads, levee roads, and unpaved roads.

**Electrical and Natural Gas Systems.** Electrical transmission lines and natural gas distribution lines that are part of the electrical and natural gas systems for the Rio Grande Valley are in the vicinity of the proposed project corridor. The proposed tactical infrastructure sections in which utilities infrastructure occur are presented in **Table 3.13-3**.

**Table 3.13-3. Location of Utility Infrastructure Located Within the Proposed Project Corridor**

Fence Section	Infrastructure
O-4	1 Electric Transmission Line; 1 Gas Distribution Line
O-6	1 Electric Transmission Line; 3 Gas Distribution Lines
O-8	1 Electric Transmission Line; 2 Gas Distribution Lines
O-18	1 Electric Transmission Line, Overhead Electrical Power Line

## **Route B**

**Water Supply Systems.** The general description of irrigation and municipal water supply systems is the same for Route B as it is for Route A. The known water supply infrastructure in or near the proposed project corridor for Route B is the same as Route A.

**Drainage Systems.** The general description of irrigation and storm water drainage systems is the same for Route B as it is for Route A. The known drainage infrastructure in or near the proposed project corridor for Route B is the same as Route A.

**Municipal Sanitary Sewer Systems.** The known sanitary sewer infrastructure in or near the proposed project corridor for Route B is the same as Route A.

**Solid Waste Management.** The description of solid waste management is the same for Route B as it is for Route A.

**Transportation Systems.** The description for transportation systems is the same for Route A as it is for Route B.

**Electrical and Natural Gas Systems.** The only difference between electrical transmission lines and natural gas distribution lines within the proposed project corridors of Route A and Route B is in Section O-7. Section O-7 of Route A has no electric transmission or natural gas distribution lines. Section O-7 of Route B has one electric transmission line and one gas distribution line.

## **3.14 HAZARDOUS MATERIALS AND WASTE**

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.

Hazardous substances are defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at 42 U.S.C. 9601(14), as amended by the Superfund Amendments and Reauthorization Act (SARA), and the TSCA. The definition of hazardous substance includes (1) any substance designated pursuant to 33 U.S.C. 1321 (b)(2)(A); (2) any element, compound, mixture, solution, or substance designated pursuant to 42 U.S.C. 9602; (3) any hazardous waste; (4) any toxic pollutant listed under 33 U.S.C. 1317(a); (5) any hazardous air pollutant listed under section 112 of the CAA (42 U.S.C. 7412); and (6) any imminently hazardous chemical substance or mixture with respect to which the Administrator of USEPA has taken action pursuant to 15 U.S.C. 2606. The term hazardous substance does not include petroleum products and natural gas.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 U.S.C. 6903(5), as amended by the Hazardous and Solid Waste Amendments, as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.” Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR 273. Four types of waste are currently covered under the universal waste regulations: hazardous waste batteries, hazardous waste pesticides that are either recalled or collected in waste pesticide collection programs, hazardous waste thermostats, and hazardous waste lamps.

Toxic substances are regulated under TSCA (15 U.S.C. 2601 *et seq.*), which was enacted by Congress to give USEPA the ability to track the approximately 75,000 industrial chemicals currently produced or imported into the United States. USEPA screens these chemicals and can require reporting or testing of those that might pose an environmental or human-health hazard. USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk. Asbestos and polychlorinated biphenyls (PCBs) are among the chemicals regulated by TSCA.

In general, hazardous materials, hazardous substances, and hazardous wastes include elements, compounds, mixtures, solutions, and substances which, when released into the environment or otherwise improperly managed, could present substantial danger to the public health, welfare, or the environment.

Evaluation of hazardous materials and wastes focuses on underground storage tanks (USTs); aboveground storage tanks (ASTs); and the storage, transport, handling, and use of pesticides, herbicides, fuels, solvents, oils, lubricants,

1 asbestos containing material (ACM), and lead-based paint (LBP). Evaluation  
2 might also extend to generation, storage, transportation, and disposal of  
3 hazardous wastes when such activity occurs at or near the project site of a  
4 proposed action. In addition to being a threat to humans, the improper release of  
5 hazardous materials and wastes can threaten the health and well-being of wildlife  
6 species, botanical habitats, soil systems, and water resources. In the event of  
7 release of hazardous materials or wastes, the extent of contamination varies  
8 based on the type of soil, topography, and water resources.

## 9 **Route A**

10 As discussed in **Section 3.4**, the area surrounding the proposed impact area is  
11 predominantly used for agriculture. Therefore, pesticides and herbicides are  
12 currently used. It is assumed that all such substances are applied according to  
13 Federal, state, and local standards and regulations. There are no known waste  
14 storage or disposal sites within the proposed project corridor (DTSC 2007).  
15 ASTs have been observed in Section O-2. There are also private buildings  
16 within the proposed project corridor. Depending on the construction date, these  
17 buildings could contain ACM or LBP. A Phase I Environmental Site Assessment  
18 would be conducted in conjunction with any real estate transactions to determine  
19 and quantify amounts of ACM or LBP.

20 The TCEQ is authorized by USEPA to regulate and enforce the provisions of  
21 RCRA. As such, TCEQ regulates the treatment, storage, transport, and disposal  
22 of hazardous waste. TCEQ also administers some site clean-up programs.  
23 There are no known hazardous waste sites within the proposed project corridor.

## 24 **Route B**

25 The affected environment for hazardous materials and wastes under Route B is  
26 the same as presented above for Route A.

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## **SECTION 4**

### Environmental Consequences







## 4. ENVIRONMENTAL CONSEQUENCES

### 4.1 INTRODUCTION

This section presents an analysis of the potential direct and indirect impacts each alternative would have on the affected environment as characterized in **Section 3** and by the data in the technical appendices. Each alternative was evaluated for its potential to affect physical, biological, and socioeconomic resources.

The following discussion elaborates on the nature of the characteristics that might relate to various impacts:

- *Short-term or long-term.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.
- *Direct or indirect.* A direct impact is caused by an alternative and occurs contemporaneously at or near the location of the action. An indirect impact is caused by an alternative 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 impact of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact 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 impacts are generally those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. A major impact is one that is severely adverse or exceptionally beneficial.
- *Significance.* Significant impacts are those that, in their context and due to their intensity (severity), meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27). This EIS meets the agencies' requirements to prepare a detailed statement on major Federal actions significantly affecting the quality of the human environment (42 U.S.C. 102.2(c)).
- *Adverse or beneficial.* An adverse impact is one having adverse, unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.

- 1 • *Context.* The context of an impact can be localized or more widespread  
2 (e.g., regional).
- 3 • *Intensity.* The intensity of an impact is determined through consideration  
4 of several factors, including whether an alternative might have an adverse  
5 impact on the unique characteristics of an area (e.g., historical resources,  
6 ecologically critical areas), public health or safety, or endangered or  
7 threatened species or designated critical habitat. Impacts are also  
8 considered in terms of their potential for violation of Federal, state, or local  
9 environmental law; their controversial nature; the degree of uncertainty or  
10 unknown impacts, or unique or unknown risks; if there are precedent-  
11 setting impacts; and their cumulative impact (see **Section 5**).

## 12 **4.2 AIR QUALITY**

13 Environmental consequences on local and regional air quality conditions near a  
14 proposed Federal action are determined based upon the increases in regulated  
15 pollutant emissions compared to existing conditions and ambient air quality.  
16 Specifically, the impact in NAAQS “attainment” areas would be considered  
17 significant if the net increases in pollutant emissions from the Federal action  
18 would result in any one of the following scenarios:

- 19 • Cause or contribute to a violation of any national or state ambient air  
20 quality standard
- 21 • Expose sensitive receptors to substantially increased pollutant  
22 concentrations
- 23 • Represent an increase of 10 percent or more in an affected AQCR  
24 emissions inventory
- 25 • Exceed any Evaluation Criteria established by a SIP.

### 26 **4.2.1 Alternative 1: No Action Alternative**

27 Under the No Action Alternative, USBP would not construct or maintain new  
28 tactical infrastructure along the 21 sections in the USBP Rio Grande Valley  
29 Sector and operational activities would remain unchanged. Therefore, the No  
30 Action Alternative would not create any additional impacts on air quality beyond  
31 those that are already occurring, as described in **Section 3.2**.

### 32 **4.2.2 Alternative 2: Routes A and B**

#### 33 **Route A**

34 Regulated pollutant emissions associated with Route A would not contribute to or  
35 affect local or regional attainment status with the NAAQS. Route A activities  
36 would generate air pollutant emissions from the proposed construction projects,

1 maintenance activities, and the operation of generators to supply power to  
2 construction equipment. BMPs would include a Dust Control Plan.

3 **Proposed Construction Projects.** Minor, short-term, adverse impacts would be  
4 expected from construction emissions and land disturbance associated with  
5 Route A. The proposed project would result in impacts on regional air quality  
6 during construction activities, primarily from site-disturbing activities and  
7 operation of construction equipment.

8 The construction projects would generate total suspended particulate and PM<sub>10</sub>  
9 emissions as fugitive dust from ground-disturbing activities (e.g., grading,  
10 trenching, soil piles) and from combustion of fuels in construction equipment.  
11 Fugitive dust emissions would be greatest during the initial site preparation  
12 activities and would vary from day to day depending on the construction phase,  
13 level of activity, and prevailing weather conditions. The quantity of uncontrolled  
14 fugitive dust emissions from a construction site is proportional to the area of land  
15 being worked and the level of construction activity.

16 Construction operations would also result in emissions of criteria pollutants as  
17 combustion products from construction equipment. These emissions would be of  
18 a temporary nature. The NAAQS emissions factors and estimates were  
19 generated based on guidance provided in USEPA AP-42, Volume II, *Mobile*  
20 *Sources*. Fugitive dust emissions for various construction activities were  
21 calculated using emissions factors and assumptions published in USEPA's AP-  
22 42 Section 11.9. The emissions for CO<sub>2</sub> were calculated using emission  
23 coefficients reported by the Energy Information Administration (EIA 2007).

24 For purposes of this analysis, the project duration and affected project site area  
25 that would be disturbed (presented in **Section 2**) were used to estimate fugitive  
26 dust and all other pollutant emissions. The construction emissions presented in  
27 **Table 4.2-1** include the estimated annual construction PM<sub>10</sub> emissions  
28 associated with Route A. These emissions would produce slightly elevated  
29 short-term PM<sub>10</sub> ambient air concentrations. However, the impacts would be  
30 temporary, and would fall off rapidly with distance from the proposed construction  
31 sites. As seen in **Table 4.2-1**, the emissions of NAAQS pollutant is high and  
32 could contribute to the deterioration of the air quality in the region. However, the  
33 impact of this alternative on air quality does not exceed 10 percent of the regional  
34 values.

35 The construction emissions presented in **Table 4.2-1** include the estimated  
36 annual emissions from construction equipment exhaust associated with Route A  
37 in Calendar Year (CY) 2008 and operation of agricultural mowers and diesel-  
38 powered generators. Early phases of construction projects involve heavier diesel  
39 equipment and earthmoving, resulting in higher NO<sub>x</sub> and PM<sub>10</sub> emissions. Later  
40 phases of construction projects involve more light gasoline equipment and  
41 surface coating, resulting in more CO and VOC emissions. However, the  
42

**Table 4.2-1. Estimates of Total Proposed Construction Emissions  
from Route A in Tons Per Year**

Description	NO <sub>x</sub>	VOC	CO	CO <sub>2</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Construction Emissions	470.443	70.127	549.588	55.00	9.409	662.118
Maintenance Emissions	0.042	0.005	0.021	0.20	0.010	0.005
Generator Emissions	22.777	1.859	4.907	100.0	1.498	1.601
<b>Total Alternative 2 Route A Emissions</b>	<b>493.263</b>	<b>71.992</b>	<b>554.516</b>	<b>155.200</b>	<b>10.917</b>	<b>663.724</b>
Federal <i>de minimis</i> Threshold	NA	NA	NA	NA	NA	NA
BLIAQCR Regional Emissions	44,137	73,577	317,422	995,000	2,940	132,788
<b>Percent of BLIAQCR Regional Emissions</b>	<b>1.118</b>	<b>0.098</b>	<b>0.175</b>	<b>0.016</b>	<b>0.369</b>	<b>.499</b>

Source: USEPA 2007b

impacts would be temporary, fall off rapidly with distance from the proposed construction site, and would not result in any long-term impacts.

**Maintenance Activities.** The pedestrian fence and patrol road would require mowing approximately two times per year to maintain vegetation height and allow enhanced visibility and security. It was assumed that two 40-horsepower (hp) agricultural mowers would mow the vegetation in the project area approximately 14 days per year. No adverse impacts on local or regional air quality are anticipated from these future maintenance activities.

**Generators.** Route A activities would require six diesel-powered generators to power construction equipment. It is assumed that these generators would be approximately 75 hp and operate approximately 8 hours per day for 190 working days. The emissions factors and estimates were generated based on guidance provided in USEPA AP-42, Volume I, *Stationary Internal Combustion Sources*. According to TAC Title 30, internal combustion engines greater than 500 brake horsepower require an operating permit (TAC 2007). Therefore, the generators that would be associated with Route A activities are exempt from requiring an operating permit from the TCEQ.

**Greenhouse Gases.** USEPA has estimated that the total greenhouse emissions for Texas was 189 million metric tons of carbon equivalent (MMTCE) in 1999. Of this, of this an estimated 995,000 tons of CO<sub>2</sub> are associated with the BLIAQCR regions. Therefore construction emissions of CO<sub>2</sub> represent less than 10 percent of the regional emissions (USEPA 2007c).

After construction is completed, normal border patrol schedules would continue. The vehicles used for surveillance of the existing border area are generating CO<sub>2</sub> that is accounted for in the Texas greenhouse gas inventory. No new sources of CO<sub>2</sub> would result from Route A. Therefore, no net increase of greenhouse emissions would be expected. Emissions factors, calculations, and estimates of emissions are shown in detail in **Appendix K**.

**Summary.** **Table 4.2-1** illustrates that the emissions from Route A would be much less than 10 percent of the emissions inventory for BLIAQCR (USEPA 2007b). The estimated annual CO<sub>2</sub> emissions of power plants within the BLIAQCR is 775,000 tons while vehicles add another estimated 220,000 tons. Therefore, no adverse impacts on regional or local air quality are anticipated from implementation of Route A.

According to 40 CFR Part 81, there are no Class I areas in the vicinity of the Route A. Therefore, Federal PSD regulations would not apply.

In summary, no significant adverse impacts on regional or local air quality are anticipated from implementation of Route A. A conformity determination in accordance with 40 CFR 93-153(1) is not required, as the total of direct and indirect emissions from Route A would not be regionally significant (e.g., the emissions are not greater than 10 percent of the BLIAQCR emissions inventory). Emissions factors, calculations, and estimates of emissions for Alternative 2 Route A are shown in detail in **Appendix K**.

## **Route B**

The air quality impacts associated with Route B would be expected to be the same as those depicted for Route A. This is because the overall length of the proposed project corridors and construction emissions for Route A and Route B would be similar. Therefore, the analysis presented for Route A is applicable to Route B. **Table 4.2-2** illustrates that the emissions from Route B would be less than 10 percent of the BLIAQCR inventory (USEPA 2007b). Emissions factors, calculations, and estimates of emissions for Alternative 2 Route B are shown in detail in **Appendix K**.

### **4.2.3 Alternative 3: Secure Fence Act Alignment Alternative**

Alternative 3 would generate air pollutant emissions from the proposed construction projects, maintenance activities, and the operation of generators to supply power to construction equipment.

**Proposed Construction Projects.** Major short-term adverse impacts would be expected from construction emissions and land disturbance as a result of implementing Alternative 3. The proposed project would result in impacts on regional air quality during construction activities, primarily from site-disturbing activities and operation of construction equipment.

**Table 4.2-2. Estimates of Total Proposed Construction Emissions  
from Route B in Tons Per Year**

Description	NO <sub>x</sub>	VOC	CO	CO <sub>2</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Construction Emissions	470.443	70.127	549.588	55.00	9.409	662.118
Maintenance Emissions	0.042	0.005	0.021	0.20	0.010	0.005
Generator Emissions	22.777	1.859	4.907	100.0	1.498	1.601
<b>Total Alternative 2 Route B Emissions</b>	<b>493.263</b>	<b>71.992</b>	<b>554.516</b>	<b>155.200</b>	<b>10.917</b>	<b>663.724</b>
Federal <i>de minimis</i> Threshold	NA	NA	NA	NA	NA	NA
BLIAQCR Regional Emissions	44,137	73,577	317,422	995,000	2,940	132,788
<b>Percent of BLIAQCR Regional Emissions</b>	<b>1.118</b>	<b>0.098</b>	<b>0.175</b>	<b>0.016</b>	<b>0.369</b>	<b>0.499</b>

Source: USEPA 2007b

The construction projects would generate total suspended particulate and PM<sub>10</sub> emissions as fugitive dust from ground-disturbing activities (e.g., grading, trenching, soil piles) and from combustion of fuels in construction equipment. Fugitive dust emissions would be greatest during the initial site preparation activities and would vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity.

Construction operations would also result in emissions of criteria pollutants as combustion products from construction equipment. These emissions would be of a temporary nature. The emissions factors and estimates were generated based on guidance provided in USEPA AP-42, Volume II, *Mobile Sources*. Fugitive dust emissions for various construction activities were calculated using emissions factors and assumptions published in USEPA's AP-42 Section 11.9.

For purposes of this analysis, the project duration and affected project site area that would be disturbed (presented in **Section 2**) was used to estimate fugitive dust and all other criteria pollutant emissions. The construction emissions presented in **Table 4.2-3** include the estimated annual construction PM<sub>10</sub> emissions associated with Alternative 3. These emissions would produce slightly elevated short-term PM<sub>10</sub> ambient air concentrations. However, the impacts would be temporary, and would fall off rapidly with distance from the proposed construction sites.

**Table 4.2-3. Estimates of Total Proposed Construction Emissions  
from Alternative 3 in Tons Per Year**

Description	NO <sub>x</sub>	VOC	CO	CO <sub>2</sub>	SO <sub>x</sub>	PM <sub>10</sub>
Construction Emissions	2,927.48	436.388	3,419.94	137.50	58.550	1,713.357
Maintenance Emissions	0.127	0.015	0.064	2.0	0.030	0.015
Generator Emissions	22.777	1.859	4.907	100.0	1.498	1.601
<b>Total Alternative 3 Emissions</b>	<b>2,950.39</b>	<b>438.26</b>	<b>3,424.958</b>	<b>239.50</b>	<b>60.078</b>	<b>1,714.973</b>
Federal <i>de minimis</i> Threshold	NA	NA	NA	NA	NA	NA
BLIAQCR Regional Emissions	44,137	73,577	317,422	995,000	2,940	132,788
<b>Percent of BLIAQCR Regional Emissions</b>	<b>6.68</b>	<b>0.596</b>	<b>1.079</b>	<b>0.024</b>	<b>2.04</b>	<b>1.292</b>

Source: USEPA 2007b

Specific information describing the types of construction equipment required for a specific task, the hours the equipment is operated, and the operating conditions vary widely from project to project. For the purposes of this analysis, these parameters were estimated using established methodologies for construction and experience with similar types of construction projects. Combustion by-product emissions from construction equipment exhausts were estimated using USEPA's AP-42 emissions factors for heavy-duty, diesel-powered construction equipment.

The construction emissions presented in **Table 4.2-3** include the estimated annual emissions from construction equipment exhaust associated with Alternative 3 in CY 2008 and operation of agricultural mowers and diesel-powered generators. As with fugitive dust emissions, combustion emissions would produce slightly elevated air pollutant concentrations. Early phases of construction projects involve heavier diesel equipment and earthmoving, resulting in higher NO<sub>x</sub> and PM<sub>10</sub> emissions. Later phases of construction projects involve more light gasoline equipment and surface coating, resulting in more CO and VOC emissions. However, the impacts would be temporary, fall off rapidly with distance from the proposed construction site, and would not result in any long-term impacts.

**Maintenance Activities.** The pedestrian fence and patrol road would require mowing approximately two times per year to maintain vegetation height and allow enhanced visibility and security. It was assumed that six 40-hp agricultural mowers would mow the vegetation in the project area approximately 14 days per year. Emissions from these agricultural mowers would be minimal. No adverse

impacts on local or regional air quality are anticipated from these future maintenance activities.

**Generators.** Alternative 3 would require six diesel powered generators to power construction equipment. It is assumed that these generators would be approximately 75 hp and operate approximately 8 hours per day for 190 working days. Emissions from these diesel generators would be minimal. Operational emissions associated with Alternative 3 would not result in an adverse impact on air quality. The emissions factors and estimates were generated based on guidance provided in USEPA AP-42, Volume I, *Stationary Internal Combustion Sources*. According to TAC Title 30, internal combustion engines greater than 500 brake horsepower require an operating permit (TAC 2007). Therefore, the generators under Alternative 3 are exempt from requiring an operating permit from the TCEQ.

**Summary.** Since the BLIAQCR is within an area classified as being in attainment for all NAAQS criteria pollutants, General Conformity Rule requirements are not applicable to Alternative 3. **Table 4.2-3** illustrates that the emissions from Alternative 3 would be less than 10 percent of the BLIAQCR inventory (USEPA 2002b). **Table 4.2-3** illustrates that the emissions from Route B would be less than 10 percent of the BLIAQCR inventory (USEPA 2007b).

According to 40 CFR Part 81, there are no Class I areas in the vicinity of Alternative 3. Therefore, Federal PSD regulations would not apply.

**Greenhouse Gases.** USEPA has estimated that the total greenhouse emissions for Texas was 189 million metric tons of carbon equivalent (MMTCE) in 1999. Of this, of this an estimated 995,000 tons of CO<sub>2</sub> are associated with the BLIAQCR regions. Therefore construction emissions of CO<sub>2</sub> represent less than 10 percent of the regional emissions (USEPA 2007c).

After construction is completed, normal border patrol schedules would continue. The vehicles used for surveillance of the existing border area are generating CO<sub>2</sub> that is accounted for in the Texas greenhouse gas inventory. No new sources of CO<sub>2</sub> would result from Alternatives 3. Therefore, no net increase of greenhouse emissions would be expected. Emissions factors, calculations, and estimates of emissions are shown in detail in **Appendix K**.

## **4.3 NOISE**

### **4.3.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, current activities as described in **Section 3.3** would be the dominant source of noise and there would be no short- or long-term changes to the noise environment.



## 4.3.2 Alternative 2: Routes A and B

### Route A

Short-term moderate adverse impacts would be associated with Route A. Sources of noise from the implementation of Route A would include blasting, operation of construction equipment, and noise from construction vehicles. Noise from construction activities and vehicle traffic can impact wildlife as well as humans. Impacts on nesting, feeding, and migration could all occur on various species due to construction noise. For specific information regarding impacts on wildlife from noise, see **Section 4.8.2**.

**Construction Noise.** The construction of the fence sections and related tactical infrastructure, such as the patrol and access roads and construction staging areas, would result in noise impacts on populations in the vicinity of the proposed sites. Construction of the fence sections and the patrol roads adjacent to the fence would result in grading and construction noise. Populations that could be impacted by construction noise include adjacent residents, personnel visiting one of the wildlife refuges or recreation areas, or employees in nearby office or retail buildings. Noise levels for the construction of Route A were calculated using equipment typical of construction projects. Noise from construction assumes several different pieces of construction equipment operating simultaneously (see **Table 3.3-1**). Because noise attenuates over distance, a gradual decrease in noise level occurs the further a receptor is away from the source of noise. Construction noise levels would decrease as the distance increases from the source. At 50 feet the noise level would be 85 dBA, at 300 feet the noise level would be 70 dBA, and at 5,280 feet (i.e., 1 mile) the noise level would be 45 dBA.

Implementation of Route A would have temporary impacts on the noise environment from the use of heavy equipment during construction activities. However, noise generation would last only for the duration of construction activities and would be isolated to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.). Therefore, it is anticipated that implementation of Route A would have negligible impacts as a result of the construction activities.

Route A would impact residential areas as well as recreational facilities and wilderness areas. In general, users of recreational facilities and sites anticipate a quiet environment. Noise from construction would impact the ambient acoustical environment around these sites. While construction would be a temporary source of noise, and no significant impacts would be anticipated at recreational sites or wilderness areas, noise from construction would reach areas that are anticipated to have low levels of ambient noise.

**Vehicular Noise.** Noise impacts from increased construction traffic would be temporary in nature. These impacts would most likely be confined to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.) and would last only as long as the construction activities were ongoing. Most of the major roadways in the

vicinity pass by residential areas. Therefore, it is anticipated that Route A would have short-term minor adverse noise impacts as a result of the increase in traffic, most notably in the areas around Brownsville, McAllen, Progreso, Santa Maria, and Relampago.

## **Route B**

The noise impacts associated with Route B would be expected to be the same as those described above for Route A because the overall length of the proposed project corridor and duration of construction activities for Route A and Route B would be similar.

### **4.3.3 Alternative 3: Secure Fence Act Alignment Alternative**

Short-term moderate adverse impacts would be expected under Alternative 3. Under Alternative 3, primary and secondary fences would be constructed 130 feet apart along the same route as Alternative 2, Route B. Noise impacts from Alternative 3 would be slightly greater than those discussed under Alternative 2. Residences would be closer to the secondary fence; therefore, noise impacts from construction equipment would be slightly higher than under Alternative 2.

## **4.4 LAND USE**

### **4.4.1 Alternative 1: No Action Alternative**

In some locations, land values and land uses (including potential development) are currently adversely affected by illegal border crossings. Under the No Action Alternative, land uses and values as described in **Section 3.4** may continue to be adversely affected and degradation could increase.

### **4.4.2 Alternative 2: Routes A and B**

#### **Route A**

Constructing the proposed tactical infrastructure would result in long-term minor adverse impacts on land use. The severity of the impact would vary depending on the need for rezoning to accommodate the fence sections, and patrol roads. USBP might be required to obtain a permit or zoning variance based on local restrictions and ordinances. Short-term minor adverse impacts would occur from construction. Impacts on land use would vary depending on potential changes in land use and the land use of adjacent properties.

For the purposes of this EIS, a land use analysis was conducted using the National Land Cover Dataset. The National Land Cover Dataset is the first land cover mapping project with a national (conterminous) scope. It is likely the most widely used land cover dataset in the United States and no other national land cover mapping program had ever been undertaken. The National Land Cover

Dataset provides 21 different land cover classes for the lower 48 states. The 21 different land cover classes were generalized into the following 4 categories: agricultural, developed, parks and refuges, and undeveloped. The proposed project corridor is classified by approximately 22 percent agricultural, 47 percent developed, 10 percent parks and refuges, and 21 percent undeveloped land.

**Table 4.4-1** outlines the proposed tactical infrastructure section by the existing communities within or adjacent to Route A that would potentially be affected by the proposed tactical infrastructure.

**Table 4.4-1. Communities Potentially Affected by Route A**

Proposed Tactical Infrastructure Section Number	Community Affected
O-1	Roma
O-2	Rio Grande City
O-3	Los Ebanos
O-4	Peñitas
O-5	Granjeno
O-6	Hidalgo
O-7	Agriculture south of Donna
O-8	Agriculture south of Donna
O-9	Progreso Lakes Community
O-10	Progreso
O-11	Agriculture south of Santa Maria
O-12	Los Indios
O-13	Los Indios
O-14	Los Indios
O-15	La Paloma
O-16	Encatada-Ranchito El Calaboz
O-17	San Pedro/River Bend Community
O-18	Brownsville
O-19	Brownsville
O-20	Brownsville
O-21	Brownsville

Construction of the proposed tactical infrastructure sections would require the government to acquire various interests in land. Under current law, the Secretary of Homeland Security has the authority to contract for or buy an interest in land

1 that is adjacent to or in the vicinity of the international land border when the  
2 Secretary deems the land essential to control and guard the boundaries and  
3 borders of the United States (8 U.S.C. 1103(b)).

4 Because the proposed tactical infrastructure sections would traverse both public  
5 and private lands, various methods could be used to acquire the necessary  
6 interests in land. These methods include, among other things, acquiring  
7 permanent easements, ROW, or outright purchase.

8 For those proposed tactical infrastructure sections that are on Federal lands, the  
9 most likely means of acquisition would be an ROW obtained from the relevant  
10 Federal land manager. On private land, the government would likely purchase  
11 the land or some interest in land from the relevant land owner. Acquisition from  
12 private landowners is a negotiable process that is carried out between the  
13 government and the landowner on a case-by-case basis. The government also  
14 has the statutory authority to acquire such interests through eminent domain.

15 Agricultural lands within the 60-foot proposed project corridor would not be  
16 available for future crop production. In addition, residential, industrial,  
17 commercial, and undeveloped lands within proposed project corridor would not  
18 be available for future development.

19 Landowners whose properties would be affected could receive a gate within the  
20 fence that would allow them to access other portions of their property to reduce  
21 potential inconvenience.

22 Short-term minor indirect adverse impacts on recreation would be expected  
23 during the construction activities associated with Route A. However, impacts  
24 would be localized and short-term. Long-term minor adverse impacts on  
25 recreation would be expected after construction because access to recreational  
26 areas along the proposed tactical infrastructure sections could be limited or  
27 restricted to potential users. Long-term indirect beneficial impacts on  
28 recreational areas could occur as a result of decreased cross border violators  
29 coming into these recreational areas. In addition, by reducing the amount of  
30 illegal traffic within and adjacent to the project area, disturbance to lands on the  
31 U.S. side of the proposed fence would be reduced.

32 Land use in the areas between the 21 proposed fence sections could be  
33 adversely impacted by the deterrent impacts the fence sections would have by  
34 the funneling of illegal cross border activities into those areas. Since the  
35 locations of the proposed tactical infrastructure sections are based on USBP  
36 operational requirements including the ability to make apprehensions, adverse  
37 impacts would be expected to be minor.

1     **Route B**

2     Similar impacts to those described above for Route A would be expected. The  
3     figures in **Appendix F** show the locations of the proposed tactical infrastructure  
4     sections and the proximity of adjacent and intersecting land. For the purposes of  
5     this EIS, a land use analysis was conducted using the National Land Cover  
6     Dataset. The proposed project corridor is classified by approximately 22 percent  
7     agricultural, 46 percent developed (1 percent less than Route A), 9 percent parks  
8     and refuges (1 percent less than Route A), and 23 percent undeveloped land (2  
9     percent more than Route A).

10    **4.4.3   Alternative 3: Secure Fence Act Alignment Alternative**

11    Alternative 3 would have similar impacts to Alternative 2. The figures in  
12    **Appendix F** show the location of the proposed tactical infrastructure sections  
13    and the proximity of adjacent and intersecting land. For the purposes of this EIS,  
14    a land use analysis was conducted using the National Land Cover Dataset. The  
15    proposed project corridor is classified by approximately 28 percent agricultural,  
16    41 percent developed, 9 percent parks and refuges, and 22 percent undeveloped  
17    land.

18    **4.5    GEOLOGY AND SOILS**

19    **4.5.1   Alternative 1: No Action Alternative**

20    The No Action Alternative would result in continuation of the existing condition of  
21    geologic resources, as discussed in **Section 3.5.1**. No impacts on geologic  
22    resources would occur as a result of the construction, operation, or maintenance  
23    of proposed tactical infrastructure. In the areas of the proposed tactical  
24    infrastructure sections, cross border violators tend to trample footpaths, leading  
25    to a minor long-term adverse impact on soils due to compaction. This condition  
26    would continue under the No Action Alternative.

27    **4.5.2   Alternative 2: Routes A and B**

28    **Route A**

29    **Physiography and Topography.** Short- and long-term minor adverse impacts  
30    on the natural topography would be expected. Grading, contouring, and  
31    trenching associated with the installation of the proposed tactical infrastructure  
32    sections would impact approximately 508 acres, which would alter the existing  
33    topography. However, the existing topography of much of the proposed project  
34    corridor was previously altered to construct the levees, provide access roads,  
35    and to level agricultural fields for irrigation.

36    **Geology.** Short- and long-term negligible to minor adverse impacts on geologic  
37    resources could occur at locations if bedrock is at the surface and blasting would

be necessary to grade for fence placement or patrol road development. Geologic resources could affect the placement of the fence or patrol roads due to the occurrence of bedrock at the surface, or as a result of structural instability. Site-specific geotechnical surveys would be conducted prior to construction to determine depth to bedrock. In most cases, it is expected that project design and engineering practices could be implemented to mitigate geologic limitations to site development.

**Soils.** Short-term minor direct adverse impacts on soils would be expected. Soil disturbance and compaction due to grading, contouring, and trenching associated with the installation of the proposed tactical infrastructure sections would impact approximately 508 acres.

The proposed construction activities would be expected to result in an increase in soil erosion, especially in the western portion of the proposed project corridor associated with Route A (in Sections O-1, O-2, and O-3). This area is characterized by low ridges with moderately steep-sided bluffs with narrow arroyos. Soil disturbance on steep slopes has the potential to result in excessive erosion due to instability of the disturbed soils and high runoff energy and velocity. Sediments washed from construction sites would be carried to and deposited in the Rio Grande. In addition, wind erosion has the potential to impact disturbed soils where vegetation has been removed due to the semi-arid climate of the region. Construction activities would be expected to directly impact the existing soils as a result of grading, excavating, placement of fill, compaction, and mixing or augmentation necessary to prepare the sites for development of the fence sections and patrol roads and associated utility lines. Following construction activities, the areas disturbed would be revegetated with native species to the maximum extent practicable to reestablish native plant communities and help stabilize soils.

Because proposed construction within most proposed tactical infrastructure sections would result in a soil disturbance of greater than 5 acres, authorization under TCEQ Construction General Permits (TXR150000) would be required. Construction activities subject to these permits include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permits require the development and implementation of Storm Water Pollution Prevention Plans (SWPPPs).

The SWPPPs should contain one or more site maps that show the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPPs must list BMPs the discharger will use to protect storm water runoff along with the locations of those BMPs. Additionally, the SWPPPs must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants to

1 be implemented if there is a failure of BMPs, and a sediment monitoring plan if  
2 the site discharges directly to a water body listed on the 303(d) list for sediment.  
3 Part III.F of the Construction General Permit describes the elements that must be  
4 contained in an SWPPP.

5 Long-term minor direct adverse impacts on prime farmland soils in Hidalgo and  
6 Cameron counties would occur as a result of construction activities. No soils  
7 associated with farmland of local, unique, or statewide importance are identified  
8 for Starr, Hidalgo, and Cameron counties. In areas not currently being used for  
9 agriculture, the proposed project corridor would be linear and limited in extent,  
10 therefore any impacts on the areas considered prime farmland would be  
11 considered minor. In the areas where crops, such as sorghum and sugar cane,  
12 are currently being grown in the proposed project corridor, construction would  
13 result in the permanent loss of existing cropland.

14 Soils in open areas between the 21 proposed tactical infrastructure sections  
15 would be adversely impacted by the funneling of cross border violators into the  
16 areas where there would be no fence. Increased foot traffic between fence  
17 sections would reduce vegetation, disturb soils, and lead to increased soil  
18 erosion. Since the locations of the 21 fence sections were based on USBP  
19 operational requirements including the ability to make apprehensions, the extent  
20 of the disturbance would be limited and the impacts would be minor, long-term,  
21 and adverse.

## 22 **Route B**

23 Route B would result in similar environmental impacts on physiographic,  
24 topographic, geologic, and soils resources as described above for Route A.  
25 Slight differences in prime farmland soil acreages impacted would be anticipated  
26 as a result of implementing Route B.

### 27 **4.5.3 Alternative 3: Secure Fence Act Alignment Alternative**

28 The Secure Fence Act Alignment Alternative would result in similar  
29 environmental impacts on physiographic, topographic, geologic, and soils  
30 resources as described above for Alternative 2. However, the magnitude of the  
31 impacts would affect a larger area, due to the additional fence and overall wider  
32 corridor. Approximately 1,270 acres would be impacted.

## 33 **4.6 WATER RESOURCES**

### 34 **4.6.1 Alternative 1: No Action Alternative**

35 Under the No Action Alternative, the Proposed Action would not be implemented.  
36 As a result, there would be no change from baseline conditions, as described in  
37 **Section 3.6**. Impacts on water resources could continue to occur, such as the  
38 impacts of regional drought or other natural events affecting precipitation

patterns. In addition, adverse impacts associated with water contamination due to cross border violators would continue.

## 4.6.2 Alternative 2: Routes A and B

### Route A

**Hydrology and Groundwater.** Short- and long-term negligible direct adverse impacts on the hydrology of the Rio Grande would be expected to occur as a result of the grading and contouring associated with Route A in Sections O-1, O-2, and O-3. Grading and contouring would be expected to alter the topography and remove vegetation of approximately 105 acres within the floodplain of the Rio Grande, which could in turn increase erosion potential and increase runoff during heavy precipitation events. Revegetating the area with native vegetation following construction along with other BMPs to abate runoff and wind erosion could reduce the impacts of erosion and runoff. Additionally, the small increase in impervious surface within the floodplain would result in negligible increases in the quantity and velocity of storm water flows to the Rio Grande. As required by the Texas Construction General Permit (TXR150000), BMPs would be developed as part of the required SWPPPs to manage storm water both during and after construction. Therefore, impacts would be expected to be negligible.

No impacts on hydrology would be expected for Sections O-4 through O-21. These sections would be constructed and operated behind the levee system, outside the Rio Grande floodplain. Most of the levee system is operated by the IBWC, but small segments of the levee system (i.e., in Section O-19) are privately owned.

Short-term direct minor adverse construction-related impacts on groundwater resources in Starr, Hidalgo, and Cameron counties would also be expected. During construction, water would be required for pouring concrete, watering of road and ground surfaces for dust suppression, and for washing construction vehicles. Water use for construction would be temporary, and the volume of water used for construction would be minor when compared to the amount used annually in the area for municipal, agricultural, and industrial purposes.

The potential for short-term negligible adverse impacts on groundwater related to an increase in stormwater runoff would also occur. Implementation of storm water and spill prevention BMPs developed consistent with the SWPPPs and other applicable plans and regulations would minimize potential runoff or spill-related impacts on groundwater quality during construction.

**Surface Water and Waters of the United States.** Short- and long-term direct and indirect negligible adverse impacts on water quality would be expected. Implementation of Route A would increase impervious surface area and runoff potential. Approximately 508 acres of soil would be disturbed due to grading,



1     contouring, and trenching. Surface water that would be affected either directly or  
2     indirectly include the Rio Grande, arroyos (Section O-2), an irrigation canal  
3     (Section O-5), the Donna Canal (Section O-7), a settling basin and Moon Lake  
4     (Section O-9), the Santa Maria Canal (O-11), the Harlingen Canal (Section O-  
5     12), the San Benito Canal (O-13), Los Fresnos pump canal (Section O-18), and  
6     El Jardin Canal (Section O-21).

7     Construction activities within most of the proposed tactical infrastructure sections  
8     associated with Route A would disturb more than 5 acres of soil, and therefore  
9     would require authorization under the Texas Construction General Permits  
10    (TXR1500000). The Construction General Permits would require preparation of  
11    SWPPPs. The SWPPPs would include erosion and sediment control and storm  
12    water BMPs for activities resulting during and after construction. Based on these  
13    requirements, adverse impacts associated with storm water runoff on surface  
14    water quality would be reduced to negligible impacts.

15    Impacts on surface water and wetlands that are potentially jurisdictional waters of  
16    the United States would be avoided to the maximum extent practicable. Impacts  
17    that cannot be avoided would be minimized and BMPs would be established to  
18    comply with all applicable Federal, state, and local regulations. Potential impacts  
19    include filling wetlands and moving the alignment of irrigation canals and  
20    drainage ditches. Currently, wetland vegetation is routinely removed  
21    mechanically from canal banks as a maintenance action to improve flow and  
22    reduce water loss to evapotranspiration.

23    If wetland impacts cannot be avoided, USBP would obtain CWA Section 404  
24    Permits and RHA Section 10 Permits, as applicable, from the USACE-Galveston  
25    District. As part of the permitting process, USBP would develop, submit, and  
26    implement a wetlands identification, mitigation, and restoration plan to avoid or  
27    minimize impacts and compensate for unavoidable impacts. The plan would be  
28    developed in accordance with USACE guidelines and in cooperation with  
29    USEPA. The plan would outline BMPs from pre-construction to post-construction  
30    activities to reduce impact on wetlands and water bodies. As part of the Section  
31    404 permit application process, USBP will also request certification from TCEQ  
32    under Section 401 (a) of the CWA to ensure that actions will comply with state  
33    water quality standards. This certification must be received for the Section 404  
34    authorization to be valid. Based on NWI data, a total of approximately 7 acres of  
35    wetlands would be impacted under Route A. The unavoidable impacts on waters  
36    and wetlands will be reviewed as part of the USACE 404 permit process.

37    **Floodplains.** Impacts on floodplains would be avoided to the maximum extent  
38    practicable. Acknowledging the potential shortfalls of the methodology to  
39    estimate the floodplain limits in Sections O-1 through O-3, potential short- and  
40    long-term minor adverse impacts on the Rio Grande floodplain would occur as a  
41    result of construction activities. Section O-1 impacts would include 5.26 miles of  
42    floodplain, Section O-2 would include 7.30 miles of floodplain, and Section O-3  
43    would include 1.86 miles of floodplain. The permanent width of the impact area

would be 60 feet (see **Figure 2-4**); therefore, Route A would impact approximately 105 acres of floodplains along Sections O-1, O-2, and O-3. No impacts on floodplains or IBWC international floodways would be expected in Sections O-4 through O-21. These sections would be constructed and operated behind the levee system, outside the Rio Grande floodplain. Most of the levee system is operated by the IBWC, but small segments of the levee system (i.e., in Section O-19) are privately owned.

In accordance with the FEMA Document, *Further Advice on EO 11988, Floodplain Management*, USBP has determined that Sections O-1 through O-3 cannot be practicably located outside the floodplain. The current floodplain extends past local communities and roads strategic to the operations of USBP. In order to operate outside the existing floodplain, USBP would have to move all operations northward several miles in some areas. This would not meet USBP mission needs. The increase in impervious surface associated with fence Sections O-1, O-2, and O-3 would have no impact on the IBWC international drainage, which starts in Peñitas, Texas, in Hidalgo County. USBP would mitigate unavoidable impacts on floodplains using planning guidance developed by the USACE.

## **Route B**

**Hydrology and Groundwater.** Impacts on the hydrology of the Rio Grande under Route B would be similar to those under Route A for Sections O-1 through O-3. No impacts on hydrology would be expected in Sections O-4 through O-21. The impacts of Route B on groundwater would be identical to the impacts described above for Route A.

**Surface Waters and Waters of the United States.** Impacts on surface waters and waters of the United States under Route B would be similar to those under Route A. Sedimentation and erosion impacts would be identical to the impacts under Route A. Surface waters that would be affected under Route B include the Rio Grande (Sections O-1, O-3, and O-6), arroyos (Section O-2), an irrigation canal (Section O-5), the Donna Canal (Section O-7), the settling basin and Moon Lake (Section O-9), the Santa Maria Canal (Section O-11), the Harlingen Canal (Section O-12), the San Benito Canal (Section O-13), Los Fresnos pump canal (Section O-18), and El Jardin Canal. There are several differences between the impacts on surface water features that occur adjacent or within the proposed project corridor for Route B, as compared to Route A. Section O-1 of Route B would impact less riparian areas than Route A. Section O-2 in Route B would avoid some arroyos that would be impacted by Route A. Where practicable, Section O-3 of Route B would avoid impacts on some natural riparian areas along the Rio Grande.

As with Route A, impacts on surface water and wetlands that are potentially jurisdictional waters of the United States would be avoided to the maximum extent practicable under Route B. Impacts that cannot be avoided would be

minimized and BMPs enacted that would comply with all applicable Federal, state, and local regulations. Potential impacts include filling wetlands and moving the alignment of irrigation canals and drainage ditches. Currently, wetland vegetation is routinely removed mechanically from canal banks as a maintenance action to improve flow and reduce water loss to evapotranspiration. Based on NWI data, a total of approximately 7.3 acres of wetlands would be impacted under Route B. The unavoidable impacts on waters and wetlands will be reviewed as part of the USACE 404 permit process.

**Floodplains.** Impacts on floodplains under Route B would be the same as described for Route A.

### 4.6.3 Alternative 3: Secure Fence Act Alignment Alternative

**Hydrology and Groundwater.** Impacts on hydrology in Sections O-1, O-2, and O-3 under Alternative 3 would be similar, but slightly greater than the impacts described under Alternative 2. The primary and secondary fence sections proposed under Alternative 3 would result in a larger increase in impervious surface.

Impacts on groundwater under Alternative 3 would be slightly greater than the impacts under Alternative 2 because the area of surface disturbance would be greater under this alternative. Disturbance at the ground surface would not affect groundwater aquifers directly, and post-construction runoff patterns could result in minor groundwater recharge.

**Surface Waters and Waters of the United States.** Alternative 3 would result in impacts on surface waters and waters of the United States similar to those described for Alternative 2. However, the magnitude of the impacts would affect a larger area due to the additional fence and wider corridor. Approximately 1,270 acres of soils would be disturbed due to grading, contouring, and trenching. As described in **Section 3.6.1**, Texas Construction General Permits would be required to address the development and implementation of SWPPPs with BMPs to reduce the impacts of storm water runoff. A larger area of wetlands would also be impacted under this alternative. Additionally, CWA Section 404, CWA Section 401(a), and RHA Section 10 authorizations will be obtained, as required, for unavoidable impacts on jurisdictional waters of the United States. A wetlands mitigation and restoration plan to compensate for unavoidable impacts will be developed by the applicant and submitted to the USACE-Galveston District Regulatory Branch for approval prior to implementation. Appropriate mitigation would be developed to compensate for unavoidable impacts.

**Floodplains.** Impacts on floodplains in Sections O-1, O-2, and O-3 under Alternative 3 would be slightly greater than those described under Alternative 2. The primary and secondary sections proposed under Alternative 3 would result in an increase in impervious surface, contributing slightly more surface runoff to the Rio Grande and its associated floodplain. Section O-1 would include 3.75 miles

of floodplain, Section O-2 would include 8.74 miles of floodplain, and Section O-3 would include 1.90 miles of floodplain. The permanent width of the impact area would be 150 feet (see **Figure 2-5**) and would impact approximately 262 acres of floodplains along Sections O-1, O-2, and O-3. No impacts on floodplains or IBWC international floodways would be expected for Sections O-4 through O-21. These sections would be constructed and operated behind the levee system, outside the Rio Grande floodplain. Most of the levee system is operated by the IBWC, but small segments of the levee system (i.e., in Section O-19) are privately owned.

## **4.7 VEGETATION**

### **4.7.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, vegetation would continue to be influenced by Federal, state, and nonprofit resource agency and private land management plans, development, agricultural crop production, wildfires, drought, and floods. Native vegetation stands would continue to be adversely affected due to trampling by recreationists (primarily hunters), cross border violators, and USBP agents in pursuit of cross border violators and vehicles used off-trail during apprehension.

### **4.7.2 Alternative 2: Routes A and B**

#### **Route A**

A 60-foot-wide corridor containing the proposed pedestrian fence and patrol road associated with Route A would be cleared during construction and a portion maintained following construction to support long-term maintenance, sight distance, and patrol activities. For the proposed length of approximately 70 miles, the proposed project corridor totals approximately 508 acres. Existing land and vegetation composing approximately 508 acres includes urban land, private residences, and agricultural land (approximately 25 percent of the proposed project corridor); nonnative grasslands and herbaceous vegetation (approximately 40 percent of the proposed project corridor); disturbed thornscrub shrublands and woodlands (approximately 25 percent of the proposed project corridor); and disturbed floodplain shrublands, woodlands, and forests (approximately 10 percent of the proposed project corridor).

The loss of vegetation from approximately 125 acres of urban and agricultural land would result in short- and long-term negligible to minor adverse impacts due to the potential of the disturbed land to become a nursery for nonnative plant species to propagate and invade surrounding plant communities. Potential impacts due to removal of individual large mature native trees of Texas ebony, sabal palm, eastern cottonwood, sugarberry, and honey mesquite could be reduced by avoidance (avoidance of these large trees would require protection of the soil and root zone at least to the canopy drip-line, a zone up to 50–75 feet

1 wide), or minimization by transplanting individuals (e.g., of the sabal palms) to  
2 areas selected by the USFWS or other resource agencies. However, avoidance  
3 or transplant of all such trees would likely not be feasible. Therefore, removal  
4 impacts would result in long-term moderate to major adverse impacts, because  
5 these trees are virtually irreplaceable.

6 The loss of approximately 200 acres of herbaceous vegetation, more than half of  
7 this area dominated by nonnative buffelgrass, Bermuda grass, and windmill  
8 grass, would result in short- and long-term minor to moderate adverse impacts  
9 due to habitat conversion.

10 The loss of approximately 125 acres of disturbed thornscrub shrubland and  
11 woodland habitat, predominantly honey mesquite and retama, would result in  
12 short- and long-term moderate adverse impacts due to habitat conversion. In the  
13 LRGVNR, a portion of this acreage represents stands that were previously  
14 revegetated by the USFWS around 2002 and 2003.

15 In the first mile of proposed tactical infrastructure Section O-1, approximately 4.0  
16 acres of Tamaulipan thornscrub that has become established on gravel substrate  
17 of hills and ridges would be removed, resulting in long-term major adverse  
18 impacts due to habitat conversion by disruption of the substrate. The first 0.85  
19 acres of this habitat has been root-plowed, resulting in an invasion of the  
20 nonnative buffelgrass and loss of native vegetation cover, diversity, and  
21 community structure. Restoration of this root-plowed habitat with its loss of  
22 gravel veneer and need to eliminate invasive grass species would likely not  
23 occur. BMPs would include implementation of a Construction Mitigation and  
24 Restoration (CM&R) Plan and a Fire Prevention and Suppression Plan.

25 In the first 0.5 miles of proposed tactical infrastructure Section O-1, sedimentary  
26 rock outcrops on south-facing slopes would be avoided during construction,  
27 resulting in short- and long-term moderate to major beneficial impacts, due to  
28 preservation of a unique habitat that in other sites supports federally listed plant  
29 species (e.g., the Zapata bladderpod). Loss of these unique sedimentary rock  
30 outcrops would be irreplaceable.

31 The loss of approximately 50 acres of disturbed floodplain shrubland, woodland,  
32 and forest habitat, predominantly honey mesquite and sugarberry and to a lesser  
33 extent sabal palm, would result in short- and long-term moderate to major  
34 adverse impacts due to habitat conversion and the size and age of mature  
35 floodplain trees.

36 The proposed project corridor would be expected to provide some protection for  
37 vegetation in the areas north of proposed project corridor from new, continued, or  
38 increased foot traffic impacts by cross-border violators. Such protection would  
39 result in short- and long-term minor to moderate beneficial impacts.

1 In summary, short- and long-term adverse impacts on vegetation would range  
2 from negligible to major due to habitat loss and modification. Short- and long-  
3 term negligible to moderate (depending upon the location) beneficial impacts  
4 would be anticipated due to protection of remaining vegetation north of the  
5 proposed project corridor.

6 Vegetation resources between the 21 proposed tactical infrastructure sections  
7 would also be adversely impacted by the funneling of cross border violators into  
8 the areas where there would be no fence. Concentrated foot traffic around the  
9 ends of the sections would reduce vegetation in those areas. Since the locations  
10 of the 21 sections were based on USBP operational requirements including the  
11 ability to make apprehensions, the extent of the disturbance would be limited and  
12 the impacts would be minor, long-term, and adverse.

### 13 **Route B**

14 Route B would impact approximately 508 acres, similar to Route A. While Route  
15 B would cut across the lower portions of Los Velas and Los Velas West annexes  
16 of the LRGVNR (Section O-2), it would entirely avoid the potentially more  
17 species-rich Arroyo Ramirez annex (Section O-1), the Culebron Banco annex  
18 (Section O-13), and the Tahuachal Banco annex (Section O-16) of the  
19 LRGVNR. Finally, Route B moves the proposed fence alignment from the  
20 edge of town to along the levee in the western portion of Section O-19,  
21 potentially protecting remaining habitat north of the levee in that area. Indirect  
22 impacts on other areas between fence sections would be the same as described  
23 under Route A. Short- and long-term adverse impacts on vegetation resulting  
24 from development of Route B would be less than those for Route A, but would  
25 still fall into the negligible to major range. Short- and long-term beneficial  
26 impacts due to protection provided by the fence along Route B would also be  
27 anticipated to range from minor to moderate, depending upon the location.

### 28 **4.7.3 Alternative 3: Secure Fence Act Alignment Alternative**

29 Under the Secure Fence Act Alignment Alternative, a 150-foot-wide corridor  
30 containing the proposed primary and secondary pedestrian fences and patrol  
31 roads would be cleared during construction and would remain cleared following  
32 construction to support long-term maintenance, sight distance, and patrol  
33 activities. The cleared area totals approximately 1,270 acres over the 70-mile  
34 length of the proposed project corridor. Existing land use and vegetation in this  
35 1,270 acres includes urban land, private residences, and agricultural land  
36 (approximately 25 percent); nonnative grasslands and herbaceous vegetation  
37 (approximately 40 percent); disturbed thornscrub shrublands and woodlands  
38 (approximately 25 percent); and disturbed floodplain shrublands, woodlands, and  
39 forests (approximately 10 percent).

40 The loss of vegetation from approximately 320 acres of urban and agricultural  
41 land would result in short- and long-term negligible to minor adverse impacts due

1 to the potential for the disturbed land to become a nursery for nonnative plant  
2 species to propagate and invade surrounding plant communities. Removal of  
3 individual large mature native trees of Texas ebony, sabal palm, eastern  
4 cottonwood, sugarberry, and honey mesquite would result in long-term, moderate  
5 to major adverse impacts, because they are virtually irreplaceable. Avoidance of  
6 these large trees would not be possible under this alternative.

7 The loss of approximately 505 acres of herbaceous vegetation, more than half of  
8 this area dominated by nonnative buffelgrass, Bermuda grass, and windmill  
9 grass, would result in short- and long-term moderate adverse impacts due to  
10 permanent habitat conversion. The loss of approximately 320 acres of disturbed  
11 thornscrub shrubland and woodland habitat, predominantly honey mesquite and  
12 retama, would result in short- and long-term, moderate to major, adverse impacts  
13 due to permanent habitat conversion. In the LRGVNR, a portion of this  
14 acreage represents stands that were previously revegetated by the USFWS  
15 during 2002 and 2003.

16 In the first mile of proposed Fence Section O-1, approximately 9.0 acres of  
17 thornscrub that has become established on gravel substrate of hills and ridges  
18 would be permanently removed, resulting in long-term, major adverse impacts  
19 due to habitat conversion by disruption of the substrate and elimination of  
20 vegetation cover. In the first 0.5 miles of proposed fence Section O-1,  
21 sedimentary rock outcrops on south-facing slopes would be avoided during  
22 construction, resulting in short- and long-term moderate to major beneficial  
23 impacts due to preservation of a unique habitat that in other sites supports  
24 federally listed plant species (e.g., the Zapata bladderpod). Loss of these unique  
25 sedimentary rock outcrops would be irreplaceable.

26 The loss of approximately 125 acres of disturbed floodplain shrubland, woodland,  
27 and forest habitat, predominantly honey mesquite and sugarberry and to a lesser  
28 extent sabal palm, would result in short- and long-term, moderate to major  
29 adverse impacts due to permanent habitat conversion, the size and age of  
30 mature floodplain trees, and the endemism of the sabal palm.

31 During and following construction of the proposed fence sections, the impacts of  
32 fire, drought, and flooding, as described in the No Action Alternative, would occur  
33 over time, resulting in short- and long-term minor to moderate adverse impacts  
34 on the remaining native and nonnative plant communities.

## 35 **4.8 WILDLIFE AND AQUATIC RESOURCES**

### 36 **4.8.1 Alternative 1: No Action Alternative**

37 Under the No Action Alternative, new tactical infrastructure would not be built and  
38 there would be no change in fencing, access roads, or other facilities along the  
39 U.S./Mexico international border in the proposed project locations within the  
40 USBP Rio Grande Valley Sector. Anticipated continuation or even increases in

1 cross border violator traffic would be expected to have some adverse impacts on  
2 habitat for wildlife and aquatic resources. These impacts are anticipated to be  
3 short- and long-term, minor, and adverse.

## 4 **4.8.2 Alternative 2: Routes A and B**

### 5 **Route A**

6 A 60-foot-wide corridor containing the proposed pedestrian fence and patrol road  
7 associated with Route A would be cleared during construction and a portion  
8 maintained following construction to support long-term maintenance, sight  
9 distance, and patrol activities. For the period of construction, lay-down areas for  
10 materials and equipment would be identified within the disturbed proposed  
11 project corridor. Route A would follow the IBWC levee system for the majority of  
12 its length; however, some proposed tactical infrastructure sections would  
13 encroach on portions of unique or protected habitats. Route A alignment would  
14 cross several Texas state parks and WMAs in the Rio Grande Valley and would  
15 intersect LRGV NWR at several locations (see **Appendix I**). Potential threats to  
16 wildlife in these areas include habitat conversion, noise, and potential siltation of  
17 aquatic habitats.

18 For the proposed length of approximately 70 miles, the area within the proposed  
19 project corridor that would be cleared of vegetation totals approximately 508  
20 acres. The following paragraphs characterize the amount of each general habitat  
21 type that would be temporarily or permanently impacted and the impacts of that  
22 habitat conversion on wildlife species.

23 The loss of vegetation from approximately 125 acres of urban and agricultural  
24 land would result in short- and long-term negligible adverse impacts on wildlife  
25 species due to the disturbed land potentially becoming a nursery for nonnative  
26 plant species to propagate and invade surrounding plant communities.

27 The loss of approximately 200 acres of herbaceous vegetation, more than half of  
28 this area dominated by nonnative buffelgrass, Bermuda grass, and windmill  
29 grass, would result in short- and long-term, minor adverse impacts to wildlife due  
30 to habitat conversion. The loss of approximately 125 acres of disturbed  
31 thornscrub shrubland and woodland habitat, predominantly honey mesquite and  
32 retama, would result in short- and long-term moderate adverse impacts on  
33 wildlife due to habitat conversion.

34 In the first mile of proposed tactical Section O-1, approximately 4.0 acres of  
35 Tamaulipan thornscrub that has become established on gravel substrate of hills  
36 and ridges would be removed, resulting in long-term minor adverse impacts on  
37 wildlife due to habitat conversion.

38 The loss of approximately 50 acres of disturbed floodplain shrubland, woodland,  
39 and forest habitat, predominantly honey mesquite and sugarberry and to a lesser



1 extent sabal palm, would result in short- and long-term, minor to moderate  
2 adverse impacts on wildlife.

3 The proposed tactical infrastructure sections would be expected to provide some  
4 protection for wildlife and wildlife habitats in the areas north of the proposed  
5 project corridor from new, continued, or increased foot traffic impacts by cross  
6 border violators. Such protection would result in short- and long-term, minor  
7 beneficial impacts on wildlife. However, wildlife and wildlife habitat between the  
8 21 proposed tactical infrastructure sections would be adversely impacted by the  
9 funneling of cross border violators into the areas where there would be no fence  
10 and concentrated USBP operations. The severity of the impact would vary  
11 depending on the quality of the habitat impacted. Cross border violators could be  
12 funneled into portions of the LRGVNR. Section O-1 could funnel cross border  
13 violators west into the Arroyo Ramirez annex. Fence section O-2 could funnel  
14 cross border violators east into the Los Velas West LRGVNR. Fence Section  
15 O-3 could funnel cross border violators west into the Los Ebanos annex.  
16 Between Sections O-5 and O-6 is the Cottam annex which could be adversely  
17 impacted by concentrating cross border violators into the area. Section O-10  
18 could funnel cross border violators east into the Relampago annex, and Section  
19 O-18 could funnel cross border violators east into the Phillips Banco annex.

20 Noise created during construction would be anticipated to result in short-term,  
21 minor to moderate, adverse impacts on wildlife. These impacts would include  
22 subtle, widespread impacts from the overall elevation of ambient noise levels  
23 during construction. Noise levels after construction are anticipated to return to  
24 close to current ambient levels. Elevated noise levels during construction could  
25 result in reduced communication ranges, interference with predator/prey  
26 detection, or habitat avoidance. More intense impacts would include behavioral  
27 change, disorientation, or hearing loss. Predictors of wildlife response to noise  
28 include noise type (i.e., continuous or intermittent), prior experience with noise,  
29 proximity to a noise source, stage in the breeding cycle, activity, and age. Prior  
30 experience with noise is the most important factor in the response of wildlife to  
31 noise, because wildlife can become accustomed (or habituate) to the noise. The  
32 rate of habituation to short-term construction is not known, but it is anticipated  
33 that most wildlife would be permanently displaced from the areas where the  
34 habitat is cleared and the fence and associated tactical infrastructure  
35 constructed, and temporarily dispersed from areas adjacent to the project areas  
36 during construction periods. See **Section 4.3.2** for additional details on expected  
37 noise levels associated with Routes A and B.

38 Removal of vegetation and grading during construction could temporarily  
39 increase siltation in the river and therefore have short-term minor adverse  
40 impacts on fish within the Rio Grande. Under Route A, tactical infrastructure  
41 would be adjacent to the river bank, and could result in increased siltation in the  
42 Rio Grande. There is one state-listed fish species known to overlap with  
43 proposed fence sections in the Rio Grande Valley Sector. The Rio Grande  
44 silvery minnow could potentially occur in the Rio Grande in three proposed

1 sections (O-18, O-19, and O-21). However, implementation of standard BMPs  
2 such as use of silt fences, should reduce this potential impact to negligible.

3 In summary, implementation of Route A would be anticipated to have short- and  
4 long-term, negligible to moderate adverse impacts on wildlife due to habitat  
5 conversion; short-term, minor to moderate adverse impacts on wildlife due to  
6 construction noise; and negligible adverse impacts on aquatic habitats due to  
7 siltation from construction activities. Minor beneficial impacts would result from  
8 protection of wildlife and habitats on the north side of the proposed project  
9 corridor.

## 10 **Route B**

11 Route B would impact approximately 508 acres, similar to Route A. While Route  
12 B would cut across the lower portions of Los Velas and Los Velas West annexes  
13 (Section O-2), it would entirely avoid the potentially more species-rich Arroyo  
14 Ramirez annex (Section O-1), the Culebron Banco annex (Section O-13), and  
15 the Tahuachal Banco annex (Section O-16) of the LRGVNR. Finally, Route B  
16 moves the proposed fence alignment from the edge of town to along the levee in  
17 the western portion of Section O-19, potentially protecting remaining habitat and  
18 the wildlife it supports north of the levee in that area.

19 Short- and long-term adverse impacts on wildlife due to habitat conversion  
20 resulting from development of Route B would be less than those for Route A, but  
21 would still fall into the negligible to moderate range. Short- and long-term  
22 beneficial impacts due to protection provided by the fence along Route B would  
23 also be anticipated to range from minor to moderate, depending upon the  
24 location. Similar to the indirect impact discussed under Route A, wildlife and  
25 wildlife habitat between the 21 proposed sections of tactical infrastructure would  
26 be adversely impacted by the deterrent effect of the fence, the funneling of illegal  
27 cross-border violators into the areas where there would be no fence, and  
28 concentrated USBP operations. The severity of the impact would vary  
29 depending on the quality of the habitat impacted. Sections O-1 and O-2 Route B  
30 would avoid potential impacts on the Arroyo Ramirez annex and the Los Velas  
31 West annex of the LRGVNR, respectively. Fence Section O-16 could funnel  
32 cross border violators east into the Tahuachal Banco annex, whereas Route A  
33 would bisect the refuge. Adverse impacts from Route B on Sections O-3, O-5,  
34 O-6, O-10, and O-18 would be the same as Route A. Noise impacts from  
35 construction would be similar to those for Route A: short-term, minor to  
36 moderate, and adverse. Although portions of the fence would be closer to the  
37 river (e.g., Section O-19), potential short-term adverse impacts on aquatic  
38 habitats due to siltation are not anticipated to exceed negligible assuming  
39 implementation of standard BMPs during construction.

### **4.8.3 Alternative 3: Secure Fence Act Alignment Alternative**

The nature of impacts of Alternative 3 would be similar to those of Alternative 2; however, the area impacted (1,270 acres) would be larger, resulting in greater intensity and duration of impacts.

Short- and long-term adverse impacts on wildlife due to habitat conversion resulting from implementation of Alternative 3 would be moderate to major. Short- and long-term beneficial impacts due to protection provided by the fence along Route B would range from minor to moderate, depending upon the location. Noise impacts from construction would be short-term and adverse, but would range from moderate to major in intensity. Given the larger footprint of this alternative and the correlated increased risk of runoff during storm events, the adverse impacts of this alternative on aquatic resources due to siltation could increase.

## **4.9 SPECIAL STATUS SPECIES**

### **4.9.1 Federal Species**

Section 7 of the ESA requires Federal agencies to consult with the USFWS when actions could affect federally listed species or designated critical habitat. Pre-consultation coordination with USFWS is underway for this project. The USFWS has provided critical feedback on the location and design of fence sections to avoid, minimize, or mitigate potential impacts on listed species or designated critical habitat. USBP is developing the Biological Assessment in coordination with the USFWS. Potential impacts of fence construction, maintenance, and operation will be analyzed in both the Biological Assessment and BO to accompany the Final EIS.

Potential impacts on federally listed species are based on currently available data. Impacts are developed from a NEPA perspective and are independent of any impact determinations made for the Section 7 consultation process. Impact categories used in this document cannot be assumed to correlate to potential impact determinations that have not yet been made.

#### **4.9.1.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, new tactical infrastructure would not be built and there would be no change in fencing, access roads, or other facilities along the U.S./Mexico international border in the proposed project locations within the USBP Rio Grande Valley Sector. Anticipated continuation or even increases in cross border violator traffic would be expected to have some adverse impacts on federally listed species, especially plants. These impacts are anticipated to be short- and long-term, minor to moderate, and adverse.

#### 4.9.1.2 Alternative 2: Routes A and B

##### Route A

Under Route A, a 60-foot-wide corridor containing the proposed pedestrian and patrol roads would be cleared during construction and a portion maintained following construction to support long-term maintenance, sight distance, and patrol activities. For the period of construction, lay-down areas for materials and equipment would be identified within the disturbed proposed project corridor. Route A would follow the IBWC levee system for the majority of its length; however, some proposed fence sections would encroach on portions of unique or protected habitats. The proposed fence alignment would cross several Texas state parks and WMAs in the Rio Grande Valley and would intersect LRGV NWR at several locations (see **Appendix I**). Potential threats to federally listed species in these areas include trampling (for plants), habitat conversion, and noise.

Approximately 508 acres of vegetation would be cleared along the proposed project corridor for the Route A. Route A approaches known locations of individuals of Texas ayenia, Walker's manioc, and Zapata bladderpod. Implementation of Route A would be anticipated to have the potential for short-term major adverse impacts on these species due to trampling or mortality during fence construction. Long-term negligible to minor beneficial impacts could result from reduction or prevention of cross-border violator traffic through habitats for and populations of these species, but funneling of cross-border violators into occurrences of Texas ayenia, Walker's manioc, and Zapata bladderpod could have long-term major adverse impacts on these species.

The loss of approximately 125 acres of disturbed thornscrub shrubland and woodland habitat, predominantly honey mesquite and retama, and of approximately 50 acres of disturbed floodplain shrubland, woodland, and forest habitat, predominantly honey mesquite and sugarberry and to a lesser extent sabal palm, would represent a loss of approximately 150 acres of potential ocelot and jaguarundi habitat. The short- and long-term loss of potential habitat for these species is anticipated to result in short- and long-term, moderately adverse impacts on ocelots and jaguarundi. Long-term beneficial impacts due to protection of habitat provided by the fence along Route A would be anticipated to range from minor to moderate, depending upon the location.

For Route A, short-term moderate adverse impacts would be anticipated for ocelots and jaguarundi due to elevated noise levels during construction. These elevated noise levels could interfere with important communications, dispersal of individuals, and predator-prey interactions.

## **Route B**

Route B would impact approximately 508 acres, similar to Route A. While Route B would cut across the lower portions of Los Velas and Los Velas West annexes of the LRGVNRW (Section O-2), it would entirely avoid the potentially more species-rich Arroyo Ramirez annex (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16) of the LRGVNRW.

Route B pulls the proposed fence alignment further away from several known locations of Zapata bladderpod and Walker's manioc. For this reason, Route B impacts on federally listed plants are anticipated to be short-term, moderate, and adverse. Long-term negligible to minor beneficial impacts could result from reduction or prevention of cross-border violator traffic through habitats for and populations of these species.

Short- and long-term adverse impacts on federally listed species due to habitat conversion resulting from development of Route B would be less than those for Route A, but would still fall into the moderate range. Short- and long-term beneficial impacts due to protection provided by the fence along Route B would also be anticipated to range from minor to moderate, depending upon the location. Noise impacts from construction would be similar to those for Route A: short-term, moderate, and adverse.

### **4.9.1.3 Alternative 3: Secure Fence Act Alignment Alternative**

The nature of impacts of Alternative 3 would be similar to those of Alternative 2; however, the area impacted (1,270 acres) would be larger, resulting in greater intensity and duration of impacts.

Short- and long-term adverse impacts on federally listed species due to trampling (plants) and habitat conversion resulting from implementation of Alternative 3 would be major. Short- and long-term beneficial impacts due to protection provided by the fence along Route B would range from minor to moderate, depending upon the location. Noise impacts from construction would still be short-term and adverse, but would increase to moderate to major in intensity.

## **4.9.2 State Species**

### **4.9.2.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, new tactical infrastructure would not be built and there would be no change in fencing, access roads, or other facilities along the U.S./Mexico international border in the proposed project locations within the Rio Grande Valley Sector. Anticipated continuation or even increases in cross-border violator traffic would be expected to have some adverse impacts on state-

1 listed species. These impacts are anticipated to be short- and long-term, minor  
2 to moderate, and adverse.

### 3 **4.9.2.2 Alternative 2: Routes A and B**

#### 4 **Route A**

5 Under the Proposed Action, Route A, a 60-foot-wide corridor containing the  
6 proposed new pedestrian fence and access/patrol roads on either side would be  
7 cleared during construction and a portion maintained following construction to  
8 support long-term maintenance, sight distance, and patrol activities. For the  
9 period of construction, lay-down areas for materials and equipment would be  
10 identified within the disturbed proposed project corridor. Route A would follow  
11 the IBWC levee system for the majority of its length; however, some proposed  
12 fence sections would encroach on portions of unique or protected habitats. The  
13 proposed fence alignment would cross several Texas state parks and WMAs in  
14 the Rio Grande Valley and would intersect LRGVNR at several locations (see  
15 **Appendix I**). Potential threats to state-listed species in these areas include  
16 habitat conversion during fence construction, increased mortality during  
17 construction and subsequent use of patrol roads, and noise.

18 Habitat loss or conversion for state-listed species in Sections O-1, O-2, O-8, and  
19 O-10 (i.e., Mexican treefrog, Mexican burrowing toad, Texas horned lizard, white-  
20 lipped lizard) would affect a small area and would be of little consequence to  
21 statewide viability of these species. BMPs to avoid and minimize impacts, such  
22 as pre-construction clearance surveys, are anticipated to reduce potential  
23 impacts to minor or lower in intensity. Increased heavy traffic in the short term,  
24 and patrol traffic in the long term would be anticipated to have a correlated  
25 increased potential for mortality of these species through roadkill. Noise created  
26 during construction would be anticipated to result in short-term, minor to  
27 moderate, adverse impacts on these state-listed species.

28 Overall, short-term minor to moderate adverse impacts from construction would  
29 be expected, while long-term minor adverse impacts from maintenance and  
30 operation would be expected due to potential mortality on associated roads.  
31 However, long-term minor beneficial impacts could result from reduced foot traffic  
32 in areas on the north side of the proposed project corridor.

33 There is one state-listed fish species known to overlap with proposed fence  
34 sections in the USBP Rio Grande Valley Sector. The Rio Grande silvery minnow  
35 could potentially occur in the Rio Grande in three sections (O-18, O-19, and  
36 O-21). Removal of vegetation and grading during construction could temporarily  
37 increase siltation in the river. However, implementation of standard BMPs, such  
38 as use of silt fences, should reduce this potential impact to negligible. Therefore  
39 short-term negligible adverse impacts on this species would be expected.

Habitat conversion and noise impacts on state-listed species in all other fence sections are anticipated to be negligible in both the short and long terms. These sections did not present high-quality habitat for state-listed species, and no species were observed in these sections during the surveys (see **Appendix I**).

## **Route B**

Route B would impact approximately 508 acres, similar to Route A. While Route B would cut across the lower portions of Los Velas and Los Velas West annexes of the LRGVNR (Section O-2), it would entirely avoid the potentially more species-rich Arroyo Ramirez annex (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16) of the LRGVNR.

Because Route B would impact less of Section O-1, which is particularly species-rich, the impacts as a result of this alternative on state-listed species are anticipated to be less than those for Route A. Route B impacts due to construction would be short-term, negligible to minor, and adverse, while impacts from maintenance and operation would be long-term, negligible to minor, and adverse due to potential mortality on associated roads. However, long-term minor beneficial impacts could result from reduced foot traffic in areas north and south of the proposed project corridor. Impacts from noise for Route B would be similar to those for Route A.

### **4.9.2.3 Alternative 3: Secure Fence Act Alignment Alternative**

The nature of impacts of Alternative 3 would be similar to those of Alternative 2; however, the area impacted (1,270 acres) would be larger, resulting in greater intensity and duration of impacts.

Short- and long-term adverse impacts on state-listed species due to habitat conversion and roadkill mortality resulting from implementation of Alternative 3 would be major. Noise impacts from construction would be short-term and adverse, but would range from moderate to major in intensity. Short- and long-term beneficial impacts due to protection provided by the fence along Route B would range from minor to moderate, depending upon the location.

## **4.9.3 Migratory Birds**

### **4.9.3.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, new tactical infrastructure would not be built and there would be no change in fencing, access roads, or other facilities along the U.S./Mexico international border in the proposed project locations within the USBP Rio Grande Valley Sector. Anticipated continuation or even increases in cross border violator traffic would be expected to have some adverse impacts on

migratory birds. These impacts are anticipated to be short- and long-term, minor to moderate, and adverse.

#### 4.9.3.2 Alternative 2: Routes A and B

##### Route A

Under Route A, a 60-foot-wide corridor containing the proposed pedestrian fence and patrol roads would be cleared during construction and a portion maintained following construction to support long-term maintenance, sight distance, and patrol activities. For the period of construction, lay-down areas for materials and equipment would be identified within the disturbed proposed project corridor. Route A would follow the IBWC levee system for the majority of its length; however, some proposed fence sections would encroach on portions of unique or protected habitats. The proposed fence alignment would cross several Texas state parks and WMAs in the Rio Grande Valley and would intersect LRGVNRW at several locations (see **Appendix I**). Potential threats to migratory birds in these areas include habitat conversion during fence construction, increased mortality during construction and subsequent use of patrol roads, and noise.

Approximately 508 acres of vegetation would be cleared along the proposed project corridor for Route A. Impacts on migratory birds could be substantial, given the potential timing of fence construction. However, implementation of BMPs to avoid or minimize adverse impacts could markedly reduce their intensity. The following is a list of BMPs recommended for reduction or avoidance of impacts on migratory birds:

- Any groundbreaking construction activities should be performed before migratory birds return to the area (approximately 1 March) or after all young have fledged (approximately 31 July) to avoid incidental take.
- If construction is scheduled to start during the period in which migratory bird species are present, steps should be taken 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 construction is scheduled to start during the period when migratory birds are present, a supplemental site-specific survey for nesting migratory birds should be performed immediately prior to site clearing.
- If nesting birds are found during the supplemental survey, construction should be deferred until the birds have left the nest. Confirmation that all young have fledged should be made by a competent biologist.



Because not all of the above BMPs can be fully implemented due to time constraints of fence construction, a Migratory Bird Depredation Permit will be obtained from USFWS.

Assuming implementation of the above BMPs to the fullest extent feasible, impacts of Route A on migratory birds is anticipated to be short- and long-term, minor, and adverse due to construction disturbance and associated loss of habitat, and long-term, minor, and beneficial due to reduction of foot traffic through migratory bird habitat north of the proposed project corridor.

## **Route B**

Route B would impact approximately 508 acres, similar to Route A. While Route B would cut across the lower portions of Los Velas and Los Velas West annexes of the LRGVNRW (Section O-2), it would entirely avoid the potentially more species-rich Arroyo Ramirez annex (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16) of the LRGVNRW. In addition, Route B borders instead of intersects the southern boundary of the Phillips Banco annex of the LRGVNRW.

As with Route A, not all of the migratory bird BMPs described above can be fully implemented due to time constraints of fence construction. Therefore, a Migratory Bird Depredation Permit will be obtained from USFWS.

Assuming implementation of the above BMPs to the fullest extent feasible, impacts of Route B on migratory birds is anticipated to be short- and long-term, minor, and adverse due to construction disturbance and associated loss of habitat, and long-term, minor, and beneficial due to reduction of foot traffic through migratory bird habitat north of the proposed project corridor.

### **4.9.3.3 Alternative 3: Secure Fence Act Alignment Alternative**

Under this alternative, the proposed project corridor would increase to 130 feet, which is slightly more than double that associated with Alternative 2 (60 feet). Impacts on migratory bird species would be similar to those described for the Alternative 2, but more extensive in nature. Given the extensive habitat disturbance and loss associated with the larger footprint of this alternative, moderate to major short- and long-term adverse impacts would be anticipated. Long-term beneficial impacts due to reduction of foot traffic through habitat north of the proposed project corridor would remain minor.

## **4.10 CULTURAL RESOURCES**

### **4.10.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, proposed tactical infrastructure would not be built and there would be no change in fencing, patrol roads, or other facilities

1 within the USBP Rio Grande Valley Sector. Since there would be no tactical  
2 infrastructure built, impacts on cultural, historical, and archaeological resources,  
3 including historic properties, would continue to be affected by cross border  
4 violator activities.

## 5 **4.10.2 Alternative 2: Routes A and B**

### 6 **Route A**

7 Section O-1 would extend along the southern boundary of the NHL-designated  
8 Roma Historic District and parallel the Rio Grande. The Roma Historic District  
9 would incur long-term major adverse impacts associated with Route A  
10 construction would atop the bluff at the western and southern edges of the  
11 historic district under Route A. The infrastructure would constitute an element  
12 out of character with the historic district and alter its historic setting and  
13 relationship to the river.

14 Section O-2 would cross the southern tip of the Fort Ringgold Historic District,  
15 including a portion of the archaeological component of the district. The historic  
16 buildings of Fort Ringgold are distant from the southern tip of the district, which  
17 slopes down to the Rio Grande; the impacts associated with Route A on the  
18 viewshed and setting of these buildings is thus minimized. Moreover, there is  
19 thick vegetation and intervening buildings between the historic buildings at Fort  
20 Ringgold and the Rio Grande to provide considerable visual screening.  
21 Proposed grading for access roads and patrol roads on Fort Ringgold might  
22 adversely impact archaeological resources.

23 Section O-3 would be near the Los Ebanos POE and ferry, and within the  
24 southern and eastern side of the community of Los Ebanos. The POE, ferry, Las  
25 Cuervas ebony, and surrounding area could be eligible for listing in the NRHP as  
26 a historic landscape, or for their historical or engineering significance. Route A  
27 would be approximately 250 feet from the ferry crossing, and would present  
28 substantial impacts on the viewshed and setting of the ferry and POE. Route A  
29 also would surround the community of Los Ebanos to its south and east.  
30 Because the Rio Grande is very close to the eastern side of the community, there  
31 would be long-term major adverse impacts on the viewshed and setting of any  
32 historic properties identified within the community. Los Ebanos has a community  
33 cemetery located on its western side. Impacts on the Los Ebanos POE, ferry,  
34 and community would be long-term, major, and adverse.

35 Section O-5 is approximately one-quarter to one-half mile south of the La Lomita  
36 Historic District. Because there is substantial vegetative screening at the  
37 southern and eastern portions of the historic district, impacts on the viewshed  
38 and setting of this district would be minor to moderate.

39 Section O-6 would extend north/south along the western boundary of the  
40 Louisiana-Rio Grande Canal Company Irrigation System Historic District. It

1 would be constructed adjacent to the Old Hidalgo Pumphouse on its eastern and  
2 western sides and continue easterly within the southern portion of the district for  
3 a distance of approximately 1.5 miles, crossing into an area of open irrigation  
4 canals that are contributing properties of the historic district. The proposed fence  
5 would be very visible from Levee Street and nearby streets, and from the Old  
6 Hidalgo Pumphouse grounds. However, the view of the fence would be  
7 somewhat minimized by the substantial existing landscaping of the pump house  
8 grounds. Fence designs or other construction design mitigation measures might  
9 be able to further minimize impacts on the pump house. In addition to impacts  
10 on the historic pump house, the extension of the infrastructure into the canal  
11 system would constitute a direct adverse impact on those features of the historic  
12 district. In summary, Route A would have long-term, major, and adverse direct  
13 and indirect impacts on the historic district. USBP is committed to working with  
14 the City of Hidalgo, community, and THC to identify mitigation design measures  
15 to minimize impacts on the historic district and historic Old Hidalgo Pumphouse.

16 Section O-10 would pass to the south of and approximately 0.3 miles from  
17 Toluca Ranch. Because the southern portion of the property has many mature  
18 trees and other vegetation, the house and other buildings would have some  
19 screening from the proposed project. Impacts on the viewshed and setting of the  
20 historic district would be moderate.

21 Section O-14 would pass immediately south of the Landrum House, a Recorded  
22 Texas Historic Landmark since 1978. The Landrum House is not listed in the  
23 NRHP, but would be eligible for the NRHP for its historical and architectural  
24 significance. The house was constructed in 1902 for Frances and James  
25 Landrum (THC 2007). The house and associated outbuildings would incur long-  
26 term, major adverse indirect impacts and potentially some direct impacts should  
27 the APE impact any associated archaeological deposit of this property.

28 Section O-17 is close to (approximately 0.25 miles north) the Sabas Cavazos  
29 Cemetery, established in 1878 with the burial of a rancher and businessman,  
30 Sabas Cavazos (THC 2007). Route A would not impact this resource.

31 In Section O-19, Route A curves northward close to the developed portion of  
32 Brownsville, west of the park near the POE, and continues south along the  
33 western side of the Fort Brown Historic District, a designated NHL. The  
34 proposed fence would be visible from 12th Street and portions of nearby streets.  
35 However, the infrastructure related to the POE and the park located west of the  
36 POE would somewhat minimize the impact of the proposed fence. The route  
37 continues west of the historic buildings of Fort Brown that are now integrated into  
38 the University of Texas/Texas Southmost College campus, extends north/south  
39 immediately west of the Neale House, and then takes an easterly route along the  
40 northern boundary of the historic district along the U.S. section of the IBWC  
41 levee. A golf course is located south of the levee and within the boundaries of  
42 the NHL historic district. Although there are significant historic properties in the  
43 area of Route A, there also is substantial development. The historic buildings of

Fort Brown are part of the university campus with other buildings, landscaping, streets, and parking lots. The historic buildings are located a distance from Route A. The new development provides some measure of visual screening. The integrity of the archaeological component of Fort Brown is unknown, and might have been impacted by prior activities. Additional research will be conducted including consultation with the THC on the potential adverse impacts (direct and indirect) and potential mitigation measures will be identified in the Final EIS. Route A would present major long-term indirect and possibly direct impacts on the Neale House since it would be immediately west of the house. Section O-19 would cause moderate to major, adverse, long-term impacts on the viewshed and setting of historic properties.

Section O-21 would parallel the southern boundary of the Old Brulay Plantation at a distance of approximately 100 feet or less from the historic district complex. Construction of the tactical infrastructure likely would impact the viewshed and setting of this complex, and could also directly impact historical archaeological materials related to the plantation. Impacts would be long-term, major, and adverse. The historic complex could be damaged from construction activities. The Brulay Cemetery is about 1,000 feet to the north of the alignment, but would not be impacted.

Archaeological resources between the 21 proposed tactical infrastructure sections could be adversely impacted by the funneling of cross border violators into the areas where there would be no fence. Increased foot traffic around the ends of sections of fence in remote areas would reduce vegetation, disturb soils, and could uncover and destroy unknown resources. Since the locations of the 21 sections were based on USBP operational requirements, including the ability to make apprehensions, the extent of disturbance should be minor and adverse. BMPs would include an Unanticipated Discovery Plan for Cultural Resources.

## **Route B**

Under Route B, Section O-1, like Route A, would extend along the southern boundary of the Roma Historic District and parallel the river. The two routes are equivalent through the Roma Historic District; therefore, the major long-term adverse impacts from Route B would be the same as Route A. Route B would extend further north into the neighborhood south of bridge. The viewshed and setting of the southern end of the historic district would be adversely affected by the infrastructure as it ascends and is atop the bluff. Historic properties within the residential neighborhood south of the bridge could be directly or indirectly impacted by Route B.

Section O-2 would cross the southern tip of the Fort Ringgold Historic District, including a portion of the district's archaeological component. Route B would have the same impacts as Route A. Proposed grading for fencing and patrol roads on Fort Ringgold might adversely impact archaeological resources. Additional archaeological surveys will be conducted to evaluate the nature and

1 significance of the Fort Ringgold site in this area, the result of which will be  
2 presented in the Final EIS.

3 Section O-3 is near the Los Ebanos POE and ferry, and within the southern and  
4 eastern side of the community of Los Ebanos. Route B extends west of the  
5 community of Los Ebanos, south near the area of the ferry, and surrounds the  
6 community of Los Ebanos on its south and east. It is further away from the ferry  
7 crossing than Route A, but is closer to the western portion of the community.  
8 Route B, as proposed, would have substantial impacts on the viewshed and  
9 setting of the ferry and POE area, although less than Route A. Adverse impacts  
10 on the community of Los Ebanos would be somewhat greater under Route B  
11 compared to Route A. Los Ebanos has a community cemetery on its western  
12 side. Impacts on Los Ebanos POE, ferry, and community would be long-term,  
13 major, and adverse.

14 Section O-5, Route B would have the same impacts on the La Lomita Historic  
15 District as Route A. Because there is substantial vegetative screening at the  
16 southern and eastern portions of the historic district, impacts on the viewshed  
17 and setting of this district are expected to be minor to moderate.

18 Under Route B, Section O-6 is identical to Route A in the vicinity of the  
19 Louisiana-Rio Grande Canal Company Irrigation System Historic District and  
20 would have the same impacts as noted in the discussion of this section under  
21 Route A. USBP is committed to working with the City of Hidalgo, community,  
22 and THC to identify solutions to minimize impacts on the historic district and  
23 historic Old Hidalgo Pumphouse.

24 In Section O-19, Route B parallels the Rio Grande, while Route A curves  
25 northward close to the developed portion of Brownsville. Route B presents a  
26 route farther away from many historic properties in Brownsville, although its route  
27 might have greater impacts on archaeological resources because it is an area  
28 with less development and, therefore, greater potential for undiscovered  
29 archaeological resources. Near the POE, Route B adopts the same alignment as  
30 Route A. The impacts on known cultural resources associated with selection of  
31 Route B in this part of Section O-19 are, therefore, identical to those discussed  
32 for Route A. Route B would present major long-term indirect and possibly direct  
33 impacts on the Neale House since it would be immediately west of the house.  
34 Section O-19, Route B would cause moderate to major, adverse, long-term  
35 indirect impacts on historic properties.

36 Sections O-10, O-14, O-17, and O-21 have the same alignment under Route B  
37 as noted under Route A. The impacts on known cultural resources associated  
38 with selection of Route B are identical to those discussed for Route A.

39 Archaeological resources between the 21 proposed tactical infrastructure  
40 sections could be adversely impacted by the funneling of cross border violators  
41 into the areas where there would be no fence. Increased foot traffic between

1 sections of fence in remote areas would reduce vegetation, disturb soils, and  
2 could uncover and destroy undiscovered resources. Since the locations of the  
3 21 sections were based on USBP operational requirements, including the ability  
4 to make apprehensions, the extent of disturbance should be minor and therefore  
5 the adverse impact would be minor, adverse, and permanent. BMPs would  
6 include an Unanticipated Discovery Plan for Cultural Resources.

#### 7 **4.10.3 Alternative 3: Secure Fence Act Alignment Alternative**

8 Under Alternative 3 of the Proposed Action, a double-layered fence with the  
9 patrol road in the median would require a 130-foot-wide corridor. Impacts from  
10 Alternative 3 would be long-term, adverse, and major on historic properties,  
11 including the Roma Historic District; Fort Ringgold; Los Ebanos ferry, POE, and  
12 community; La Lomita Historic District; Rancho Toluca Historic District; Landrum  
13 House; Fort Brown; Neale House; and Old Brulay Plantation

#### 14 **4.10.4 Treatment of Historic Properties**

15 USBP would identify measures to avoid, minimize, or mitigate adverse impacts  
16 on historic properties in consultation with the THC and other parties by complying  
17 with Section 106 of the National Historic Preservation Act. Other consulting  
18 parties, including the THC, federally recognized Native American tribes that  
19 might attach religious and cultural significance to historic properties affected by  
20 the project, representatives of local governments, landowners, and historic  
21 preservation groups and individuals, would be involved.

22 Mitigation measures could include recordation of affected architectural resources  
23 to the standards outlined by the Historic American Building Survey (HABS) or  
24 Historic American Engineering Record (HAER), or recovering archaeological  
25 data through a data recovery effort. Additionally, there are other treatment  
26 options that would be investigated. Methods for avoiding, minimizing, or  
27 mitigating impacts on resources of traditional, religious, or cultural significance to  
28 Native American tribes will be determined in consultation with tribes having  
29 ancestral ties to the USBP Rio Grande Valley Sector.

### 30 **4.11 AESTHETICS AND VISUAL RESOURCES**

31 The Proposed Action would impact visual resources both directly and indirectly.  
32 Construction of tactical infrastructure would result in the introduction of both new  
33 temporary (e.g., heavy equipment, supplies) and permanent (e.g., fencing and  
34 patrol roads) visual elements into existing viewsheds. Clearing and grading of  
35 the landscape during construction, as well as demolition of buildings and  
36 structures within the proposed project corridor, would result in the  
37 removal of visual elements from existing viewsheds. Finally, the fence sections  
38 would create a physical barrier potentially preventing access to some visual  
39 resources.

1 Impacts on aesthetic and visual resources would include short-term impacts  
2 associated with the construction phase of the project and use of staging areas,  
3 recurring impacts associated with monitoring and maintenance, and long-term  
4 impacts associated with the completed action. Impacts can range from minor,  
5 such as the impacts on visual resources adjacent to the proposed project corridor  
6 when seen from a distance or when views of fences are obstructed by  
7 intervening elements (e.g., trees, buildings) to major, such as the intrusion of  
8 fence sections into high-quality views within the LRGV NWR or the setting of an  
9 NHL. The nature of the impacts would range from neutral for those land units  
10 containing lower quality views or few regular viewers, to adverse, for those land  
11 units containing high-quality views, important cultural or natural resources, or  
12 viewers who would have constant exposure to the fence at close distances.  
13 Beneficial impacts are also possible (e.g., addition of the fence increases the  
14 unity or dramatic impact of a view, removal of visual clutter within the proposed  
15 project corridor clarifies a view, or a viewer positively associates the fence with a  
16 feeling of greater security), but are considered to be less common.

#### 17 **4.11.1 Alternative 1: No Action Alternative**

18 Under the No Action Alternative, proposed tactical infrastructure would not be  
19 built and there would be no change in fencing, patrol roads, or other facilities  
20 along the U.S./Mexico international border in the proposed project locations  
21 within the USBP Rio Grande Valley Sector. Therefore, there would be no  
22 adverse impact attributable to construction, operation, or maintenance of the  
23 proposed tactical infrastructure. Conversely, the potential beneficial impacts of  
24 unifying a cluttered landscape in some areas would not be realized, however  
25 minor or subjective this beneficial impact might be.

#### 26 **4.11.2 Alternative 2: Routes A and B**

27 Under Alternative 2, a single line of fence and an associated patrol road would be  
28 constructed along either the routing depicted as Route A or Route B (see  
29 **Appendix F**). Although the choice of routing might alter the impacts on specific  
30 visual resources within the proposed project corridor (i.e., avoidance of section of  
31 park/refuge or culturally significant resource), the broader visual impacts  
32 associated with the two routes are comparable.

#### 33 **Route A**

34 **Project Characteristics.** The primary introduced visual elements associated  
35 with Route A are the single line of fencing, gates, patrol roads, access roads, and  
36 construction clutter (stockpiles of supplies and heavy equipment during  
37 construction). Route A would also potentially remove existing visual elements,  
38 such as buildings, vegetation, and subtle landforms (through grading or filling)  
39 that occur within the 60-foot permanent proposed project corridor. Finally, the  
40 fence would act as a physical barrier between viewers and those views that can

1 only be viewed from vantage points on the other side of the fence (e.g., views  
2 from the tops of levees).

3 Of these, addition of the line of fencing and the associated patrol road, removal  
4 of existing elements from the proposed project corridor, and the loss of access to  
5 specific visual resources due to the fact that the fence is a barrier would have  
6 long-term impacts on visual resources, while the remaining elements would have  
7 temporary or short-term impacts limited to the period of construction. The nature  
8 (adverse or beneficial) and degree (minor to major) of the long-term impacts can  
9 be affected by the appearance of the fencing (width, height, materials, color), the  
10 patrol road (paved or unpaved, width), and the access roads (number, paved or  
11 unpaved, width).

12 Removal of existing visual elements would also constitute a long-term impact.  
13 Where the existing element adds to the visual character and quality of the  
14 resource, the impact of its removal would be adverse. Where the existing  
15 element detracts from the visual character and quality of the resource (e.g.,  
16 rusted equipment or dead trees), the impact of removal could be beneficial. In all  
17 cases, removal of existing elements would have the net result of exposing more  
18 of the fence, patrol road, and other tactical infrastructure; in settings where the  
19 addition of the fence is considered to have a major adverse impact on visual  
20 resources, any benefit accruing from removal of existing elements would be  
21 outweighed by the more dominant adverse visual impact of the fence.

22 The impacts associated with the loss of access to specific visual resources can  
23 be affected primarily by the placement of the fence relative to those resources  
24 and inclusion of gates that allow access to those resources. USBP has already  
25 included provisions for a number of gates to allow access to agricultural fields,  
26 businesses, and cemeteries. These gates also allow access to some of the  
27 visual resources that would otherwise be blocked. Proposed gate locations are  
28 described in **Appendix D**.

29 **Visual Resource Concerns.** In **Section 3.11.2**, **Tables 3.11-1** and **3.11-2**  
30 provided a summary of the character and quality of visual resources currently  
31 present within the proposed project corridor. **Tables 4.11-1** and **4.11-2** show how  
32 implementation of Route A would likely alter the character and quality of existing  
33 visual resources within each land unit. **Figures 4.11-1** through **4.11-4** provide  
34 examples of typical impacts; these images show the impacts associated with the  
35 addition of a fence constructed using a type of pedestrian fence currently being  
36 constructed in other USBP sectors. These photographs provide approximations  
37 of the degree of alteration that would result from introduction of the fence and  
38 patrol road to these viewsheds.

39 In general, within park/refuge land units, the introduction of the fence and  
40 removal of vegetation from the proposed project corridor would likely constitute  
41 an adverse impact on the character and quality of visual resources. The degree  
42



**Table 4.11-1. Impact on the Character of Visual Resources within Typical Rio Grande Valley Land Units**

Land Units	Line	Color	Form	Texture
<b>Park/Refuge</b>	The fence and patrol road also represent horizontal lines, but might disrupt existing layers and gentle curves, particularly where the fence would be taller than surrounding vegetation. Clearing and grading would introduce a visual break in the vegetation pattern.	The current fence design parameters call for fencing to be black. The vertical posts in the fence might blend with tree trunks and the transparent mesh “disappear” with distance.	The fence and patrol road are rectilinear in form and would contrast with existing forms in this land unit.	As man-made, synthetic elements, the fence and patrol road would contrast with the dominant texture of this land unit.
<b>Rural</b>	At short distances the fence would introduce a primarily horizontal line that might blend with other dominant horizontal lines like the levee and field breaks. The patrol road and access roads also should blend, both at short and longer distances. With greater distance, the mesh of the fence would “disappear,” making the vertical bollards of the fence the dominant line. These vertical lines might blend where other vertical elements are present (power poles, silos, remote video surveillance system) depending on the height of those elements in each area. The regularity of the lines could contrast with less regular lines.	The current fence design parameters call for fencing to be black. The vertical posts in the fence might blend with tree trunks and the transparent mesh “disappear” with distance.	The fence and patrol road are rectilinear in form and might result in greater domination of rectilinear forms compared to organic forms when viewed at a distance.	As a man-made, synthetic element, the fence would contrast with the dominant textures of this land unit. The patrol roads and access roads would not significantly alter the viewshed for most rural landscapes, as a number of roads and field breaks are already present in this land unit.

Land Units	Line	Color	Form	Texture
<b>Town/Suburban Development</b>	Because this land unit already includes a mixture of horizontal and vertical lines, the introduction of additional vertical lines would be consistent with the existing landscape from a distance. In closer proximity, however, the height and regularity of the fence line would likely contrast with existing lines.	The current fence design parameters call for fencing to be black. This coloration might blend or contrast with its surroundings depending on the colors in the foreground and background.	Because this land unit contains a larger number of rectilinear forms than the previous land units, the rectilinear forms of the fence and associated roads are more likely to blend with the forms of this land unit. The massing of the fence (height and length) would likely contrast with most other rectilinear forms, however.	Because this land unit contains a variety of textures, the textures of the fence and associated roads are more likely to blend with the textures of this land unit at least at a distance. Up close, the fence would contrast against natural textures and be more prone to blend with man-made elements.
<b>Urban/Industrial</b>	Because this land unit already includes a mixture of horizontal and vertical lines, the introduction of additional vertical lines would be consistent with the existing landscape from a distance. In closer proximity, however, the height and regularity of the fence line would likely contrast with existing lines.	The current fence design parameters call for fencing to be black. This coloration might blend or contrast with its surroundings depending on the colors in the foreground and background.	Because this land unit contains a larger number of rectilinear forms than the previous land units, the rectilinear forms of the fence and associated roads are more likely to blend with the forms of this land unit. Depending on the forms in the immediate area, though, the massing of the fence (height and length) could blend or contrast with existing forms.	Because this land unit contains a variety of textures, the textures of the fence and associated roads are more likely to blend with the textures of this land unit at least at a distance. Up close, the fence would contrast against natural textures and be more prone to blend with man-made elements.

**Table 4.11-2. Quality of Visual Resources within Typical Rio Grande Valley Land Units After Proposed Construction**

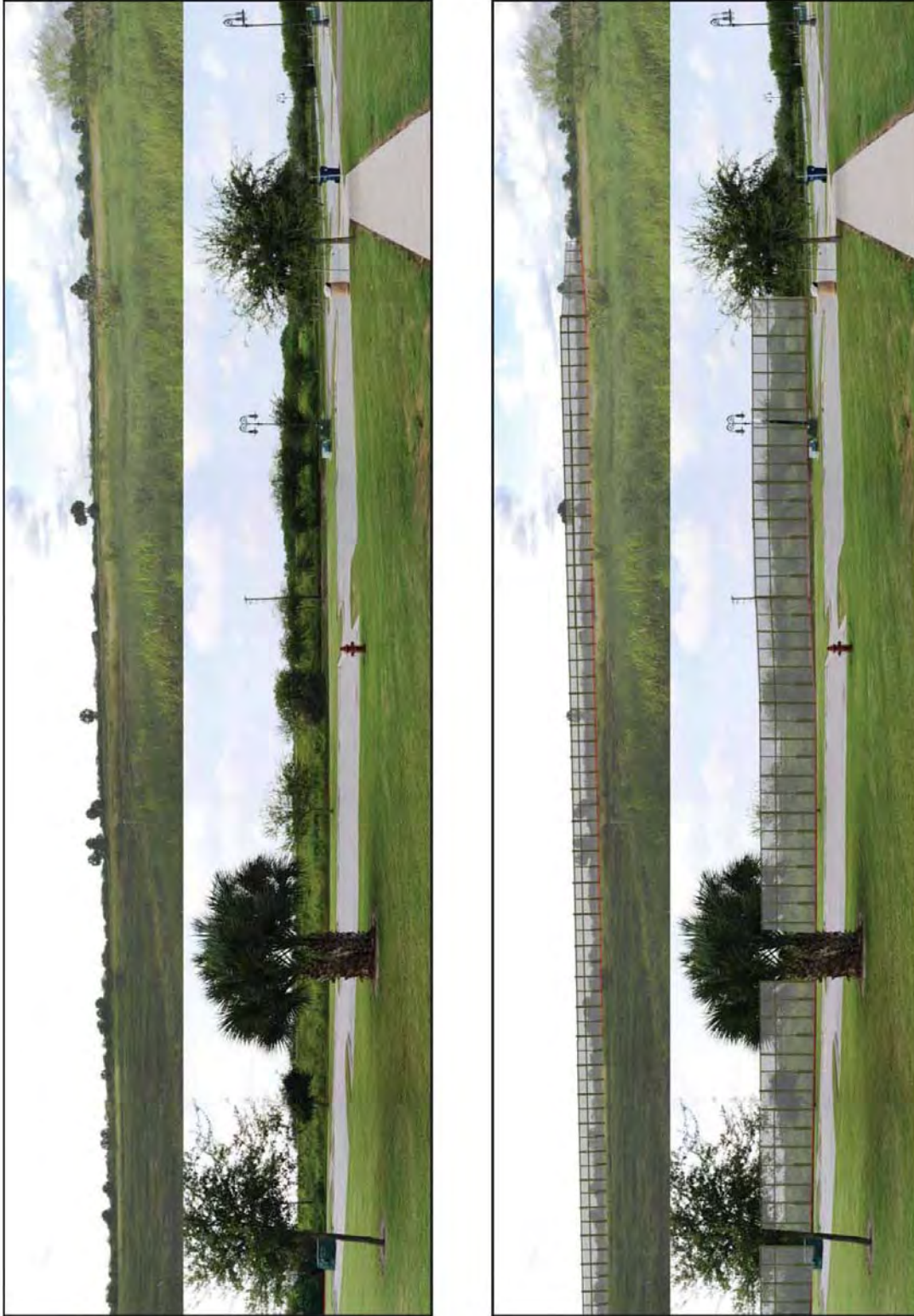
Land Units	Vividness	Intactness	Unity	Rating
<b>Park/Refuge</b>	Moderate	Moderate	Moderate	Moderate
<b>Rural</b>	Moderate	Moderate/High	Moderate	Moderate
<b>Town/Suburban Development</b>	Low/Moderate	Low/Moderate	Low/Moderate	Low/Moderate
<b>Urban/Industrial</b>	Low to High	Low/Moderate	Low to High	Moderate

of the impact would vary depending on the height of surrounding vegetation and the presence of any other visually intrusive elements. For example, where the fence is shorter than the levee and the view towards the levee is obscured by thick vegetation, the fence would have less of a visual impact than in those areas where clearings or shorter vegetation make the fence more visible. In those sections where the park/refuge land unit is visually intruded upon by other land units (i.e., this land unit is concentrated into a small area, as in Sections O-4, O-5, O-6, O-7, O-8, O-10, O-13, and O-16), impacts on visual resources associated with this land unit would be less compared to those in sections that are dominated by the park/refuge unit.

In rural land units, the fence might blend with other linear features (e.g., levee, field breaks) to the point where the impact is neutral. The degree to which the fence contrasts with its surroundings would vary by season, as mature crops would provide a greater variety of forms and textures, as well as greater screening, of the fence compared to fallow fields. Inclusion of a larger number of other intrusive elements (visual clutter), such as utility poles or towers, water towers, and remote video surveillance system, can also reduce the overall impact on visual resources within this land unit. For this land unit, therefore, impacts could range from minor to major and neutral to adverse.

In Town/Suburban Development land units, there would likely be greater screening of the fence due to the greater variety of lines, colors, forms, and textures present; however, an 18-foot-tall fence would likely be one of the tallest man-made visual elements in this setting, reducing its ability to blend. As with the visual resources in other land units, the impact of Route A would vary depending on its immediate setting; the more exposed the fence is and the greater the contrast between it and surrounding elements, the greater the visual impact. For this land unit, therefore, impacts could range from minor to major, but would typically be adverse.

In Urban/Industrial land units, there would likely be greater screening of the fence due to the greater variety of lines, colors, forms, and textures present, and an increase in the use of other fences and more common occurrence of tall or



**Figure 4.11-1. Typical Views Towards Proposed Project Corridor, Showing How the Park/Refuge Land Unit Would Appear with a Fence and Patrol Road**





**Figure 4.11-2. Typical Views Towards Proposed Project Corridor, Showing How the Rural Land Unit Would Appear with a Fence and Patrol Road**

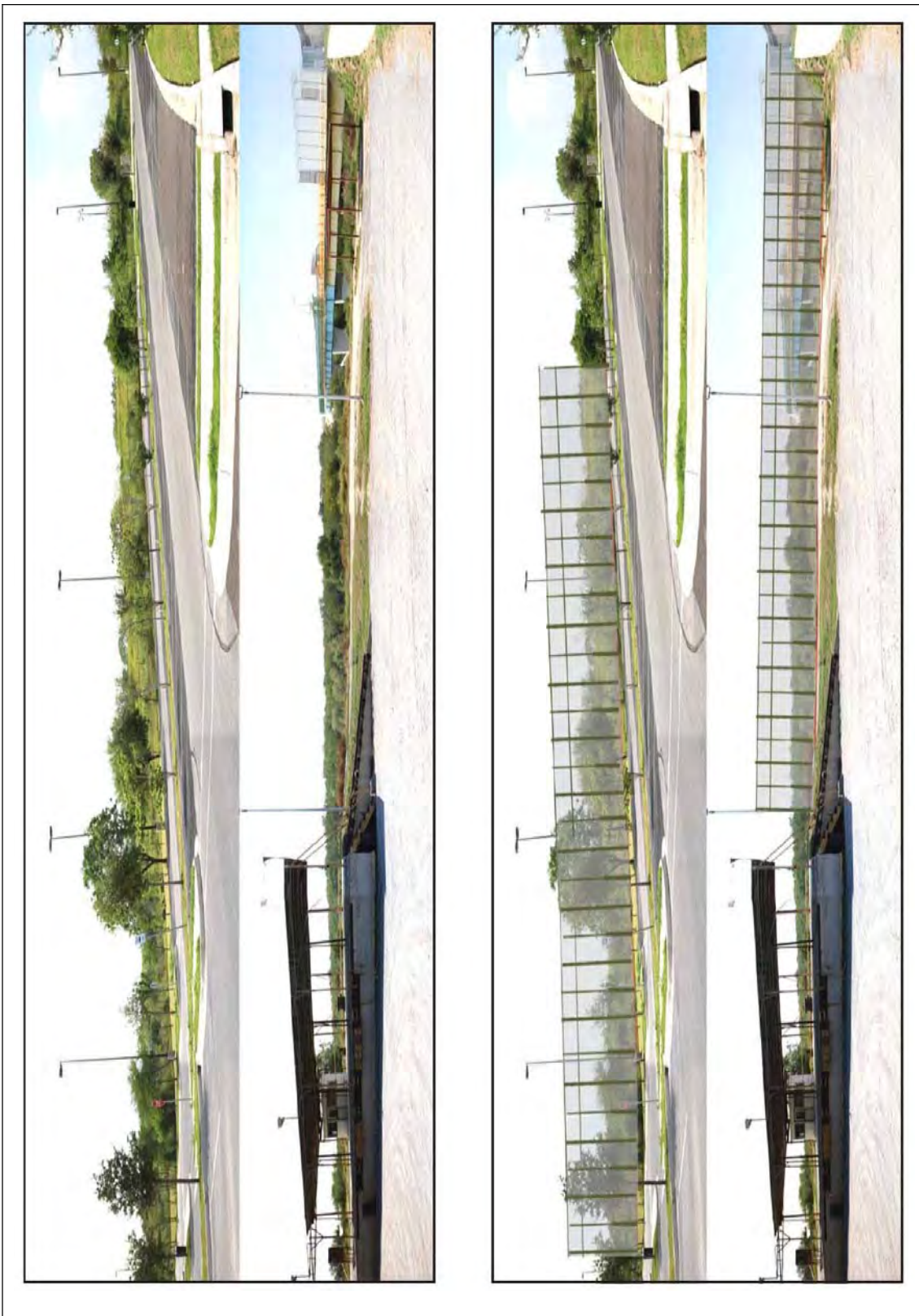
1



**Figure 4.11-3. Typical Views Towards Proposed Project Corridor, Showing How the Town/Suburban Land Unit Would Appear with a Fence and Patrol Road**

2





**Figure 4.11-4. Typical Views Towards Proposed Project Corridor, Showing How the Urban/Industrial Land Unit Would Appear with a Fence and Patrol Road**

1

1 massive forms would increase the ability of the fence to blend with its  
2 surroundings. As with the visual resources in other land units, the impact of  
3 Route A would vary depending on its immediate setting; the more exposed the  
4 fence is and the greater the contrast between it and surrounding elements, the  
5 greater the visual impact. For this land unit, therefore, impacts would range from  
6 minor to major, and neutral to adverse. The FHWA guidance (USDOT undated)  
7 cites examples where addition of a consistent aesthetic element to an urban  
8 setting helps create greater unity to the views within the land unit, thus resulting  
9 in a beneficial impact. Although this outcome is possible within this land unit  
10 type, a review of the settings along the proposed project corridor suggests that  
11 the best-case scenario would be a neutral or minor adverse impact.

12 Finally, with respect to the impacts on the specific visual resources listed in  
13 **Section 3.11.1**, implementation of Route A, would likely have short- or long-term  
14 adverse impacts on the settings of those resources. The greater the distance  
15 between the resource and the intrusive visual elements (primarily the fence), and  
16 the more intervening visual elements between them, the less the degree of the  
17 impact. For example, construction of the fence at a distance of 60 feet from a  
18 historic building would typically constitute a major adverse impact, while  
19 construction of the fence several hundred feet from the resource with intervening  
20 vegetation or buildings would reduce the impact to moderate or minor.  
21 Placement of the fence within the boundaries of an NHL or historic district,  
22 particularly where there is a high degree of visual continuity between resources  
23 (few noncontributing elements) would also be considered a major adverse impact  
24 on that resource. A more detailed discussion of the impacts on the settings or  
25 viewsheds of specific cultural resources is provided in **Section 4.8.2** of this EIS.

26 Intrusions into the settings or viewshed of many of these resources would need  
27 to be avoided, minimized, or mitigated depending on the extent and duration of  
28 the impact. Mitigation measures could include HABS documentation of historic  
29 resources, use of different fence materials (e.g., use of brick facing on a fence  
30 where surrounding buildings are brick construction, or change of color of fencing  
31 to blend into natural settings).

32 **Viewer Response Concerns.** In **Section 3.11.1**, the pool of potential viewers  
33 was grouped into several general categories. As noted in that discussion, any  
34 single viewer would have some responses to the alteration to the visual  
35 resources in each land unit that are based on their own personal experiences  
36 and ties to those resources, and other responses tied to more common  
37 experiences (group sentiment). Specific comments received from viewers during  
38 the scoping process for this EIS identified concerns about visual impacts  
39 throughout the proposed project corridor and with some of the specific natural or  
40 cultural resources noted above, but did not identify any new visual resources of  
41 concern. It should be noted that no explicit poll of viewer responses with respect  
42 to impacts on visual resources has been conducted for this EIS.



1 In many respects, the principle of “not in my backyard” has a strong correlation  
2 with the responses of viewers for whom view of the fence would be regular or  
3 constant (i.e., residential, commercial, or industrial viewers). Where the fence  
4 would directly impact private property, the viewer response from the landowner is  
5 likely to be that Route A would represent a major adverse impact on visual  
6 resources visible from their property. There is also a possibility that the viewer  
7 response in this instance could be beneficial, based on a feeling of increased  
8 safety or security (e.g., fence as protection). Responses from viewers located a  
9 greater distance from the fence, particularly if their view of the fence is obstructed  
10 by other elements or is simply part of the overall visual clutter, would typically be  
11 less intense (minor) and more likely neutral, unless the fence would obstruct a  
12 visual resource considered to be of high quality or cultural importance. In  
13 general, the closer the proximity of the viewer to the fence, the more likely the  
14 response is to be major and adverse.

15 For viewers likely to view the fence on a less regular basis (i.e., recreational  
16 viewers, special interest viewers, intermittent viewers), viewer responses would  
17 be tied to perception of how the tactical infrastructure has altered their access  
18 (impede existing views or impede physical access to views) to valued visual  
19 resources. Although any of these groups might object on principal to any type of  
20 alteration or feel a beneficial response due to a sense of increased security,  
21 responses would be more intense and adverse where alterations downgrade the  
22 quality or character of existing visual resources. Based on the comments  
23 received during the scoping process for this EIS, viewer responses appear to  
24 range from minor to major and neutral to adverse.

25 As a final point, for viewers accustomed to accessing views available from the  
26 levees or from settings other than parks or refuges, the construction of the fence  
27 would place a permanent barrier between the viewer and the visual resources in  
28 those locales. By presumption, any visual resource regularly sought out by a  
29 viewer would constitute a moderate or high quality visual resource; and  
30 restricting physical access to those resources would thus constitute a long-term  
31 major adverse impact for those viewers.

## 32 **Route B**

33 Route B was developed to decrease the extent to which the fence would  
34 physically impact certain cultural and natural resources. Selection of this route  
35 thus reduces or removes some of the impacts related to access compared to  
36 Route A.

37 **Project Characteristics.** The physical characteristics of Route B are similar to  
38 those for Route A, discussed above.

39 **Visual Resource Concerns.** To the extent that Route B mirrors Route A, the  
40 concerns regarding visual resources are identical to those discussed for Route A  
41 above. Where Route B deviates from Route A, the deviation is typically done to

1 minimize an impact on a natural or cultural resource, resulting in a lesser visual  
2 impact relative to that resource.

- 3 • Section O-1: Route B would avoid approximately 1.01 miles of the Arroyo  
4 Mesa annex of the LRGVNWR, but could potentially impact more  
5 residential areas. The avoidance of the LRGVNWR would lessen the  
6 impacts on the high-quality views associated with this resource area;  
7 however, Route B would impact a greater number of views from private  
8 residences.
- 9 • Section O-2: To avoid some small arroyos, Route B would be extended  
10 1.4 miles; 0.73 miles of this extra distance would cross the LRGVNWR.  
11 Route B, therefore, would impact additional visual resources within the  
12 LRGVNWR (and towards it from outside the refuge) compared to Route A.
- 13 • Section O-3: Route B represents an adjustment from the originally  
14 proposed project corridor to avoid natural areas along the Rio Grande  
15 where practical. Route B, therefore, would have fewer direct impacts on  
16 the visual resources associated with these natural areas (less removal of  
17 natural vegetation within the proposed project corridor), but would  
18 continue to visually obstruct views towards the Rio Grande and access to  
19 views along the Rio Grande.
- 20 • Section O-7: Route B represents a shortening of the originally proposed  
21 section in anticipation of the proposed Donna Canal POE. Route B would  
22 also avoid the Monterrey Banco annex of the LRGVNWR, resulting in a  
23 lessening of impacts on visual resources within the refuge.
- 24 • Section O-8: Route B represents an extension of the originally proposed  
25 section so that it meets the downriver end of the fencing to be placed for  
26 the proposed Donna POE. The increased length of fence would obstruct  
27 more visual resources compared to Route A. Tying the new fence into  
28 another fence would improve the overall consistency of the view at the tie-  
29 in point.
- 30 • Section O-9: Route B represents an extension of the originally proposed  
31 section to the west, following the IBWC levee ROW in an agricultural area.  
32 Again, an increase in the length of the section equates to an increased  
33 number of impacts on visual resources within that section compared to  
34 Route A.
- 35 • Section O-11: Route B would turn north and parallel the west side of the  
36 canal, crossing the canal farther north from the La Feria pump station.  
37 Should evaluation of the pump station determine that it represents a  
38 historic property, avoidance of this structure would have a beneficial  
39 impact on the viewshed of that resource.
- 40 • Section O-13: Route B represents a realignment of a portion of the section  
41 toward the east to avoid the Culebron Banco annex of the LRGVNWR,  
42 resulting in a lessening of impacts on visual resources within the refuge.

- 1       • Section O-14: Route B represents additional length added to the eastern  
2       end of Route A along the IBWC levee ROW. Again, an increase in the  
3       length of the section equates to an increased number of impacts on visual  
4       resources within that section compared to Route A.
- 5       • Section O-16: Route B represents a shortening of the proposed Route A  
6       to avoid traversing through approximately 0.20 miles of the Tahuachal  
7       Banco annex to the LRGVNWR, resulting in a lessening of impacts on  
8       visual resources within the refuge.
- 9       • Section O-18: Route B borders instead of intersects the Phillips Banco  
10      annex of the LRGVNWR. Although this route would reduce the impacts  
11      on visual resources within the annex, impacts would still exist relative to  
12      the views towards the annex from outside and physical access to the  
13      annex.
- 14      • Section O-19: Route B represents a realignment of the originally proposed  
15      project corridor away from an urban area on the edge of Brownsville to  
16      closer to the river bank. Route B thus minimizes the impacts on visual  
17      resources as seen from urban residences (e.g., the fence is farther away),  
18      but would still obstruct views of the Rio Grande from Brownsville and  
19      would limit access to current views along the Rio Grande.

20    **Viewer Response Concerns.** Implementation of Route B would improve viewer  
21    responses relative to impacts on specific sensitive resources, such as the  
22    LRGVNWR since Route B would avoid some of those resources. Otherwise, the  
23    viewer response concerns are comparable to those discussed for Route A.

#### 24    **4.11.3 Alternative 3: Secure Fence Act Alignment Alternative**

25    **Project Characteristics.** In addition to those physical characteristics already  
26    noted for Alternative 2, Alternative 3 would involve addition of a second line of  
27    fencing (permanent element, long-term impact) and remove a greater number of  
28    existing visual elements due to the larger proposed project corridor. As with the  
29    single line of fencing in Alternative 2, choice of fence colors and material types  
30    could affect the nature (adverse, neutral, beneficial) or intensity (minor to major)  
31    of the impacts on visual resources in certain land units or viewshed, as could  
32    removal of existing visual elements. In general, however, having two lines of  
33    fencing amplifies the overall visual impact of Alternative 2, as does the larger  
34    proposed project corridor. Impacts related to the physical characteristics of  
35    Alternative 3 are, therefore, likely to be major and adverse compared to those of  
36    Alternative 2.

37    **Visual Resource Concerns.** Implementation of Alternative 3 would also amplify  
38    the impacts on the character and quality of visual resources within each of the  
39    land units compared to Alternative 2. The broader proposed project corridor and  
40    additional line of fencing would have a greater visual contrast and a greater  
41    chance of dominating the view in most settings, although one could argue that

parallel lines of fencing would potentially add more visual unity to some settings. Long-term impacts on the visual environment associated with Alternative 3 (permanent construction elements) would range from neutral to adverse, and moderate to major. Short-term impacts would also be more adverse and intense (moderate to major) given that construction of a double fence and wider corridor could take more time.

**Viewer Response Concerns.** Implementation of Alternative 3 would also amplify viewer responses, in most cases changing minor or neutral responses to moderate or major adverse responses. For the viewers with constant or close proximity exposure, a double line of fencing and larger corridor would be perceived as doubly intrusive. The proposed project corridor would intrude more closely on many landowners, increase the number of viewers that would have regular exposure, and would further complicate access to visual resources behind the far line of fencing. For viewers with less regular exposure, Alternative 3 would still likely be perceived as having a greater impact than Alternative 2, simply because it makes impacts on various visual resources more difficult to avoid.

## **4.12 SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND SAFETY**

### **4.12.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, there would be no change from the baseline conditions. Under this Alternative, illegal immigration, narcotics trafficking, and opportunities for terrorists and terrorist weapons to enter the United States would remain. Over time, the number of crimes committed by smugglers and some cross border violators would increase, and an increase in property damage would also be expected. If Alternative 1 were implemented, short-term local employment benefits from the purchase of construction materials and the temporary increase in construction jobs would not occur. Furthermore, money from construction payrolls that would circulate within the local economy would not be available.

### **4.12.2 Alternative 2: Routes A and B**

#### **Route A**

**Socioeconomics.** Construction of proposed tactical infrastructure associated with Route A would have minor beneficial direct and indirect impacts on socioeconomics through increased employment and the purchase of goods and services. Project impacts related to employment, temporary housing, public services, and material supplies would be minor, temporary, and easily absorbed within the existing USBP Rio Grande Valley Sector regional resource and socioeconomics infrastructure. Construction would occur over approximately 8

1 months in 2008, with a construction workforce peaking at about 200 workers.  
2 There would be no change in the permanent workforce.

3 As stated in **Section 2.2.2**, the preliminary estimate to construct the proposed  
4 tactical infrastructure is approximately \$210 million. This would represent  
5 approximately 8.4 percent of the estimated annual construction expenditures in  
6 the three-county region. Because much of the construction cost is in the  
7 fabrication of infrastructure components elsewhere in the United States to be  
8 shipped in, this would represent a short-term moderate beneficial impact on the  
9 local economy.

10 Changes in economic factors can also impact the social fabric of a community.  
11 For example, increases in permanent employment could stimulate the need for  
12 new housing units, and, as a result, increase demand for community and social  
13 services such as primary and secondary education, fire and police protection,  
14 and health care. Because there would be only a short-term increase in local  
15 employment, there would be no change in population size under this alternative.  
16 Therefore, demand for new housing units and other social services would not be  
17 expected.

18 **Population Growth and Characteristics.** Negligible short-term adverse and  
19 beneficial impacts on population growth and characteristics would be expected.  
20 Short-term moderate increases to populations would be expected in construction  
21 areas. Due to the large size of the regional construction trades industry,  
22 construction is expected to be drawn primarily from the regional workforce, with  
23 some project managers and specialized skilled workers brought in by the  
24 selected contractor. The temporary need for approximately 200 construction  
25 workers can be easily supplied by the three-county construction workforce of  
26 more than 25,000. Given the short timeframe for construction, it is unlikely that  
27 any nonlocal workers would be accompanied by their families. Therefore, the  
28 short-term nature and scale of the construction project would not induce indirect  
29 population growth in the region.

30 Construction of the project would require some acquisition of private property,  
31 including the potential dislocation of some property owners and tenants. Such  
32 dislocation could result in some population relocations within the region, but with  
33 little or no net change in the region's population.

34 **Employment and Income.** Minor short-term beneficial impacts, and long-term  
35 minor adverse impacts on employment and income would be expected. Each job  
36 created by implementation of Route A would generate additional jobs within  
37 companies that supply goods and services for the project. Direct and secondary  
38 jobs created would be temporary and short-term in nature. The project would not  
39 create any long-term employment in the region.

40 During the public scoping process, concerns were expressed that the project  
41 could hinder legitimate trade activities between the two border economies, and

1 that environmental impacts associated with the construction and long-term  
2 presence of the project could detract from outdoor recreation and ecotourism,  
3 particularly birding—reported to contribute \$150 million to the local economy  
4 annually. Some pedestrian fence sections would be located on recreational  
5 lands. For the most part, the pedestrian fence would be approximately 30 feet  
6 from the IBWC levee system. Indirect impacts on socioeconomics from  
7 recreation and ecotourism would be tied directly to the user's perception that  
8 Route A has altered their access to valued visual or recreational resources.  
9 However, Route A would help to deter cross border violators, which would make  
10 the area safer for recreational users, ecotourists, and USBP agents in the  
11 immediate area. This could bring more users to the area that have felt it unsafe  
12 in the past. The net impacts on recreation and ecotourism are expected to be  
13 minor.

14 As to retail trade, research indicates cross-border trade is estimated to contribute  
15 at least \$1.2 billion per year in retail trade in McAllen and Brownsville alone  
16 (Coronado and Phillips 2005). The project would not affect the operations of  
17 established border crossings and bridges, nor alter procedures affecting the  
18 ability of individuals from either the United States or Mexico to continue to travel  
19 back and forth as they now do because there is nothing inherent in the design or  
20 location of the pedestrian fence sections that would hinder or restrict normal,  
21 legal cross-border interaction. As a consequence, no long-term impacts on  
22 legitimate regional income or economic structure are anticipated.

23 No permanent or long-term impacts on employment, population, personal  
24 income, or poverty levels; or other demographic or employment indicators would  
25 be expected from construction. Since Route A would not measurably affect the  
26 local economy or workforce, no social impacts are expected. There would be a  
27 net short-term increase in income to the region, as the funding for the project  
28 would come from outside the area, and, as a Federal project, construction  
29 workers would be paid the "prevailing wage" under the Davis-Bacon Act, which  
30 might be higher than the average wage in the construction industry locally.

31 **Agriculture.** Overall the impact on agriculture and agricultural landowners would  
32 be adverse, moderate, and long-term. The proposed project would impact  
33 agricultural lands in two ways. First, there could be some loss of cropland along  
34 the alignment of the proposed pedestrian fence for both construction and the  
35 proposed accompanying roadways for USBP vehicles. New tactical  
36 infrastructure is expected to permanently affect a corridor 60 feet wide, although  
37 the existing levee road would serve this function on the river side of the fence.  
38 The proposal provides gates at key locations that are intended to provide  
39 landowners with access to their property, but there could be some extra distance  
40 in reaching a given field. Installation of a pedestrian fence with gates could have  
41 minor adverse impacts on landowner's access, the movement of machinery and  
42 equipment, planting and harvesting, potential problems of access for agricultural  
43 service firms (as opposed to owners/lessees), and a resulting increase in costs.

1 **Select Public Services.** Minor short-term and long-term beneficial impacts on  
2 public services would be expected. Generally, workers spend approximately 25  
3 to 30 percent of their wages locally for food, shelter, and entertainment, which  
4 would have an indirect beneficial impact on the local economy. Other indirect  
5 impacts would be noticed through the taxes generated by purchases, as well as  
6 payroll deductions. However, based on the large size of the ROI the impacts  
7 would be minor and dispersed throughout the ROI. The objective of the  
8 pedestrian fence is to reduce illegal activity along the border. This could ease  
9 the burden of local law enforcement agencies.

10 **Land Use.** Minor to moderate adverse indirect impacts would be expected from  
11 the imminent dislocation of some families due to property acquisition. Some  
12 housing properties would either be removed or visually impaired by the  
13 pedestrian fence and adjacent patrol roads. The social aspects of dislocation  
14 could be disruptive. Many families in the proposed project corridor have lived  
15 there for decades, some even centuries, and have strong emotional ties to the  
16 family land and homes.

17 These impacts would be mitigated to some extent by fair compensation for the  
18 acquisition or impairment, and relocation assistance to any displaced families.  
19 However, it would still be an adverse impact on those who do not wish to relocate  
20 regardless of the level of compensation. Furthermore, renters might receive  
21 relocation assistance, but are less likely than property owners to have the  
22 resources to resettle in a comparable location.

23 **Environmental Justice, Protection of Children, and Safety.** Some adverse  
24 disproportionate impacts on minority or low-income populations would be  
25 expected. Direct beneficial impacts on safety and the protection of children are  
26 expected from the projected deterrence of cross border violators, smugglers,  
27 terrorists, and terrorist weapons from entering the United States, and therefore  
28 provide for safer communities.

29 The proposed infrastructure runs through or adjacent to many rural settlements,  
30 small towns, and neighborhoods within larger cities. Property owners and  
31 residents would be affected by restricted access, visual intrusion, noise and  
32 disruption during construction, and, in some cases, loss of property. In such  
33 communities as Los Ebanos (Section O-3), Granjeno (Section O-5), Peñitas  
34 (Section O-4), and others, the proposed infrastructure severs or runs at the back  
35 edge of residential properties. These communities, and the neighborhoods  
36 affected in the larger communities such as Brownsville (Section O-19) and Roma  
37 (Section O-1) are of lower income than the Census Tract of which they are a part  
38 and are clearly subject to issues of environmental justice. In cases where  
39 properties would be acquired or substantially impaired, the impact would be  
40 mitigated through purchase at a fair price.

41 The proposed tactical infrastructure under this alternative would have short- to  
42 long-term direct beneficial impacts on children and safety in the ROI and

1 surrounding areas. The addition of tactical infrastructure could increase the  
2 safety of USBP agents in the Rio Grande Valley Sector. Route A would help to  
3 deter cross-border violators in the immediate area, which in turn could prevent  
4 drug smugglers, terrorists, and terrorist weapons from entering the surrounding  
5 area.

## 6 **Route B**

7 **Population Growth and Characteristics.** There are no discernable differences  
8 between Routes A and B on the growth rate and characteristics of the population  
9 as in neither case is there an increase in the permanent population of the ROI.

10 **Employment and Income.** There is no discernable difference in employment or  
11 income between the two routes. To the extent that one is longer than the other,  
12 or involves more difficult construction in urban areas, one could involve a slightly  
13 different construction work force and expenditures, but at this point, there appear  
14 to be no obvious differences.

15 **Agriculture.** There are some differences in how the two routes would affect  
16 agriculture in terms of land lost and the impairment of access. But the  
17 differences vary by route among sections and neither Route A nor Route B  
18 consistently impacts agriculture in the same degree or direction. In general,  
19 sections that are longer would impact agriculture to a greater degree than would  
20 sections that are closer to the river. Thus, Route B would have a greater impact  
21 in Sections O-2, O-8, O-9, and O-14 and a lesser impact in Sections O-1 and  
22 O-7.

23 **Select Public Services.** There is no discernable difference between Route A  
24 and Route B in the impact on schools or law enforcement.

25 **Environmental Justice, Protection of Children, and Safety.** There are some  
26 moderate differences between the two routes regarding environmental justice,  
27 particularly as they affect residential properties. Again, Route A and Route B are  
28 not uniformly the same in this respect. For example, in Brownsville  
29 (Section O-19) and Los Ebanos (Section O-3), Route B is farther removed from  
30 residential properties; but in Roma (Section O-1), Route B impacts properties  
31 along Sebastian Street that are avoided by Route A.

## 32 **4.12.3 Alternative 3: Secure Fence Act Alignment Alternative**

33 **Socioeconomic Resources.** Short-term beneficial impacts for this alternative  
34 would be similar to those under Alternative 2. This alternative would increase the  
35 need for more construction workers and materials. Also, the USACE predicted  
36 that the 25-year life cycle costs would range from \$16.4 million to \$70 million per  
37 mile depending on the amount of damage sustained by the fencing (CRS 2006).



1 **Environmental Justice, Protection of Children, and Safety.** Impacts under  
2 this alternative would be similar to those discussed for Alternative 2. Direct  
3 beneficial impacts on safety and the protection of children would be expected as  
4 Alternative 3 would be designed with two layers of pedestrian fence along each  
5 section. The additional layer of fencing would deter drug smugglers, terrorists,  
6 and cross-border violators, and therefore provide for a generally safer ROI and  
7 immediate area. Environmental justice issues would be greater for Alternative 3  
8 than for Alternative 2. Alternative 3 has a wider corridor and a more intrusive  
9 visual presence affecting the low-income, minority residents who live adjacent to  
10 the proposed infrastructure.

## 11 **4.13 UTILITIES AND INFRASTRUCTURE**

### 12 **4.13.1 Alternative 1: No Action Alternative**

13 Under the No Action Alternative, no impact on utilities and infrastructure would be  
14 expected because the tactical infrastructure would not be built and therefore  
15 there is no potential for impacts on utilities and infrastructure as a result of the No  
16 Action Alternative.

### 17 **4.13.2 Alternative 2: Routes A and B**

#### 18 **Route A**

19 **Waste Supply Systems.** Short-term negligible adverse impacts on the Rio  
20 Grande Valley irrigation and municipal water supply systems would be expected  
21 as a result of construction of the proposed tactical infrastructure sections near  
22 irrigation and municipal water supply infrastructure. Known infrastructure is  
23 presented in **Table 3.13-1**. All water supply infrastructure would be identified  
24 prior to construction, and impacts on these systems would be avoided to the  
25 maximum extent practical. Canals would be avoided to the maximum extent  
26 practicable. Pipelines that could not be avoided would be moved. Temporary  
27 interruptions in irrigation might be experienced when this infrastructure is moved.  
28 No long-term impacts would be expected.

29 **Drainage Systems.** Short-term negligible adverse impacts on Rio Grande  
30 Valley irrigation and storm water drainage systems would be expected. Known  
31 infrastructure is presented in **Table 3.13-1**. All drainages would be identified  
32 prior to construction and impacts on these systems would be avoided to the  
33 maximum extent practical. Adherence to proper engineering practices and  
34 applicable codes and ordinances would reduce storm water runoff-related  
35 impacts to a level of insignificance. In addition, erosion and sedimentation  
36 controls would be in place during construction to reduce and control siltation or  
37 erosion impacts on areas outside of the construction site. All storm water  
38 drainages would be identified prior to construction and impacts on these systems  
39 would be minimal.

1 **Municipal Sanitary Sewer Systems.** Short-term minor adverse impacts on  
2 municipal sanitary systems would be expected. Known infrastructure that could  
3 be impacted is presented in **Table 3.13-1**. All sanitary sewer infrastructure would  
4 be identified prior to construction and impacts on these systems would be  
5 avoided to the maximum extent practical. Any outfall pipes that would be  
6 affected by the proposed construction would be moved. No long-term impacts  
7 would be expected.

8 **Solid Waste Management.** Short-term minor adverse impacts on solid waste  
9 management would be expected. Solid waste generated from the proposed  
10 construction activities would consist of building materials such as concrete and  
11 metals (conduit and piping). The contractor would recycle construction materials  
12 to the greatest extent practical. Nonrecyclable construction debris would be  
13 taken to one or more of the Starr, Hidalgo, or Cameron County landfills permitted  
14 to take this type of waste. While some of the landfills in the Rio Grande Valley  
15 area might be at or near capacity, the remaining landfills have sufficient capacity.  
16 Solid waste generated associated with Route A would be expected to be  
17 negligible compared to the solid waste currently generated in Starr, Hidalgo, and  
18 Cameron counties, and would not exceed the capacity of any landfill.

19 **Transportation Systems.** No adverse impacts on transportation systems would  
20 be expected. The proposed construction would require delivery of materials to  
21 and removal of debris from the construction sites. Construction traffic would  
22 comprise a small percentage of the total existing traffic and many of the vehicles  
23 would be driven to and kept onsite for the duration of construction activities,  
24 resulting in relatively few additional trips. Furthermore, potential increases in  
25 traffic volume associated with proposed construction activities would be  
26 temporary. Heavy vehicles are frequently driven on local transportation systems.  
27 Therefore, the vehicles necessary for construction would not be expected to have  
28 a heavy impact on local transportation systems. No road or lane closures would  
29 be anticipated. However, if roadways or lanes are required to be closed, USBP  
30 would coordinate with TDOT and local municipalities.

31 **Electrical and Natural Gas Systems.** Short-term, minor, adverse impacts on  
32 the Rio Grande Valley electrical and natural gas systems would be expected. All  
33 electrical and natural gas infrastructure would be identified prior to construction  
34 and impacts on these systems would be avoided to the maximum extent  
35 practical. Any electrical transmission or natural gas distribution lines impacted by  
36 construction would be moved. Temporary interruptions in electrical power  
37 transmission and natural gas distribution could be experienced when this  
38 infrastructure is moved. No long-term impacts would be expected.

## 39 **Route B**

40 The potential impacts of the construction associated with Route B on  
41 infrastructure and utilities would be expected to be similar to the potential impacts  
42 described above for Route A.

### **4.13.3 Alternative 3: Secure Fence Act Alignment Alternative**

The potential impacts of Alternative 3 on infrastructure and utilities are expected to be similar to the potential impacts of Alternative 2. However, the proposed project corridor for Alternative 3 is larger. Therefore, it is possible that a greater number of utility lines could be affected. In addition, more solid waste would be generated under Alternative 3 because two fences would be built rather than one.

## **4.14 HAZARDOUS MATERIALS AND WASTE**

### **4.14.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, no impacts on hazardous materials and waste management would be expected because the tactical infrastructure would not be built and would not lead to an increase in use or disposal of hazardous materials or wastes.

### **4.14.2 Alternative 2: Routes A and B**

#### **Route A**

Short-term negligible adverse impacts would be expected. Products containing hazardous materials (such as fuels, oils, lubricants, pesticides, and herbicides) would be procured and used during construction. It is anticipated that the quantity of products containing hazardous materials used would be minimal and their use would be of short duration. Herbicides would be used along the fence to control herbaceous vegetation. Herbicides would be applied according to USEPA standards and regulations. Therefore, no long-term impacts on humans, wildlife, soils, and water would be expected.

Accidental spills could occur during construction. A spill could potentially result in adverse impacts on wildlife, soils, water, and vegetation. However, only small amounts of hazardous materials are expected. Contractors would be responsible for the management of hazardous materials and wastes. USBP would also require that the contractor keep any necessary materials and equipment onsite to quickly contain any spill or leak. The management of hazardous materials and wastes would include the use of BMPs, a pollution prevention plan, a Spill Prevention Control and Countermeasures (SPCC) Plan and a storm water management plan. All hazardous materials and wastes would be handled in accordance with applicable Federal, state, and local regulations.

ASTs have been observed within the proposed project corridor. If it is necessary to remove an AST, removal would be conducted in accordance with all applicable Federal, state, and local regulations. A Phase I Environmental Site Assessment would be conducted in conjunction with any real estate transactions associated with the Proposed Action. If ACM and LBP are identified in buildings that need to

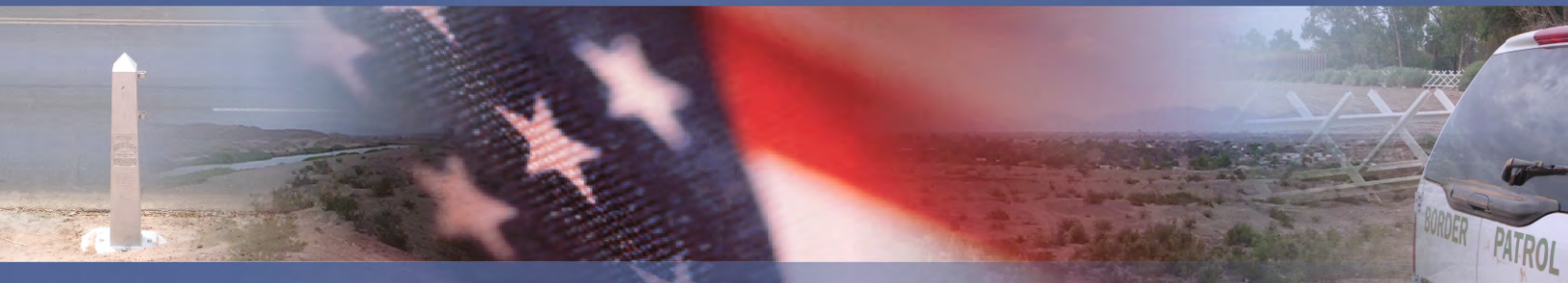
1 be removed, removal and disposal would be conducted in accordance with all  
2 applicable Federal, state, and local regulations. Therefore, no impacts on  
3 humans, wildlife, soils, water, and vegetation would be expected as a result of  
4 hazardous materials and wastes. Additionally, Alternative 2 would not have an  
5 impact on Federal, state, or local hazardous wastes management or pollution  
6 prevention programs.

#### 7 **Route B**

8 Impacts associated with hazardous materials and wastes for Route B would be  
9 similar to those described above for Route A.

#### 10 **4.14.3 Alternative 3: Secure Fence Act Alignment Alternative**

11 Short-term minor adverse impacts would be expected. The impacts would be  
12 similar to the impacts described for Alternative 2. However, two fence layers  
13 would be constructed, so greater quantities of hazardous materials would be  
14 used for more construction. The increased risk associated with a potential leak  
15 or spill would be minor.



## **SECTION 5**

### **Cumulative Impacts**





## 5. CUMULATIVE IMPACTS

CEQ defines cumulative impacts as the “impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (Federal, state, and local) or individuals. Informed decisionmaking is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects. The geographic scope of the analysis varies by resource area. For example, the geographic scope of cumulative impacts on resources such as noise, visual resources, soils, and vegetation is very narrow and focused on the location of the resource. The geographic scope of air quality, wildlife and sensitive species, and socioeconomics is much broader and considers more county- or regionwide activities. Projects that were considered for this analysis were identified by reviewing USBP documents, news releases, and published media reports; and through consultation with planning and engineering departments of local governments, and state and Federal agencies. Projects that do not occur in close proximity (i.e., within several miles) to the proposed tactical infrastructure would not contribute to a cumulative impact and are generally not evaluated further.

**Cumulative Fencing, Southern Border.** There are currently 62 miles of landing mat fence at various locations along the U.S./Mexico international border (CRS 2006); 14 miles of single, double, and triple fence in San Diego, California; 70 miles of new pedestrian fence approved and currently under construction at various locations along the U.S./Mexico international border; and fences at POE facilities throughout the southern border. In addition, 225 miles of fence are proposed (including the 70 miles proposed in the USBP Rio Grande Valley Sector). Proposed new fence sections are being studied for Texas, New Mexico, Arizona, and California.

**Past Actions.** Past actions are those that have occurred prior to the development of this EIS. Past actions have shaped the current environmental conditions; therefore, the impacts of these past actions are generally included in the affected environment described in **Section 3**. For example, most of the proposed tactical infrastructure would follow the IBWC levee ROW or existing USBP patrol roads in the southernmost portions of Starr, Hidalgo, and Cameron counties in Texas. Consequently, some of the proposed sections would be on private lands and cross multiple land use types, including rural, urban, suburban,

1 and agriculture that have undergone changes as the result of commercial and  
2 residential development. These past actions are now part of the existing  
3 environment. Some recent past actions of note are as follows:

- 4 • USBP Operation Rio Grande. This operation was recently implemented on  
5 the border to reduce illegal immigration and drug trafficking along the Rio  
6 Grande corridor of the USBP McAllen Sector (renamed the Rio Grande  
7 Valley Sector), which includes USBP Rio Grande City, McAllen,  
8 Mercedes, Harlingen, Brownsville, and Port Isabel stations. USBP  
9 Operation Rio Grande included installation of lighting (permanent and  
10 portable), road improvement, fencing (5.4 miles of chain-link fencing near  
11 POEs in parts of Brownsville and Port Isabel stations), boat ramps, and  
12 maintenance mowing (DHS 2004).
- 13 • Private Residential Developments. For the past several years the Rio  
14 Grande Valley has experienced high demand for single-family homes.  
15 One example of these planned communities near the U.S./Mexico  
16 international border and the Rio Grande is Sharyland Plantation, a 6,000-  
17 acre master-planned multi-use community started in 1998 in Mission,  
18 Texas, near Fence Section O-5. A former citrus plantation, Sharyland  
19 Plantation is currently a residential, industrial, and commercial  
20 development of more than 1,400 newly constructed homes in 19  
21 neighborhoods ranging from \$160,000 to more than a \$1 million  
22 (Sharyland 2007). South of Sharyland Plantation is the community of  
23 Granjeno.

24 ***Present Actions.*** Present actions include current or funded construction  
25 projects, USBP or other agency operations in close proximity to the proposed  
26 tactical infrastructure, and current resource management programs and land use  
27 activities within the affected areas. The following ongoing actions considered in  
28 the cumulative impacts analysis:

- 29 • Anzalduas POE. The Anzalduas POE is currently under construction in  
30 the Granjeno/Mission area. This POE is adjacent to a NWR parcel west of  
31 Granjeno and would become an extension of Stuart Road, which  
32 intersects farm to market (FM) 494. When completed, Anzalduas POE  
33 would contain elevated north- and southbound lanes. This bridge would  
34 provide access across two levees and a floodway just below Anzalduas  
35 Dam and Anzalduas County Park. The proposed fence Section O-5 would  
36 intersect this new roadway by crossing underneath the new Anzalduas  
37 POE bridge.
- 38 • University of Texas at Brownsville and Texas Southmost College Bond  
39 Program Projects. In November 2004, the City of Brownsville approved a  
40 \$68 million bond package that would provide facilities necessary for  
41 growing enrollment. The bond is providing the financial resources to build  
42 seven projects.



- 1 • Texas Department of Transportation. TDOT has several ongoing road  
2 improvement projects scheduled for Cameron, Hidalgo, and Starr  
3 counties. However, the area of impacts would likely be minor, as the  
4 majority of the construction would be within existing ROWs. Projects  
5 include the widening of SR. 83 in Mercedes to a six-lane expressway with  
6 a median concrete barrier, and construction of bridges over the floodway  
7 and Mercedes Main Canal. The SR 83 Weslaco Project consists of  
8 reconstructing the expressway to six lanes from FM 1423 to FM 1015 and  
9 the construction of new overpasses.
- 10 • Road Construction San Benito. Construction for North Sam Houston  
11 Boulevard (FM 345) would expand and overlay the road, at a cost of \$7.7  
12 million. Completion is expected in 2009.

13 ***Reasonably Foreseeable Future Actions.*** Reasonably foreseeable future  
14 actions consist of activities that have been proposed or approved and can be  
15 evaluated with respect to their effects. The following are reasonably foreseeable  
16 future actions that are related to securing the U.S./Mexico international border:

- 17 • SBI<sup>net</sup>. This is a comprehensive program focused on transforming border  
18 control through technology and infrastructure. The goal of the program is  
19 to field the most effective proven technology, infrastructure, staffing, and  
20 response platforms, and integrate them into a single comprehensive  
21 border security suite for DHS. Potential future SBI<sup>net</sup> projects include  
22 deployment of multiple technologies, command and control equipment,  
23 pedestrian fence, vehicle barriers, and any required road or components  
24 such as lighting and all-weather access roads (Boeing 2007).
- 25 • Temporary or Permanent Lighting. USBP frequently uses temporary  
26 (portable) or permanent lighting in conjunction with fences and patrol  
27 roads in urban areas near POEs. Lighting acts as a deterrent to cross-  
28 border violators and as an aid to USBP agents. Lighting locations are  
29 determined by USBP based on projected operational needs of the specific  
30 area. While specific future operational requirements are not currently  
31 known and are not reasonably certain to occur, areas that might be  
32 suitable for lighting can be identified for the purposes of the cumulative  
33 effects analysis. Approximately 450 lights could be required at fence  
34 Section O-1 adjacent to the Roma POE, Section O-2 adjacent to the Rio  
35 Grande City POE, Section O-3 adjacent to the Los Ebanos Ferry POE,  
36 Section O-6 adjacent to the Hidalgo POE, Sections O-9 and O-10  
37 adjacent to the Progreso POE, Section O-10 adjacent to the Pharr POE,  
38 Sections O-13 and O-14 adjacent to the Los Indios Bridge POE,  
39 Section O-19 adjacent to the Brownsville/Matamoros POE, Section O-19  
40 adjacent to the Gateway POE, and Sections O-20 and O-21 adjacent to  
41 the Veterans POE. Standard design for temporary or permanent lights is  
42 further discussed in **Appendix E**.

**Table 5.0-1** presents the reasonably foreseeable future actions by proposed section of tactical infrastructure.

**Cumulative Analysis by Resource Area.** This section presents the resource-specific impacts related to the past, present, and reasonably foreseeable actions discussed above. Only those actions that are additive to the potential impacts associated with the Proposed Action are considered. **Table 5.0-2** presents the cumulative impacts by resource area that might occur from implementation of the Proposed Action when combined with other past, present, and future activities that are discussed in more detail below.

## 5.1 AIR QUALITY

Minor, short-term, adverse cumulative impacts on air quality are expected from the construction of proposed tactical infrastructure in combination with other reasonably foreseeable future actions. As discussed in **Section 4.2.2**, emissions from construction, maintenance, and operational activities would not contribute to or affect local or regional attainment status with the NAAQS, and be below thresholds established by the USEPA for CAA cumulative impact analysis. Construction equipment would temporarily increase fugitive dust and operation emissions from combustion fuel sources. Since there would be no substantive change in USBP operations, emissions from vehicles would remain constant and there would be no cumulative impact on air quality.

## 5.2 NOISE

Minor cumulative impacts on ambient noise are expected from the additive impacts of construction, maintenance, and operation of tactical infrastructure and anticipated residential and commercial development activities and infrastructure improvement projects that routinely occur throughout the project area. Noise intensity and duration from construction, maintenance, and operation of tactical infrastructure would be similar to construction activities from residential or commercial development, or road construction and maintenance. Because noise attenuates over distance, a gradual decrease in noise levels occurs the further a receptor is away from the source of noise. Construction, maintenance, and operation of tactical infrastructure would be distant from other substantial noise-generating activities except in suburban and urban areas. Increased noise from construction of tactical infrastructure could combine with existing noise sources or other construction activities to produce a temporary cumulative impact on sensitive noise receptors. Construction noise would not be louder, but might be heard over a greater distance or over a longer time period.

1 **Table 5.0-1. Reasonably Foreseeable Future Actions by Proposed Tactical**  
2 **Infrastructure Sections for the USBP Rio Grande Valley Sector**

<b>Proposed Tactical Infrastructure Section Number</b>	<b>Border Patrol Station</b>	<b>Description of Future Action</b>
O-3	McAllen	Plans are likely to be developed sometime in 2008 for a new POE facility. This plan is only for the POE facility itself. There are no plans to construct a bridge. The plan involves keeping the ferry operational.
O-4	McAllen	Proposed levee upgrades. According to a recently released document from IBWC, the design phase of this project is scheduled through February 2008. Construction is scheduled from March 2008 through September 2009. Work would be completed by Hidalgo County Drainage District No. 1.
O-5	McAllen	Proposed levee upgrades. Preliminary plans indicate the IBWC would rehabilitate the south floodway levee from the Anzalduas Dam area to the Hidalgo area. Construction is projected to occur from March 2008 through September 2009. Work would be completed by Hidalgo County Drainage District No. 1.
O-6	McAllen	(1) According to the Chairman of the Hidalgo County Water District No. 3, there are plans to build a reservoir just northeast of the McAllen Pump on land currently owned by the district. The plans are to integrate the reservoir into the upgraded levee in this area. Exact timeframes for this project are unknown. (2) IBWC, in conjunction with the City of Hidalgo, is planning on relocating the current levee southward toward the river in the area just east of the Hidalgo POE. These plans have recently become available and indicate the rerouting of the levee from an area near or under the Hidalgo POE Bridge to a point near the Old Hidalgo Pumphouse. The length of this relocation project is approximately 0.65 miles. (3) Additional levee rehabilitation. Construction for Phase 1 of the levee rehabilitation is anticipated to begin in April 2008 from the Common Levee (south floodway levee) to the Hidalgo POE. Construction for Phase 2 is anticipated to commence during December 2008. Phase 2 begins at the Hidalgo POE and runs downriver for approximately 1.5 miles along the levee to the 2nd street canal. Construction for the levee in the Hidalgo area would be performed by IBWC.

*Rio Grande Valley Sector Proposed Tactical Infrastructure*

<b>Proposed Tactical Infrastructure Section Number</b>	<b>Border Patrol Station</b>	<b>Description of Future Action</b>
O-8	Weslaco	The Donna POE facility would be located south of FM 493. Construction is to start early November 2008.
O-14	Harlingen	A 40-acre parcel is proposed by TDOT for construction of a state-of-the-art Department of Public Safety inspection station for commercial truck traffic.
O-15	Harlingen	In La Paloma near FM 732 TDOT would begin construction within the next few years of the expansion of U.S. 281 from La Paloma to Brownsville. The highway would be expanded to a four-lane highway to accommodate international commercial truck traffic. Dates of construction are not known.
O-16	Harlingen	Construction of a residential subdivision is proposed adjacent to the proposed project corridor in El Ranchito, Texas. Dates of construction are unknown at this time.
O-17	Brownsville	(1) The Brownsville/Matamoros railroad bridge (Union Pacific) is being relocated just west of River Bend Resort within the next 2 years. (2) ANCLA Design and Construction is considering subdividing land and developing a new neighborhood in the project area. (3) Expansion of U.S. 281 to four lanes. Stakes in the field indicate an expansion of the hardtop of about 21-30 feet. (4) USBP is proposing to improve the Russell/Barreda Canal, frequently used by smugglers and aliens to hide. USBP proposes to have it buried (install a pipe underground rather than open canal).
O-18	Brownsville	(1) Expansion of U.S. 281 from Pharr, Texas, to FM 3248 Alton Gloor. This would be a five-lane highway. (2) New proposed commercial POE Bridge at Flor De Mayo and IBWC levee. (3) USFWS and the City of Brownsville are proposing and planning a Nature Trail Park in this area.
O-19	Brownsville	(1) A residential subdivision is currently under construction adjacent to the levee/proposed fence area. (2) Brownsville waterfront redevelopment project near Hope Park, on private property. No additional information about this proposal is available at this time.

Proposed Tactical Infrastructure Section Number	Border Patrol Station	Description of Future Action
O-21	Fort Brown	<p>(1) Proposed East Loop, Phase II Project, would begin at U.S. 77/83 and end at FM 1419. The project is a part of the Trans Texas Corridor I-69 that would link the Rio Grande Valley to Denison, Texas. It is slated for construction in 2010 and is being funded by the City of Brownsville and the TDOT. The levee would be redirected and would be placed further south of its current location. The existing levee would become a four-lane highway which would be used to redirect commercial traffic around Brownsville. The City of Brownsville is in the process of finalizing negotiations to purchase land from private landowners in the area. The city has already acquired a majority of the land with the exception of four land parcels.</p> <p>(2) The Mayor of Brownsville and the Brownsville Public Utility Board (PUB) are proposing the construction of a weir and reservoir approximately 6 miles downriver of the Gateway International Bridge. The weir proposal would impound a water reservoir approximately 42 river-miles long, extending from river mile 48 to river mile 90. The reservoir would be within the existing riverbanks and inside the levees that parallel the banks of the river. The USACE has prepared an EA, concluding that the proposal would have no significant impact on the quality of the human environment. The project would impact approximately 65 acres of jurisdictional riverine habitat and wetlands on the U.S. side of the Rio Grande, and 65 acres on the Mexico side of the Rio Grande. The proponent proposes to mitigate this loss through the creation or enhancement of 130 acres of wetlands downstream of the project area. The proponent also proposes to mitigate any impacts by purchasing and protecting a 280 acre tract of land that would form a corridor between the Laguna Atascosa NWR and the Boca Chica NWR that would allow wildlife to travel between the two refuges (BPPUB 2004).</p>

*Rio Grande Valley Sector Tactical Infrastructure***Table 5.0-2. Summary of Potential Cumulative Effects**

<b>Resource</b>	<b>Past Actions</b>	<b>Current Background Activities</b>	<b>Alternative 2, Route B</b>	<b>Known Future Actions</b>	<b>Cumulative Effects</b>
<b>Air Quality</b>	Attainment criteria for all criteria pollutants.	Emissions from vehicles and agricultural areas.	Fugitive dust and combustion emissions generation during construction.	Fugitive dust and increased equipment operation during construction.	Continued attainment.
<b>Noise</b>	None.	Current background noise from development.	Short-term noise from construction equipment and increased traffic.	Short-term noise from construction equipment and increased traffic.	Short-term adverse impacts from construction equipment and increased traffic.
<b>Land Use</b>	Agricultural lands impacted by development.	Development of open and agricultural lands.	USBP purchase of land or easements to construct tactical infrastructure. Natural areas developed for tactical infrastructure.	Residential and commercial development permanently alters natural areas and agricultural lands.	Moderate adverse impacts on recreational and agricultural lands.
<b>Geology and Soils</b>	Installation of pipelines and other features.	Installation of pipelines and other features.	Installation of fence posts and other structures.	Installation of pipelines, fencing, and other infrastructure.	Minor long-term impact from additional infrastructure.

*Rio Grande Valley Sector Tactical Infrastructure*

<b>Resource</b>	<b>Past Actions</b>	<b>Current Background Activities</b>	<b>Alternative 2, Route B</b>	<b>Known Future Actions</b>	<b>Cumulative Effects</b>
<b>Water Resources</b>					
<b><i>Hydrology and Groundwater</i></b>	Degradation of aquifers to historical pollution.	Continued degradation of aquifers from pollution.	None.	Minor to moderate short- and long-term impacts.	Minor to moderate short- and long-term impacts.
<b><i>Surface Waters and the Waters of the United States</i></b>	Point and nonpoint discharges including wastewater treatment effluent, agricultural runoff, and storm water have impacted water quality. Removal of wetland vegetation and fill of waters of the United States, including wetlands.	Point and nonpoint discharges including wastewater treatment effluent, agricultural runoff, and storm water have impacted water quality.	Construction erosion and sediment runoff, potential oil spills and leaks. Removal of wetland vegetation and fill of waters of the United States, including wetlands, and temporary degradation of water quality.	Construction erosion and sediment runoff, potential oil spills and leaks. Removal of wetland vegetation and fill of waters of the United States, including wetlands, and temporary degradation of water quality. Minor long-term erosion impacts from infrastructure.	Moderate short-term impacts from construction activities, including removal of wetland vegetation and fill of waters of the United States, and temporary degradation of water quality. Minor long-term erosion impacts from infrastructure.
<b><i>Floodplains</i></b>	Permanently altered by development and safety features such as levees and dams.	None.	Adverse impacts in Sections O-1 through O-3. No other impacts.	None.	Adverse impacts in Sections O-1 through O-3. No other impacts.

*Rio Grande Valley Sector Tactical Infrastructure*

<b>Resource</b>	<b>Past Actions</b>	<b>Current Background Activities</b>	<b>Alternative 2, Route B</b>	<b>Known Future Actions</b>	<b>Cumulative Effects</b>
<b>Biological Resources</b>					
<b><i>Vegetation</i></b>	Degraded historic habitat of sensitive and common wildlife species.	Continued urbanization results in loss of native species.	Minor to moderate loss of native species and habitat.	Minor to moderate loss of native species and habitat.	Moderate adverse impacts on native habitats and vegetation.
<b><i>Wildlife and Aquatic Resources</i></b>	Urbanization and loss of green corridors impacted habitat and food sources.	Minor to moderate loss of green corridor for wildlife.	Minor to moderate loss of green corridor and water access for wildlife.	Loss of green corridor for wildlife.	Moderate loss of green corridor and water access for wildlife.
<b><i>Special Status Species</i></b>	Degraded water quality and urbanization impacted sensitive species.	Urbanization and agricultural development degraded habitat for sensitive species.	Minor to moderate loss of green corridor and water access for wildlife.	Loss of habitat for sensitive species and water quality degradation.	Current and future activities would continue to delete green corridor and water access for wildlife.
<b><i>Cultural Resources</i></b>	Development and infrastructure improvements adversely affected cultural resources; some preservation such as Old Hidalgo Pump House and in Roma Historic District.	Development and infrastructure improvements to be adversely affected cultural resources; some preservation.	Moderate to major long-term adverse impacts on cultural resources.	Continued development and infrastructure improvements to adversely affect cultural resources; continued preservation efforts.	Moderate to major long-term adverse impacts on cultural resources.



*Rio Grande Valley Sector Tactical Infrastructure*

<b>Resource</b>	<b>Past Actions</b>	<b>Current Background Activities</b>	<b>Alternative 2, Route B</b>	<b>Known Future Actions</b>	<b>Cumulative Effects</b>
<b>Aesthetic and Visual Resources</b>	Historical development of undeveloped lands.	Development of natural areas for community and industry infrastructure.	Constant static visual interruption at fixed points. Loss of recreational area.	Constant static visual interruption at fixed points.	Minor to moderate long-term impacts from permanent infrastructure.
<b>Socioeconomic Resources, Environmental Justice, and Safety</b>	Urban development throughout counties.	Strong local economy and high land values.	Minor to moderate short-term and long-term beneficial impacts on local construction.	Continued strong local economy, high land values, and expansion in counties.	Minor stimulation of local economies from construction activities. Minor adverse impact on environmental justice or protection of children or human health and safety.
<b>Utilities and Infrastructure</b>	Historical development and maintenance of utilities, infrastructure, and roadways in area.	Utilities, infrastructure, and roadways have been upgraded as necessary.	Minor to moderate short-term adverse impacts on local utilities, infrastructure, and roadways during construction.	Continued development and maintenance of utilities, infrastructure, and roadways in area.	None.
<b>Hazardous Materials and Wastes</b>	Use of hazardous substances in vehicles. Possible illegal dumping.	Use of hazardous substances in vehicles. Possible illegal dumping.	Minor use of hazardous materials during construction.	Minor use of hazardous materials during construction.	None.

### 5.3 LAND USE

Construction of tactical infrastructure would result in minor changes to land use. Recent activities that have most affected land use near the proposed tactical infrastructure are increased commercial and residential development of agricultural and open lands. Moderate cumulative impacts on land use are expected from the additive effects of the past, present, and reasonably foreseeable future actions, but changes in local land use would continue to be dominated by development. For example, the conversion of 508 acres to support tactical infrastructure is minimal when compared to multiple large developments such as Sharyland Plantation which converted 6,000 acres of agricultural land to residential and commercial use (Sharyland 2007). Recreational lands, residential areas, and agricultural lands would be displaced by the Proposed Action. Future development of residential areas would further alter the current land use.

### 5.4 GEOLOGY AND SOILS

Additive effects include minor changes in topography due to grading, contouring, and trenching; minor soil disturbance; a minor increase in erosion; and a loss of prime farmland. Construction of the tactical infrastructure would not be in close proximity to residential and commercial development and would not interact to cumulatively affect geological resources, including soils. However, each present or reasonably foreseeable future action identified has the potential for temporary erosion from construction activities.

### 5.5 WATER RESOURCES

**Hydrology and Groundwater.** Moderate impacts on hydrology and groundwater would occur from the construction of tactical infrastructure when combined with other past, present, and reasonably foreseeable future actions due to increased erosion and stream sedimentation.

**Surface Water and Waters of the United States.** Moderate impacts on surface water and waters of the United States could occur from increased erosion and stream sedimentation. Disturbance from construction and operation of the tactical infrastructure along with residential and commercial development have the potential for additional erosion and stream sedimentation and adverse cumulative effects. However, as discussed in **Section 4.6**, a Texas Construction General Permit would be obtained to include an SWPPP and sediment control and storm water BMPs to minimize potential impacts. Past actions, including historic and current fishing, vessel traffic, sewage, agricultural runoff, and industrial discharges have generally degraded the quality of water in the lower Rio Grande and have resulted in long-term direct moderate impacts on water quality. The Rio Grande is a CWA Section 303(d) impaired water.

Wetland losses in the United States have resulted from draining, dredging, filling, leveling, and flooding for urban, agricultural, and residential development. An

1 estimated 4.1 million acres of wetlands existed on the Texas coast in the mid-  
2 1950s. By the early 1990s, wetlands had decreased to less than 3.9 million  
3 acres including 3.3 million acres of freshwater wetlands and 567,000 acres of  
4 saltwater wetlands. About 1.7 million acres (52 percent) of the 3.3 million acres  
5 of freshwater wetlands were classified as farmed wetlands. The total net loss of  
6 wetlands for the region was approximately 210,600 acres, making the average  
7 annual net loss of wetlands about 5,700 acres. The greatest losses were of  
8 freshwater emergent and forested wetlands (USFWS 1997). Impacts on  
9 wetlands would be avoided to the maximum extent practicable. Approximately 8  
10 acres of wetlands would be impacted by construction of the tactical infrastructure.  
11 USBP would obtain CWA Section 404 permits and mitigate the loss of wetlands.  
12 The cumulative impacts on wetlands would be long-term and adverse.

13 **Floodplains.** Floodplain resources can be adversely impacted by development,  
14 increases in impervious areas, loss of vegetation, changes in hydrology, and soil  
15 compaction. Construction, maintenance, and operation of tactical infrastructure  
16 has the potential for negligible to minor impacts on floodplains from further loss of  
17 vegetation, soil compaction on access roads and patrol roads, and the placement  
18 of structures in the floodplains. Floodplains were previously impacted by the  
19 construction of the levee system which controls the flow of water over low lying  
20 areas. Sections O-1, O-2, and O-3 would further regulate water flow where no  
21 levee system exists. When added to other past, present, and reasonably  
22 foreseeable future actions, impacts from the new tactical infrastructure would be  
23 minor due to the relatively small impact within floodplains. As discussed in  
24 **Sections 1.5 and 4.6**, USBP would follow the FEMA process to flood proof the  
25 structures and minimize adverse impacts on floodplain resources.

## 26 **5.6 VEGETATION**

27 Moderate impacts on native species vegetation and habitat are expected from  
28 the additive effects of past, present and reasonably foreseeable future actions.  
29 Urbanization of the area has directly reduced habitat for sensitive flora species.  
30 Indirect impacts from urbanization include changes in floodways, water quality,  
31 and the introduction of nonnative species.

32 Development of land for urban use would continue at an unknown pace resulting  
33 in loss of farmland and of wildlife habitat. Construction of new POEs and other  
34 border facilities would contribute to this development issue. Conversion of native  
35 upland thornscrub to grazing land by using root-plowing and other methods  
36 would continue at an unknown pace. One such tract of land was observed.  
37 Purchase of land for management as wildlife habitat and for preservation would  
38 continue. Lands already purchased are undergoing restoration at various levels  
39 of success some of these are being affected by proposed fence construction.  
40 Water rights issues could become important and affect agricultural and urban  
41 acreages and planning efforts.

## 5.7 WILDLIFE AND AQUATIC RESOURCES

Minor to moderate impacts on wildlife and species are expected from the additive effects of the past, present, and reasonably foreseeable future actions. Urbanization of the area has effectively reduced green corridor and water access for wildlife. Cumulative impacts would mainly result from loss of habitat as described in **Section 5.7**, habitat disturbance and degradation, construction traffic, and permanent loss of green corridors. Displaced wildlife would move to adjacent habitat if sufficient habitat exists. Since the Rio Grande Valley has experienced substantial residential and commercial development, and such development is projected to continue, the amount of potentially suitable habitat will continue to decrease, producing a long-term, minor to major adverse cumulative effect. Wildlife could also be adversely impacted by noise during construction, operational lighting, and loss of potential prey species. Species would also be impacted by equipment spills and leaks. The permanent lighting could have minor, adverse cumulative impacts on migration, dispersal, and foraging activities of nocturnal species.

## 5.8 SPECIAL STATUS SPECIES

As discussed in **Section 4.9**, USBP has begun Section 7 preconsultation coordination with the USFWS regarding potential impacts on listed species or designated critical habitat. Potential effects of fence construction, maintenance, and operation will be analyzed in both the Biological Assessment and Biological Opinion to accompany the Final EIS. Potential direct and indirect impacts on federally listed species are based on currently available data. Impacts are developed from a NEPA perspective and are independent of any impact determinations made for the Section 7 consultation process.

Special status species are commonly protected because their historic range and habitat has been reduced and will only support a small number of individuals. Construction, maintenance, and operation of tactical infrastructure, when combined with past, present, and future residential and commercial development has the potential to result in minor to major adverse cumulative impacts on these species. Potential threats to federally listed species within the proposed project corridor include trampling (for plants), habitat conversion, and noise.

Approximately 508 acres of vegetation would be cleared along the Alternative 2 corridor. Route A approaches known locations of individuals of Texas ayaia, Walker's manioc, and Zapata bladderpod. Implementation of Route A would have the potential for short-term major adverse impacts on these species due to trampling or mortality during fence construction. While Route B would cut across the lower portions of Los Velas and Los Velas West annexes of the LRGVNRW (Section O-2), it would entirely avoid the potentially more species-rich Arroyo Ramirez annex (Section O-1), the Culebron Banco annex (Section O-13), and the Tahuachal Banco annex (Section O-16). In addition, Route B borders instead of intersects the southern boundary of the Phillips Banco annex of the

1 LRGVNR. Route B pulls the proposed fence alignment further away from  
2 several known locations of Zapata bladderpod and Walker's manioc. For this  
3 reason, Route B cumulative impacts on federally listed plants are anticipated to  
4 be short-term, moderate, and adverse.

5 The loss of approximately 125 acres of disturbed thornscrub shrubland and  
6 woodland habitat, predominantly honey mesquite and retama, and of  
7 approximately 50 acres of disturbed floodplain shrubland, woodland, and forest  
8 habitat, predominantly honey mesquite and sugarberry and to a lesser extent  
9 sabal palm, would represent a loss of approximately 150 acres of potential ocelot  
10 and jaguarundi habitat. The long-term, cumulative adverse impact from the loss  
11 of potential habitat for these species would be moderate to major.

12 Habitat loss of state-listed species in Sections O-1, O-2, O-8, and O-10  
13 (i.e., Mexican treefrog, Mexican burrowing toad, Texas horned lizard, white-  
14 lipped lizard) would affect a small area and would be a minor, adverse  
15 cumulative effect on these species. BMPs to avoid and minimize impacts, such  
16 as pre-construction clearance surveys would to reduce potential adverse  
17 impacts.

18 Cumulative, adverse impacts on migratory birds could be substantial due to the  
19 potential timing of fence construction. Implementation of BMPs presented in  
20 **Section 4.9** could reduce their intensity. However, past loss of habitat combined  
21 with potential construction has the potential for long-term, major, adverse  
22 cumulative impacts.

## 23 **5.9 CULTURAL RESOURCES**

24 Moderate to major adverse, long-term impacts on cultural resources are  
25 expected from the additive effects of past, present, and reasonably foreseeable  
26 future actions. Past, current, and future commercial and residential  
27 development, improvements to infrastructure such as highway and irrigation  
28 projects, and the clearing of land for agriculture have caused significant impacts  
29 on cultural resources and can be expected to continue to do so. At the same  
30 time, some past and present efforts have resulted in the preservation of some  
31 historic properties such as the Old Hidalgo Pumphouse and some properties in  
32 the Roma Historic District. Similar preservation efforts can be expected to  
33 continue. Cumulative effects on historic properties are expected to be moderate  
34 to major, adverse, and long-term.

35 In compliance with Section 106 of the NHPA, cultural resource surveys are  
36 underway to identify and evaluate properties listed in or eligible for listing in the  
37 NRHP that may be affected by the proposed tactical infrastructure. Consultation  
38 with Native American tribes would ensure that properties of religious and cultural  
39 significance to the tribes are addressed. It is anticipated that additional  
40 properties to be determined as eligible for listing in the NRHP will be identified  
41 that would be affected. Known historic properties would also be affected.

Impacts on cultural resources (including resources potentially eligible for inclusion in the NRHP) would be avoided, minimized, or reduced through careful planning, siting, and design of the proposed tactical infrastructure and development of special measures. For example, by locating Section O-1 below the bluff, impacts on the Roma Historic District would be substantially reduced. In other cases, special designs could be developed to reduce effects on historic properties. The integrity of areas that may have significant archaeological resources and be potentially affected by the proposed infrastructure would be studied, such as Fort Ringgold, Fort Brown, and Roma Historic District. Additional archaeological resources are expected to be identified.

## **5.10 AESTHETICS AND VISUAL RESOURCES**

Minor to moderate impacts on aesthetics and visual resources are expected from the additive effects of past, present, and reasonably foreseeable future actions. The presence of construction equipment would produce a short-term adverse impact on visual resources. Once installed, the tactical infrastructure would create a permanent and fixed visual interruption at fixed points. Adverse cumulative effects could include temporary construction impacts and the introduction of light poles and increased night illumination during construction. Other commercial and residential development would introduce night illumination into previously open or agricultural lands. Recreational activities such as stargazing would be adversely affected by this cumulative impact in night illumination.

## **5.11 SOCIOECONOMIC RESOURCES, ENVIRONMENTAL JUSTICE, AND SAFETY**

Short-term beneficial impacts on local and regional socioeconomic resources are expected from the additive effects of past, present, and reasonably foreseeable future actions. Economic benefits would be realized by construction companies; their employers and suppliers; and by Cameron, Hidalgo, and Starr counties through a minor increase in tax receipts for the purchase of goods and services. Construction of tactical infrastructure has the potential for minor beneficial effects from temporary increases in construction jobs and the purchase of goods and services in Cameron, Hidalgo, and Starr counties. Approximately 25,000 workers are employed in the construction industry in the three counties. An increase of 200 construction jobs would represent only about 1 percent of construction jobs, so the cumulative effect would be minimal. Since the construction jobs would be temporary, negligible cumulative effects on population growth, income, or other services would be expected.

The Rio Grande Valley has experienced growth including residential and commercial development. The conversion of 508 acres to support tactical infrastructure is a minimal cumulative impact compared to other development.

1 For example, a single development, Sharyland Plantation, converted 6,000 acres  
2 of agricultural land to residential and commercial development.

3 Some residents might be adversely impacted by the construction and  
4 Government purchase of their property. The potential exists that some residents  
5 might have been impacted by a previous USBP action to install lights or patrol  
6 roads under Operation Rio Grande. Although no residents have been identified  
7 as being impacted this way, this would be an adverse cumulative effect.

8 The cumulative impacts of USBP activities to reduce the flow of illegal drugs,  
9 terrorists, and terrorist weapons into the United States and the concomitant  
10 effects upon the Nation's health and economy, drug-related crimes, community  
11 cohesion, property values, and traditional family values would be long-term and  
12 beneficial, both nationally and locally. Residents of the border towns would  
13 benefit from increased security, a reduction in illegal drug-smuggling activities  
14 and the number of violent crimes, less damage to and loss of personal property,  
15 and less financial burden for entitlement programs. This would be accompanied  
16 by the concomitant benefits of reduced enforcement and insurance costs. There  
17 could be an adverse cumulative effect on agriculture and other employers of low-  
18 income workers if the labor pool of illegal aliens was substantially reduced.  
19 Operation and maintenance of the tactical infrastructure has little potential for  
20 cumulative impacts on socioeconomics.

21 As discussed in **Section 4.12**, some tactical infrastructure would be constructed  
22 on or adjacent to residential properties. Of the 21 fence sections, 11 are within  
23 census bureau tracts in which a portion of the tracts have a higher proportion of  
24 minority or low-income residents. Of the proposed 70 miles of tactical  
25 infrastructure, substantially less than half is within census bureau tracts that have  
26 a higher proportion of minority or low-income residents—therefore the overall  
27 impacts of the proposed tactical infrastructure would not fall disproportionately on  
28 minority or low-income populations. Of the 16 census tracts identified in **Table**  
29 **3.12-11** that have a higher proportion of minority or low-income residents, 6 of  
30 the sections have populations near fence sections that might be adversely  
31 impacted by construction or operation of the tactical infrastructure. These are  
32 section O-4 (census tract 242.02); O-5 (census tract 213.01); O-13 (census tract  
33 121); O-15 (census tract 125.05); O-19 (census tracts 128, 133.07 and 140.01);  
34 and O-21 (census tract 141). Temporary lights approved under Operation Rio  
35 Grande along the same alignment as Section O-5 (census tract 213.01) might be  
36 installed. New tactical infrastructure when combined with the temporary lights  
37 might be a long-term, adverse cumulative impact to this population.

## 38 **5.12 UTILITIES AND INFRASTRUCTURE**

39 Residential and commercial development in Cameron, Hidalgo, and Starr  
40 counties has increased demand for utilities such as drinking water, wastewater  
41 treatment, natural gas and electric power distribution, and transportation. The  
42 construction, maintenance, and operation of tactical infrastructure would have

minimal demand for utilities and infrastructure, combining to produce a minimal adverse cumulative impact. Minor impacts on roadways and traffic are expected from the additive effects of past, present, and reasonably foreseeable future actions.

### 5.13 HAZARDOUS MATERIALS AND WASTE

Construction, maintenance, and operation of tactical infrastructure would require minimal quantities of hazardous materials and generate small quantities of hazardous wastes. Therefore, minimal cumulative impacts on hazardous materials and wastes would occur.

### 5.14 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

An irreversible or irretrievable commitment of resources refers to impacts on or losses to resources that cannot be reversed or recovered, even after an activity has ended and facilities have been decommissioned. A commitment of resources is related to use or destruction of nonrenewable resources, and effects that loss will have on future generations. For example, if prime farmland is developed there would be a permanent loss of agricultural productivity. Construction, maintenance, and operation of tactical infrastructure involves the irreversible and irretrievable commitment of material resources and energy, land and wetland resources, biological resources, and human resources. The impacts on these resources would be permanent.

**Material Resources.** Material resources irretrievably utilized for the Proposed Action include steel, concrete, and other building materials (for construction of fence). Such materials are not in short supply, would not limit other unrelated construction activities, and their irretrievable use would not be considered significant.

**Energy Resources.** Energy resources utilized for the Proposed Action would be irretrievably lost. These include petroleum-based products (e.g., gasoline and diesel) and electricity. During construction, gasoline and diesel would be used for the operation of construction vehicles. During operations, gasoline and diesel would be used to maintain the tactical infrastructure including mowing. USBP operations would not change, and the amount of fuel used to operate government-owned vehicles might decrease slightly due to increased operational efficiencies. Consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, no significant impacts would be expected.

**Biological Resources.** The Proposed Action would result in the irretrievable loss of vegetation and wildlife habitat. In the long term, construction of the tactical infrastructure would result in the loss of 125 acres of potential wildlife habitat, force the relocation of wildlife, and require the removal of natural



1 vegetation. This result would be a permanent loss or conversion of decreasing  
2 open spaces. Approximately 7.5 acres of wetlands could be permanently  
3 impacted by the Proposed Action. However, it is possible to mitigate wetland  
4 loss by re-creation of other biologically significant wetlands elsewhere.

5 **Human Resources.** The use of human resources for construction is considered  
6 an irretrievable loss, only in that it would preclude such personnel from engaging  
7 in other work activities. However, the use of human resources for the Proposed  
8 Action represents employment opportunities, and is considered beneficial.

## 9 **5.15 RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE** 10 **ENVIRONMENT AND LONG-TERM PRODUCTIVITY**

11 Short-term uses of the biophysical components of the human environment  
12 include direct construction-related disturbances and direct impacts associated  
13 with an increase in population and activity that occurs over a period of less than 5  
14 years. Long-term uses of the human environment include those impacts that  
15 occur over a period of more than 5 years, including permanent resource loss.

16 Activities that could result in short-term resource uses that compromise long-term  
17 productivity include filling of wetlands, construction of tactical infrastructure on  
18 prime farmlands, and development in floodplains. Adverse impacts include  
19 destruction of cultural resources, or loss of unique habitats for rare or sensitive  
20 species. In the context of Rio Grande Valley, long-term loss of unique habitats  
21 for rare or sensitive species would be a significant adverse impact. This could  
22 include the loss of threatened or endangered or other special status species of  
23 vegetation. Although no direct impacts on special status wildlife are expected,  
24 the short- and long-term loss of potential habitat for these species could result in  
25 long-term, moderately adverse impacts on ocelots and jaguarundi.

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## SECTION 6

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## **SECTION 7**

### Acronyms and Abbreviations





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## 7. ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter	EA	Environmental Assessment
$^{\circ}\text{F}$	degrees Fahrenheit	ECSO	Engineering Construction Support Office
ACHP	Advisory Council on Historic Preservation	EIS	Environmental Impact Statement
ACM	asbestos-containing material	EO	Executive Order
ADNL	A-weighted Day Night Average Sound Level	ESA	Endangered Species Act
APE	area of potential effect	FEMA	Federal Emergency Management Agency
AQCR	air quality control region	FHWA	Federal Highway Administration
AST	aboveground storage tank	FIRM	Flood Insurance Rate Map
BLIAQCR	Brownsville-Laredo Intrastate Air Quality Control Region	FIS	Flood Insurance Study
BLM	Bureau of Land Management	FM	farm to market
BMP	Best Management Practice	FPPA	Farmland Protection Policy Act
BO	Biological Opinion	FY	fiscal year
CAA	Clean Air Act	HABS	Historic American Building Survey
CAAA	Clean Air Act Amendments	HAER	Historic American Engineering Record
CBP	U.S. Customs and Border Protection	hp	horsepower
CEQ	Council on Environmental Quality	IBWC	International Boundary and Water Commission
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	ISD	Independent School District
CFR	Code of Federal Regulations	JD	Jurisdictional Determination
CO	carbon monoxide	LBP	Lead-based paint
$\text{CO}_2$	carbon dioxide	LRGFCP	Lower Rio Grande Flood Control Project
CR	County Route	LRGVNWR	Lower Rio Grande Valley National Wildlife Refuge
CRS	Congressional Research Service	MBTA	Migratory Bird Treaty Act
CWA	Clean Water Act	MD	Management Directive
CY	calendar year	$\text{mg}/\text{m}^3$	milligrams per cubic meter
dBA	A-weighted decibels	MMTCE	million metric tons of carbon equivalent
dB(C)	C-weighted decibels	mph	miles per hour
DHS	U.S. Department of Homeland Security	MSA	Metropolitan Statistical Area
		MSL	mean sea level

*Rio Grande Valley Sector Proposed Tactical Infrastructure*

NAAQS	National Ambient Air Quality Standards	ROW	right-of-way
NEPA	National Environmental Policy Act	SARA	Superfund Amendments and Reauthorization Act
NHL	National Historic Landmark	SHPO	State Historic Preservation Office
NHPA	National Historic Preservation Act	SIP	State Implementation Plan
NO <sub>2</sub>	nitrogen dioxide	SO <sub>2</sub>	sulfur dioxide
NOA	Notice of Availability	SR	State Route
NOI	Notice of Intent	SWPPP	Storm Water Pollution Prevention Plan
NO <sub>x</sub>	nitrogen oxide	TAAQS	Texas Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System	TAC	Texas Administrative Code
NPS	National Park Service	TCEQ	Texas Commission on Environmental Quality
NRCS	Natural Resources Conservation Service	TCP	traditional cultural properties
NRHP	National Register of Historic Places	TDOT	Texas Department of Transportation
NWI	National Wetland Inventory	THC	Texas Historical Commission
NWR	National Wildlife Refuge	TMDL	Total Maximum Daily Load
O <sub>3</sub>	ozone	TPWD	Texas Parks and Wildlife Department
OSHA	Occupational Safety and Health Administration	tpy	tons per year
P.L.	Public Law	TSCA	Toxic Substances Control Act
Pb	lead	U.S.C.	United States Code
PCB	polychlorinated biphenyls	USACE	U.S. Army Corps of Engineers
PM <sub>10</sub>	particle matter equal to or less than 10 microns in diameter	USBP	U.S. Border Patrol
PM <sub>2.5</sub>	particle matter equal to or less than 2.5 microns in diameter	USEPA	U.S. Environmental Protection Agency
POE	Port of Entry	USFWS	U.S. Fish and Wildlife Service
ppm	parts per million	UST	underground storage tank
PUB	Public Utility Board	VOC	volatile organic compound
PSD	Prevention of Significant Deterioration	WMA	Wildlife Management Areas
RCRA	Resource Conservation and Recovery Act		
RHA	Rivers and Harbors Act		
ROD	Record of Decision		
ROE	rights of entry		
ROI	Region of Influence		





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| 3 B.A. Anthropology and Archaeology     | 41 B.S. Forestry and Natural        |
| 4 Years of Experience: 21               | 42 Resources Management             |
|   | 43 Years of Experience: 11          |
| 5 <b>Stuart Gottlieb</b>                |                                     |
| 6 B.A. Geography                        | 44 <b>Dr. Michael Moran</b>         |
| 7 GIS Professional Certificate          | 45 Ph.D. Biochemistry               |
| 8 Years of Experience: 5                | 46 B.S. Chemistry                   |
|   | 47 Registered Environmental Manager |
| 9 <b>Shawn Gravatt</b>                  | 48 Years of Experience: 23          |
| 10 M.S. Environmental Studies           |                                     |
| 11 B.S. Earth Science and Geography     | 49 <b>Cheryl Myers</b>              |
| 12 Years of Experience: 10              | 50 A.A.S. Nursing                   |
|   | 51 Years of Experience: 17          |
| 13 <b>Gustin Hare</b>                   |                                     |
| 14 B.S. Environmental Science           | 52 <b>Margie Nowick</b>             |
| 15 Registered Environmental             | 53 M.S. Historic Preservation       |
| 16 Professional                         | 54 M.S. Anthropology                |
| 17 Years of Experience: 12              | 55 B.S. Anthropology                |
|   | 56 Years of Experience: 24          |
| 18 <b>Jeff Hokanson</b>                 |                                     |
| 19 M.A. Anthropology                    | 57 <b>Tanya Perry</b>               |
| 20 Years of Experience: 15              | 58 B.S. Environmental Science       |
|   | 59 B.A. Communications              |
| 21 <b>Brian Hoppy</b>                   | 60 Years of Experience: 6           |
| 22 B.S. Biology                         |                                     |
| 23 Certificate of Environmental         | 61 <b>Andrea Poole</b>              |
| 24 Management                           | 62 B.S. Environmental Science       |
| 25 Years of Experience: 17              | 63 B.A. Business Administration     |
|   | 64 Years of Experience: 9           |
| 26 <b>David Kilby</b>                   |                                     |
| 27 M.A. Anthropology                    | 65 <b>Steve Pyle</b>                |
| 28 Years of Experience: 17              | 66 B.S. Natural Resource Management |
|   | 67 J.D. with Certificate in         |
| 29 <b>Daniel Koenig</b>                 | 68 Environmental Law                |
| 30 B.S. Environmental Policy and        | 69 Years of Experience: 11          |
| 31 Planning                             |                                     |
| 32 Years of Experience: 3               | 70 <b>Christopher Roche</b>         |
|   | 71 B.S. Environmental Studies       |
| 33 <b>Ronald E. Lamb, CEP</b>           | 72 Years of Experience: 8           |
| 34 M.S. Environmental Science           |                                     |
| 35 M.A. Political Science/International | 73 <b>Lee Sammons, AICP</b>         |
| 36 Economics                            | 74 Sammons/Dutton LLC               |
| 37 B.A. Political Science               | 75 B.S. Civil Engineering           |
| 38 Years of Experience: 22              | 76 Graduate Studies, City and       |
|   | 77 Regional Planning                |
|   | 78 Years of Experience: 43          |

- 1 **Devin Scherer**
- 2 B.S. Biology
- 3 Years of Experience: 4
- 4 **Cheryl Schmidt**
- 5 Ph.D. Biology
- 6 M.S. Biology
- 7 B.S. Biology
- 8 Years of Experience: 22
- 9 **Sue Sill**
- 10 Ph.D. Botany
- 11 B.S. Biology
- 12 Years of Experience: 24
- 13 **Sarah Smith**
- 14 B.S. Geography
- 15 Years of Experience: 2
- 16 **Sarah Spratlen**
- 17 B.S. Biology
- 18 M.S. Engineering
- 19 Years of Experience: 5
- 20 **Karen Stackpole**
- 21 M.S. Environmental Science and
- 22 Education
- 23 B.S. Biology
- 24 Years of Experience: 9
- 25 **Charles Thornton-Kolbe**
- 26 M.S. in Public Policy
- 27 B.A. Economics and Political
- 28 Science
- 29 Years of Experience: 14
- 30 **Adam Turbett**
- 31 B.S. Environmental Studies
- 32 Years of Experience: 3
- 33 **Jim Von Loh**
- 34 M.S. Biology
- 35 B.S. Biology
- 36 Years of Experience: 32
- 37 **Lauri Watson**
- 38 B.S. Environmental Science
- 39 Years of Experience: 5
- 40 **Jeffrey Weiler**
- 41 M.S. Resource
- 42 Economics/Environmental
- 43 Management
- 44 B.A. Political Science
- 45 Years of Experience: 32
- 46 **Valerie Whalon**
- 47 M.S. Fisheries Science
- 48 B.S. Marine Science
- 49 Years of Experience: 12

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## **APPENDIX A**

### Applicable Laws and Executive Orders







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**Table A-1. Applicable Laws and Executive Orders <sup>1</sup>**

Title, Citation	Summary
Archaeological and Historical Preservation Act, 16 U.S.C. 469	Protects and preserves historical and archaeological data. Requires Federal agencies to identify and recover data from archaeological sites threatened by a proposed action(s).
Clean Air Act, 42 U.S.C. 7401–7671q, as amended	Establishes Federal standards for air pollutants. Prevents significant deterioration in areas of the country where air quality fails to meet Federal standards.
Clean Water Act, 33 U.S.C. 1251–1387 (also known as the Federal Water Pollution Control Act)	Comprehensively restores and maintains the chemical, physical, and biological integrity of the nation's waters. Implemented and enforced by the U.S. Environmental Protection Agency (USEPA).
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601–9675 (also known as “Superfund”)	Provides for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and cleanup of inactive hazardous substances disposal sites. Establishes a fund financed by hazardous waste generators to support cleanup and response actions.
Endangered Species Act of 1973, 16 U.S.C. 1531–1543, as amended	Protects threatened, endangered, and candidate species of fish, wildlife, and plants and their designated critical habitats. Prohibits Federal action that jeopardizes the continued existence of endangered or threatened species. Requires consultation with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries and a biological assessment when such species are present in an area affected by government activities.
Fish and Wildlife Coordination Act, 16 U.S.C. 661–667e, as amended	Authorizes the Secretaries of the Interior and Commerce to provide assistance to and cooperate with Federal and state agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The 1946 amendments require consultation with the USFWS and the state fish and wildlife agencies involving any waterbodies that are proposed or authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified by any agency under a Federal permit or license.
Migratory Bird Treaty Act, 16 U.S.C. 703–712	Implements various treaties for protecting migratory birds; the taking, killing, or possession of migratory birds is unlawful.

Title, Citation	Summary
National Environmental Policy Act of 1969, 42 U.S.C. 4321–4370e, as amended	Requires Federal agencies to use a systematic approach when assessing environmental impacts of government activities. Proposes an interdisciplinary approach in a decisionmaking process designed to identify unacceptable or unnecessary impacts to the environment.
National Historic Preservation Act, 16 U.S.C. 470–470x-6	Requires Federal agencies to consider the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object eligible for inclusion, or listed in the National Register of Historic Places (NRHP). Provides for the nomination, identification (through NRHP listing), and protection of significant historical and cultural properties.
Noise Control Act of 1972, 42 U.S.C. 4901–4918	Establishes a national policy to promote an environment free from noise that jeopardizes health and welfare. Authorizes the establishment of Federal noise emissions standards and provides relevant information to the public.
Occupational Safety and Health Act of 1970, 29 U.S.C. 651–678	Establishes standards to protect workers, including standards on industrial safety, noise, and health standards.
Resource Conservation and Recovery Act, 42 U.S.C. 6901–6992k	Establishes requirements for safely managing and disposing of solid and hazardous waste and underground storage tanks.
Executive Order (EO) 12372, <i>Intergovernmental Review of Federal Programs</i> , July 14, 1982, 47 FR 30959 (6/16/82), as supplemented	Requires Federal agencies to consult with state and local governments when proposed Federal financial assistance or direct Federal development impacts interstate metropolitan urban centers or other interstate areas.
EO 12898, <i>Environmental Justice</i> , February 11, 1994, 59 FR 7629 (2/16/94), as amended	Requires certain Federal agencies, to the greatest extent practicable permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.

Title, Citation	Summary
EO 13148, <i>Greening the Government Through Leadership in Environmental Management</i> , April 21, 2000, 65 FR 24595 (4/26/00)	Designates the head of each Federal agency to ensure that all necessary actions are taken to integrate environmental accountability into agency day-to-day decision making and long-term planning processes, across all agency missions, activities, and functions. Establishes goals for environmental management, environmental compliance, right-to-know (informing the public and their workers of possible sources of pollution resulting from facility operations) and pollution prevention, and similar matters.
EO 13175, <i>Consultation and Coordination with Indian Tribal Governments</i> , November 6, 2000, 65 FR 67249 (11/09/00)	Requires Federal agencies to establish an accountable process that ensures meaningful and timely input from tribal officials in developing policies that have tribal implications.
EO 13186, <i>Responsibilities of Federal Agencies to Protect Migratory Birds</i> , January 10, 2001, 66 FR 3853 (1/17/01)	Requires each agency to ensure that environmental analyses of Federal actions (required by the National Environmental Policy Act or other established environmental review processes) evaluate the effects of actions and agency plans on migratory birds, emphasizing species of concern. Agencies must support the conservation intent of migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities, and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
EO 11593, <i>Protection and Enhancement of the Cultural Environment</i> , May 13, 1971, 36 FR 8921 (5/15/71)	Requires all Federal agencies to locate, identify, and record all cultural resources, including significant archeological, historical, or architectural sites.

Note: <sup>1</sup> This table only reflects those laws and EOs that might reasonably be expected to apply to the Proposed Action and alternatives addressed in this EIS.

- 1 Other laws and Executive Orders potentially relevant to the construction,
- 2 maintenance, and operation of tactical infrastructure include, but are not limited
- 3 to, the following:
- 4     • American Indian Religious Freedom Act, 42 U.S.C. 1996, et seq.
- 5     • Antiquities Act, 16 U.S.C. 433, et seq.; Archeological Resources
- 6     Protection Act, 16 U.S.C. 470 aa-II, et seq.
- 7     • Architectural Barriers Act, 42 U.S.C. 4151, et seq.

- 1 • Community Environmental Response Facilitation Act, 42 U.S.C. 9620, et  
2 seq.
- 3 • Department of Transportation Act, P.L. 89-670, 49 U.S.C. 303, Section  
4 4(f), et seq.
- 5 • Emergency Planning and Community Right-to-Know Act, 42 U.S.C.  
6 11001–11050, et seq.
- 7 • Environmental Quality Improvement Act, P.L. 98-581, 42 U.S.C. 4371, et  
8 seq.
- 9 • Farmlands Protection Policy Act, P.L. 97-98, 7 U.S.C. 4201, et seq.
- 10 • Federal Insecticide, Fungicide, and Rodenticide Act, P.L. 86-139, 7 U.S.C.  
11 135, et seq.
- 12 • Federal Records Act, 44 U.S.C. 2101-3324, et seq.
- 13 • Fish and Wildlife Act of 1956, P.L. 85-888, 16 U.S.C. 742, et seq.
- 14 • Flood Disaster Protection Act, 42 U.S.C. 4001, et seq.
- 15 • Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001,  
16 et seq.
- 17 • Pollution Prevention Act of 1990, 42 U.S.C. 13101-13109, et seq.
- 18 • Safe Drinking Water Act, P.L. 93-523, 42, U.S.C. 201, et seq.
- 19 • Toxic Substances Control Act, 7 U.S.C. 136, et seq.
- 20 • Wild and Scenic Rivers Act, P.L. 90-542, 16 U.S.C. 1271, et seq.
- 21 • EO 12114, dated January 9, 1979, Environmental Effects Abroad of Major  
22 Federal Actions, 44 FR 1957
- 23 • EO 12088, dated October 13, 1978, *Federal Compliance with Pollution*  
24 *Control Standards*, 43 FR 47707, as amended by EO 12580, dated  
25 January 23, 1987, and revoked (in part) by EO 13148, dated April 21,  
26 2000
- 27 • EO 13132, dated August 4, 1999, *Federalism*, 64 FR 43255
- 28 • EO 11988, dated May 24, 1977, *Floodplain Management and Protection*,  
29 42 FR 26951, as amended by EO 12148, dated July 20, 1979, 44 FR  
30 43239
- 31 • EO 13007, dated May 24, 1996, *Historic Sites Act*, 16 U.S.C. 46, et seq.;  
32 Indian Sacred Sites, 61 FR 26771
- 33 • EO 12372, dated July 14, 1982, *Intergovernmental Review of Federal*  
34 *Programs*, 47 FR 30959, as amended by EO 12416, April 8, 1983, 48 FR  
35 15587; supplemented by EO 13132, August 4, 1999, 64 FR 43255
- 36 • EO 13112, dated February 3, 1999, *Invasive Species*, 64 FR 6183, as  
37 amended by EO 13286, February 28, 2003, 68 FR 10619

- 1 • EO 11514, dated March 5, 1970, *Protection and Enhancement of*  
2 *Environmental Quality*, 35 FR 4247, as amended by EO 11541, July  
3 1,1970, 35 FR 10737 and EO 11991, May 24, 1977, 42 FR 26967
  - 4 • EO 13045, dated April 21, 1997, *Protection of Children from*  
5 *Environmental Health and Safety Risks*, 62 FR 19885, as amended by EO  
6 13229, October 9, 2001, 66 FR 52013 and EO 13296, April 18, 2003, 68  
7 FR 19931
  - 8 • EO 11990, dated May 24, 1977, *Protection of Wetlands*, 42 FR 26961, as  
9 amended by EO 12608, September 9, 1987, 52 FR 34617
- 10

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## **APPENDIX B**

### Scoping Report for the EIS







# **SCOPING REPORT**

## **FOR THE**

### **RIO GRANDE VALLEY TACTICAL INFRASTRUCTURE ENVIRONMENTAL IMPACT STATEMENT**

**Prepared for**  
**U.S. Customs and Border Patrol**

**Prepared by**



**engineering-environmental Management, Inc. (e<sup>2</sup>M)**  
**2751 Prosperity Avenue**  
**Suite 200**  
**Fairfax, VA 22031**

**e<sup>2</sup>M Project No.: 4100-989**

**OCTOBER 2007**



**SCOPING REPORT  
RIO GRANDE VALLEY TACTICAL INFRASTRUCTURE EIS**

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## 1. INTRODUCTION

The U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP) proposes to construct, maintain, and operate approximately 70 miles of tactical infrastructure, including pedestrian fence, access roads, patrol roads, and lights along the U.S./Mexico international border in the USBP Rio Grande Valley Sector, Texas. This report documents comments and recommendations gathered from the public scoping and other outreach activities conducted by USBP for the *Environmental Impact Statement (EIS) for Construction, Maintenance, and Operation of Tactical Infrastructure, Rio Grande Valley, Texas*.

The mission of CBP is to prevent terrorists and terrorist weapons from entering the United States, while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, USBP is charged with establishing and maintaining effective control of the border of the United States.

USBP has nine administrative sectors along the U.S./Mexico international border. Each sector is responsible for implementing an optimal combination of personnel, technology, and infrastructure appropriate to its operational requirements. The Rio Grande Valley Sector is responsible for 17,000 square miles of land in southeastern Texas, including the following counties: Cameron, Willacy, Hidalgo, Starr, Brooks, Kenedy, Kleberg, Nueces, San Patricio, Jim Wells, Bee, Refugio, Calhoun, Goliad, Victoria, Dewitt, Jackson, and Lavaca (CBP 2007). The areas affected by the Proposed Action include Starr, Hidalgo, and Cameron counties, Texas, within the Rio Grande Valley Sector.

The EIS process will serve as a planning tool to assist agencies with decisionmaking authority associated with the Proposed Action and ensure that the required public involvement under the National Environmental Policy Act (NEPA) is accomplished. The EIS presents potential environmental impacts associated with the Proposed Action and alternatives and provides information to assist in the decisionmaking process about whether and how to implement the Proposed Action.

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## 2. THE NEPA PROCESS AND THE EIS

NEPA requires Federal agencies to evaluate the potential environmental impacts of proposed projects and policies. The primary goal of NEPA is to provide sufficient information for the decisionmakers to make an informed decision. During the NEPA process, agencies consider issues ranging from air quality and biological impacts on cultural resources and socioeconomic impacts. USBP has determined that the most appropriate NEPA process for the USBP Rio Grande Valley Tactical Infrastructure is an EIS, which is the most detailed analysis prescribed by the Council on Environmental Quality (CEQ). Public involvement is a vital component of the NEPA for vesting the public in the decisionmaking process and allowing for full environmental disclosure. Guidance for implementing public involvement is codified in Title 40 Code of Federal Regulations (CFR) 1506.6, thereby ensuring that Federal agencies make a diligent effort to involve the public in preparing NEPA documents. The public involvement process for the proposed tactical infrastructure project is outlined in the following steps:

- **Conduct Public Scoping.** In this phase of the process, USBP asked the public to provide feedback on the proposed project, potential environmental impacts, and analysis methods. Public scoping is critical for determining the issues to be discussed in the EIS and the methods for conducting the study. Outreach efforts included a Notice of Intent (NOI) to prepare an EIS in the *Federal Register* and announcements of the public scoping process in local newspapers in English and Spanish. A Web site ([www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com)) was established and information on the Proposed Action was posted on the Web site (Appendix C.) Information on providing comments was discussed, and links to submit comments from the Web site were also provided. The agency scoping mailing list and copies of various letters are shown in Appendix D.
- **Prepare a Draft EIS.** The Draft EIS is the first version of the formal NEPA document. The Draft EIS will be distributed to public libraries throughout the affected area; Federal, state, regional, and local agencies; local organizations; and identified stakeholders and members of the general public. Outreach efforts will include Notice of Availability (NOA) for the Draft EIS and announcement of an open house and the 45-day public comment period in the *Federal Register* and local newspapers. At the public open house, resource experts will be present to answer questions, and the public will have an additional opportunity to enter comments and concerns into the official administrative record for the EIS.
- **Prepare a Final EIS.** After the close of the comment period on the Draft EIS, e<sup>2</sup>M will prepare the Final EIS on behalf of USBP to document the manner in which comments have been resolved. An NOA for the Final EIS will appear in the *Federal Register* and local newspapers. The public will have 30 days to comment on the Final EIS.

- 1       • ***Prepare a Record of Decision.*** A Record of Decision (ROD) will be  
2       prepared to document the final agency decision on the Proposed Action.  
3       Notice of the ROD will be made available on the Web site.

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### 3. PUBLIC INVOLVEMENT PROCESS

USBP invited comments from the public to help determine the scope of the EIS by publishing an NOI in the *Federal Register* (72 FR 184) on September 24, 2007. The NOI provided background information on the Proposed Action, the EIS, a description of the scoping process, and a discussion of alternative methods for the public to provide comments. A copy of the NOI is included in Appendix A of this Scoping Report.

Announcements were published in newspapers in the Rio Grande Valley area to announce the development of the EIS. Announcements were placed in three English language newspapers the *Brownsville Herald*, *The Monitor*, and the *Valley Morning Star*, and in two Spanish language newspapers *La Frontera* and *El Nuevo Herald*.

A Web site was developed at [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com) to provide information to the public on the Proposed Action. Information posted on the Web site includes a description of the Proposed Action, a map of the locations of the tactical infrastructure, a photograph of the type of fence proposed, and information on the NEPA process and opportunities for public involvement. A description of the ways to submit comments on the scope of the EIS is also included (via the Web site, email, fax, or mail). A link from the Web site to submit comments is provided to facilitate comments from individuals reviewing information on the Web site.

Public scoping comments were accepted through October 15, 2007. Comments were reviewed for incorporation into the Draft EIS. Comments will continue to be accepted throughout the EIS environmental planning process, but comments received after October 15, 2007, will be evaluated following the publication of the Draft EIS.

The Public Scoping Period represents only the first of multiple opportunities for public comment. USBP plans to conduct a 45-day public comment period once the Draft EIS is released. During this time, USBP also plans to have public open houses on the Draft EIS. Comments on the Draft EIS will contribute to the refinement of the Final EIS. In addition, there will be a 30-day public comment period once the Final EIS is released. Comments on the Final EIS will contribute to the development of the ROD.

As each of these documents is released for public comment, an NOA will be published in the *Federal Register* and local newspapers.



## 4. PUBLIC SCOPING RESULTS

### 4.1 Issues and Concerns

Comments were received from 840 private individuals during the scoping period. **Table 4-1** summarizes the comments received during the public scoping period. In addition, a letter was received from the City of Brownsville, Texas. Letters were also received from several nongovernmental organizations including Defenders of Wildlife; No Border Wall; New Jersey Audubon Society; McAllen Chamber of Commerce; Gulf Coast Bird Observatory; Sierra Club, Lone Star Chapter; Rio Grande Valley Group; Nature Conservancy, Texas Chapter; Environmental Defense; American Friends Service Committee; Missionary Oblates of Mary Immaculate; Valley Nature Center; Texas Border Coalition; Border Working Group; World Birding Center; Frontera Audubon Society; and University of Texas at Brownsville.

USBP received a petition from the citizens of the city of Granjeno, Texas, containing 106 signatures. The petition stated the citizens “adamantly reject and protest the construction and erection of the Homeland Security Border Fence.” The petition cited Spanish Civil Law, Republic of Texas, the 1848 Guadalupe Hidalgo Treaty, and other authorities to assert additional rights pursuant to the proposed fence. In addition, 95 letters were submitted by citizens of Granjeno stating their opposition to the proposed border fence.

**Table 4-1. Summary of Comments During the Rio Grande Valley Tactical Infrastructure Scoping Comment Period**

Comment Type	Summary of Concerns Raised in Scoping Comments
Alternatives suggested	<ul style="list-style-type: none"> <li>• Enforce immigration laws better.</li> <li>• Stronger enforcement and harsher penalties for employers that hire illegal immigrants, harsher penalties for border-cross violators.</li> <li>• More USBP agents, hi-tech patrolling, and guard dogs in lieu of fence.</li> <li>• Vehicle barriers instead of pedestrian fences.</li> <li>• Re-examine immigration and economic policy and establish a legitimate foreign worker program.</li> <li>• Legalize immigration.</li> <li>• Raise the levees and use levees as barrier.</li> <li>• Create dense hedges of native thorn species.</li> <li>• Create a virtual wall of sensors.</li> <li>• Install weir dams to fill the river creating a water barrier.</li> </ul>

Comment Type	Summary of Concerns Raised in Scoping Comments
Changes to fence design	<ul style="list-style-type: none"> <li>• Fence with surveillance (e.g., camera/video, sensors, lasers, and underground sensors).</li> <li>• Fence should include small openings for animals.</li> </ul>
Land Use	<ul style="list-style-type: none"> <li>• Loss of agricultural land.</li> <li>• “No man’s land” created by the fence will rapidly decline.</li> </ul>
Geology and Soils	<ul style="list-style-type: none"> <li>• Loss of prime farmland.</li> </ul>
Water Resources	<ul style="list-style-type: none"> <li>• Water supply for wildlife, livestock, and farmland will be cut off by the fence.</li> <li>• Rivers move over time, natural flow will be impeded by the fence.</li> <li>• Proposal should be moved out of the floodplain.</li> <li>• Rio Grande is the only source of water for wildlife in Starr County, the fence would cut off all water access.</li> <li>• Small canals should be built to provide water access to farmers and ranchers.</li> <li>• Irrigation Districts and water right fees will become more complicated once the fence cuts off access for some people.</li> <li>• Fence will make the entire area more prone to flooding.</li> <li>• Construction on top of the levees would be useless unless the levees are first reinforced.</li> <li>• If construction creates or exacerbates erosion along the banks of the Rio Grande, excessive sedimentation could occur, raising water temperature, reducing oxygen levels, etc. If the wall hinders sheet flow or tributary flow into the Rio Grande, less water and lower river velocities would not be able to move sediments downstream.</li> </ul>
Biological Resources	<ul style="list-style-type: none"> <li>• Water supply for wildlife, livestock, and farmland would be cut off by the fence.</li> <li>• Sabal Palms Sanctuary would be ruined and public access would be cut off.</li> <li>• 508 acres would be destroyed.</li> <li>• Wildlife refuges and migratory pattern of animals would be impacted (endangered species such as ocelots, jaguars, and jaguarondi).</li> <li>• Bird watchers would no longer come to the area to view rare birds.</li> <li>• Carrizo species should not be eliminated.</li> <li>• Impacts of wildlife movement must be mitigated.</li> <li>• The proposal is a violation of the Migratory Bird Treaty Act.</li> <li>• Impacts on species are illegal under Endangered Species Act, formal Section 7 consultation needs to be completed.</li> <li>• Refer to <i>Nesting Birds of a Tropical Frontier, the Lower Rio Grand Valley of Texas</i> as a reference.</li> </ul>

Comment Type	Summary of Concerns Raised in Scoping Comments
	<ul style="list-style-type: none"> <li>• Reduction of remnant river forest will threaten the rarest nesting birds in the United States.</li> <li>• Don't construct the fence during Spring (migratory bird nesting season).</li> <li>• The Santa Ana National Wildlife Refuge would be destroyed and water access would be cut off.</li> <li>• Will there be vegetative rehabilitation in the 60 feet cleared space? If so, low shrub cover would be low enough to hide people, but high enough for ocelots to move through screened.</li> <li>• Sabal Palms, Bentsen, and Santa Ana are part of a Wildlife Corridor that must be spared.</li> <li>• Thornscrub habitat will be destroyed and native brush stands will be fragmented and isolated.</li> <li>• Impacts on the Lennox Foundation Southmost Preserve and the Chihuahua Woods Preserve should be discussed.</li> <li>• Increased traffic and staging areas south of the wall in "no man's land" would have a greater impact on habitat and disrupt and further isolate wildlife populations.</li> <li>• There would be beneficial impacts from less garbage being discarded into sensitive ecosystems and from reduction in trails through sensitive areas.</li> <li>• How can clearing of vegetation to build the road and fence be construed as temporary – they should be addressed as permanent impacts in the EIS.</li> <li>• Need to address introducing additional vehicles and human activity into sensitive ecological areas. Address ancillary impacts from increased foot traffic.</li> <li>• Fence Section O-21 is of particular concern. It would block the public access points for both the Sabal Palm Audubon Sanctuary and the Southmost Preserve.</li> <li>• Impacts on the Caminos del Rio Heritage Project must be addressed.</li> <li>• Impacts on the IBWC vegetation maintenance requirements must be addressed.</li> <li>• Impacts of flood lights (important component of a lawsuit brought by the Seirra Club, Audubon Society, and Defenders of Wildlife against USBP's Operation Rio Grande in 2001) must be addressed.</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>• There would be a loss of unique cultural and natural heritage.</li> <li>• How will public access archaeological, ceremonial, and cemetery sites along the river?</li> <li>• How will access to ranch cemeteries be provided?</li> <li>• Historical and archaeological sites must be protected. What will ensure access of non-federally recognized indigenous people to their tribal land, communities, and traditional livelihood?</li> </ul>

Comment Type	Summary of Concerns Raised in Scoping Comments
	<ul style="list-style-type: none"> <li>• How will the fence impact the historic Fort Brown Site?</li> <li>• Impacts on the Caminos del Rio Heritage Project must be addressed.</li> <li>• The actual footprint of the project needs to be studied in detail to provide an accurate listing of archaeological and historical resources that might be adversely affected by the proposal's scope.</li> </ul>
Air Quality	<ul style="list-style-type: none"> <li>• Impact from emissions from construction and operation of the proposed fence would have an adverse impact on the cultural, historical, and environmental resources in the USBP Rio Grande Valley Sector. USBP operations have been known to create their own air quality problems through patrol and apprehension methods.</li> </ul>
Climate	<ul style="list-style-type: none"> <li>• Wall would block breeze and make Granjeno hot.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Noise impacts from construction and operation of the proposed fence would have an adverse impact on the cultural, historical, and environmental resources in the USBP Rio Grande Valley Sector.</li> </ul>
Utilities and Infrastructure	<ul style="list-style-type: none"> <li>• Concerns over proposed lighting.</li> <li>• Concerns over impacts on use of Rio Grande for drinking water source.</li> </ul>
Roadways and Traffic	<ul style="list-style-type: none"> <li>• Concerns over proposed vehicular roads.</li> </ul>
Aesthetics and Visual Resources	<ul style="list-style-type: none"> <li>• Don't impede view of the Rio Grande below the Roma World Birding Center and Overlook (near Roma POE).</li> <li>• Obstruction of view, bird watchers come to view rare birds.</li> <li>• View of the river is scenic.</li> <li>• Loss of recreation (boating, fishing, hunting).</li> <li>• EIS should identify roads and trails to the Rio Grande that will be closed and the means and impact of creating alternate access points.</li> </ul>
Hazardous Materials and Wastes	<ul style="list-style-type: none"> <li>• None.</li> </ul>
Socioeconomics and Environmental Justice	<ul style="list-style-type: none"> <li>• Families and communities would be divided.</li> <li>• Millions of dollars in ecotourism (e.g. birdwatching, canoeing, kayaking, hiking) would be lost. 200,000 ecotourists annually create 2,500 jobs in the local economy.</li> <li>• Economic impacts from loss of farm land.</li> <li>• Decreased relations with Mexico.</li> <li>• Economic impacts from decline in property values.</li> <li>• Proposal will create a loss of income in the area, and will not create jobs in return.</li> </ul>

Comment Type	Summary of Concerns Raised in Scoping Comments
	<ul style="list-style-type: none"> <li>• Brownsville is the poorest city in the Nation.</li> <li>• How will the proposal impact University of Texas at Brownsville?</li> </ul>
Human Health and Safety	<ul style="list-style-type: none"> <li>• How will NWR/NPS personnel access their lands?</li> <li>• How will there be immediate access in case of fire or emergency?</li> <li>• In the case of a national emergency, what impacts would the wall have on emergency planning and evacuation?</li> <li>• Area south of the wall would become a “no man’s land,” where fear for safety of government staff and citizens would be a concern, as well as security of property, equipment, and facilities.</li> <li>• Beneficial impacts from increase in public safety at parks and recreational areas.</li> <li>• Foot traffic will be more heavily concentrated in certain areas, creating a “funnel” effect and possibly a greater public safety hazard.</li> </ul>
Sustainability and Greening	<ul style="list-style-type: none"> <li>• None.</li> </ul>
Scoping Process	<ul style="list-style-type: none"> <li>• Don’t be surprised by lack of attendance at public meetings from those in favor of the proposal. People who support the fence will be retaliated against by those opposed.</li> <li>• Comment period is inadequate.</li> <li>• Web site was not working. Failure of the Web site has interfered with the public’s ability to learn the details of the project and communicate their concerns.</li> <li>• Information provided on the Web site is too limited.</li> <li>• Alternatives are not presented on the Web site.</li> <li>• Fax was not working.</li> <li>• Hold public scoping meetings near the proposed sites.</li> <li>• A democratic vote should be held.</li> <li>• Better maps are needed to show the public where exactly the fence sections are going to be.</li> <li>• Will I have input on where the fence goes on my land?</li> <li>• The scoping process was longer and more meetings were held for the Operation Rio Grande EIS.</li> </ul>
Scope of the EIS	<ul style="list-style-type: none"> <li>• EIS should be larger in scope.</li> <li>• EIS should encompass the entire length of the Rio Grande.</li> <li>• Cumulative impacts over the entire 270 miles need to be analyzed.</li> <li>• Prepare a comprehensive EIS on all proposed locations for a border wall, rather than the disjointed process currently undertaken.</li> <li>• Are all future needs of the wall going to be analyzed (e.g., maintenance, lighting)?</li> </ul>

Comment Type	Summary of Concerns Raised in Scoping Comments
	<ul style="list-style-type: none"> <li>• The EIS should look at each specific piece of land to consider how the owners will be impacted (will new roads be built, who will build and maintain the roads, cost of driving increased distance, cost of irrigating two pieces of land).</li> <li>• EIS should be expanded to include all areas listed in the Secure Fence Act. The sections of the wall analyzed are merely a down payment for the proposed extensive fencing.</li> <li>• IBWC just completed a Draft EIS on its flood control projects. Is this being taken into account?</li> <li>• Is the Operation Rio Grande EIS being taken into account?</li> <li>• The EIS must discuss future plans to build additional border walls to comply with the Secure Fence Act.</li> <li>• The ongoing failure of current USBP efforts calls into question the validity of the purpose and need.</li> </ul>
Other	<ul style="list-style-type: none"> <li>• How will farmers, ranchers, and property owners be compensated?</li> <li>• How will farmers gain access to their land? Will land be taken out of production? How will they get their farm equipment on the other side?</li> <li>• Residents have been told that USBP agents will be at the gates 24x7 to let residents in and out. Is this true? Will this service be later abandoned?</li> </ul>

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## 5. NEXT STEPS

USBP and their contractor (e<sup>2</sup>M) are working with resource agencies and stakeholders to prepare a Draft EIS for review. The Draft EIS will incorporate those issues discussed during the 20-day scoping comment period.

Following the publication of the NOA in the *Federal Register* for the Draft EIS, there will be a 45-day comment period and a public meeting. The public meeting will allow the general public to interface with resource agencies and other stakeholder groups. Comments pertaining to the Draft EIS during that time will be reviewed and incorporated into the Final EIS.

A final 30-day comment period will follow the *Federal Register* publication of the NOA for the Final EIS. Public comments during this time will be considered by USBP decisionmakers along with final comments by resource agencies. Following the public comment period, USBP decisionmakers will review all materials applicable to the Proposed Action and prepare a ROD. **Table 5-1** outlines the three phases of the EIS process that involve public participation.

**Table 5-1. Public Input Process for the  
Rio Grande Valley Tactical Infrastructure EIS**

Phase I ⇒	Phase II ⇒	Phase III ⇒	Final
Notice of Intent for an EIS	Notice of Availability of the Draft EIS	Notice of Availability of the Final EIS	<b>Record of Decision</b>
↓	↓	↓	
Public Scoping Comments	Public Meetings	Public Comments	
↓	↓	↓	
20-day Comment Period	45-day Public Comment Period	30-day Public Comment Period	

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**6. REFERENCES**

CBP 2007      CBP. 2007. "Rio Grande Valley Sector Homepage". Available online: <[http://www.cbp.gov/xp/cgov/border\\_security/border\\_patrol/border\\_patrol\\_sectors/rio\\_grande\\_valley\\_sector/](http://www.cbp.gov/xp/cgov/border_security/border_patrol/border_patrol_sectors/rio_grande_valley_sector/)>. Accessed 20 September 2007.

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**SCOPING REPORT  
APPENDIX A**

**NOTICE OF INTENT**



54276

Federal Register / Vol. 72, No. 184 / Monday, September 24, 2007 / Notices

**DEPARTMENT OF HOMELAND SECURITY****Bureau of Customs and Border Protection****Notice of Intent To Prepare an Environmental Impact Statement (EIS) and Request for Public Comments Concerning Proposed Construction and Operation of Tactical Infrastructure for the U.S. Customs and Border Protection, Office of Border Patrol Rio Grande Valley (Texas) Sector****AGENCY:** U.S. Customs and Border Protection, Department of Homeland Security.**ACTION:** Notice of Intent to Prepare an Environmental Impact Statement (EIS) and Request for Public Comments.

**SUMMARY:** Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.*, (NEPA), U.S. Customs and Border Protection (CBP) will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate tactical infrastructure along approximately 70 miles of the international border between the United States and Mexico within the Office of Border Patrol's (OBP's) Rio Grande Valley Sector, Texas (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in high priority sections of OBP's Rio Grande Valley Sector. CBP is the decision-making agency for the Proposed Action.

Notice is hereby given that the public scoping process has been initiated to prepare an EIS that will address the impacts and alternatives of the Proposed Action. The purpose of the scoping process is to solicit public comments regarding the range of issues, including potential impacts and alternatives that should be addressed in the EIS.

**FOR FURTHER INFORMATION CONTACT:** Visit <http://www.BorderFenceNEPA.com> or e-mail:

[information@BorderFenceNEPA.com](mailto:information@BorderFenceNEPA.com). Written requests for information may be submitted to: Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102; Phone: (817) 886-1585; and Fax: (817) 886-6404.

**Background:** An EIS is being prepared in support of a proposal by OBP's Rio Grande Valley Sector for controlling and deterring the influx of illegal

immigration and contraband into the United States. In order to secure our nation's borders, CBP is developing and deploying the most effective mix of proven technology, infrastructure, and increased personnel.

The Rio Grande Valley Sector includes the area along the international border between the United States and Mexico from Rio Grande City, Texas, to the Gulf of Mexico. In that area, CBP is proposing to install and operate tactical infrastructure consisting of pedestrian fences, supporting patrol roads, lights, and other infrastructure along approximately 70 miles of the U.S./Mexico international border (the Proposed Action). The Proposed Action includes the installation of tactical infrastructure in 21 segments along the international border in the vicinity of Rio Grande City, Texas; McAllen, Texas; Mercedes, Texas; Harlingen, Texas; Brownsville, Texas; and Fort Brown, Texas. Individual segments might range from approximately 1 mile to more than 13 miles. For much of its length, the proposed infrastructure will follow the International Boundary and Water Commission levee, but some portions will also encroach on multiple privately-owned land parcels. The infrastructure would cross multiple land use types, including rural, agricultural, suburban, and urban land. It may also encroach on portions of the Lower Rio Grande Valley National Wildlife Refuge and Texas state parks in the Rio Grande Valley.

Potential alternatives for the environmental impacts analysis will consider location, construction, and operation of tactical infrastructure. Alternatives must meet the need to gain effective control of our nation's borders, as well as essential technical, engineering, and economic threshold requirements to ensure that a proposed action is environmentally sound, economically viable, and meets all applicable laws and regulations.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (*Environmental Planning Program*).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the Proposed Action, which were broadly described in two previous programmatic EISs prepared by the former U.S.

Immigration and Naturalization Service (INS) (which now fall under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6).

The *Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border*, August 1994, and its supplementing document, *Supplemental Programmatic EIS for INS and JTF-6 Activities*, June 2001, were prepared to address the cumulative effects of past and reasonably foreseeable projects undertaken by JTF-6 for numerous law enforcement agencies within the four southwestern states (California, Arizona, New Mexico, and Texas). These documents can be obtained from the U.S. Army Corps of Engineers, Fort Worth District, Engineering Construction and Support Office Web site, at <https://ecso.swf.usace.army.mil>; by sending an e-mail request to [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); or by mailing a request to Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102.

**Public Participation:** Pursuant to the Council on Environmental Quality's regulations, CBP invites public participation in the NEPA process. This notice requests public participation in the scoping process, establishes a public comment period, and provides information on how to participate.

Public scoping is an open process for determining the scope of the EIS and identifying significant issues related to the Proposed Action. Anyone wishing to provide comments, suggestions, or relevant information on the Proposed Action may do so as follows:

You may submit comments to CBP by contacting SBInet, Tactical Infrastructure Program Office. To avoid duplication, please use only one of the following methods:

(a) *Electronically through the Web site* at: <http://www.BorderFenceNEPA.com>;

(b) *By e-mail to:*

[RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);

(c) *By mail to:* Rio Grande Valley PF-225 EIS, c/o e2M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or

(d) *By fax to:* (757) 282-7697.

Comments and related material must reach CBP by October 15, 2007. CBP will consider all comments and material received during the NOI comment period. If you submit a comment, please include your name and address, and identify your comments as related to the Rio Grande Valley Sector EIS.

Comments received after October 15, 2007 will receive responses following the publication of the draft EIS.

This scoping period is not the only opportunity you will have to comment. A draft EIS will be prepared, and prior to the development of a final EIS, CBP will release the draft EIS for public

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review. At that time, a Notice of Availability (NOA) will be published in the **Federal Register**, the *Brownsville Herald* (Brownsville, Texas), and *The Monitor* (McAllen, Texas). The NOA will announce the availability of the draft EIS, how to obtain a copy, and the dates, times, and places of any associated public informational meetings.

Dated: September 19, 2007.

**Eugene H. Schied,**

*Assistant Commissioner, Office of Finance.*

[FR Doc. E7-18829 Filed 9-21-07; 8:45 am]

BILLING CODE 9111-14-P

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**SCOPING REPORT  
APPENDIX B  
NEWSPAPER ADS**



**4** Lunes ■ Septiembre 24 ■ 2007**ElNuevoHeraldo**

**Aviso de Intento de Preparar una Declaración de Impacto en el Medio Ambiente (EIS)  
y Requisición de Comentarios Públicos Relacionados con la Construcción Propuesta  
y Operación de Infraestructura Táctica para la oficina del  
U.S. Customs and Border Protection,  
Oficina de la Patrulla Fronteriza en el Sector del Valle del Rio Grande (Texas)**

Según la Ley Nacional de Política Ambiental de 1969, 42 U.S.C. 4321 et seq., (NEPA, siglas en inglés), la oficina del U.S. Customs and Border Protection (CBP), preparará una Declaración de Impacto en el Medio Ambiente (EIS) para identificar y evaluar los impactos potenciales asociados con una propuesta para construir y operar infraestructura táctica a lo largo de aproximadamente 70 millas de la frontera internacional entre los Estados Unidos y México dentro del Sector de la Oficina de la Patrulla Fronteriza (OBP, siglas en inglés) en el Valle del Rio Grande, Texas, (la Acción Propuesta). El propósito de la Acción Propuesta es fortalecer la capacidad del CBP de obtener control efectivo de la frontera mediante denegar acceso a peatones y otro acceso en secciones de alta prioridad del OBP del Sector del Rio Grande.

El EIS cumplirá con la Ley Nacional de Política Ambiental de 1969 (NEPA, siglas en inglés), las regulaciones del Concilio de Calidad Ambiental en 30 CFR Partes 1500-1508, y La Directiva de Administración 5100.1 (Programa de Planeación Ambiental) del Departamento de Seguridad Nacional (DHS, siglas en inglés).

De acuerdo con 40 CFR 1508.28, el EIS analizará los impactos ambientales de la Acción Propuesta específicos al sitio, los cuales fueron ampliamente descritos en dos EIS programáticos preparados por el antiguo Departamento de Servicios de Inmigración y Naturalización (INS) (el cual ahora es parte del CBP), el Departamento de Defensa, y la Fuerza Operante Conjunta 6 (JTF-6, siglas en inglés). El documento Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, de Agosto de 1994, y su documento suplementario, Supplemental Programmatic EIS for INS and JTF-6 Activities, de Junio de 2001, fueron preparados para abordar los efectos cumulativos de proyectos del pasado y anticipables del futuro por la JTF-6 para numerosas agencias políticas dentro de los cuatro estados del suroeste (California, Arizona, New Mexico, y Texas). Estos documentos pueden ser obtenidos del sitio de Internet del U.S. Army Corps of Engineers, Distrito de Fort Worth, Oficina de Ingeniería de Construcción y Apoyo, en <https://ecso.swf.usace.army.mil>; mediante enviar una requisición por correo electrónico a [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); o enviando una requisición por correo a Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 34A14, Fort Worth, Texas 76102.

Según las regulaciones del Concilio de Calidad Ambiental, CBP invita al público en general a participar en el proceso NEPA. Este aviso requiere la participación del público en el proceso de análisis, establece un período para comentarios del público, y provee información de como participar. El análisis público es un proceso abierto para determinar el rango del EIS e identificar asuntos significantes relacionados con la Acción Propuesta. Cualquier persona que desee proveer comentarios, sugerencias, o información relevante a la Acción Propuesta puede hacerlo como sigue:

- a) Electrónicamente a través del sitio de Internet [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- b) Por correo electrónico a [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
- c) Por correo a: Rio Grande Valley Tactical Infrastructure EIS, c/o e2M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; ó
- d) Por fax al 757-282-7697.

Comentarios y materiales relacionados deberán llegar al CBP para el día 15 de Octubre del 2007. CBP considerará todos los comentarios y materiales recibidos durante el período de comentarios del NOI. Si usted remite un comentario, favor de incluir su nombre, dirección, e identificar sus comentarios para el Rio Grande Valley Sector EIS. Los comentarios recibidos después del 15 de Octubre, 2007 recibirán respuestas después de la publicación del bosquejo del EIS.

The Monitor, www.themonitor.com | MONDAY, SEPTEMBER 24, 2007

4B | VALLEY &amp; STATE

**Notice of Intent to Prepare an Environmental Impact Statement (EIS)  
and Request for Public Comments Concerning Proposed Construction  
and Operation of Tactical Infrastructure for the  
U.S. Customs and Border Protection,  
Office of Border Patrol Rio Grande Valley (Texas) Sector**

Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq., (NEPA), U.S. Customs and Border Protection (CBP), will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate tactical infrastructure along approximately 70 miles of the international border between the United States and Mexico within the Office of Border Patrol's (OBP's) Rio Grande Valley Sector, Texas (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in high priority sections of OBP's Rio Grande Valley Sector.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (Environmental Planning Program).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the Proposed Action, which were broadly described in two previous programmatic EISs prepared by the former U.S. Immigration and Naturalization Service (INS) (which now fall under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6). The Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, August 1994, and its supplementing document, Supplemental Programmatic EIS for INS and JTF-6 Activities, June 2001, were prepared to address the cumulative effects of past and reasonably foreseeable projects undertaken by JTF-6 for numerous law enforcement agencies within the four southwestern states (California, Arizona, New Mexico, and Texas). These documents can be obtained from the U.S. Army Corps of Engineers, Fort Worth District, Engineering Construction and Support Office website, at <https://ecso.swt.usace.army.mil>, by sending an email request to [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil), or by mailing a request to Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 818 Taylor St., Room 3A14, Fort Worth, Texas 76102.

Pursuant to the Council on Environmental Quality's regulations, CBP invites public participation in the NEPA process. This notice requests public participation in the scoping process, establishes a public comment period, and provides information on how to participate. Public scoping is an open process for determining the scope of the EIS and identifying significant issues related to the Proposed Action. Anyone wishing to provide comments, suggestions, or relevant information on the Proposed Action may do so as follows:

- (a) Electronically through the web site at [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- (b) By email to [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
- (c) By mail to: Rio Grande Valley Tactical Infrastructure EIS, c/o e<sup>2</sup>M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or.
- (d) By fax to 757-282-7697.

Comments and related material must reach CBP by October 15, 2007. CBP will consider all comments and material received during the NOI comment period. If you submit a comment, please include your name and address, and identify your comments as for the Rio Grande Valley Sector EIS. Comments received after October 15, 2007 will receive responses following the publication of the draft EIS.



Lunes 24 de Septiembre del 2007 • LaFRONTERA • EL VALLE • 5A

**Aviso de Intento de Preparar una Declaración de Impacto en el Medio Ambiente (EIS)  
y Requisición de Comentarios Públicos Relacionados con la Construcción Propuesta  
y Operación de Infraestructura Táctica para la oficina del  
U.S. Customs and Border Protection,  
Oficina de la Patrulla Fronteriza en el Sector del Valle del Río Grande (Texas)**

Según la Ley Nacional de Política Ambiental de 1969, 42 U.S.C. 4321 et seq., (NEPA, siglas en inglés), la oficina del U.S. Customs and Border Protection (CBP), preparará una Declaración de Impacto en el Medio Ambiente (EIS) para identificar y evaluar los impactos potenciales asociados con una propuesta para construir y operar infraestructura táctica a lo largo de aproximadamente 70 millas de la frontera internacional entre los Estados Unidos y México dentro del Sector de la Oficina de la Patrulla Fronteriza (CBP, siglas en inglés) en el Valle del Río Grande, Texas, (la Acción Propuesta). El propósito de la Acción Propuesta es fomentar la capacidad del CBP de obtener control efectivo de la frontera mediante denegar acceso a peatones y otro acceso en secciones de alta prioridad del OBP del Sector del Río Grande.

El EIS cumplirá con la Ley Nacional de Política Ambiental de 1969 (NEPA, siglas en inglés), las regulaciones del Concilio de Calidad Ambiental en 30 CFR Partes 1500-1508, y La Directiva de Administración 5100.1 (Programa de Planeación Ambiental) del Departamento de Seguridad Nacional (DHS, siglas en inglés).

De acuerdo con 40 CFR 1508.28, el EIS analizará los impactos ambientales de la Acción Propuesta específicos al sitio, los cuales fueron ampliamente descritos en dos EIS programáticos preparados por el antiguo Departamento de Servicios de Inmigración y Naturalización (INS) (el cual ahora es parte del CBP), el Departamento de Defensa, y la Fuerza Operante Conjunta 6 (JTF-6, siglas en inglés). El documento Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, de Agosto de 1994, y su documento suplementario, Supplemental Programmatic EIS for INS and JTF-6 Activities, de Junio de 2001, fueron preparados para abordar los efectos cumulativos de proyectos del pasado y anticipables del futuro por la JTF-6 para numerosas agencias policíacas dentro de los cuatro estados del suroeste (California, Arizona, New Mexico, y Texas). Estos documentos pueden ser obtenidos del sitio de Internet del U.S. Army Corps of Engineers, Distrito de Fort Worth, Oficina de Ingeniería de Construcción y Apoyo, en <https://ecso.swf.usace.army.mil>; mediante enviar una requisición por correo electrónico a [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); o enviando una requisición por correo a Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 34A14, Fort Worth, Texas 76102.

Según las regulaciones del Concilio de Calidad Ambiental, CBP invita al público en general a participar en el proceso NEPA. Este aviso requiere la participación del público en el proceso de análisis, establece un período para comentarios del público, y provee información de como participar. El análisis público es un proceso abierto para determinar el rango del EIS e identificar asuntos significantes relacionados con la Acción Propuesta. Cualquier persona que desee proveer comentarios, sugerencias, o información relevante a la Acción Propuesta puede hacerlo como sigue:

- a) Electrónicamente a través del sitio de Internet [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- b) Por correo electrónico a [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
- c) Por correo a: Río Grande Valley Tactical Infrastructure EIS, c/o e2M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; o
- d) Por fax al 757-282-7697.

Comentarios y materiales relacionados deberán llegar al CBP para el día 15 de Octubre del 2007. CBP considerará todos los comentarios y materiales recibidos durante el período de comentarios del NOI. Si usted remite un comentario, favor de incluir su nombre, dirección, e identificar sus comentarios para al Río Grande Valley Sector EIS. Los comentarios recibidos después del 15 de Octubre, 2007 recibirán respuestas después de la publicación del bosquejo del EIS.

MONDAY, SEPTEMBER 24, 2007 | THE BROWNSVILLE HERALD | PAGE A5

**Notice of Intent to Prepare an Environmental Impact Statement (EIS)  
and Request for Public Comments Concerning Proposed Construction  
and Operation of Tactical Infrastructure for the  
U.S. Customs and Border Protection,  
Office of Border Patrol Rio Grande Valley (Texas) Sector**

Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq., (NEPA), U.S. Customs and Border Protection (CBP), will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate tactical infrastructure along approximately 70 miles of the international border between the United States and Mexico within the Office of Border Patrol's (OBP's) Rio Grande Valley Sector, Texas (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in high priority sections of OBP's Rio Grande Valley Sector.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA); the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (Environmental Planning Program).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the Proposed Action, which were broadly described in two previous programmatic EISs prepared by the former U.S. Immigration and Naturalization Service (INS) (which now fall under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6). The Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, August 1994, and its supplementing document, Supplemental Programmatic EIS for INS and JTF-6 Activities, June 2001, were prepared to address the cumulative effects of past and reasonably foreseeable projects undertaken by JTF-6 for numerous law enforcement agencies within the four southwestern states (California, Arizona, New Mexico, and Texas). These documents can be obtained from the U.S. Army Corps of Engineers, Fort Worth District, Engineering Construction and Support Office website, at <https://ecso.swf.usace.army.mil>; by sending an email request to [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); or by mailing a request to Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102.

Pursuant to the Council on Environmental Quality's regulations, CBP invites public participation in the NEPA process. This notice requests public participation in the scoping process, establishes a public comment period, and provides information on how to participate. Public scoping is an open process for determining the scope of the EIS and identifying significant issues related to the Proposed Action. Anyone wishing to provide comments, suggestions, or relevant information on the Proposed Action may do so as follows:

- (a) Electronically through the web site at [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- (b) By email to [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
- (c) By mail to: Rio Grande Valley Tactical Infrastructure EIS, c/o e<sup>2</sup>M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or
- (d) By fax to 757-282-7697.

Comments and related material must reach CBP by October 15, 2007. CBP will consider all comments and material received during the NOI comment period. If you submit a comment, please include your name and address, and identify your comments as for the Rio Grande Valley Sector EIS. Comments received after October 15, 2007 will receive responses following the publication of the draft EIS.

**For the latest in news and sports, visit us  
online at [www.brownsvilleherald.com](http://www.brownsvilleherald.com)**

VALLEY MORNING STAR

Monday, September 24, 2007 ★ A5

**Notice of Intent to Prepare an Environmental Impact Statement (EIS)  
and Request for Public Comments Concerning Proposed Construction  
and Operation of Tactical Infrastructure for the  
U.S. Customs and Border Protection,  
Office of Border Patrol Rio Grande Valley (Texas) Sector**

Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq., (NEPA), U.S. Customs and Border Protection (CBP), will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate tactical infrastructure along approximately 70 miles of the international border between the United States and Mexico within the Office of Border Patrol's (OBP's) Rio Grande Valley Sector, Texas (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in high priority sections of OBP's Rio Grande Valley Sector.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (Environmental Planning Program).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the Proposed Action, which were broadly described in two previous programmatic EISs prepared by the former U.S. Immigration and Naturalization Service (INS) (which now fall under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6). The Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, August 1994, and its supplementing document, Supplemental Programmatic EIS for INS and JTF-6 Activities, June 2001, were prepared to address the cumulative effects of past and reasonably foreseeable projects undertaken by JTF-6 for numerous law enforcement agencies within the four southwestern states (California, Arizona, New Mexico, and Texas). These documents can be obtained from the U.S. Army Corps of Engineers, Fort Worth District, Engineering Construction and Support Office website, at <https://ecso.swf.usace.army.mil/>; by sending an email request to [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); or by mailing a request to Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102.

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- (a) Electronically through the web site at [www.BorderFenceNEPA.com](http://www.BorderFenceNEPA.com);
- (b) By email to [RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);
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- (d) By fax to 757-282-7697.

Comments and related material must reach CBP by October 15, 2007. CBP will consider all comments and material received during the NOI comment period. If you submit a comment, please include your name and address, and identify your comments as for the Rio Grande Valley Sector EIS. Comments received after October 15, 2007 will receive responses following the publication of the draft EIS.

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**SCOPING REPORT  
APPENDIX C**

**WEB SITE**



## **Border Fence NEPA**

PF 225

- [Home](#)
- [Del Rio Sector EA](#)
- [El Centro Sector EA](#)
- [Marfa Sector EA](#)
- [Rio Grande Valley Sector EIS](#)
- [San Diego Sector EIS](#)
- 

## **Rio Grande Valley Sector EIS**

### **Introduction**

An Environmental Impact Statement (EIS) is being prepared in support of a proposal by U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol (USBP) Rio Grande Valley Sector for controlling and deterring the influx of illegal immigration and contraband into the United States. In order to secure our nation's borders, USBP is developing and deploying the most effective mix of proven technology, infrastructure, and increased personnel.

The Rio Grande Valley Sector includes the area along the international border between the United States and Mexico from Rio Grande City to the Gulf of Mexico. USBP is proposing to construct, maintain, and operate tactical infrastructure consisting of fences, access roads, and patrol roads along approximately 70 miles of the U.S./Mexico international border (the Proposed Action). The Proposed Action includes the construction of tactical infrastructure in 21 segments along the international border in the vicinity of Rio Grande City, McAllen, Mercedes, Harlingen, Brownsville, and Fort Brown, Texas. Individual segments would range from approximately 1 mile to more than 13 miles. For much of its length, the proposed infrastructure will follow the International Boundary and Water Commission (IBWC) levee, but some portions will also encroach on multiple privately-owned land parcels. The IBWC applies boundary and water treaties of the United States and Mexico and settles differences that may arise in their application. Some portions of the tactical infrastructure would also encroach on multiple privately owned land parcels and would cross multiple land use types, including rural, agricultural, suburban, and urban land. It could also encroach on portions of the Lower Rio Grande Valley National Wildlife Refuge and Texas state parks in the Rio Grande Valley.

The EIS will evaluate potential environmental impacts from construction, maintenance, and operation of the proposed tactical infrastructure, consisting of:

- Tactical infrastructure includes installation of 21 primary fence (areas of the border that are not currently fenced) segments as listed in the table below and a single-lane unpaved patrol road.
- The proposed tactical infrastructure would impact an approximate 60 foot wide corridor along each fence segment. This corridor would include fences, access roads, patrol roads, and

construction staging areas. Vegetation would be cleared and grading may occur where needed. The area temporarily impacted would be approximately 508 acres. Wherever possible, existing roads would be used for construction access.

- If approved, the final design would be developed by a design/build contractor overseen by the U.S. Army Corps of Engineers (USACE). However, design criteria that have been established based on USBP operational needs require that, at a minimum, any fencing must meet the following requirements: □
  - 15 feet high and extend below ground
  - Capable of withstanding a crash of a 10,000-pound (gross weight) vehicle traveling at 40 miles per hour
  - Capable of withstanding vandalism, cutting, or various types of penetration
  - Semi-transparent, as dictated by operational need
  - Designed to survive extreme climate changes
  - Designed to reduce or minimize impacts on small animal movement
  - Not impede the natural flow of water
  - Aesthetically pleasing to the extent possible.

The USACE is working with public and private land owners to obtain easements or purchase the construction corridor. In many cases, secure gates would be constructed to allow land owners access to their property near the Rio Grande. The proposed gates would be constructed to allow USBP and landowners access to land, the Rio Grande, and water resources, including pump houses and related infrastructure. In other cases, gates would be situated to provide access to existing recreational amenities; water resources, including pump houses and related infrastructure; grazing areas; existing parks; and other areas. On a case by case basis, USACE might purchase the land between the fence and the Rio Grande.

If approved, construction of the new Tactical Infrastructure would begin in Spring 2008 and continue through December 31, 2008.

#### Proposed Fence Segments for Border Patrol Rio Grande Valley Sector

Map Number	Border Patrol Station	General Location	Length of Fence Segment (miles)
O-1	Rio Grande City	Near Roma Port of Entry	5.26
O-2	Rio Grande City	Near RGC Port of Entry	7.30
O-3	McAllen	Los Ebanos Port of Entry	1.86
O-4	McAllen	From Penitas to Abram	4.35
O-5	McAllen	Future Anzalduas Port of Entry	1.73
O-6	McAllen	Hidalgo Port of Entry	3.86
O-7	Weslaco	Proposed Donna Port of Entry	2.43
O-8	Weslaco	Retamal Dam	2.05
O-9	Weslaco	West Progresso Port of Entry	3.02
O-10	Weslaco	East Progresso Port of Entry	2.43
O-11	Harlingen	Joe's Bar-Nemo Road	2.33
O-12	Harlingen	Weaver's Mountain	0.96
O-13	Harlingen	W Los Indios Port of Entry	1.58
O-14	Harlingen	E Los Indios Port of Entry	3.07
O-15	Harlingen	Triangle - La Paloma	1.93
O-16	Harlingen	Ho Chi Minh - Estero	2.97



**SCOPING REPORT  
APPENDIX D**

**AGENCY MAILING LIST AND LETTERS**



**USBP Rio Grande Valley Sector Agency Coordination Mailing List**

---

Mr. Richard Greene  
Regional Administrator, Region 6  
U.S. Environmental Protection Agency  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202

COL David C. Weston  
U.S. Army Corps of Engineers  
Galveston District  
P.O. Box 1229  
Galveston, Texas 77553-1229

Dr. Benjamin Tuggle  
Regional Director  
U.S. Fish and Wildlife Service  
Southwest Regional  
P.O. Box 1306  
Albuquerque, New Mexico 87103-1306

Commissioner Carlos Marin  
International Boundary Water Commission  
U.S. Section  
4111 North Mesa, Suite C-100  
El Paso, Texas 79902-1441

Ms. Michelle Horrocks  
Texas Commission on Environmental Quality  
MC 150  
12100 Park 35 Circle  
Austin, Texas 78753

The Honorable Wallace Coffey, Chairman  
ATTN: Ms. Ruth Toahty  
Comanche Nation  
584 NM Bingo Road  
HC 32 Box 98  
Lawton, Oklahoma 73502

The Honorable Billy Evans Horse, Chairman  
Kiowa Tribe of Oklahoma  
Hwy 9 West  
Carnegie, Oklahoma 73015

Mr. F. Lawrence Oaks  
State Historic Preservation Officer  
Texas Historical Commission  
1511 Colorado Street  
Austin, Texas 78701

U.S. Department of Homeland Security  
Washington, DC 20229



U.S. Customs and  
Border Protection

Mr. Richard Greene  
Regional Administrator, Region 6  
U.S. Environmental Protection Agency  
1445 Ross Avenue, Suite 1200  
Dallas, TX 75202

OCT 18 2007

**Subject: Environmental Impact Statement (EIS) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande Valley Sector**

Dear Mr. Greene:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 70 miles in length within USBP Rio Grande Valley Sector, Texas. In preparing the EIS, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, install, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 21 distinct high priority segments along the U.S./Mexico international border. Individual segments would range from approximately 1 mile to more than 13 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EIS does not necessarily mean the 70 miles of tactical infrastructure will be installed within USBP Rio Grande Valley Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.


Page 2  
Mr. Richard Greene

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on September 24, 2007. A copy of the NOI is enclosed, which provides additional information about the proposed project, background information, and the framework for Federal environmental review requirements under NEPA.

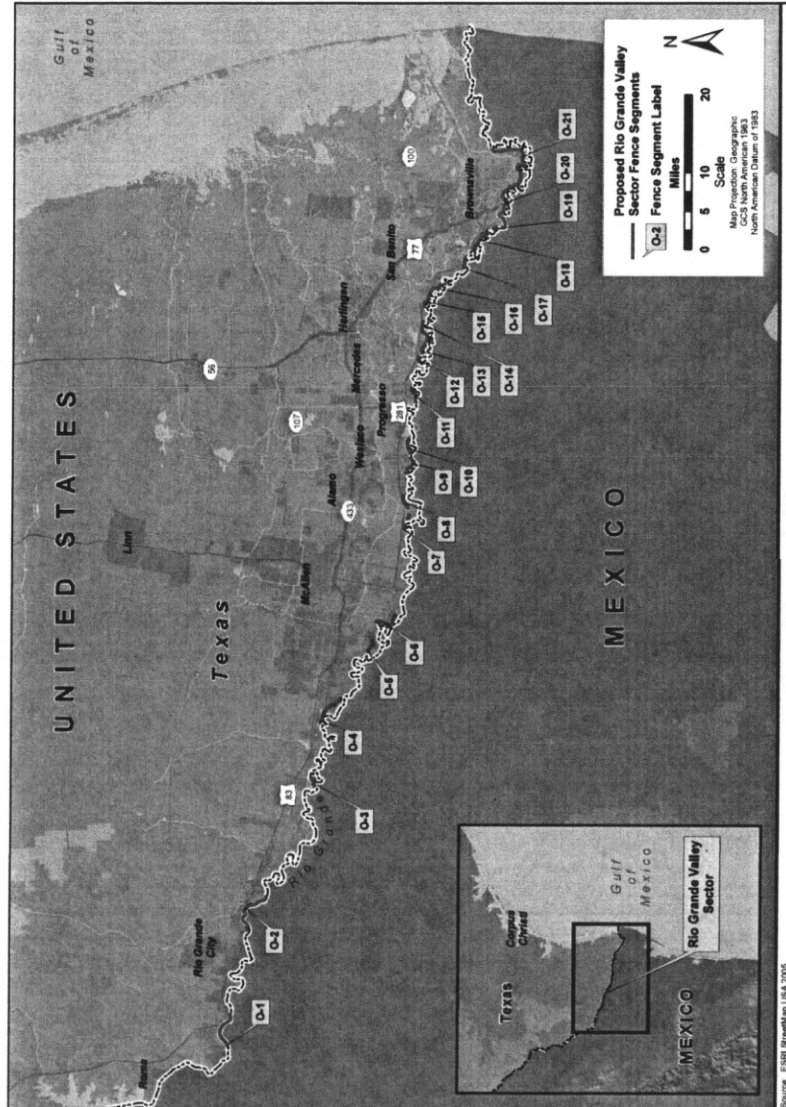
Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EIS as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Supervisory Border Patrol Agent René G. Zamora, USBP Rio Grande Valley Sector at (956) 289-5757.

Sincerely,

  
Robert F. Janson  
Acting Executive Director  
Asset Management

Enclosure



54276

Federal Register / Vol. 72, No. 184 / Monday, September 24, 2007 / Notices

**DEPARTMENT OF HOMELAND SECURITY****Bureau of Customs and Border Protection****Notice of Intent To Prepare an Environmental Impact Statement (EIS) and Request for Public Comments Concerning Proposed Construction and Operation of Tactical Infrastructure for the U.S. Customs and Border Protection, Office of Border Patrol Rio Grande Valley (Texas) Sector**

**AGENCY:** U.S. Customs and Border Protection, Department of Homeland Security.

**ACTION:** Notice of Intent to Prepare an Environmental Impact Statement (EIS) and Request for Public Comments.

**SUMMARY:** Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.*, (NEPA), U.S. Customs and Border Protection (CBP) will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate tactical infrastructure along approximately 70 miles of the international border between the United States and Mexico within the Office of Border Patrol's (OBP's) Rio Grande Valley Sector, Texas (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in high priority sections of OBP's Rio Grande Valley Sector. CBP is the decision-making agency for the Proposed Action.

Notice is hereby given that the public scoping process has been initiated to prepare an EIS that will address the impacts and alternatives of the Proposed Action. The purpose of the scoping process is to solicit public comments regarding the range of issues, including potential impacts and alternatives that should be addressed in the EIS.

**FOR FURTHER INFORMATION CONTACT:** Visit <http://www.BorderFenceNEPA.com> or e-mail:

[information@BorderFenceNEPA.com](mailto:information@BorderFenceNEPA.com). Written requests for information may be submitted to: Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102; Phone: (817) 886-1585; and Fax: (817) 886-6404.

**Background:** An EIS is being prepared in support of a proposal by OBP's Rio Grande Valley Sector for controlling and deterring the influx of illegal

immigration and contraband into the United States. In order to secure our nation's borders, CBP is developing and deploying the most effective mix of proven technology, infrastructure, and increased personnel.

The Rio Grande Valley Sector includes the area along the international border between the United States and Mexico from Rio Grande City, Texas, to the Gulf of Mexico. In that area, CBP is proposing to install and operate tactical infrastructure consisting of pedestrian fences, supporting patrol roads, lights, and other infrastructure along approximately 70 miles of the U.S./Mexico international border (the Proposed Action). The Proposed Action includes the installation of tactical infrastructure in 21 segments along the international border in the vicinity of Rio Grande City, Texas; McAllen, Texas; Mercedes, Texas; Harlingen, Texas; Brownsville, Texas; and Fort Brown, Texas. Individual segments might range from approximately 1 mile to more than 13 miles. For much of its length, the proposed infrastructure will follow the International Boundary and Water Commission levee, but some portions will also encroach on multiple privately-owned land parcels. The infrastructure would cross multiple land use types, including rural, agricultural, suburban, and urban land. It may also encroach on portions of the Lower Rio Grande Valley National Wildlife Refuge and Texas state parks in the Rio Grande Valley.

Potential alternatives for the environmental impacts analysis will consider location, construction, and operation of tactical infrastructure. Alternatives must meet the need to gain effective control of our nation's borders, as well as essential technical, engineering, and economic threshold requirements to ensure that a proposed action is environmentally sound, economically viable, and meets all applicable laws and regulations.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (*Environmental Planning Program*).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the Proposed Action, which were broadly described in two previous programmatic EISs prepared by the former U.S.

Immigration and Naturalization Service (INS) (which now fall under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6).

The Programmatic EIS for JTF-6 Activities Along the U.S./Mexico Border, August 1994, and its supplementing document, *Supplemental Programmatic EIS for INS and JTF-6 Activities*, June 2001, were prepared to address the cumulative effects of past and reasonably foreseeable projects undertaken by JTF-6 for numerous law enforcement agencies within the four southwestern states (California, Arizona, New Mexico, and Texas). These documents can be obtained from the U.S. Army Corps of Engineers, Fort Worth District, Engineering Construction and Support Office Web site, at <https://ecso.swf.usace.army.mil>; by sending an e-mail request to [charles.mcgregor@swf02.usace.army.mil](mailto:charles.mcgregor@swf02.usace.army.mil); or by mailing a request to Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102.

**Public Participation:** Pursuant to the Council on Environmental Quality's regulations, CBP invites public participation in the NEPA process. This notice requests public participation in the scoping process, establishes a public comment period, and provides information on how to participate.

Public scoping is an open process for determining the scope of the EIS and identifying significant issues related to the Proposed Action. Anyone wishing to provide comments, suggestions, or relevant information on the Proposed Action may do so as follows:

You may submit comments to CBP by contacting SBInet, Tactical Infrastructure Program Office. To avoid duplication, please use only one of the following methods:

(a) *Electronically through the Web site* at: <http://www.BorderFenceNEPA.com>;

(b) *By e-mail to:*

[RGVcomments@BorderFenceNEPA.com](mailto:RGVcomments@BorderFenceNEPA.com);

(c) *By mail to:* Rio Grande Valley PF-225 EIS, c/o e2M, 2751 Prosperity Avenue, Suite 200, Fairfax, Virginia 22031; or

(d) *By fax to:* (757) 282-7697.

Comments and related material must reach CBP by October 15, 2007. CBP will consider all comments and material received during the NOI comment period. If you submit a comment, please include your name and address, and identify your comments as related to the Rio Grande Valley Sector EIS. Comments received after October 15, 2007 will receive responses following the publication of the draft EIS.

This scoping period is not the only opportunity you will have to comment. A draft EIS will be prepared, and prior to the development of a final EIS, CBP will release the draft EIS for public

review. At that time, a Notice of Availability (NOA) will be published in the *Federal Register*, the *Brownsville Herald* (Brownsville, Texas), and *The Monitor* (McAllen, Texas). The NOA will announce the availability of the draft EIS, how to obtain a copy, and the dates, times, and places of any associated public informational meetings.

Dated: September 19, 2007.

Eugene H. Schied,  
Assistant Commissioner, Office of Finance.  
[FR Doc. E7-18829 Filed 9-21-07; 8:45 am]  
BILLING CODE 9111-14-P

## DEPARTMENT OF HOMELAND SECURITY

### Bureau of Customs and Border Protection

#### Notice of Intent To Prepare an Environmental Impact Statement (EIS) and Request for Public Comments Concerning Proposed Construction and Operation of Tactical Infrastructure for the U.S. Customs and Border Protection, Office of Border Patrol San Diego Sector

**AGENCY:** U.S. Customs and Border Protection, Department of Homeland Security.

**ACTION:** Notice of Intent to Prepare an Environmental Impact Statement and Request for Public Comments.

**SUMMARY:** Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.* (NEPA), U.S. Customs and Border Protection (CBP) will prepare an Environmental Impact Statement (EIS) to identify and assess the potential impacts associated with a proposal to construct and operate approximately four miles of tactical infrastructure and supporting patrol roads along the U.S./Mexico international border south of and adjacent to Otay Mountain Wilderness area in San Diego County, California (the Proposed Action). The purpose of the Proposed Action is to further CBP's ability to gain effective control of the border by denying pedestrian and other access in this high priority section of the Office of Border Patrol's (OBP's) San Diego Sector. CBP is the decision-making agency for this Proposed Action.

Notice is hereby given that the public scoping process has been initiated to prepare an EIS that will address the impacts and alternatives of the Proposed Action. The purpose of the scoping process is to solicit public comment regarding the range of issues, including

potential impacts and alternatives that should be addressed in the EIS.

**FOR FURTHER INFORMATION CONTACT:** Visit <http://www.BorderFenceNEPA.com> or e-mail: [information@BorderFenceNEPA.com](mailto:information@BorderFenceNEPA.com). Written requests for information may be submitted to: Charles McGregor, U.S. Army Corps of Engineers, Engineering Construction and Support Office, 819 Taylor St., Room 3A14, Fort Worth, Texas 76102; Phone: (817) 886-1585; and Fax: (817) 886-6404.

**Background:** An EIS is being prepared in support of a proposal by OBP's San Diego Sector for controlling and deterring the influx of illegal immigration and contraband into the United States. To assist Border Patrol officers, OBP is proposing to install and operate tactical infrastructure consisting of pedestrian fence, vehicle barriers, supporting patrol roads, lights, and other infrastructure along approximately four miles of the U.S./Mexico international border within OBP's San Diego Sector.

In order to secure the nation's borders, CBP is developing and deploying the most effective mix of proven technology, infrastructure, and increased personnel. In some locations, fencing is a critical element of border security. OBP has identified this area of the border as a location where fence would significantly contribute to CBP's priority mission homeland security. As a part of this Proposed Action, two segments of fence are proposed for construction.

One segment is approximately 3.4 miles long and would start at the Puebla Tree and end at boundary monument 250. The proposed segment would be adjacent to and south of the Otay Mountain Wilderness; would follow the Pack Truck Trail; and would not connect to any existing fence. The Otay Mountain Wilderness is on public lands administered by the Bureau of Land Management (BLM), U.S. Department of the Interior in San Diego County, California. The wilderness boundary is at least 100 feet from the U.S./Mexico border, and the proposed fence would occur in this corridor between the U.S./Mexico border and the wilderness boundary. However, due to steep topography, a portion of road or other tactical infrastructure might encroach into the wilderness area.

The second segment would be approximately 0.6 miles long and would connect with existing border fence west of Tecate. This fence segment is an extension of existing fence up Tecate Peak and would pass through a riparian area. This proposed fence segment would be on privately owned land.

Potential alternatives for environmental impacts analysis will consider location, construction, and operation of tactical infrastructure. Potential alternatives must meet the need to gain effective control of our nation's borders, as well as essential technical, engineering, and economic threshold requirements to ensure that the Proposed Action is environmentally sound, economically viable, and meets all applicable laws and regulations.

The EIS will comply with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations in 40 CFR Parts 1500-1508, and Department of Homeland Security (DHS) Management Directive 5100.1 (*Environmental Planning Program*).

Consistent with 40 CFR 1508.28, the EIS will analyze the site-specific environmental impacts of the proposed action which were broadly described in two previous programmatic EISs prepared by the former U.S.

Immigration and Naturalization Service (which now falls under the responsibility of CBP), Department of Defense, and Joint Task Force 6 (JTF-6).

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**Public Participation:** Pursuant to the Council on Environmental Quality's regulations, CBP invites public participation in the NEPA process. This notice requests public participation in the scoping process, establishes a public comment period, and provides information on how to participate.

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U.S. Department of Homeland Security  
Washington, DC 20229



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

COL David C. Weston  
U.S. Army Corps of Engineers  
Galveston District  
P.O. Box 1229  
Galveston, TX 77553-1229

OCT 18 2007

**Subject: Environmental Impact Statement (EIS) for Proposed Construction, Maintenance,  
and Operation of Tactical Infrastructure, U.S. Department of Homeland  
Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande  
Valley Sector**

Dear COL Weston:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 70 miles in length within USBP Rio Grande Valley Sector, Texas. In preparing the EIS, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, install, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 21 distinct high priority segments along the U.S./Mexico international border. Individual segments would range from approximately 1 mile to more than 13 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EIS does not necessarily mean the 70 miles of tactical infrastructure will be installed within USBP Rio Grande Valley Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Page 2


COL David C. Weston

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on September 24, 2007. A copy of the NOI is enclosed, which provides additional information about the proposed project, background information, and the framework for Federal environmental review requirements under NEPA.

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EIS as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Supervisory Border Patrol Agent René G. Zamora, USBP Rio Grande Valley Sector at (956) 289-5757.

Sincerely,

  
Robert F. Janson  
Acting Executive Director  
Asset Management

Enclosure

U.S. Department of Homeland Security  
Washington, DC 20229



U.S. Customs and  
Border Protection

Dr. Benjamin Tuggle  
Regional Director  
U.S. Fish and Wildlife Service  
Southwest Region  
P.O. Box 1306  
Albuquerque, NM 87103-1306

OCT 18 2007

**Subject: Environmental Impact Statement (EIS) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande Valley Sector**

Dear Dr. Tuggle:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 70 miles in length within USBP Rio Grande Valley Sector, Texas. In preparing the EIS, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, install, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 21 distinct high priority segments along the U.S./Mexico international border. Individual segments would range from approximately 1 mile to more than 13 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EIS does not necessarily mean the 70 miles of tactical infrastructure will be installed within USBP Rio Grande Valley Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Page 2

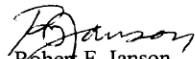
Dr. Benjamin Tuggle

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on September 24, 2007. A copy of the NOI is enclosed, which provides additional information about the proposed project, background information, and the framework for Federal environmental review requirements under NEPA.

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EIS as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Supervisory Border Patrol Agent René G. Zamora, USBP Rio Grande Valley Sector at (956) 289-5757.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management

Enclosure

Cc: Mike Horton

U.S. Department of Homeland Security  
Washington, DC 20229



U.S. Customs and  
Border Protection

OCT 18 2007

Commissioner Carlos Marin  
International Boundary Water Commission  
U.S. Section  
4111 North Mesa, Suite C-100  
El Paso, TX 79902-1441

**Subject: Environmental Impact Statement (EIS) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande Valley Sector**

Dear Commissioner Marin:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 70 miles in length within USBP Rio Grande Valley Sector, Texas. In preparing the EIS, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, install, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 21 distinct high priority segments along the U.S./Mexico international border. Individual segments would range from approximately 1 mile to more than 13 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EIS does not necessarily mean the 70 miles of tactical infrastructure will be installed within USBP Rio Grande Valley Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Page 2


Commissioner Carlos Marin

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on September 24, 2007. A copy of the NOI is enclosed, which provides additional information about the proposed project, background information, and the framework for Federal environmental review requirements under NEPA.

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EIS as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Supervisory Border Patrol Agent René G. Zamora, USBP Rio Grande Valley Sector at (956) 289-5757.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure

U.S. Department of Homeland Security  
Washington, DC 20229



U.S. Customs and  
Border Protection

Ms. Michelle Horrocks  
Texas Commission on Environmental Quality  
MC 150  
12100 Park 35 Circle  
Austin, Texas 78753

**Subject: Environmental Impact Statement (EIS) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande Valley Sector**

Dear Ms. Horrocks:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 70 miles in length within USBP Rio Grande Valley Sector, Texas. In preparing the EIS, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, install, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 21 distinct high priority fence segments along the U.S./Mexico international border. Individual fence segments would range from approximately 1 mile to more than 13 miles in length. A map presenting the proposed project sites is enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EIS does not necessarily mean the 70 miles of tactical infrastructure will be installed within USBP Rio Grande Valley Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Ms. Michelle Horrocks

Page 2

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Your agency has been identified as a State authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EIS as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering and Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Supervisory Border Patrol Agent René G. Zamora, USBP Rio Grande Valley Sector at (956) 289-5757.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management

Enclosures





DEPARTMENT OF THE ARMY  
FORT WORTH DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 17300  
FORT WORTH, TEXAS 76102-0300

REPLY TO  
ATTENTION OF:

September 27, 2007

Planning, Environment and Regulatory Division

Subject: Environmental Impact Statement Concerning Proposed Construction and Operation of  
Tactical Infrastructure for the U.S. Customs and Border Protection, U.S. Border Patrol  
Rio Grande Valley Sector, Cameron and Hidalgo Counties, Texas

Honorable Wallace Coffey, Chairman  
ATTN: Ms. Ruth Toahty  
Comanche Nation  
584 NW Bingo Rd  
HC 32 Box 908  
Lawton, Oklahoma 73502

Dear Chairman Coffey:

The U.S. Army Corps of Engineers, Fort Worth District (USACE), on behalf of the Department of Homeland Security, U.S. Customs and Border Protection (CBP), Office of Border Patrol (OBP) is preparing an Environmental Impact Statement (EIS) for a road and fence project in Cameron and Hidalgo Counties, in the vicinity of McAllen and Brownsville, Texas (Figure 1). At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

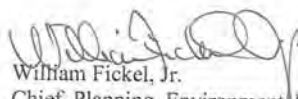
The Proposed Action includes the construction and operation of tactical infrastructure to include primary pedestrian fence, and access and patrol roads along approximately 70 miles of the U.S./Mexico international border within the U.S. Border Patrol (USBP) Rio Grande Valley Sector, Texas. The Proposed Action would be implemented in 21 distinct high priority segments. Individual segments would range from approximately 1 mile to more than 13 miles in length.

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey will be conducted on the project corridor and we will provide you a copy of the report for review and comment. We will also

-2-

provide a copy of the draft EIS for review and comment. If you have any questions pertaining to this project, please do not hesitate to contact Jeff Hokanson at (817) 886-1720.

Sincerely,



William Fickel, Jr.  
Chief, Planning, Environmental  
and Regulatory Division

Enclosure



DEPARTMENT OF THE ARMY  
FORT WORTH DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 17300  
FORT WORTH, TEXAS 76102-0300

REPLY TO  
ATTENTION OF:

September 27, 2007

Planning, Environment and Regulatory Division

Subject: Environmental Impact Statement Concerning Proposed Construction and Operation of  
Tactical Infrastructure for the U.S. Customs and Border Protection, U.S. Border Patrol  
Rio Grande Valley Sector, Cameron and Hidalgo Counties, Texas

Honorable Billy Evans Horse, Chairman  
Kiowa Tribe of Oklahoma  
Hwy 9 West  
Carnegie, OK 73015

Dear Chairman Evans Horse:

The U.S. Army Corps of Engineers, Fort Worth District (USACE), on behalf of the Department of Homeland Security, U.S. Customs and Border Protection (CBP), Office of Border Patrol (OBP) is preparing an Environmental Impact Statement (EIS) for a road and fence project in Cameron and Hidalgo Counties, in the vicinity of McAllen and Brownsville, Texas (Figure 1). At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

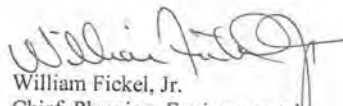
The Proposed Action includes the construction and operation of tactical infrastructure to include primary pedestrian fence, and access and patrol roads along approximately 70 miles of the U.S./Mexico international border within the U.S. Border Patrol (USBP) Rio Grande Valley Sector, Texas. The Proposed Action would be implemented in 21 distinct high priority segments. Individual segments would range from approximately 1 mile to more than 13 miles in length.

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey will be conducted on the project corridor and we will provide you a copy of the report for review and comment. We will also

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Sincerely,

  
William Fickel, Jr.  
Chief, Planning, Environmental  
and Regulatory Division

Enclosures



DEPARTMENT OF THE ARMY  
FORT WORTH DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 17300  
FORT WORTH, TEXAS 76102-0300

REPLY TO  
ATTENTION OF:

September 27, 2007

Planning, Environment and Regulatory Division

Subject: Environmental Impact Statement Concerning Proposed Construction and Operation of  
Tactical Infrastructure for the U.S. Customs and Border Protection, U.S. Border Patrol  
Rio Grande Valley Sector, Cameron and Hidalgo Counties, Texas

Mr. F. Lawrence Oaks  
State Historic Preservation Officer  
Texas Historical Commission  
1511 Colorado Street  
Austin, TX 78701

Dear Mr. Oaks:

The U.S. Army Corps of Engineers, Fort Worth District (USACE), on behalf of the Department of Homeland Security, U.S. Customs and Border Protection (CBP), Office of Border Patrol (OBP) is preparing an Environmental Impact Statement (EIS) for a road and fence project in Cameron and Hidalgo Counties, in the vicinity of McAllen, Texas (Figure 1). USACE on behalf of CBP wishes to initiate consultation with your office, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

The Proposed Action includes the construction and operation of tactical infrastructure to include primary pedestrian fence with access and patrol roads along approximately 70 miles of the U.S. - Mexico international border within the U.S. Border Patrol Rio Grande Valley Sector, Texas. The Proposed Action would be implemented in 21 distinct high priority segments. Individual segments would range from approximately 1 mile to more than 13 miles in length.

A cultural resources survey will be conducted on the project corridors and we will provide you a copy of the report for review and comment. We will also provide a copy of the draft EIS for review and comment.

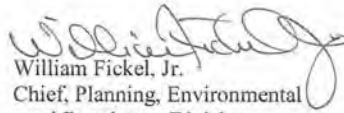
Prior to beginning this fast and important project, we would like to develop a Programmatic Agreement (PA) with your office. The main purpose of the PA will be to expedite the National Environmental Policy Act (NEPA) process and regulate the Section 106 process. The PA will define roles, outline the steps that will be followed to meet the objectives of Section

-2-

106, and provide possible dispute resolutions remedies. Once a draft version of the PA is complete we will forward it to your office for review.

If you have any questions pertaining to this project, please do not hesitate to contact Mr. Jeff Hokanson at (817) 886-1720.

Sincerely,

  
William Fickel, Jr.  
Chief, Planning, Environmental  
and Regulatory Division

Enclosures



INTERNATIONAL BOUNDARY AND WATER COMMISSION  
 UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER  
 UNITED STATES SECTION

November 5, 2007

Mr. Charles McGregor  
 United States Army Corps of Engineers  
 Fort Worth District  
 Engineering Construction Support Office  
 P.O. Box 17300  
 Fort Worth, TX 76102-0300

Dear Mr. McGregor:

Reference is made to various letters dated October 18, 2007, from Mr. Robert F. Janson, U.S. Customs and Border Protection, requesting us to become a cooperating agency with regard to the development of National Environmental Policy Act (NEPA) environmental documentation for the proposed construction, maintenance, and operation of tactical infrastructure throughout the international boundary. According to the letters, the following projects are being considered:

- 1) Environmental Impact Statement for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol San Diego Sector;
- 2) Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol San Diego Sector;
- 3) Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol El Centro Sector;
- 4) Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Yuma Sector;
- 5) Supplemental Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol El Paso Sector;
- 6) Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Marfa Sector;

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902  
 (915) 832-4100 • (FAX) (915) 832-4190 • <http://www.ibwc.state.gov>

- 7) Environmental Assessment for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Del Rio Sector; and
- 8) Environmental Impact Statement for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Rio Grande Valley Sector.

The United States Section, International Boundary and Water Commission (USIBWC) accepts your request to become a cooperating agency in the NEPA process. We look forward to working with you on issues related to the international boundary, specifically international treaties and agreements, issues related to USIBWC jurisdiction, and USIBWC real property. Due to the overwhelming list of Border Patrol initiatives along the international boundary, I have designated Mr. Richard Peace, Division Engineer, Operations and Maintenance Division, as the agency single point of contact for matters related to these projects. Mr. Peace can be reached at (915) 832-4158 for overall project coordination. If you have any questions feel free to contact me at (915) 832-4101.

Sincerely,



Carlos Marin, P.E.  
Commissioner





## **APPENDIX C**

### Public Comments on the Draft EIS





## APPENDIX C

### DRAFT EIS RECIPIENTS

---

#### **Federal Agency Contacts**

Ms. Andree DuVarney  
National Environmental Coordinator  
U.S. Department of Agriculture  
14th and Independence Avenue, SW  
P.O. Box 2890  
Washington, DC 20013

Mr. Michael Horton  
National Section 7 Coordinator  
U.S. Fish and Wildlife Service  
4401 North Fairfax Drive  
Suite 420  
Arlington, VA 22203

Commissioner Carlos Marin  
International Boundary and Water  
Commission  
4111 North Mesa, Suite C-100  
El Paso, TX 79902-1441

Dr. Benjamin Tuggle  
Regional Director  
U.S. Fish and Wildlife Service  
P.O. Box 1306  
Albuquerque, NM 87103-1306

#### **State Agency Contacts**

Mr. Robert L. Cook  
Executive Director  
Texas Parks and Wildlife  
4200 Smith School Road  
Austin, TX 78744

Ms. Michelle Horrocks  
Texas Commission on  
Environmental Quality  
MC 150  
12100 Park 35 Circle  
Austin, TX 78753

#### **Tribal Contacts**

The Honorable Wallace Coffey  
Chairman  
Comanche Nation  
584 NW Bingo Rd  
HC 32 Box 908  
Lawton, OK 73502

The Honorable Billy Evans Horse  
Chairman  
Kiowa Tribe of Oklahoma  
Hwy 9 West  
Carnegie, OK 73015

Mr. F. Lawrence Oaks  
State Historic Preservation Officer  
Texas Historical Commission  
1511 Colorado Street  
Austin, TX 78701

#### **Stakeholder Groups**

Mr. Wayne Bartholomew  
Frontera Audubon Society  
PO Box 8124  
Weslaco, TX 78599

Ms. Josefina M. Castillo  
American Friends Service  
Committee  
1304 East 6th Street #3  
Austin, TX 78702

Ms. Karen Chapman  
Water and Wildlife Analyst  
Environmental Defense  
44 East Avenue  
Austin, TX 78701

Mr. John E. Chosy  
Assistant City Attorney  
City of Brownsville  
1034 E. Levee Street  
Brownsville, TX 78520

Ms. Christina Cobourn Herman  
Associate Director  
Missionary Oblates of Mary  
Immaculate  
391 Michigan Avenue, NE  
Washington, DC 20017

Mr. Robert Cook  
World Birding Center  
Board of Directors  
PO Box 220  
McAllen, TX 78501

Ms. April Cotte  
Institute for Global Communications  
17 Shelter Cove  
Pacifica, CA 94044

Ms. Ellen Draeger  
Program Assistant  
Latin America Working Group  
424 C Street NE  
Washington, DC 20002

Mr. Pete Dunne  
Vice President  
New Jersey Audubon Society's Cape  
May Bird Observatory  
701 East Lake Drive  
PO Box 3  
Cape May Point, NJ 08212

Mr. Chad Foster  
Chairman of the Texas Border  
Coalition and Mayor of the City of  
Eagle Pass  
100 South Monroe  
Eagle Pass, TX 78852

Mr. Martin Hagne  
Valley Nature Center  
301 South Border Avenue  
PO Box 8125  
Weslaco, TX 78599

Ms. Stephanie Herweck  
No Border Wall  
PO Box 8124  
Weslaco, TX 78599

C.A. Jones  
Gulf Coast Bird Observatory  
103 Highway 332 W  
Lake Jackson, TX 77566

Mr. Ken Kramer  
Director  
Sierra Club  
PO Box 1931  
Austin, TX 78767

Mr. Noah Matson  
Defenders of Wildlife  
1130 17th Street, N.W.  
Washington, DC 2006-4604

Ms. Nancy S. Millar  
Vice President and Director  
McAllen Convention and Visitors'  
Bureau  
PO Box 790  
120 Ash Avenue  
McAllen, TX 78505-0790

Mr. Peter Sakai  
The University of Texas at  
Brownsville and Texas Southmost  
College  
80 Fort Brown St.  
Brownsville, TX 78520

Carter Smith  
Texas State Director  
The Nature Conservancy  
711 Navarro  
Suite 410  
San Antonio, TX 78205

### **Libraries**

Mr. Rusty Dove  
Director  
Speer Memorial Library  
801 E. 12th St.  
Mission, TX 78572

Mr. Michael Fisher  
 Director  
 Weslaco Public Library  
 525 S. Kansas Ave.  
 Weslaco, TX 78596-6215

Ms. Norma Fultz  
 Director  
 Rio Grande City Public Library  
 591 E. Canales St.  
 Rio Grande City, TX 78582

Mr. Jose Gamez  
 Director  
 McAllen Memorial Library  
 601 N. Main  
 McAllen, TX 78501

Ms. Cynthia Hart  
 Director  
 San Benito Public Library  
 101 W. Rose St.  
 San Benito, TX 78586

Ms. Luanne James  
 Acting Head Librarian/Director of  
 Library Services  
 Brownsville Public Library System  
 2600 Central Blvd.  
 Brownsville, TX 78520

Mr. Ruben Rendon  
 Director  
 Harlingen Public Library  
 410 '76 Dr.  
 Harlingen, TX 78550

Ms. Maria Elena Reyna  
 Director  
 Mercedes Memorial Library  
 434 S. Ohio  
 Mercedes, TX 78570

### **Private Citizens**

Mr. Kevin Doyle  
 4 Espira Road  
 Santa Fe, NM 87508

Mr. Johnny French  
 4417 Carlton Street  
 Corpus Christi, TX 78415-5211

Mr. William Hudson  
 Suite B-20, Paseo Plaza Center  
 1805 East Ruben Torres Blvd.  
 Brownsville, TX 78526

***Comments on the Draft EIS will be included in this Appendix once received.***



## **APPENDIX D**

Detailed Descriptions of Each Discrete  
Fence Section Under Routes A and B







**Table D-1. Detailed Description of the 21 Fence Sections for Proposed Tactical Infrastructure**

<b>Fence Section Number</b>	<b>Border Patrol Station</b>	<b>Description of Route A</b>	<b>Length of Fence Section for Route A (in miles)</b>	<b>Difference Between Routes A and B</b>	<b>Length of Fence Section for Route B (in miles)</b>	<b>Access Gates</b>
O-1	Rio Grande City	This fence section covers approximately 3.73 miles upriver and 1.55 miles downriver from the Roma, Texas Port-of-Entry (POE). Approximately 1.01 miles would follow the Rio Grande border to the Arroyo Mesa annex of the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR). Approximately 0.33 miles would follow the Rio Grande border to the Los Negros Creek annex to the LRGVNWR.	5.26	Route B would avoid approximately 1.01 miles of the Arroyo Mesa annex of the LRGVNWR. Route B would impact less riparian areas, less floodplain. Route B could potentially impact more residential areas.	3.75	Three gates would be installed for access to water pumping facilities.
O-2	Rio Grande City	This section covers approximately 3.41 miles upriver and 3.89 miles downriver from the Rio Grande City, Texas POE. Approximately 0.16 miles would encroach upon the Rio San Juan annex to the LRGVNWR. Approximately 0.26 miles would encroach upon the Los Velas West annex to the LRGVNWR.	7.30	Approximately 1.40 miles would be added to the downstream end of Section O-2. Approximately 0.73 miles of this extra distance would cross the Los Velas West and Los Velas Annexes of the LRGVNWR.	8.74	Five gates would be installed for access to water pumping facilities.
O-3	McAllen	This fence section starts from the area known as "Avocado Landing" to about 1 mile upriver from the Los Ebanos POE. Approximately 0.70 miles would follow the Rio Grande boundary of the Los Ebanos annex to the LRGVNWR. Approximately 0.09 miles would follow the boundary of the Los Ebanos annex to the LRGVNWR near the Los Ebanos POE. Approximately 0.03 miles would also cross through this same section of the LRGVNWR.	1.86	Route B represents an adjustment from the originally proposed project corridor to avoid natural areas along the Rio Grande, where practical.	1.90	Two gates would be installed to provide access to private property owners, farmers, and routine patrol activities.

<b>Fence Section Number</b>	<b>Border Patrol Station</b>	<b>Description of Route A</b>	<b>Length of Fence Section for Route A (in miles)</b>	<b>Difference Between Routes A and B</b>	<b>Length of Fence Section for Route B (in miles)</b>	<b>Access Gates</b>
O-4	McAllen	From the Abram Road extension to the end of the levee at Military Highway in Peñitas. Approximately 0.15 miles would encroach upon Texas Parks and Wildlife area. Approximately 0.08 miles would encroach upon the Peñitas annex to the LRGV NWR. Approximately 0.30 miles would follow the northern border of the Nature Conservancy preserve known as Chihuahu Woods.	4.35	There are no notable differences between Routes A and B.	4.35	Five gates would be installed to provide access for various land owners and water pumping facilities.
O-5	McAllen	This section would run from the intersection of the northern floodway levee with the Anzalduas Park access road and follow the floodway levee row for 1.73 miles around the south side of Granjeno. Section O-5 ends at a point on the floodway levee row just south of South Shary Road. This section would border on the Granjeno annex to the LRGV NWR for approximately 0.11 miles in the construction area of the Anzalduas POE.	1.73	Route B represents a slight realignment where the proposed route would cross the irrigation canal in the middle of the route.	1.76	One gate would be installed at the canal access road.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-6	McAllen	<p>This section would begin at a point where the U.S. International Boundary and Water Commission (IBWC) levee right-of-way (ROW) intersects Guerra Road in Hidalgo, Texas. The section would head south and tie into existing fencing at the upriver side of the Hidalgo/Reynosa POE. Approximately 1.65 miles of would follow the eastern border of the Pate Bend annex to the LRGV NWR, where USFWS requests fencing sufficient to block domestic animals from entering the refuge. Downriver from the Hidalgo/Reynosa POE, this section would continue from the existing POE fencing and follow the levee system around the Old Hidalgo Pump House and World Bird Center gardens. The section would run approximately 0.95 miles along the northern border to the Hidalgo Bend annex of the LRGV NWR. This section would end at a point where the levee intersects 15<sup>th</sup> Street.</p>	3.86	Route B represents minor adjustments to the exact placement near the Old Hidalgo Pump House.	3.85	Five gates would be installed to provide access to private land owners, existing recreation opportunities, patrol operations, and water pumping facilities.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-7	Weslaco	Proposed Donna POE. Section O-7 would begin at a point on the IBWC levee row on the eastern border of the Monterrey Banco annex to the LRGVNRW and follow the northern border of the refuge annex to the east for approximately 0.90 miles, then cross over the Donna Canal. The fence section would then turn south along the Donna Canal to the Donna pump station and the area of the planned Donna POE. From the proposed POE, the section would continue east along the IBWC levee row and end at a point on the levee approximately 0.50 miles from the Donna pump station.	2.43	Route B represents a shortening of the originally proposed section in anticipation of the proposed Donna POE. This area would tie into the fence that would be installed at the proposed Donna POE. Route B would also avoid small portions of the Monterrey Banco LRGVNRW.	0.90	Five gates would be installed to provide access to private land owners, farming operations, and routine patrol operations.
O-8	Weslaco	Retamal Dam area. This section would begin on the IBWC levee row at a point southeast of the intersection of Donna Road with Highway 281. The fence section would follow the IBWC levee row to the northeast for 2.05 miles, ending at a point where the levee exits the eastern border of the northern panhandle of the La Coma annex to the LRGVNRW. Approximately 0.03 miles of this section would follow the southern boundary of Texas Parks and Wildlife property, and approximately 0.17 miles would traverse the La Coma annex to the LRGVNRW.	2.05	Route B represents an extension of the originally proposed section so that it meets the downriver end of the fencing to be placed for the proposed Donna POE.	3.25	Four gates would be installed to provide access to private land owners, patrol operations, and water pumping facilities.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-9	Weslaco	West Progreso POE. This section would begin at a point on the IBWC levee row southeast of the intersection of Highway 281 with Mile 5 Road West. The section would follow the IBWC row for 3.02 miles and terminate on the west side of the Progreso POE. This section would cross between the Progreso District settling basins and Moon Lake in the Progreso Lakes area.	3.02	Route B represents an extension of the originally proposed section to the west, following the IBWC levee ROW in an agricultural area.	3.87	Five gates would be installed to provide access for routine patrol operations, private land owners, agricultural, and municipal operations.
O-10	Weslaco	East Progreso POE. On the east side of the Progreso POE, this section would tie into the end of the existing fence at the POE and continue east along the IBWC levee row for 2.43 miles. This section would cross through the Rosario Banco annex to the LRGV NWR for approximately 0.35 miles.	2.43	Route B represents a shortening of the west end of the section to tie into existing fencing at the east side of the Progreso POE, and a slight extension of the east end of the segment. A slight reduction in overall section length results.	2.33	Three gates would be installed to provide access to private land owners, routine patrol operations, farming operations, and water pumping facilities.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-11	Harlingen	Joe's Bar-Nemo Road (in the area of the La Feria pump station). This section would begin at a point where the IBWC levee meets the Santa Maria Canal west of River Road and the levee, to the south of Santa Maria. The section would continue east following the IBWC levee row to the La Feria Canal and pump station, crossing over the canal. At this point, the fence section would head north for approximately 0.55 miles and turn west along Benson Road. This section would pass through approximately 0.55 miles of Texas Parks and Wildlife property. This section would terminate at a point on Benson Road to the north of the Villitas Banco annex to the LRGVNR.	2.33	Route B represents an alternative to where the proposed route would cross the La Feria Canal. Route A would cross the canal close to the pump station and turn north, parallel to the east side of the canal. Route B would turn north and parallel the west side of the canal, crossing the canal farther north from the pump station.	2.31	Three gates would be installed to provide access to private land owners, routine patrol operations, agricultural operations, and water pumping facilities.
O-12	Harlingen	This section would begin at a point where the IBWC levee and Yellow Barn Road intersect in the area of Las Rusias. This proposed section would follow the levee row and cross over the Harlingen Canal. The section would follow the north side of the canal and levee row and terminate on the west side of Trevino Road, north of the pump station.	0.96	There are no notable differences between Routes A and B.	0.92	No gates proposed.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-13	Harlingen	West Los Indios POE. This section would begin at a point where the San Benito Canal intersects the IBWC levee row near Weber Road south of the pump station in the area of Los Indios. The section would follow the levee row east, then turn south through the Culebron Banco annex to the LRGV NWR (approximately 0.22 miles would be inside the refuge). The section would continue to follow the levee row east along Avila Road and terminate at FM (farm to market) 509 on the west side of the Los Indios POE.	1.58	Route B represents a realignment of a portion of the section toward the east to avoid the Culebron Banco annex of the LRGV NWR.	1.58	Two gates would be installed for access to water pumping facilities, routine patrol operations.
O-14	Harlingen	East Los Indios POE. This section would begin at a point on the IBWC levee row near Avila Road, east of the Los Indios POE. The section would follow the levee row for 3.07 miles and terminate at the intersection of the levee with an area known as Landrum's house south of Highway 281.	3.07	Route B represents additional length added to the east end of Route A along the IBWC levee ROW.	3.59	Two gates would be installed to provide access for agricultural operations and routine patrol operations.
O-15	Harlingen	Pedraza Road to Garza Sandpits Road. This section would begin at a point on the IBWC levee row south of La Paloma. The section would follow the levee row for 1.93 miles and terminate at a dirt road known as Garza Sandpits Road. The section would follow the boundary of the Vaqueteria Banco annex to the LRGV NWR for approximately 0.18 miles.	1.93	There are no notable differences between Routes A and B.	1.93	One gate would be installed for access to farming operations, gravel pit access, and routine patrol operations.

Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-16	Harlingen	Garza Sandpitt Road to IBC Road. This fence section would join with Section O-15 and continue to follow the IBWC levee right of way east for 2.97 miles. This section would terminate at a point where the IBWC levee right of way intersects IBC Road.	2.97	Route B represents a shortening of the originally proposed Route A section to avoid traversing through approximately 0.20 miles of the Tahuachal Banco annex to the LRGV/NWR. The area where the levee cuts through the refuge may eventually contain virtual fencing only, with no physical barrier in place.	2.33	Two gates would be installed to provide access for water pumping facilities, agricultural operations, and routine patrol operations.
O-17	Brownsville	Proposed Carmen Road Freight Train Bridge. This section would begin at a point on the IBWC levee row south of San Pedro and follow the levee for 1.63 miles east. This section would terminate at a point where the levee turns south at the River Bend gold community. Cameron County has plans to relocate the Brownsville/Matamoros railway POE to a point along this segment.	1.63	There are no notable differences between Routes A and B.	1.61	Four gates would be installed to provide government access and farming operations access.



Fence Section Number	Border Patrol Station	Description of Route A	Length of Fence Section for Route A (in miles)	Difference Between Routes A and B	Length of Fence Section for Route B (in miles)	Access Gates
O-18	Brownsville	<p>Proposed Flor De Mayo POE to Garden Park. This section would begin at a point where the IBWC levee row intersects the Los Fresnos pump canal on the east side of the canal. This section would follow the levee row southeast for approximately 3.58 miles. Approximately 0.31 miles of this section would follow the northern boundary of the Palo Blanco annex to the LRGVNR.</p> <p>Approximately 0.35 miles would cut through the Phillips Banco annex to the LRGVNR. Another 0.71 miles would follow the southern boundary of Phillips Banco.</p>	3.58	There are no notable differences between Routes A and B.	3.58	Seven gates would be installed to provide access to private land owners, farming operations, and government access.
O-19	Brownsville	<p>Brownsville/Matamoros (B&amp;M) POE. This section would begin at a point where Palm Boulevard meets the river bank near Brownsville. This section would continue across the B&amp;M POE and follow the levee to the Gateway POE. At this point, the fence section would turn south along the south side of Fort Brown Resaca. The section would then turn east along the levee between Fort Brown and the golf course. This section would terminate on the levee just to the east of the golf course southwest of the University of Texas Brownsville parking area.</p>	3.33	Route B represents a realignment of the originally proposed corridor away from an urban area on the edge of Brownsville to closer to the river bank. Less socioeconomic impacts, more environmental impacts from being closer to the Rio Grande. Fewer residences would be impacted.	3.37	Four gates would be installed to provide access to private landowners, farming operations, recreation (golfing), and government access.

<b>Fence Section Number</b>	<b>Border Patrol Station</b>	<b>Description of Route A</b>	<b>Length of Fence Section for Route A (in miles)</b>	<b>Difference Between Routes A and B</b>	<b>Length of Fence Section for Route B (in miles)</b>	<b>Access Gates</b>
O-20	Brownsville	Veterans International Bridge (Los Tomates). This section would join with Section O-19 and begin at the terminus of Section O-19. This section would then follow the IBWC levee on the south side of the University of Texas Brownsville parking area east to the Veterans International Bridge POE.	0.91	There are no notable differences between Routes A and B.	0.93	Three gates would be installed to provide access for the City and other government access.
O-21	Fort Brown	Veterans International Bridge to Sea Shell Inn. This section would begin on the east/south side of the Veterans International Bridge POE (Los Tomates) and follow the IBWC levee row to the Impala pump station. At the pump station, the section would continue south along the levee to Monsees Road. South of Monsees Road, the section would continue along the levee row, crossing Bosque de la Palma wildlife area between George Saenz Road and South Dakota Avenue. Following the levee, the section may cross through Southmost Ranch, a Nature Conservancy area. After passing this area, the section would turn north along the levee at South Oklahoma Avenue and terminate at the end of the levee, south of Boca Chica Boulevard.	13.30	Route B represents a slight change at the east side of the Veterans International Bridge POE to allow for the tie-in of the proposed alignment with existing fencing at the POE. Route B also represents slight adjustments to the proposed alignment in the area of Milpa Verde and Monsees Road.	12.99	Twenty-one gates would be installed to provide access to agricultural operations, private landowners, water pumping facilities, public areas, commercial areas, and routine patrol operations.
<b>Total</b>			<b>69.87</b>		<b>69.84</b>	<b>87</b>



## **APPENDIX E**

### Standard Design for Tactical Infrastructure





## APPENDIX E

### STANDARD DESIGN FOR TACTICAL INFRASTRUCTURE

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A properly designed tactical infrastructure system is an indispensable tool in deterring those attempting to illegally cross the U.S. border. Tactical infrastructure is also integral to maintaining USBP's flexibility in deploying agents and enforcement operations. A formidable infrastructure acts as a force multiplier by slowing down illegal entrants and increasing the window of time that agents have to respond. Strategically developed tactical infrastructure should enable USBP managers to better utilize existing manpower when addressing the dynamic nature of terrorists, illegal aliens, and narcotics trafficking (INS 2002).

USBP apprehension statistics remain the most reliable way to codify trends in illegal migration along the border. Based on apprehension statistics, in a 2006 report on border security, the Congressional Research Service concluded that "the installation of border fencing, in combination with an increase in agent manpower and technological assets, has had a significant effect on the apprehensions made in the San Diego sector" (CRS 2006).

Since effective border enforcement requires adequate scope, depth, and variety in enforcement activity, any single border enforcement function that significantly depletes USBP's ability to satisfactorily address any other enforcement action creates exploitable opportunities for criminal elements. For example, the intense deployment of personnel resources necessary to monitor urban border areas without tactical infrastructure adversely affects the number of agents available for boat patrol, transportation check points, patrolling remote border areas, and other tasks. Tactical infrastructure reduces this effect by reinforcing critical areas, allowing the agents to be assigned to other equally important border enforcement roles (INS 2002).

#### **Fencing**

Two applications for fencing have been developed in an effort to control illegal cross-border traffic: pedestrian fences that are built on the border, and secondary fences that are constructed parallel to the pedestrian fences. These fences present a formidable physical barrier which impede cross-border violators and increases the window of time USBP agents have to respond (INS 2002).

There are several types of pedestrian fence designs USBP can select for construction depending on various site conditions and law enforcement tactics employed. Each option offers relative advantages and disadvantages. Fencing composed of concrete panels, for example, is among the more cost-effective options, but USBP agents cannot see through it. USBP prefers fencing structures offering visual transparency, allowing observation of activities developing on the other side of the border.

1 Over the past decade, USBP has deployed a variety of types of fencing, such as  
2 pedestrian fence (see **Figures E-1 through E-4**), pedestrian fence with wildlife  
3 migratory portals (see **Figures E-5 and E-6**), vehicle barrier with pedestrian  
4 fence (see **Figures E-7 through E-9**), and bollard fencing (see **Figure E-10**).



5  
6 **Figure E-1. Typical Pedestrian Fence Foundation**



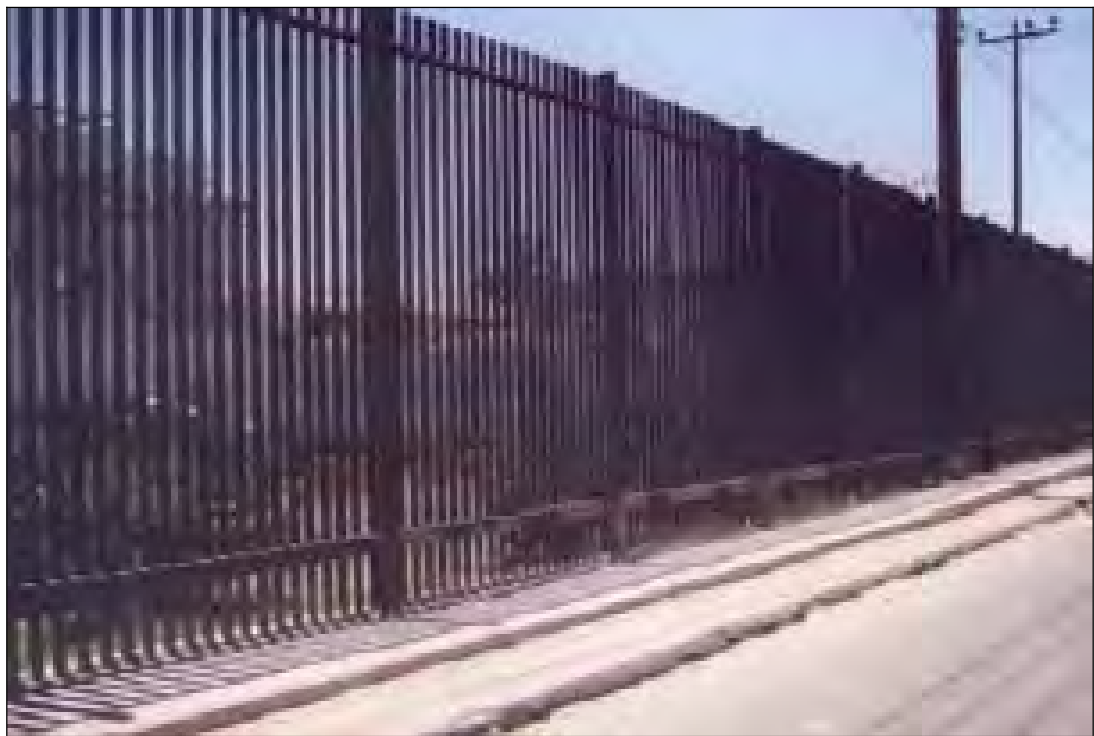
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8 **Figure E-2. Typical Pedestrian Fence Design**



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**Figure E-3. Typical Pedestrian Fence Design**



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**Figure E-4. Typical Pedestrian Fence Design**





**Figure E-5. Pedestrian Fence with Wildlife Migratory Portals**



**Figure E-6. Wildlife Migratory Portals**



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**Figure E-7. Vehicle Barrier with Pedestrian Fence**



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**Figure E-8. Vehicle Barrier with Pedestrian Fence**



**Figure E-9. Vehicle Barrier with Pedestrian Fence**



**Figure E-10. Bollard Fence**

1 Bollard fencing has been effective in its limited deployment and can also be seen  
 2 through. However, it is expensive to construct and to maintain. Landing mat  
 3 fencing is composed of Army surplus carbon steel landing mats which were used  
 4 to create landing strips during the Vietnam War. Chain-link fencing is relatively  
 5 economical, but more easily compromised. In selecting a particular fencing  
 6 design, USBP weighs various factors such as its effectiveness as a law  
 7 enforcement tool, the costs associated with construction and maintenance,  
 8 potential environmental impacts, and other public interest concerns. USBP  
 9 continues to develop fence designs to best address these objectives and  
 10 constraints.

## 11 **Patrol Roads**

12 Patrol roads provide USBP agents with quick and direct access to anyone  
 13 conducting illegal activity along the border, and allow agents access to the  
 14 various components of the tactical infrastructure system. Patrol roads typically  
 15 run parallel to and a few feet north of the pedestrian fence. Patrol roads are  
 16 typically unpaved, but in some cases "all-weather" roads are necessary to ensure  
 17 continual USBP access (INS 2002).

## 18 **Lighting**

19 Two types of lighting (permanent and portable) might be  
 20 constructed in specific urban locations. Illegal entries are  
 21 often accomplished by using the cover of darkness, which  
 22 would be eliminated by lighting. Lighting acts as a  
 23 deterrent to cross-border violators and as an aid to USBP  
 24 agents in capturing illegal aliens, smugglers, terrorists, or  
 25 terrorist weapons after they have entered the United  
 26 States (INS 2001). Lighting locations are determined by  
 27 USBP based on projected operational needs of the  
 28 specific area.

29 The permanent lighting would be stadium-type lights on  
 30 approximately 30- to 40-foot high poles with two to four  
 31 lights per pole. Each light would have a range of 400 to  
 32 1,000 watts, with lower-wattage bulbs used where  
 33 feasible. Wooden poles, encased in concrete and steel  
 34 culvert pipe to prevent them from being cut down, would  
 35 most often be used, although steel poles with concrete footings might also be  
 36 used. The poles might be existing poles or they might need to be installed.  
 37 Electricity would be run in overhead lines unless local regulations require the  
 38 lines to be underground (DHS 2004). Lights would operate from dusk to dawn.  
 39 Light poles adjacent to U.S. IBWC levees would be coordinated with and  
 40 approved by the U.S. IBWC. The final placement and direction of lighting has  
 41 been and would continue to be coordinated with the USFWS, with the USFWS  
 42 having final review over both placement and direction along each fence section.



1 Portable lights are self-contained units with generators that can be quickly moved  
2 to meet USBP operational requirements. Portable lights are powered by a  
3 6-kilowatt self-contained diesel generator. Portable lights would generally  
4 operate continuously every night and would require refueling every day prior to  
5 the next night's operation. The portable light systems can be towed to the  
6 desired location by USBP vehicles, but they are typically spaced approximately  
7 100 to 400 feet apart, depending upon topography and operational needs. Each  
8 portable light would have a light fan directed toward the fence to produce an  
9 illuminated area of 100 ft<sup>2</sup>. The lighting systems would have shields placed over  
10 the lamps to reduce or eliminate the effects of backlighting. Effects from the  
11 lighting would occur along the entire corridor where they could be placed;  
12 however, in reality, only parts of the fence would be illuminated at a given time  
13 since the portable lights would be periodically relocated to provide the most  
14 effective deterrent and enforcement strategy (INS 2001).

15

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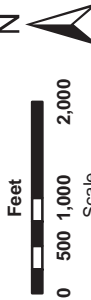
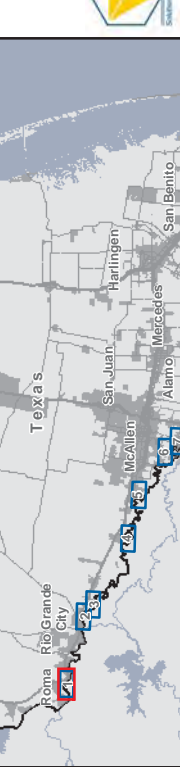
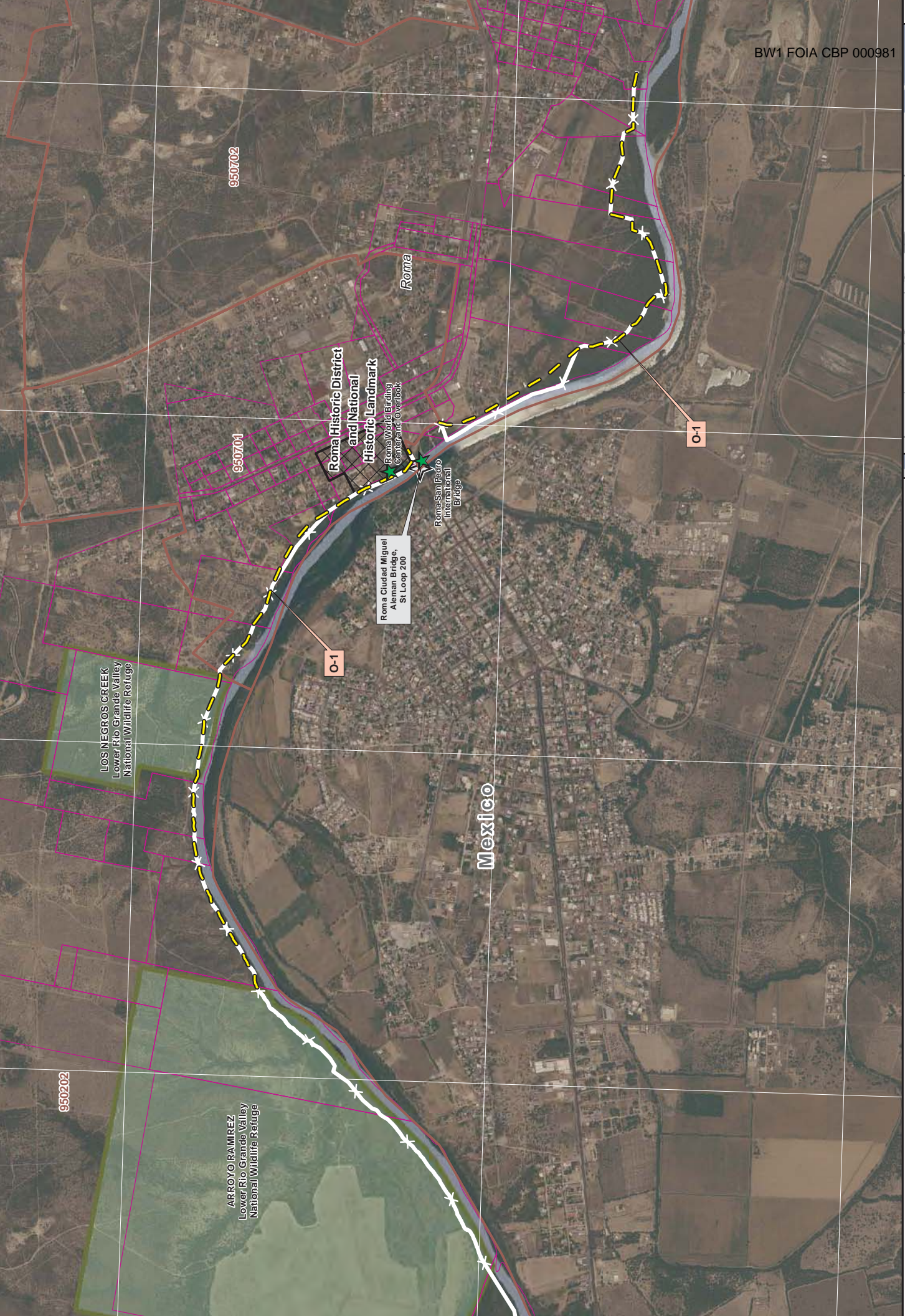
## **APPENDIX F**

### Detailed Maps of the Proposed Fence Sections



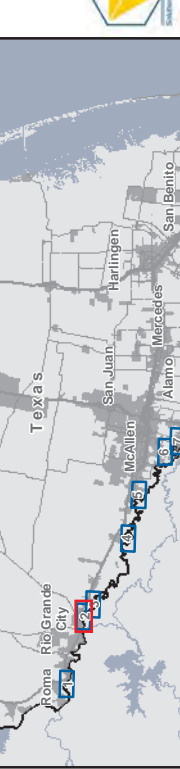






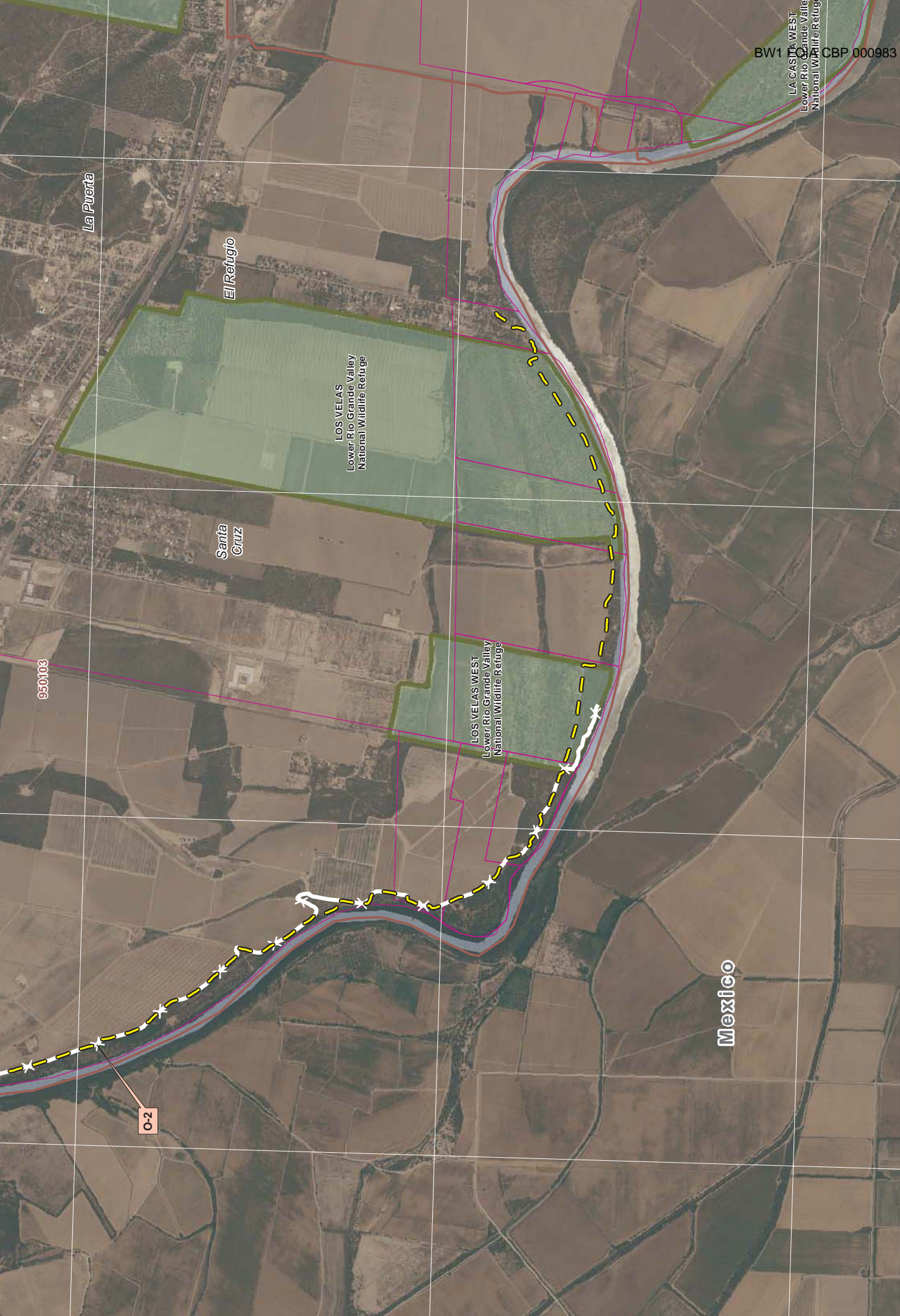
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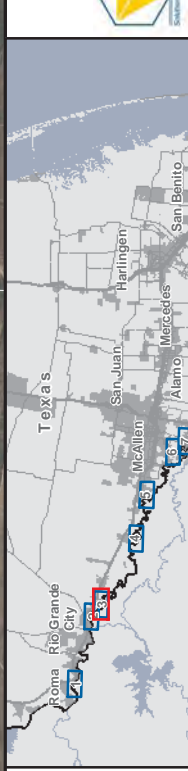
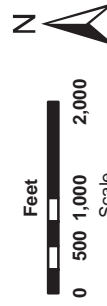
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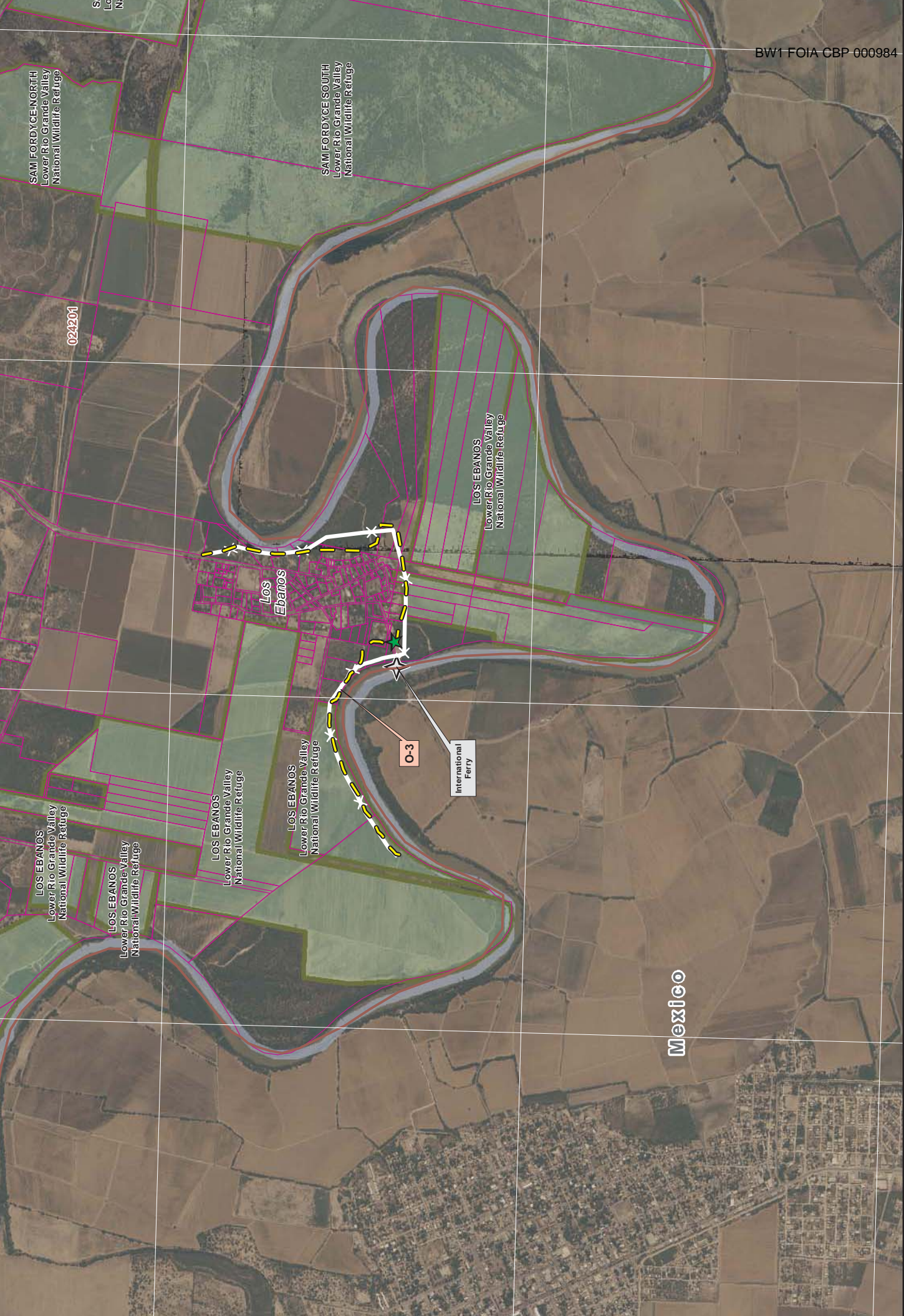
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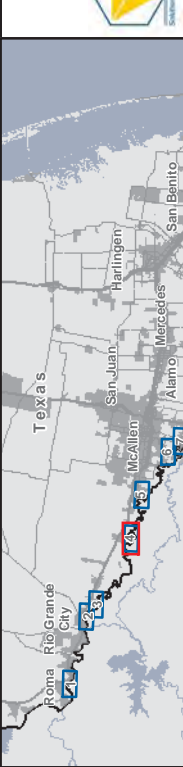
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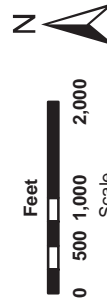
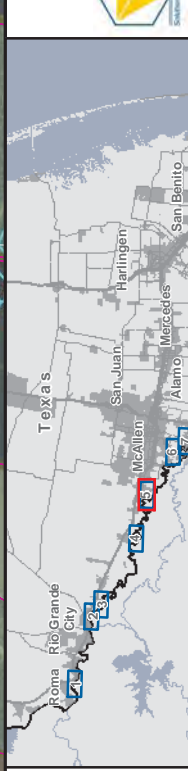
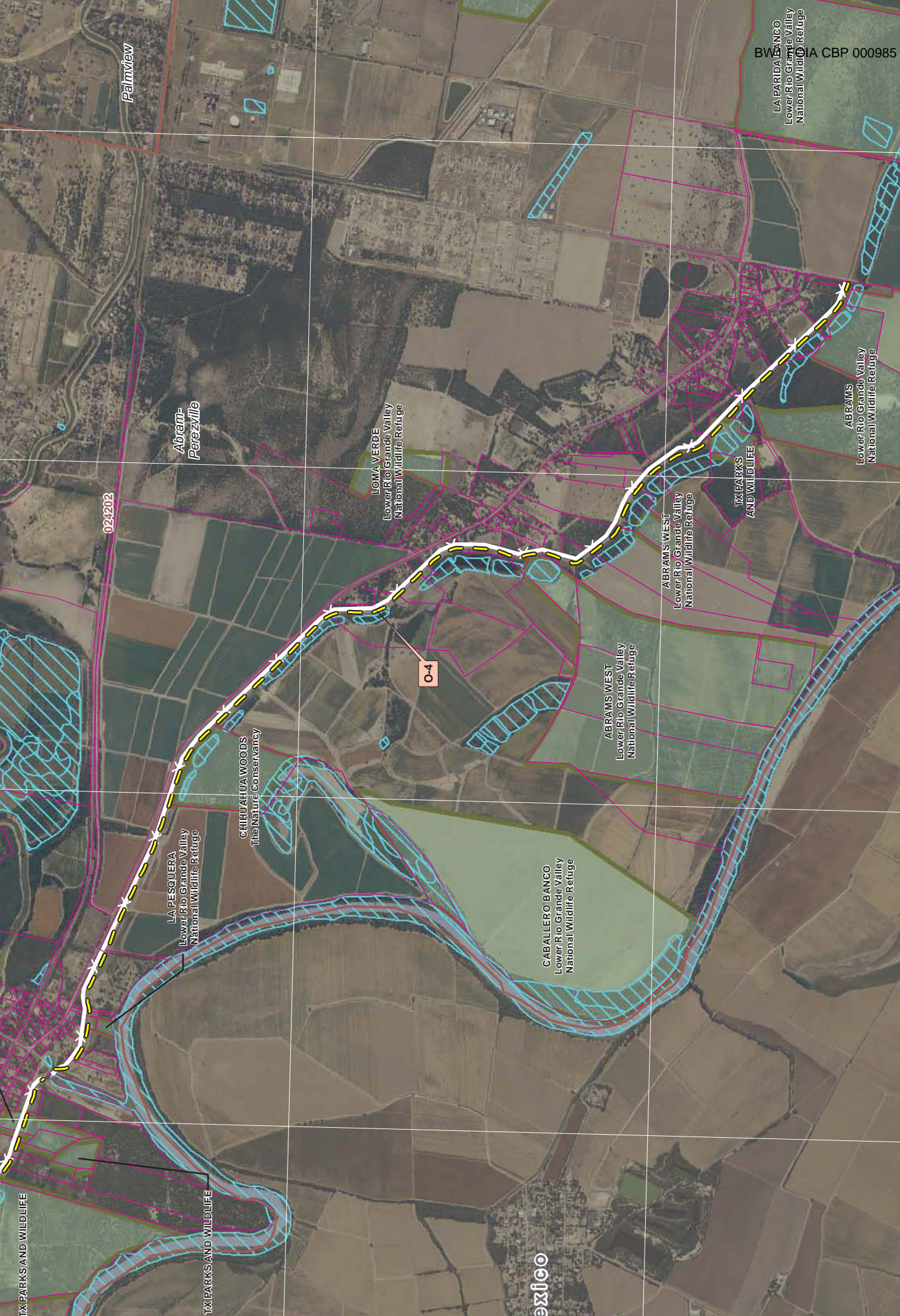
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