

**FINAL ENVIRONMENTAL STEWARDSHIP
PLAN
FOR THE ASSEMBLY, INSTALLATION,
OPERATION, AND MAINTENANCE OF
25 GATES INTO EXISTING TACTICAL
INFRASTRUCTURE
U.S. Border Patrol
Rio Grande Valley Sector
Texas**



**DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL EL PASO SECTOR**

**Prepared by
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February 2024**

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U.S. Border Patrol, Rio Grande Valley Sector, Texas

COVER SHEET

Final Environmental Stewardship Plan for the Assembly, Installation, Operation, and Maintenance of 25 Gates into Existing Tactical Infrastructure U.S. Border Patrol, 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).

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

Project Description: U.S. Customs and Border Protection (CBP) will install automated vehicle gates at 25 gaps within existing levee wall in Hidalgo and Cameron Counties in the U.S. Border Patrol Rio Grande Valley Sector. The levee wall was constructed in 2008 as part of CBP's prior fence construction efforts. However, gates were not included in the installation due to funding constraints. The gates to be constructed will be automated and will range in size from 20 feet wide to 50 feet wide, depending on the types of vehicles (standard cars and trucks or large farm equipment) that will access the gate.

The Project is defined as the assembly, installation, operation, and maintenance of 25 gates within gaps in existing tactical infrastructure along the U.S./Mexico international border within the USBP Rio Grande Valley Sector, Texas.

Report Designation: Environmental Stewardship Plan (ESP).

Abstract: CBP plans to assemble, install, operate, and maintain 25 gates at gaps left during the initial installation of tactical infrastructure along the U.S./Mexico international border in the USBP Rio Grande Valley Sector, Texas. The existing tactical infrastructure crosses multiple land use types, such as agricultural, rural, suburban, and urban. Land parcels impacted by the installation of the tactical infrastructure were both publicly and privately owned. This Project will also encroach on portions of the Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) and Texas Parks and Wildlife Department Wildlife Management Areas (WMAs) in the Rio Grande Valley.

This ESP analyzes and documents environmental consequences associated with the Project.

The public could obtain additional copies of the ESP by written request to Mr. Paul Enriquez, Director Environment and Real Estate Infrastructure Program, 24000 Avila Rd., Laguna Niguel, CA 92677.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

EXECUTIVE SUMMARY

Introduction

In Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), Congress mandated that the Department of Homeland Security (DHS) install fencing, barriers, roads, lighting, cameras, and sensors on the southwestern border.

A prior waiver of environmental laws was issued by the Secretary of the Department of Homeland Security (DHS) in 2008 for the levee wall construction (73 FR 18293). The Secretary issued a new waiver for the installation of the gates pursuant to Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) on October 1, 2019 (84 FR 52118). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared the following ESP, which analyzes the potential environmental impacts associated with the installation of automated border wall gates, associated equipment, and site improvements at current openings in the existing barrier in the U.S. Border Patrol's (USBP) Rio Grande Valley (RGV) Sector. The ESP will guide CBP's efforts going forward with the Project described in this ESP. CBP will complete environmental resource surveys, an Environmental Stewardship Plan (ESP), and associated environmental studies such as a survey of Waters of the United States (WUS), Biological Resources Survey, and a Survey of Cultural and Historic Resources.

The CBP will continue to work in a collaborative manner with local governments, state, and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate best management practices (BMPs) to avoid or minimize adverse impacts resulting from the installation of these 25 gates into gaps in existing tactical infrastructure

Goals and Objectives of the Project

The goal of the Project is to increase border security within the USBP RGV Sector with an ultimate objective of reducing cross-border violator (CBV) activity. The USBP RGV Sector identified 25 areas along the border that experience high levels of CBV activity. This activity occurs in remote areas and in areas that are not easily accessed by USBP agents, near ports of entry (POEs) where concentrated populations might live on either side of the border, or in locations that have quick access to U.S. transportation routes.

The Project will help provide USBP agents with a tactical advantage in countering CBV cross-border activities within the USBP RGV. The Project will fully enable the goals and objectives of the previous installation of tactical infrastructure in the RGV Sector by improving enforcement, preventing terrorists and terrorist weapons from entering the United States, reducing the flow of illegal drugs and other contraband, and enhancing response time. The Project will create a safer

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

work environment for USBP agents and enhance control of the U.S. borders between POEs in the USBP RGV.

Public Outreach and Coordination

Prior to the waiver used for the construction of border fence, CBP prepared an Environmental Impact Statement (EIS) to address the potential effects of the Project. A Notice of Availability (NOA) for the draft EIS was published in local newspapers in November and December of 2007, announcing the release of the document for a 45-day public comment period. In addition, public open houses were held. Subsequently, public open houses were held specifically to address the location and design of gates and to seek public input on access through these gates. Although the Secretary of DHS issued the waiver, and thus, CBP has no responsibilities under the National Environmental Policy Act (NEPA) for this Project, CBP reviewed, considered, and incorporated comments received from the public and other Federal, state, and local agencies during the preparation of both the 2008 ESP (CBP 2008) and into the siting of the gates that are the subject of this ESP. In addition to the past public involvement and outreach program, CBP has continued to coordinate with various Federal and state agencies during the development of this ESP.

Description of the Project

CBP plans to assemble, install, operate, and maintain automated vehicle gates at 25 gaps within existing levee wall in Hidalgo and Cameron counties in the USBP RGV Sector. It is anticipated that existing access roads will be used to access each gate location. Staging areas already used during the tactical infrastructure installation will be utilized. It is expected additional real estate will be acquired for each gate location, requiring new environmental surveys.

Environmental Impacts, Mitigation, and Best Management Practices

This ESP examined the resources, and potential environmental impacts associated with installing the 25 gates. Table ES-1 provides an overview of potential environmental impacts by specific resource areas. Chapters 2 through 13 of this ESP address these impacts in more detail.

Table ES-1. Summary of Environmental Impacts, Mitigation, and BMPs

Resource Area	Effects of the Project	Best Management Practices/ Mitigation
Air Quality	No short-term or long-term adverse impacts on regional or local air quality	BMPs to reduce dust and control PM ₁₀ emissions. Construction equipment will be kept in good operating condition to minimize exhaust
Noise	No, short- or long-term negative impacts at any gates except: O-8_3 American Farms, O-8_4 Munoz, Munoz Basin Ramp (PGR), O-10_4 Swamp Refuge,	Mufflers and properly working construction equipment will be used to reduce noise.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table ES-1. Summary of Environmental Impacts, Mitigation, and BMPs

Resource Area	Effects of the Project	Best Management Practices/ Mitigation
	O-13_2a Robertson Rd (Moodyville Rd.), O-13_2b Rio Grande Avenue, and O-21_5 Sabal Palm. The operation of these gates is likely to cause minor, negative, long-term effects to sensitive species including Endangered Species Act (ESA) species using the refuge areas	Generators/welders will have baffle boxes, mufflers, or other noise abatement capabilities. Drive motors on gates will be in boxes and chain drives will be kept lubricated.
Land Use	Short-term, minor, adverse impacts are expected to occur from construction. No long-term adverse impacts are expected.	None required.
Geology and Soils	The gates will not cause any short- or long-term impacts	Construction related vehicles will remain on established roads
Hydrology and Groundwater	No effect	None required.
Surface Waters and Waters of the United States	No effect	Appropriate Stormwater Pollution Prevention Plan (SWPPP) will be implemented.
Floodplains	No effect	None required.
Vegetation Resources	No effect	None required.
Wildlife and Aquatic Resources	No effect	None required.
Special Status Species	No effects for ESA plant species. Short-term and long-term moderate adverse impacts will be anticipated for ocelots and jaguarundi No effects for any other special status species.	A biological monitor will be on-site during assembly and installation to account for occurrences of special status species. If Federally protected species are encountered, construction will stop until the biological monitor can safely remove the individual or it moves away on its own.
Cultural Resources	No effect	None required.
Visual Resources	No effect	None required.
Socioeconomic Resources and Safety	Negligible short-term beneficial impacts on population growth and characteristics will be expected. Indirect beneficial effects on safety and the protection of children are expected	None required.
Utilities and Infrastructure	No effect	None required.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table ES-1. Summary of Environmental Impacts, Mitigation, and BMPs

Resource Area	Effects of the Project	Best Management Practices/ Mitigation
Hazardous Materials and Wastes	No effect	All waste materials and other discarded materials will be removed from the Project Area as quickly as possible. Spill Plan and cleanup supplies will be available at each assembly and installation construction site. Drip pans will be utilized.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

TABLE OF CONTENTS

1	GENERAL PROJECT DESCRIPTION	1-1
1.1	Introduction to the Environmental Stewardship Plan	1-1
1.2	Goals and Objectives of the Project	1-2
1.3	Description of the Project	1-2
1.4	Public Outreach and Coordination	1-6
1.5	Mitigation Plan	1-6
2	AIR QUALITY.....	2-1
2.1	Definition of the Resource	2-1
2.2	Affected Environment	2-2
2.3	Direct and Indirect Effects of the Project	2-2
3	NOISE.....	3-1
3.1	Definition of the Resource	3-1
3.2	Affected Environment	3-2
3.3	Direct and Indirect Effects of the Project	3-4
4	LAND USE	4-1
4.1	Definition of the Resource	4-1
4.2	Affected Environment	4-1
4.3	Direct and Indirect Effects of the Project	4-1
5	GEOLOGY AND SOILS	5-1
5.1	Definition of the Resource	5-1
5.2	Affected Environment	5-1
5.3	Direct and Indirect Effects of the Project	5-1
6	WATER USE AND QUALITY	6-1
6.1	Definition of the Resource	6-1
6.2	Affected Environment	6-1
6.3	Direct and Indirect Effects of the Project	6-1
7	BIOLOGICAL RESOURCES.....	7-1
7.1	Vegetation	7-1
7.1.1	Definition of the Resource	7-1
7.1.2	Affected Environment	7-1
7.1.3	Direct and Indirect Effects of the Project	7-4
7.2	Wildlife and Aquatic Resources	7-4
7.2.1	Definition of the Resource	7-4

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

7.2.2	Affected Environment	7-4
7.2.3	Direct and Indirect Effects of the Project	7-5
7.3	Special Status Species	7-6
7.3.1	Definition of the Resource	7-6
7.3.2	Affected Environment	7-7
7.3.3	Direct and Indirect Effects of the Project	7-10
8	CULTURAL RESOURCES.....	8-1
8.1	Definition of the Resource	8-1
8.2	Affected Environment	8-1
8.3	Direct and Indirect Effects of the Project	8-2
9	VISUAL RESOURCES	9-1
9.1	Definition of the Resource	9-1
9.2	Affected Environment	9-1
9.3	Direct and Indirect Effects of the Project	9-1
10	SOCIOECONOMIC RESOURCES AND SAFETY.....	10-1
10.1	Definition of the Resource	10-1
10.2	Affected Environment	10-1
10.3	Direct and Indirect Effects of the Project	10-1
11	UTILITIES AND INFRASTRUCTURE	11-1
11.1	Definition of the Resource	11-1
11.2	Affected Environment	11-1
11.3	Direct and Indirect Effects of the Project	11-1
12	HAZARDOUS MATERIALS AND WASTE.....	12-1
12.1	Definition of the Resource	12-1
12.2	Affected Environment	12-1
12.3	Direct and Indirect Effects of the Project	12-1
13	RELATED PROJECTS AND POTENTIAL EFFECTS	13-1
13.1	Cumulative Fencing Across the US Mexico Border	13-1
13.2	Other Tactical Infrastructure	13-1
13.3	Vegetation Control	13-2
13.4	Cumulative Analysis by Resource Area	13-2
13.5	Direct and Indirect Effects of the Project	13-2
13.5.1	Air Quality	13-2
13.5.2	Noise	13-2
13.5.3	Land Use	13-2
13.5.4	Geology and Soils	13-3

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

13.5.5	Water Resources	13-3
13.5.6	Vegetation	13-3
13.5.7	Wildlife and Aquatic Resources	13-4
13.5.8	Special Status Species	13-4
13.5.9	Cultural Resources	13-4
13.5.10	Aesthetics and Visual Resources	13-4
13.5.11	Utilities and Infrastructure	13-5
13.5.12	Hazardous Materials and Waste	13-5

14 REFERENCES..... 14-1

List of Figures

Figure 1-1.	Typical Gate	1-5
Figure 7-1.	Typical Asphalt area	7-2
Figure 7-2.	Typical Bare Ground.....	7-2
Figure 7-3.	Typical Ruderal Community with sparse vegetation.....	7-3
Figure 7-4.	Typical Rip Rap Community consisting of large gravel rocks to control erosion... 7-3	
Figure 7-5.	Bird Exclusion Devices along a gate in McAllen Sector.....	7-6
Figure 8-1.	General location of project area.....	8-2

List of Tables

Table 1-1.	RGV Gates Phase 2 Package 3 Gates.....	1-4
Table 2-1.	Air Emissions Impact on Regional Air Quality	2-3
Table 3-1.	Sound Levels for Equipment Likely in the Gates Project.....	3-2
Table 3-2.	RGV Gates Impact on Ambient Noise Levels.....	3-3
Table 7-1.	Units of LRGVNWR Where Gates Will Be Installed.....	7-5
Table 7-2.	State and Federally Listed Species.....	7-7

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

1 GENERAL PROJECT DESCRIPTION

U.S. Customs and Border Protection (CBP) will install automated vehicle gates at 25 gaps within existing levee wall in Hidalgo and Cameron counties in the U.S. Border Patrol Rio Grande Valley Sector. The CBP, Rio Grande Valley Sector installed the existing tactical infrastructure in Hidalgo and Cameron counties, Texas in 2008. At that time, 25 gaps were left in the wall to allow access through the fence to properties to the south. The gates were not included in the installation due to funding constraints. Border Patrol vehicles are currently stationed at the gaps.

The Project Area for the assembly and installation of the 25 gates was surveyed in 2019 (CBP 2019a). The individual Project and Survey areas outlined in that report were limited to the immediate vicinity of each individual gate location. The gates to be constructed will be automated and will range in size from 20 feet wide to 50 feet wide, depending on the types of vehicles (standard cars and trucks or large farm equipment) that will access the gate. The gate construction project includes the installation of automated border wall gates, associated equipment, and site improvements at current openings in the existing barrier in the U.S. Border Patrol's (USBP) Rio Grande Valley (RGV) Sector.

1.1 Introduction to the Environmental Stewardship Plan

A prior waiver of environmental laws was issued by the Secretary of the Department of Homeland Security (DHS) in 2008 for the levee wall construction (73 FR 18293). The Secretary issued a new waiver for the installation of the gates pursuant to Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) on October 1, 2019 (84 FR 52118). Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, the Secretary committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared the following ESP, which analyzes the potential environmental impacts associated with the installation of automated border wall gates, associated equipment, and site improvements at current openings in the existing barrier in the U.S. Border Patrol's Rio Grande Valley Sector. CBP will complete environmental resource surveys, an Environmental Stewardship Plan (ESP), and associated environmental studies such as a survey of Waters of the United States (WOTUS), Biological Resources Survey, and a Survey of Cultural and Historic Resources.

As it moves forward with the Project described in this ESP, CBP will continue to work in a collaborative manner with local governments, state, and Federal land managers; and the interested public to identify environmentally sensitive resources and develop appropriate best management practices (BMPs) to avoid or minimize adverse impacts resulting from the installation of tactical infrastructure.

This ESP is divided into 14 chapters. The first chapter presents a detailed description of the Project. Subsequent chapters present information on the resources present, and evaluate the direct, indirect, and cumulative effects of the Project. The ESP also describes measures CBP has identified in consultation with Federal, state, and local agencies to avoid, minimize, or mitigate impacts on the environment, whenever possible. The following resource areas are presented in this ESP: air quality; noise; land use; geological resources and soils; water use and quality;

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY, INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

biological resources (i.e., vegetation, wildlife and aquatic species, special status species); cultural resources; aesthetics and visual resources; socioeconomic resources, environmental justice, and safety; utilities and infrastructure; hazardous materials and wastes. Some environmental resources were not included in this ESP because they were not relevant to the analysis. These potential resource areas include sustainability (omitted because the Project will use minimal amounts of resources during construction and maintenance), construction safety (omitted because construction workers will be subject to Occupational Safety and Health Administration [OSHA] standards and the Project will not introduce new or unusual safety risks), and climate because the Project will not affect the climate; however, air emissions and their impacts on air quality are discussed in Chapter 2.

1.2 Goals and Objectives of the Project

The United States Border Patrol's (USBP) Rio Grande Valley (RGV) Sector is an area of high cross-border violator (CBV) entry. Between October 1, 2018 and August 31, 2019, the USBP apprehended over 325,000 CBVs attempting to enter the United States between border crossings in the Rio Grande Valley Sector. In that same time period, the USBP had over 900 separate drug-related events between border crossings in the Rio Grande Valley Sector (84 FR 52118).

Owing to the high levels of CBV entry within the Rio Grande Valley Sector, the Secretary has used his authority under Section 102 of IIRIRA to install fence in the vicinity of the United States border in the Rio Grande Valley Sector. At the time of fence construction specific locations were identified to install mechanical gates that allow landowners access to their holdings below the fence. Gates are a critical part of the plan to secure the border areas while allowing ongoing access to prime farm lands located on the southern side of the fence. The areas in the vicinity of the border within which such construction will occur are more specifically described in Chapter 2.

The new vehicle gates are critical to RGV Sector's ability to prevent CBV entries and to achieve operational control of the border commensurate with Executive Order 13767. Under Executive Order (EO) 13767, CBP is directed to "...secure the southern border of the United States through the immediate construction of a physical wall on the southern border, monitored and supported by adequate personnel so as to prevent illegal immigration, drug and human trafficking, and acts of terrorism."

1.3 Description of the Project

CBP plans to assemble, install, operate, and maintain automated vehicle gates at 25 gaps within existing levee wall in Hidalgo and Cameron counties in the USBP RGV Sector. These gates would be operated by USBP agents. It is anticipated that existing access roads will be used to access each gate location. Staging areas already used during the tactical infrastructure installation will be utilized. It is expected additional real estate will be acquired for each gate location, requiring new environmental surveys. The name and locations of each gate to be constructed are summarized in Table 1-1.

The gates will be installed at these existing gaps in the levee wall fence at locations that were described previously in the 2008 ESP "*U.S. Customs and Border Protection, Environmental Stewardship Plan for the Construction, Operation, And Maintenance of Tactical Infrastructure, U.S. Border Patrol Rio Grande Valley Sector, Texas*" (CBP 2008). Each gate is considered to be

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

an individual project and can proceed to completion independent of any other gates. Wherever possible, existing roads and previously disturbed areas will be used for transporting materials to staging areas adjacent to the gates. Any necessary aggregate or fill material will be clean material obtained by construction contractors from commercially available sources that will not pose an adverse impact on biological or cultural resources.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 1-1. RGV Gates

PF225 Segment	Gate Designation	BP Gate Name	Approximate Gate Location	
			Lat	Long
O-4	O-4B_2b	O-4 west of Peñitas Pumphouse	26.22795200	-98.44830100
	O-4B_2c	O-4 east of Peñitas Pumphouse	26.22735800	-98.44739400
	O-4A_3	Mudhole Rd.	26.22604602310	-98.44436739510
	O-4A_4	Metz Farms	26.22452783410	-98.43928918320
	O-4A_5	Hoki's	26.21868354910	-98.42777050820
	O-4A_6	Strawberry Farms	26.20420156910	-98.42122100000
	O-4A_7	263 Rd.	26.19635113100	-98.41267632500
O-6	O-6B/C_6	East of HID POE	26.09632700000	-98.26933100000
O-8	O-8_1	Bell Brothers Rd.	26.06612718170	-98.06286201530
	O-8_2	McManus Farms	26.06670500000	-98.05423900000
	O-8_3	American Farms	26.07388800000	-98.04151300000
	O-8_4	Munoz	26.07533900000	-98.03871100000
O-9	O-9A_1	Boat Ramp (Cistern) Gate	26.07259474900	-97.98228283590
	O-9A_2	Fuller	26.07003058850	-97.97596046540
	O-9B_3	Basin Ramp (PGR)	26.06264211430	-97.97186145960
	O-9B_4	Progresso Pump	26.05677381710	-97.96077187840
O-10	O-10_2	Octavio Garcia Ramp	26.06537200000	-97.94236300000
	O-10_3	Beckwith Ramp	26.06841858890	-97.93206605710
	O-10_4	Swamp Refuge	26.06852327930	-97.92503008680
	O-10_5	Fuller Ramp	26.06624661560	-97.91675807910
O-13	O-13_2a	Robertson Rd (Moodyville Rd.)	26.04079200	-97.74506600
	O-13_2b	Rio Grande Avenue	26.04069999	-97.74470000
O-14	O-14_2	Landrums	26.04243755	-97.69588355
O-18	O-18_2	Flor De Wouldo	25.94013999	-97.55348999
O-21	O-21_5	Sabal Palm	25.85880300	-97.41740599

Gates will be assembled at, or very near to the site of their installation on ground previously disturbed by fence construction activities. It is expected that assembly of gate components will require operation of generators/welders, mid-sized trucks, and delivery of components by larger trucks. Installation of gates will require either cranes, fork lifts, or excavators to hoist components into place, welders and grinders, as well as small trucks to install mechanical drive components and electrical supply.

A typical gate is illustrated in Figure 1-1. It consists of bollards assembled into a panel that will be supported by wheels and mounted to the existing fence. These gates will be operational by

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

USBP agents. Each gate will be operated by electric motors that will be capable of opening or closing the gate. The opening or closing will be accomplished through the operation of a touch pad and/or a portable keypad (e.g., garage door opener). It will feature bird exclusion devices on the elevated portions of the gate, and enclosures around the electrical motor drives to both minimize sound and exclude small animals from the electrical and motor components.



Figure 1-1. Typical Gate

Gate maintenance will either be performed by USBP Rio Grande Valley Sector personnel or contracted personnel. The gates will be made from non-reflective steel. Gate maintenance will include removing any accumulated debris after a rain event to avoid potential future gate failure. Sand, brush, and trash that builds up against the gates will also be removed as needed. Motor assemblies and drives to operate the automated gates will be maintained to avoid unnecessary noise and avoid the potential for wildland fire. During normal patrols, Sector personnel will observe the condition and operation of the gates. Any destruction or breaches of the gates will be repaired, as needed.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY, INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

1.4 Public Outreach and Coordination

Prior to the waiver used for the construction of border fence, CBP prepared an Environmental Impact Statement (EIS) to address the potential effects of the Project. A Notice of Availability (NOA) for the draft EIS was published in local newspapers in November and December of 2007, announcing the release of the document for a 45-day public comment period during which public open houses were held to solicit comments. Additional public open houses were held specifically to address the location and design of gates and to seek public input on access through these gates. Although the Secretary of DHS issued the waiver, and thus, CBP has no responsibilities under the National Environmental Policy Act (NEPA) for this Project, CBP reviewed, considered, and incorporated comments received from the public and other Federal, state, and local agencies during the preparation of the 2008 ESP (CBP 2008), and incorporated these into the siting of the gates that are the subject of this ESP. In addition to the past public involvement and outreach program, CBP has continued to coordinate with various Federal and state agencies during the development of this ESP.

1.5 Mitigation Plan

CBP applied various design criteria to reduce adverse environmental impacts of the fence alignment associated with the Project, including selecting a route that avoids or minimizes effects on environmental and cultural resources. The locations of the gates described in this ESP were decided during the development of that ESP and discussed previously in the waivers covering that fence construction effort. Previously, CBP determined that construction, operation, and maintenance of tactical infrastructure in USBP Rio Grande Valley Sector will result in adverse environmental impacts. These impacts were most adverse during fence construction. CBP has determined that installation of gates in the pre-determined gate locations within the existing fence segments will have negligible adverse impacts, again mainly associated with construction.

Mitigation initiatives that are available during implementation of the Project include the following:

- CBP will require construction contractors to prepare Environmental Protection Plans that include BMPs on general construction activities, soils, cultural resources, air and water quality, noise, vegetation, and biological resources.
- CBP will continue to consult with the U.S. Fish and Wildlife Service (USFWS), the Texas Parks and Wildlife Department (TPWD), THC, Native American tribes, and others to identify appropriate mitigation measures.
- The contractor will follow the BMPs and mitigation measures to minimize impacts contained within the biological survey report for the Project (CBP 2019b).

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

2 AIR QUALITY

2.1 Definition of the Resource

CBP no longer has any specific obligations under the Clean Air Act (CAA) due to the Secretary's waiver. However, the Secretary has committed CBP to responsible environmental stewardship of our valuable natural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CAA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for air quality. CBP previously evaluated air quality effects for construction of the fence segments where these gates will be installed in the ESP (CBP 2008). Those analyses and results are incorporated here by reference.

The air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these "criteria pollutants" in ambient air are expressed in units of parts per million (ppm), micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), or milligrams per cubic meter (mg/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 discussion of air quality-related laws and standards, below, is provided as background information and context for the impact analysis. Public health is protected by comparing the likely emissions of a proposed action to National Ambient Air Quality Standards (NAAQS), for contaminants that have been determined to impact human health and the environment. The U.S. Environmental Protection Agency (USEPA) established both primary and secondary NAAQS under the CAA. NAAQS are currently established for six criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [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 State of Texas has been delegated CAA responsibility under the CAA by the USEPA, and has adopted the NAAQS as the Texas Ambient Air Quality Standards for the entire State of Texas. Table 2-1 presents the primary and secondary USEPA NAAQS that apply to the air quality in the State of Texas.

USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR according to whether the concentrations of criteria pollutants in ambient air exceed the primary or secondary NAAQS. All areas within each AQCR are therefore designated as either "attainment," "nonattainment," "maintenance," or "unclassified" for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS, nonattainment indicates that criteria pollutant levels exceed NAAQS, maintenance indicates that an area was previously designated nonattainment but is now attainment, and unclassified means that there is not enough information to appropriately classify an AQCR, so the area is considered in attainment.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

2.2 Affected Environment

The gates will be installed in existing fence segments in Hidalgo County and Cameron County, Texas. These counties lie within the Brownsville-Laredo Intrastate Air Quality Control Region (BLIAQCR). The BLIAQCR is classified as being in attainment/unclassified for all criteria pollutants.

2.3 Direct and Indirect Effects of the Project

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

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Represent an increase of 10 % or more in an affected AQCR emissions inventory

No regulated pollutant associated with the Project will contribute to or affect local or regional attainment status with the NAAQS. Project activities will generate minor air pollutant emissions from the construction projects, operation of generators to supply power to construction equipment, operations, and maintenance activities.

Minor, short-term, adverse impacts will be expected from construction emissions and land disturbance associated with the assembly and installation of the gates. It is expected that assembly of gate components will require operation of generators/welders, mid-sized trucks, and delivery of components by larger trucks. Operation of these pieces of equipment can be expected to produce emissions associated with fuel and lubricant vapors, exhaust, and dust. Assembly will occur directly adjacent to each gate location in areas previously disturbed during fence construction. Installation of gates will require either cranes, fork lifts, or excavators to hoist components into place, welders, and grinders, as well as small trucks to install mechanical drive components and electrical supply.

These emissions will be mitigated by BMPs including:

- A construction Dust Control Plan
- Construction equipment BMPs requiring good engine operational condition and limited idling times
- Operational Dust Control on roads leading to and from gates

The construction and installation will result in minor or immeasurable negative impacts on regional air quality during construction activities, primarily from operation of construction equipment on dirt or caliche roads and construction areas, generators, and welding. Namely:

- Generation of total suspended particulate and PM₁₀ emissions as fugitive dust from ground-disturbing activities (e.g., operation of construction equipment on dirt or caliche roads and construction areas)
- Combustion of fuels used with construction equipment
- Combustion of fuels used with welding/generators

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

NAAQS emissions factors and estimates were generated for fence construction and discussed fully in the 2008 ESP (CBP 2008). They are incorporated here by reference. At the time of the 2008 ESP, no construction emissions exceeded any national or state ambient air quality standard, 10% of BLIAQCR Regional Emissions, and no sensitive receptors were identified. The installation of the gates is a far lower-intensity project in size and in the number and type of construction vehicles, welders, and generators employed. Table 2-1 shows the predicted emissions for the life of the Project. Emissions were calculated using CalEEMod. The assumptions included the number of vehicles and equipment types used, that three crews could be operating simultaneously for 8-hour days and less than 250 work days per year.

Table 2-1. Air Emissions Impact on Regional Air Quality

Description	NO _x (tpy ¹)	VOC (tpy)	CO (tpy)	CO ₂ (tpy)	SO ₂ (tpy)	PM ₁₀ (tpy)
Construction Emissions	3.49	0.45	3.44	6.88	0.01	555.93
Maintenance Emissions	0.04	0.01	0.02	0.2	0.01	0.01
Generator Emissions	22.78	1.86	4.91	100	1.50	1.60
Total Emissions	26.31	2.32	8.37	107.08	1.52	557.53
Federal <i>de minimis</i> Threshold	NA	NA	NA	NA	NA	NA
BLIAQCR Regional Emissions T/Yr	44,137	73,577	317,422	995,000	2,940	132,788
Percent BLIAQCR Regional Emissions	0.06 %	0.00 %	0.00 %	0.01 %	0.05 %	0.42 %

¹ tons per year

Table 2-1 demonstrates that the emissions for the life of the Project fall far below 10% of the regional emissions and therefore do not constitute a significant effect on regional air quality either during construction or during maintenance and repair phases of the gates project. In summary, no short-term or long-term adverse impacts on regional or local air quality are anticipated from implementation of the gates project. The total of direct and indirect emissions from the Project will not be regionally significant (e.g., the emissions are not greater than 10 % of the BLIAQCR emissions inventory). Emissions factors, calculations, and estimates of emissions are shown in detail in Appendix C of the 2008 ESP (CBP 2008).

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

3 NOISE

3.1 Definition of the Resource

Acceptable noise levels have been established by the U.S. Department of Housing and Urban Development for construction activities in residential areas. Also, under the Noise Control Act of 1972, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. CBP has no specific obligations under these standards due to the Secretary's waiver. However, the Secretary has committed CBP to responsible environmental stewardship of our valuable natural resources. CBP supports this objective and has applied the appropriate standards and guidelines as the basis for evaluating potential environmental impacts and developing appropriate mitigations for noise quality.

Sound is defined as an auditory effect produced by a given source, for example the sound of wind rustling tree branches. Noise in the auditory sense is sound with the same physical aspects but a different value judgement. Noise is considered a disturbance while sound is defined as an auditory effect. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Noise can be intermittent or continuous, steady, or impulsive, and can involve any number of sources and frequencies. In fact, noise is not always strictly detected as audible by humans, as is the case with complaints about low-frequency sounds from wind turbine blades. Therefore, noise can be readily identifiable or nondescript. Human and wildlife response to increased sound levels varies according to the type, characteristics of the sound source, distance between source and receptor, receptor sensitivity, and time of day. How an organism responds to the sound source will determine whether the sound is judged as pleasing or as annoying noise or if it disturbs a normal behavior. Affected receptors are specific (e.g., wildlife, schools, churches, or hospitals) or broad (e.g., nature preserves or designated districts) areas in which occasional or persistent sensitivity to noise above ambient levels exists (EPA 1981a).

Although human response to noise varies, measurements can be calculated with instruments that record instantaneous sound levels in decibels. A-weighted decibel (dBA) characterizes sound levels that can be sensed by the human ear. "A-weighted" denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, which is normally in the region of 120 dBA (EPA 1981a). For reference a whisper is usually 30 dBA and considered to be very quiet, while an air conditioning unit 20 feet away is considered an intrusive noise at 60 dBA, while the sound of a refrigerator at 55 dBA is considered at the level of ambient sound levels. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10 dBA increase seems twice as loud (EPA 1981b).

Construction, maintenance, or repair activities can cause an increase in sound that is well above the ambient level. A variety of sounds are emitted from loaders, trucks, saws, and other work equipment. Table 3-1 lists noise levels associated with common types of equipment (EPA 1971). The equipment types listed in Table 3-1 typify the equipment expected to be employed in the assembly and installation of the gates.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 3-1. Sound Levels for Equipment Likely in the Gates Project.

Equipment*	Predicted Noise Level at 50 feet (dBA)
Truck	83–94
Backhoe	72–93
Welding generator	71–82
Crane	75–87

*Ibid

3.2 Affected Environment

The fence gates for the USBP Rio Grande Valley Sector exist in a variety of areas with different acoustical environments. The ambient acoustical environment in the USBP Rio Grande Valley Sector is primarily impacted by vehicular traffic, aircraft operations, agricultural equipment, and industrial noise sources.

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 gates project area, and the City of Peñitas is on the western edge. 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. Texas Department of Transportation has planned construction within this area, and as part of the environmental planning effort for that project, estimated ambient sound in the more urbanized areas to be 71 dBA (TX DOT 2018).

It is estimated that gate 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 occurs daily at McAllen Miller International Airport (AirNav 2007).

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.

A map survey of the gate locations shows that none of the gate locations are in proximity to any sensitive human receptor sites such as schools or hospitals. Some of the gate locations are adjacent to or within remote wildlife areas such as the LRGV NWR. 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). Wildlife within the refuge can be considered as sensitive receptors to noise levels above normal ambient levels. CBP previously evaluated noise effects for construction of

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

the fence segments where these gates will be installed in the ESP (CBP 2008). Those analyses and results are incorporated here by reference. In addition, CBP worked with USFWS staff and LRGV NWR staff and coordinated with USFWS regarding noise from operation of gates (CBP 2010).

Table 3-2 lists the gates and likely ambient noise levels based on the land uses adjacent to the gates. The noise levels are based on literature values for typical land use types or specific measurements obtained (TX DOT, 2018).

Gates that are adjacent to wildlife management areas (WMA), or other habitat suitable for wildlife are highlighted. Units of the Lower Rio Grande National Wildlife Refuge are located near some of the gate locations in Segments O-4, O-6, O-8, O-10, O-13, O-18, and O-21. The right-hand column describes areas of potential sensitivity (e.g., WMAs or sanctuary) when the location is near those areas.

Table 3-2. RGV Gates Impact on Ambient Noise Levels.

Pedestrian Fence 225 Segment	Gate Designation	BP Gate Name	Potential ambient noise levels	
			dBA	Construction or operational noise likely to exceed ambient noise levels
O-4	O-4B_2b	O-4 west of Peñitas Pumphouse	71 (TX DOT 2018)	Not likely to exceed ambient pump noise. More than 150 feet from Las Palomas WMA estimated gate noise = 42.9 dBA
	O-4B_2c	O-4 east of Peñitas Pumphouse	71 (TX DOT 2018)	Not likely to exceed ambient pump noise. More than 550 feet from Las Palomas WMA estimated gate noise = 23 dBA
	O-4A_3	Mudhole Rd.	71 (TX DOT 2018)	Not likely to exceed ambient pump noise. More than 1650 feet from Las Palomas WMA estimated gate noise = 11 dBA
	O-4A_4	Metz Farms	71 (TX DOT 2018)	Not likely to exceed ambient pump noise. More than 3550 feet from Las Palomas WMA estimated gate noise = 1
	O-4A_5	Hoki's	71 (TX DOT 2018)	Not likely to exceed
	O-4A_6	Strawberry Farms	26-55	Not likely to exceed
	O-4A_7	263 Rd.	26-55	Not likely to exceed
O-6	O-6B/C_6	East of HID POE	71 (TX DOT 2018)	Not likely to exceed ambient noise from Hidalgo POE
O-8	O-8_1	Bell Brothers Rd.	26-55	Not likely to exceed
	O-8_2	McManus Farms	26-55	Not likely to exceed
	O-8_3	American Farms	26-55	Likely to exceed ambient levels within all of Las Palomas WMA

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 3-2. RGV Gates Impact on Ambient Noise Levels.

Pedestrian Fence 225 Segment	Gate Designation	BP Gate Name	Potential ambient noise levels	
			dBA	Construction or operational noise likely to exceed ambient noise levels
	O-8_4	Munoz	26-55	Likely to exceed ambient levels within the entire eastern half of Las Palomas WMA
O-9	O-9A_1	Boat Ramp (Cistern) Gate	26-55	Not likely to exceed
	O-9A_2	Fuller	26-55	Not likely to exceed
	Munoz	Basin Ramp (PGR)	26-55	Likely to exceed. More than 500 feet into habitat area
	O-9B_4	Progresso Pump	71 (TX DOT 2018)	Not likely to exceed ambient pump noise or urban noise from Nuevo Progreso
O-10	O-10_2	Octavio Garcia Ramp	26-55	Not likely to exceed
	O-10_3	Beckwith Ramp	26-55	Not likely to exceed
	O-10_4	Swamp Refuge	26-55	Likely to exceed ambient levels up to 1000 feet into the Swamp Refuge
	O-10_5	Fuller Ramp	26-55	Not likely to exceed
O-13	O-13_2a	Robertson Rd (Moodyville Rd.)	26-55	Likely to exceed ambient levels up to 1000 feet into habitat
	O-13_2b	Rio Grande Avenue	26-55	Likely to exceed ambient levels up to 1000 feet into habitat
O-14	O-14_2	Landrums	26-55	Not likely to exceed
O-18	O-18_2	Flor De Wouldo	71 (TX DOT 2018)	Not likely to exceed
O-21	O-21_5	Sabal Palm	26-55	Likely to exceed ambient levels up to 1000 feet into Sabal Palm Sanctuary

3.3 Direct and Indirect Effects of the Project

Assembly and installation are not likely to occur at more than three gates simultaneously, and none of the gates are close enough to another to allow for additive effects of sounds from assembly or installation. Table 3-1 shows the noise levels associated with typical equipment expected to be used during assembly and installation. The loudest noise during the assembly and installation phase is likely to be due to the use of a truck or backhoe at 94 dBA. At a distance of less than 100 feet the resulting sound will be lower than daytime ambient sound at any gate location due to sound attenuation (Noisetools 2020). All construction will occur during daylight hours.

There will be no short-term negative impacts due to assembly and installation of the gates.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

During the initial installation of gates at some locations within tactical infrastructure, noise levels were measured at the gate and at a distance of 300 feet. Operation of the gates has been shown to produce noise levels of 85 dBA (CBP 2010) at the gate and attenuated to 55 dBA at a distance of 300 feet. The noise measured included the drive motor, the mechanical sounds of the gate travelling through its opening and closing and the OSHA required alarm. At 300 feet from the gate, noise will have diminished to a level acceptable as ambient, home noise levels for all human receptors. However, 55 dBA is louder than ambient sounds in the wildlife habitat areas highlighted in yellow in Table 3-2.

The operation and maintenance of the gates will have no long-term negative impacts at any gates except: O-8_3 American Farms, O-8_4 Munoz, Munoz Basin Ramp (PGR), O-10_4 Swamp Refuge, O-13_2a Robertson Rd (Moodyville Rd.), O-13_2b Rio Grande Avenue, and O-21_5 Sabal Palm. The operation of these gates is likely to cause minor, negative, long-term effects to sensitive species including ESA species using the refuge areas (see Chapter 7).

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

4 LAND USE

4.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific legal obligations for the gates addressed in this ESP; however, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental effects and mitigations on land use.

“Land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. Land use descriptions can be codified in local zoning laws, but there is 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. It is quite clear however, that a variety of land uses occur throughout the stretch of tactical infrastructure where the gates will be installed.

4.2 Affected Environment

In the 2008 Tactical Infrastructure ESP (CBP 2008), CBP used The National Land Cover Dataset (NLCD) (NLCD 1992) to classify the existing land use categories within the 150-foot impact corridor and lands between the Project Area and the U.S./Mexico international border. The NLCD's different land cover classifications were generalized into the following four categories: planted/cultivated, developed, undeveloped, and WMAs and refuges (including National Wildlife Refuges [NWRs]). Specific land uses in each classification are described in that document and the results are incorporated herein by reference (CBP 2008).

4.3 Direct and Indirect Effects of the Project

In the 2008 Tactical Infrastructure ESP, CBP concluded that constructing the tactical infrastructure was expected to result in long-term minor to moderate adverse impacts on land use. The severity of the impact was expected to vary depending on the amount of changed land use, degree of incompatibility of the tactical infrastructure with existing land use, or the degree to which access to various land use types is restricted or limited by the Project. Short-term minor adverse impacts were expected to occur from construction (CBP 2008).

In this Gates ESP, the gates are going to be installed within the footprint of the existing tactical infrastructure at locations decided during that effort. The findings of CBP with respect to the impact of gates are different. The initial fence construction had impacts on land use, however, the gates will not be expected to change land use. There will be no long-term impacts to land use. There could be very slight changes to access to land, but these changes are mitigated by the distribution of access rights credentials to those who would require access through the tactical infrastructure at these gates and access will not be denied. Access through these gates is currently restricted by the presence of BP agents, and will remain restricted through the use of electronic access controls. The actual operation of the gates could impede wildlife use by the physical barrier which will be discussed in Chapter 7.2 and by the noise effects discussed in Chapter 3.

During assembly of the gates, a small area already used during the tactical infrastructure installation will be used. Therefore, this portion of the gates project will not contribute any

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

temporary impact. The passage through the gate portals will be impeded during the installation phase of the gates project. Short-term, minor, adverse impacts are expected to occur from construction. No long-term adverse impacts are expected.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

5 GEOLOGY AND SOILS

5.1 Definition of the Resource

CBP no longer has any specific legal obligations for the tactical infrastructure segments addressed in this ESP; however, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations on geological and soils resources.

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.

5.2 Affected Environment

In the 2008 Tactical Infrastructure ESP, CBP used The National Resource Conservation Service (NRCS) web soil survey (NRCS 2019) to classify the soil series within the 150-foot impact corridor and lands between the Project Area and the U.S./Mexico international border. Physiography, topography, and geology were described in the Environmental Impact Statement: Operation Rio Grande (DHS 2004). These descriptions are incorporated herein by reference (CBP 2008). Briefly, 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 impact corridor will occur in the Coastal Prairies and Interior Coastal Plains subprovinces, of the larger Gulf Coastal Plains 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. In Hidalgo County, soils of the Camargo, Cameron, Laredo, Matamoros, Olmito, Reynosa, Rio Grande, and Runn series within the impact corridor are classified as prime farmland soils; and soils of the Arents and Raymondville series within the impact corridor are classified as prime farmland soils if irrigated.

5.3 Direct and Indirect Effects of the Project

Installation of the tactical infrastructure caused short- and long-term minor adverse impacts on the natural topography, geology, and soils (CBP 2008, 2013). The gates which are the subject of this ESP will not cause any short- or long-term impacts in and of themselves. The footprint of the impact area is no different than that of the initial fence installation. The gates are being assembled on already established staging areas adjacent to the gate sites, and will be installed within the gaps left in the tactical infrastructure that has already been completed. Operation and maintenance of the gates will not have any impacts on natural topography, geology, and soils.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

6 WATER USE AND QUALITY

6.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific obligation under the Clean Water Act (CWA), but the Secretary committed CBP to responsible environmental stewardship of our valuable natural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CWA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for hydrology, groundwater, water quality and quantity.

Hydrology results from the redistribution of water through the processes of evapotranspiration, surface runoff, and subsurface flow. Hydrology is influenced by temperature and total precipitation that determine evapotranspiration rates, topography which determines rate and direction of surface flow, and soil or surface properties that determine rate of infiltration and subsurface flow to recharge to the groundwater reservoir.

Groundwater consists of subsurface hydrologic resources that function to recharge surface water and is important for drinking and domestic use, irrigation, and industrial processes. Groundwater typically can be described in terms of depth from the surface, aquifer or well production rates, water quality, recharge rate, and surrounding geologic formations.

Surface water and WUS are important natural resources. In the area of the tactical infrastructure installation and where the gates will be installed, there are considerable amounts of surface waters that are not regulated by the CWA because they are man-made water conveyances (e.g., drainage, or irrigation canals and ditches), but that remain important water resources. Waters regulated by the CWA are called jurisdictional waters or Waters of the United States (WOTUS). Another important regulation as far as Federal projects are concerned is the Energy Independence and Sustainability Act of 2007 (EISA). It regulates the amount of water and the water quality of water flowing off of any Federal project with a footprint greater than 5,000 square feet.

6.2 Affected Environment

In the 2008 Tactical Infrastructure ESP, CBP surveyed the Project Area to identify potential WUS, hydrology and groundwater effects (CBP 2008). The impact corridor is in the Rio Grande drainage basin, which occupies 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.

The gaps where the gates are to be installed are located on the levee that runs parallel to the Rio Grande. According to Federal Emergency Management Agency (FEMA) flood maps, the levee contains the 100-year flood from the Rio Grande.

6.3 Direct and Indirect Effects of the Project

Issuance of the waiver eliminated the requirement for CBP to comply with the CWA or EISA thresholds and standards for surface water and WOTUS. There are existing roads paralleling both sides of the levee for the majority of the levee wall. All gate sites are located where existing roads cross the barrier. Staging will be on adjacent disturbed areas.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

There are no WOTUS within any of the 25 gate project locations. All of the project site gate openings are located either on top or the side of the levee. There are no channels, channel facets, or drainages flowing into or out of the sites. However, there are potential WOTUS adjacent to several gate locations. Those are outside of the area of disturbance. Since these potential WOTUS are outside of the Project Area, they were not surveyed (CBP 2019a). Migration of contaminants or fugitive emissions is not likely to occur given that there are no drainage pathways from the gates to WOTUS. Given that the gates are atop the levees they are not expected to impact floodwaters.

There will be no short- or long-term effects. Any short-term minor impacts during assembly at the sites adjacent to each gate installation will be mitigated during construction by implementing BMPs and the SWPPP. There will be no long-term impacts from the installation of the gates in that they are located out of the flood plain on top of the levee. They do not impact surface water or sheet flow and will be installed in the pre-existing levee wall tactical infrastructure system.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

7 BIOLOGICAL RESOURCES

7.1 Vegetation

7.1.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific legal obligations for the gates addressed in this ESP. The Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts and mitigations for vegetation resources. Vegetation resources include native or naturalized (nonnative) plants and serve as habitat for a variety of wildlife species.

7.1.2 Affected Environment

In the 2008 Tactical Infrastructure ESP, CBP classified the vegetation communities within the 150-foot impact corridor and lands between the Project Area and the U.S./Mexico international border. These descriptions are incorporated herein by reference (CBP 2008). The area described for this gates installation ESP is much more focused. It includes only the assembly areas adjacent to the gates, and the gate locations. In 2019, CBP performed a more focused biological assessment of these areas (CBP 2019b)

A total of four (4) plant communities were recorded during the August 2019 biological resource survey. All four of the plant communities were heavily impacted or created by disturbance such as heavy vehicle traffic or modifications due to man-made engineering. The composition of plant communities on the Project Area was 1.5% Asphalt, 33.8 % Bare Ground, 63.2% Ruderal, and 1.5% Rip Rap Stone.

Asphalt is described as disturbed habitat that is composed almost entirely of asphalt but was also found with scattered native forbs growing in the cracks, such as Silver-leaf Nightshade (*Solanum elaeagnifolium*). This community was only found at the East Hidalgo POE gate, right along the gate entrance (Figure 7-1). Bare ground is a disturbed community consisting of gravel or natural soil and is devoid of vegetation (Figure 7-2). Ruderal represents a community with sparse vegetation including exotic grasses and native forbs such as Bermuda grass (*Cynodon dactylon*), Pink mimosa (*Albizia julibrissin*) and *Amaranthus* sp. (Figure 7-3). Rip Rap Stone is a man-made community consisting of large gravel rocks to control erosion. Plants growing in the periphery of the rocks include Variable Leaf Snailseed (*Cocculus diversifolius*) and Old man's beard (*Clematis drummondii*). This community was only found at the East Hidalgo POE gate, right along the gate entrance (Figure 7-4).

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas



Figure 7-1. Typical Asphalt area



Figure 7-2. Typical Bare Ground

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas



Figure 7-3. Typical Ruderal Community with sparse vegetation.



Figure 7-4. Typical Rip Rap Community consisting of large gravel rocks to control erosion.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

7.1.3 Direct and Indirect Effects of the Project

The plant communities described in the biological resources survey at all 25 gate locations in August 2019 were all indicative of highly disturbed areas. In fact, the areas slated for use in assembly of fence components have been previously used in the construction of the tactical infrastructure. The actual locations of the fence gates are located in gaps between constructed fence segments, and are currently used to cross through the gates by BP as well as by civilians. Due to the highly disturbed nature of the gate and assembly locations, no short- or long-term impacts are expected.

7.2 Wildlife and Aquatic Resources

7.2.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific obligation under the Migratory Bird Treaty Act (MBTA) or other environmental regulations, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective. The MBTA protects migratory birds. Wildlife and aquatic resources include native or naturalized animals and the habitats in which they exist.

7.2.2 Affected Environment

The Tactical Infrastructure ESP (CBP 2008) described the Rio Grande Valley as a highly distinctive subregion of the South Texas Plains, which consists mostly of level to rolling terrain characterized by dense brush. It contains the only subtropical area in Texas. The Rio Grande Valley brushland is considered an ecological transition zone between the temperate communities to the north and tropical communities to the south. Because of this, it supports many unique species and is a stopover for migrating neotropical birds (TPWD 2007).

According to the Tactical Infrastructure ESP (CBP 2008), most of the corridor has been heavily disturbed by agriculture and grazing. There are, however, several areas offering high-quality habitat including wetlands, riparian areas, arroyos, the LRGVNWR, Texas state parks, and WMAs.

The Santa Ana NWR and LRGVNWR form a complex rather than two separate entities. Santa Ana NWR contains one of the largest remaining tracts of subtropical riparian forest and native brushland in south Texas and provides more habitat. The refuge currently contains more than 90,000 acres and is considered a top priority acquisition area by the USFWS.

A biological survey was conducted along the Project Area without any significant findings of protected wildlife and no avian nests were found within the gates project area (CBP 2019b).

There are no aquatic resources within the Project Area for the gates' assembly locations or the gaps where the gates will be assembled.

This Project installs gates within gaps in tactical infrastructure. Some of these gaps fall in LRGVNWR Units crossed by the Tactical Infrastructure. They are listed in Table 7-1.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 7-1. Units of LRGVNWR Where Gates Will Be Installed.

Section	Unit of the LRGVNWR
O-4	Peñitas
O-6	Pharr Settling Basin
O-8	La Coma
O-10	Rosario Banco
O-13	Culebron Banco
O-18	Palo Banco; Phillips Banco

7.2.3 Direct and Indirect Effects of the Project

Construction could cause short-term negative impacts in the Project Area. Implementation of BMPs will minimize these impacts. Biological monitors will be present during construction and avian specialists should conduct nesting bird surveys prior to construction that occurs during the nesting season, February 15th to October 15th. During staging of materials and assembly, all bollards will remain capped to prevent wildlife from entering and becoming trapped and to prevent nesting birds from establishing a nest.

Long-term minor negative impacts are expected from the operation of the gates. The most likely impact of operation of the gates will be noise impacts discussed in Chapter 3 particularly for reclusive species in the quieter areas near LRGVNWR tracts. Additionally, birds could perch and/or nest on the gates. The BMPs for gate construction include the use of bird exclusion devices on attractive perching or nesting surfaces of the gate as shown in Figure 7-5. Because the gates will be operated, it is unlikely that any nests will be located on any of the gates.

There are no aquatic resources within the Project Area for the gates' assembly locations or the gaps where the gates will be assembled. Therefore, there will be no short- or long-term negative effects to aquatic resources or aquatic wildlife due to the assembly, installation, operation, or repair of the gates.

Closed gates could also affect migration of wildlife species. The amount of occlusion provided by the gates is very small with respect to the total impact of the fence project, therefore the impact due to gates installation and closure is expected to be negligible. However, the initial construction of the fence provided for wildlife passages at locations mutually agreed to by USFWS.

There can be minor beneficial impacts of installation and closure of the gates. The closed gates will prevent migration of large domestic animals in either direction. Keeping domestic animals out of areas near the refuge will prevent damage to habitat by grazing animals and predation by larger domestic animals. Preventing animals infected by the Cattle Fever Tick will aid the Cattle Fever Tick eradication Program of U.S. Department of Agriculture/APHIS and could help prevent the spread of cattle fever ticks, and disease north of the fence.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas



Figure 7-5. Bird Exclusion Devices along a gate in McAllen Sector.

7.3 Special Status Species

7.3.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific obligation under the Endangered Species Act (ESA); however, the Secretary committed CBP to responsible environmental stewardship of our valuable natural resources. CBP supports this objective and has developed appropriate mitigations for threatened and endangered species. Three groups of special status species are addressed in this ESP: Federal threatened and endangered species, State threatened and endangered species, and migratory birds (discussed previously in Chapter 7.2).

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

7.3.2 Affected Environment

There are 19 federally listed species have the potential to occur within the Project Area (see Table 7-2). The following 14 are not anticipated to be impacted by the 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*)
- Least tern (*Sterna antillarum*)
- Northern Aplomado falcon (*Falco femoralis septentrionalis*)
- Piping plover (*Charadrius melodus*)
- Whooping crane (*Grus americana*)
- Ashy dogweed (*Thymophylla tephroleuca*)
- Johnston's frankenia (*Frankenia johnstonii*)
- South Texas ambrosia (*Ambrosia cheiranthifolia*)
- Star cactus (*Astrophytum asterias*).

Sea turtles and brown pelicans are coastal species, occupying habitats geographically separate from the impact corridor and any reasonably predictable impacts of gate assembly, installation, maintenance, and operation. Historic ranges of the remaining indicate no known records of these species within or proximal to the gates slated for installation. Therefore, these 14 species are dismissed from further consideration. Table 7-2 lists all of the special status species that have the potential to occur in Hidalgo and Cameron counties (CBP 2008). Their potential to occur within the gate Project Area is given in the 6th column and is largely determined by the availability of habitat suitable for the species to inhabit. No aquatic species have the potential to occur. A complete discussion of the potential to occur with the Project corridor is provided in the Tactical Infrastructure ESP (CBP 2008) and is incorporated here by reference.

Table 7-2. State and Federally Listed Species

Common Name	Scientific Name	County	Federal Status	State Status	Potential for occurrence	Determination
FISH						
Blackfin goby	<i>Gobionellus atripinnis</i>	C	-	T	NL	NE
Opossum pipefish	<i>Microphis brachyurus</i>	C	-	T	NL	NE
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	H,C	-	T	NL	NE
River goby	<i>Awaous banana</i>	H,C	-	T	NL	NE
AMPHIBIANS						

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 7-2. State and Federally Listed Species

Common Name	Scientific Name	County	Federal Status	State Status	Potential for occurrence	Determination
Black spotted newt		H,C	-	T	NL	NE
Mexican treefrog	<i>Smilisca baudinii</i>	H,C	-	T	P	PNL
Sheep frog	<i>Hypopachus variolosus</i>	H,C	-	T	NL	NE
South Texas siren (large form)	<i>Siren sp 1</i>	H,C	-	T	NL	NE
White-lipped frog	<i>Leptodactylus labialis</i>	H,C	-	T	NL	NE
REPTILES						
Black-striped snake	<i>Coniophanes imperialis</i>	H,C	-	T	NL	NE
Green sea turtle	<i>Chelonia mydas</i>	C	E	T	NL	NE
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	C	E	E	NL	NE
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	C	E	E	NL	NE
Leatherback sea turtle	<i>Dermochelys coriacea</i>	C	E	E	NL	NE
Loggerhead sea turtle	<i>Caretta caretta</i>	C	T	T	NL	NE
Indigo snake	<i>Drymarchon corais</i>	H,C	-	T	P	PE
Northern cat-eyed snake	<i>Leptodeira septentrionalis septentrionalis</i>	H,C	-	T	NL	NE
Reticulate collared lizard	<i>Crotaphytus reticulatus</i>	H	-	T	NL	NE
Speckled racer	<i>Drymobius margaritiferus</i>	H,C	-	T	NL	NE
Texas horned lizard	<i>Phrynosoma cornutum</i>	H,C	-	T	P	PNL
Texas scarlet snake	<i>Cemophora coccinea lineri</i>	C	-	T	NL	NE
Texas tortoise	<i>Gopherus berlandieri</i>	H	-	T	NL	NE
BIRDS						
American peregrine falcon	<i>Falco peregrinus anatum</i>	H,C	-	E	NL	NE
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	H,C	-	T	NL	NE
Brown pelican	<i>Pelecanus occidentalis</i>	C	E	E	NL	NE

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 7-2. State and Federally Listed Species

Common Name	Scientific Name	County	Federal Status	State Status	Potential for occurrence	Determination
Cactus ferruginous pygmyowl	<i>Glaucidium brasilianum</i>	H,C	-	T	NL	NE
Common black-hawk	<i>Buteogallus anthracinus</i>	H,C	-	T	NL	NE
Eskimo curlew	<i>Numenius borealis</i>	C	-	E	NL	NE
Gray hawk	<i>Asturina nitida</i>	H,C	-	T	NL	NE
Least tern	<i>Sterna antillarum</i>	H,C	E	E	NL	NE
Northern Aplomado falcon	<i>Falco femoralis septentrionalis</i>	H,C	E	E	NL	NE
Northern beardless tyrannulet	<i>Camptostoma imberbe</i>	H,C	-	T	NL	NE
Piping plover	<i>Charadrius melodus</i>	H,C	T	T	NL	NE
Reddish egret	<i>Egretta rufes</i>	H,C	-	T	NL	NE
Rose-throated becard	<i>Pachyrampus aglaiae</i>	H,C	-	T	NL	NE
Sooty tern	<i>Sterna fuscata</i>	C	-	T	NL	NE
Texas Botteri's sparrow	<i>Aimophila botterii texana</i>	H,C	-	T	NL	NE
Tropical parula	<i>Parula pitaiyumi</i>	H,C	-	T	NL	NE
White-faced ibis	<i>Plegadis chihi</i>	H,C	-	T	NL	NE
White-tailed hawk	<i>Buteo albicaudatus</i>	H,C	-	T	NL	NE
Whooping crane	<i>Grus americana</i>	H,C	E	E	NL	NE
Wood stork	<i>Mycteria americana</i>	C	-	T	NL	NE
Zone-tailed hawk	<i>Buteo albonotatus</i>	C	-	T	NL	NE
MAMMALS						
Coues' rice rat	<i>Oryzomys couesi</i>	H,C	-	T	NL	NE
Gulf Coast jaguarundi	<i>Herpailurus (=Felis) yaguarondi</i>	H,C	E	E	P	PE
Ocelot	<i>Leopardus (=Felis) pardalis</i>	H,C	E	E	P	PE
Southern yellow bat	<i>Lasiurus ega</i>	H,C	-	T	NL	NE

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
 INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
 TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

Table 7-2. State and Federally Listed Species

Common Name	Scientific Name	County	Federal Status	State Status	Potential for occurrence	Determination
White-nosed coati Nasua narica	<i>Nasua narica</i>	H,C	-	T	NL	NE
PLANTS						
South Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	C	E	E	NL	NE
Star cactus	<i>Astrophytum asterias</i>	H,C	E	E	NL	NE
Texas ayenia	<i>Ayenia limitaris</i>	H,C	E	E	NL	NE
Walker's manioc	<i>Manihot walkerae</i>	H	E	E	P	PNL

Key:

H = Hidalgo County, Texas
 C = Cameron County, Texas
 E = Endangered
 T = Threatened
 NL = Not likely to occur

P = Potential to occur
 NE = No effect
 PE = Potential to adversely affect
 PNL = Potential to affect, not likely to adversely affect.
 - = not available

Sources: CBP 2008, TPWD 2007, and USFWS 2007b

7.3.3 Direct and Indirect Effects of the Project

Table 7-2 lists in the last column CBPs determination of the potential of this gates installation project to affect the species. Most species listed are not likely to occupy the habitat represented by either the assembly area or the gaps where the gates will be installed. Several species could potentially occur in the assembly area and therefore be affected, but these are not likely to be affected. Mexican treefrog (*Smilisca baudinii*) and Texas horned lizard (*Phrynosoma cornutum*) are listed as Threatened by the State of Texas and are not likely to have short-term, adverse effects by construction activities. However, on-site biological monitors will mitigate against this potential for adverse effects. Walker's manioc (*Manihot walkerae*) is a federally listed endangered species. It was not observed previously in the assembly areas and will not be present in the already heavily trafficked gate areas. Therefore, it is unlikely that there will be either short- or long-term adverse effects.

Short-term moderate adverse impacts will 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. Long-term, moderate adverse impacts will be anticipated for ocelots and jaguarundi due to elevated noise levels during operation of the gates (discussed in Chapter 3). It is anticipated that the overall impact of the gates, aside from noise, will be a moderate positive impact due to exclusion of escaped livestock, feral, and domestic predators (e.g., cats and dogs). Closed gates could affect migration of special status species. The impact provided by the gates is very small with respect to the total impact of the fence project, therefore the impact due to gates installation and closure is expected to be negligible. However, the initial construction of the fence provided for wildlife passages at locations mutually

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

agreed to by USFWS. These passages were sited to allow for known ocelot and jaguarondi travel corridors to continue to be used, but were avoided in areas where domestic and feral cats and dogs might utilize them.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

8 CULTURAL RESOURCES

8.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific obligation under the National Historic Preservation Act (NHPA); however, the Secretary committed CBP to responsible stewardship of our cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the NHPA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for cultural resources.

There are several types of resources referred to as cultural resources: 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 properties (e.g., traditional gathering areas, locations referenced in origin myths or traditional stories). In the original Tactical Infrastructure ESP (CBP 2008), cultural resource surveys were conducted and reports were submitted to the Texas, State Historic Preservation Officer. Native American tribes with ancestral ties to lands within the USBP Rio Grande Valley Sector (e.g., the Kiowa Tribe of Oklahoma and the Comanche Nation) were contacted for input into the Project. This coordination with Texas officials and tribal leaders was not Consultation in its strict sense because of the Secretary's waiver, but was coordinated in the interest of responsible stewardship of cultural resources. A number of mitigation projects were prepared and discussed in CBP 2008 and 2014.

8.2 Affected Environment

In the original Tactical Infrastructure ESP (CBP 2008) cultural resources were surveyed and an area of potential effect (APE) was determined for the entire 150-foot corridor of the proposed infrastructure project. A larger APE was used for historic buildings. CBP prepared a subsequent set of surveys and developed a report for this gates project (CBP 2019c). In this case, the area surveyed was limited to the assembly areas adjacent to each gate and the gates themselves. An APE of ½ mile around each gate location, as depicted in Figure 8-1, was investigated.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

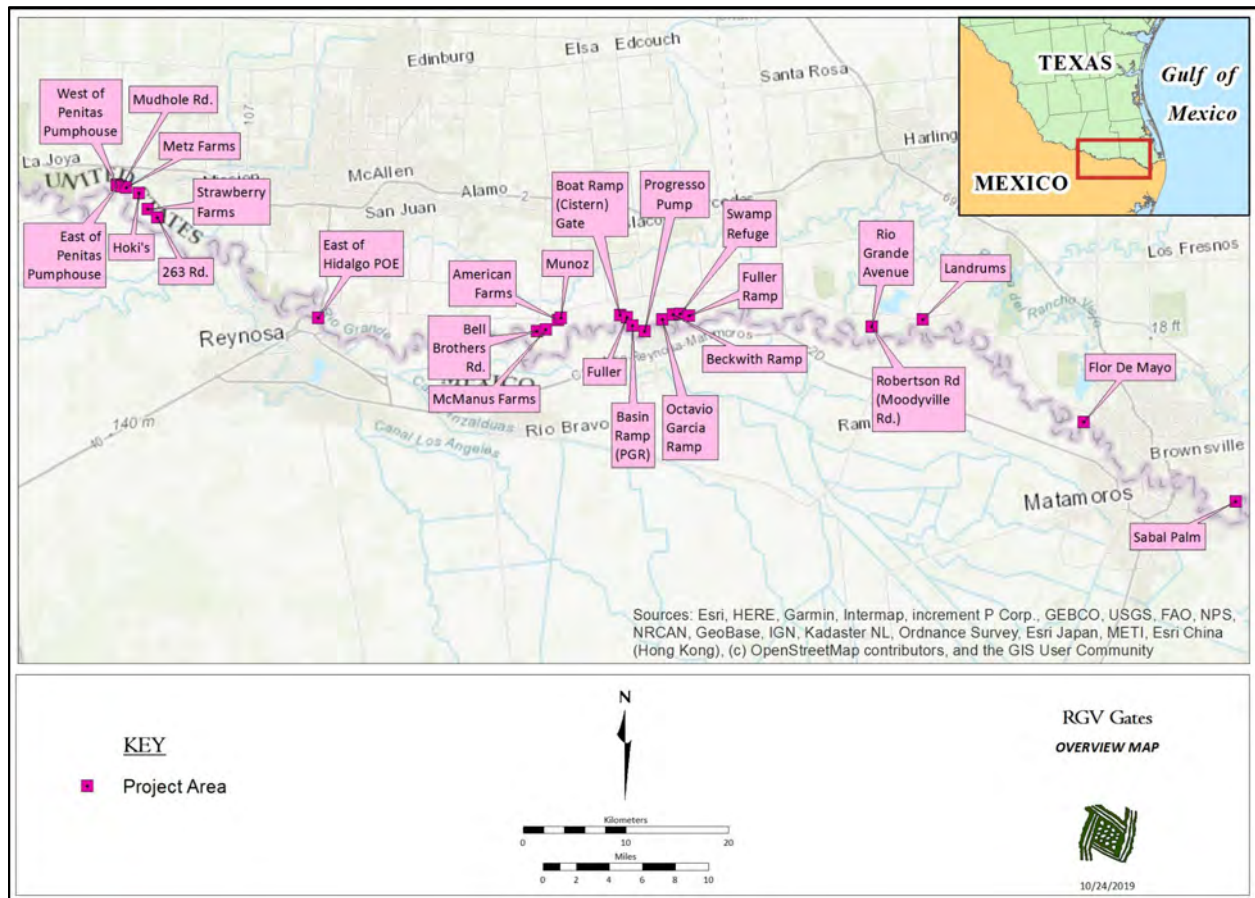


Figure 8-1. General location of project area.

8.3 Direct and Indirect Effects of the Project

CBP (2019c) conducted a Class I records search and literature review for the 25 locations comprising the Project APE, including a one-half mile buffer area. Records from the Texas Archaeological Sites Atlas (Atlas) database administered by the THC were examined. The records check was conducted to identify previous cultural resources investigations and previously recorded archaeological sites in the APE and the surrounding one-half mile buffer area. The results of the records check indicated multiple archaeological surveys had been previously conducted that include the current areas of interest. In the Cultural Resources Inventory performed, the location of previous projects and previously recorded sites corresponding to all gate locations are described by each segment. Several archaeological sites have been recorded in and near the current survey area. These sites include a variety of prehistoric and historic sites with associated structures, artifact scatters, and other features (CBP 2019c). The records check indicated that no previously recorded sites are located within any of the 25 gate locations that comprise the APE. For this reason, CBP finds that no historic properties or archaeological resources will be affected by the proposed gate assembly and installation activities. There will be no short- or long-term impacts to cultural or historic resources.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

9 VISUAL RESOURCES

9.1 Definition of the Resource

There are not any specific, legal obligations for the assessment of visual resources. The Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts on visual resources.

Aesthetics is the science or philosophy concerned with the quality of visual experience. One cannot meaningfully assess the impacts of an action on visual experience unless one considers both the stimulus (visual resources) and the response (viewers) aspects of that experience. In the Tactical Infrastructure ESP (CBP 2008) CBP utilized methodologies of the National Park Service and Bureau of Land Management to assess visual impacts along the entire corridor of the tactical infrastructure project. The results of those analyses are incorporated herein by reference.

9.2 Affected Environment

The affected environment for the gates project is the same as discussed in the Tactical Infrastructure ESP (CBP 2008). All 25 gates are to be placed into gaps within the tactical infrastructure already constructed.

9.3 Direct and Indirect Effects of the Project

Gate installation into the existing tactical infrastructure segments should have no additional short-term or long-term negative impacts on visual resources. The existing tactical infrastructure has included gaps for the fence since its construction. Installing the gates will have no additional impact on visual resources.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

10 SOCIOECONOMIC RESOURCES AND SAFETY

10.1 Definition of the Resource

Although the Secretary's waiver means that CBP no longer has any specific legal obligations for the gate assembly and installation addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts on socioeconomic and safety resources.

Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity. There are no Federal regulations specifically addressing socioeconomics. Environmental Justice requirements arise from Executive Order (EO) 12898. It relates to various socioeconomic groups and the health effects that could be imposed on them. The 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. 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.

10.2 Affected Environment

The Tactical Infrastructure ESP (CBP 2008) analyzed population growth and characteristics, employment, and income agriculture, and selected public services in Hidalgo and Cameron counties. The action described in that ESP does not differ substantially from the action described in this Gates ESP. The results of the Tactical Infrastructure ESP (CBP 2008) are incorporated herein by reference. Briefly, Cameron, Hidalgo, and Starr counties, Texas, have a total population of 1.15 million. The population in the three-county area has grown rapidly since 1980, increasing by 31% in the 1980s and 39% in the 1990s. Over the recent past some portions of the three-county area have been among the fastest growing areas in the United States. The area's racial and ethnic characteristic remains predominantly Hispanic. Although the economy has improved in the Project Area, the area remains relatively poor. The unemployment rate is high (7.3%) when compared to the Texas unemployment rate of 4.9%.

10.3 Direct and Indirect Effects of the Project

Assembly of the gates and installation of the gates will have a minor short-term positive impact on the local economy. Some jobs will be created to perform the work, but it is likely that most of the materials fabrication will occur elsewhere and be shipped to the gate sites for assembly and installation.

Negligible short-term beneficial impacts on population growth and characteristics will be expected. The short-term nature and small scale of the construction project will not induce

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

secondary population growth in the region. The Project will not create any long-term employment in the region.

Indirect beneficial effects on safety and the protection of children are expected from the projected deterrence of cross-border violators from entering the United States and, therefore, provide for safer communities.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

11 UTILITIES AND INFRASTRUCTURE

11.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific legal obligations for the tactical infrastructure segments addressed in this ESP, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines for evaluating environmental impacts on 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.

11.2 Affected Environment

The Tactical Infrastructure ESP (CBP 2008) analyzed utilities and infrastructure in Hidalgo and Cameron counties. The action described in that ESP is substantially smaller in scale from the action described in this Gates ESP. The results of the Tactical Infrastructure ESP (CBP 2008) are incorporated herein by reference.

Important utilities and infrastructure in the region include:

- Water Supply Systems – Most water comes from the Rio Grande or from irrigation or canal districts.
- Drainage Systems – Numerous agricultural and storm water drainages occur within the area of the gates project. They drain into the Arroyo Colorado and eventually into the Laguna Madre.
- Municipal Sanitary Sewer Systems – Some municipal sanitary sewer systems in the area of this Project discharge into the Rio Grande.
- Solid Waste Management – As of 2005, there are three active municipal landfills in Hidalgo County and one active municipal landfill in Cameron County. The remaining landfill capacity in those landfills will suffice for the predicted requirements of the region for 20-80 years (TCEQ 2006).
- Transportation Systems – Highway systems in the vicinity of the 25 gates 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 to market 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 25 gates.

11.3 Direct and Indirect Effects of the Project

The 25 gates are a part of the Tactical Infrastructure described in the 2008 ESP. The footprint of the assembly areas for each gate and the gates themselves are small in comparison to the tactical

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

infrastructure footprint; integrated into that footprint; and unlikely to cause any direct or indirect adverse effects to water supply systems, drainage systems, municipal sanitary systems, solid waste management, transportation, electrical or natural gas systems.

The gates will be operated by electrically powered motors; however, the amount of power required to open and close each gate is very small. It is highly unlikely that all 25 gates will be opened or closed simultaneously and therefore there will not be a requirement for increased power generation, and no likelihood of an over usage of electricity from the municipal power grid. Therefore, there will be no short- or long-term effects on the electrical system.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

12 HAZARDOUS MATERIALS AND WASTE

12.1 Definition of the Resource

The Secretary's waiver means that CBP no longer has any specific obligation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), and the Superfund Amendments and Reauthorization Act (SARA). The Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with CERCLA, RCRA, TSCA, and SARA as the basis for evaluating potential environmental impacts and developing appropriate mitigations for hazardous materials and wastes.

12.2 Affected Environment

The area surrounding the impact corridor for tactical infrastructure was carefully evaluated during the investigations establishing the Tactical Infrastructure ESP (CBP 2008). The gates are filling gaps left in that tactical infrastructure so the information developed during the previous ESP is pertinent for this Gates ESP. It is incorporated herein by reference (CBP 2008).

The area is predominantly used for agriculture. Therefore, pesticides and herbicides are currently used. It is assumed that all such substances are applied according to Federal, state, and local standards and regulations. There are no known waste storage or disposal sites within the tactical infrastructure and gates corridor (DTSC 2007). No phase I Environmental Site Assessments were performed as part of this Gates ESP.

12.3 Direct and Indirect Effects of the Project

Short-term negligible adverse impacts will be expected. Products containing hazardous materials (e.g., fuels, oils, lubricants, pesticides, and herbicides) will be procured and used during construction. It is anticipated that the quantity of products containing hazardous materials used will be minimal and their use will be of short duration. Their impacts will be minimized by the use of BMPs such as a requirement for secondary containment of fuel storage areas, drip pans, and spill prevention and countermeasure plans (SPCC) and equipment.

There could be infrequent use of herbicides at the gates, or pesticides within the motor housings for the gate drives. Commercially available products whose mode of action is through translocation in plant tissue and that are neutralized on contact with soil will be utilized. Such products are effective without residual impact. Therefore, no long-term impacts on humans, wildlife, soils, or water are expected.

Accidental spills could occur during construction. Spills could result from such activities as refueling of heavy equipment, loss of hydraulic oil through ruptured or leaking hoses, and possible gasoline or diesel fuel spills resulting from the unlikely event of a ruptured fuel tank. A spill could potentially result in adverse impacts on wildlife, soils, water, and vegetation. However, only small amounts of hazardous materials are expected. Contractors will be responsible for the management of hazardous materials and wastes. CBP will also require that the contractor keep any necessary materials and equipment on-site to quickly contain any spill or leak. The management of hazardous materials and wastes will include the use of BMPs and adherence to a pollution

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

prevention plan, an SPCC Plan, and a storm water management plan. CBP will require the construction contractor to manage all hazardous materials and wastes in accordance with applicable Federal, state, and local regulations.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

13 RELATED PROJECTS AND POTENTIAL EFFECTS

The Secretary's waiver means that CBP does not have any specific legal requirements to analyze the relationship between the effects and potential impacts of this gates project. However, the Secretary committed CBP to responsible environmental stewardship of our valuable natural and cultural resources and CBP supports this objective. Therefore, this section analyzes expected environmental effects from the gates project when added to other past, current, and reasonably foreseeable future actions. The geographic area covered in this 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 area to consider for air quality, wildlife and sensitive species, and socioeconomics is much broader and considers more county- or region-wide activities. Projects that were considered for this analysis were identified by reviewing USBP documents, particularly the Tactical Infrastructure ESP (CBP 2008). Projects that do not occur in close proximity (i.e., within several miles) of the gates will not contribute to a cumulative impact and are generally not evaluated further. Clearly, the gates project is integral to the previous tactical infrastructure project. With few exceptions it can be assumed that the gates installation impacts add only slightly to the cumulative impacts of the entire tactical infrastructure corridor impacts.

13.1 Cumulative Fencing Across the U.S. Mexico Border

The Tactical Infrastructure ESP (CBP 2008) analyzed the impacts of the installation of approximately 70 miles of border fence in the Rio Grande Valley Sector; however, sections of fence in O-2 and O-3 at the western edge of the Project Area near Roma and Rio Grande City were not constructed at that time. Prior to the Secure Fence Act of 2006 there were legacy fence segments across the southwest border. The act authorized three projects along the southwest border: Pedestrian Fence 225 (PF225) of which the RGV tactical infrastructure was a part; Pedestrian Fence 70 (PF70); and Vehicle Fence 300 (VF300). These programs, in addition to the legacy fence segments, were slated to complete a total of 670 miles of barriers by December 2008. Although not complete, more border barrier has been authorized and is under construction across the southwest border.

13.2 Other Tactical Infrastructure

A number of other projects within the Rio Grande Valley Sector are also likely to contribute to cumulative effects. Indeed, that is their purpose. Boat ramps that are in service could be renovated and improved, and new boat ramps could be installed. Sensors are employed that can detect CBV activities and traffic across the border area. Towers with both sensing devices and communications infrastructure are being built. These towers are either fixed or mobile/movable. Airborne stationary devices are employed and the number could be expected to increase to determine cross-border traffic and observe activities in Mexico before they enter the U.S. Temporary and permanent lighting is used and plans include the use lighting on the tactical infrastructure and in conjunction with gates. Changes to gates and barriers at trans-border train crossings and POEs are also planned and underway.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

13.3 Vegetation Control

CBP and USDA Cattle Tick Fever Eradication Program are collaborating to remove the invasive Carrizo cane (*Arundo donax*). The State of Texas is likewise involved in a large program to remove Carrizo cane using herbicide treatments.

13.4 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 gates project are considered.

13.5 Direct and Indirect Effects of the Project

13.5.1 Air Quality

Minor, short-term, adverse cumulative impacts on air quality are expected from completion of the construction of the gates, tactical infrastructure, and the combination of the other reasonably foreseeable future actions. As discussed in Chapter 2, construction equipment will temporarily increase fugitive dust and operation emissions from combustion fuel sources. There will be a minor long-term positive impact of the gate construction in conjunction with the other reasonably foreseeable actions since BP vehicles will no longer be stationed at the gaps where the gates will be installed.

13.5.2 Noise

Minor cumulative impacts on ambient noise are expected from the additive impacts of construction, operation, and maintenance of tactical infrastructure and anticipated residential and commercial development activities that routinely occur throughout the project area. Noise intensity and duration from construction, maintenance, and operation of gates will be similar to construction activities from residential or commercial development, and less than road construction and maintenance. Sound attenuates over distance, a gradual decrease in noise levels occurs the further a receptor is away from the source of noise. Construction, operation, and maintenance of gates will be distant from other substantial noise generating activities. Increased noise from assembly and installation of the gates could combine with existing noise sources or other construction activities to produce a temporary cumulative impact on sensitive noise receptors.

Operation of the gates could cause long-term moderate negative impacts to sensitive species especially in the wildlife refuge and wildlife management areas. Noise in conjunction with lights could cumulatively affect sensitive species within these areas. Particularly the endangered species, ocelot and jaguarundi, and other secretive organisms. Predominantly in the areas where ambient noise and light are low such as the wildlife refuge.

13.5.3 Land Use

Assembly and installation of gates into gaps in tactical infrastructure will result in no additional changes to land use. Recent activities that have most affected land use near the 25 gates to be installed in existing 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

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY, INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

land use will continue to be dominated by development. For example, the conversion of 508 acres to support tactical infrastructure is minimal and the footprint of the gates being installed into that existing infrastructure is even less (less than 25 acres) 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 will be displaced by the Project. Future development of residential areas will further alter the current land use.

There will be no negative impacts of assembly and installation on land use. There could be long-term, minor beneficial impacts to land use of adding and closing gates into the existing tactical infrastructure. The closed gates will prevent migration of large domestic animals in either direction. Keeping domestic animals out of areas near the refuge will prevent damage to habitat by grazing animals and predation by larger domestic animals. Preventing animals infected by the Cattle Fever Tick will aid the Cattle Fever Tick eradication Program of USDA/APHIS and could help prevent the spread of cattle fever ticks, and disease north of the fence.

13.5.4 Geology and Soils

The assembly and installation of the gates will have no additive effects such as changes to topography because there will be no grading, contouring, or trenching, minor soil disturbance, minor increase in erosion, and no loss of prime farmland. Assembly and installation of the gates into the existing tactical infrastructure will not be in close proximity to residential and commercial development and will not interact to cumulatively affect geological resources, including soils. Therefore, there will be no short- or long-term effects on geology, soils, topography, or prime farm land as a result of either assembly and installation or operation and maintenance of the gates.

13.5.5 Water Resources

There will be no short- or long-term impacts to surface waters, WOTUS, wetlands, hydrology, groundwater, privately owned waters (e.g., drainage or irrigation canals) or floodplains, by the assembly and installation or operation and maintenance of the gates into the already existing tactical infrastructure. The tactical infrastructure did cross many surface water features during its construction, but both the tactical infrastructure and the 25 gates being installed into the pre-planned gaps are a part of the levee wall system. As such, the pre-existing levees did affect the floodplains. The installation of the gates is a minimal change with limited construction impacts and no chance to affect any water resources.

13.5.6 Vegetation

The gate assembly will use already disturbed areas close to each gate installation. Vegetation will be managed in these areas in the normal course of construction impacts. Installation will occur in the unvegetated areas where gaps were left for the gates during the construction of the tactical infrastructure. There will be minor short-term impacts on ruderal vegetation during assembly. There should be no measurable impact on vegetation due to installation, operation, or maintenance to the gates, particularly in relation to the large de-vegetation occurring north of the tactical infrastructure by local development. If there is any long-term impact of gates operation to vegetation resources, it is possible that a minor beneficial long-term effect to refuge land will occur when the gates exclude grazing animals from crossing into refuge lands. Although vegetation

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

control projects are anticipated in the Project Area, the gates project will offer no addition to cumulative effects.

13.5.7 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 will mainly result from loss of habitat as described in Chapter 7.2, habitat disturbance and degradation, and permanent loss of green corridors. Displaced wildlife will 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 could continue to decrease, producing a long-term, minor to major adverse cumulative effect. There will be a cumulative adverse impact to wildlife due to impacts in migration by development, vegetation control projects, fence, and gates. The impacts to migration due to gates and fence are mitigated by the installation of wildlife passageways, and the amount of impact to migration by gates is minor in comparison to other activities. Wildlife could also be adversely impacted by noise during assembly and during operation of the gates, lighting, and loss of potential prey species.

13.5.8 Special Status Species

Special status species are commonly protected because their historic range and habitat has been reduced and will only support a small number of individuals. Assembly, installation, operation, and maintenance of gates in the gaps in the existing 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. No special status plants are present nor expected to be present in the gates. The noise of gate assembly is expected to have minor short-term adverse impacts to ocelot or jaguarundi when they are present. At the time of construction of the tactical infrastructure, many wildlife passageways were included as part of the construction effort. The locations for these wildlife passages were selected in coordination with USFWS staff to be useful for populations of the animals. Other locations were deemed likely to permit domestic and feral animals to enter locations where they could harass ocelot or jaguarundi and were therefore omitted. The gates operation and maintenance are expected to have minor cumulative adverse impacts on special status species due to the noise within 300 feet of the gates in conjunction with lights located at the gate passages.

13.5.9 Cultural Resources

Cumulative effects on historic properties are expected to be moderate to major, adverse, and long-term; however, the contribution of gate assembly, installation, operation, and maintenance is minimal. The adverse impacts of the tactical infrastructure installation were more pronounced, and were offset by careful curation of artifacts, and establishment of signage and other projects throughout the tactical infrastructure corridor.

13.5.10 Aesthetics and Visual Resources

Minor to moderate impacts on aesthetics and visual resources are expected from the cumulative effects of past, present, and reasonably foreseeable future actions. The tactical infrastructure created a permanent and fixed visual interruption at fixed points. The gates contribution to this

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

impact is minor. Recreational activities such as star-gazing could be adversely affected by this cumulative impact in night illumination depending on where the viewer is located.

13.5.11 Utilities and Infrastructure

Residential and commercial development in Cameron and Hidalgo counties has increased demand for utilities such as drinking water, wastewater treatment, natural gas and electric power distribution, and transportation. The assembly and installation, operation, and maintenance of gates installed within gaps in tactical infrastructure will 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.

13.5.12 Hazardous Materials and Waste

Assembly and installation, operation, and maintenance of gates within existing gaps in tactical infrastructure will require minimal quantities of hazardous materials and generate small quantities of hazardous wastes. Development, vegetation control projects and gate installation and operation could have minor releases of contaminants. The amount of hazardous materials used in construction and operation of gates, fence, and vegetation control should be small in proportion to the amount of risk for hazardous materials release due to development. Therefore, minimal cumulative impacts on hazardous materials and wastes will occur.

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

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FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

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FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE ASSEMBLY,
INSTALLATION, OPERATION, AND MAINTENANCE OF 25 GATES INTO EXISTING
TACTICAL INFRASTRUCTURE

U.S. Border Patrol, Rio Grande Valley Sector, Texas

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