

FINAL

**ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED RIO GRANDE CITY STATION
ROAD IMPROVEMENT PROJECT,
RIO GRANDE CITY, TEXAS, RIO GRANDE VALLEY SECTOR,
U.S. CUSTOMS AND BORDER PROTECTION
DEPARTMENT OF HOMELAND SECURITY**

NOVEMBER 2020



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DEPARTMENT OF HOMELAND SECURITY**



Lead Agency: Department of Homeland Security
U.S. Customs and Border Protection
Office of Acquisition
1901 S. Bell Street, Room 7-007
Arlington, VA 20598

Point of Contact: Mr. Paul Enriquez Environmental Branch Chief
U.S. Border Patrol Wall Program Management Office
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

NOVEMBER 2020

**FINAL
 FINDING OF NO SIGNIFIGANT IMPACT (FONSI)
 RIO GRANDE CITY STATION ROAD IMPROVEMENT PROJECT,
 RIO GRANDE CITY, TEXAS, RIO GRANDE VALLEY SECTOR,
 U.S. CUSTOMS AND BORDER PROTECTION
 DEPARTMENT OF HOMELAND SECURITY
 U.S. BORDER PATROL, RIO GRANDE VALLEY SECTOR, TEXAS
 U.S. CUSTOMS AND BORDER PROTECTION
 DEPARTMENT OF HOMELAND SECURITY
 WASHINGTON, D.C.**

INTRODUCTION: United States (U.S.) Customs and Border Protection (CBP) plans to upgrade and lengthen four existing roads in the U.S. Border Patrol (USBP) Rio Grande City (RGC) Station’s Area of Responsibility (AOR). The Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared an Environmental Assessment (EA). This EA addresses the proposed upgrade and construction of the four aforementioned roads and the BPAM-PMO is preparing this EA on behalf of the USBP Headquarters.

CBP is the law enforcement component of the U.S. Department of Homeland Security (DHS) that is responsible for securing the border and facilitating lawful international trade and travel. USBP is the uniformed law enforcement subcomponent of CBP responsible for patrolling and securing the border between the land ports of entry.

PROJECT LOCATION: The roads are located within the RGC Station’s AOR, Rio Grande Valley (RGV) Sector, in Starr County, Texas. The RGC Station’s AOR encompasses approximately 1,228 square miles, including approximately 68 miles along the U.S.-Mexico border and the Rio Grande from the Starr/Zapata County line to the Starr/Hidalgo County line.

From north to south, the four road segments are named Mouth of River to Chapeno Hard Top, Chapeno USBWGate to Salineno, Salineno to Enron, and 19-20 Area to Fronton Fishing, and all of these segments are located south of Falcon International Reservoir (Falcon Lake), generally parallel to the Rio Grande. The road corridors are located primarily on private lands. Table 1 shows the extent of new road construction/upgrades to the four aforementioned roads.

Table 1. Rio Grande City Station Road Improvement Project Components

Road Segment Description	Length (Miles)	New Construction (Miles)	Upgrades to Existing Roads (Miles)
Mouth of River to Chapeno Hard Top	1.26	0.78	0.48
Chapeno USBWGate to Salineno	2.44	1.93	0.51
Salineno to Enron	3.29	2.79	0.49
19-20 Area to Fronton Fishing	5.02	0.56	4.46
All Segments	12.01	6.06	5.94

Note: The mileages for new roads and road upgrades are GSRC’s best estimate based on a comparison of the path shown in the keyhole markup language (kmz) provided by CBP to the existing roads viewed via Google Earth. The total length for each road has been changed slightly based on ArcMap distance calculations for the kmz file provided by CBP (the total length changed from 12.71 miles to 12.01 miles).

PURPOSE AND NEED: The purpose of the Proposed Action is to improve mobility and accessibility for USBP agents responding to illegal cross-border traffic.

The RGC Station's AOR currently has mobility and accessibility issues throughout the AOR. Limited ingress/egress points throughout the AOR and poor road conditions are two major factors that affect response times and limit agent options when responding to cross-border traffic.

Implementation of the Proposed Action would provide USBP agents with better access to the Rio Grande River and adjacent areas in order to expedite response times to address illegal cross-border traffic within the RGC Station's AOR. The improved mobility and accessibility for agents will increase and sustain the certainty of arrest and help deter illegal cross-border activities by improving enforcement capabilities, thus preventing terrorists and terrorist weapons from entering the U.S., reducing the flow of illegal drugs, and enhancing agents' response time, while providing a safer work environment for USBP agents.

ALTERNATIVES: CBP analyzed two alternatives in this EA. Alternative 1 is the No Action Alternative. Under the No Action Alternative, the proposed road upgrades and construction would not take place. In the absence of the proposed road construction, the RGC Station would continue to experience major capability gaps due to limited mobility and accessibility throughout the AOR. Limited ingress/egress points throughout the AOR and poor road conditions would continue to affect agent response times and ability to respond to illegal cross-border traffic. The No Action Alternative does not meet the purpose and need for this project.

Alternative 2 is the Proposed Action. The Proposed Action would include the upgrade and extension of four existing dirt track roads within the RGC Station's AOR. The Proposed Action would include approximately 6 miles of road improvements and 6 miles of new road construction. The upgrade and construction of the roads would be executed utilizing a design-bid-build approach. The Proposed Action alternative includes upgrading existing roads and new construction to meet CBP Functional Class (FC)-2 standards for all-weather roads for each of the four roads. CBP's FC-2 All-Weather Road standard is for a two-lane (20-foot-wide with 2-foot shoulders) unpaved road consisting of an aggregate material, such as caliche, stone, or gravel. An adjacent 6-foot-wide roadway section, constructed to FC-3 standards (unpaved road consisting of graded native material), would be completed on the river side of each road for use as a "drag road," which is used for initial detection by USBP agents. The drag road would be included in the design where feasible and excluded from areas found to be environmentally sensitive as well as from arroyo and drainage crossings. Drainage features (e.g. culverts) would be installed along each of the roads. Any water needed for construction would be obtained through groundwater withdrawals supplied by a water truck or nearby hydrant; no water would be taken from the Rio Grande River. All design work would be done in accordance with the most current CBP Tactical Infrastructure (TI) Design Standards.

ENVIRONMENTAL CONSEQUENCES: Impacts of the Proposed Action on land use would be permanent and negligible. Under the Proposed Action, nearly half of the road construction would be upgrades of existing roads through rural areas. There would be approximately 6 miles of new road construction, primarily through private lands that are currently used for rangeland. While the Proposed Action would remove approximately 29 acres of vegetation that could be

used as forage, the overall use of the land would remain unchanged. Another 58 acres would be temporarily unavailable during the construction period.

Under the Proposed Action, approximately 29 acres of soils would be permanently disturbed or removed from biological production from the construction and upgrade of roads and their associated infrastructure. Of these 29 acres, 10 acres of land or 34 percent are designated prime farmland, if irrigated. The direct impact to soils from the disturbance and removal from biological production would be negligible due to the small size of the project footprint relative to the amount of the same soils throughout the Region of Influence (ROI). The soils within the project footprint are not currently irrigated.

The Proposed Action would have temporary, negligible adverse impacts on groundwater. Water needed for construction activities would be obtained from groundwater sources. All water would be supplied to the construction site by water truck or nearby hydrant.

The Proposed Action may have temporary, negligible adverse impacts on surface waters as a result of increases in erosion and sedimentation during periods of construction. Disturbed soils and hazardous substances (i.e., antifreeze, fuels, oils, and lubricants) could directly impact water quality during a rain event. However, through the use of Best Management Practices (BMPs) and implementation of a Stormwater Pollution Prevention Plan (SWPPP), these effects would be minimized. No water will be taken from the Rio Grande River.

The existing roads vary in width from 10 to 30 feet wide; for the purposes of estimating vegetation impacts, it is assumed the existing roads are 20 feet wide and no permanent vegetation loss would occur within these footprints. Temporary losses of vegetation would occur on either side of the existing road footprint during road upgrades. Silt fences and other erosion control measures would be implemented to reduce any topsoil loss from the footprint to increase the chance of revegetation and to avoid sedimentation and indirect effects on vegetation outside of the footprint. Once the construction is completed, CBP would hydroseed the temporary footprint with native seed or allow the area to revegetate naturally. Where new road is constructed, vegetation will be permanently removed. Therefore, the Proposed Action will have permanent and negligible impacts on vegetation.

The Proposed Action would have permanent, minor, adverse impacts on wildlife and wildlife habitat in the project area. It is anticipated that the Proposed Action would permanently impact 29 acres of wildlife habitat where new roads are created as well as temporarily impact 58 acres of land where road improvements are being made. The following paragraphs summarize potential wildlife impacts associated with the road improvement project.

Noise associated with the construction activities would result in temporary, minor adverse impacts on wildlife. Elevated noise levels associated with the construction activities would only occur during construction. The effects of this disturbance would include temporary avoidance of work areas and competition for unaffected resources. BMPs would be implemented to reduce noise disturbance and loss of wildlife habitats, such as only conducting construction activities during daylight hours when feasible, ensuring construction equipment mufflers are properly maintained, and restricting all construction-related activities to the construction footprint. It is

anticipated that vehicle trips will increase on an annual basis as a result of implementing the road improvements. These increased vehicle trips and elevated noise levels would be intermittent and minor. Wildlife inhabiting the project area and surrounding habitat would likely habituate to the traffic noise. Thus, noise levels associated with increased traffic would have a permanent, minor impact on wildlife.

Artificial lighting could potentially interfere with wildlife activity by temporarily attracting or deterring wildlife to or from the area depending on the species, as well as potentially altering circadian rhythm processes. If construction must occur during nighttime hours, the frequency and duration of these activities will be minimized to the greatest extent possible. Furthermore, artificial lights will be limited to the immediate area and minimum wattage required for worker safety, and lights will be directed toward the ground and away from vegetation to minimize their impact on nearby wildlife.

The roads proposed to be improved are all non-paved roads, most of which are on private lands or United States Fish and Wildlife Service (USFWS) and United States International Boundary and Water Commission (USIBWC) lands; as such, these roads receive little to no public traffic. The construction activities would result in temporary and minor increases in traffic, which would return to near current conditions once the project is completed.

Three federally listed species (ocelot [*Leopardus pardalis*], jaguarundi [*Puma yagouaroundi*], and Zapata bladderpod [*Physaria thamnophila*]) are known or have the potential to occur within the project area. Based on the information outlined below, the Proposed Action may affect, but is not likely to adversely affect, ocelot and jaguarundi. The project may adversely affect the Zapata bladderpod and would adversely modify 29 acres of designated Critical Habitat for the Zapata bladderpod. CBP has initiated Section 7 consultation with the USFWS to identify measures to avoid or offset impacts to these species. Only one state-listed species, Texas tortoise (*Gopherus berlandieri*), was observed within the project area.

Under the Proposed Action, 14 archaeological sites would be impacted by the proposed construction. Ten of those archaeological sites are recommended ineligible for the National Register of Historic Places (NRHP) and are not considered significant cultural resources. The remaining four archaeological sites have an undetermined eligibility for the NRHP, pending additional archaeological investigations needed to determine their eligibility for the NRHP. NRHP eligibility testing would be conducted on these sites before any ground disturbing activities are conducted within their boundaries. These archaeological sites would be treated as eligible until the testing can be conducted and their eligibility for the NRHP can be determined. If any of the sites are determined eligible for the NRHP as a result of subsequent archaeological testing, then appropriate mitigation measures for those sites would be developed in consultation with the Texas Historical Commission (THC) prior to any ground disturbing activities being conducted within those site boundaries. All mitigation measures developed through consultation with the THC would be implemented prior to construction in any of those sites. Full compliance with Section 106 of the National Historic Preservation Act (NHPA) will ensure no significant impacts would occur to any of these potentially significant cultural resources.

Under the Proposed Action alternative, there would be temporary, minor adverse impacts on air quality from construction activities. Impacts on air quality would result from emissions from construction equipment as well as dust generated by construction activities. BMPs would be followed to minimize impacts. Construction of new roads would result in lower levels of fugitive dust than the dirt roads now in use, resulting in permanent and negligible impacts that would enhance air quality. If activity from patrol vehicles increases as a result of the improved roads, there could be a minor increase in vehicle emissions. However, increased access could allow USBP agents to take more direct routes, which could potentially reduce vehicle emissions and aid in overall efficiency.

Temporary, minor, and beneficial impacts could occur in the form of jobs and income for area residents, revenues to local businesses, and sales and use taxes to Starr County and the State of Texas from locally purchased building materials and local construction workers. Additionally, the road upgrades would provide better access for USBP agents focused on interdiction of those involved in illegal cross-border activities, thereby enhancing rapid response capabilities. Agents could be more efficiently deployed to patrol the areas, which would likely contribute to a decrease in cross-border violators. The decrease in cross-border violator activities could have a beneficial impact on the incidence of crime and enhanced safety, potentially providing long-term beneficial impacts in the region.

The Proposed Action would have temporary, minor, adverse socioeconomic impacts in some of the areas immediately adjacent to the roads. The proposed roads are in rural areas with few structures nearby. There are no schools or churches within 500 feet of the four roads; however, 17 structures (possible residences) are located within 500 feet of the proposed roads. The Mouth of River to Chapeno Hard Top and Chapeno USBWC Gate to Salineno roads each have up to four residences within 500 feet, the Salineno to Enron road has up to seven residences within 500 feet, and the 19-20 Area to Fronton Fishing road has up to two residences within approximately 50 feet of proposed roads. Starr County has high minority and high poverty populations, with the percentage of the population in poverty more than double that of Texas. However, there would be no long-term impacts on people and only temporary and minor impacts associated with construction, so there would be no disproportionately high and adverse human health or environmental effects on minority populations, impoverished persons, or children.

BEST MANAGEMENT PRACTICES: BMPs were identified for each resource category that could potentially be affected. Many of these measures have been incorporated as standard operating procedures by CBP on similar past projects. A BMP guidance document is provided in Appendix E.

CUMULATIVE IMPACTS: Impacts on each resource were analyzed according to how other actions and projects within the ROI might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis the intensity of impacts will be classified as negligible, minor, moderate, or major. It is not anticipated that the cumulative impacts of ongoing projects in the ROI will be significant. Discussion of past, ongoing, and planned projects in the RIO are highlighted in Section 4.0 of the EA.

FINDING: On the basis of the findings of the EA, which is incorporated by reference, and which has been conducted in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations, and DHS Management Directive, 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01., and after careful review of the potential environmental impacts of implementing the proposal, we find that there would be no significant impact on the quality of the human or natural environments, either individually or cumulatively; therefore, there is no requirement to develop an Environmental Impact Statement. Further, we commit to implement BMPs and environmental design measures identified in the EA and supporting documents.



11/4/2020

Ruynard R. Singleton Sr.
Executive Director
Program Management Office Directorate
U.S. Border Patrol

Date



ERIC P ELDRIDGE

Digitally signed by ERIC P
ELDRIDGE

Date: 2020.11.04 15:48:09 -05'00'

Eric P. Eldridge
Director
Facilities Management and Engineering Division

Date

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS.....	v
1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION.....	1-1
1.1 INTRODUCTION	1-1
1.2 PROJECT LOCATION	1-1
1.3 PURPOSE OF THE PROPOSED ACTION	1-2
1.4 NEED FOR THE PROPOSED ACTION.....	1-2
1.5 SCOPE OF ENVIRONMENTAL ANALYSIS AND DECISIONS TO BE MADE.....	1-2
1.6 ENVIRONMENTAL REVIEW AND CONSULTATION.....	1-4
1.7 PUBLIC INVOLVEMENT	1-5
2.0 PROPOSED ACTION AND ALTERNATIVES	2-1
2.1 CRITERIA FOR SITE SELECTION	2-1
2.2 PROPOSED ACTION	2-1
2.3 NO ACTION ALTERNATIVE.....	2-10
2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION	2-10
2.5 ALTERNATIVES SUMMARY.....	2-12
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES...3-1	
3.1 RESOURCES TO BE EVALUATED IN THIS ENVIRONMENTAL ASSESSMENT.....	3-2
3.2 LAND USE.....	3-3
3.2.1 Affected Environment.....	3-3
3.2.2 Environmental Consequences.....	3-3
3.2.2.1 Proposed Action.....	3-3
3.2.2.2 No Action Alternative.....	3-3
3.3 SOILS AND PRIME FARMLAND	3-4
3.3.1 Affected Environment.....	3-4
3.3.2 Environmental Consequences.....	3-5
3.3.2.1 Proposed Action.....	3-5
3.3.2.2 No Action Alternative.....	3-5
3.4 WATER RESOURCES	3-6
3.4.1 Affected Environment.....	3-6
3.4.1.1 Groundwater Supplies.....	3-6
3.4.1.1.1 Gulf Coast Aquifer	3-6
3.4.1.1.2 Yegua-Jackson Aquifer	3-6
3.4.1.2 Surface Waters.....	3-6
3.4.1.3 Floodplains.....	3-7
3.4.2 Environmental Consequences.....	3-7
3.4.2.1 Proposed Action.....	3-7
3.4.2.2 No Action Alternative.....	3-11
3.5 VEGETATION.....	3-11

3.5.1	Affected Environment.....	3-11
3.5.2	Environmental Consequences.....	3-12
3.5.2.1	Proposed Action.....	3-12
3.5.2.2	No Action Alternative.....	3-13
3.6	WILDLIFE RESOURCES.....	3-13
3.6.1	Affected Environment.....	3-13
3.6.2	Environmental Consequences.....	3-14
3.6.2.1	Proposed Action.....	3-14
3.6.2.2	No Action Alternative.....	3-15
3.7	THREATENED AND ENDANGERED SPECIES	3-15
3.7.1	Affected Environment.....	3-16
3.7.2	Environmental Consequences.....	3-23
3.7.2.1	Proposed Action.....	3-23
3.7.2.2	No Action Alternative.....	3-24
3.8	CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES....	3-25
3.8.1	Affected Environment.....	3-25
3.8.1.1	Cultural Overview.....	3-26
3.8.1.2	Previously Conducted Cultural Resources Investigations and Recorded Cultural Resources.....	3-26
3.8.2	Environmental Consequences.....	3-29
3.8.2.1	Proposed Action.....	3-29
3.8.2.2	No Action Alternative.....	3-29
3.9	AIR QUALITY.....	3-29
3.9.1	Affected Environment.....	3-29
3.9.2	Environmental Consequences.....	3-32
3.9.2.1	Proposed Action.....	3-32
3.9.2.2	No Action Alternative.....	3-32
3.10	NOISE.....	3-32
3.10.1	Affected Environment.....	3-32
3.10.2	Environmental Consequences.....	3-35
3.10.2.1	Proposed Action.....	3-35
3.10.2.2	No Action Alternative.....	3-36
3.11	ROADWAYS AND TRAFFIC	3-36
3.11.1	Affected Environment.....	3-36
3.11.2	Environmental Consequences.....	3-36
3.11.2.1	Proposed Action.....	3-36
3.11.2.2	No Action Alternative.....	3-36
3.12	SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN	3-38
3.12.1	Affected Environment.....	3-38
3.12.2	Environmental Consequences.....	3-40
3.12.2.1	Proposed Action.....	3-40
3.12.2.2	No Action Alternative.....	3-40
4.0	CUMULATIVE EFFECTS.....	4-1
4.1	DEFINITION OF CUMULATIVE IMPACTS	4-1
4.2	PAST IMPACTS WITHIN THE REGION OF INFLUENCE.....	4-1

4.3	CURRENT AND REASONABLY FORESEEABLE CBP PROJECTS WITHIN AND NEAR THE REGION OF INFLUENCE.....	4-1
4.4	ANALYSIS OF CUMULATIVE IMPACTS.....	4-2
4.5	LAND USE.....	4-3
4.6	SOILS.....	4-3
4.7	GROUNDWATER, SURFACE WATER, WATERS OF THE U.S., AND FLOODPLAINS.....	4-3
4.8	VEGETATIVE HABITAT.....	4-4
4.9	WILDLIFE RESOURCES.....	4-4
4.10	THREATENED AND ENDANGERED SPECIES.....	4-4
4.11	CULTURAL RESOURCES.....	4-5
4.12	AIR QUALITY.....	4-5
4.13	NOISE.....	4-5
4.14	ROADWAYS AND TRAFFIC.....	4-6
4.15	SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN.....	4-6
5.0	REFERENCES.....	5-1
6.0	LIST OF PREPARERS.....	6-1

LIST OF FIGURES

Figure 1-1.	Vicinity Map.....	1-3
Figure 2-1.	Proposed Road Alignment - Mouth of River to Chapeno Hard Top.....	2-6
Figure 2-2.	Proposed Road Alignment - Chapeno USIBWC Gate to Salineno.....	2-7
Figure 2-3.	Proposed Road Alignment - Salineno to Enron.....	2-8
Figure 2-4.	Proposed Road Alignment - 19-20 Area to Fronton Fishing.....	2-9
Figure 2-5.	Alternatives Considered but Eliminated.....	2-11
Figure 3-1.	Portions of the Chapeno USIBWC Gate to Salineno Road Segment Within the 100-year Floodplain.....	3-8
Figure 3-2.	Portions of the Salineno to Enron Road Segment Within the 100-year Floodplain.....	3-9
Figure 3-3.	Portions of the 19-20 Area to Fronton Fishing Road Segments Within the 100-year Floodplain.....	3-10
Figure 3-4.	Geologic Map.....	3-28
Figure 3-5.	Road Segments in Reference to the Lower Rio Grande Valley National Wildlife Refuge.....	3-34
Figure 3-6.	Transportation Network Map.....	3-37

LIST OF TABLES

Table 1-1.	Proposed Road Segments for the Rio Grande City Station Road Improvement Project	1-2
Table 2-1.	Alternatives Considered but Eliminated	2-10
Table 2-2.	Alternatives Matrix of Purpose of and Need for Alternatives	2-12
Table 3-1.	Resources Analyzed in the Environmental Impact Analysis Process.....	3-2
Table 3-2.	Soil Types	3-4
Table 3-3.	Federally Listed Species in Starr County, Texas	3-17
Table 3-4.	National Ambient Air Quality Standards.....	3-31
Table 3-5.	Noise Levels of Construction Equipment and Modeled Attenuation	3-35
Table 3-6.	Population Demographics.....	3-38
Table 3-7.	Income, Poverty, and Unemployment	3-38
Table 3-8.	Educational Attainment	3-39

LIST OF PHOTOGRAPHS

Photograph 2-1.	A schematic showing where permanent and temporary disturbance will take place while upgrading existing roads.	2-4
Photograph 2-2.	A schematic showing where permanent and temporary disturbance will take place while creating novel roads.	2-4
Photograph 3-1.	Red knot (Source: NatureScapes.net).....	3-19
Photograph 3-2.	Gulf Coast Jaguarundi (Source: USFWS).....	3-20
Photograph 3-3.	Ocelot (Source: USFWS)	3-21

LIST OF APPENDICES

Appendix A.	Public Correspondence
Appendix B.	Flora and Fauna Observations
Appendix C.	State-Listed Species with the Potential to Occur in Starr County, Texas
Appendix D.	Correspondence
Appendix E.	Rio Grande Valley Best Management Practices (BMPs)

ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
ac-ft	acre-foot
ACS	United States Census American Community Survey
AOR	Area of Responsibility
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
BMP	Best Management Practices
CAA	Clean Air Act
CBP	U.S. Customs and Border Protection
CEQ	Council on Environmental Quality
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalency
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
DBH	Diameter at Breast Height
DHS	Department of Homeland Security
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FC	Functional Class
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GCD	Groundwater Conservation District
GHG	Greenhouse Gas
GLO	Texas General Land Office
GSRC	Gulf South Research Corporation

HFC	Hydrochlorofluorocarbons
HUD	Housing and Urban Development
IO	Isolated Occurrence
kmz	Keyhole Markup Language
La	Lagloria silt loam
LRGV	Lower Rio Grande Valley
MBTA	Migratory Bird Treaty Act
mg/m ³	Milligrams per Cubic Meter of Air
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAF	Northern Aplomado Falcon
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NOA	Notice of Availability
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
O ₃	Ozone
PM-2.5	Particulate matter less than 2.5 Microns
PM-10	Particulate matter less than 10 Microns
ppb	Parts per Billion
ppm	Parts per Million
RCRA	Resource Conservation and Recovery Act
RGC	Rio Grande City
RGV	Rio Grande Valley
ROI	Region of Influence
SHPO	State Historic Preservation Office
SO ₂	Sulphur Dioxide
SOP	Standard Operating Procedures
STP	Shovel Test Pit
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TCP	Traditional Cultural Property

THC	Texas Historical Commission
TI	Tactical Infrastructure
TPWD	Texas Parks and Wildlife Department
TWDB	Texas Water Development Board
TxDOT	Texas Department of Transportation
ug/m ³	Micrograms per Cubic Meter of Air
U.S.	United States
U.S. 83	United States Highway 83
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USIBWC	International Boundary and Water Commission, U.S. Section

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The Department of Homeland Security (DHS), United States (U.S.) Customs and Border Protection (CBP), is preparing this Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the proposed improvement and construction of four roads in the Rio Grande City (RGC) Station's Area of Responsibility (AOR), Rio Grande Valley (RGV) Sector, Texas. CBP is the law enforcement component of DHS responsible for securing the border and facilitating lawful international trade and travel. U.S. Border Patrol (USBP) is the uniformed law enforcement subcomponent of CBP responsible for patrolling and securing the border between the land ports of entry.

The RGV Sector has mobility and accessibility issues in the Rio Grande City Station's AOR. There are a limited number of roads along or providing access to the Rio Grande, road conditions are poor, and the terrain includes heavy brush. Areas with no lateral access are challenging to patrol, with some only providing access by foot, thereby providing an advantage to cross border violators. The limited access and poor road conditions affect response times and impact agents' ability to predict, detect, respond to, and resolve illicit activity throughout the AOR. For the RGV Sector to be successful, the Rio Grande City Station's AOR requires tactical infrastructure (TI), such as all-weather roads, throughout the AOR where vanishing points are seconds to minutes.

The proposed Rio Grande City Station AOR Road Improvement Project includes the upgrade of existing roads and new road construction at four road segments, which are generally adjacent to the Rio Grande south of the Falcon International Reservoir. The total length of the road segments changed from 12.71 miles to 12.01 miles, and this report will base calculations off of the 12.01-mile length. The total combined length for each road has been changed slightly based on ArcMap distance calculations of the keyhole markup language (kmz) file provided by CBP. The mileages for new roads and road upgrades are Gulf South Research Corporation's (GSRC) best estimate based on a comparison of the path shown in the kmz provided by CBP to the existing roads viewed via Google Earth. Properties crossed by the four road segments are owned by 51 landowners. Two of the road segments traverse property owned by the U.S. Section, International Boundary and Water Commission (USIBWC), and two other segments cross over land owned by the U.S. Fish and Wildlife Service (USFWS).

1.2 PROJECT LOCATION

The proposed Road Improvement Project is located within the Rio Grande City Station AOR, RGV Sector, in Starr County, Texas. The Rio Grande City Station AOR encompasses approximately 1,228 square miles, including approximately 68 miles along the U.S.-Mexico border and the Rio Grande from the Starr/Zapata County line to the Starr/Hidalgo County line. From north to south, the four road segments are named Mouth of River to Chapeno Hard Top, Chapeno USIBWC Gate to Salineno, Salineno to Enron, and 19-20 Area to Fronton Fishing, and all of these segments are located south of Falcon International Reservoir (Falcon Lake) and

generally run parallel to the Rio Grande (Figure 1-1). Table 1-1 identifies the length of each road segment that will require new construction and upgrades.

Table 1-1. Proposed Road Segments for the Rio Grande City Station Road Improvement Project

Road Segment Description	Length (Miles)	New Construction (Miles)	Upgrades to Existing Roads (Miles)
Mouth of River to Chapeno Hard Top	1.26	0.78	0.48
Chapeno USIBWC Gate to Salineno	2.44	1.93	0.51
Salineno to Enron	3.29	2.79	0.49
19-20 Area to Fronton Fishing	5.02	0.56	4.46
All Segments	12.01	6.06	5.94

Notes: The mileages for new roads and road upgrades are GSRC’s best estimate based on a comparison of the path shown in the kmz provided by CBP to the existing roads viewed via Google Earth. Note that the total length for each road has been changed slightly based on ArcMap distance calculations for the kmz provided by CBP (the total length changed from 12.71 miles to 12.01 miles).

1.3 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to improve mobility and accessibility for USBP agents responding to, and seeking to prevent, illegal cross border traffic. Limited ingress/egress points and poor road conditions are two major factors that affect response times, limit agent options when responding to illegal cross border traffic, and possibly compromise the safety of USBP agents.

1.4 NEED FOR THE PROPOSED ACTION

Improved mobility and accessibility for agents will increase and sustain the certainty of arrest and help deter illegal cross border activities by improving enforcement capabilities, enhance agents’ response times, prevent terrorists and terrorist weapons from entering the U.S. and reduce the flow of illegal drugs. It will also provide a safer work environment for USBP agents. The need for the Proposed Action and alternatives is to provide TI that supports the following:

- Rapid detection and accurate characterization of potential threats
- Coordinated deployment of resources for the apprehension of cross border violators
- Enhanced safety and security of USBP agents and border communities
- Long-term viability of critical infrastructure

1.5 SCOPE OF ENVIRONMENTAL ANALYSIS AND DECISIONS TO BE MADE

The scope of this EA includes the direct, indirect, and cumulative effects on the natural, social, economic, and physical environments resulting from the construction or improvement of roads within the Rio Grande City Station’s AOR (see Figure 1-1).

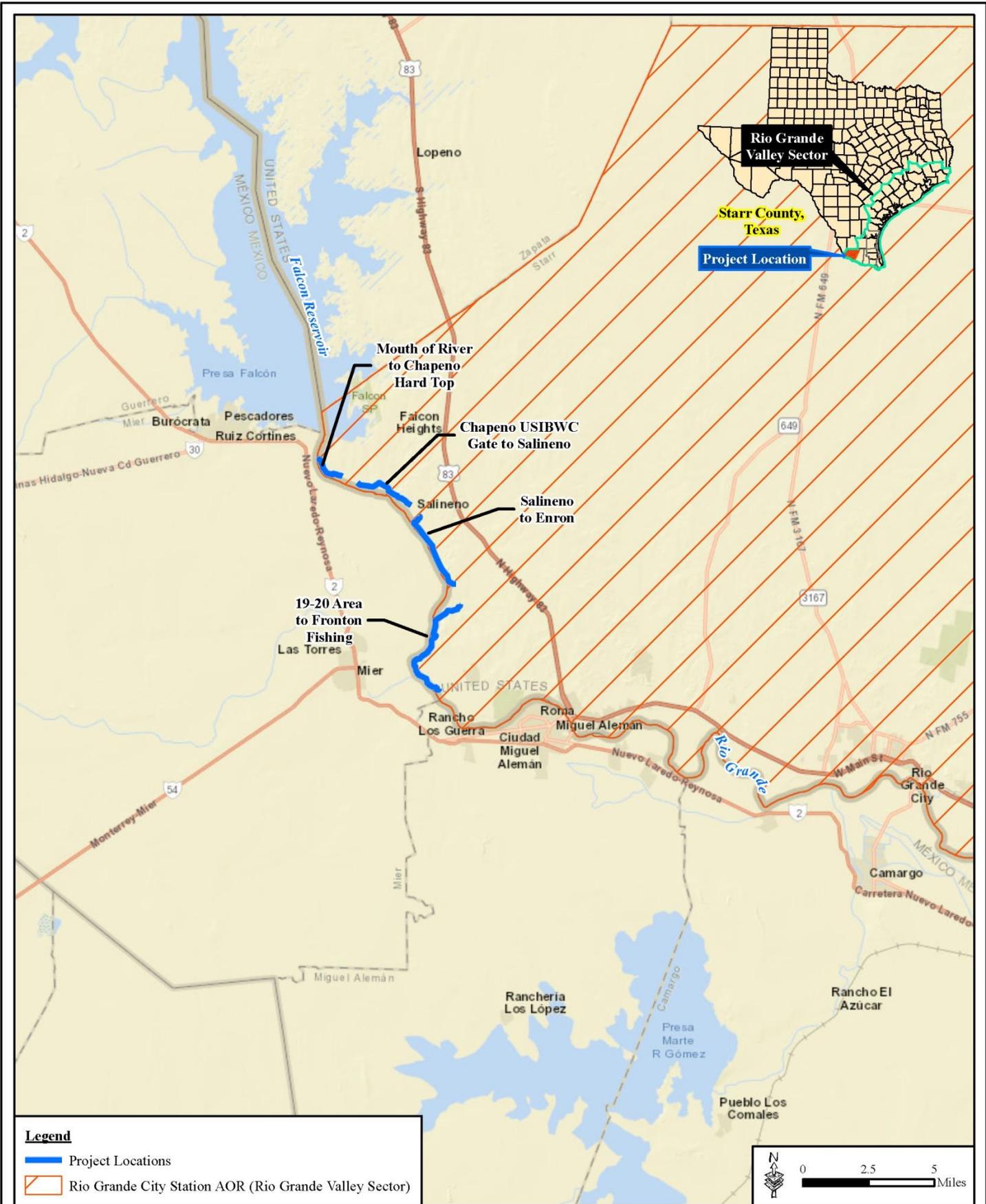


Figure 1-1. Vicinity Map



July 2020

This EA documents the potential magnitude and duration of the environmental effects of the Proposed Action and evaluates alternatives to achieve the objectives. The EA allows decision makers to determine if the Proposed Action and alternatives would or would not have a significant impact on the natural, social, economic, and physical environments. It will also determine if the action can proceed to the next phase of project development or if an Environmental Impact Statement (EIS) is required. The process for developing the EA also allows for input and comments on the Proposed Action from the concerned public and interested government agencies to inform agency decision making. The EA will be prepared as follows:

1. Conduct interagency and intergovernmental coordination for environmental planning. The first step in the National Environmental Policy Act (NEPA) process is to solicit comments from Federal, state, and local agencies and federally recognized tribes about the proposed project to ensure that their concerns are included in the analysis.
2. Prepare a draft EA. CBP will review and address relevant comments and concerns received from any Federal, state, and local agencies or federally recognized tribes during preparation of the draft EA.
3. Announce that the draft EA has been prepared. A Notice of Availability (NOA) will be published to announce the public comment period and the availability of the draft EA and Finding of No Significant Impact (FONSI), if appropriate, as described below in Section 1.7, Public Involvement.
4. Provide a public comment period. A public comment period allows for all interested parties to review the analysis presented in the draft EA and provide feedback, as described in Section 1.7, Public Involvement.
5. Prepare a final EA. A final EA will be prepared following the public comment period. The final EA will incorporate relevant comments and concerns received from all interested parties during the public comment period. The published NOAs, the comments received during the public comment period, and CBP's responses to those comments will be included in the final EA.
6. Issue a FONSI. The final step in the NEPA process is the signing of a FONSI if the environmental analysis supports the conclusion that impacts on the quality of the human and natural environments from implementing the Proposed Action will not be significant. In this case, no EIS would be prepared.

1.6 ENVIRONMENTAL REVIEW AND CONSULTATION

CBP will follow applicable Federal laws and regulations. The EA will be developed in accordance with Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA* published in 40 Code of Federal Regulations (CFR) Parts 1500-1508; and DHS Directive Number 023-01, Rev. 01, and Instruction Manual 023-01-001-01, Rev. 01; and other pertinent environmental statutes, regulations, and compliance requirements. The EA will be the vehicle for verifying compliance with all applicable environmental statutes,

including but not limited to, the Clean Air Act (CAA), Clean Water Act (CWA) (including a National Pollutant Discharge Elimination System storm water discharge permit and Section 404 permit), Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), Resource Conservation and Recovery Act (RCRA), and various Executive Orders (EOs).

1.7 PUBLIC INVOLVEMENT

Agency and public involvement in the NEPA process promotes open communication between the public and the government and enhances the decision-making process. All persons or organizations having a potential interest in the Proposed Action are encouraged to submit input into the decision-making process. Copies of public correspondence sent or received during this process will be presented in Appendix A.

NEPA, and implementing regulations and procedures from the CEQ and DHS, directs agencies to make their EAs and EISs available to the public during the decision-making process before actions are taken. The premise of NEPA is that the quality of Federal decisions will be enhanced if proponents provide information to and involve the public in the planning process. The public involvement process provides CBP with the opportunity to cooperate with and consider state and local views in its decision regarding implementing this Federal proposal.

CBP will initiate public involvement for this project by notifying relevant Federal, state, and local agencies, federally recognized tribes, private property owners, and local interest groups of the Proposed Action in scoping letters that will be distributed and followed by a 30-day comment period. The scoping letters will provide information regarding the Proposed Action and request input on environmental or other concerns recipients may have regarding the Proposed Action. Scoping responses received will be considered in the development of the EA.

The EA will be distributed to Federal, state, and local agencies, federally recognized tribes, as well as private property owners and local interest groups that have indicated an interest in the project. The NOA for the EA and proposed FONSI will be published in the *Starr County Town Crier* and *The Monitor*. The EA will be available at the Rio Grande City Public Library, 591 East Canales Bros Street, Rio Grande City, Texas, 78582 and the Starr County Roma Public Library, 1705 North Athens Street, Roma, Texas, 78584 and electronically at <https://www.cbp.gov/about/environmental-cultural-stewardship/documents/docs-review>.

Federal Agencies:

- USFWS
- U.S. Environmental Protection Agency (USEPA)
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
- USIBWC

State Agencies:

- Texas Parks and Wildlife Department (TPWD)
- Texas Historical Commission (THC)

- Texas Department of Transportation (TxDOT)
- Texas Commission on Environmental Quality (TCEQ)
- Texas General Land Office (GLO)

Counties:

- Starr County, Texas

Native American Tribes:

- Alabama-Coushatta Tribe of Texas
- The Comanche Nation
- The Osage Nation
- Mescalero Apache Tribe
- Kiowa Indian Tribe of Oklahoma
- Pawnee Nation of Oklahoma
- Tonkawa Tribe of Indians of Oklahoma
- Fort Sill Apache Tribe of Oklahoma
- White Mountain Apache Tribe
- Alabama-Quassarte Tribal Town
- Apache Tribe of Oklahoma
- Cherokee Nation
- Coushatta Tribe of Louisiana
- Kialegee Tribal Town
- Poarch Band of Creeks
- The Quapaw Tribe of Indians
- The Seminole Nation of Oklahoma
- Thlopthlocco Tribal Town
- Tunica-Biloxi Indian Tribe
- Wichita and Affiliated Tribes

2.0 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action and No Action Alternative were identified and considered during the planning stages of the proposed project and were carried forward for evaluation. Six additional alternatives were considered but eliminated. The Proposed Action consists of a combination of upgrades to existing roads and construction of new road segments to create the four all-weather roads included in this project. As required by NEPA and CEQ regulations, the No Action Alternative reflects conditions within the project area should the Proposed Action not be implemented. The following paragraphs describe the site selection process.

2.1 CRITERIA FOR SITE SELECTION

CEQ's *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500–1508) require that agencies rigorously explore and objectively evaluate reasonable alternatives (CEQ 2005). Only those alternatives determined to be reasonable (i.e., practical or feasible from a technical and economic standpoint) and meet the project's purpose and need require detailed analysis (See Section 2.4).

Alternatives were identified by evaluating the ability of each alternative to meet the purpose of and need for the Proposed Action as well as the following screening factors:

- Proximity to the Rio Grande;
- Proximity to existing roads;
- Basic site conditions such as the terrain, soil type, drainage, available space, and slope of the site;
- Proximity to sensitive biological and cultural resources, waters of the U.S., floodplains, and wetlands;
- Ability to acquire rights to the land via fee title or easement;
- Ability to meet USBP's mission; and
- Reasonable costs, including operation and maintenance costs, and construction time.

CBP carried forward two alternatives for further evaluation, the Proposed Action and the No Action Alternative. The No Action Alternative does not meet the purpose of, or need for, the Proposed Action but is carried forward for analysis as required under CEQ regulations (40 CFR Section 15 1502.14[d]).

2.2 PROPOSED ACTION

The Proposed Action includes upgrades to existing dirt roads and construction of new road portions to create four all-weather road segments that would provide improved access for USBP agents to areas adjacent to the Rio Grande (see Figure 1-1). Additionally CBP would add water crossings and drainage improvements to allow for better all-weather use of the roads and minimize water damage from heavy rains.

The Proposed Action alternative includes upgrading existing roads and new construction to meet CBP Functional Class (FC)-2 standards for all-weather roads for each of the four roads. CBP's FC-2 All-Weather Road standard is for a two-lane (20-foot-wide with 2-foot shoulders) unpaved road consisting of an aggregate material, such as caliche, stone, or gravel. An adjacent 6-foot-wide roadway section, constructed to FC-3 standards (unpaved road consisting of graded native material), would be completed on the river side of each road for use as a "drag road," which is used for initial detection by USBP agents. The drag road would be included in the design where feasible and excluded from areas found to be environmentally sensitive as well as from arroyo and drainage crossings.

Upgrades to existing roads would take place for 5.94 miles. It is assumed that the existing roads are already 20-feet in width, but in some instances the existing roads are approximately 6-feet in width. Roads that are not already 20 foot wide would be widened to a uniform 20 foot. Then, the roads would be widened an additional 10-feet as a result of adding shoulders and the drag road. Widening the existing roads would permanently remove 7 acres of habitat (assuming existing roads are 20-feet wide) or 17 acres (assuming existing roads are 6-feet wide); however, the actual permanent disturbance footprint would be slightly less than 7-17 acres if drag roads are excluded from environmentally sensitive areas. The temporary construction easement is typically 20-foot on either side of the road, so 29 acres of habitat would be temporarily disturbed during construction with woody vegetation habitats incurring long-term impacts. The temporary disturbance footprint will consist of a construction easement on either side of the proposed roads where heavy equipment will be permitted to move, work, and stage. The temporary disturbance footprint would be allowed to revegetate naturally or artificially using a hydroseeder with a native, weed-free, seed mix.

Creating novel roads would take place for 6.06 miles. The new roads would be 20-foot wide with the addition of 2-foot shoulders on either side and a drag road on the river side, where feasible. Creating new roads would permanently remove 22 acres of habitat; however, the actual permanent disturbance footprint would be slightly less than 22 acres if drag roads are excluded from environmentally sensitive areas. The temporary construction easement is typically 20-foot on either side of the road, and 29 acres of habitat would be temporarily disturbed during construction. In areas where woody vegetation is present, these impacts would be long-term rather than temporary. The temporary disturbance footprint will consist of a construction easement on either side of the proposed roads where heavy equipment will be permitted to move, work, and stage. The temporary disturbance footprint would be allowed to revegetate naturally or artificially using a hydroseeder with a native, weed-free, seed mix.

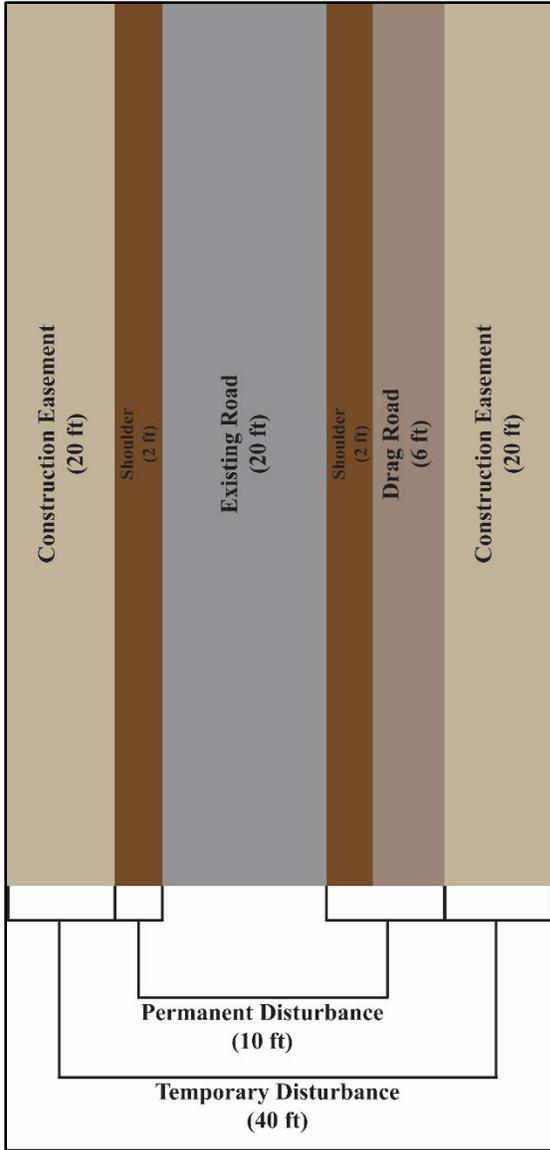
Throughout the 12.01-mile project corridor, approximately 29 acres of habitat would be permanently removed as a result of construction activities, and 58 acres of habitat would be temporarily disturbed during construction activities, with long-term disturbance in areas where woody vegetation is removed. CBP will implement a strong restoration program to facilitate regeneration of the site. In total, approximately 87 acres of habitat will be either temporarily or permanently disturbed. The actual temporary construction footprint would be slightly higher than 58 acres, because in select locations the construction easement will need to be 40-foot on either side of the road. Further, the permanent disturbance footprint will be slightly lower than 29 acres, because current acreage calculations assume drag roads would be placed throughout the entire

12.01-mile project corridor. Conversely, permanent impacts as a result of widening existing roads that are not already 20-foot in width would slightly increase the acreage of permanent disturbance. Schematics depicting upgrades to existing roads and construction of new roads are shown in Photographs 2-1 and 2-2, respectively. Drainage features (e.g. culverts) would be installed along each of the roads. The project would be executed utilizing a design-build approach. Any water needed for construction would be obtained through groundwater withdrawals supplied by a water truck or nearby hydrant; no water would be taken from the Rio Grande. All design work would be done in accordance with the most current CBP TI Design Standards.

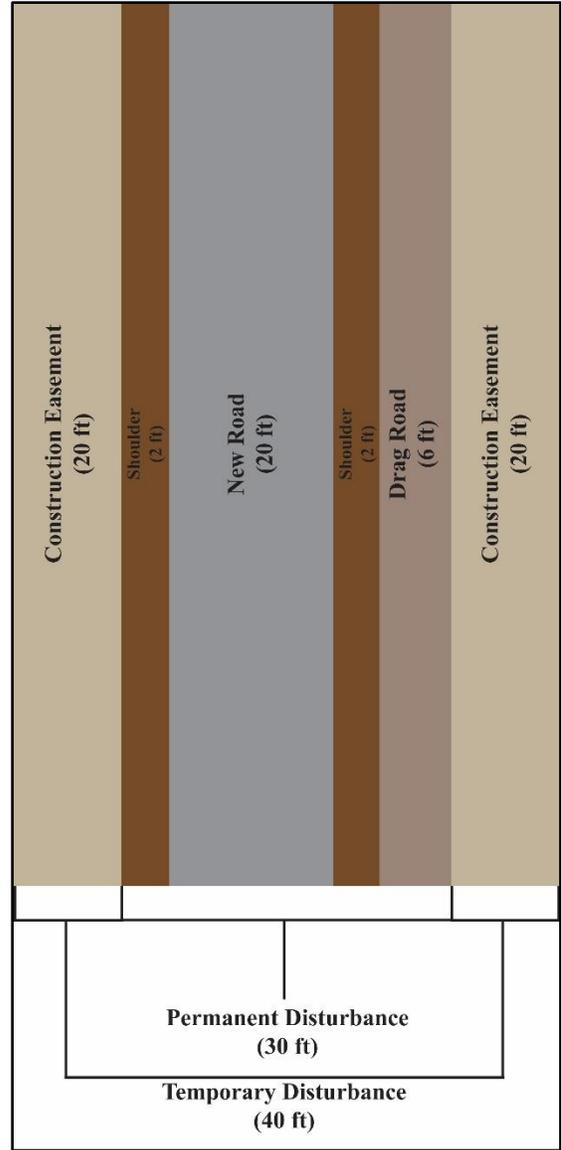
Clearing and grubbing of the road areas would be completed using side boom mowers, rotary tillers, and/or bladed excavation equipment, such as bulldozers or bucket loaders. Culverts, low-water crossings, and drainage structures would then be installed in accordance with approved highway engineering practices. Impacts on air quality would result from construction equipment emissions as well as dust generated by construction activities. The roadway would be surfaced by hauling, placing, and compacting soil and gravel bases to the required load-bearing capacity needed to support expected traffic loads. A surface coating would also be applied, where needed, to provide a weatherproof wearing surface, minimize long-term erosion, and ensure proper tie-in to existing road surfaces. Over the long term, the new roads would result in lower levels of fugitive dust than the dirt roads now in use. If activity from patrol vehicles increases as a result of the improved roads, there could be a minor increase in vehicle emissions. However, increased access could allow USBP agents to take more direct routes, which could potentially reduce vehicle emissions and aid in overall efficiency.

Soils would be permanently disturbed or removed from biological production from construction of and upgrade of the roads. Soil disturbance and operation of heavy equipment could result in the direct loss of less mobile wildlife, such as lizards, snakes, and ground-dwelling species such as rodents. However, most wildlife would likely avoid any direct harm by escaping to surrounding habitat. Silt fences and other erosion control measures would be implemented to reduce any topsoil loss from the footprint, to increase the chance of revegetation, and to avoid sedimentation and indirect effects on vegetation outside of the footprint. A stormwater pollution prevention plan (SWPPP) will be developed and implemented to ensure that contamination of surface areas from the staging and laydown areas is prevented or mitigated, preventing the potential infiltration of contaminants into groundwater. CBP would hydroseed the temporary footprint with native seed, or allow the area to revegetate naturally.

Noise associated with the construction activities could result in impacts on wildlife. Elevated noise levels associated with the construction activities would only occur during these activities. The effects of this disturbance would include temporary avoidance of work areas and competition for unaffected resources. Noise generated by the construction activities associated with these roads would be intermittent and last for less than 6 months, after which noise levels would return to ambient levels. To minimize impacts, construction activity should be limited to daylight hours, between 8:00 a.m. to 5:00 p.m. on Monday through Friday, when feasible.



Photograph 2-1. A schematic showing where permanent and temporary disturbance will take place while upgrading existing roads.



Photograph 2-2. A schematic showing where permanent and temporary disturbance will take place while creating novel roads.

Artificial lighting could potentially interfere with wildlife activity by temporarily attracting or deterring wildlife to or from the area depending on the species, as well as potentially altering circadian rhythm processes. If construction must occur during nighttime hours, the frequency and duration of these activities will be minimized to the greatest extent possible. Construction is expected to take 184 days.

The northernmost road segment included in the Proposed Action begins immediately south of Falcon Lake, specifically at the point where the Falcon Dam spillway flows into the Rio Grande (Figure 2-1). The road segment extends generally southward along the Rio Grande for approximately 1.26 miles, terminating at Chapeno Road. This road segment would require 0.78 mile of new construction and 0.48 mile of upgrades to existing roads. Four structures (possible residences) are located within approximately 500 feet of the proposed Mouth of River to Chapeno Hard Top segment. This portion of the road project would require only improvements and no new construction. Public roads such as U.S. Highway 83 (U.S. 83) would experience a slight increase in traffic during the construction period; however, TxDOT reports that public roads within Starr County are currently operating at less than 50 percent of their capacity.

The second road segment is situated southeast of the first segment. It begins at the Chapeno USIBWC gate, which is approximately 0.6 mile east of the terminus of the first segment (Figure 2-2). This approximately 2.44-mile segment runs generally east along the Rio Grande and terminates at the Salineno community. This road segment would require 1.93 miles of new construction and 0.51 mile of upgrades to existing roads.

The third road segment, which is approximately 3.29 miles long, begins on the southeast side of Salineno approximately 0.53 mile southeast of the terminus of the second segment (Figure 2-3). It follows an existing road for approximately 0.35 mile southwest to a road that runs parallel to the Rio Grande for approximately 0.92 mile before briefly turning northeast around a drainage area to meet up with Este Road. The road then follows existing substandard roads back to a road adjacent to the Rio Grande for approximately 1.54 miles before turning east on an existing road for approximately 0.2 mile and terminating at Santa Margarita Road. This road segment would require 2.79 miles of new construction and 0.49 mile of upgrades to existing roads.

The southernmost road segment included in the Proposed Action is a 5.02-mile long segment extending from the 19-20 Area to Fronton Fishing, as shown in Figure 2-4. This road segment would require 0.56 mile of new construction and 4.46 miles of upgrades to existing roads.

In total, 6.06 miles of the 12.01 miles of road would be new construction and 5.94 miles would be upgrades to existing roads, as shown previously in Table 1-1. The 12.01-mile corridor is primarily composed of rangeland and xerophytic shrub and grassland communities.

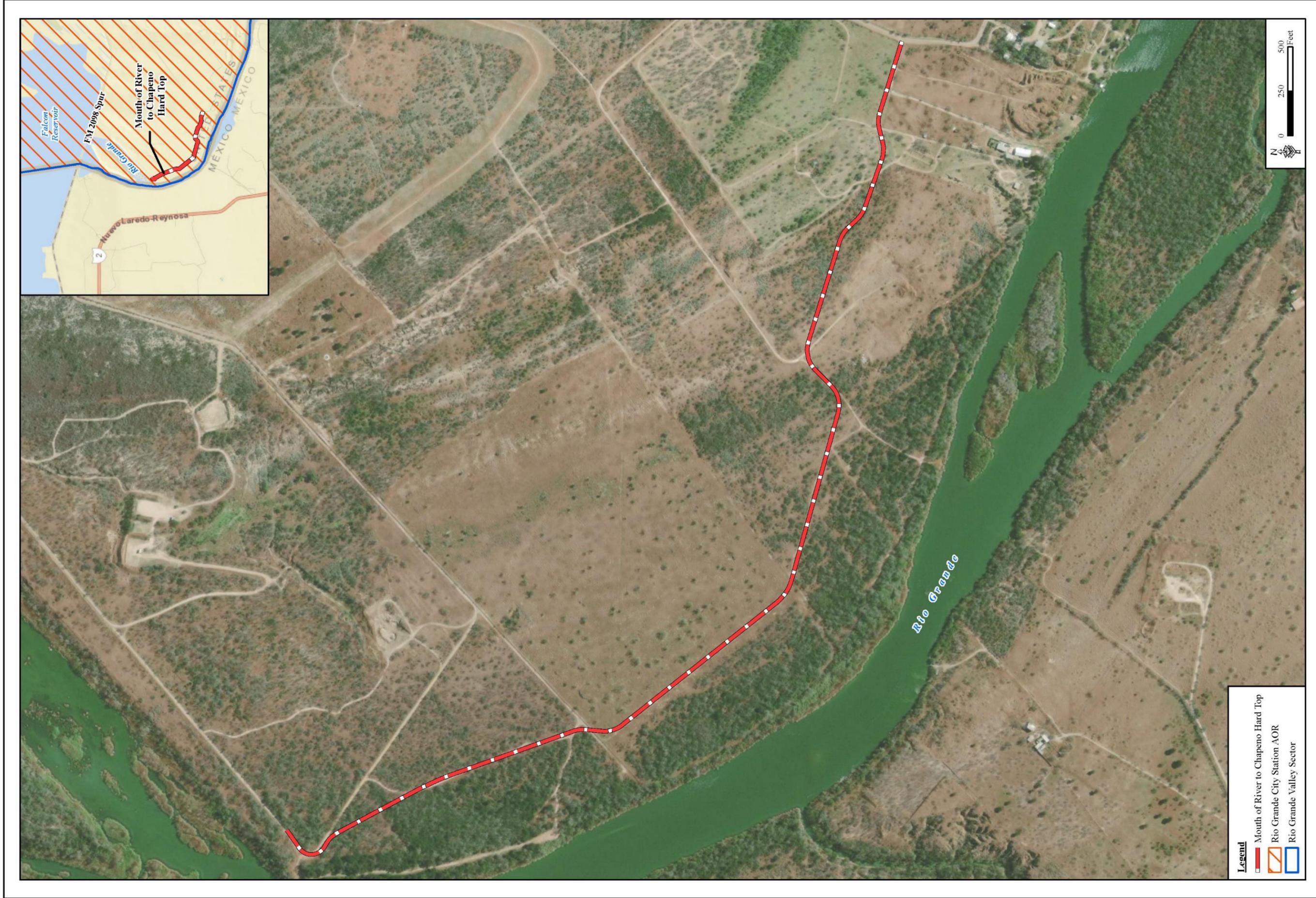


Figure 2-1. Proposed Road Alignment - Mouth of River to Chapeno Hard Top



Figure 2-2. Proposed Road Alignment - Chapeno USIBWC Gate to Salineno

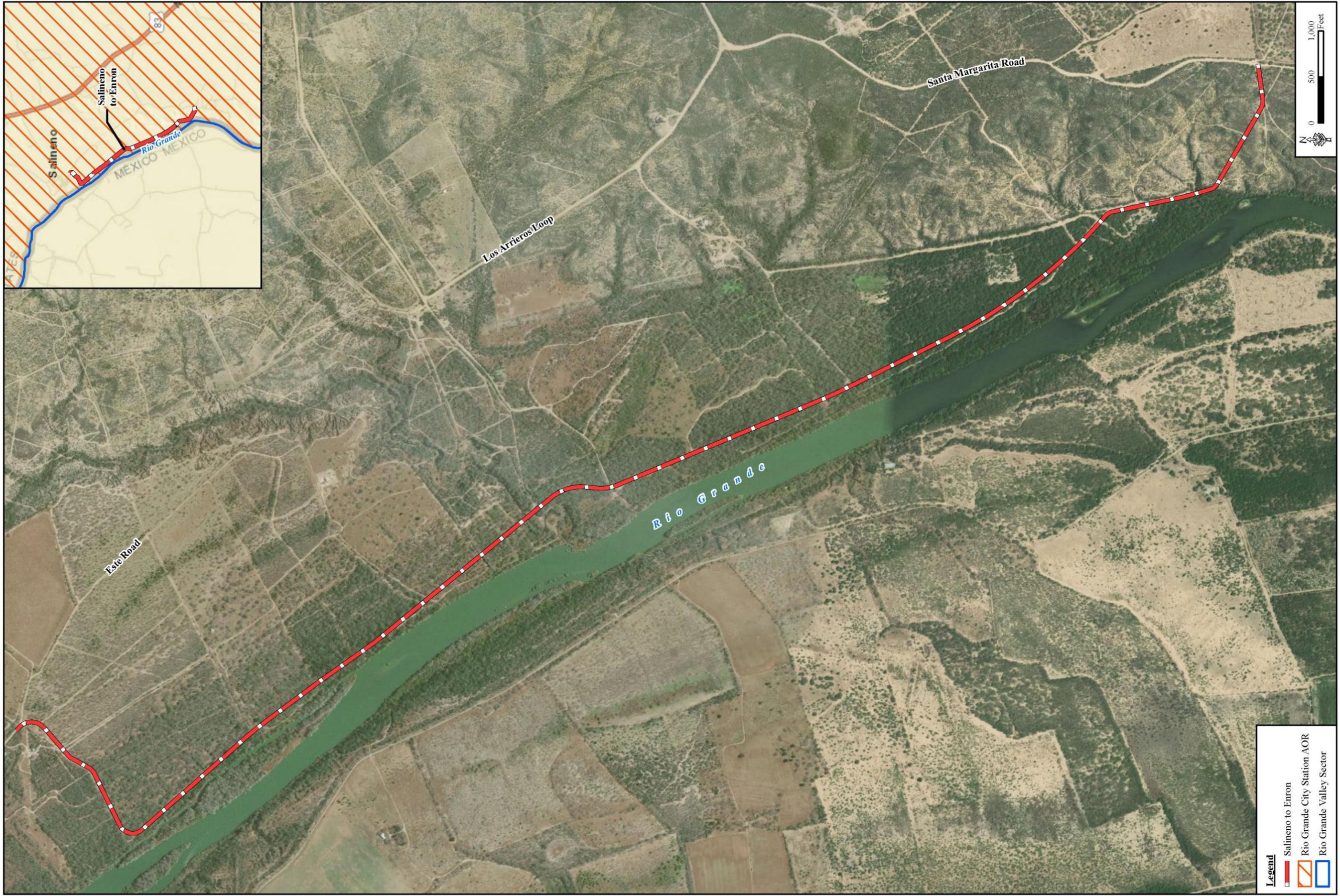


Figure 2-3. Proposed Road Alignment - Salineno to Enron



Figure 2-4. Proposed Road Alignment - 19-20 Area to Frontron Fishing

2.3 NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison with the anticipated effects of the Proposed Action, and its inclusion in the EA is required by NEPA regulations (40 CFR 1502.14[d]). Under the No Action Alternative, the road upgrades and new construction would not occur. USBP agents' access to the Rio Grande in the Rio Grande City Station's AOR would continue to be limited by the lack of access roads and poor road conditions where there are existing roads. The poor quality of existing roads in the vicinity of the Rio Grande, lack of roads providing access to the river, as well as lack of roads in many areas, limit USBP agents' options when responding to illegal cross border traffic and inhibit the coordinated deployment of resources. Under the No Action Alternative, no drainage or road surface improvements would be made, and the USBP would be unable to meet their authorized mission to detect and interdict illicit cross border activity. Cross border violators would continue to create new trails through the AOR. Noise emissions associated with illegal cross border violators' off-road travel and consequent law enforcement actions would continue under the No Action Alternative. Additionally, the safety of USBP agents and border communities would not improve.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

In addition to the road segments included in the Proposed Action, CBP considered six potential roads that were eliminated from further consideration (Table 2-1 and Figure 2-5). These roads were eliminated because they did not meet USBP's screening factors. An important component of the road project involved providing CBP agents with increased access to the Rio Grande, which is a historically challenging area to access. The roads in Figure 2-5 are relatively far from the Rio Grande when compared to the four roads that were carried forth in this analysis.

Table 2-1. Alternatives Considered but Eliminated

Road Segment Description	Length (Miles)	Reason for Elimination
Falcon Heights to Lumberyard	1.57	Does not meet Screening Factor: Ability to meet USBP's mission
Chapeno to Falcon Heights	0.81	Does not meet Screening Factor: Ability to meet USBP's mission
Falcon Heights to Chapeno Cemetery	2.57	Does not meet Screening Factor: Ability to meet USBP's mission
Blue White Pipes to Three Car Garage	4.65	Does not meet Screening Factor: Ability to meet USBP's mission
19-20 Area to Three Car Garage	1.76	Does not meet Screening Factor: Ability to meet USBP's mission
Salineno to Striped Bass Road	1.60	Does not meet Screening Factor: Ability to meet USBP's mission
Total	12.96	

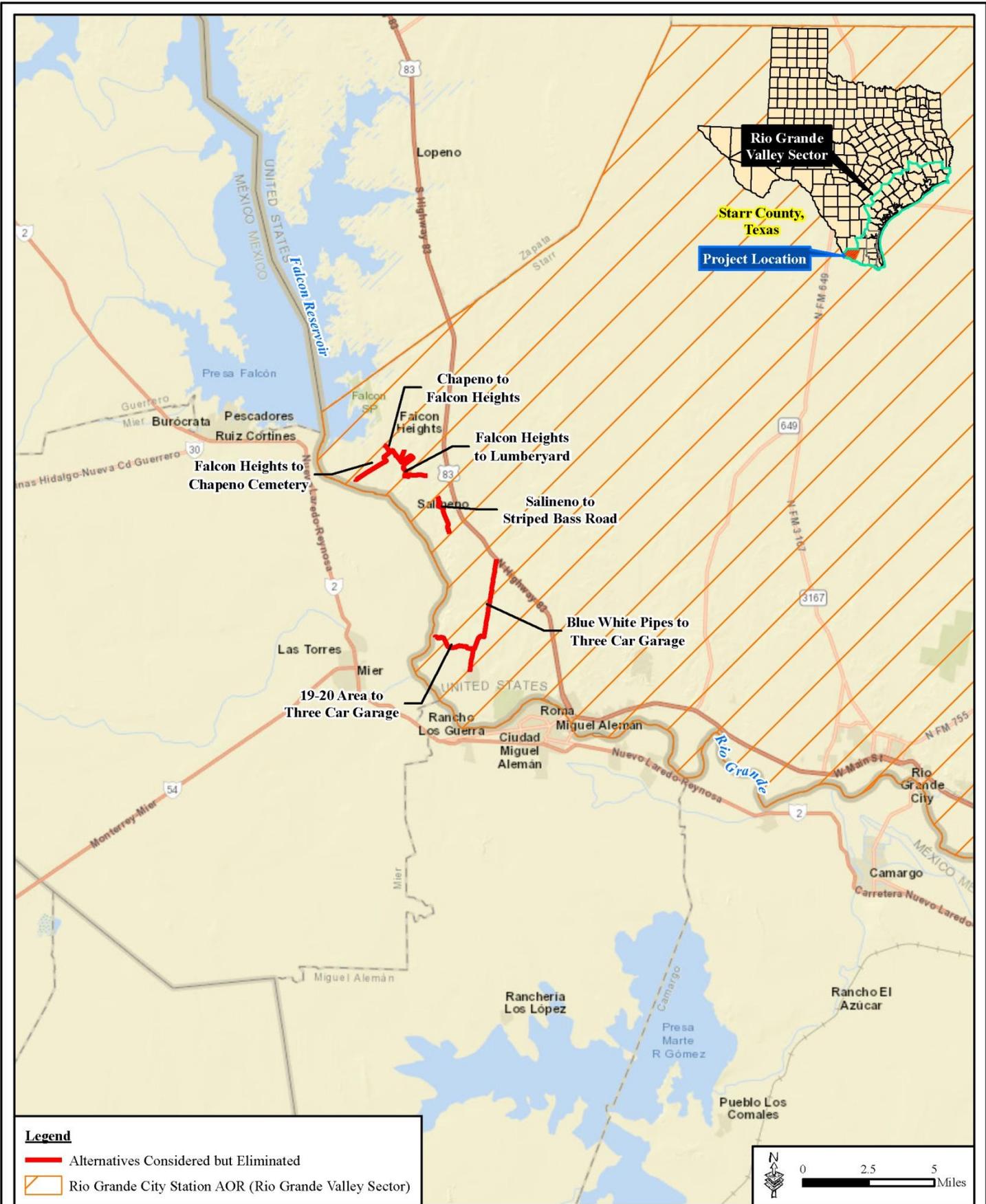


Figure 2-5. Alternatives Considered but Eliminated



July 2020

2.5 ALTERNATIVES SUMMARY

The two alternatives selected for further analysis are the Proposed Action and the No Action Alternative. The Proposed Action is CBP's preferred alternative for the proposed project. It fully meets the purpose of and need for the project. An evaluation of how the Proposed Action meets the project's purpose and need is provided in Table 2-2.

Table 2-2. Alternatives Matrix of Purpose of and Need for Alternatives

Purpose and Need	Proposed Action	No Action Alternative
Rapid detection and accurate characterization of potential threats	Yes	No
Coordinated deployment of resources for the apprehension of cross border violators	Yes	No
Enhanced safety and security of USBP agents and border communities	Yes	No
Long-term viability of critical infrastructure	Yes	No

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

NEPA and associated regulations promulgated in 40 CFR Parts 1500-1508 and 32 CFR 651 require an EA to discuss impacts in proportion to their significance. Additionally, an EA should present enough of a discussion of impacts not considered to be significant to show why more study is not warranted. In the affected environment discussion in this chapter, the general conditions and nature of the environment potentially affected by the Proposed Action and No Action Alternative are discussed. The area of potential effects (APE) includes all areas potentially affected directly or indirectly by the action alternative. Depending on the resource analyzed, the APE varies in size and ranges from the project footprint to a regional area. For example, the APE could be limited to the action alternative site when analyzing effects on soils, or it could be regional in nature and include a larger area when considering air quality effects. These relevant baseline conditions establish the environmental setting against which the evaluation of potential environmental impacts are presented in the environmental consequences discussions.

Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place as the action (40 CFR Section 1508.8[a]). Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable (40 CFR Section 1508.8[b]). As discussed in this chapter, the alternative may create temporary (lasting the duration of the project), short-term (up to 3 years), long-term (3 to 10 years following construction), or permanent effects.

Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact (40 CFR Section 1508.27). The context refers to the setting in which the impact occurs and may include society as a whole, the affected region, the affected interests, or the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts would be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- **Negligible:** A resource would not be affected or the impacts would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.
- **Minor:** Impacts on a resource would be detectable, although the impacts would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse impacts, would be simple and achievable.
- **Moderate:** Impacts on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse impacts, would be extensive and likely achievable.
- **Major:** Impacts on a resource would be obvious and long-term and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse impacts would be required and extensive, and success of the mitigation measures would not be guaranteed.

The following discussions describe and, where possible, quantify the potential impacts of the alternative on the resources within or near the project area. Potential impacts are quantified wherever possible and discussed at a level of detail necessary to determine the significance of the impacts. Where appropriate, the implementation of Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) that minimize potential environmental impacts and any additional practical mitigation to minimize impacts are identified. Appendix E outlines BMPs that will be followed during the construction of and upgrades to the proposed road segments.

Quantifications of disturbances assume that all existing roads are 20-foot wide and construction activities would not result in any additional impacts within this footprint. However, some existing roads are not 20-foot wide with select road segments as narrow as 6-foot. Where new roads are constructed, the vehicle path will be 20-foot wide. Road shoulders 2-foot wide would be constructed adjacent to the existing roads and incorporated into the design of new road segments. A 6-foot drag road would be placed on the river side of the existing roads adjacent to the 2-foot shoulder, as well as incorporated into the design of new road segments, where feasible. The construction activities would also require a temporary construction footprint that would extend 20-feet on either side of the road, and in some select locations, 40-feet on either side of the road. Cumulative effects of the Proposed Action and No Action alternative when considering past, present, and foreseeable future actions are presented in Chapter 4.

3.1 RESOURCES TO BE EVALUATED IN THIS ENVIRONMENTAL ASSESSMENT

This section describes the natural and human environments that exist within the region of influence (ROI) and the potential impacts of the Proposed Action and the No Action Alternative outlined in Chapter 2 of this document. The ROI for the road upgrades and new road construction is Starr County, Texas. Only those issues that have the potential to be affected by any of the alternatives are described, per CEQ guidance (40 CFR Section 1501.7 [3]). No resources were specifically excluded from this analysis.

Some topics are limited in scope due to the lack of direct effect from the Proposed Action on the resource or because that particular resource is not located within the project area. No resources were specifically excluded from this analysis. This EA evaluates in detail the No Action Alternative and the Proposed Action in terms of their potential impact on the resource areas shown in Table 3-1.

Table 3-1. Resources Analyzed in the Environmental Impact Analysis Process

Resource	Potential to Be Affected by Implementation of Proposed Action Alternative	Analyzed in This EA	Rationale for Elimination
Land Use	Yes	Yes	Not Applicable
Geology/Soils	Yes	Yes	Not Applicable
Water Resources	Yes	Yes	Not Applicable
Vegetation	Yes	Yes	Not Applicable
Wildlife Resources	Yes	Yes	Not Applicable

Resource	Potential to Be Affected by Implementation of Proposed Action Alternative	Analyzed in This EA	Rationale for Elimination
Threatened and Endangered Species	Yes	Yes	Not Applicable
Cultural Resources	Yes	Yes	Not Applicable
Air Quality	Yes	Yes	Not Applicable
Noise	Yes	Yes	Not Applicable
Roadways and Traffic	Yes	Yes	Not Applicable
Socioeconomics	Yes	Yes	Not applicable
Environmental Justice and Protection of Children	Yes	Yes	Not applicable

3.2 LAND USE

3.2.1 Affected Environment

Existing land use in Starr County is predominantly agricultural, with much of it rangeland. The 2012 Census of Agriculture reported 1,165 farms located within Starr County. These farms encompass 668,764 acres, which is 85 percent of the 782,845 acres in the county. Most farmland supports livestock, with 80 percent of the acreage in farms classified as pastureland. Cropland accounts for 20 percent of the acreage in farms (U.S. Department of Agriculture [USDA] 2012). Nearby existing land use includes recreational, wildlife refuges, and urban development. The major recreational area in the county is the Falcon Lake. Rio Grande City is the major urban center and the county seat of Starr County. Land in the vicinity of the Proposed Action is undeveloped with much of it used for border enforcement operations.

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Impacts of the Proposed Action on land use would be negligible. Under the Proposed Action, nearly half of the new roads would be upgrades of existing roads through rural areas. There would be approximately 6 miles of new road construction, primarily through private lands that are currently used for rangeland. While the Proposed Action would permanently remove approximately 29 acres of vegetation that could be used as forage through construction of new roads and upgrades to existing roads, the overall use of the land would remain unchanged. Another 58 acres of land would be temporarily disturbed during upgrades to existing roads as well as through the construction of new roads. In areas where woody vegetation is cleared for the construction easement, long-term minor impacts to vegetation would be expected. The temporary disturbance footprint will consist of a construction easement on either side of the proposed roads where heavy equipment will be permitted to move, work, and stage. At the conclusion of the project, the temporary footprint would be allowed to revegetate naturally, or hydroseeded with a native seed mix to encourage faster growth. There would be no long term impact on these lands.

3.2.2.2 No Action Alternative

Under the No Action Alternative, there would be no construction activities, so there would be no changes to land use.

3.3 SOILS AND PRIME FARMLAND

3.3.1 Affected Environment

The Farmland Protection Policy Act of 1980 and 1995 was established to preserve the Nation’s farmland. In Section 7 of the CFR Part 657.5, prime farmlands are defined as having the best combinations of physical and chemical properties to be able to produce fiber, animal feed, and food and are available for these uses. The soils in Starr County are made up of 8 associations, which can be divided into 25 series in 2 different types of landforms in Starr County. Ninety-one percent of the county is made up of uplands and soils in the following associations: McAllen-Brennan, Catarina-Copita, McAllen-Zapata, Copita, Delmita, and Saraita. Six percent of the county’s soils are in floodplains and made up of Rio Grande-Reynosa association. Three percent of the county’s soils are located on ridges composed of Jimenez-Quemado association (USDA 2020). There are 10 soil types found in association with the RGC Roads Improvement project area, which includes some areas that are mapped as water (Table 3-2). Of these 10 soil types, one (Lagloria silt loam [La]) is designated as prime farmland, if irrigated.

Table 3-2. Soil Types

Segment ID	Mapped Soil Units	% of Road Segment	Prime Farmland Soil (Yes/No)
19-20 Area to Fronton Fishing	Alluvial land (Al)	9	No
	Catarina clay, association, 0 to 5 percent slopes (Cn)	10	No
	Copita fine sandy loam, 0 to 3 percent slopes (Cp)	1	No
	Jimenez-Quemado association (Jq)	3	No
	Lagloria silt loam (La)	5	Yes*
	Matamoros silty clay (Mm)	5	No
	Rio Grande silt loam, 0 to 1 percent slopes (RgA)	34	No
	Rio Grande silt loam, 1 to 3 percent slopes (RgB)	33	No
	Water (W)	1	N/A
Chapeno USIBWC Gate to Salineno	Alluvial land (Al)	13	No
	Catarina clay, association, 0 to 5 percent slopes (Cn)	27	No
	Copita fine sandy loam, 0 to 3 percent slopes (Cp)	32	No
	Lagloria silt loam (La)	20	Yes*
	Zapta soils (Zp)	7	No
Mouth of River to Chapeno Hard Top	Alluvial land (Al)	3	No
	Lagloria silt loam (La)	97	Yes*
Salineno to Enron	Alluvial land (Al)	11	No
	Copita fine sandy loam, 0 to 3 percent slopes (Cp)	5	No
	Jimenez-Quemado association (Jq)	7	No
	Lagloria silt loam (La)	2	Yes*
	Rio Grande silt loam, 0 to 1 percent slopes (RgA)	73	No
	Rio Grande silt loam, 1 to 3 percent slopes (RgB)	2	No

*If irrigated (USDA 2020).

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

Under the Proposed Action, approximately 29 acres of soils would be permanently disturbed or removed from biological production from construction of, and upgrades to, roads and their associated infrastructure, and approximately 58 acres of soils would be temporarily disturbed within the construction easements. Of the 29 acres to be permanently disturbed, 10 acres of land or 34 percent are designated as Lagloria silt loam (La), which is prime farmland, if irrigated. All of the proposed road segments contain La. The direct impact from the disturbance and removal of soils from biological production would be negligible due to the small size of the project footprint relative to the amount of the same soils throughout the ROI, and the soils within the project footprint are not currently irrigated. In addition, upon completion of construction, all temporary disturbance areas would be revegetated with a mixture of native plant seeds or nursery plantings or allowed to revegetate naturally.

The Proposed Action could result in indirect and long-term beneficial impacts on soils within the ROI by reducing the adverse impacts of illegal cross border violator activities in the project area. Cross border violators create new trails through the landscape, frequently dump trash, and create campfires with the potential to spark a wildfire. A study conducted on the U.S.-Mexico border within the Cleveland National Forest found that per 1,000 cross border violators, there were approximately 772 meters of new trails created, 50 kilograms of trash deposited, and 4.2 acres of burned land attributed to escaped campfires (McIntyre and Weeks 2002).

The proposed roads and associated canal crossings would enhance CBP's interdiction capabilities and increase the efficiency of operational activities within the RGC Station's AOR. Over time, the enhancement of interdiction capabilities and an increase in operational efficiency could increase the deterrence of illegal cross border violator activity within the RGC Station's AOR.

3.3.2.2 No Action Alternative

No ground-disturbing activities would occur as a result of this alternative. Therefore, the No Action Alternative would have no direct impacts, either beneficial or adverse, on soils including prime farmland soils. However, soils within the vicinity of roads and associated canal crossings are directly and indirectly affected by illegal cross border violator pedestrian traffic and consequent law enforcement activities.

Under the No Action Alternative, USBP's detection and threat classification capabilities would not be enhanced and operational efficiency would not be improved within the RGC AOR, so illegal cross border violator activities would continue to impact soils in the project area. Potential indirect benefits associated with the Proposed Action would not be realized under the No Action Alternative.

3.4 WATER RESOURCES

3.4.1 Affected Environment

3.4.1.1 Groundwater Supplies

3.4.1.1.1 Gulf Coast Aquifer

The major aquifer within the ROI is the Gulf Coast Aquifer, which parallels the Gulf of Mexico coastline from the boundary of Texas and Louisiana to Mexico. This aquifer covers over 41,800 square miles with an annual use of approximately 1.1 million acre-feet (ac-ft.). The Gulf Coast Aquifer is found in all of Hidalgo County and most of Starr County. Starr County lies in the extreme southwest boundary of the aquifer. The sand thickness of the aquifer ranges from 700 feet at the southern end to about 1,300 feet at the northern reaches of the aquifer.

Within the Gulf Coast Aquifer lie several other aquifers including the Jasper, Evangeline, and Chicot aquifers. These aquifers are composed of discontinuous sand, silt, clay, and gravel beds. The northern portion of the Gulf Coast Aquifer is generally fresher with saline levels increasing as the aquifer trends southward towards Mexico. The aquifer is generally used for municipal, industrial, and agricultural purposes (Texas Water Development Board [TWDB] 2011).

Recharge of the Gulf Coast Aquifer occurs primarily through percolation of precipitation and is supplemented in some areas by the addition of irrigation water from the Rio Grande. Within Starr and Hidalgo counties, the available groundwater from the Gulf Coast Aquifer is estimated to be approximately 7,400 ac-ft. per year (TWDB 2016). It should be noted that groundwater is not a significant source of water within southern Starr or Hidalgo counties; surface water from the Rio Grande is the major water supply.

3.4.1.1.2 Yegua-Jackson Aquifer

The southwestern 20 percent of the area encompassed by the Starr County Groundwater Conservation District (GCD) is underlain by the Yegua-Jackson Aquifer. This aquifer is characterized by low yielding sands with saturated thickness averaging 170 feet. Well yields range from 30 to 300 gallons per minute, and the water quality ranges from 50 to 10,000 milligrams of total dissolved solids per liter. The quality and quantity of the water, like the Gulf Coast Aquifer, is better at the northern end of the aquifer and diminishes towards the southern end where the Starr County GCD is located.

Water demand of Starr County is currently met by withdrawing water from the Rio Grande and treating it with conventional methods. This is the most efficient and economically feasible method of providing potable water for the population of the Starr County GCD area. The 2012 Water Plan estimates that existing surface water usage will decrease approximately 3 percent from 22,747 ac-ft. in 2010 to 21,996 ac-ft. in 2060.

3.4.1.2 Surface Waters

The CWA Section 303[d][1][A] requires that each state monitor surface waters and compile a "303[d] List" of impaired streams and lakes. The proposed road upgrades are located within the Rio Grande Basin, which enters Texas at El Paso and travel 1,248 miles to the Gulf of Mexico forming the international boundary between the United States and Mexico. The closest jurisdictional water body is the Rio Grande, which is located less than a mile from the endpoints

of the proposed road upgrade sites. In addition, there are numerous canals within the Rio Grande Basin that transport irrigation water from the Rio Grande to agricultural lands.

At the confluence of the Rio Grande and Devil's River, the United States and Mexico built Amistad Dam to impound 3,151,267 ac-ft. of water, of which Texas' share is 56.2 percent. Falcon Reservoir, also an international project, impounds 2,646,187 ac-ft. of water, of which Texas' share in Zapata and Starr counties is 58.6 percent.

The Rio Grande, where it joins the Gulf of Mexico, has created a fertile delta called the Lower Rio Grande Valley (LRGV), a major vegetable- and fruit-growing area. The Rio Grande drains 49,387 square miles of Texas and has an average annual flow of 645,500 ac-ft.

3.4.1.3 Floodplains

A floodplain is an area adjacent to a river, creek, lake, stream, or other open waterway that is subject to flooding when there is a major rain event. Floodplains are further defined by the likelihood of a flood event. If an area is in the 100-year floodplain, there is a 1-in-100 chance in any given year that the area will flood. Federal Emergency Management Agency (FEMA) floodplain maps were reviewed to identify project locations within mapped floodplains (FEMA 2019). The Mouth of River to Chapeno Hard Top segment is adjacent to the 100-year floodplain. However, the three other segments have portions of the corridors within the 100-year floodplain (Figures 3-1 through 3-3). As can be seen from these figures, the Chapeno USIBWC Gate to Salineno segment has the smallest footprint (0.50 acre) within the 100-year floodplain. The other two segments encompass 14.58 acres (19-20 Area to Frontier Fishing) and 13.55 acres (Salineno to Enron) of the 100-year floodplain.

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

Under the Proposed Action, water needed for construction activities would be obtained from groundwater sources. No water will be taken from the Rio Grande. All water would be supplied to the construction site by water truck or nearby hydrant. A SWPPP will be developed and implemented to ensure that contamination of surface areas from the staging and laydown areas is prevented or mitigated, preventing potential infiltration of contaminants into groundwater. The SWPPP will describe BMPs including the deployment of drip pans under equipment and straw wattles or earthen berms around material stockpiles. A BMP would be in place in case of an accidental spill of oil, petroleum, or lubricants from equipment to prevent this spill from entering the groundwater. Therefore, the Proposed Action would have negligible impacts on groundwater resources within the region.

The Proposed Action may potentially have temporary, negligible impacts on surface waters as a result of increases in erosion and sedimentation during periods of construction. Disturbed soils and hazardous substances (i.e., antifreeze, fuels, oils, and lubricants) could directly impact water quality during a rain event. However, due to the limited amount of surface waters present at any of the road construction sites or access roads, and through the use of BMPs, these effects would be minimized. In addition, some existing erosional features would be stabilized as a result of road improvements, which will improve surface water quality downstream.



Figure 3-1. Portions of the Chapeno USIBWC Gate to Salineno Road Segment Within the 100-year Floodplain.



July 2020

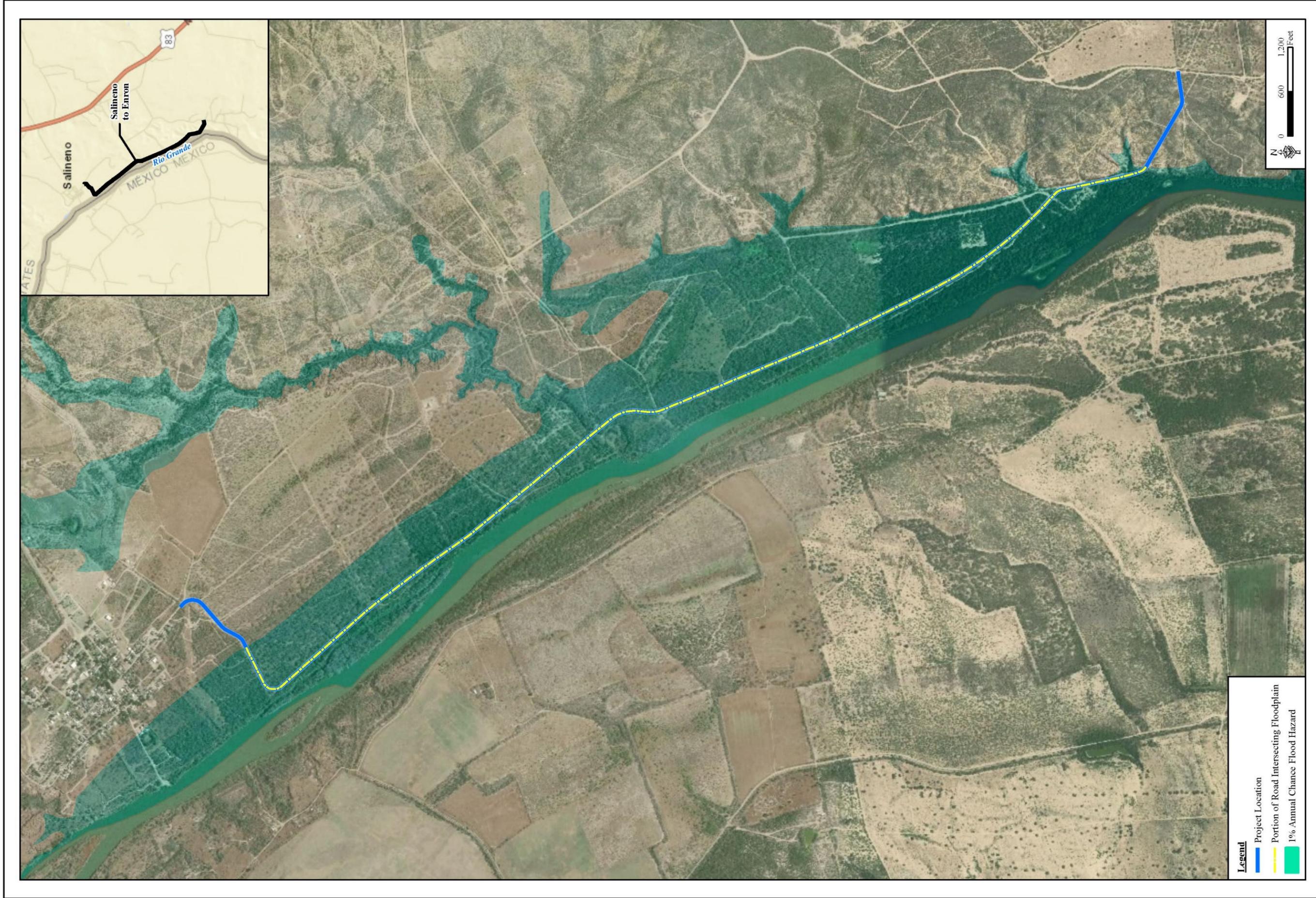


Figure 3-2. Portions of the Salineno to Enron Road Segment Within the 100-year Floodplain.

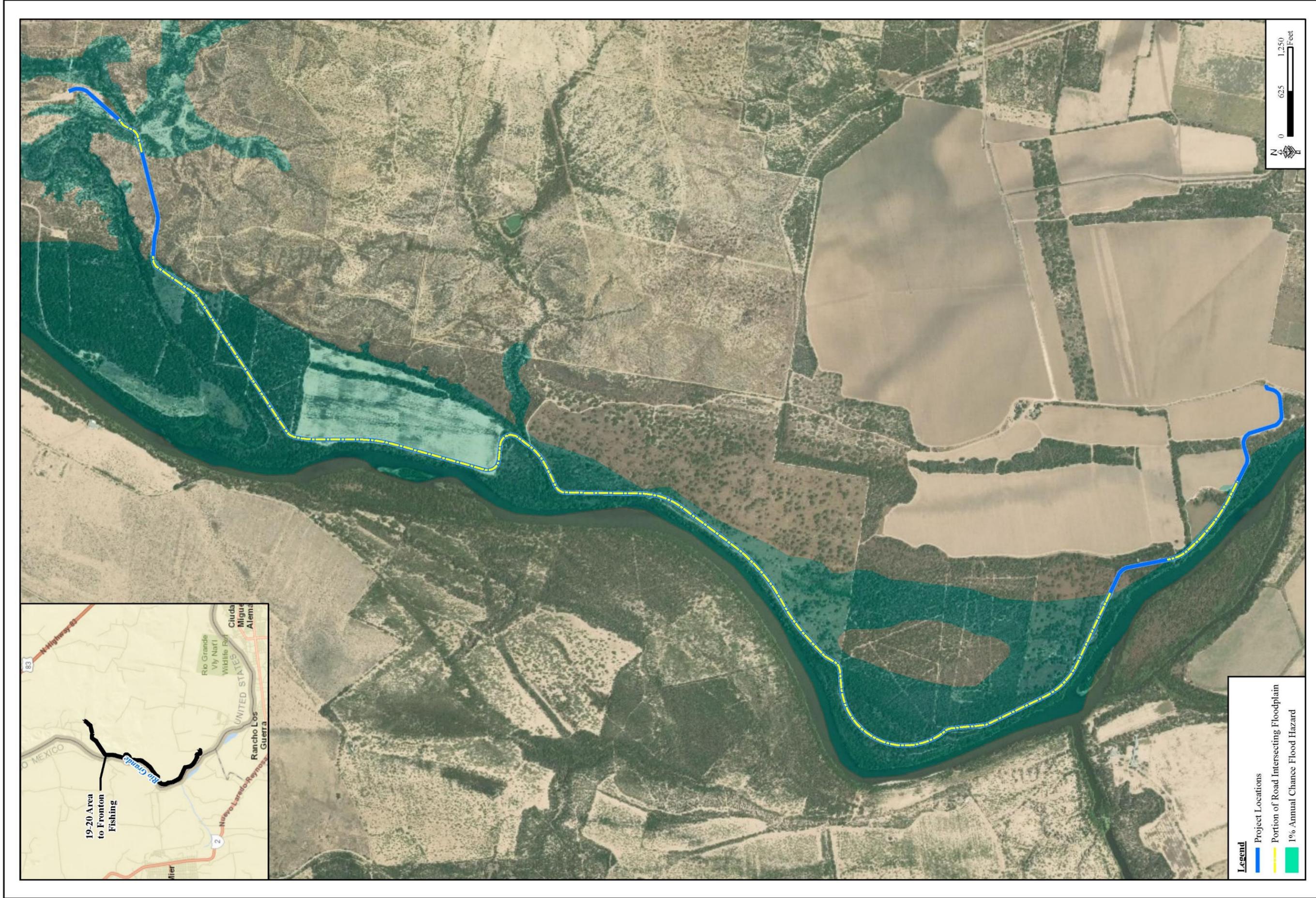


Figure 3-3. Portions of the 19-20 Area to Fronton Fishing Road Segments Within the 100-year Floodplain.

Drainage crossings incorporated into the Proposed Action could impact the 100-year floodplain; however, CBP would design and construct the crossings in a manner to ensure that there would be no increase in flood elevation, velocity, duration, or frequency once the crossings are completed. Drainage crossings would not increase the risk or impact of floods on human safety, health, and welfare, or adversely impact the beneficial values that floodplains serve. The Proposed Action is in accordance with E.O. 11988 and would not impact floodplain resources.

3.4.2.2 No Action Alternative

Under the No Action Alternative, the road upgrades and new construction would not occur. USBP agents' access to the Rio Grande would continue to be limited by the lack of access roads and poor road conditions where there are existing roads. Some existing erosional features could continue to erode and result in surface water quality issues downstream. No impacts on groundwater or floodplains would occur under the No Action Alternative.

3.5 VEGETATION

3.5.1 Affected Environment

Vegetative Habitat

Starr County is bordered by Hidalgo County to the east, Brooks County to the northeast, Jim Hogg County to the north, and Zapata County to the northwest. The Rio Grande serves as its boundary with Mexico to the south. Starr County is part of the Rio Grande Plain region and comprises 1,226 square miles with elevations ranging from 200 to 400 feet above sea level. Starr County is in the South Texas Plains vegetation region, characterized by mid and short grasses, thorny shrubs, mesquite, cacti, and live and post oak (TPWD 2020a). Starr County has a subtropical, sub-humid climate with mild winters and hot summers. Temperatures range from an average minimum of 44 degrees Fahrenheit (° F) in January to an average maximum of 99° F in July. The average annual temperature is 74° F. Rainfall averages 22 inches a year and the growing season lasts approximately 305 days.

The Rio Grande Plain, also known as the "brush country", encompasses about 20.5 million acres extending north from Del Rio to San Antonio and southeast to Rockport. This typical brush community is characterized by honey mesquite (*Prosopis glandulosa*), blackbrush acacia (*Vachellia rigidula*), brasil (*Condalia hookeri*), and other thorny plants. The Rio Grande Plain dominates much of south Texas, although five additional ecoregions influence the diversity of vegetation communities along the fringes of the area. Natural features such as soils, rainfall rates, temperatures, growing seasons, and grazing pressure shape much of the plant communities in south Texas. Wildlife value of this region is principally derived from the diversity of plant species and vegetation communities.

Tamaulipan brushland is a typical habitat type found in the Lower Rio Grande and is characterized by dense and thorny vegetation. High vegetation density is found in the riparian and scrub forests dominated by alluvial and mesic soils. In the upland regions, Tamaulipan brushland can be divided into mezquital and chaparral vegetation communities. The mezquital community consists of an open savannah-like bosque containing large honey mesquite and Texas ebony (*Ebenopsis ebano*) trees with a grassland/herbaceous understory. Due to heavy grazing and other disturbance, much of the curly mesquite grass (*Hilaria belangeri*) that historically

dominated the understory of the mezquital habitat has been removed and replaced by non-native grasses such as buffelgrass (*Cenchrus ciliaris*), Guinea grass (*Megathyrsus maximus*), and encroaching brush and cacti. The chaparral community consists of thickets of stiff, xerophytic, usually evergreen brush. Characteristic species include blackbrush acacia, honey mesquite, spiny hackberry (*Celtis ehrenbergiana*), guaiacum (*Guaiacum angustifolium*), cenizo (*Leucophyllum frutescens*), lotebush (*Ziziphus obtusifolia*), Texas prickly pear (*Opuntia engelmannii*), Christmas cholla (*Cylindropuntia leptocaulis*), and *Condalia* spp. and *Castela* spp. (Jahrsdoerfer and Leslie 1988). Tamaulipan brushland provides important habitat for a rich diversity of wildlife, some of which are endemic.

The project area contains two vegetation communities. The first community conforms to descriptions of disturbed Tamaulipan mezquital with varying densities of relatively old (10-20 inches in diameter-at-breast-height [DBH]) honey mesquite and Texas ebony trees, with an understory dominated by buffelgrass and Guinea grass, as well as dense shrub growths comprised largely of spiny hackberry, lotebush, colima (*Zanthoxylum fagara*), and guaiacum (Jahrsdoerfer and Leslie 1988). The second community conforms to descriptions of Tamaulipan chaparral provided in Jahrsdoerfer and Leslie (1988), dominated by a diversity of xerophytic shrubs and small trees including cenizo, blackbrush acacia, huisachillo (*Vachellia bravoensis*), knifeleaf condalia (*Condalia spathulata*), Christmas cholla, Spanish dagger (*Yucca treculeana*), and huisache (*Vachellia farnesiana*) with largely calcareous and gravelly soils.

All four segments contain Tamaulipan mezquital communities; the Chapeno USIBWC Gate to Salineno and the 19-20 Area to Fronton Fishing segments also contain Tamaulipan chaparral communities. With the exception of the northern portion of the 19-20 Area to Fronton Fishing segment and the Chapeno USIBWC Gate to Salineno segment, the majority of the project area is heavily disturbed by ranching and agricultural activities. The disturbed areas also contain dense stands of non-native buffelgrass and Guinea grass.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

Road improvements and construction of new roads would require removal of vegetation on either side of the road in both the temporary and permanent disturbance footprints (See photographs 2-1 and 2-2). The existing roads vary in width from 6 feet to 30 feet wide; for the purposes of estimating vegetation impacts, it is assumed the existing roads are 20 feet wide and no permanent vegetation loss would occur within these footprints, because the road is already devoid of vegetation. Permanent loss of vegetation would occur on existing roads through the construction of road shoulders and the accompanying drag road. Vegetation would be artificially or naturally regenerated within the temporary disturbance footprint.

The total footprint, including the existing roads, encompasses approximately 102 acres. Approximately 58 acres of vegetation would be disturbed within the temporary construction footprint, of which about 40 percent (23 acres) is comprised of Tamaulipan mezquital community. Silt fences and other erosion control measures would be implemented to reduce any topsoil loss from the footprint to increase the chance of revegetation and to avoid sedimentation and indirect effects on vegetation outside of the footprint. Once the construction is completed,

CBP would hydroseed the temporary footprint with native seed or allow the area to revegetate naturally.

3.5.2.2 *No Action Alternative*

Under the No Action Alternative, the road upgrades and new construction would not occur and, thus, no direct impacts on vegetation would occur.

3.6 WILDLIFE RESOURCES

3.6.1 Affected Environment

One of the most biologically diverse areas in North America sits along the border between Texas and Mexico, where the Rio Grande winds its way toward the Gulf of Mexico. The LRGV encompasses no fewer than 11 different types of habitat, including tidal wetlands and riparian forests. This habitat diversification has led to a wealth of biodiversity; the region is home to more than 1,200 different species of plants, 500 species of birds, and 200 vertebrate and invertebrate species (American Forests 2018). GSRC biologists conducted surveys along the project area in February, June, and July 2019 to document the habitats, wetlands, waters of the U.S., and potential presence of any rare, threatened, or endangered species. The lists of plants and animals that were observed during these surveys are presented in Appendix B. Summaries of the wildlife species recorded are presented in the following subsections.

Mammals

Of the 143 native mammal species and 12 introduced exotic mammal species in Texas, approximately 50 occur in the LRGV, including the Mexican long-tongued bat (*Choeronycteris mexicana*), Northern ocelot (*Leopardus pardalis albescens*), Peter's ghost-faced bat (*Mormoops megalophylla*), Plains spotted skunk (*Spilogale putorius interrupta*), black-tailed jackrabbit (*Lepus californicus*), white-nosed coati (*Nasua narica*), and Gulf Coast jaguarundi (*Puma yagouaroundi cacomitli*) (USGS 2016). During surveys conducted in 2019, coyote (*Canis latrans*), nine-banded armadillo (*Dasypus novemcinctus*), white-tailed deer (*Odocoileus virginianus*), desert cottontail (*Sylvilagus audubonii*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), collared peccary (*Pecari tajacu*), and cotton hispid rat (*Sigmodon hispidus*) were observed throughout the project area.

Birds

The variety of abiotic and biotic conditions and resulting habitats in the LRGV result in the richest bird community in the United States. Common species include green jay (*Cyanocorax yncas*), mourning and white-winged doves (*Zenaida macroura* and *Z. asiatica*, respectively), greater roadrunner (*Geococcyx californianus*), red-tailed hawk (*Buteo jamaicensis*), and great kiskadee (*Pitangus sulphuratus*). Some of the passerine species observed during 2019 biological surveys included black-throated sparrow (*Amphispiza bilineata*), Cassin's sparrow (*Peucaea cassinii*), blue-gray gnatcatcher (*Poliophtila caerulea*), long-billed thrasher (*Toxostoma longirostre*), northern mockingbird (*Mimus polyglottos*), and green jay. Game species observed included multiple dove species, northern bobwhite quail (*Colinus virginianus*), and plain chachalaca (*Ortalis vetuladoves*). Red-shouldered hawk (*Buteo lineatus*), Harris's hawk (*Parabuteo unicinctus*), osprey (*Pandion haliaetus*), great horned owl (*Bubo virginianus*), and

turkey vulture (*Cathartes aura*) were some of the raptor species observed. The latter was the most common raptor observed.

Reptiles & Amphibians

There are over 90 species and sub-species of reptiles and amphibians in the LRGV (USGS 2016). Common reptiles and amphibians found in the LRGV include blue spiny lizard (*Sceloporus serrifer*), Laredo striped whiptail (*Aspidoceles laredoensis*), prairie racerunner (*Aspidoceles sexlineata viridis*), Texas horned lizard (*Phrynosoma cornutum*), Texas spiny softshell turtle (*Apalone spinifera emoryi*), Rio Grande cooter (*Pseudemys gorzugi*), Rio Grande leopard frog (*Lithobates berlandieri*), Rio Grande chirping frog (*Eleutherodactylus cystignathoides*), Gulf Coast toad (*Incilius nebulifer*), and the giant (marine) toad (*Rhinella marina*) (CBP 2016).

Reptiles observed during the 2019 biological surveys include rose-bellied lizard (*Sceloporus variabilis*), common spotted whiptail (*Cnemidophorus gularis*), keeled earless lizard (*Holbrookia propinqua*), and Texas tortoise (*Gopherus berlandieri*). The latter is a state-listed protected species and was observed in the Chapeno USIBWC Gate to Salineno tract. Amphibians that were observed included Gulf Coast toad, Great Plains narrow-mouthed toad (*Gastrophryne olivacea*), and Rio Grande leopard frog.

Fish

Historically, the freshwater fish assemblage in the Lower Rio Grande has been remarkable, with 142 species in 49 families. Since no surface waters were encountered along the project area, no fish species were observed.

Invertebrates

Invertebrates of the LRGV include about 300 species of butterflies and more than 100 species of dragonflies and damselflies, as well as numerous aquatic invertebrates such as mollusks and insect larvae. During the 2019 biological surveys, 13 different species of butterflies and moths were observed, primarily consisting of sulphur (Pieridae) and swallowtail (Papilionidae) butterflies.

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

The Proposed Action would have permanent, minor, direct impacts on wildlife and wildlife habitat in the project area. The Proposed Action would include approximately 6 miles of road improvements and 6 miles of new road construction. It is anticipated that the Proposed Action would permanently impact approximately 29 acres of wildlife habitat where new road elements (e.g., vehicle road, road shoulder, drag road) are created as well as temporarily impact approximately 58 acres of land where temporary construction easements are in place.

Soil disturbance and operation of heavy equipment could result in the direct loss of less mobile individuals, such as lizards, snakes, and ground-dwelling species such as rodents. However, most wildlife would likely avoid any direct harm by escaping to surrounding habitat. The direct degradation and loss of habitat could also impact burrows and nests, as well as cover, forage, and other wildlife resources. The loss of these resources might result in the displacement of

individuals that would then be forced to compete with other wildlife for the remaining resources. Although this competition for resources could result in a reduction of total population size, such a reduction would be minimal in relation to total population size and would not result in long-term effects on the sustainability of any wildlife species. The plant communities associated with the road improvements projects are both locally and regionally common, and the permanent loss of 29 acres of suitable wildlife habitat would not adversely affect the population viability of any wildlife species in the region.

Noise associated with the construction activities would result in temporary, minor impacts on wildlife. Elevated noise levels associated with the construction activities would only occur during construction. The effects of this disturbance would include temporary avoidance of work areas and competition for unaffected resources. BMPs would be implemented to reduce noise disturbance and loss of wildlife habitats, such as only conducting construction activities during daylight hours when feasible, ensuring construction equipment mufflers are properly maintained, and restricting all construction-related activities to the construction footprint.

Depending on the species, artificial lighting could potentially interfere with wildlife activity by temporarily attracting or deterring wildlife to or from the area, as well as potentially altering circadian rhythm processes. If construction must occur during nighttime hours, the frequency and duration of these activities will be minimized to the greatest extent possible. Furthermore, artificial lights will be limited to the area and wattage required for worker safety, and lights will be directed toward the ground and away from vegetation to minimize their impact on nearby wildlife.

It is anticipated that vehicle trips on an annual basis will increase as a result of implementing the road improvements. These increased vehicle trips and elevated noise levels would be intermittent and minor. Wildlife inhabiting the project area and surrounding habitat would likely habituate to the traffic noise. Thus, noise levels associated with increased traffic would have a permanent, minor impact on wildlife.

To prevent impacts on avian species covered under the Migratory Bird Treaty Act (MBTA), clearing and grubbing should take place in fall and winter if possible to avoid impacts on nesting birds. If work cannot be avoided during the breeding season (March 15 to September 15), a biologist will survey for nesting birds and identify any nests one week prior to starting work. An appropriate buffer for avoidance will be established around any nesting birds until the young have fledged, or the nest is no longer being used.

3.6.2.2 No Action Alternative

Under the No Action Alternative, the road upgrades and new construction would not occur and, thus, no direct impacts on wildlife habitat or populations would occur.

3.7 THREATENED AND ENDANGERED SPECIES

The ESA was enacted to provide a program for the preservation of endangered and threatened species, and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protective measures for designated

species and to use their authorities to further the purposes of the ESA. The Secretary of the Interior and the Secretary of Commerce (marine species) are responsible for the identification of threatened or endangered species and the development of any potential recovery plan. USFWS is the primary agency responsible for implementing the ESA and is responsible for birds and other terrestrial and freshwater species. USFWS responsibilities under the ESA include (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species.

An endangered species is a species officially recognized by USFWS as being in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those that have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered eligible for listing as endangered or threatened when any of the five following criteria occur: (1) current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affecting their continued existence.

In addition, USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate designation includes those species for which USFWS has sufficient information to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued, because such actions are precluded at present by other listing activity. Although not afforded protection by the ESA, candidate species may be protected under other Federal or state laws.

3.7.1 Affected Environment

Federally Listed Species

There are a total of nine federally threatened and endangered species and one candidate species known to occur within Starr County (USFWS 2020). A list of these species is presented in Table 3-3. Biological surveys of the proposed road corridor were conducted by GSRC in February, June, and July 2019. These investigations included surveys for all federally listed and state-listed species potentially occurring at or near each proposed road segment and assessment of their suitable habitat. During the investigations, one federally listed species (Zapata bladderpod [*Physaria thamnophila*]) and one state-listed species (Texas tortoise), were observed. CBP has coordinated with USFWS regarding the potential impacts as they relate to the construction and improvement activities at the four road segments.

Critical Habitat

The ESA also calls for the conservation of what is termed Critical Habitat; these are areas of land, water, and air space that an endangered species needs for survival. Critical Habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water developments.

Table 3-3. Federally Listed Species in Starr County, Texas

Common/Scientific Name	Federal Status	Habitat	Potential to Occur at Site	Effect Determination
BIRDS				
Piping Plover (<i>Charadrius melodus</i>)	T	Utilize open, sandy beaches, typically devoid of vegetation for foraging. Nesting occurs near creeks or wetlands.	No	No effect
Least tern (<i>Sterna antillarum</i>)	E	Nesting habitat of the least tern includes bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs. Highly adapted to nesting in disturbed sites, terns may move colony sites annually, depending on landscape disturbance and vegetation growth at established colonies. For feeding, least terns need shallow water with an abundance of small fish. As natural nesting sites have become scarce, the birds have used sand and gravel pits, ash disposal areas of power plants, reservoir shorelines, and other man-made sites.	No	No effect
Red knot (<i>Calidris canutus rufa</i>)	T	Typically occur in marine environments but occasionally appear at interior locations, where they frequent shorelines of large lakes or even freshwater marshes.	No	No effect
MAMMALS				
Gulf Coast jaguarundi (<i>Puma yagouaroundi</i>)	E	Dense, thorny scrub, especially near water.	Yes	May affect, not likely to adversely affect
Ocelot (<i>Leopardus pardalis</i>)	E	Dense, thorny shrub lands of the LRGV and Rio Grande Plains. Deep, fertile clay or loamy soils are generally needed to produce suitable habitat.	Yes	May affect, not likely to adversely affect
PLANTS				
Star cactus (<i>Astrophytum asterias</i>)	E	Grows in gravelly clays or loam soil among sparse, low shrubs, grasses, and halophytic plants in upland sites.	No	No effect

Common/Scientific Name	Federal Status	Habitat	Potential to Occur at Site	Effect Determination
Zapata bladderpod <i>(Physaria thamnophila)</i>	E	Open, evergreen thorn shrub lands on gravelly to sandy loams derived from Eocene formations. Known site soils include Catarina series soils, Zapata-Maverick soils, and soils in the Copita soils. The plants often grow entangled in small shrubs and cactus clumps and are often associated with blackbrush acacia, cenizo, and calderona.	Yes; isolated populations found in two segments	May adversely affect
Ashy dogweed <i>(Thymophylla tephroleuca)</i>	E	Restricted to unique soils found in south Texas. The known populations of ashy dogweed are located on the sandy pockets of Maverick-Catarina, Copita-Zapata, and Nueces-Comita soils of southern Webb and northern Zapata counties. Although ashy dogweed has been observed in areas where the ground has been disturbed, it is not known whether this species actually prefers disturbance or if it grows equally well on disturbed and undisturbed sites.	No	No effect
Walker's manioc <i>(Manihot walkerae)</i>	E	Grows in sandy, calcareous soil among low shrubs and native grasses and herbaceous plants in either full sunlight or partial shade.	No	No effect

Source: USFWS 2020.
E – Endangered, T – Threatened

Piping Plover (*Charadrius melodus*)

A relatively small shorebird with sandy colored wings and back and white underneath. This species eats small crustaceans and insects. In the spring and summer months, piping plovers migrate to the northern U.S. and Canada to breed. In the fall, this species migrates south with a considerable portion of the population overwintering along the Gulf of Mexico. The primary threats to this species is habitat loss and nest predation (USFWS 2019). No piping plovers were observed during the 2019 surveys.

Least Tern (*Sterna antillarum*)

The least tern is a smallish bird that hunts by hovering over and diving into water in pursuit of small fish. It breeds in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande river systems. Its winter range includes the eastern coasts of Central and South America. Dams, reservoirs, and other changes to North American rivers have eliminated much of the historic breeding habitat. No Critical Habitat has been designated for this species (USFWS 1990a). No suitable habitat occurs near any of the proposed road projects, and no least terns were observed during the 2019 surveys.

Red Knot (*Calidris canutus rufa*)

The red knot (Photograph 3-1) is a large (9 to 11 inches), stocky sandpiper with a straight, medium-length bill and rather short legs. Breeding adults are typically rufous to orange below with a complex pattern of gold, buff, rufus, and black above. Juveniles and nonbreeding adults are brownish gray above and pale below. The bill is dark, and the legs are dark or greenish. Red knots typically occur in marine environments but occasionally appear at interior locations, where they frequent shorelines of large lakes or even freshwater marshes (The National Wildlife Federation 2019). No red knots were observed during the 2019 surveys.



Photograph 3-1. Red knot (Source: NatureScapes.net)

Gulf Coast Jaguarundi (*Puma yagouaroundi*)

The Gulf Coast subspecies of jaguarundi (Photograph 3-2) was listed under the ESA as endangered in 1976 (41 FR 24062). The jaguarundi is a small cat, slightly larger than a house cat (*Felis catus*). With a slender build, long neck, short legs, small and flattened head, and long tail, it resembles a weasel (*Mustela* sp.) more than other felines (USFWS 2013). The jaguarundi is a lowland, nocturnal species, inhabiting forest and bush (USFWS 2013). Within Mexico it occurs in the eastern lowlands and has not been recorded in the Central Highlands (USFWS 2013). In southern Texas, jaguarundis have used dense thorny shrublands.



Photograph 3-2. Gulf Coast Jaguarundi (Source: USFWS)

In Texas, jaguarundis historically were limited to the southern portion of the state, including Cameron, Hidalgo, Willacy, and Starr counties (USFWS 2013b). In a boundary survey of the United States and Mexico, evidence of jaguarundi existing along the Rio Grande was established by a skull in the collection of Dr. Berlandiere. According to Dr. Berlandiere, “the animal was common in Mexico before the conquest, but is now rare...a few have been killed on the Rio Grande near Matamoros (USFWS 2013).” However, there are no verified records of the subspecies beyond extreme southern Texas, and there is not enough information to determine historical abundance (USFWS 2013). No historical records of jaguarundis have been documented north of the Rio Grande Valley of Texas (USFWS 2013). The last confirmed sighting of this subspecies within the United States was in April 1986, when a road-killed specimen was collected 2 miles east of Brownsville, Texas, and positively identified as a jaguarundi. Numerous unconfirmed sightings have been reported since then, including some sightings with unidentifiable photographs, but no U.S. reports since April 1986 have been confirmed as jaguarundi. The closest known Gulf Coast jaguarundis to the U.S. border are found approximately 95 miles southwest in Nuevo Leon, Mexico. The USFWS released the first revision to the Gulf Coast Jaguarundi Recovery Plan in December 2013 (USFWS 2013). This

new recovery plan only applies to the Gulf Coast subspecies of the jaguarondi. No jaguarondis were observed during the 2019 surveys.

Ocelot (*Leopardus pardalis*)

The ocelot (Photograph 3-3) was listed as endangered in 1982 under the authority of the Endangered Species Conservation Act of 1969 (USFWS 1982). The species has a recovery priority number of 5C, meaning that it has a low potential for recovery with a relatively high degree of conflict with development projects.



Photograph 3-3. Ocelot (Source: USFWS)

The ocelot is a medium-sized spotted cat with nocturnal habits (USFWS 2010a). The ocelot belongs to the genus *Leopardus*, which also includes the margay (*Leopardus wiedii*) and the oncilla (*Leopardus tigrinus*). The ocelot is further divided into as many as 11 subspecies that range from the southwestern U.S. to northern Argentina (USFWS 1990b). Two subspecies occurred in the U.S.: the Texas/Tamaulipas ocelot (*L. p. albescens*) and the Arizona/Sonora ocelot (*L. p. sonoriensis*) (USFWS 2010b).

The ocelot uses a wide range of habitats throughout its range in the Western Hemisphere (USFWS 2010a). Despite this, the species does not appear to be a habitat generalist. Ocelot spatial patterns are strongly linked to dense cover or vegetation, suggesting that it uses a fairly narrow range of microhabitats (USFWS 2010a). South Texas ocelots prefer shrub communities with greater than 95 percent canopy cover and avoid areas with intermediate (50 to 75 percent) to no canopy cover (USFWS 2010a). Other microhabitat features important to ocelots appear to be canopy height (greater than 7.8 feet) and vertical cover (89 percent visual obscurity at 3 to 6 feet). Ground cover at locations used by ocelots was characterized by a high percentage of coarse woody debris (50 percent) and very little herbaceous ground cover (3 percent), both

consequences of the dense woody canopy (USFWS 2010a). Between 1980 and 2010, the ocelot was documented by photographs or specimens in Cameron, Willacy, Kenedy, Hidalgo, and Jim Wells counties (USFWS 2010a). Currently, the Texas population of ocelots is believed to be fewer than 50 individuals, composed of two separate populations in south Texas. The Laguna Atascosa National Wildlife Refuge (NWR) supports one of these populations and the other occurs in Willacy and Kenedy Counties on private ranches (USFWS 2010a). Individuals occurring in Texas outside these areas are occasionally observed but are likely wandering or released and not part of a breeding population. A third population of the Texas subspecies of ocelot occurs in Tamaulipas, Mexico but is geographically isolated from ocelots in Texas. Genetic evidence shows little or no recent genetic exchange between these populations (USFWS 2010b). A separate subspecies of ocelot is occasionally found in southern Arizona, but it is disjunct from populations in Texas. No ocelots were observed during the 2019 surveys.

Texas Ayenia (*Ayenia limitaris*)

Texas ayenia is a small flowering thornless shrub in the family Malvaceae. Texas ayenia is usually less than 4 feet tall with heart-shaped leaves that have saw-toothed edges. The flowers are small, yellowish-green, and in clusters of three to four that protrude from the axils of the leaves. The small round fruits are prickly and have five lobes, which break apart into five sections when the fruit dries. In the U.S., Texas ayenia is known from a single locality in Hidalgo County, Texas. It grows on terraces and floodplains; flood control and habitat loss from conversion to agriculture are primary threats. It also faces competition from introduced species (USFWS 2014; TPWD 2019). Texas ayenia was not observed during 2019 surveys.

Walker's Manioc (*Manihot walkerae*)

Walker's manioc is a large herb, reaching 5 feet in height, and is a member of the spurge family (Euphorbiaceae). Walker's manioc is a perennial plant, which dies back during dry periods or following a freeze. The leaves usually have three to five rounded, deep lobes. The flowers are white in color and are also five-lobed and arise from the leaf axils along the main stem. Walker's manioc grows in thorn shrublands on shallow, sandy soils often over hardened caliche (TPWD 2019). Most of the former habitat in the RGV has been converted to agriculture or urbanized, and recovery efforts include cultivation in botanical gardens and research labs (USFWS 1993). Historically, Walker's manioc grew within dense stands of native brush in Hidalgo and Starr counties, Texas, and Tamaulipas, Mexico; currently it is known from a single individual on private property as well as three areas on the LRGV NWR (USGS 2016). Walker's manioc was not observed during the 2019 surveys.

Ashy Dogweed (*Thymophylla tephroleuca*)

A perennial wildflower, ashy dogweed has ash-gray-green colored leaves and yellow flowers, which appear after rains. During dry periods the plant becomes brittle and dry, gray to almost white in color. Ashy dogweed is restricted to unique sandy pockets of soil in Webb County and northern Zapata County, Texas. It historically occurred in Starr County, although it no longer persists there. The recovery plan references only one known population that occupies a highway right-of-way (ROW) and extends into adjacent pasture on both sides of the highway (USFWS 1987); this population occupies approximately 25 acres. Ashy dogweed was not observed during the 2019 surveys.

Zapata Bladderpod (*Physaria thamnophila*)

The Zapata bladderpod is known from seven sites in south Texas, though more populations may occur on private lands (USFWS 2004). In Starr County it occurs on the LRGV NWR, as well as private ranches. In Zapata County two populations are known; one from a highway ROW and another from a subdivision near Falcon Lake. Critical Habitat was designated in 2000 in Starr County while the Zapata County occurrences were not protected with designated Critical Habitat due to the low numbers of plants present and unknown potential for population sustainability (USFWS 2004). The Zapata bladderpod is threatened by conversion of native plant communities to pastures, overgrazing, highway and urban development, and low population numbers. It grows on graveled to sandy-loam upland terraces above the Rio Grande floodplain. Several small populations of Zapata bladderpod were observed during the 2019 surveys along the Chapeno USIBWC Gate to Salineno and along the Salineno to Enron segments. Approximately 530 specimens were located within the 80-foot ROW of the Chapeno USIBWC Gate to Salineno segment and approximately 60 specimens were observed in the 40-foot ROW of the Salineno to Enron segment.

Zapata bladderpod has designated Critical Habitat in Texas. All of the designated Critical Habitat for the Zapata bladderpod occurs in Starr County with seven of the eight tracts on the LRGV NWR. On December 22, 2000, the USFWS designated a total of 5,160 acres of Critical Habitat within the LRGV NWR (USFWS 2004). The lone tract not on USFWS property consists of 1.36-acres on private land.

State-Listed Species

TPWD lists several state-listed species that may also occur near the various project areas in Starr County. The only state-listed species observed during biological surveys was a young female Texas tortoise (*Gopherus berlandieri*) and the remains of another Texas tortoise. Both were observed near the western extent of the Chapeno USIBWC Gate to Salineno tract. Given the number of state-listed species with the potential to occur in Starr County, CBP intends to deploy biological monitors with knowledge of state and federally listed species to protect these species during construction. Appendix C has a complete list of all state-listed species with the potential to occur in Starr County.

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

Four federally listed species (ocelot, jaguarundi, NAF, and Zapata bladderpod) are known or have the potential to occur within the project area. Based on the information outlined below, the Proposed Action may affect, but is not likely to adversely affect, ocelot, jaguarundi, and NAF. The project may adversely affect the Zapata bladderpod and would adversely modify 58 acres of designated Critical Habitat for the Zapata bladderpod. CBP has initiated Section 7 consultation with the USFWS to identify measures to avoid or offset impacts to these species. Only one state-listed species, Texas tortoise, was observed within the project area.

Ocelot and Gulf Coast Jaguarundi

Clearing of potential habitat, particularly the undisturbed Tamaulipan habitat, would occur along several road segments resulting in the permanent loss or alteration of approximately 29 acres of potential habitat. Habitat is regionally common and only small areas spread throughout a vast geographic area would be impacted; additionally, the project would decrease habitat trampling activity of illegal cross border violators. In addition to clearing, the construction activities would create noise and visual disturbances. Most of these disturbances would be limited to the area immediately around the road segments. When heavy equipment is in use, noise would travel a maximum of 1,138 feet from the construction site before attenuating to a noise level of 57 A-weighted decibel (dBA). Noise impacts are discussed in Section 3.10 of this EA. Since these cat species are highly mobile, nocturnal species, and wary of human disturbance, they would likely avoid the disturbed area without significant adverse effects on their health. Construction activities would be limited to daytime hours, when feasible, further reducing the likelihood of adversely impacting either species. Enforcement activities would periodically cause disturbance in the area along the new road segments. Therefore, the Proposed Action may affect, but is not likely to adversely affect, the ocelot and jaguarundi.

State-Listed Species

TPWD lists several state-listed species that may occur near the various project areas in Starr County. Under the Proposed Action, approximately 29 acres of native habitat will be permanently impacted, and an additional 58 acres of potential habitat would be temporarily impacted during road construction and improvements. Mobile species such as the Texas horned lizard (*Phrynosoma cornutum*) and Texas indigo snake (*Drymarchon melanurus erebennus*) may be temporarily displaced by construction and maintenance activities; however, these highly mobile species typically utilize large expanses of suitable habitat and the effects of disturbance and alterations to small segments are likely to have minimal to negligible impacts on populations of these species. Grubbing, digging, clearing, or ground-leveling activities along the proposed road corridor may result in the incidental take of some individuals of more sedentary state-listed species, such as the Texas tortoise. The direct impacts on sedentary state-listed species would be negligible due to the BMPs to be implemented and because of the limited amount of disturbance to habitat relative to the amount of similar habitats within the ROI.

Cross border violators degrade wildlife habitat by creating trails and leaving trash, so the Proposed Action could result in indirect and long-term beneficial impacts on federally listed and state-listed species by reducing the adverse impacts of illegal cross border violator activities in the project area.

3.7.2.2 No Action Alternative

Under the No Action Alternative, there would be no direct impacts on threatened or endangered species or their habitats as no construction activities would occur. However, the direct and long-term impacts of illegal border activities throughout the project area and surrounding areas would continue to disturb threatened or endangered species and their habitats. Cross border violator activities create trails, damage vegetation, promote the dispersal and establishment of invasive species, and can result in catastrophic wildfires. These actions have an indirect adverse impact on threatened and endangered species by causing harm to individuals and degrading habitats occupied by these species.

3.8 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

3.8.1 Affected Environment

Cultural resources include aboveground/built resources, archaeological resources, and sacred sites. Significant cultural resources are those resources that are determined to be Historic Properties, as defined by the NHPA. Historic properties are defined by the NHPA as any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion in the National Register of Historic Places (NRHP), including artifacts, records, and material remains relating to the district, site, building, structure, or object (National Park Service [NPS] 2006a). To be considered eligible for the NRHP, a property would need to possess integrity of location, design, setting, materials, workmanship, feeling, and association, and must also meet at least one of the four following criteria (NPS 2002):

1. Be associated with events that made a significant contribution to the broad pattern of our history.
2. Be associated with the lives of significant persons in our past.
3. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
4. Have yielded, or be likely to yield, information important in history or prehistory.

A Traditional Cultural Property (TCP) is a specific type of historic property that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining and the continuing cultural identity of the community (Parker and King 1998). Given the broad range in types of historic properties, historic properties can often include other types of cultural resources such as cultural items, archaeological resources, sacred sites, and archaeological collections.

Cultural items, as defined by the Native American Graves Protection and Repatriation Act (NAGPRA), are defined as human remains, as well as both associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony or objects that have an ongoing historical, traditional, or cultural importance to a Native American group or culture (NPS 2006b). Archaeological resources, as defined by the ARPA, consist of any material remains of past human life or activities that are of archaeological interest and are at least 100 years of age. Such items include, but are not limited to, pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal remains, or any portion or piece of those items (NPS 2006c). Sacred sites are defined by E.O. 13007, Indian Sacred Sites, as any specific, discrete, narrowly delineated location on Federal land that is identified by a Native American tribe or individual determined to be an appropriately authoritative representative of a Native American religion as sacred by virtue of its established religious significance, or ceremonial use by, a Native American religion, provided that the tribe or appropriately authoritative representative of a Native American religion has informed the Federal land-owning agency of the existence of such a site (NPS 1996). The Texas State Historic Preservation Office (SHPO) reviewed the technical report prepared for the project (Lindemuth and Frederick 2020) and concurred with the findings and recommendations

of the report in correspondence dated April 13, 2020. A copy of that correspondence, along with other consultation documents related to this EA, is included in Appendix D.

3.8.1.1 Cultural Overview

The cultural overview of the project area is described in detail in a 2019 cultural resources survey report conducted for CBP (Lindemuth and Frederick 2019). Briefly, the cultural history of south Texas is typically discussed in periods. The prehistoric periods include: Paleoindian Period (circa 11,000 to 8,000 B.P.), Early Archaic Period (circa 8,000 to 4,500 B.P.), Middle Archaic Period (circa. 4,500 to 2,400 B.P.), Late Archaic Period (2,400 B.P. to A.D. 600/700), and Late Prehistoric and Protohistoric Period (A.D. 800 to 1,600). The Protohistoric period overlaps with the early historic periods of the region. The historic periods defined for south Texas are based on historic records as well as archaeological material and are based largely on political entities or nationalities claiming the region at that time. The broad historic periods identified for south Texas include: the Spanish Exploration period, Spanish Colonial Period, Mexican Colonial Period, Texas Republic Period, Nineteenth Century American Period, and Twentieth Century American Period.

3.8.1.2 Previously Conducted Cultural Resources Investigations and Recorded Cultural Resources

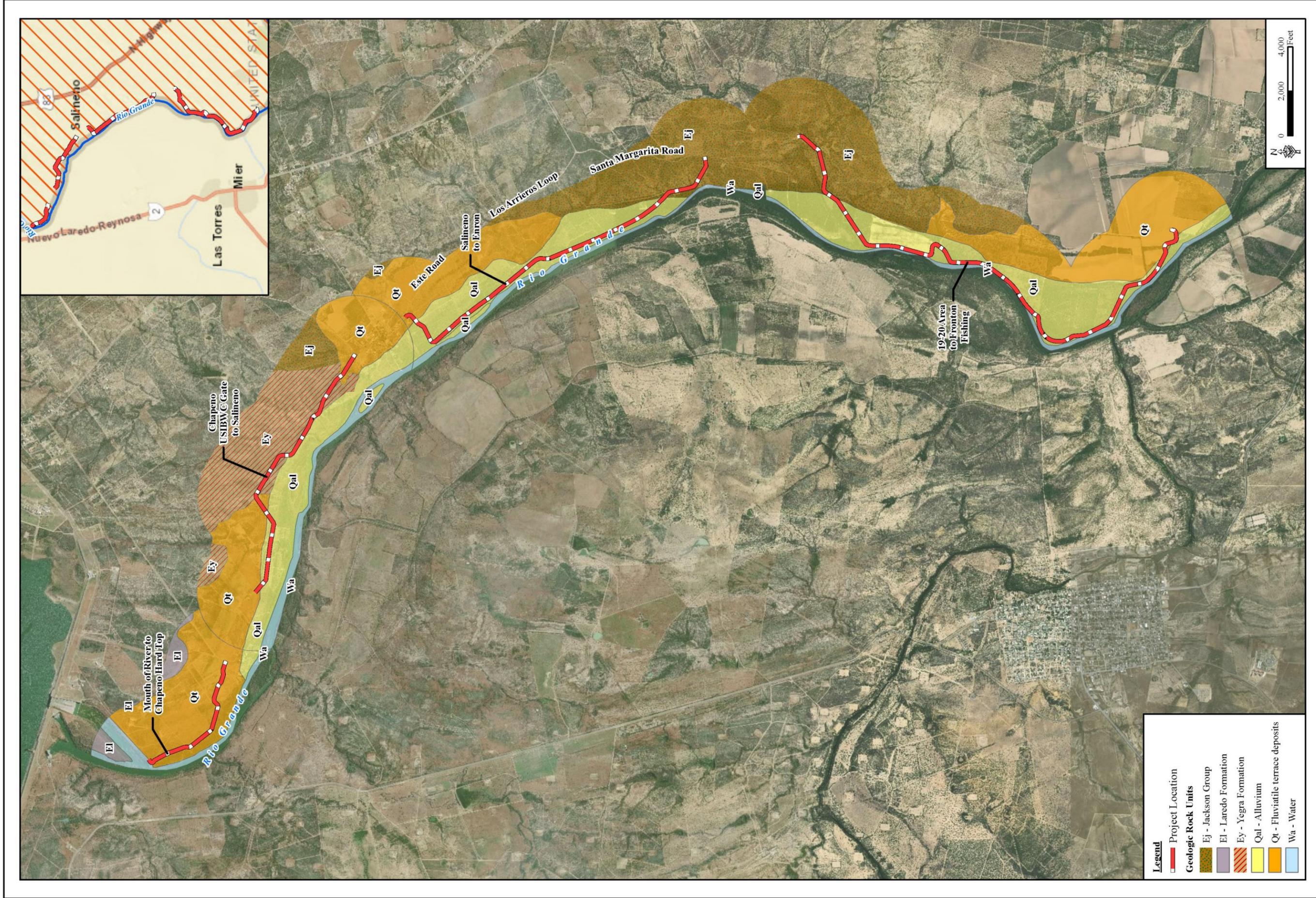
Several archaeological investigations have been conducted which overlap with the current survey area. The oldest include several mapped investigations that were conducted in 1976 and 1977 as part of the Rio Grande-Falcon Thorn Woodland investigations. Those investigations did not identify any archaeological sites which were mapped as overlapping any of the four road survey corridors. Most of the sites were only plotted as a point with no boundary and several were plotted in proximity of the Chapeno USIBWC Gate to Salineno road survey segment, including 41SR272, 41SR277, 41SR281, and 41SR283.

Additional archaeological investigations were conducted for CBP between 2015 and 2017. The two investigations were conducted by GSRC for CBP as part of the Remote Video Surveillance System Upgrade project (Lindemuth et al. 2016, Lindemuth 2018). Neither of these projects have been mapped in the *Texas Archeological Sites Atlas* or assigned Atlas numbers. The first project was a survey conducted in 2015 and 2016 for 68 proposed and alternate remote video surveillance sites along with their associated access roads across Starr and Hidalgo counties, Texas. This survey overlaps with the eastern end of the Chapeno USIBWC Gate to Salineno road survey segment. The work was conducted under Texas Antiquities Permit number 7564. A total of 28 new archaeological sites were recorded during the surveys, and two previously recorded archaeological sites were visited and updated. Of the 30 archaeological sites discussed in the report, 18 were recommended for additional testing, one was previously recommended eligible for the NRHP and GSRC concurred with that recommendation, and the remaining 11 archaeological sites were recommended not eligible for the NRHP. One of the newly recorded archaeological sites recommended for additional testing, 41SR444, was recorded immediately adjacent to the Chapeno USIBWC Gate to Salineno road survey segment. GSRC returned to conduct NRHP eligibility testing on site 41SR444 in December 2017 and February 2018. Four test units, two 1-meter by 1-meter units and two 1-meter by 2-meter units, were hand excavated. Based on the results of the test unit excavations conducted at site 41SR444, the site was found to have little or no potential to provide information regarding prehistoric adaptation in

the region. The artifact assemblage collected from the site lacked any diagnostic artifacts and was relatively light across a broad number of strata. The single feature noted at the site was determined to be completely deflated, retaining no cultural material and not intact. Finally, no midden deposits, features, or distinct occupational horizons were noted in any of the other test unit excavations. As a result, site 41SR444 lacked the required intact subsurface features or cultural horizons to provide information regarding prehistoric adaptations in the area. Given the lack of information potential, site 41SR444 was recommended not eligible for listing on the NRHP.

The most recent investigation was conducted in 2019 as part of the RGC Road Improvement project (Lindemuth and Frederick 2020). As part of that project, GSRC personnel conducted an intensive archaeological survey of 12.7 miles of linear survey area for a road improvement project within the RGC Station's AOR of U.S. CBP in Starr County. The investigation included pedestrian surveys utilizing transects spaced 10 meters (30 feet) apart and the excavation of shovel test pits (STPs) at either 16 per mile or 30 meter intervals across the whole 12.7-mile linear survey area. The survey identified 14 new archaeological sites and revisited and documented two previously recorded archaeological sites, 41SR272 and 41SR283. Two of those archaeological sites were identified within an alternate alignment of the project area which will not be used. The majority of the archaeological sites (14) were predominantly prehistoric sites. Several of those sites (6) also had minimal intrusive historic material associated with them which was probably the result of secondary deposition. Two archaeological sites were predominantly historic, one of which had minimal prehistoric material also associated with it. Of the 16 newly recorded and updated sites, 12 are recommended ineligible for the NRHP. No additional work was recommended for those 12 sites. The eligibility of the remaining four sites could not be determined without additional archaeological investigations and these sites are recommended for additional testing to determine their eligibility for the NRHP. Three of those sites are within the Chapeno USIBWC Gate to Salineno corridor and one is within the 19-20 to Fronton Fishing corridor. As a result, the NRHP eligibility for those sites is recommended Undetermined until such testing can be conducted and their eligibility for the NRHP can be determined. Until then those sites should be treated as if they are eligible for the NRHP.

Twenty expanded grading and construction easements were noted across the four proposed road segments. In those areas the corridor was expanded to 100 feet in width to accommodate additional grading and fill and where deeper excavations would be required. As part of GSRC's initial survey effort, an additional two to four supplemental STPs were excavated in these areas to test the expanded footprint. All of the supplemental STPs were negative for cultural material. While STPs excavated in these areas were negative, several sites and isolated occurrences (IOs) were recorded within these cut and fill areas, many of which were also located within Qt and Qal geologic units that have the potential for deeply buried deposits. The Qt geologic unit is derived from terrace deposits from the Pleistocene while the Qal geologic unit is primarily Cretaceous and Tertiary sedimentary and igneous rock from the Holocene (Figure 3-4). Given the results of the survey, the potential for deeply buried deposits in the areas, and the potential for deeper excavations in these areas during road construction, deep testing is recommended for those grading and construction easement areas that are within the Qt and Qal mapped geologic units. Fifteen of the twenty grading and construction easement areas are recommended for deep testing.



- Legend**
- Project Location
 - Geologic Rock Units**
 - Ej - Jackson Group
 - El - Laredo Formation
 - Ey - Yegra Formation
 - Qal - Alluvium
 - Qt - Fluvialite terrace deposits
 - Wa - Water

Figure 3-4. Geologic Map

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

Under the Proposed Action, 14 archaeological sites would be impacted by the proposed construction. Ten of those archaeological sites are ineligible for the NRHP and are not considered significant cultural resources. The remaining four archaeological sites have an undetermined eligibility for the NRHP, pending additional archaeological investigations needed to determine their eligibility for the NRHP. Those archaeological sites would be treated as eligible until the testing can be conducted and their eligibility for the NRHP can be determined. Additional NRHP eligibility testing would be conducted on those sites before any ground disturbing activities are conducted within their boundaries. If any of the sites are determined eligible for the NRHP, then appropriate mitigation measures for those sites would be developed in consultation with the Texas Historical Commission (THC) prior to any ground disturbing activities being conducted within those site boundaries. All mitigation measures developed through consultation with the THC would be implemented prior to construction in any of those site areas. Full compliance with Section 106 of the NHPA will ensure no significant impacts would occur to any of these potentially significant cultural resources.

If previously unidentified cultural resources are encountered outside of the identified archaeological sites during construction of the RGC Road Improvement project, all ground-disturbing activities in the vicinity of the discovery will cease until a qualified archaeologist is notified, and the nature and significance of the find is evaluated. If human remains are encountered during construction activities, law enforcement must be notified, and appropriate tribal entities must be consulted.

Beneficial impacts in the form of increased knowledge of the past, including site density and distribution, are realized as a result of surveys conducted as part of this EA. Additionally, previously recorded and unidentified cultural resource sites located within the project area and region would receive increased protection from disturbance through the deterrence of illegal foot and vehicle traffic moving through surrounding areas. Furthermore, improved access provided by the road improvements would reduce the enforcement footprint in non-disturbed habitats and subsequently reduce potential impacts on cultural resources.

3.8.2.2 No Action Alternative

Under the No Action Alternative, there would be no construction and no impacts would be anticipated to cultural resources. Direct impacts from illegal activity and indirect impacts from illegal foot and vehicle traffic and subsequent USBP interdiction activities would continue.

3.9 AIR QUALITY

3.9.1 Affected Environment

The USEPA established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either "primary" or "secondary." The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), particulate matter less than 10 microns (PM-10), particulate matter less than 2.5 microns (PM-2.5), and lead. NAAQS represent the maximum

levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 3-4.

Areas that do not meet these NAAQS standards are called non-attainment areas, while areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria and requirements for conformity determinations of Federal projects. The Federal Conformity Final Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the Clean Air Act in 1990. The rule mandates that a conformity analysis be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the General Conformity Final Rule. It requires the responsible Federal agency to evaluate the nature of a Proposed Action and associated air pollutant emissions and calculate emissions that may result from the implementation of the Proposed Action. If the emissions exceed established limits, known as *de minimis* thresholds, the proponent is required to perform a conformity determination and implement appropriate mitigation measures to reduce air emissions.

The USEPA has designated Starr County as in attainment for all NAAQS (USEPA 2018).

Greenhouse Gases and Climate Change

Global climate change refers to changes in the Earth's climate. Greenhouse gases (GHG) are gases that trap heat in the atmosphere and contribute to climate change. They include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), fluorinated gases including chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HFC), halons, and ground-level O₃ (California Energy Commission 2007).

The major GHG-producing sectors in society include transportation, utilities (e.g., coal and gas power plants), industry/manufacturing, agriculture, and residential. End-use sector sources of GHG emissions include transportation (40.7 percent), electricity generation (22.2 percent), industry (20.5 percent), agriculture and forestry (8.3 percent), and other (8.3 percent). The main sources of increased concentrations of GHG due to human activity include the combustion of fossil fuels and deforestation (CO₂), livestock and rice farming, land use and wetland depletions, landfill emissions (CH₄), refrigeration system and fire suppression system use and manufacturing (CFC), and agricultural activities, including the use of fertilizers (California Energy Commission 2007).

Table 3-4. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Times
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour (1)	None	None
	35 ppm (40 mg/m ³)	1-hour (1)	None	None
Lead	0.15 µg/m ³ (2)	Rolling 3-Month Average	Same as Primary	Same as Primary
	1.5 µg/m ³	Quarterly Average	Same as Primary	Same as Primary
Nitrogen Dioxide	53 ppb (3)	Annual (Arithmetic Average)	Same as Primary	Same as Primary
	100 ppb	1-hour (4)	None	None
Particulate Matter (PM-10)	150 µg/m ³	24-hour (5)	Same as Primary	Same as Primary
Particulate Matter (PM-2.5)	15.0 µg/m ³	Annual (6) (Arithmetic Average)	Same as Primary	Same as Primary
	35 µg/m ³	24-hour (7)	Same as Primary	Same as Primary
Ozone	0.075 ppm (2008 std)	8-hour (8)	Same as Primary	Same as Primary
	0.08 ppm (1997 std)	8-hour (9)	Same as Primary	Same as Primary
	0.12 ppm	1-hour (10)	Same as Primary	Same as Primary
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour (1)
	0.14 ppm	24-hour (1)	0.5 ppm	3-hour (1)
	75 ppb (11)	1-hour	None	3-hour (1)

Source: USEPA 2018

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb - 1 part in 1,000,000,000) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

(1) Not to be exceeded more than once per year.

(2) Final rule signed October 15, 2008.

(3) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(4) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

(5) Not to be exceeded more than once per year on average over 3 years.

(6) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

(7) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

(8) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).

(9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) USEPA is in the process of reconsidering these standards (set in March 2008).

(10) (a) USEPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

(11) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

GHG Threshold of Significance

The CEQ drafted guidelines for determining meaningful GHG decision-making analysis. The CEQ guidance states that if the Project would be reasonably anticipated to cause direct emissions of 25,000 metric tons (27,557 U.S. tons) or more of CO₂ GHG emissions on an annual basis, agencies should consider this a threshold for decision-makers and the public. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHG (CEQ 2010).

The GHG covered by E.O. 13514 are CO₂, CH₄, N₂O, HFC, perfluorocarbons, and sulfur hexafluoride. These GHG have varying heat-trapping abilities and atmospheric lifetimes. CO₂ equivalency (CO₂e) is a methodology used to measure and compare the heat-trapping impact from various greenhouse gases relative to CO₂. Some gases have a greater global warming potential than others. N₂O for instance, has a CO₂e of 310 and CH₄ has a CO₂e of 21 (CEQ 2012).

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

Under the Proposed Action alternative, there would be short-term and adverse impacts on air quality from construction activities. Impacts on air quality would result from emissions from construction equipment as well as dust generated by construction activities. BMPs would be followed to minimize impacts. Over the long term, the new roads would result in lower levels of fugitive dust than the dirt roads now in use. If activity from patrol vehicles increases as a result of the improved roads, there could be a minor increase in vehicle emissions. However, increased access could allow USBP agents to take more direct routes, which could potentially reduce vehicle emissions and aid in overall efficiency.

3.9.2.2 No Action Alternative

Under the No Action Alternative, there would be no construction activities, so there would be no impacts on air quality. If existing dirt roads continue to be used, vehicles using the dirt roads would continue to generate fugitive dust.

3.10 NOISE

3.10.1 Affected Environment

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The perceived threshold of human hearing is 0 dB, and the threshold of discomfort or pain is around 120 dB (USEPA 1974). The weighted decibel (dBA) is a measurement of sound pressure adjusted to conform to the frequency response of the human ear.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of intrusive noise during the day, at least in terms of its

potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Long-term noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974). A 65 dBA DNL is the impact threshold most commonly used for noise planning purposes near residents and represents a compromise between community impact and the need for activities like construction (U.S. Department of Housing and Urban Development [HUD] 2019).

Some of the road segments are located within the LRGV NWR (Figure 3-5), which is considered a sensitive noise receptor. Noise emission criteria for construction activities are published by the Federal Highway Administration (FHWA), which has established a construction noise abatement criterion of 57 dBA for lands in which serenity and quiet are of extraordinary significance, such as National Parks and Wildlife Refuges (23 CFR Section 722 Table 1). The 57 dBA criterion threshold is used to measure the impacts from short-term noise emissions associated with constructing the proposed roads. For long-term noise emissions, the USEPA (1974) notes that noise emissions of 55 dBA or less are suitable.

Noise Attenuation

As a general rule, noise generated by a stationary noise source, or “point source,” will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source and 73 dBA at a distance of 200 feet. To estimate the attenuation of the noise over a given distance, the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d_2/d_1)}$$

Where:

- dBA₂ = dBA at distance 2 from source (predicted)
 - dBA₁ = dBA at distance 1 from source (measured)
 - d₂ = Distance to location 2 from the source
 - d₁ = Distance to location 1 from the source
- Source: California Department of Transportation (Caltrans) 1998

The four roads are located in remote locations in the ROI; only 17 residences are located within 500 feet of the proposed roads. Since these roads are also located within the LRGV NWR, the 57 dBA criterion threshold is used to measure the impacts from noise emissions associated with the proposed roads.

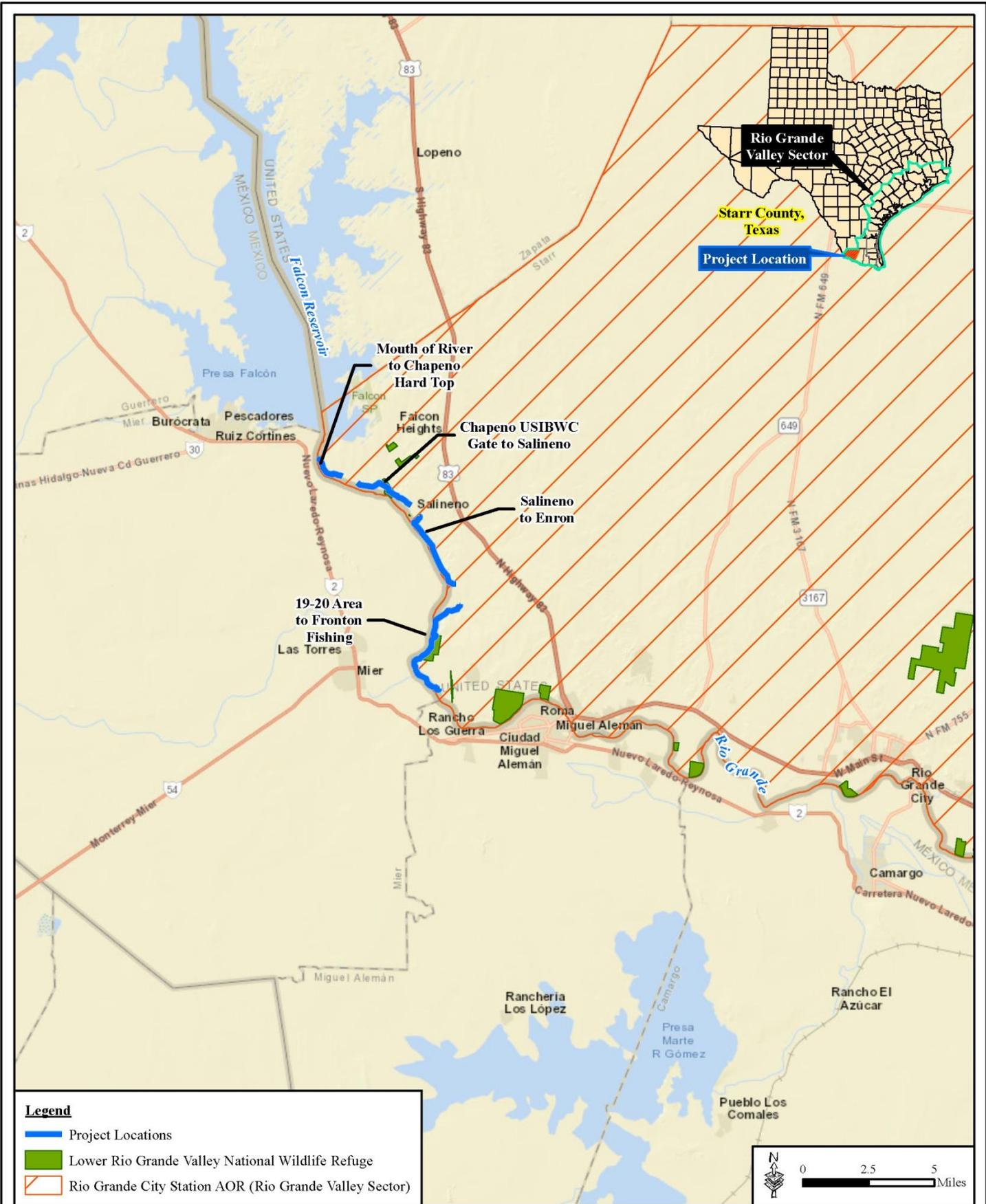


Figure 3-5. Road Segments in Reference to the Lower Rio Grande Valley National Wildlife Refuge

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action

Short-Term Construction Noise Emissions

Construction of the four roads is anticipated to last 184 days; however, construction activities at any one location will be of much shorter duration. Road upgrades and the construction of new road segments would require the use of common construction equipment. Table 3-5 describes noise emission levels for construction equipment that range from 63 dBA to 85 dBA at selected distances of 50 to 1,000 feet (FHWA 2016).

Table 3-5. Noise Levels of Construction Equipment and Modeled Attenuation at Various Distances¹

Noise Source	50 feet	100 feet	200 feet	500 feet	1,000 feet
Bulldozer	85	79	73	65	59
Dump Truck	84	78	72	64	58
Water Pump	76	70	64	56	50
Concrete Mixer Truck	79	73	67	59	53
Roller	80	74	68	60	54
Grader	85	79	73	65	59
Crane	81	75	69	61	55
Excavator	81	75	69	61	55
Front-end Loader	79	73	67	59	53

Source: FHWA 2016

¹: The dBA at 50 feet is a measured noise emission. The 100- to 1,000-foot results are GSRC modeled estimates.

Assuming the worst case scenario of 85 dBA from general construction equipment, the noise model predicts that noise emissions would have to travel 1,138 feet before they would be attenuated to acceptable levels equal to or below 57 dBA, which is the criterion for National Monument and Wildlife Refuges (23 CFR Section 722, Table 1), or 482 feet to attenuate to 65 dBA, which is the criterion for residential receptors.

Four structures (possible residences) are located within approximately 500 feet of the proposed Mouth of River to Chapeno Hard Top segment. This portion of the road project would require only improvements and no new construction; thus the duration of the construction activities would be reduced. The residential noise receptors may still experience temporary noise intrusion equal to or greater than 65 dBA from construction equipment. Noise generated by the construction activities associated with this road would be intermittent and last for less than 6 months, after which noise levels would return to ambient levels. To minimize impacts, construction activity would be limited to daylight hours, between 8:00 a.m. to 5:00 p.m., Monday through Friday. Therefore, the noise impacts from construction activities would be considered temporary and minor.

Approximately 13.5 acres of the LRGV NWR would experience elevated noise levels during the approximately 6 months of construction activities, although the acreage impacted at any one time would be substantially smaller and would be intermittent. Upon completion of construction activities, noise levels would return to ambient levels. Using the BMPs described above, noise

impacts from construction of the roads within the LRGV NWR would be considered temporary and minor.

Long-Term Operational Noise

Noise associated with operations would be from USBP vehicles utilizing the roads. Noise would be intermittent and minor.

3.10.2.2 No Action Alternative

Under the No Action Alternative, residences or wildlife near the proposed roads would not experience construction or operational noise associated with the roads. However, noise emissions associated with illegal cross border violators' off-road travel and consequent law enforcement actions, which would be long-term and negligible to minor, would continue under the No Action Alternative.

3.11 ROADWAYS AND TRAFFIC

3.11.1 Affected Environment

The proposed roads are located in rural areas, primarily accessed by numerous local and county roads, including but not limited to Chapeno Road, Este Road, and Santa Margarita Road. U.S. 83 is the primary route for vehicular traffic through the LRGV (Figure 3-6). U.S. 83, which is one of the longest north-south U.S. Highways in the U.S., runs approximately two to five miles east of the proposed roads.

3.11.2 Environmental Consequences

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

3.11.2.1 Proposed Action

The roads proposed to be improved are all non-paved roads, most of which are on private lands or USFWS and USIBWC lands; as such these roads receive little to no public traffic. The construction activities would result in temporary and minor increases in traffic, which would return to near current conditions once the project is completed. USBP vehicles currently use the existing roads, but there would be an increase in USBP traffic due to the improved access. Public roads such as U.S. 83 would experience a slight increase during the construction period; however, TxDOT reports that such public roads within Starr County are currently operating at less than 50 percent of their capacity (TxDOT 2019). The slight increase in construction vehicle traffic would have negligible effects on their capacity, and no changes would occur to the traffic patterns on these roads.

3.11.2.2 No Action Alternative

Under the No Action Alternative, impacts on roadways and traffic would remain at their current volumes and patterns.



Figure 3-6. Transportation Network Map

3.12 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

This section outlines the basic attributes of population and economic activity in Starr County in Texas, which is the ROI for socioeconomics.

3.12.1 Affected Environment

Socioeconomics

Demographic data, shown in Table 3-6, provide an overview of the socioeconomic environment in the ROI. The estimated population in Starr County in 2017 was 64,454 (U.S. Census Bureau 2018). The population grew at an average annual rate of 0.8 percent, which is the same as the U.S. but less than half the average annual growth rate for Texas. Starr County is heavily Hispanic, with more than 96 percent of the population identifying as Hispanic.

Table 3-6. Population Demographics

Geographic Area	Populations			Race/Ethnicity		
	2017 Population Estimate	Average Annual Growth Rate 2010-2017 (Percent)	Density (Persons per Square Mile)	White, Not Hispanic (Percent)	Hispanic	Minority (Percent)
Starr County	64,454	0.8	49.8	3.3	96.3	96.7
Texas	28,304,596	1.8	96.3	42.0	39.4	58.0
United States	325,719,178	0.8	87.4	60.7	18.1	39.3

Source: U.S. Census Bureau 2018

Data on the per capita income and poverty (Table 3-7) show that the per capita income in Starr County is less than half the national average per capita income (42 percent). The poverty rate in Starr County is over 2.5 times greater than the Texas and U.S. poverty rates. The unemployment rate in Starr County is over 2.6 times greater than the unemployment rates for Texas and the U.S.

Table 3-7. Income, Poverty, and Unemployment

Geographic Area	Per Capita Income (Dollars)	Per Capita Income As a Percent of the United States (Percent)	Poverty Rate (Percent)	Unemployment Rate (Annual Average 2017) (Percent)
Starr County	\$12,663	42	39.9	11.7
Texas	\$27,828	93	14.7	4.3
United States	\$29,829	100	12.3	4.4

Sources: U.S. Census Bureau 2018 and U.S. Bureau of Labor Statistics 2018

Data on the level of educational attainment (Table 3-8) show that the population of Starr County is less educated than Texas and the U.S., with the percentage of the population that has earned high school and college credentials well below Texas and the U.S.

Table 3-8. Educational Attainment

Geographic Area	High School Graduate or Higher 2012-2016 (Percent over age 25)	Bachelor’s Degree or Higher 2012-2016 (Percent over age 25)
Starr County	48.5	9.3
Texas	82.3	28.1
United States	87.0	30.3

Source: U.S. Census Bureau 2018

Environmental Justice

E.O. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by President Clinton on February 11, 1994. It was intended to ensure that proposed Federal actions do not have disproportionately high and adverse human health and environmental effects on minority and low-income populations and to ensure greater public participation by minority and low-income populations. It required each agency to develop an agency-wide environmental justice strategy. A Presidential Transmittal Memorandum issued with the E.O. states that “each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA 42 U.S.C. Section 4321, et seq.” The Department of Defense (DoD) has directed that NEPA will be used to implement the provisions of the E.O.

E.O. 12898 does not provide guidelines as to how to determine concentrations of minority or low-income populations. However, analysis of demographic data on race and ethnicity and poverty provides information on minority and low-income populations that could be affected by the proposed actions. The U.S. Census Bureau reports numbers of minority individuals and the U.S. Census American Community Survey (ACS) provides the most recent poverty estimates available. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other. Household income is used to determine poverty status. Poverty is defined as the number of people with income below poverty level, which was \$24,858 for a family of four in 2017, according to the U.S. Census Bureau (2018). A potential disproportionate impact may occur when the percent minority in the study area exceeds 50 percent, or a disproportionate impact may occur when the percent minority and/or low-income in the study area are meaningfully greater than those in the region.

Protection of Children

E.O. 13045 requires each Federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” This E.O. was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental

health and safety risks than adults. The potential for impacts on the health and safety of children is greater when projects are located near residential areas.

3.12.2 Environmental Consequences

Impacts on socioeconomic conditions would be considered significant if they included displacement or relocation of residences or commercial buildings or increases in long-term demands for public services in excess of existing and projected capacities. Starr County has high minority and high poverty populations, with the percentages of the populations in poverty more than double the percentage for Texas. However, there would be no long-term impacts on people and only temporary and minor impacts associated with construction, so there would be no disproportionately high and adverse human health or environmental effects on minority populations and low income populations. There would be no environmental health or safety risks that could disproportionately affect children.

3.12.2.1 Proposed Action

The Proposed Action would have temporary, minor, and adverse socioeconomic impacts in some of the areas immediately adjacent to the roads. The proposed roads are in rural areas with few structures nearby. There are no schools or churches within 500 feet of the four roads; however, 17 structures (possible residences) are located within 500 feet of the proposed roads. The Mouth of River to Chapeno Hard Top and Chapeno USIBWC Gate to Salineno roads each have up to four residences within 500 feet, there are up to seven residences within 500 feet of the Salineno to Enron road, and up to two residences within 0.01 mile of the 19-20 Area to Fronton Fishing road.

Temporary, minor, and beneficial impacts could occur in the form of jobs and income for area residents, revenues to local businesses, and sales and use taxes to Starr County and the State of Texas from locally purchased building materials and local construction workers. Additionally, the road upgrades would provide better access for USBP agents focused on interdiction of those involved in illegal cross border activities, thereby enhancing rapid response capabilities. Agents could be more efficiently deployed to patrol the areas, which would likely contribute to a decrease in cross border violators. The decrease in cross border violator activities could have a beneficial effect on the incidence of crime and enhanced safety, providing long-term beneficial impacts in the region.

3.12.2.2 No Action Alternative

Under the No Action Alternative, the road upgrades and new construction would not occur. There would be no direct impacts on socioeconomics, human health, or environmental effects on minority or low income populations, since the roads would not be upgraded. The USBP's ability to detect and interdict illicit cross border activity would not be enhanced. Under the No Action Alternative, the road upgrades and new construction would not occur. There would be no environmental health or safety risks that could disproportionately affect children. The USBP's ability to detect and interdict illicit cross border activity would not be enhanced.

4.0 CUMULATIVE EFFECTS

This section of the EA defines cumulative impacts, identifies past, present, and reasonably foreseeable projects relevant to cumulative impacts, and analyzes the potential cumulative impacts associated with the implementation of the Proposed Action and other projects/programs planned within the ROI.

4.1 DEFINITION OF CUMULATIVE IMPACTS

The CEQ defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR § 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (Federal, state, or local) or individuals. CEQ guidance on cumulative effects requires the definition of the scope of the other actions and their interrelationship with the Proposed Action (CEQ 1997). The scope must consider geographic and temporal overlaps with the Proposed Action and all other actions occurring within the ROI. Informed decision making is served by consideration of cumulative impacts resulting from activities that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future activities affecting any part of the human or natural environment impacted by the Proposed Action. Activities were identified for this analysis by reviewing CBP and USBP documents, news/press releases, and published media reports, and through consultation with planning and engineering departments of local governments and state and Federal agencies.

4.2 PAST IMPACTS WITHIN THE REGION OF INFLUENCE

The ecosystems within the ROI have been significantly impacted by historical and ongoing activities such as ranching, livestock grazing, mining, agricultural development, cross-border violator activity, and climate change. All of these actions have, to a greater or lesser extent, contributed to several ongoing threats to the ecosystem, including loss and degradation of habitat for both common and rare wildlife and plants and the proliferation of roads and trails. Although activities that occurred on Federal lands (U.S Department of the Interior [DOI]) were regulated by NEPA, the most substantial impacts of these activities within the ROI such as ranching, livestock grazing, and cross-border violator activity, were not or are not regulated by NEPA and did not include efforts to minimize impacts.

4.3 CURRENT AND REASONABLY FORESEEABLE CBP PROJECTS WITHIN AND NEAR THE REGION OF INFLUENCE

USBP has conducted law enforcement actions along the border since its inception in 1924 and has continuously transformed its methods as new missions, modes of operations of cross-border violators, agent needs, and National enforcement strategies have evolved. Development and

maintenance of training ranges, station and sector facilities, detention facilities, roads, and fences have impacted thousands of acres, with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects, too, have resulted from the construction and use of these roads and fences, including, but not limited to: increased employment and income for border regions and its surrounding communities, protection and enhancement of sensitive resources north of the border, reduction in crime within urban areas near the border, increased land value in areas where border security has increased, and increased knowledge of the biological communities and prehistory of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP's environmental conservation measures, including use of biological monitors, wildlife water systems, and restoration activities, adverse impacts due to future and ongoing projects would be avoided or minimized. Recent, ongoing, and reasonably foreseeable proposed actions will result in cumulative impacts; however, the cumulative impacts will not be significant. CBP is currently planning, conducting, or has completed several projects in the USBP RGC AOR and other nearby areas, including the following:

- Maintenance and repair of tactical infrastructure along the U.S./Mexico International Border in the RGV Sector
- Proposition to design and construct approximately 52 miles of border wall system in Starr County

In addition, TxDOT, RGC, and Starr County are currently planning or conducting several projects in the ROI, which include:

- Construction of a new 500,000 gallon water tower in RGC
- A 1.2 million dollar drainage improvement project in RGC
- The construction of a 13,000 square foot skate plaza in RGC
- There are no TxDOT projects specific to Starr County. However, a statewide TxDOT project is currently taking place at the U.S./Mexico International Border that examines options to relieve congestion at Texas-Mexico border crossing locations

A summary of the anticipated cumulative impacts relative to the Proposed Action is presented below. The discussion is presented for each of the resources described previously.

4.4 ANALYSIS OF CUMULATIVE IMPACTS

Impacts on each resource were analyzed according to how other actions and projects within the ROI might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis the intensity of impacts will be classified as negligible, minor, moderate, or major. These intensity thresholds were previously defined in Section 3.1. A summary of the anticipated cumulative impacts on each resource is presented below.

4.5 LAND USE

A major impact would occur if any action is inconsistent with adopted land use plans or if an action would substantially alter those resources required for, supporting, or benefiting, the current use. Much of the project area is currently undeveloped Tamaulipan brushland that is used as rangeland or has been developed for agricultural crops. Under the No Action Alternative, land use would not change. Although the Proposed Action would convert approximately 29 acres of undeveloped land to a developed use, the Proposed Action and other CBP actions would not initiate an increase of development in the immediate vicinity of the projects. Therefore, the Proposed Action, when combined with past and proposed actions in the region, would not be expected to result in major, cumulative, adverse effects.

4.6 SOILS

A major impact on soils would occur if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction and would create a risk to life or property, or if there would be a substantial reduction in agricultural production or loss of prime farmland soils. Modification of soils would not occur under the No Action Alternative. The Proposed Action and other CBP actions would not substantially reduce prime farmland soils or agricultural production regionally, as much of the land developed by CBP has not been previously used for agricultural production. Pre- and post-construction SWPPP measures would be implemented to control soil erosion. Deterrence of cross border violator activity within the ROI would likely result in a reduction in soil disturbances and concomitant erosion. The permanent impact on 29 acres of soils (of which 11.6 acres are considered prime farmland soils, if irrigated) from the Proposed Action, when combined with past and proposed actions in the region, would not be considered a major, cumulative, adverse effect.

4.7 GROUNDWATER, SURFACE WATER, WATERS OF THE U.S., AND FLOODPLAINS

Under the No Action Alternative, no impacts on water resources would occur. Some groundwater withdrawals are expected as a result of the Proposed Action for construction purposes; however, these would be infrequent and minor and would not be expected to result in major cumulative effects on the region's groundwater supplies. Drainage crossings would be designed and constructed to ensure drainage patterns are not altered. Surface water quality could be temporarily affected due to erosion and sedimentation during the construction period, but no major cumulative effects would occur from this and other projects in the region. Potential jurisdictional wetlands would be impacted; however, through the permitting process a no net loss of wetlands would be achieved. Therefore, no cumulative impacts would occur on wetlands. As mentioned previously, specific erosion and sedimentation controls and other BMPs would be in place during construction as standard operating procedures. There is potential for drainage crossings to impact the 100-year floodplain; however, CBP would design and construct the crossings in a manner to ensure that there would be no increase in flood elevation, velocity, duration, or frequency once the crossings are completed. Therefore, the Proposed Action, in conjunction with other past, ongoing, and proposed regional projects, would not create a major cumulative effect on water resources in the region.

4.8 VEGETATIVE HABITAT

A major impact on vegetation would occur if a substantial reduction in ecological processes, communities, or populations would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Vegetative habitat would not be disturbed or removed under the No Action Alternative. However, long-term direct and indirect impacts on vegetation communities would continue as a result of cross border violator activities that create unauthorized roads and trails, damage vegetation, promote the dispersal and establishment of non-native invasive species, and cause wildfires. The South Texas Brush Country ecoregion encompasses approximately 28,000 square miles in south Texas. Therefore, due to the permanent impact of only 29 acres on native vegetation, in conjunction with other past, ongoing, and proposed regional projects, the Proposed Action would not create a major cumulative effect on vegetative habitat in the region.

4.9 WILDLIFE RESOURCES

A major impact on wildlife and aquatic resources would occur if a substantial reduction in ecological processes, communities, or populations would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Under the No Action Alternative, no direct impacts on wildlife or wildlife habitats would occur. However, off-road cross border violator activity and required interdiction actions would continue to degrade wildlife habitat through a loss of cover, forage, nesting, or other opportunities and potentially a loss of suitable habitat over large areas.

The wildlife habitat present in the project area is both locally and regionally common. In fact, the USFWS has a program that revegetates approximately 300 acres of existing farmland on the LRGV NWR per year with native vegetation. Therefore, due to the permanent impact of 29 acres of native habitat, in conjunction with other past, ongoing, and proposed regional projects, the amount of habitat potentially removed would be minor on a regional scale. Thus, the Proposed Action would not create a major cumulative effect on wildlife populations in the region.

4.10 THREATENED AND ENDANGERED SPECIES

A major impact on protected species would occur if any action resulted in a jeopardy opinion for any endangered, threatened, or rare species. Under the No Action Alternative, there would be no direct impacts on threatened or endangered species or their habitats as no construction activities would occur. However, the direct and long-term impacts of illegal border activities throughout the project area and surrounding areas would continue due to the creation of trails, damage to vegetation, and the promotion of the dispersal and establishment of invasive species, which can result in catastrophic wildfires.

Although potential habitat for the jaguarundi, ocelot, and NAF exists at and near the proposed road projects, the construction activities would not likely adversely affect these species. The road projects would result in the loss of up to 560 Zapata bladderpod plants. CBP and USFWS are currently in Section 7 consultation regarding the potential effects. Likewise, BMPs, which

limit potential impacts on these species, would be in place during the construction of the Proposed Action and would continue to be in place once the roads are operational. Thus, when combined with other existing and proposed actions in the region, the Proposed Action would not result in major cumulative impacts on protected species or adverse modification of designated Critical Habitats. Any indirect, cumulative impacts on protected species would be negligible to minor.

4.11 CULTURAL RESOURCES

Although no impacts on cultural resources would occur from construction activities under the No Action Alternative, potential adverse impacts on cultural resources would continue to occur due to cross border violators within the area. The Proposed Action would not significantly adversely affect cultural resources or historic properties once mitigation measures have been implemented but is anticipated to provide increased protection from disturbance due to the decrease in USBP agent response times. Therefore, the Proposed Action, when combined with other existing and proposed actions in the region, would not result in major cumulative impacts on cultural resources or historic properties. Additionally, beneficial impacts in the form of increased knowledge of the past, including site density and distribution, are realized as a result of surveys conducted as part of the Proposed Action, as well as other past, ongoing, and proposed actions in the region.

4.12 AIR QUALITY

No direct impacts on air quality would occur due to construction activities under the No Action Alternative; however, fugitive dust emissions created by illegal cross border violators and resulting law enforcement actions, as well as vehicle traffic on authorized roads, would continue. The emissions generated during the construction of the roads would not exceed Federal *de minimis* thresholds and would be short-term and minor. There would be no long-term increase in vehicular traffic in the region's airshed, since no additional vehicles would be added due to the road improvements and construction. Therefore, the Proposed Action, when combined with other past, ongoing, and proposed actions in the region, would not result in major, adverse, cumulative impacts.

4.13 NOISE

A major impact would occur if ambient noise levels permanently increased to over 65 dBA in general or greater than 57 dBA within or near the LRGV NWR. Under the No Action Alternative, no impacts would occur. Under the Proposed Action noise would occur during the road improvements and construction. These activities would be temporary and would not contribute to cumulative impacts on ambient noise levels. Patrol vehicle noise would also be sporadic and would not increase ambient noise conditions above 65 dBA or 57 dBA within refuge lands. Thus, the noise generated by the Proposed Action, when considered with the other existing and proposed actions in the region, would not result in major, cumulative, adverse effects.

4.14 ROADWAYS AND TRAFFIC

Impacts on traffic or roadways would be considered to cause major impacts if the increase of average daily traffic exceeded the ability of the surface streets to offer a suitable level of service for the area. Under the No Action Alternative, impacts on roadways and traffic would remain status quo. In general, the existing roads affected by the Proposed Action are very lightly traveled and construction activities for the Proposed Action would be limited in duration. Therefore, when combined with past, ongoing, or proposed actions in the region, no major cumulative adverse effects on roadways and traffic would occur as a result of the Proposed Action.

4.15 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

Although no impacts on socioeconomics or environmental justice would occur from construction activities under the No Action Alternative, potential adverse impacts on socioeconomics or environmental justice would continue to occur due to cross border violators entering the ROI. Cross border violators negatively impact native habitat by creating trails and leaving trash, which degrades property values. In addition, cross border violators are a conduit for illegal drugs and crimes. No adverse direct impacts would occur on socioeconomics, children, or environmental justice issues as a result of the Proposed Action; therefore, no adverse cumulative impacts would occur. However, road improvement and construction activities would have temporary beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food. When combined with the other currently proposed or ongoing projects within the region, the Proposed Action is considered to have negligible to minor beneficial cumulative impacts.

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6.0 LIST OF PREPARERS

Contractors

Chris Ingram, GSRC
M.S., Biology
Years of Experience: 33
Responsible for: EA Project Management, EA Preliminary Draft

Mike Renacker, GSRC
M.S., Arts
Years of Experience: 20
Responsible for: Review

Howard Nass, GSRC
B.A., Forestry and Wildlife Management
Years of Experience: 22
Responsible for: Review, EA Project Management

A.J. Pate, GSRC
M.S., Ecology
Years of Experience: 10
Responsible for: Technical Editing

Beau Rapier, GSRC
M.S., Biology
Years of Experience: 7
Responsible for: EA Project Management, Technical Editing

Lauren Solomon, GSRC
M.S., Biology
Years of Experience: 11
Responsible for: Technical Editing

Christy Gumpel, GSRC
B.A., Geography
Years of Experience: 11
Responsible for: GIS Analyses and Figures Preparation

Peggy Thurston, GSRC
Years of Experience: 28
Responsible for: Document Production

Appendix A
Public Correspondence



August 13, 2020

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Fort Worth

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

Carter P. Smith
Executive Director

Mr. Paul Enriquez
Acquisitions, Real Estate, and Environmental Director
Border Wall Project Management Office
U.S. Customs and Border Protection
1300 Pennsylvania Avenue NW
Mail Stop 1039
Washington, DC 20229

RE: Proposed road improvement Draft Environmental Assessment for U.S. Customs and Border Protection Rio Grande City, Starr County, Texas

Dear Mr. Enriquez:

This letter is in response to your request for review of the draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) prepared for the proposed U.S. Customs and Border Protection (CBP) project referenced above.

Project Description

The proposed project includes upgrading existing roads and constructing new roads at four segments adjacent to the Rio Grande south of Falcon International Reservoir in Starr County, Texas. These segments are identified as Mouth of River to Chapeno Hard Top, Chapeno U.S. International Boundary and Water Commission (USIBWC) Gate to Salineno, Salineno to Enron, and 19-20 Area to Fronton Fishing. The total combined length of road segments that would be upgraded/constructed would be approximately 12.01 miles. Existing roads are dirt and vary in width from 10 to 30 feet wide. Upgraded and new road construction would be designed to meet CBP Functional Class (FC)-2 standards for all weather roads. That is, in all four locations, upgraded and new roads would consist of a two-lane (20-foot wide with 2-foot shoulders) unpaved road surfaced with aggregate material (caliche, stone, or gravel). An adjacent 6-foot wide "drag road" constructed to FC-3 standards would be completed on the river side of each road segment. Therefore, the completed project would result in a 30-foot wide permanent footprint. Temporary construction easements 20-foot wide would be located along both sides of the road upgrade and new construction segments.

TPWD staff has reviewed the draft EA and offers the following comments and recommendations.

1.5 Scope of Environmental Analysis

Page 1-4, Lines 6-17 This section states that in the process of developing the EA, input and comments were solicited from agencies and that those comments would be reviewed and addressed during the preparation of the draft EA. However, the scoping request letter dated February 26, 2019, was provided to agencies via the U.S. Postal Service (USPS) with a comment deadline of March 8, 2019. Because the request was sent via USPS, the arbitrary eight business day deadline was compressed; TPWD field staff received the scoping

request on March 7, 2019. Of the more than 30 agencies, tribes, and other interested parties contacted during scoping, CBP received no comments.

Comment: For a project of this scale that will result in permanent, negative impacts in one of the most unique wildlife habitats in the nation, and for which very little detail was provided, an 8-day scoping period was inadequate. TPWD objects to this arbitrary limitation on the National Environmental Policy Act (NEPA) project scoping input period which has no legal basis.

2.2 Proposed Action

Page 2-1, Line 41-43. This section indicates that water crossings and drainage improvements would be included in the project to improve better all-weather use of the roads. No description of the proposed infrastructure (e.g., reinforced concrete box culverts, reinforced concrete pipe, corrugated steel pipes) that would be installed was provided in the EA.

Recommendation: The final EA should include detailed descriptions of the proposed structures that would be installed at water crossing and drainages. Also, the potential impacts associated with their installation and operation should be thoroughly evaluated.

Depending on the type of structures proposed, coordination with the U.S. Army Corps of Engineers (USACE) may be required in order to comply with the Clean Water Act. TPWD recommends contacting the USACE regarding potential permitting requirements.

Page 2-2, Lines 11-15. The EA states that the existing roads vary in width from 10 to 30 feet wide. Calculations of the anticipated impacts to habitat are then based on an assumption that all existing roads in the project area are 20 feet wide, resulting in a presumed total permanent impact of 7 acres of habitat.

The assumption of an existing 20-foot wide existing road width is unsupported in the EA with photographs, survey reports, or other ground truthing material that could have been collected during the three 2019 field trips conducted by consultants. Three-year-old aerial imagery indicates that the existing road sections in many areas are two-track roads varying in width from 6 to 15 feet, indicating 7 acres of permanent impacts is an underestimate. For example, if only half the existing roads were 10-foot wide and half were 20-foot wide, permanent impacts would exceed 10 acres. This underestimation of permanent impacts based on unsupported assumptions is repeated throughout the EA (e.g., Page 3-2, Line 9; Page 3-3, Line 21; Page 3-12, Line 33-36).

Recommendation: TPWD recommends the proposed project areas be surveyed in order to accurately describe the existing conditions and more accurately estimate the potential impacts that would result from the project.

Page 2-2, Line 17, 27, 37. This paragraph states that the vegetation removed from the 20-foot wide construction easement on either side of the upgraded or new roads would be temporary. This statement is repeated throughout the EA (Page 2-3; Page 3-2, Line 15;

Page 3-3, Line 24-26; Page 3-5, Line 12; Page 3-12, Line 32, 38; Page 3-14, Line 39-40; Page 3-23, Line 17-18). Within some areas of the four project segments, woody vegetation occurs adjacent to the existing roads or may occur in areas of new road construction. According to the definitions provided in the EA (Page 3-1), temporary impact is defined as lasting the duration of the project, which is anticipated to be 184 days.

Recommendation: Because it is unlikely that woody vegetation/thornscrub habitat within the temporary construction easement would recover by the end of the anticipated 184-day construction window, TPWD recommends impacts within construction easements be defined as long-term or permanent.

Page 2-2, Lines 19-20, 30-31. The EA indicates here, and elsewhere (Page 2-4, line 24-25; Page 3-3, Line 27-28; Page 3-12, Line 37-38, 45; Page 3-13, Line 1), that disturbed areas would be allowed to revegetate naturally or artificially using a hydroseeder with native, weed-free seed mix.

Recommendation: In general, when undeveloped land is permitted to remain fallow or revegetate naturally following a disturbance, the result is often the rapid conversion of the land into a monoculture of introduced, invasive grasses. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. Vegetation management should include removing invasive species early on while allowing existing native plants to revegetate disturbed areas. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database, available online, for regionally adapted native species that would be appropriate for landscaping and revegetation efforts.

Also, TPWD recommends contractors apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas where feasible. If hydromulching and/or hydroseeding are not feasible due to site conditions, using erosion control blankets or mats that contain no netting, or only contain loosely woven natural fiber netting is preferred. Plastic netting should be avoided to the extent practicable as it poses a threat (e.g., entanglement) to wildlife.

Page 2-4, Line 35. This section addresses artificial lighting as a potential impact on wildlife.

Recommendation: TPWD recommends limiting work on the roads to daylight hours in order to minimize disturbance (both related and unrelated to artificial nighttime lighting) to wildlife. TPWD appreciates the measures proposed to minimize light impacts if nighttime lighting is necessary. These measures include down-shielding lights, using minimum wattage required for safety, and limiting the extent of their use per Page 3-15, Line 19-23 of the Draft EA.

Page 3-2, Line 6-7. This section refers to Appendix E as containing a list of best management practices “that will be followed during the construction of and upgrades to the proposed road segments.”

Comment: TPWD appreciates CBP commitment to implement the best management practices listed in Appendix E.

Page 3-3, Line 23-28. This paragraph determines that removal of vegetation, including woody vegetation, would be temporary and that there would be “no long-term impact on these lands.” TPWD disagrees with this determination as it would likely take years to recover to preconstruction conditions.

Comment: See comment above regarding temporary impacts pertaining to Page 2-2, Line 17, 27.

Page 3-14, line 15. The keeled earless lizard, observed during 2019 biological surveys, is a Species of Greatest Conservation Need (SGCN).

Additionally, multiple observations of the Rio Grande river cooter within and near the project area have been documented by research grade observations in the iNaturalist Herps of Texas Project.

Recommendation: In addition to state- and federally-protected species, TPWD tracks special features, natural communities, species of concern (SOC), and SGCN in the Texas natural Diversity Database (TXNDD) and actively promotes their conservation. TPWD considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment.

Recommendation: TPWD recommends reviewing the most current TPWD annotated county lists of rare species for Starr County, as SOC/SGCN species could be present depending upon habitat availability.

Page 3-15. Line 31-36. As proposed in this section of the Draft EA (and in Appendix E), measures would be incorporated in project plans to avoid potential impacts to birds protected under the Migratory Bird Treaty Act (MBTA). According to Appendix E, it is not possible to avoid construction or clearing during the nesting season, so nest surveys would be conducted prior to starting work. Buffers of an undetermined area would be established around active nests until the young fledge or the nest is abandoned.

Comment: TPWD appreciates any efforts to minimize negative impacts on avian species during construction of the proposed project.

State law prohibits any take or possession of nongame birds, including their eggs and nests. Laws and regulations pertaining to state-protection of nongame birds are contained in Chapter 64 of the Texas Parks and Wildlife (TPW) Code; specifically, Section 64.002 provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. TPW Code Section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl.

Recommendation: In addition to the proposed measures referenced above, if active nests are observed during surveys, TPWD recommends a 150-foot buffer of vegetation remain around a nest until the young have fledged or it is not actively being used.

Page 3-22, Line 27-31. The potential occurrence of state-listed species or their habitats in the project areas was not evaluated in the EA. Also, Appendix E - Rio Grande Valley Best Management Practices, does not clearly define if the term “T&E” applies to both state and federally listed species.

Recommendation: TPWD recommends the term “T&E” should be defined as, and apply to, both state and federally listed species throughout the table in Appendix E.

TPW Code regulates state-listed threatened and endangered animal species. The capture, trap, take, or killing of state-listed threatened and endangered animal species is unlawful unless expressly authorized under a permit issued by the U.S. Fish and Wildlife Service (USFWS) or TPWD. A copy of *TPWD Guidelines for Protection of State-Listed Species*, which includes a list of penalties for take of species, can be found on the TPWD Wildlife Habitat Assessment Program website. State-listed species may only be handled by persons with appropriate authorization from the TPWD Wildlife Permits Office. For more information regarding Wildlife Permits, please contact the Wildlife Permits Office at (512) 389-4647.

The potential occurrence of state-listed species in the project area is primarily dependent upon the availability of suitable habitat. Direct impacts to high quality or suitable habitat therefore are directly proportional to the magnitude and potential to directly impact state-listed species. State-listed reptiles that are typically slow moving or unable to move due to cool temperatures are especially susceptible to being directly impacted during clearing of easements or machinery access corridors.

Please be aware that determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency, and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

Based on the location of the project, suitable habitat for some state-listed species, particularly reptiles, may occur in the proposed project area. Potential impacts may be avoided and/or minimized by incorporating the following recommended beneficial management practices (BMPs).

Recommendation: Please note that the lists of state threatened and endangered nongame species have been revised substantially since TPWD’s Rare, Threatened, and Endangered Species of Texas by County online application was accessed in February 2020. Several species listed in the Appendix C of the EA are no longer state-listed threatened (e.g., southern yellow bat, reticulate collared lizard, Texas indigo snake) while other species were added. A complete list of the species that were removed from

and added to the state threatened and endangered species lists are available in the March 27, 2020 issue of the *Texas Register* (45 TexReg 2188).

Black bear

Historically, black bears occurred in the mountainous Trans-Pecos region of west Texas. However, over the past 15 years, black bear populations have increased and expanded into the western portions of the Edwards Plateau and South Texas Plains near the Rio Grande where they occur in more open grassland areas. Black bear observations have been recorded within the past 10 years in Starr County and within the past three months (May 2020) in adjacent Zapata County.

Recommendation: Black bears are typically shy and elusive. They use travel corridors to move between feeding areas and bedding areas. In the general project area, they may use the multiple Rio Grande tributaries as travel corridors to move between areas of suitable habitat in Mexico and Texas. To avoid attracting black bears to work areas, garbage containers, particularly if they contain food waste, should have lids that can be secured. If a black bear is observed within the project area, TPWD requests that the observation be reported to TPWD mammologist Jonah Evans at (830) 331-8739. For more information, please see the black bear fact sheet available on the TPWD website.

Small wildlife such as lizards, tortoises, and snakes are susceptible to falling into open pits, trenches, and bore holes left uncovered in a project area. They are also subject to direct impacts (i.e., crushing by heavy equipment) during site preparation activities.

Recommendation: TPWD recommends the BMP in Appendix E pertaining to wildlife entrapment in trenches be applied to state listed species. TPWD recommends that any excavations that are left open overnight should be inspected the following morning for wildlife that may have become trapped. If any state-listed species are trapped in trenches, they should be removed by personnel permitted by TPWD to handle state-listed species.

Texas horned lizard

An observation of the Texas horned lizard along the Chapeno USIBWC Gate to Salineno road segment has been documented by a research grade observation in the iNaturalist Herps of Texas Project. The Texas horned lizard can be found in open, arid, and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees. If present in the general project area, the Texas horned lizard could be impacted by ground disturbing activities, including site clearing. A useful indication that the Texas horned lizard may occupy the area is the presence of harvester ant (*Pogonomyrmex* sp.) nests as they are the primary food source of horned lizards. Texas horned lizards may hibernate on-site in loose soils a few inches below ground during the cooler months from September to April. Construction in these areas could harm hibernating lizards. Horned lizards are active above ground when temperatures exceed 75 degrees Fahrenheit. If horned lizards (such as nesting, gravid females, newborn young, lethargic from cool temperatures or hibernation)

cannot move away from noise and approaching construction equipment, they could be negatively affected by construction activities.

Recommendation: If Texas horned lizards are found within the project area during construction, TPWD recommends the use of the BMPs described in the *Texas Horned Lizard Watch-Management and Monitoring Packet*, available on the TPWD website.

TPWD recommends avoiding disturbing the Texas horned lizard and colonies of the harvester ant during clearing and construction. TPWD recommends a permitted biological monitor be present during construction to attempt to capture and relocate Texas horned lizards if found. If the presence of a biological monitor is not feasible, state-listed species observed during construction should be allowed to safely leave the site on their own.

Texas tortoise

The Texas tortoise has a home range of approximately five to ten acres. Based on information provided in the Draft EA, tortoises were observed in the project area during 2019 surveys. Suitable habitat for the Texas tortoise is known to occur within and adjacent to the project area. They are often found near or at the base of prickly pear cactus and occasionally seek shade by crawling under parked vehicles at construction sites.

Recommendation: TPWD recommends that contractors be made aware of the potential for the state-listed Texas tortoise to occur in the area or to move into the area during construction activities and to avoid contacting them, if encountered.

In addition to the best management practice listed in Appendix E to check the visible space under heavy equipment for listed species prior to moving equipment, TPWD recommends that before driving any vehicle including *passenger vehicles* that have been parked at the project site, they should be checked underneath to ensure no tortoises are present.

If a tortoise is located at the project site, it should be relocated only if it is found in an area in which imminent danger is present. Individuals that must be relocated should be transported to the closest suitable habitat outside of the proposed disturbance area but preferably within this species 5 to 10 acre home range. After tortoises are removed from the immediate project area, TPWD recommends constructing an exclusion fence around the project area with metal flashing or drift fence material; regular silt fence material may also be used. The exclusion fence should be buried at least six-inches deep and be 24-inches high. In addition to tortoises, exclusion fences are effective in preventing other reptile species from entering a construction area. Additional information regarding Texas tortoise BMPs are described in the *Texas Tortoise Best Management Practices* available on TPWD's Wildlife Habitat Assessment Program website.

If possible, TPWD recommends completing major ground disturbing activities before October when reptiles become inactive and could be utilizing burrows in areas subject to disturbance. Reduced speed limits should also be established and enforced in areas in which state-listed reptiles could occur.

Mr. Paul Enriquez
Page 8 of 8
August 13, 2020

TPWD appreciates the opportunity to provide comments and recommendations for this project. If you should have questions, please do not hesitate to contact Mr. Russell Hooten by email at Russell.Hooten@tpwd.texas.gov or by phone at (361) 825-3240. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Zebehazy". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Laura Zebehazy
Wildlife Habitat Assessment Program Leader
Wildlife Division

LZ/rh 44543

Comment Response Matrix
Final Rio Grande City Station Road Improvement EA

August 2020

#	Location			Comment	Reviewer	Response
	Page	Line	Section			
1.	2-1	41-43		The final EA should include detailed descriptions of the proposed structures that would be installed at water crossing and drainages. Also, the potential impacts associated with their installation and operation should be thoroughly evaluated.	TPWD	The project involves a design-build approach, therefore any suggestion of the drainage structures used for this project would be speculative. CBP would ensure that BMPs are followed as outlined in Appendix E.
2.	3-2, 3-3, 3-12	9, 21, 33-36		Three year old aerial imagery indicates that the existing road sections in many areas are two-track roads varying in width from 6 to 15 feet, indicating 7 acres of permanent impacts is an underestimate. TPWD recommends the proposed project areas be surveyed in order to accurately described the excising conditions and more accurately estimate the potential impacts.	TPWD	Road width was variable and total acreage impacts were scrutinized for accuracy. Seven acres of impacts was based on 10 foot of permanent disturbance as shown in the road schematics. Assuming the existing roads are 6 foot wide, there would be 17 acres of permanent impact as a result of widening the roads to 20 foot. Therefore, 7 acres will be replaced with 7-17 acres of permanent impacts.
3.	2-2	17, 27, 37		Because it is unlikely that woody vegetation/thornscrub habitat within the temporary construction easement would recover by the end of the anticipated 184-day construction window, TPWED recommends impacts within construction easements be defined as long-term or permanent.	TPWD	Changed to “long-term but minor impacts” with CBP implementing a strong restoration program.

#	Location			Comment	Reviewer	Response
	Page	Line	Section			
4.	2-2	19-20, 30-21		EA indicates here and elsewhere that disturbed areas would be allowed to revegetate naturally or artificially using a hydroseeder with native, weed-free mix. TPWD recommends referring to the Lady Bird Johnson Wildflower Center Native Plant Database. TPWD recommends contractors apply hydromulching and/or hydroseedings in areas for soil stabilization. If not feasible, TPWD recommends mats or control blankets to reduce erosion. Plastic netting should be avoided to the extent practicable.	TPWD	CBP concurs upon verification with USACE and contractor that the designation of hydromulching/hydroseeding and seed mix application is part of the BMPs.
5.	2-4	35		TPWD recommends limiting work on the roads to daylight hours in order to minimize disturbance to wildlife. TPWD appreciates the measures proposed to minimize light impacts if nighttime lighting is necessary.	TPWD	N/A
6.	3-2	6-7		TPWD appreciates CBP commitment to implement BMPs in Appendix E.	TPWD	N/A
7.	3-3	23-28		See comments above regarding temporary impacts pertaining to Page 2-2, Line 17 and 27.	TPWD	Changed to “long-term but minor impacts” with CBP implementing a strong restoration program.
8.	3-14	15		In addition to state- and federally protected species, TPWD tracks special features, natural communities, species of concern, and species of greatest conservation need in the Texas Natural Diversity Database. TPWD recommends reviewing the most current TPWD annotated county lists of rare species in Starr County for species that could be present depending upon habitat availability.	TPWD	CBP will refer to the most up to date TPWD list and update Appendix C.
9.	3-15	31-36		TPWD appreciates any efforts to minimize impacts on avian species during construction. If active nests are observed during surveys, TPWD recommends a 150-foot buffer of vegetation remain around a nest until the young have fledged or the nest becomes inactive.	TPWD	CBP has standard BMPs that are implemented for nest protection. The size of the buffer varies depending on the species.

#	Location			Comment	Reviewer	Response
	Page	Line	Section			
10.	3-22	27-31		The potential occurrence of state-listed species or their habitat in the project areas was not evaluated in the EA. Also, Appendix E does not clearly define if the term "T&E" applies to both state and federally listed species. TPWD recommends the term "T&E" be defined as and apply to both state and federally listed species.	TPWD	Added "Given the number of state listed species with the potential to occur in Starr county, CBP intends to deploy biological monitors with knowledge of state and federally listed species to protect these species during construction." under the "Stat-Listed Species" heading on this page.
11.	N/A	N/A	N/A	Please note that the lists of state threatened and endangered nongame species have been revised substantially since TPWD's Rare, Threatened, and Endangered Species of Texas by County online application was accessed in February 2020. Several species in Appendix C of the EA are no longer state-listed threatened while other species were added.	TPWD	Appendix C has been updated with the most up-to-date list.
12.	N/A	N/A	N/A	To avoid attracting black bears to work areas, garbage containers, particularly if they contain food waste, should have lids that can be secured. If a black bear is observed within the project area, TPWD request that the observation be reported to TPWD mammologist Jonah Evans at 830-331-8739.	TPWD	CBP enforces trash receptacles have lids and be secured to deter wildlife. The BMP states: To eliminate attraction to predators of protected animals, all food related trash items such as wrappers, cans, bottles, and food scraps, will be disposed of in closed containers and removed daily from the project site.

#	Location			Comment	Reviewer	Response
	Page	Line	Section			
13.	N/A	N/A	N/A	TPWD recommends the BMP in Appendix E pertaining to wildlife entrapment in trenches be applied to state-listed species. TPWD recommends that any excavations that are left open overnight should be inspected the follow morning for wildlife that may have become trapped. If any state-listed species are trapped in trenches, they should be removed by personnel permitted by TPWD to handle state-listed species.	TPWD	CBP will deploy biological monitors throughout construction. Biological monitors will check trenches for entrapped wildlife at the start of the work day and will be experienced with handling/removing sensitive species from the project area.
14.	N/A	N/A	N/A	If Texas horned lizards are found within the project area during construction, TPWD recommends the use of the BMPs described in the Texas Horned Lizard Watch Management and Monitoring Packed, available on the TPWD website. TPWD recommends avoiding disturbing the Texas horned lizard and colonies of the harvest any during clearing and construction. TPWD recommends a permitted biological monitor be present during construction to attempt to capture and relocated Texas horned lizards if found. If the presence of a biological monitor is not feasible, state-list species observed during construction should be allowed to safely leave the site on their own.	TPWD	CBP will limit disturbance to Texas horned lizard and harvester ants to the extent practicable. Environmental monitors hold a sufficient amount of experience to handle and remove wildlife. CBP will first, however, allow wildlife to leave the site on their own.

#	Location			Comment	Reviewer	Response
	Page	Line	Section			
15.	N/A	N/A	N/A	TPWD recommends that contractors be made aware of the potential for the state-listed Texas tortoise to occur in the area or to move into the area during construction activities and to avoid contacting them, if encountered. TPWD recommends that before driving any vehicle or equipment that the driver check underneath the vehicle/equipment for the presence of Texas tortoise. A tortoise should only be relocated if it is found in an area in which imminent danger is present. Individuals should be relocated to the closest suitable habitat outside of the proposed disturbance area. TPWD recommends construction an exclusion fence around the project area to exclude tortoise and other reptiles. If possible, TPWD recommends completing major ground disturbing activities before October when reptiles become inactive and could be utilizing burrows in areas subject to disturbance. Reduced speed limits should also be established and enforced in areas in which state-listed reptiles could occur.	TPWD	While it is unlikely the October date can be avoided, CBP will deploy environmental monitors to be onsite throughout construction. CBP also implements an environmental awareness training which covers specific species, and will follow all appropriate BMPs for the protection of threatened and endangered species. This includes those BMPs to protect tortoise, such as surveying prior to ground disturbance activities and looking beneath equipment and trucks prior to moving them.

Appendix B
Flora and Fauna Observations

**Table 1. Plants Observed During the Rio Grande Valley Road Improvement Project
Biological Resources Surveys**

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
19-20 Area to Fronton Fishing Tract			
Disturbed Tamaulipan mezquital community along edges of agricultural fields and pastureland from latitude 26.418693°, longitude -99.096759° to latitude 26.461773°, longitude -99.091840°			
Retama	<i>Parkinsonia aculeata</i>	Tree	Y
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	Y
Texas ebony	<i>Ebenopsis ebano</i>	Tree	Y
Rio Grande palmetto	<i>Sabal mexicana</i>	Tree	N
Sugar hackberry	<i>Celtis laevigata</i>	Tree	N
Huisache	<i>Vachellia farnesiana</i>	Tree	Y
Salt cedar	<i>Tamarix ramosissima</i>	Tree	N
Castor bean	<i>Ricinus communis</i>	Shrub	N
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	Y
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Coma	<i>Sideroxylon celastrinum</i>	Shrub	N
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	Y
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	Y
Amargosa	<i>Castela erecta</i>	Shrub	N
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	N
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Climbing milkweed	<i>Funastrum cynanchoides</i>	Vine	N
Talayote	<i>Cynanchum racemosum</i>	Vine	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Indian mallow	<i>Abutilon</i> spp.	Forb	Y
Three furrowed Indian mallow	<i>Abutilon trisulcatum</i>	Forb	N
Malva loca	<i>Malvastrum americanum</i>	Forb	N
Hierba del Soldado	<i>Waltheria indica</i>	Forb	Y
Poiret's copperleaf	<i>Acalypha poiretii</i>	Forb	Y
Low wild mercury	<i>Ditaxis humilis</i>	Forb	N
Hairy silverbush	<i>Ditaxis pilosissima</i>	Forb	N

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Common silverbush	<i>Ditaxis neomexicana</i>	Forb	N
Southern peppergrass	<i>Lepidium latifolium</i>	Forb	Y
Texas croton	<i>Croton texensis</i>	Forb	N
Park's croton	<i>Croton parksii</i>	Forb	N
Hairy false nightshade	<i>Chamaesaracha coronopus</i>	Forb	N
Texas nightshade	<i>Solanum triquetrum</i>	Forb	N
Purple ground cherry	<i>Quincula lobata</i>	Forb	N
Red poppy	<i>Argemone sanguinea</i>	Forb	Y
Stinging nettle	<i>Urtica chamaedryoides</i>	Forb	Y
Blue mist flower	<i>Conoclinium coelestinum</i>	Forb	N
White mist flower	<i>Fleischmannia incarnata</i>	Forb	N
Brushland lantana	<i>Lantana achyranthifolia</i>	Forb	N
Brazilian vervain	<i>Verbena brasiliensis</i>	Forb	Y
Texas vervain	<i>Verbena halei</i>	Forb	N
Blue curls	<i>Phacelia congesta</i>	Forb	N
Coastal germander	<i>Teucrium cubense</i>	Forb	N
Jimson weed	<i>Datura wrightii</i>	Forb	N
Fleabane	<i>Erigeron</i> sp.	Forb	Y
Silky leaf frogfruit	<i>Phyla nodiflora</i>	Forb	N
Disturbed Tamaulipan chaparral from latitude 26.461773°, longitude -99.091840° to latitude 26.465295°, longitude -99.084198°			
Retama	<i>Parkinsonia aculeata</i>	Tree	N
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	Y
Huisache	<i>Vachellia farnesiana</i>	Tree	Y
Anacahuita	<i>Cordia boissieri</i>	Tree	N
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	Y
Blackbrush acacia	<i>Vachellia rigidula</i>	Shrub	N
Cenizo	<i>Leucophyllum frutescens</i>	Shrub	Y
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	Y
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	Y
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Coma	<i>Sideroxylon celastrinum</i>	Shrub	N
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	N
Spanish dagger	<i>Yucca treculeana</i>	Shrub	Y

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Buckley's yucca	<i>Yucca constricta</i>	Shrub	N
Common bee brush	<i>Aloysia gratissima</i>	Shrub	N
Sweet stem	<i>Aloysia macrostachya</i>	Shrub	N
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	Y
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Barnyard grass	<i>Echinochloa</i> sp.	Graminoid	Y
Kledberg's bluestem	<i>Dichanthium annulatum</i>	Graminoid	Y
Three-awn grass	<i>Aristida</i> sp.	Graminoid	N
False ragweed	<i>Parthenium hysterophorus</i>	Forb	Y
Cow pen daisy	<i>Verbesina encelioides</i>	Forb	N
Fire wheel	<i>Gaillardia pulchella</i> var <i>australis</i>	Forb	Y
Spiny sida	<i>Sida spinosa</i>	Forb	N
Five-needle dogweed	<i>Thymophylla pentachaeta</i>	Forb	Y
Heart leaf hibiscus	<i>Hibiscus martianus</i>	Forb	N
Showy palafoxia	<i>Palafoxia hookeriana</i>	Forb	Y
Salineno to Enron Tract			
Entire segment is disturbed Tamaulipan mezquital community. Much of the segment is being used as active cattle pasture.			
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	Y
Texas ebony	<i>Ebenopsis ebano</i>	Tree	Y
Retama	<i>Parkinsonia aculeata</i>	Tree	N
Mexican ash	<i>Fraxinus berlandieriana</i>	Tree	Y
Sugar hackberry	<i>Celtis laevigata</i>	Tree	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Squaw bush	<i>Condalia spathulata</i>	Shrub	Y
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	N
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Tree tobacco	<i>Nicotiana glauca</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	N
Snake eyes	<i>Phaulothamnus spinescens</i>	Shrub	N
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	Y
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	N
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Climbing milkweed	<i>Funastrum cynanchoides</i>	Vine	N
Talayote	<i>Cynanchum racemosum</i>	Vine	N
Texas bindweed	<i>Convolvulus equitans</i>	Vine	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Giant reed	<i>Phragmites australis</i>	Graminoid	Y
Zapata bladderpod	<i>Physaria thamnophila</i>	Forb	N
Indian mallow	<i>Abutilon</i> spp.	Forb	Y
Three furrowed Indian mallow	<i>Abutilon trisulcatum</i>	Forb	N
Malva loca	<i>Malvastrum americanum</i>	Forb	N
Hierba del Soldado	<i>Waltheria indica</i>	Forb	Y
Poiret's copperleaf	<i>Acalypha poiretii</i>	Forb	Y
Low wild mercury	<i>Ditaxis humilis</i>	Forb	N
Hairy silverbush	<i>Ditaxis pilosissima</i>	Forb	N
Common silverbush	<i>Ditaxis neomexicana</i>	Forb	N
Southern peppergrass	<i>Lepidium latifolium</i>	Forb	Y
Texas croton	<i>Croton texensis</i>	Forb	N
Park's croton	<i>Croton parksii</i>	Forb	N
Hairy false nightshade	<i>Chamaesaracha coronopus</i>	Forb	N
Texas nightshade	<i>Solanum triquetrum</i>	Forb	N
Red poppy	<i>Argemone sanguinea</i>	Forb	Y
Stinging nettle	<i>Urtica chamaedryoides</i>	Forb	Y
Blue mist flower	<i>Conoclinium coelestinum</i>	Forb	N
White mist flower	<i>Fleischmannia incarnata</i>	Forb	N
Brushland lantana	<i>Lantana achyranthifolia</i>	Forb	N
Brazilian vervain	<i>Verbena brasiliensis</i>	Forb	Y
Texas vervain	<i>Verbena halei</i>	Forb	N
Fendler's ivy leaf groundcherry	<i>Physalis hederifolia</i> var. <i>fendleri</i>	Forb	N
Fleabane	<i>Erigeron</i> sp.	Forb	Y
Showy palafoxia	<i>Palafoxia hookeriana</i>	Forb	Y

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Chapeno USIBWC Gate to Salineno Tract			
Disturbed Tamaulipan chaparral from latitude 26.520310°, longitude -99.114198° to latitude 26.531763°, longitude -99.135682°			
Retama	<i>Parkinsonia aculeata</i>	Tree	N
Palo verde	<i>Parkinsonia texana</i>	Tree	N
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	N
Huisache	<i>Vachellia farnesiana</i>	Tree	N
Anacahuita	<i>Cordia boissieri</i>	Tree	N
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	Y
Blackbrush acacia	<i>Vachellia rigidula</i>	Shrub	Y
Cenizo	<i>Leucophyllum frutescens</i>	Shrub	Y
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	Y
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	Y
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Coma	<i>Sideroxylon celastrina</i>	Shrub	N
Amargosa	<i>Castela erecta</i>	Shrub	Y
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	N
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	N
Crown of thorns	<i>Koeberlinia spinosa</i>	Shrub	N
Calderona	<i>Krameria ramosissima</i>	Shrub	Y
Sangre de drago	<i>Jatropha dioica</i>	Shrub	N
Spanish dagger	<i>Yucca treculeana</i>	Shrub	Y
Buckley's yucca	<i>Yucca constricta</i>	Shrub	N
Common bee brush	<i>Aloysia gratissima</i>	Shrub	N
Sweet stem	<i>Aloysia macrostachya</i>	Shrub	N
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	Y
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Horse crippler	<i>Echinocactus texensis</i>	Succulent	N
Fishhook cactus	<i>Ancistrocactus scheeri</i>	Succulent	N
Strawberry cactus	<i>Echinocereus enneacanthus</i>	Succulent	N
Fitch's rainbow cactus	<i>Echinocereus reichenbachii</i> var. <i>fitchii</i>	Succulent	N
Pincushion cactus	<i>Mammillaria heyderi</i>	Succulent	N

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Hedgehog cactus	<i>Hamatocactus bicolor</i>	Succulent	N
Runyon's coryphanta	<i>Coryphantha macromeris</i> var. <i>runyonii</i>	Succulent	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Barnyard grass	<i>Echinochloa</i> sp.	Graminoid	Y
Kledberg's bluestem	<i>Dichanthium annulatum</i>	Graminoid	Y
Three-awn grass	<i>Aristida</i> sp.	Graminoid	N
Hall's panicgrass	<i>Panicum hallii</i>	Graminoid	Y
Sea oxeye daisy	<i>Borrchia frutescens</i>	Forb	Y
Zapata bladderpod	<i>Physaria thamnophila</i>	Forb	N
False ragweed	<i>Parthenium hysterophorus</i>	Forb	Y
Cow pen daisy	<i>Verbesina encelioides</i>	Forb	N
Fire wheel	<i>Gaillardia pulchella</i> var. <i>australis</i>	Forb	Y
Spiny sida	<i>Sida spinosa</i>	Forb	N
Five-needle dogweed	<i>Thymophylla pentachaeta</i>	Forb	Y
Heart leaf hibiscus	<i>Hibiscus martianus</i>	Forb	N
Showy palafoxia	<i>Palafoxia hookeriana</i>	Forb	Y
Disturbed Tamaulipan mezquital formerly used as cattle pasture from latitude 26.520310°, longitude - 99.114198° to latitude 26.531763°, longitude -99.135682°			
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	Y
Texas ebony	<i>Ebenopsis ebano</i>	Tree	N
Retama	<i>Parkinsonia aculeata</i>	Tree	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Squaw bush	<i>Condalia spathulata</i>	Shrub	Y
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	Y
Blackbrush acacia	<i>Vachellia rigidula</i>	Shrub	Y
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Tree tobacco	<i>Nicotiana glauca</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	N
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	N
Spanish dagger	<i>Yucca treculeana</i>	Shrub	Y

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	N
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Climbing milkweed	<i>Funastrum cynanchoides</i>	Vine	N
Talayote	<i>Cynanchum racemosum</i>	Vine	N
Texas bindweed	<i>Convolvulus equitans</i>	Vine	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Kleberg bluestem	<i>Dichanthium annulatum</i>	Graminoid	N
Windmill grass	<i>Chloris</i> sp.	Graminoid	N
Three awn grass	<i>Aristida</i> sp.	Graminoid	N
Indian mallow	<i>Abutilon</i> spp.	Forb	Y
Three furrowed Indian mallow	<i>Abutilon trisulcatum</i>	Forb	N
Malva loca	<i>Malvastrum americanum</i>	Forb	N
Hierba del Soldado	<i>Waltheria indica</i>	Forb	Y
Poiret's copperleaf	<i>Acalypha poiretii</i>	Forb	Y
Low wild mercury	<i>Ditaxis humilis</i>	Forb	N
Hairy silverbush	<i>Ditaxis pilosissima</i>	Forb	N
Common silverbush	<i>Ditaxis neomexicana</i>	Forb	N
Southern peppergrass	<i>Lepidium latifolium</i>	Forb	Y
Texas croton	<i>Croton texensis</i>	Forb	N
Park's croton	<i>Croton parksii</i>	Forb	N
Hairy false nightshade	<i>Chamaesaracha coronopus</i>	Forb	N
Texas nightshade	<i>Solanum triquetrum</i>	Forb	N
Red poppy	<i>Argemone sanguinea</i>	Forb	Y
Blue mist flower	<i>Conoclinium coelestinum</i>	Forb	N
Brushland lantana	<i>Lantana achyranthifolia</i>	Forb	N
Brazilian vervain	<i>Verbena brasiliensis</i>	Forb	Y
Texas vervain	<i>Verbena halei</i>	Forb	N
Fendler's ivy leaf groundcherry	<i>Physalis hederifolia</i> var. <i>fendleri</i>	Forb	N
Fleabane	<i>Erigeron</i> sp.	Forb	Y
Showy palafoxia	<i>Palafoxia hookeriana</i>	Forb	Y
Mouth of River to Chapeno Hard Top Tract			
Entire segment is disturbed Tamaulipan mezquital community. Much of the segment is being used as active cattle pasture.			
Honey mesquite	<i>Prosopis glandulosa</i>	Tree	Y
Texas ebony	<i>Ebenopsis ebano</i>	Tree	Y
Retama	<i>Parkinsonia aculeata</i>	Tree	N

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Mexican ash	<i>Fraxinus berlandieriana</i>	Tree	Y
Sugar hackberry	<i>Celtis laevigata</i>	Tree	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Squaw bush	<i>Condalia spathulata</i>	Shrub	Y
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Shrub	Y
Colima	<i>Zanthoxylum fagara</i>	Shrub	Y
Guaiacum	<i>Guaiacum angustifolium</i>	Shrub	Y
Huisachillo	<i>Vachellia bravoensis</i>	Shrub	N
Wright's catclaw acacia	<i>Senegalia greggii</i>	Shrub	N
Tree tobacco	<i>Nicotiana glauca</i>	Shrub	N
Coyotillo	<i>Karwinskia humboldtiana</i>	Shrub	N
Texas kidneywood	<i>Eysenhardtia texana</i>	Shrub	N
Berlandier wolfberry	<i>Lycium berlandieri</i>	Shrub	N
Brasil	<i>Condalia hookeri</i>	Shrub	Y
Lote bush	<i>Ziziphus obtusifolia</i>	Shrub	Y
Christmas cholla	<i>Cylindropuntia leptocaulis</i>	Succulent	N
Texas prickly pear	<i>Opuntia engelmannii</i>	Succulent	N
Climbing milkweed	<i>Funastrum cynanchoides</i>	Vine	N
Talayote	<i>Cynanchum racemosum</i>	Vine	N
Texas bindweed	<i>Convolvulus equitans</i>	Vine	N
Guinea grass	<i>Megathyrsus maximus</i>	Graminoid	Y
Buffelgrass	<i>Cenchrus ciliaris</i>	Graminoid	Y
Giant reed	<i>Phragmites australis</i>	Graminoid	Y
Indian mallow	<i>Abutilon</i> spp.	Forb	Y
Three furrowed Indian mallow	<i>Abutilon trisulcatum</i>	Forb	N
Malva loca	<i>Malvastrum americanum</i>	Forb	N
Hierba del Soldado	<i>Waltheria indica</i>	Forb	Y
Poiret's copperleaf	<i>Acalypha poiretii</i>	Forb	Y
Low wild mercury	<i>Ditaxis humilis</i>	Forb	N
Hairy silverbush	<i>Ditaxis pilosissima</i>	Forb	N
Common silverbush	<i>Ditaxis neomexicana</i>	Forb	N
Southern peppergrass	<i>Lepidium latifolium</i>	Forb	Y
Texas croton	<i>Croton texensis</i>	Forb	N
Park's croton	<i>Croton parksii</i>	Forb	N
Hairy false nightshade	<i>Chamaesaracha coronopus</i>	Forb	N
Texas nightshade	<i>Solanum triquetrum</i>	Forb	N
Red poppy	<i>Argemone sanguinea</i>	Forb	Y
Stinging nettle	<i>Urtica chamaedryoides</i>	Forb	Y
Blue mist flower	<i>Conoclinium coelestinum</i>	Forb	N

Common Name	Scientific Name	Growth Form	Dominant (Y/N)
Brushland lantana	<i>Lantana achyranthifolia</i>	Forb	N
Brazilian vervain	<i>Verbena brasiliensis</i>	Forb	Y
Texas vervain	<i>Verbena halei</i>	Forb	N
Fendler's ivy leaf groundcherry	<i>Physalis hederifolia</i> var. <i>fendleri</i>	Forb	N
Fleabane	<i>Erigeron</i> sp.	Forb	Y
Showy palafoxia	<i>Palafoxia hookeriana</i>	Forb	Y

Dominant plant species were those that made up a significant portion (at least 20%) of the vegetative cover within a given community or were prevalent throughout the segment.

**Table 2. Wildlife Observed During the Rio Grande Valley Road Improvement Project
Biological Resources Surveys**

Common Name	Scientific Name	Tract (1= 19-20 Area to Fronton Fishing Tract; 2= Salineno to Enron Tract; 3= Chapeno USIBWC Gate to Salineno Tract; 4= Mouth of River to Chapeno Hard Top Tract)
Reptiles		
Rose-bellied lizard	<i>Sceloporus variabilis</i>	1
Common spotted whiptail lizard	<i>Aspidoscelis gularis</i>	2,3
Keeled earless lizard	<i>Holbrookia propinqua</i>	1,3
Texas tortoise	<i>Gopherus berlandieri</i>	3
Amphibians		
Gulf Coast toad	<i>Incilius nebulifer</i>	2
Great Plains narrow-mouthed toad	<i>Gastrophryne olivacea</i>	1
Rio Grande leopard frog	<i>Lithobates berlandieri</i>	2
Birds		
Black-throated sparrow	<i>Amphispiza bilineata</i>	1,2,3,4
Cassin's sparrow	<i>Peucaea cassinii</i>	1,3
Olive sparrow	<i>Arremonops rufivirgatus</i>	3,4
Green kingfisher	<i>Chloroceryle americana</i>	1
Great kiskadee	<i>Pitangus sulphuratus</i>	1,2,3,4
Couch's kingbird	<i>Tyrannus couchii</i>	1
Western kingbird	<i>Tyrannus verticalis</i>	1
Scissor-tailed flycatcher	<i>Tyrannus forficatus</i>	1
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	1
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	3
Common ground-dove	<i>Columbina passerina</i>	1,2,3,4
Mourning dove	<i>Zenaida macroura</i>	1,3
White-winged dove	<i>Zenaida asiatica</i>	1
Eurasian collared-dove	<i>Streptopelia decaocto</i>	1,2
White-tipped dove	<i>Leptotila verreauxi</i>	1
Red-billed pigeon	<i>Patagioenas flavirostris</i>	4
Common nighthawk	<i>Nyctidromus albicollis</i>	2,4
Northern bobwhite quail	<i>Colinus virginianus</i>	3
Golden-fronted woodpecker	<i>Melanerpes aurifrons</i>	1,2,3,4
Ladder-backed woodpecker	<i>Dryobates scalaris</i>	1
Verdin	<i>Auriparus flaviceps</i>	1,2,4
Eastern phoebe	<i>Sayornis phoebe</i>	1

Common Name	Scientific Name	Tract (1= 19-20 Area to Fronton Fishing Tract; 2= Salineno to Enron Tract; 3= Chapeno USIBWC Gate to Salineno Tract; 4= Mouth of River to Chapeno Hard Top Tract)
House finch	<i>Haemorhous mexicanus</i>	1
Pyrrhuloxia	<i>Cardinalis sinuatus</i>	1,2,3
Northern cardinal	<i>Cardinalis cardinalis</i>	1,2,3,4
Great-tailed grackle	<i>Quiscalus mexicanus</i>	1,2
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>	1,2,3,4
Black-tailed gnatcatcher	<i>Poliophtila melanura</i>	1
Greater roadrunner	<i>Geococcyx californianus</i>	1,4
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	1,2,3,4
Black-crested titmouse	<i>Baeolophus atricristatus</i>	1
Yellow-rumped warbler	<i>Setophaga coronata</i>	1
Red-shouldered hawk	<i>Buteo lineatus</i>	1
Red-tailed hawk	<i>Buteo jamaicensis</i>	1,2,3,4
Harris's hawk	<i>Parabuteo unicinctus</i>	2,4
Swainson's hawk	<i>Buteo swainsoni</i>	3
Osprey	<i>Pandion haliaetus</i>	1
Great horned owl	<i>Bubo virginianus</i>	1
Barn owl	<i>Tyto alba</i>	3
Turkey vulture	<i>Cathartes aura</i>	1,2,3,4
Black vulture	<i>Coragyps atratus</i>	3
Long-billed thrasher	<i>Toxostoma longirostre</i>	1,2,4
Northern mockingbird	<i>Mimus polyglottos</i>	1,2,3,4
White-eyed vireo	<i>Vireo griseus</i>	1,3,4
Altamira oriole	<i>Icterus gularis</i>	2
Audubon's oriole	<i>Icterus graduacauda</i>	3
Red-winged blackbird	<i>Agelaius phoeniceus</i>	1
Green jay	<i>Cyanocorax yncas</i>	1,2,3,4
Plain chachalaca	<i>Ortalis vetula</i>	1,2,3
Mammals		
Coyote	<i>Canis latrans</i>	1,2,3,4
Bobcat	<i>Lynx rufus</i>	1,2,3,4
Raccoon	<i>Procyon lotor</i>	1,2,3,4
Nine-banded armadillo	<i>Dasypus novemcinctus</i>	1,2,3,4
White-tailed deer	<i>Odocoileus virginianus</i>	1,2,3,4
Collared peccary	<i>Pecari tajacu</i>	1,2,3,4
Desert cottontail	<i>Sylvilagus audubonii</i>	1,2,3,4
Hispid cotton rat	<i>Sigmodon hispidus</i>	1,3

Common Name	Scientific Name	Tract (1= 19-20 Area to Fronton Fishing Tract; 2= Salineno to Enron Tract; 3= Chapeno USIBWC Gate to Salineno Tract; 4= Mouth of River to Chapeno Hard Top Tract)
Butterflies		
American snout	<i>Libytheana carinenta</i>	1,2,3,4
Bordered patch	<i>Chlosyne lacinia</i>	1,2,3,4
Dainty sulphur	<i>Nathalis iole</i>	1,2,3,4
Desert checkered-skipper	<i>Pyrgus philetas</i>	1,2,3,4
Exposed bird-dropping moth	<i>Tarache aprica</i>	1,2,3,4
Giant swallowtail	<i>Papilio cresphontes</i>	1,2,3,4
Pipevine swallowtail	<i>Battus philenor</i>	1,2,3,4
Large orange sulphur	<i>Phoebis agarithe</i>	1,2,3,4
Lyside sulphur	<i>Kricogonia lyside</i>	1,2,3,4
Gulf fritillary	<i>Agraulis vanillae</i>	3
Mexican fritillary	<i>Euptoieta hegesia</i>	1,2,3,4
Reakirt's blue	<i>Hemiargus isola</i>	1,2,3,4
Southern dogface	<i>Zerene cesonia</i>	1,2,3,4

Appendix C
State-Listed Species with the Potential to Occur in Starr County, Texas

State-Listed Species with the Potential to Occur in the Starr County, Texas

Taxon	Common Name	Scientific Name	State Rank
Amphibians	Black-spotted newt	<i>Notophthalmus meridionalis</i>	S3
Amphibians	South Texas siren (Large Form)	Siren sp. 1	S1
Amphibians	White-lipped frog	<i>Leptodactylus fragilis</i>	S3
Amphibians	Sheep frog	<i>Hypopachus variolosus</i>	S4
Amphibians	Mexican burrowing toad	<i>Rhinophrynus dorsalis</i>	S3
Birds	Reddish egret	<i>Egretta rufescens</i>	S2B
Birds	White-faced ibis	<i>Plegadis chihi</i>	S4B
Birds	Wood stork	<i>Mycteria americana</i>	SHB,S2N
Birds	Hook-billed kite	<i>Chondrohierax uncinatus</i>	S1
Birds	Common black-hawk	<i>Buteogallus anthracinus</i>	S2B
Birds	White-tailed hawk	<i>Buteo albicaudatus</i>	S4B
Birds	Zone-tailed hawk	<i>Buteo albonotatus</i>	S3B
Birds	Gray hawk	<i>Buteo plagiatus</i>	S2B
Birds	Mountain plover	<i>Charadrius montanus</i>	S2
Birds	Franklin's gull	<i>Leucophaeus pipixcan</i>	S2N
Birds	Interior least tern	<i>Sternula antillarum athalassos</i>	S1B
Birds	Red-crowned Parrot	<i>Amazona viridigenalis</i>	S2
Birds	Western burrowing owl	<i>Athene cunicularia hypugaea</i>	S2
Birds	Northern beardless-tyrannulet	<i>Camptostoma imberbe</i>	S3B
Birds	Tropical kingbird	<i>Tyrannus melancholicus</i>	S1B,S2N
Birds	Tropical parula	<i>Setophaga pitaiayumi</i>	S3B
Fish	Tamaulipas shiner	<i>Notropis braytoni</i>	S1S2
Fish	Rio Grande shiner	<i>Notropis jemezianus</i>	S1
Fish	Speckled chub	<i>Macrhybopsis aestivalis</i>	S1S2
Mammals	Mexican long-tongued bat	<i>Choeronycteris mexicana</i>	S1
Mammals	Cave myotis bat	<i>Myotis velifer</i>	S4
Mammals	Tricolored bat	<i>Perimyotis subflavus</i>	S3S4
Mammals	Eastern red bat	<i>Lasiurus borealis</i>	S4
Mammals	Hoary bat	<i>Lasiurus cinereus</i>	S4
Mammals	Southern yellow bat	<i>Lasiurus ega</i>	S3S4
Mammals	Mexican free-tailed bat	<i>Tadarida brasiliensis</i>	S5
Mammals	Strecker's pocket gopher	<i>Geomys streckeri</i>	S1
Mammals	Coues' rice rat	<i>Oryzomys couesi aquaticus</i>	S2
Mammals	White-nosed coati	<i>Nasua narica</i>	S1
Mammals	Long-tailed weasel	<i>Mustela frenata</i>	S5
Mammals	American badger	<i>Taxidea taxus</i>	S5
Mammals	Eastern spotted skunk	<i>Spilogale putorius</i>	S1S3
Mammals	Plains spotted skunk	<i>Spilogale putorius interrupta</i>	S1S3
Mammals	Western spotted skunk	<i>Spilogale gracilis</i>	S5

Taxon	Common Name	Scientific Name	State Rank
Mammals	Western hog-nosed skunk	<i>Conepatus leuconotus</i>	S4
Mammals	Mountain lion	<i>Puma concolor</i>	S2S3
Mammals	Ocelot	<i>Leopardus pardalis</i>	S1
Reptiles	Rio Grande river cooter	<i>Pseudemys gorzugi</i>	S2
Reptiles	Western box turtle	<i>Terrapene ornata</i>	S3
Reptiles	Texas tortoise	<i>Gopherus berlandieri</i>	S2
Reptiles	Reticulate collared lizard	<i>Crotaphytus reticulatus</i>	S4
Reptiles	Tamaulipan spot-tailed earless lizard	<i>Holbrookia subcaudalis</i>	S2
Reptiles	Keeled earless lizard	<i>Holbrookia propinqua</i>	S3
Reptiles	Texas horned lizard	<i>Phrynosoma cornutum</i>	S3
Reptiles	Black-striped snake	<i>Coniophanes imperialis</i>	S2S3
Reptiles	Texas indigo snake	<i>Drymarchon melanurus erebennus</i>	S4
Reptiles	Western hognose snake	<i>Heterodon nasicus</i>	S4
Reptiles	Northern cat-eyed snake	<i>Leptodeira septentrionalis septentrionalis</i>	S3
Insects	Cazier's tiger beetle	<i>Cicindela cazieri</i>	S2
Insects	Neojuvenile tiger beetle	<i>Cicindela obsoleta neojuvenilis</i>	SH
Insects	No accepted common name	<i>Perdita tricincta</i>	SNR
Insects	American bumblebee	<i>Bombus pensylvanicus</i>	SNR
Insects	Tamaulipan clubtail dragonfly	<i>Gomphus gonzalezi</i>	S2
Insects	No accepted common name	<i>Arethaea phantasma</i>	SNR
Arachnids	No accepted common name	<i>Diplocentrus diablo</i>	SNR
Mollusks	Texas Hornshell	<i>Popenaias popeii</i>	S1
Mollusks	Salina Mucket	<i>Potamilus metnecktayi</i>	S1
Mollusks	Mexican Fawnsfoot	<i>Truncilla cognata</i>	S1
Mollusks	No accepted common name	<i>Daedalochila scintilla</i>	S1
Mollusks	No accepted common name	<i>Praticolella trimatris</i>	S2
Plants	Texas shrimp-plant	<i>Yeatesia platystegia</i>	S3S4
Plants	Prostrate milkweed	<i>Asclepias prostrata</i>	S1
Plants	Shortcrown milkvine	<i>Matelea brevicoronata</i>	S3
Plants	Falfurrias milkvine	<i>Matelea radiata</i>	S1
Plants	Arrowleaf milkvine	<i>Matelea sagittifolia</i>	S3
Plants	Ashy dogweed	<i>Thymophylla tephroleuca</i>	S2
Plants	Zapata bladderpod	<i>Physaria thamnophila</i>	S1S2
Plants	Shinner's rocket	<i>Thelypodopsis shinersii</i>	S2
Plants	Runyon's cory cactus	<i>Coryphantha macromeris var. runyonii</i>	S2S3
Plants	Fitch's hedgehog cactus	<i>Echinocereus reichenbachii var. fitchii</i>	S3
Plants	Yellow-flowered alicocha	<i>Echinocereus papillosus</i>	S3

Taxon	Common Name	Scientific Name	State Rank
Plants	Star cactus	<i>Astrophytum asterias</i>	S1
Plants	Jones' nailwort	<i>Paronychia jonesii</i>	S3S4
Plants	Kleberg saltbush	<i>Atriplex klebergorum</i>	S2
Plants	South Texas yellow clammyweed	<i>Polanisia erosa ssp. breviglandulosa</i>	S3S4
Plants	Texas stonecrop	<i>Lenophyllum texanum</i>	S3
Plants	Vasey's adelia	<i>Adelia vaseyi</i>	S3
Plants	Cory's croton	<i>Croton coryi</i>	S3
Plants	Walker's manioc	<i>Manihot walkerae</i>	S1
Plants	Sand sheet leaf-flower	<i>Phyllanthus abnormis var. riograndensis</i>	S3
Plants	Stinking rushpea	<i>Pomaria austrotexana</i>	S3
Plants	Dune dalea	<i>Dalea austrotexana</i>	S2
Plants	Johnston's frankenia	<i>Frankenia johnstonii</i>	S3
Plants	Amelia's Sand-verbena	<i>Abronia ameliae</i>	S3
Plants	Dune unicorn-plant	<i>Proboscidea sabulosa</i>	S2
Plants	Gregg's wild-buckwheat	<i>Eriogonum greggii</i>	S1
Plants	Texas peachbush	<i>Prunus texana</i>	S3S4
Plants	Croft's bluet	<i>Houstonia croftiae</i>	S3
Plants	Chihuahua balloon-vine	<i>Cardiospermum dissectum</i>	S3
Plants	St. Joseph's staff	<i>Manfreda longiflora</i>	S2
Plants	Siler's huaco	<i>Manfreda sileri</i>	S3

Source: TPWD 2020b.

State Rank: S1 – Critically imperiled; S2 – Imperiled; S3 – Vulnerable; S4 – Apparently secure; S5 – Secure; SNR – Unranked; SH – Possibly extirpated; B – Conservation status related to breeding population; N – Conservation status related to non-breeding population.

Appendix D
Correspondence

1300 Pennsylvania Avenue NW
Washington, DC 20229



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

July 9, 2020

Rio Grande City Public Library
Attn: Librarian
591 East Canales Bros Street,
Rio Grande City, TX 78582

Subject: Draft Environmental Assessment for U.S. Customs and Border Protection Rio Grande City Road Improvement Project, Starr County, Texas

Dear Librarian:

Please make available to the public the enclosed Draft Environmental Assessment (EA) and FONSI for 30 days, beginning on the day the Notice of Availability is published in The Monitor. The anticipated date of publication is July 15, 2020. The EA and FONSI are also available for review and download from the following web address: <http://www.cbp.gov/about/environmental-cultural-stewardship/nepa-documents/docs-review>.

Sincerely,

Paul Enriquez
Acquisitions, Real Estate, and Environmental Director
Border Wall Project Management Office
U.S. Customs and Border Protection
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

Enclosure

1300 Pennsylvania Avenue NW
Washington, DC 20229



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

July 9, 2020

Starr County Roma Public Library
Attn: Librarian
1705 North Athens Street
Roma, TX 78584

Subject: Draft Environmental Assessment for U.S. Customs and Border Protection Rio Grande City Road Improvement Project, Starr County, Texas

Dear Librarian:

Please make available to the public the enclosed Draft Environmental Assessment (EA) and FONSI for 30 days, beginning on the day the Notice of Availability is published in The Monitor. The anticipated date of publication is July 15, 2020. The EA and FONSI are also available for review and download from the following web address: <http://www.cbp.gov/about/environmental-cultural-stewardship/nepa-documents/docs-review>.

Sincerely,

Paul Enriquez
Acquisitions, Real Estate, and Environmental Director
Border Wall Project Management Office
U.S. Customs and Border Protection
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

Enclosure

1300 Pennsylvania Avenue NW
Washington, DC 20229



U.S. Customs and Border Protection

July 9, 2020

Keith Hayden
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Fountain Place 12th Floor, Suite 1200
Dallas, TX 75202

Subject: Draft Environmental Assessment for U.S. Customs and Border Protection Rio Grande City Road Improvement Project, Starr County, Texas

Keith Hayden:

U.S. Customs and Border Protection (CBP) is pleased to forward the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) addressing the proposed Rio Grande City (RGC) Road Improvement Project, Starr County, Texas.

The Draft EA was prepared in compliance with provision of the National Environmental Policy Act (NEPA) of 1969 as amended (42 U.S. Code 4321, et seq.), the Council on Environmental Quality's NEPA implementing regulations (40 Code of Federal Regulations Part 1500 et seq.), DHS Directive Number 023-01, Rev.01, and DHS Instruction Manual 023-01-001-01, Rev. 01, *Implementation of the National Environmental Policy Act*.

United States (U.S.) Customs and Border Protection (CBP) plans to upgrade and lengthen four existing roads in the U.S. Border Patrol (USBP) RGC Station's Area of Responsibility (AOR). Approximately 12 miles of roads would be upgraded. The Border Patrol Air and Marine Program Management Office (BPAM-PMO) within CBP has prepared an EA. This EA addresses the proposed upgrade and construction of the four aforementioned roads and the BPAM-PMO is preparing this EA on behalf of the USBP Headquarters.

CBP invites your participation in the public review process for the enclosed Draft EA and FONSI. The Draft EA and FONSI are also available at:

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

The 30-day public comment period begins on July 15, 2020, and comments must be received by August 13, 2020 to be considered for incorporation into the Final EA. Comments on the Draft EA and Draft FONSI can be submitted by:

- E-mail to:
Mr. Paul Enriquez, paul.enriquez@cbp.dhs.gov
- Mail to:
Mr. Paul Enriquez
Acquisitions, Real Estate, and Environmental Director
Border Wall Project Management Office
U.S. Customs and Border Protection
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

Your prompt attention to this request is greatly appreciated. If you require additional information or have any questions, please contact Mr. Paul Enriquez by telephone at (949) 643-6365 or by e-mail at paul.enriquez@cbp.dhs.gov.

Sincerely,

Paul Enriquez
Acquisitions, Real Estate, and Environmental Director
Border Wall Project Management Office
U.S. Customs and Border Protection
24000 Avila Road, Suite 5020
Laguna Niguel, CA 92677

Enclosure

Appendix E
Rio Grande Valley
Best Management Practices (BMPs)

Best Management Practices – Rio Grande Valley Projects

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	If an individual of a T&E species is found in the designated project area, work will cease in the area of the species until it moves away on its own or to the extent practicable be relocated by a qualified biological monitor to a safe location outside the impact corridor in accordance with accepted species handling protocols.	T&E, Species, Plants, Animals, General, Disturbance, Site restoration
108	2025-1	The perimeter of all areas to be disturbed during construction or maintenance activities are clearly demarcated using flagging or temporary construction fence to prevent unnecessary impacts. Photo document and provide GPS coordinates where correction is needed.	T&E, Non-Listed, Habitat, Soil, Water, Vegetation, General, Disturbance, Perimeter
108	2025-1	Construction speed limits should not exceed 35 mph on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Night time travel speeds should not exceed 25 mph, and may be less based on visibility and other safety considerations. Monitor to periodically (once a week) ask land managing agency and construction manager if any speeding incidents have occurred.	T&E, Animals, Vehicles, Roads
108	2025-1	Transmission of disease vectors and invasive non-native aquatic species can occur if vehicles cross infected or infested streams or other waters and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or noninfested waters, the disease or invasive species may be introduced to the new area. To prevent this, crossing of streams or marsh areas with flowing or standing water will be avoided, and when unavoidable, the vehicle will be sprayed with a 10% bleach solution after the crossing before entering a new watershed. Photo document and provide GPS coordinates where correction is needed.	T&E, Invasives, Water, Vehicles, Wetlands
108	2025-1	All equipment maintenance, staging, laydown, and dispensing of fuel, oil, or any other such activities, will occur in designated upland areas. The designated upland areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands. Photodocument and provide GPS coordinates where correction is needed.	T&E, Water, Wetlands, Staging, Vehicles, HazMat, Disturbance
108	2025-1	A stormwater management plan is being implemented. ACOE to provide monitor a copy of SWPPP for review.	T&E, Water, General, Erosion, Runoff, Storm water

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	Access routes into and out of the project area are clearly flagged. Photo document and provide GPS coordinates where correction is needed.	Roads, T&E, Non-Listed, Vegetation, Habitat, Disturbance, Perimeter
108	2025-1	No pets owned or under the care of the project proponent or any and all construction workers will be permitted inside the project's construction boundaries, adjacent native habitats, or other associated work areas.	T&E, Non-Listed, Disturbance, General
108	2025-1	Light poles and other pole-like structures will be designed to discourage roosting by birds, particularly ravens or other raptors that may use the poles for hunting perches.	T&E, Non-Listed, General, Lights, Birds
108	2025-1	To prevent entrapment of wildlife species during the construction of the project, all excavated, steepwalled holes or trenches more than 2 feet deep will either be covered at the close of each working day by plywood or provided with one or more escape ramps constructed of earth fill or wooden planks. The ramps will be located at no greater than 1,000-foot intervals and will be sloped less than 45 degrees. Each morning before the start of construction and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Any animals so discovered will be allowed to escape voluntarily (by escape ramps or temporary structures), without harassment, before construction activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.	T&E, Non-Listed, General, Disturbance, Excavation, Trench, Animals
108	2025-1	Road bed erosion into Federal Listed Species habitat will be avoided or minimized. Document areas where erosion has occurred along fence, washes, and roads.	Roads, Erosion, T&E
108	2025-1	Road location is such that the potential for roadbed erosion into federally listed species habitat will be avoided or minimized.	Roads, Erosion, T&E
108	2025-1	The potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized. Depth of any pits created will be minimized so animals do not become trapped. Photo document and provide GPS coordinates where correction is needed.	Roads, Runoff, Animals, Design, Erosion, Water

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	The widening of existing or created roadbed beyond the design parameters due to improper maintenance and use will be avoided or minimized. The width of all roads that are created or maintained by CBP should be measured and recorded using GPS coordinates and provided to the Government. Maintenance actions should not increase the width of the road bed or the amount of disturbed area beyond the road bed. Photo document and provide GPS coordinates where correction is needed. Monitor to acquire GIS shape files from Construction Contractor at end of project.	Roads, Maintenance
108	2025-1	Water for construction use shall be from wells at the discretion of the landowner. If local groundwater pumping is an adverse effect to aquatic, marsh, or riparian dwelling T&E species, treated water from outside the immediate area will be utilized.	General, Water, Wetlands, T&E, Wells
108	2025-1	Where practicable, particular importance is given to proper design and locating roads such that stream crossings should not be located near or at bends or meanders but rather at straight stream reaches where channel stability is enhanced.	Roads, Water, Wetlands, Erosion, Streams
108	2025-1	Was there excessive use of unimproved roads that resulted in their deterioration such that it affected the surrounding T&E species habitat areas? Was the condition monitored? Was corrective maintenance provided? Photo document and provide GPS coordinates where correction is needed.	Roads, Erosion, T&E, Habitat
108	2025-1	The minimum number of roads needed for proposed actions will be constructed and maintained to proper standards. Roads no longer needed should be closed and restored to natural surface and topography using appropriate techniques. The GPS coordinates of roads that are thus closed should be recorded and provided to the Government. A record of acreage or miles of roads taken out of use, restored, and revegetated will be maintained. Photo document restoration efforts if they occur prior to completion of project. Acquire GIS files from Construction Contractor.	Roads, Restoration
108	2025-1	When available, areas already disturbed by past activities or those that will be used later in the construction period will be used for staging, parking, and equipment storage. Photo document and provide GPS coordinates where correction is needed	Staging Areas, Disturbance

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	All construction shall follow DHS management directive 5100 for waste management.	General, HazMat, Waste
108	2025-1	Provision will be made for proper waste disposal at staging areas, work camps, bivouacs, and camp details, and implementation of waste management protocols will be made the responsibility of the appropriate project officers. Photo document and provide GPS coordinates where correction is needed.	Staging Areas, HazMat, Waste
108	2025-1	A CBP-approved spill protection plan is being implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and escape into the environment prevented. Agency standard protocols should be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures are to be included. ACOE to provide monitor a copy of spill plan for review. Photo document and provide GPS coordinates where correction is needed.	General, HazMat, Fuel, Spill
108	2025-1	To eliminate attraction to predators of protected animals, all food related trash items such as wrappers, cans, bottles, and food scraps, will be disposed of in closed containers and removed daily from the project site. Photo document and provide GPS coordinates where correction is needed.	General, HazMat, Animals, Waste
108	2025-1	Nonhazardous waste materials and other discarded materials such as construction waste will be contained until removed from site. This should assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage. Photo document and provide GPS coordinates where correction is needed.	General, HazMat, Disturbed
108	2025-1	Waste water (water used for project purposes that is contaminated with construction materials, was used for cleaning equipment and thus carries oils or other toxic materials or other contaminants in accordance with state regulations) will be stored in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but is to be collected and moved offsite for disposal. This wash water is toxic to aquatic life. Photo document and provide GPS coordinates where correction is needed.	General, HazMat, Water

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	To prevent entrapment of wildlife species during emplacement of vertical posts/bollards, all vertical fence posts/bollards that are hollow (i.e., those that will be filled with a reinforcing material such as concrete), shall be covered so as to prevent wildlife from entrapment. Covers will be deployed from the time the posts or hollow bollards are erected to the time they are filled with reinforcing material. Photo document and provide GPS coordinates where correction is needed.	General, Animals
108	2025-1	Site restoration for staging areas and construction access routes will be monitored, as appropriate.	Staging Areas, Restoration, Disturbance
108	2025-1	Materials such as gravel have been obtained from existing developed or previously used sources, not from undisturbed sites.	General, Soil, Fill
108	2025-1	If new access is needed or existing access requires improvements to be usable for the project, related road construction and maintenance BMPs will be incorporated into the access design and implementation.	Roads
108	2025-1	Within the designated disturbance area, grading or topsoil removal will be limited to areas where this activity is needed to provide the ground conditions needed for construction or maintenance activities. Minimizing disturbance to soils will enhance the ability to restore the disturbed area after the project is complete. Photo document and provide GPS coordinates where correction is needed.	Roads, Staging Areas, Disturbance, Soil, Restoration
108	2025-1	Removal of trees and brush in T&E species habitats will be limited to the smallest amount needed to meet the objectives of the project. Photo document and provide GPS coordinates where correction is needed.	General, Vegetation, T&E, Habitat, Brush, Clearing
108	2025-1	Surface water from aquatic or marsh habitats will not be used for construction purposes if that site supports aquatic T&E species or if it contains non-native invasive species or disease vectors and there is any opportunity to contaminate a T&E species habitat through use of the water at the project site.	General, Water, Wetlands, T&E, Invasives
108	2025-1	Wells or treated irrigation water sources will be used when within 1 mile of aquatic habitat for federally listed aquatic species. This is to prevent the transfer of invasive animals or disease pathogens between habitats, if water on the construction site were to reach the federally listed species habitats.	General, Water, Wetlands, T&E, Invasives

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	Water tankers that convey untreated surface water will not discard unused water within 2 miles of any drainage aquatic or marsh habitat for federally listed species.	General, Water, Wetlands
108	2025-1	Storage tanks containing untreated water should be of a size that if a rainfall event were to occur (assuming open tanks), the tank would not be overtopped and cause a release of water into the adjacent drainages. Water storage on the project area should be in on-ground containers located on upland areas not in washes. Photo document and provide GPS coordinates where correction is needed.	General, Water, Water Storage
108	2025-1	Pumps, hoses, tanks and other water storage devices will be cleaned and disinfected with a 10% bleach solution at an appropriate facility (this water is not to enter any surface water area) before use at another site, if untreated surface water was used. If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that may affect local populations of T&E species.	T&E, General, Water, Wetlands, Invasives, Water Storage
108	2025-1	If construction or maintenance work activities are to continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety of the workers, the minimum wattage needed will be used, and the number of lights will be minimized. Photo document and provide GPS coordinates where correction is needed.	General, Lights
108	2025-1	Noise levels for construction (any time of day or night) and maintenance should be minimized for all projects affecting federally listed animals. All generators are in baffle boxes, have an attached muffler, or use other noise-abatement methods, in accordance with industry standards.	General, Noise, Vehicles, Generators
108	2025-1	Materials used for on-site erosion control in uninfested native habitats will be free of non-native plant seeds and other plant parts to limit potential for infestation. Since natural materials cannot be certified as completely weed-free, if such materials are used, there will be follow up monitoring to document establishment of non-native plants and appropriate control measures should be implemented for a period of time to be determined in the site restoration plan. Photo document and provide GPS coordinates where correction is needed.	General, Erosion, Restoration, Invasives

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	Fill material brought in from outside the project area will be identified as to source location and will appear to be weed free. Inspect fill loads as they arrive. Return to fill sites from earlier in construction and inspect for weed germination. Photodocument and provide GPS coordinates where correction is needed.	General, Soil, Invasives
108	2025-1	Infrastructure sites will only be accessed using designated roads. Parking will be in designated areas. This should limit the development of multiple trails to such sites and reduce the effects to T&E habitats in the vicinity.	Roads, Vehicles, T&E, Trails
108	2025-1	Appropriate techniques to restore the original grade, replace soils, and restore proper drainage will be implemented For areas to be restored (e.g., temporary staging areas).	Staging Areas, Restoration, Drainage, Erosion
108	2025-1	Fences and walls will provide for passage of wildlife species. Impermeable fences and walls will not be constructed in key wildlife movement corridors. The type of passage needed will vary with the location of the barrier and the species that occur in that area. Specific designs and locations will be coordinated with the USFWS, TPWD, and the landowner/manager.	General, Animals
108	2025-1	Invasive plants that appear on the site will be removed. Removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. Herbicides can be used according to label directions if they are not toxic to T&E species that may be in the area. Training to identify non-native invasive will be provided for CBP personnel or contractors as necessary. Photo document and provide GPS coordinates where correction is needed. Construction contractor to remove invasive plants as needed.	General, Invasives, HazMat, T&E, Herbicides
108	2025-1	No off-road vehicle activity will occur outside of the project footprint by the project proponent, project workers, and project contractors.	General, Vehicles, Perimeter
108	2025-1	Visible space underneath all heavy equipment is checked for listed species and other wildlife prior to moving the equipment.	General, Vehicles, Animals, Equipment
108	2025-1	During the construction phase, short term noise impacts are anticipated. All Occupational Safety and Health Administration requirements shall be followed. Construction equipment shall possess properly working mufflers and shall be kept properly tuned to reduce backfires. Implementation of these measures shall reduce the expected short term noise impacts to an insignificant level in and around the construction site.	General, Noise, Vehicles, Equipment

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	Mitigation measures will be incorporated to ensure that PM10 emission levels do not rise above the de minimus threshold as required per 40 CFR 51.853(b)(1). Measures shall include dust suppression methods to minimize airborne particulate matter that will be created during construction activities. Standard construction BMPs, such as routine watering of the patrol, drag, and access roads, shall be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment and vehicles shall be required to be kept in good operating condition to minimize exhaust emissions.	General, HazMat, Air, Vehicles, Equipment
108	2025-1	Vehicular traffic associated with the construction activities and operational support activities shall remain on established roads to the maximum extent practicable. Areas with highly erodible soils will be given special consideration when designing the proposed project to ensure incorporation of various BMPs, such as, straw bales, aggregate materials, and wetting compounds, to control erosion. A SWPPP will be prepared prior to construction activities and BMPs described in the SWPPP will be implemented to reduce erosion. Photodocument and provide GPS coordinates where correction is needed.	Roads, Vehicles, Erosion, Storm water

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	Standard construction procedures shall be implemented to minimize the potential for erosion and sedimentation during construction. All work shall cease during heavy rains, and shall not resume until conditions are suitable for the movement of equipment and materials. All fuels, waste oils, and solvents shall be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored therein. The refueling of machinery shall be completed following accepted guidelines, and all vehicles shall have drip pans during storage to contain minor spills and drips. No refueling or storage shall take place within 100 feet of a drainage channel or structure. Other design measures shall be implemented, such as straw bales, silt fencing, aggregate materials, wetting compounds, and re-vegetation with native plant species, where possible, to decrease erosion and sedimentation. Furthermore, a SWPPP and all applicable Section 404/401 permit procedures shall be completed before construction shall be initiated within jurisdictional Waters of the U.S. (WUS). It shall be the responsibility of the Design/Build Contractor to prepare and submit 404 and 401 permit applications to the respective USCOE and State offices. Photodocument and provide GPS coordinates where correction is needed	General, Erosion, HazMat, Fuel, Storm water, Water, Wetlands, Restoration, Streams
108	2025-1	(Ocelot) Pre-construction surveys will identify any ocelot habitat in or adjacent to the project area, and the presence of the ocelot at the habitat area will be assumed.	General, Animals, T&E, Ocelot, Habitat, Monitor
108	2025-1	(Ocelot) During construction or maintenance activities in or within 500 feet of ocelot habitat (or such distance that noise, light, or other effects reach the habitat), a biological monitor will be present on site to advise the construction contractor to temporarily suspend construction whenever the appropriate BMPs agreed to are not being properly implemented.	General, Animals, T&E, Ocelot, Habitat, Monitor
108	2025-1	(Ocelot) In planning for roads, fences, and other facilities that require land clearing, include avoidance of wetlands, dense thorn scrub, and riparian vegetation as a consideration for facility location.	General, Animals, T&E, Ocelot, Habitat, Wetlands, Vegetation, Clearing, Brush
108	2025-1	(Ocelot) Removal of wetland habitat, dense thorn scrub, or riparian vegetation will be avoided or minimized. Photo document and provide GPS coordinates where correction is needed.	General, Animals, T&E, Ocelot, Habitat, Wetlands, Vegetation, Clearing, Brush

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	(Ocelot) Removal of dense thorn scrub or riparian vegetation within the conservation easements established by the USIBWC for the Rio Grande will be avoided to the extent practicable. Photo document and provide GPS coordinates where correction is needed.	General, Animals, T&E, Ocelot, Habitat, Wetlands, Vegetation, Brush, Clearing
108	2025-1	(Ocelot) To the extent practicable, impermeable fences/barriers will not be constructed that bisect or fragment ocelot dispersal corridors.	General, Habitat, Ocelot, Animals, T&E
108	2025-1	(Ocelot) If freshwater sources are limited, impermeable barriers will not be constructed that prevent ocelot access to freshwater sources.	General, Water, Ocelot, Animals, T&E
108	2025-1	(Ocelot) Where artificial lighting must be used, directed (shielded) lighting will be used and directed away from ocelot (thorn scrub and riparian) habitat. Lighting intensity will be minimized, and the light reaching such habitat will not exceed 1.5 foot candles.	General, Ocelot, Animals, T&E, Lights
108	2025-1	(Ocelot) Documentation of ocelots in project and activity areas will be reported to USFWS. Report all Ocelot sightings in detail and submit in your daily notes.	General, Ocelot, Animals, T&E, Monitor
108	2025-1	(Ocelot) Construction and maintenance activities will be conducted during daylight hours only to avoid noise and lighting issues during the night. If construction or maintenance work activities continue at night, all lights will be shielded to direct light only onto the work site, the minimum wattage needed will be used, and the number of lights will be minimized.	General, Ocelot, Animals, T&E, Lights
108	2025-1	(Jaguarundi) Pre-construction surveys will identify any jaguarundi habitat in or adjacent to the project area, and the presence of the jaguarundi at the habitat area will be assumed.	General, Habitat, Animals, T&E, Jaguarundi, Monitor
108	2025-1	(Jaguarundi) During construction or maintenance activities in or within 500 feet of jaguarundi habitat (or such distance that noise, light, or other effects reach the habitat), a biological monitor will be present on site to advise the construction contractor to temporarily suspend construction whenever the appropriate BMPs agreed to are not being properly implemented.	General, Animals, T&E, Jaguarundi, Monitor
108	2025-1	(Jaguarundi) In planning for roads, fences, and other facilities that require land clearing, include the avoidance of wetlands, dense thorn scrub, and riparian vegetation as a consideration for facility location Photo document and provide GPS coordinates where correction is needed.	General, Habitat, Wetlands, Vegetation, Jaguarundi, Animals, T&E, Roads

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	(Jaguarundi) Removal of wetland habitat, dense thorn scrub, or riparian vegetation will be avoided or minimized.	General, Animals, T&E, Jaguarundi, Wetlands, Vegetation, Habitat, Brush, Clearing
108	2025-1	(Jaguarundi) To the extent practicable, removal of dense thorn scrub or riparian vegetation within the conservation easements for the cat corridor established by the USIBWC along the Rio Grande will be avoided. Photo document and provide GPS coordinates where correction is needed.	General, Animals, T&E, Jaguarundi, Wetlands, Vegetation, Habitat, Brush, Clearing
108	2025-1	(Jaguarundi) To the extent practicable, impermeable fences/barriers will not be constructed that bisect or fragment jaguarundi dispersal corridors.	General, Habitat, Jaguarundi, Animals, T&E
108	2025-1	(Jaguarundi) If freshwater sources are limited, impermeable barriers will not be constructed that prevent jaguarundi access to freshwater sources.	General, Jaguarundi, Animals, T&E, Water
108	2025-1	(Texas ayenia) Surveys will be conducted on all intact Texas ayenia habitat within the impact corridor in Cameron, Hidalgo, and Starr counties before beginning activities that may affect individual plants or habitat.	General, Plants, T&E, Texas ayenia, Habitat, Monitor
108	2025-1	(Texas ayenia) Prevent or control guinea grass and other invasive plants from colonizing uninfested native habitat following CBP disturbance.	General, Plants, T&E, Texas ayenia, Invasives, Disturbance
108	2025-1	(Texas ayenia) Minimize permanent impacts to individual Texas Ayenia populations and habitats.	General, Plants, T&E, Texas ayenia, Habitat
108	2025-1	(Texas ayenia) Reduce the duration of impacts to Texas ayenia populations and habitats.	General, Plants, T&E, Texas ayenia, Habitat
108	2025-1	(Texas ayenia) Where it is necessary to temporarily remove vegetation, cut plants above ground level rather than clearing with bulldozers, root plows, or other implements that cut into the soil. Only high quality Texas ayenia should be cut, and the remaining above ground height should not exceed 2 inches.	General, Plants, T&E, Texas ayenia, Vegetation, Clearing
108	2025-1	(Star cactus) Avoid impacts—Avoid disturbance to star cactus populations and occupied habitat, including land clearing, introduction and spread of invasive plants, herbivory, trampling, and exposure to toxic substances. Surveys should be conducted on all intact star cactus habitat and potential habitat in the impact corridor in western Hidalgo and Starr counties before beginning activities that may affect individual plants or habitat. Photo document and provide GPS coordinates where correction is needed.	General, Plants, T&E, Star cactus, Disturbance, Invasives, HazMat, Habitat, Vegetation, Cactus, Monitor

ID	Master BMP Number	BMP Description	BMP Keywords
108	2025-1	(Walker's manioc) Surveys will be conducted in the impact corridor on all intact Walker's manioc habitat in Starr and Hidalgo counties before beginning activities that may affect individual plants or habitat.	General, Plants, T&E, Walker's manioc, Monitor
108	2025-1	(Walker's manioc) Prevent or control invasive plants from colonizing uninfested native habitat following disturbance.	General, Plants, T&E, Walker's manioc, Invasives, Disturbance
108	2025-1	(Walker's manioc) Minimize permanent impacts to individual Walker's manioc populations and habitats.	General, Plants, T&E, Walker's manioc, Habitat, Disturbance
108	2025-1	(Walker's manioc) Reduce the duration of impacts to Walker's manioc populations and habitats.	General, Plants, T&E, Walker's manioc, Habitat, Disturbance
108	2025-1	(Walker's manioc) Where it is necessary to temporarily remove vegetation, cut plants above ground level rather than clearing with bulldozers, root plows, or other implements that cut into the soil. Cut plants above ground only in suitable Walker's manioc habitat, and the remaining plant should not exceed 2 inches in height.	General, Plants, T&E, Walker's manioc, Vegetation, Clearing
108	2025-1	(Star cactus) If impacts were unavoidable, were they minimized? Minimization may be accomplished by, but is not limited to, the following : ? Prevent or control buffelgrass and other invasive plants from colonizing sites following disturbance. ? Minimize permanent impacts to individual populations and habitats. ? Reduce the duration of impacts to populations and habitats. ? Where it is necessary to temporarily remove vegetation, cut plants above ground level rather than clearing with bulldozers, root plows, or other implements that cut into the soil. Photo document and provide GPS coordinates where correction is needed.	General, Animals, T&E, Lesser long-nosed bat, Habitat, Training
108	2025-1	All chemicals or potentially toxic materials are stored in secure containers, clearly labeled, and removed from the site when construction is complete.	General, Cultural Resources
378	C-TX-HID-001	Since construction or clearing activities cannot be scheduled to avoid the migratory bird nesting season (March 15 through September 15), surveys will be performed to identify active nests.	General, Animals, Migratory Birds, Clearing, Monitor
378	C-TX-HID-001	All construction activities shall be kept within previously surveyed areas. The Contractor shall not conduct ground disturbing activities in any area that has not been previously surveyed for cultural resources. If any cultural or historic resources are discovered during the action, the action will cease immediately and the ENV SME will be contacted.	General, Cultural Resources, Monitor

ID	Master BMP Number	BMP Description	BMP Keywords
CRSA_68	28-CRSA37	If construction or clearing activities cannot be scheduled to avoid the migratory bird nesting season (March 1 through September 15), surveys will be performed to identify active nests. These surveys will be coordinated with USFWS and the CBP ENV SME.	General, Animals, Migratory Birds, Clearing, Monitor
CRSA_68	28-CRSA37	All construction activities shall be kept within previously surveyed areas. The Contractor shall not conduct ground disturbing activities in any area that has not been previously surveyed for cultural resources. If any cultural or historic resources are discovered during the action, the action will cease immediately and the ENV SME will be contacted.	General, Cultural Resources, Monitor