

Draft Environmental Assessment

# City of Primera Flood Protection Project

Cameron County, Texas

HMGP-DR-1791-TX Project Number 295

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**FEMA**

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## Table of Contents

LIST OF ACRONYMS .....	iii
1.0 INTRODUCTION .....	1
1.1 Project Authority.....	1
1.2 Project Location.....	1
2.0 PURPOSE AND NEED.....	2
2.1 Purpose.....	2
2.2 Need.....	2
3.0 ALTERNATIVES.....	3
4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS .....	5
4.1 Physical Resources.....	5
4.1.1 Geology, Soils.....	5
4.1.2 Air Quality .....	6
4.1.3 Climate Change.....	7
4.2 Water Resources .....	9
4.2.1 Water Quality.....	9
4.2.2 Wetlands .....	10
4.2.3 Floodplains.....	11
4.3 Biological Resources .....	13
4.3.1 Vegetation .....	13
4.3.2 Threatened and Endangered Species and Critical Habitat .....	14
4.3.1 Wildlife and Fish.....	18
4.4 Cultural Resources .....	19
4.4.1 Historic Properties.....	19
4.4.2 Tribal Coordination.....	19
4.4.3 Inadvertent Discoveries.....	19
4.5 Socioeconomic Resources.....	20
4.5.1 Environmental Justice .....	20
4.5.2 Hazardous Material.....	21
4.5.3 Noise .....	22
4.5.4 Traffic .....	22
4.5.5 Public Service and Utilities.....	23

4.5.6	Public Health and Safety .....	24
4.6	Summary Table .....	25
5.0	CUMULATIVE IMPACTS .....	29
6.0	AGENCY COORDINATION, PUBLIC INVOLVEMENT, AND PERMITS.....	30
6.1	Agency Coordination .....	30
6.2	Public Involvement .....	30
6.3	Permits .....	30
7.0	REFERENCES .....	31
8.0	LIST OF PREPARERS.....	32
8.1	Document Preparers:.....	32
8.2	Government Contributors: .....	32
8.3	Local Sponsor Contributors: .....	32
	APPENDICES .....	33

## LIST OF ACRONYMS

BMP	Best Management Practice
CCDD5	Cameron County Drainage District 5
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc
EFH	Essential Fish Habitat
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination Act
GLO	General Land Office
HMGP	Hazard Mitigation Grant Program
IPCC	Intergovernmental Panel on Climate Change
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Association
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
SWPPP	Stormwater Pollution Prevention Plan
TCEQ	Texas Commission on Environmental Quality
TDEM	Texas Division of Emergency Management
TPWD	Texas Parks and Wildlife Department
TXDOT	Texas Department of Transportation

LIST OF ACRONYMS (Continued)

UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service

## **1.0 INTRODUCTION**

### **1.1 Project Authority**

The City of Primera, Cameron County, Texas, through the Texas Division of Emergency Management (TDEM), Texas Department of Public Safety, has applied for funds under the Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Grant Program (HMGP) (404) for improving flood protection through completion of drainage improvements along the North Main Drain, in accordance with the Presidential Disaster Declaration FEMA-DR-1791-TX.

In accordance with Title 44 of the Code of Federal Regulations (CFR), Subpart B, Agency Implementing Procedures, Part 10.9, this Environmental Assessment (EA) has been prepared pursuant to Section 102 of the National Environmental Policy Act of 1969 (NEPA), as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ; 40 CFR Parts 1500–1508). The purpose of this EA is to analyze the potential environmental impacts of the proposed project and to determine whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact.

### **1.2 Project Location**

The City of Primera, the applicant, is located in Cameron County, Texas. The proposed project site is within the Cameron County Drainage District 5 (CCDD5) and is located in the Town of Combes and unincorporated areas of Cameron County, Texas. The project map reference is on the Harlingen 7.5-minute United States Geological Survey quadrangle. The CCDD5 covers approximately 40 square miles within Cameron County and includes portions of the City of Harlingen, the City of Primera, and the Towns of Combes and Palm Valley (see Figure 1 in Appendix A).

## **2.0 PURPOSE AND NEED**

### **2.1 Purpose**

The purpose of this proposed project is to implement improvements to the drainage system within the CCDD5 area, which would prevent flood damages to homes, businesses, and roadways. Floodplain management in Cameron County is complicated by the flat terrain and rapid urbanization of the area. The County is crossed by elevated irrigation canals that tend to impede or alter storm-water conveyance. These vital resources cross subdrainage boundaries, resulting in compound flooding.

FEMA's HMGP provides grants to state and local governments to implement long-term hazard-mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

### **2.2 Need**

The service area for CCDD5 was severely affected by Hurricane Dolly in August 2008. There were at least 200 homes in the CCDD5 (within the cities of Harlingen, Combes, Palm Valley, and Primera and in unincorporated portions of the county) that were damaged by rising water. Many areas west of Combes still had standing water 60 days after the hurricane.

The North Main Drain currently experiences a bottleneck downstream of its confluence with the Primera Hand Lateral, just east of Business 77. The CCDD5's first-priority need is to relieve this bottleneck and to control flooding (as much as possible) to prevent future flood damages and losses to single-family homes, mobile homes, RV parks, commercial areas, and industrial areas within Cameron County, Texas.

### 3.0 ALTERNATIVES

This section describes the alternatives that were considered in addressing the purpose and need stated in Section 2.0 previously. Four alternatives were evaluated: (1) the No Action Alternative; (2) the Proposed Action, the Wilson Tract Diversion, which consists of redirection, realignment, and extension of the Wilson Tract Main, the Primera Lateral, and the Young Lateral to relieve the bottleneck by providing an additional channel under US Highway 77 (US 77) and the Union Pacific Railroad (UPRR) tracks; and (3) the Increase in Size of the Existing Drainage Routes; and (4) the Elevation of All Structures in the affected area

#### Alternative 1: No Action

Under the No Action Alternative, no improvements would be made to the existing drainage system within the affected area. At least 200 homes and commercial and industrial areas within the cities of Harlingen, Combes, Palm Valley, and Primera and unincorporated portions of Cameron County would remain at risk of flooding and damage.

#### Alternative 2: The Wilson Tract Diversion (Proposed Action)

To alleviate, as much as possible, the risk of flooding and ensuing damages to the affected areas, a reduction in water surface elevations would be required in those areas. Essentially, this key element of relief involves the redirection, realignment, and extension of the Wilson Tract Main, the Primera Lateral, and the Young Lateral to relieve the bottleneck by providing an additional drainage channel under US 77 and the UPRR tracks. This action would reduce water surface elevations over a 4,338-acre area, mitigating flood risk to structures that include single-family homes, mobile homes, RV parks, commercial areas, and industrial areas (see Figure 2 in Appendix A). The proposed project would consist of a series of culvert and drainage channel improvements. The proposed project would involve the construction of concrete box culverts (three 10-foot (ft) x 10-ft culverts placed side by side) at four roadway crossings (Rio Rancho Road, Hand Road, Business 77, and US 77) and one railroad crossing (UPRR, parallel to Business 77). Furthermore, modification of 1,300 linear ft (.25 miles) of a relief drainage channel is proposed, as well as construction of 4,400 linear ft (.83 miles) of new relief drainage channel. The improvement of existing channels (from Rio Rancho Road to the corner of the Young Lateral) and construction of new channel (from property adjacent to the Recreation Center on Hand Road to the UPRR, Business 77, and across US 77) would consist of earthen trapezoidal channels at least 14 ft in depth, with a 29-ft bottom width, 1.5-to-1 side slopes, and a 14-ft-wide shelf. Site photographs and schematic drawings of the proposed culverts and drainage channel are located in Appendix B and C respectively. The total area of impact, including buffer areas, would be approximately 20.58 acres.

Alternatives Considered but Dismissed

Two additional alternatives were considered and not carried forward because of environmental, temporal, and/or monetary constraints.

An alternative considered (noted as “Alternative 3”) but dismissed was to increase the size of the existing drainage routes (see Figure 3 in Appendix A). This increase in the size of the drainage channels would involve an increase in the depth and width of the Primera and Hand Road Lateral, as well as other (unnamed) drainage channels, and it would involve construction improvements of approximately 6 miles of drainage channels, while the Proposed Action would involve only 1.1 miles of new construction and modifications. This alternative was dismissed because of the extent of environmental impacts and the exigencies of Federal and other funding.

Another alternative considered, but dismissed, (noted as “Alternative 4”) was to elevate all structures in the affected area. This would mean that within an affected area of 9,571 acres or 15 square miles, every single-family home, mobile home, RV park element, and commercial and industrial structure would need to be elevated (see Figure 4 in Appendix A). This scenario is unlikely in the extreme, because of the time involved to accomplish the task and the environmental impacts and monetary considerations, given Federal and other funding exigencies.

## **4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS**

Discussions in this section shall be limited to only those resources that could potentially be affected by the Proposed Action but will also include discussion of wetlands, floodplain, threatened and endangered species, cultural resources, and environmental justice, regardless of any potential impact or lack thereof. The following resources or issues that were eliminated from detailed analysis early in the scoping process, because they were not of concern or were not relevant to the Proposed Action and alternative(s).

- Zoning and land use – No changes in zoning or land use are expected. The vicinity of the proposed project already contains an extensive drainage channel system. Therefore, it is assumed that existing conditions are consistent with existing zoning regulations. Existing land use consists of residential and agricultural land; the proposed project would not affect the current land use and is consistent with expectations of the surrounding communities.
- Seismicity – The State of Texas is not considered seismically active, although small earthquakes have occurred in the past. The proposed activities would not result in seismic hazards or changes in seismicity.
- Groundwater – According to the Texas Water Development Board, State Water Plan (Texas Water Development Board, 2007), the area of the proposed project does not overlie any major or minor aquifers. Therefore, the proposed project would have no impact on groundwater resources.
- Coastal Zone – The Texas Coastal Management Program is administered by the Texas General Land Office (GLO) to coordinate state, local, and Federal programs for the management of Texas coastal resources. The area of the proposed project is not located within the coastal zone boundary and is therefore not subject to consistency agreement/concurrence under the Texas Coastal Management Program.

### **4.1 Physical Resources**

#### **4.1.1 Geology, Soils**

The geology of Cameron County, including the proposed project area, is composed of sedimentary rocks and alluvial deposits dating from the Pliocene and Holocene Periods of the Cenozoic Era. The sedimentary rocks and deposits are overlain by Quaternary alluvium (sedimentary deposits) (Sellards et al, 1933).

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and its Web Soil Survey (NRCS, 2009), there are two soil series within the proposed project area—the Racombes Series and the Hidalgo Series (see Figure 5 in Appendix A). The more prevalent of the two series is the Racombes. The Racombes sandy clay loam consists of deep, well-drained, noncalcareous soils that are nearly level. These soils are on deltas or coastal terraces. Permeability is moderate, and runoff is slow. The available water

capacity is high. Racombes soils are used for irrigated crops, dry-farmed crops, and pasture. A few areas are used for growing citrus. The much less prevalent soil is the Hidalgo sandy clay loam, but this can be expected to be included in areas of Racombes soils. Hidalgo sandy clay loam soils are nearly level and on rather broad coastal terraces. Slopes are less than 0.5 percent, and the surface is plane. Areas of this soil are irregularly shaped and are generally several hundred acres in size. Permeability of this soil is moderate, and runoff is slow. This soil is used for irrigated and dry-farmed crops, pasture, and citrus.

As required by Section 1541(b) of the Farmland Protection Policy Act (FPPA) of 1980 and 1995, 7 United States Code (USC) 4202(b), Federal and state agencies, as well as projects funded with Federal funds, are required to (a) use the criteria to identify and take into account the adverse effects of their programs on the preservation of farmland, (b) consider alternative actions, as appropriate, that could lessen adverse effects, and (c) ensure that their programs, to the extent practicable, are compatible with state and units of local government and private programs, as well as policies to protect farmland. The soils listed previously are classified as Prime Farmland soils. As required by the FPPA, a Farmland Conversion Impact Rating (Form AD-1006) has been submitted to the NRCS, along with a request for a Prime Farmland Assessment of the proposed project. In an August 25, 2011 response, the NRCS indicated that the Proposed Action is in an area that has become urbanized and therefore is exempt from review under the FPPA (Appendix E).

#### No Action Alternative

There would be no impact to geology or soils from selection of the No Action Alternative.

#### Proposed Action Alternative

There would be no impact to geology from implementation of the Proposed Action. There is no mineral production from the proposed project location, and the underlying geology would not be affected. There would be a long-term insignificant impact to soils and Prime Farmland soils under the Proposed Action.

The Proposed Action would involve standard construction activities, including excavation and grading for the proposed culvert and drainage channel improvements. Implementation of the Proposed Action would disturb approximately 20.58 acres of soils. All construction activities (i.e., clearing, grading, and excavation) would be limited to the project area, and surrounding properties would not be disturbed. Best Management Practices (BMPs) would be implemented to minimize potential impacts from surface runoff. With the proper use of BMPs, impacts related to runoff would be short-term and minimal.

### **4.1.2 Air Quality**

The Clean Air Act requires that states adopt ambient air-quality standards. The standards have been established to protect the public from potentially harmful amounts of pollutants. The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six air pollutants. These pollutants include sulfur dioxide (SO<sub>2</sub>),

particulate matter with a diameter less than or equal to 10 micrometers (PM<sub>10</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), and lead. The EPA has designated specific areas as NAAQS attainment or nonattainment areas. Nonattainment areas are any areas that do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the quality standard for a pollutant. Attainment areas are any areas that meet ambient air-quality standards.

The project is located within Cameron County, Texas, which is in the Brownsville-Harlingen-San Benito, Texas Metropolitan Statistical Area. The area is in attainment with all criteria pollutants and therefore meets ambient air-quality standards.

#### No Action Alternative

Under the No Action Alternative, there would be no impacts on air quality in the proposed project area.

#### Proposed Action Alternative

Under the Proposed Action, no long-term impacts to air quality would occur. Short-term, insignificant impacts to air quality may occur during construction, owing to the presence of construction activities, equipment, and related vehicles. To reduce temporary impacts to air quality, the construction contractors will be required to water down construction areas to control dust when necessary. Emissions from fuel-burning internal combustion engines (eg, heavy equipment and earth-moving machinery) could temporarily increase the levels of some of the criteria pollutants, including CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub>, and non-criteria pollutants, such as volatile organic compounds. To reduce the emission of criteria pollutants, fuel-burning equipment running times will be kept to a minimum, and engines will be properly maintained.

### **4.1.3 Climate Change**

Cameron County's climate is subtropical and subhumid, with hot summers and mild winters. Temperatures range from an average low of 50°F to 69°F in January and from an average high of 75°F to 94°F in July. Rainfall averages 26 inches per year. Snowfall is exceedingly rare. The growing season lasts 320 days, with the first freeze in mid-December and the last in late January.

The highest temperature recorded was 114°F in July 1917, and the lowest temperature recorded was -7°F in January 1930. Monthly average rainfall amounts range from 1.94 inches in July to 5.01 inches in May. The highest monthly average rainfall recorded was 12.45 inches in September 1921, and the lowest monthly average rainfall recorded was 0.00 inches in August 2000. Snowfall is rare in Cameron County, with an average of 0.3 inches per year (National Oceanographic and Atmospheric Association [NOAA], 2010).

Prevailing winds are from the southeast, except during winter, when frequent, high-pressure areas bring invasions of polar air and prevailing northerly winds. Temperatures are moderated

by the influence of winds from the Gulf of Mexico, which results in mild winters and relatively cool summer nights. Another effect of the nearness of the Gulf of Mexico is abundant rainfall, except for rare, extended dry periods. Monthly rainfall is distributed evenly throughout the year. The average annual rainfall is close to 36 inches per year (NOAA, 2010). The project area is prone to flooding impacts from large tropical storms and hurricanes during late summer and early fall. Major named storms that have impacted the project area in the past few decades include Hurricane Gilbert (September 1988), Tropical Storm Erika (August 2003), Hurricane Dolly (August 2008), and Tropical Storm Hermine (September 2010).

Most climate-change scenarios project that greenhouse-gas concentrations will increase through 2100, with a continued increase in average global temperatures. Many greenhouse gases, like water vapor and carbon dioxide (CO<sub>2</sub>), occur naturally. Fuel-burning and other human activities are adding large amounts of CO<sub>2</sub> and other gases to the natural mix at a faster rate than at any other time on record. Other important greenhouse gases produced by human activity include methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF<sub>6</sub>). Because of uncertainties about future emissions and concentrations of greenhouse gases, their net warming effect in the atmosphere, and the response of the climate system, estimates of future temperature change are uncertain. Advancements in model simulations, combined with more data on observed changes in climate, have led to increased confidence in projections of future temperature changes. Recent climate-change projections estimate that the average surface temperature of the earth is likely to increase by 2°F to 11.5°F by the end of the 21st century, relative to 1980-1990, with a best estimate of an increase between 3.2°F and 7.2°F. Although warming will not be distributed evenly around the globe, most of North America is likely to warm more than the global average (Intergovernmental Panel on Climate Change [IPCC], 2007). According to the IPCC, an increase in the average global temperature will very likely lead to changes in precipitation and atmospheric moisture because of changes in atmospheric circulation and increases in evaporation and water vapor. Tropical storms and hurricanes are likely to become more intense, produce stronger peak winds, and produce increased rainfall over some areas because of warming sea surface temperatures, which act to energize tropical storms.

#### No Action Alternative

Changes in precipitation and storm intensity from climate change may affect the frequency and duration of flooding in the area. Implementation of the No Action Alternative would leave property and lives at risk of damage and loss from these climate-change effects.

#### Proposed Action Alternative

As described in section 4.1.2, during the construction phase of this project, there may be temporary increases in air pollutant emissions from construction activities, equipment, and related vehicles. Considering the temporary and transient nature of construction-related emissions, it is not anticipated that emissions from construction of this project will have any substantial effects on air quality in the area. Because of the small scale of the project, the

Proposed Action would not measurably exacerbate climate change. Changes in precipitation and storm intensity from climate change may affect frequency and duration of flooding in the area. Implementation of the Proposed Action would mitigate these effects from climate change.

## **4.2 Water Resources**

### **4.2.1 Water Quality**

Water quality is an indicator of the overall health of an aquatic resource and the environment that it surrounds. Numerous natural and anthropogenic factors can contribute to the water quality of an aquatic resource. The areas surrounding the project area are a mixture of agricultural and urbanized land uses; therefore, non-point source pollution is an important factor that affects the water quality of the surrounding watershed. Land use within any watershed directly correlates to the volume of non-point source discharge into the system. The existing land use patterns in the vicinity of the project area make the water quality of the system susceptible to degradation from non-point sources. These non-point source loadings vary with climatological patterns as significant rainfall events, which typically produce an influx of pollutants from non-point sources (Clean Water Act, 1972 – 33 U.S.C. §1251 et seq.).

The project area is located in the Arroyo Colorado watershed. The Arroyo Colorado watershed, which covers approximately 706 square miles (1,828 square kilometers), is a flat coastal plain that slopes gently toward the Gulf of Mexico. It is part of the larger Nueces–Rio Grande Coastal Basin (Texas Commission on Environmental Quality [TCEQ], 2011). The Arroyo Colorado is an ancient distributary channel of the Rio Grande, which extends about 90 miles from Mission, Texas, to the Laguna Madre in the lower Rio Grande Valley. Flow in the Arroyo Colorado is sustained by wastewater discharges, agricultural irrigation returns flow, urban runoff, and base flows from shallow ground water. Although an integral part of a major floodway system, water is rarely directly diverted from the Rio Grande into the Arroyo Colorado. The Arroyo Colorado is also the major source of fresh water to the lower Laguna Madre.

The nearest natural surface-water feature to the project is the Arroyo Colorado, which flows through the City of Harlingen, Texas, in a northeast direction. Existing drainage channels in the vicinity of the Proposed Action (the Young Lateral and the Primera and Hand Road Lateral) intercept storm water and divert it through a series of surface channels for an approximate distance of 14 miles to a point on the Arroyo Colorado east of the Town of Combes, Texas. This segment of the Arroyo Colorado is identified by the TCEQ as segment 2202. According to the TCEQ, the primary uses of stream segment 2202 are primary contact recreation and aquatic life (TCEQ, 2011). Water quality samples collected from segment 2202 indicate that fecal bacteria levels are occasionally elevated, which means that the stream may not be able to support certain recreational activities. Elevated levels of fecal bacteria in surface waters typically result from a non-point source pollutant. As a result of these elevated bacteria levels, the TCEQ has initiated a project to survey the recreational uses of segment 2202. The

data collected in the survey will be used to complete a recreational use attainability analysis and will facilitate either modifications in the recreational use of the segment or implementation of pollution mitigation measures.

#### No Action Alternative

Construction of the Wilson Tract Diversion channel would not occur as part of the No Action Alternative, and storm events would continue to flood the affected area. Storm water would continue to flow through the Young Lateral and the Primera and Hand Road Lateral and would still flow into segment 2202 of the Arroyo Colorado. There would be no impact to water quality within segment 2202 of the Arroyo Colorado from selection of the No Action Alternative.

#### Proposed Action Alternative

Construction of the proposed Wilson Tract Diversion channel would provide an alternate route for storm water to be removed from the project area and would reduce the amount of storm water flowing into the Young Lateral and/or the Primera and Hand Road Lateral. However, providing an alternate flow path for storm water would have no foreseen impact on the level of fecal coliforms in stream segment 2202 of the Arroyo Colorado.

Potential adverse impacts to water quality associated with the construction of the proposed project include the potential for erosion and sedimentation during construction. Excavation and grading would be needed as part of the site-preparation work. During this period, storm water runoff could carry sediment off-site into surface channels and into the Arroyo Colorado, which could potentially result in temporary increases in total suspended solids. The impacts to receiving waterways downstream of this project would be temporary and minimal. If the Proposed Action is undertaken, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared prior to the start of construction, and BMPs would be implemented to minimize any detrimental effects to water quality during construction. Since the project would disturb more than 1 acre, the City of Primera would be responsible for obtaining a Texas Pollutant Discharge Elimination System storm water permit from the TCEQ before the start of construction to comply with all permit conditions.

Any effects on water quality associated with construction of the proposed Wilson Tract Diversion channel would be short-term and insignificant. Impacts would be minimized through the use of BMPs during construction and until revegetation of the affected area occurs. The project is not expected to exacerbate bacterial levels in areas downstream of the project site.

#### **4.2.2 Wetlands**

The U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). Wetlands are identified as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support hydrophytic vegetation and

that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. In addition, Executive Order (E.O.) 11990, Protection of Wetlands, directs Federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the values of wetlands on Federal property.

Under Section 404 of the CWA, a permit is required from the USACE for any activities involving the discharge of dredged or fill material into waters of the U.S., including wetlands and tidally influenced waters. Dependent on the scope and type of impacts to waters of the U.S., authorizations may be in one of two primary forms: general permits, which are issued for a specific category of similar activities and include nationwide permits defined in 33 CFR Part 30, and individual permits, issued after individual review of the project, project alternative(s), and proposed mitigation.

A review was conducted of the U.S. Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) map (USFWS, 2011) to identify potential wetlands and/or other waters of the U.S. in the proposed project area; no waters of the U.S. or wetlands were listed in the database. In addition, site reconnaissance was performed by Environmental Research Group, LLC, of Fort Worth, Texas, and the NWI map data was verified—no waters of the U.S. or wetlands are located within the proposed project area.

#### No Action Alternative

There would be no impact to waters of the U.S., including wetlands, under the No Action Alternative.

#### Proposed Action Alternative

If the Proposed Action is implemented, there will be no impact to waters of the U.S. or wetlands, since there are none in the proposed project area. Therefore, a permit from the USACE under Section 404 of the CWA is not necessary.

### **4.2.3 Floodplains**

E.O. 11988, Floodplain Management, requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify the regulatory 100-year floodplain for the National Flood Insurance Program (NFIP). Consistent with E.O. 11988, a FIRM was examined during the preparation of this EA. Approximately half of the proposed project site (west of Hand Road) is located within Zone B, per panel 480101 0125 B, dated September 15, 1983 (see Appendix D). Zone B is defined as areas of moderate flood hazard and occurs between the limits of the 100-year flood and 500-year flood, but in areas subject to 100-year flooding with average depths of less than 1 foot. The area of the proposed project east of Hand Road does not have a reference FIRM and is listed as “unmapped 480104” by FEMA. However, a detailed hydrologic and hydraulic analysis performed by the CCDD5 in 2007

(Espey Consultants, 2007) shows that the area of the proposed project lies within the 100-year regulatory floodplain.

#### No Action Alternative

Under the No Action Alternative, no construction would occur, and there would be no impacts to the floodplain.

#### Proposed Action Alternative

Under the Proposed Action, construction west of Hand Road would take place within the regulatory 100-year floodplain based on the CCDD5 2007 study. To comply with E.O. 11988, FEMA is required to follow the procedure outlined in 44 CFR Part 9 to ensure that alternatives to the Proposed Action have been considered. This process, also known as the “8-step planning process,” has been applied to the Proposed Action and is included below.

Step 1 of the 8-step planning process is to determine whether the project is located in the floodplain. FEMA has determined that the Proposed Action Alternative is located in a floodplain, as mapped by the CCDD5 Flood Protection Plan, dated 2007.

Step 2 is to notify and involve the public in the decision-making process, which will be incorporated into the notice of availability for this EA, and notices provided in the Harlingen Valley Morning Star newspaper, Harlingen Public Library and the City of Primera Offices, along with the availability of the documents at: [www.fema.gov/pln/ehp/envdocuments/ea-region6.shtm](http://www.fema.gov/pln/ehp/envdocuments/ea-region6.shtm).

Step 3 is to identify and evaluate practicable alternatives to locating the proposed project in the floodplain, including alternative sites and actions outside of the floodplain. One alternative considered was to increase the size of the existing drainage routes. However, this alternative would have also been located within the 100-year floodplain based on the CCDD5 2007 study. This alternative was dismissed because of the extent of environmental impacts and the exigencies of Federal and other funding. Another alternative considered was to elevate all structures in the affected area. Within an affected area of 9,571 acres or 15 square miles, every single-family home, mobile home, RV park element, and commercial and industrial structure would need to be elevated. This scenario is unlikely because of the time involved to accomplish the task and the environmental impacts and monetary considerations, given Federal and other funding exigencies. In addition, portions of this alternative would still be located in the floodplain. No alternative exists outside of the 100-year floodplain that would meet the purpose and need of this project.

Step 4 is to identify impacts associated with occupancy and modification of the floodplain and support of floodplain development that could result from pursuing the Proposed Action Alternative. The Proposed Action Alternative is in compliance with the NFIP. The 2007 hydrologic and hydraulic analysis indicates a lowering of water surface elevations once the proposed Wilson Tract Diversion channel is constructed. The City of Primera is a participant in the NFIP and regularly coordinates with Cameron County and the City of Harlingen

concerning impacts to the regulatory floodplain (both of whom also participate in the NFIP). The City of Primera and the CCDD5 intend to submit a Conditional Letter of Map Revision prior to construction. Following construction, a Letter of Map Revision will be submitted to document the change to the effective floodplain. The Proposed Action will minimize the impact of floods on human health, safety and welfare. It avoids long and short-term adverse impacts associated with the occupancy and modification of floodplains; and will result in an increase to the useful life of structures and/or facilities.

Step 5 is to develop measures to minimize the impacts and restore and preserve the floodplain. Under the Proposed Action, impacts as a result of the project are beneficial in that the CCDD5 2007 study indicates a lowering of water surface elevations once the proposed Wilson Tract Diversion channel is constructed. The Proposed Action will minimize the impact of floods on human health, safety and welfare. The City of Primera would coordinate with the local floodplain administrator and obtain required permits prior to initiating work. All coordination pertaining to these activities and applicant compliance with any conditions should be documented and copies forwarded to the state and FEMA for inclusion in the permanent project files.

Step 6 is to determine whether the proposed action is practicable and to reevaluate alternatives. Construction of the proposed Wilson Tract Diversion channel would provide an alternate route for storm water to be removed from the project area and would reduce the amount of storm water flowing into the Young Lateral and/or the Primera and Hand Road Lateral. Minimization of harm to or within the floodplain can be achieved using all practicable means and pursuing the Proposed Action in the floodplain clearly outweighs the requirement of E.O. 11988.

Step 7 requires that the public be provided with an explanation of any final decision that the floodplain is the only practicable alternative. The City of Primera must prepare and provide a Public Notice issued 15 days prior to the start of construction of any final decision where a proposed floodplain or wetland project is the only practicable alternative. Documentation of the final public notice is to be forwarded to FEMA for inclusion in the permanent project files.

Step 8 requires the review of the implementation and post-implementation phases of the proposed action to ensure that the requirements stated are fully implemented. The grant conditions require the review of implementation and post-implementation phases to ensure compliance with E.O. 11988.

### **4.3 Biological Resources**

#### **4.3.1 Vegetation**

The proposed project is located in an area that has a mixture of agricultural and suburban land uses. The vegetation in Cameron County is similar to that of the South Texas Plains area, with small trees, brush, weeds, and grasses found in abundance. Mesquite (*Prosopis glandulosa*),

live oak (*Quercus fusiformis*), post oak (*Quercus stellata*), and shrubs can grow densely in some areas. In the vicinity of the proposed project, the vegetation communities are predominantly mixed grasses and some shrub communities, typical of the region and composed of native and invasive species, such as common Bermuda (*Cynodon common spp.*), KR Bluestem (*Bothriochola ischaemum*), Guinea grass (*Urochloa maxima*), and Retama (*Parkinsonia aculeate*). A large percentage of the vegetation that would be affected by the proposed project is cultivated agricultural.

#### No Action Alternative

There would be no impact to vegetation from selection of the No Action Alternative.

#### Proposed Action Alternative

There would be an insignificant impact to vegetation if the Proposed Action were implemented. Construction of the proposed project would take place predominantly on cultivated agricultural land, which has been acquired by the City of Primera and the CCDD5 for the proposed project. Herbaceous vegetation would be impacted by construction activities, including excavation and the use of construction equipment. Impacts to vegetation are expected to be minimal, as herbaceous vegetation would revegetate the project area from natural seed source on the project site. Exposed side slopes would be manually revegetated by using BMPs upon completion of construction to minimize soil erosion impacts.

### **4.3.2 Threatened and Endangered Species and Critical Habitat**

#### Federally Listed Species

Since 1973, the Endangered Species Act (ESA) has regulated a wide range of activities that affect flora and fauna classified as endangered or threatened. Reauthorized in 1988, provisions of the act apply only to species listed in the Federal Register as endangered or threatened. Under the provisions of the ESA, all Federal agencies are required to undertake programs for conservation of threatened and endangered species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or alter its critical habitat.

A species may be classified as “endangered” when it is in danger of extinction within the foreseeable future in all or a significant portion of its range. A “threatened” classification is assigned to a species likely to become endangered within the foreseeable future in all or a significant portion of its range. A “species” includes any species or subspecies of fish, wildlife, or plant. It also includes any variety of plant or any distinct population segment of any vertebrate species that interbreeds when mature.

Excluded are those species of the Class Insecta deemed by the Secretary of the Interior to be pests that present an overwhelming and overriding risk to man. Additionally, actions affecting

species proposed for listing would require the same coordination with state and Federal agencies as those actions affecting listed species.

Specifically, the ESA prohibits:

- The import and/or export of endangered species from the U.S.
- Taking (killing, capturing, collecting, harming, harassing, pursuing, hunting, trapping) within the United States and territorial waters.
- Taking on the high seas.
- Possessing, delivering, selling, carrying, transporting, or shipping any such species unlawfully taken within the United States or on the high seas.
- Selling or offering for sale any such species in interstate or foreign commerce.

The USFWS and the National Marine Fisheries Service (NMFS) share responsibility for administration of the ESA. In general, the USFWS is responsible for terrestrial and freshwater species and migratory birds, while the NMFS regulates and protects marine species and anadromous fish. Additionally, the USDA Animal and Plant Health Inspection Service oversees importation and exportation of listed terrestrial plants. Coordination with the USFWS was initiated by the City of Primera in June 2011. The USFWS provided a list of federally listed species in a response letter dated July 14, 2011 (see Appendix E).

The Federal list of endangered and threatened species and species of concern in Cameron County is presented in Table 1.

#### State-listed Species

Cameron County is part of the Texas Parks and Wildlife Department (TPWD) South Texas Plains Wildlife Management District. The South Texas Brushlands are better known for large ranches and deer, but they also support a very diverse assemblage of habitats that support many nongame species. The high numbers of unique species occurring within the region are in part due to the southern location of the region being quite different than the rest of Texas, but also to the unique habitats (like Tamaulipan floodplain forest), which reach the limits of their range in southern Texas. Loss of native habitat and reduction in quality of the remaining plant communities are the primary reasons for declining populations of most species.

In 1973, the Texas legislature authorized the TPWD to establish a list of endangered animals in the state, and in 1988, the Texas legislature authorized the TPWD to establish a list of threatened and endangered plant species for the state. TPWD regulations prohibit the taking, possession, transportation, and sale of any of the animal species designated by state law as endangered or threatened without the issuance of a permit. State laws and regulations prohibit commerce in threatened and endangered plants and the collection of listed plant species from public land without a permit issued by TPWD. A complete listing of state-listed threatened and endangered species is available on the TPWD Web site (TPWD, 2011).

**Table 1: List of Federal Threatened and Endangered Species and Species of Concern In Cameron County**

Common Name	Scientific Name	Federal Status	Habitat Description	Suitable Habitat Present in Proposed Project Area
<b>BIRDS</b>				
Brown pelican	<i>Pelecanus occidentalis</i>	DM	Found near coastal and near shore areas; nests on islands and spoil banks.	No
Mountain plover	<i>Charadrius montanus</i>	P/T	Found on xeric (extremely dry) shrublands, shortgrass prairie, barren agricultural fields, and other sparsely vegetated areas.	No
Northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E	Require open habitats that have scattered trees for hunting, roosting, and nesting and an understory of grass and shrubs.	No
Piping plover	<i>Charadrius melodus</i>	T	Use wide, flat, open, sandy beaches, with very little grass or other vegetation; nesting territories often include small creeks or wetlands.	No
<b>MAMMALS</b>				
Gulf Coast jaguarundi	<i>Herpailurus (=Felis) yagouaroundi cacomitli</i>	E	Typical habitat consists of mixed thornshrub species. Interspersed trees may also occur. Riparian habitats along rivers or creeks are sometimes used.	No
Ocelot	<i>Leopardus (=Felis) pardalis</i>	E	Habitat is dense, thorny, low brush, such as spiny hackberry, lotebush, and blackbrush.	No
West Indian manatee	<i>Trichechus manatus</i>	E	These marine mammals are found in marine, estuarine, and freshwater environments.	No
<b>REPTILES</b>				
Green sea turtle	<i>Chelonia mydas</i>	T	Found in gulf and bay systems, shallow-water seagrass beds, open water between feeding and nesting areas, and barrier island beaches.	No
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	E	Occurs in tropical and subtropical waters of the Atlantic, Pacific, and Indian Oceans.	No

Common Name	Scientific Name	Federal Status	Habitat Description	Suitable Habitat Present in Proposed Project Area
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	E	Found in gulf and bay systems; adults stay within shallow waters of the Gulf of Mexico.	No
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E	Found in gulf and bay systems.	No
Loggerhead sea turtle	<i>Caretta caretta</i>	T	Juveniles are primarily found in gulf and bay systems; adults are pelagic.	No
<b>PLANTS</b>				
South Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	E	Occurs in open grasslands or savannas on soils varying from clay loams to sandy loams.	No
Texas ayenia	<i>Ayenia limitaris</i>	E	Found on terraces and floodplains. It grows in dense, relatively moist, subtropical riparian woodlands, with an overall canopy cover of about 95%.	No
DM = Delisted Taxon, Recovered, Being Monitored First Five Years; E = Endangered; P/T – Proposed Threatened; T = Threatened.				

### No Action Alternative

The No Action Alternative would have no effect, either beneficial or adverse, upon threatened or endangered species.

### Proposed Action Alternative

Based on a lack of suitable habitat within the project area, FEMA has determined that there would be no effect to Federally or state-listed threatened or endangered species, other species of concern, or critical habitat from implementation of the Proposed Action.

#### **4.3.1 Wildlife and Fish**

The Fish and Wildlife Coordination Act (FWCA) protects fish and wildlife when Federal actions result in a modification of a natural stream or body of water. Since the modification of a natural stream or body of water will not take place, coordination with the USFWS is not required.

Section 305(b) of the Magnuson-Stevens Fishery Management and Conservation Act (1996) requires that the Fishery Management Councils and other Federal agencies identify and protect important marine and anadromous fish habitat, referred to as Essential Fish Habitat (EFH). EFH is defined as waters and substrate necessary to fish for spawning, breeding, feeding, or growing to maturity. The proposed project is located within Cameron County, Texas, which has been identified as containing tidally influenced waters. The proposed project does not contain or does not discharge storm water into a tidally influenced tributary; therefore, the requirements of EFH do not apply.

The proposed project is within the North American Flyway, and neotropical migrants pass over the project area annually. The Migratory Bird Treaty Act protects many of these species and states that it is unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory birds, including the feathers or other parts, nests, or eggs. There is very little wildlife habitat within the boundaries of the proposed project area because of the existing land use. Wildlife that could occur in the area of the proposed project consist of bobwhite quail, scaled quail, white-winged dove, mourning dove, cottontail rabbit, jackrabbit, raccoon, fox, skunk, opossum, waterfowl, and many kinds of non-game birds. There were no wildlife species observed during a site visit conducted by Environmental Research Group, LLC, on June 28, 2011.

There are no areas of fish habitat located within the footprint of the proposed project.

### No Action Alternative

There would be no impact to wildlife or fish species from selection of the No Action Alternative.

### Proposed Action Alternative

There would be a short-term, insignificant impact to wildlife species from implementation of the Proposed Action. Wildlife may be temporarily displaced during construction activities. Burrows of small mammals could be destroyed during construction activities. The Proposed Action would not result in the modification of a natural stream or body of water. Coordination with the USFWS is not required pursuant to the FWCA.

FEMA does not anticipate a take of migratory birds on the basis of the habitat that is available at the project site.

## **4.4 Cultural Resources**

Section 106 of the National Historic Preservation Act of 1966, as amended, requires Federal agencies “to take into account” the “effect” that an undertaking would have on historic properties. Historic properties are those included in or eligible for inclusion in the National Register of Historic Places (NRHP) and may include archeological sites, buildings, structures, sites, objects, and districts. In accordance with the Advisory Council on Historic Preservation regulations pertaining to the protection of historic properties (36 CFR 800.4), Federal agencies are required to identify and evaluate historic resources for NRHP eligibility and assess the effects that the undertaking would have on historic properties. The Area of Potential Effect of a Federal undertaking is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist.

### **4.4.1 Historic Properties**

With regard to the proposed project area, coordination with the State Historic Preservation Officer (SHPO), in accordance with 36 CFR Part 800, was executed via letter from the grant applicant, the City of Primera, dated March 29, 2010. Data were provided to the SHPO for project assessment. On May 4, 2010, the SHPO concurred that no historic properties were affected and that the project could proceed (see Appendix E for the SHPO determination).

### **4.4.2 Tribal Coordination**

In accordance with Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800.2, coordination with those federally recognized tribes who have historically used the region has been initiated, and those letters of coordination can be viewed in Appendix E for Resource Agency Correspondence.

### **4.4.3 Inadvertent Discoveries**

In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations, 43 CFR Part 10.4, in the event that archeological deposits are uncovered, including any Native American pottery, stone tools, bones, or human remains, the project shall be halted, and the applicant shall stop all work immediately in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. All archeological findings will be secured by the City of Primera, and access to the sensitive area

will be restricted by the City of Primera. The applicant will inform the Texas Division of Emergency Management and FEMA immediately, and FEMA will consult with the SHPO. Work in sensitive areas shall not resume until consultation is completed and until FEMA personnel determine that the appropriate measures have been taken to ensure that the complete project is in compliance with NHPA and NAGPRA and their implementation regulations.

#### No Action Alternative

The No Action Alternative would have no effect on cultural resources in the area.

#### Proposed Action Alternative

Based on the results from data collected by the City of Primera and the Drainage District, the results of the search of the Texas Historical Commission Atlas (Texas Historical Commission, 2010), and consultation with and concurrence by the SHPO, FEMA has determined that the Proposed Action will have no effect on historic properties.

### **4.5 Socioeconomic Resources**

#### **4.5.1 Environmental Justice**

E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, mandates that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were reviewed to determine if the Proposed Action would have a disproportionate impact on minority or low-income persons.

The proposed project site is located in Combes, Cameron County, Texas. The study area for Environmental Justice included the town of Combes, Texas. The 2000 Census lists a total population of 2,553. The 2000 Census lists 80.4 percent of the residents within the study area as white, and therefore 19.6 percent as a minority, consisting of Black or African Americans, American Indians, Alaska Natives, Asians, Native Hawaiians, and other Pacific Islanders. Of the 2,553 residents within the study area, 76.3 percent identify themselves as Hispanic or Latino. The median family income within the project study area in 1999 was \$31,190, and 18.9 percent of families were living below the poverty level (U.S. Census Bureau [USCB], 2000). The 2010 poverty guidelines, per the U.S. Department of Health and Human Services, are \$10,830 for a one-person family to \$22,050 for a four-person family.

For census data that have been released for 2010, from 2000 to 2010, the population for Cameron County has increased by 21.2 percent. In comparison, the 2010 Census lists 87 percent of Cameron County's residents as white, and therefore 13 percent as a minority. Of 406,220 residents within Cameron County, 88.1 percent identify themselves as Hispanic or Latino. The median family income in 2009 was \$30,760, and 34 percent of families were living below the poverty level (USCB Cameron County Quickfacts, 2011).

#### No Action Alternative

Under the No Action Alternative, since no construction would occur, there would be no disproportionately high or adverse impacts on minority or low-income populations.

#### Proposed Action Alternative

Under the Proposed Action, there would be no disproportionately high or adverse impacts on minority or low-income populations. All residents of the Town of Combes and those within the CCDD5 would benefit from less flood damage that would result from the proposed project.

#### **4.5.2 Hazardous Material**

According to the Resource Conservation and Recovery Act (RCRA), hazardous wastes are defined as a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Hazardous materials and wastes are regulated in Texas by a combination of Federal and state laws. Federal regulations governing the assessment and disposal of hazardous wastes include RCRA, the RCRA Hazardous and Solid Waste Amendments, Comprehensive Environmental Response, Compensation and Liability Act, Solid Waste Act, and Toxic Substances Control Act.

A site inspection of the project area did not reveal obvious existing or potential hazardous materials, substances, or conditions. In July 2011, Environmental Data Resources, Inc (EDR), conducted a search of numerous Federal and state government environmental databases. No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records, either on the target property or within the search radius around the target property. The Executive Summary and Radius Search Map of this EDR Database Report are included in Appendix F. Specific environmental databases searched are described on pages 1-4 of the EDR Database Report Executive Summary.

#### No Action Alternative

Under the No Action Alternative, no hazardous materials would be disturbed, and no potential hazards to human health would be introduced.

#### Proposed Action Alternative

It is anticipated that there would be no impact from the storage or use of hazardous materials for construction of the Proposed Action. The construction of the proposed Wilson Tract Diversion would not generate any hazardous or toxic wastes, and no evidence of hazardous or toxic waste was identified within the proposed project area. The potential for the proposed

project being affected by any other hazardous materials is unlikely, based upon field investigations and the EDR database search.

The City of Primera would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. Unusable equipment, debris, and material would be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the project, construction would stop, and the City of Primera would handle, manage, and dispose of petroleum products, hazardous materials, and toxic waste in accordance with the requirements of and to the satisfaction of the governing local, state, and Federal agencies.

#### **4.5.3 Noise**

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by Federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines and those of many other Federal agencies state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses, such as residences, schools, and hospitals. The proposed project site is located in a mixed urban/rural area.

##### No Action Alternative

Under the No Action Alternative, no construction would occur, and there would be no resultant impacts to noise levels.

##### Proposed Action Alternative

Under the Proposed Action, temporary, short-term increases in noise levels during daylight hours are anticipated during the construction period because of the use of construction equipment, as well as vehicular traffic. The proposed project area is located within urbanized and rural residential areas, with surrounding land uses of residential, agricultural, and highway commercial. To mitigate noise impacts, construction activities will take place during normal business hours. Equipment and machinery installed at the proposed project site must meet all local, state, and Federal noise regulations.

#### **4.5.4 Traffic**

Roadways in the project area and immediately associated with construction are Rio Rancho Road, an east-west road that accommodates mostly residential traffic in and out of the area, which connects with Hand Road on its east terminus. Three 10-ft x 10-ft box culverts, each 80 linear ft, will be placed under Rio Rancho Road, and the channel will be enlarged and improved on either side of the road. Hand Road is a north-south road that accommodates both residential and commercial traffic in the area. Hand Road begins at Wilson Road (on its south terminus) and terminates at Highway 107 (on its north end) in the town of Combes. Three 10-ft

x 10-ft box culverts, each 80 linear ft, will be installed at the Hand Road crossing, and a new channel will be constructed in that area. Three 10-ft x 10-ft box culverts, each 100 linear ft, will be installed at the UPRR crossing, and three 10-ft x 10-ft box culverts, each 120 linear ft, will be installed at the Business 77 crossing. New channel construction will continue on this part of the project. The final crossing, with three 10-ft x 10-ft box culverts, each 350 linear ft, and new channel construction will be undertaken at US 77 and terminate at an existing drainage channel on the east side of the highway. The project is within the Town of Combes, Cameron County, Texas Department of Transportation (TXDOT) and CCDD5 rights-of-way. The permitting processes for TXDOT (Business 77 and US 77) and Cameron County (Rio Rancho Road and Hand Road) will be executed and approved prior to construction.

#### No Action Alternative

Under the No Action Alternative, since no construction would occur, there would be no impacts on traffic flow.

#### Proposed Action Alternative

Under the Proposed Action, there would be a minor, temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site that could potentially result in a slower traffic flow during the construction phase. To mitigate potential delays, construction vehicles and equipment must be stored on-site during project construction, and appropriate signage must be posted on affected roadways. Traffic delays and some intermittent lane closures and/or alternate routes may be necessary during the construction period. Those actions will be coordinated with the appropriate city and state agencies prior to and during construction. No other road closures would result from selection of the Proposed Action.

#### **4.5.5 Public Service and Utilities**

The project is located entirely within existing drainage rights-of-way owned by the City and the District and crosses TXDOT right-of-way at the culvert construction at Business 77 and at US 77. The project site is within the public service jurisdictions of the Town of Combes, Cameron County, and CCDD5. Utilities observed on or adjacent to the project site during the site assessment on June 28, 2011, include feeder drainage ditches on either side of the roads and overhead power lines. There are buried water and sewer lines along the roads, as well.

#### No Action Alternative

Selection of the No Action Alternative would have no effect on public services or utilities.

#### Proposed Action Alternative

The Proposed Action would not affect public services, nor would it increase the demand for such services. The Proposed Action would minimally affect public utilities within the project area. Construction of the Proposed Action would require brief interruption of utilities on Hand

Road. There are not city services south of Woodrow, and, therefore, there would be no impact on services in that area of construction.

#### **4.5.6 Public Health and Safety**

Safety and security issues considered in this EA include the health and safety of area residents and the public at large, as well as the protection of personnel involved in activities related to the implementation of the proposed project.

Additionally, E.O. 13045, Protection of Children, requires Federal agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children.

##### No Action Alternative

The No Action alternative could have a negative effect on the general health and safety of the residents within the proposed project area. Without the Proposed Action, the current drainage channel system will again come under the inundating effects of flooding caused by storm systems prevalent in the area, such as what occurred during and after Hurricane Dolly in 2008.

##### Proposed Action Alternative

Construction activities could potentially present safety risks to those performing the activities, as well as residents in the immediate area. To minimize risks to safety and human health, all construction activities will be performed by using qualified personnel trained in the proper use of the appropriate equipment, including all appropriate safety precautions. Additionally, all activities will be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Administration regulations. Appropriate signage and barriers must be in place prior to commencement of construction activities to alert pedestrians and motorists of project activities. Owing to the implementation of these precautions, there would be no disproportionate health and safety risks to children or the public at large.

Proposed improvements to the drainage systems within the CCDD5 would provide the residents, businesses, and infrastructure within the area with flood protection. The construction would result in the minimization of future loss of property and/or life in the vicinity of the proposed project.

#### 4.6 Summary Table

The following table summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts.

Affected Environment/ Resource Area	Impacts	Agency Coordination/Permits	Mitigation/BMPs
Geology and Soils	No impacts to Geology. Long-term insignificant impacts to soils and Prime Farmland soils from construction, involving 20.58 acres of land.	Farmland Conversion Impact Rating (Form AD-1006) has been submitted to the NRCS, along with a request for a Prime Farmland Assessment. Grading and erosion control permit needed from Cameron County.	Surrounding properties would not be disturbed. A SWPPP would be prepared prior to start of construction to identify specific BMPs to be implemented.
Air Quality	Short-term, insignificant impacts to air quality may occur during construction, due to the construction activities, equipment, and related vehicles.	None	Construction contractors would be required to water down construction areas to control dust when necessary. Fuel-burning equipment running times will be kept to a minimum, and engines will be properly maintained.
Climate Change	The proposed project would not exacerbate climate change. Construction of the proposed project would mitigate the effects of climate change (occurrence of more frequent and severe storms).	None	None

Affected Environment/ Resource Area	Impacts	Agency Coordination/Permits	Mitigation/BMPs
Water Quality	Short-term, insignificant impact from erosion and sedimentation during construction. No long-term impact to water quality.	Obtain a Texas Pollutant Discharge Elimination System storm water permit from the TCEQ before the start of construction.	A SWPPP would be prepared prior to the start of construction to identify specific BMPs to be implemented for minimization of impacts on water quality.
Wetlands	No wetlands are located within the proposed project area; therefore, there will be no impacts to wetlands.	Coordination with USACE has been completed.	None
Floodplains	The project would be located within the regulatory floodplain; however, no structures would be constructed.	The City of Primera would coordinate with the local floodplain administrator and obtain required permits prior to initiating work.	Prepare and provide a Public Notice issued 15 days prior to the start of construction.
Vegetation	Herbaceous vegetation would be impacted by construction activities but are expected to be minimal, as herbaceous vegetation would revegetate the proposed project area.	None	Exposed side slopes would be manually revegetated by using BMPs upon completion of construction to minimize soil erosion impacts.
Threatened and Endangered Species and Critical Habitat	No impacts will occur on Federally or state-listed threatened or endangered species, as no habitat exists within the boundaries of the proposed project. FEMA has made a determination of no effect.	Coordination with USFWS has been initiated.	None
Wildlife and Fish	Short-term, insignificant impacts to wildlife species from ground disturbing activities during construction. No impact to fish species since no habitat is within the proposed project area.	None	No nesting birds or their eggs or young should be disturbed during construction activities.

Affected Environment/ Resource Area	Impacts	Agency Coordination/Permits	Mitigation/BMPs
Cultural Resources	The proposed project would have no effect on historic properties.	Coordination with the Texas Historical Commission has been completed.	In the event that archeological deposits are uncovered, including any Native American pottery, stone tools, bones, or human remains, the project shall be halted. The Texas Division of Emergency Management and FEMA would be notified immediately.
Environmental Justice	There would be no disproportionately high or adverse impacts to minority or low-income populations. Residents within the CCDD5 would benefit from less flood damage in the future.	None	None
Hazardous Material	There would be no impact from the storage or use of hazardous materials for construction. The potential for the proposed project being affected by any other hazardous materials is unlikely.	None	Appropriate measures would be taken to prevent, minimize, and control the spill of hazardous materials. If hazardous materials were to be discovered during implementation of the project, construction would stop, and appropriate cleanup, disposal, and reporting actions would be taken.
Noise	Short-term increases in noise levels during daylight hours would be anticipated during the construction period because of the use of construction equipment.	None	Construction activities would take place during normal business hours. Equipment and machinery must meet all local, state, and Federal noise regulations.

Affected Environment/ Resource Area	Impacts	Agency Coordination/Permits	Mitigation/BMPs
Traffic	Short-term, minor increases in the volume of construction traffic. Traffic delays and some intermittent lane closures and/or alternate routes may be necessary.	TXDOT permits for access for construction on Business 77 and US 77. Cameron County and the Town of Combes permits for construction on roads	Construction vehicles and equipment must be stored on-site during project construction, and appropriate signage must be posted on affected roadways.
Public Service and Utilities	Would not affect public services, nor would it increase the demand for such services. May cause a brief interruption of utilities on Hand Road during construction.	None	None
Public Health and Safety	There would be no disproportionate health and safety risks to children or the public at large from construction activities. The Proposed Action would minimize future loss of property and/or life.	None	None

## 5.0 CUMULATIVE IMPACTS

The CEQ regulations for implementation of NEPA requires an assessment of cumulative effects during the decision-making process for Federal projects. Cumulative effects are defined as “the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects are considered for the Proposed Action and the addition of the supplemental actions. Cumulative effects were determined by combining the effects of the actions with other past, present, and reasonably foreseeable future actions.

Project construction impacts on environmental resources are expected to be temporary and minimal, as recommended practices for construction and maintenance are employed. No activities that violate existing state or Federal water-quality standards are anticipated. Local and regional governments (including Cameron County and the City of Combes) include the management of storm water through SWPPPs in their comprehensive planning efforts to control the discharge of pollutants. As urbanization in the project area continues at its current and projected rate and new projects are constructed, stringent requirements for storm-water management, as well as BMPs, are enforced to prevent cumulative impacts on water quality and quantity.

With appropriate implementation of regulation and control strategies, it is expected that potential future effects on the area’s water quality would be substantially reduced. The proposed project would not contribute to significant cumulative impacts on the area’s water quality.

Cumulative impacts to wetlands and waters of the U.S. will not occur, as there are no waters of the U.S. or wetlands listed in the NWI database. In addition, site reconnaissance was performed by Environmental Research Group, LLC, of Fort Worth, Texas, and the NWI map data were verified—no waters of the U.S. or wetlands are located within the proposed project area.

There would be a cumulative beneficial impact to the economics in the vicinity of the proposed project, realized from a reduction in flooding events that affect the area.

## **6.0 AGENCY COORDINATION, PUBLIC INVOLVEMENT, AND PERMITS**

### **6.1 Agency Coordination**

As part of the development of this EA, Federal and state resource protection agencies were contacted. It is anticipated that permits and/or approvals would be necessary, as described in Section 6.3 of this Draft EA, from local, state, and Federal regulatory agencies. The following agencies have been contacted regarding affected environment of the proposed project site:

- Texas Historical Commission
- TPWD
- USFWS
- TCEQ
- USACE

Resource agency coordination letters, if available, are located in Appendix E.

### **6.2 Public Involvement**

The proposed project and others were conceived within the framework of the 2007 CCDD5 Flood Protection Plan. The planning process was guided by an advisory committee, and three separate public meetings were held at nearby Primera City Hall to discuss the projects, along with others contemplated by CCDD5. Those public meetings were held on October 19, 2006, June 12, 2007, and November 29, 2007. Since the damage and destruction caused by Hurricane Dolly in 2008, the proposed project, as it is now presented, has moved through the process of gaining funding assistance and other critical permitting processes.

The public will be invited to comment on the Proposed Action and the Draft EA. A legal notice will be posted in the *Harlingen Valley Morning Star* and on FEMA's Web site ([www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm](http://www.fema.gov/plan/ehp/envdocuments/ea-region6.shtm)). Additionally, the Draft EA will be made available for review for a period of 30 days on the FEMA website, electronically by request from FEMA, and at the Harlingen Public Library, located at 410 76 Drive, Harlingen, Texas and at the City of Primera Offices, located at 22893 Stuart Place Road, Primera, Texas. A copy of the draft public notice is attached in Appendix G.

### **6.3 Permits**

The City of Primera is required to obtain and comply with all required local, state, and Federal permits and approvals prior to implementation of the Proposed Action. Permits that may be required include:

- Grading and Erosion Control Permit – issued by Cameron County
- Submission of project-specific documents necessary to comply with TCEQ's construction storm water general permit
- Floodplain Development Permit – issued by Cameron County

- TXDOT permits for access for construction on Business 77 and US 77.
- Cameron County and the Town of Combes permits for construction on roads

## 7.0 REFERENCES

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## **APPENDICES**

Appendix A	Figures
Appendix B	Site Photographs
Appendix C	Schematic Drawings
Appendix D	FEMA Flood Insurance Rate Map
Appendix E	Resource Agency Correspondence
Appendix F	2011 EDR Database Report Executive Summary and Radius Search Map
Appendix G	Public Notice (Notice of Availability)

## **APPENDIX A**

### **FIGURES**

- |          |                             |
|----------|-----------------------------|
| Figure 1 | Location Map                |
| Figure 2 | Proposed Project Map        |
| Figure 3 | Alternative #3 Project Map  |
| Figure 4 | Alternative #4 Project Map  |
| Figure 5 | Project Area with Soils Map |

**APPENDIX B**

**SITE PHOTOGRAPHS**

**APPENDIX C**

**SCHEMATIC DRAWINGS**

**APPENDIX D**

**FEMA FLOOD INSURANCE RATE MAP**

**APPENDIX E**

**RESOURCE AGENCY CORRESPONDENCE**

**APPENDIX F**

**2011 EDR DATABASE REPORT EXECUTIVE SUMMARY AND RADIUS SEARCH MAP**

**APPENDIX G**

**PUBLIC NOTICE (NOTICE OF AVAILABILITY)**