HANSON

Environmental Information Document

Resaca Escondida Drainage Improvements

City of Los Fresnos

Cameron County, Texas

TWDB Project No. 73922

*July 2**3**, 2024*

ENGINEERING / PLANNING / ALLIED SERVICES

Table of Contents

Section 1: General Information

Authority (Loan Applicant): City of Los Fresnos

TWDB Project No: 73922

Project Name: Resaca Escondida Drainage Improvements

Counties where project activities will occur: Cameron

Funding Source/ Loan Number:	Clean Water State Revolving Fund / / /	
Total Estimated Project Costs:	$270,000	
TWDB Funded Phases:	☒ Planning ☐ Acquisition ☐ Design ☒ Construction	
Other Funding Source(s):		
Consultant Project Name/Number (if applicable):	20L0053	
Primary Contact for questions concerning the EID:	Company:	Hanson Professional Services Inc.
	Contact Person:	Paolina Vega, P.E.
	Mailing Address:	410 N. Ed Carey Dr., Suite A1 Harlingen, TX 78550
	Phone:	956-541-1155
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Project Engineer:	Company:	Hanson Professional Services Inc.
	Contact Person:	Paolina Vega, P.E.
	Mailing Address:	410 N. Ed Carey Dr., Suite A1 Harlingen, TX 78550
	Phone:	956-541-1155
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List of Preparers:

1. Ali Whitehead, Civil Designer
2. Lane Page, Environmental Scientist
3. Jeff Bushur, Environmental Assessment Discipline Manager
4.
5.

Section 2: List of Attachments

Documents lacking required attachments will not be accepted

Identify the project footprint on all maps.

Maps must have adequate resolution and be at an appropriate scale.

Example project maps are provided online at:

http://www.twdb.texas.gov/financial/instructions/doc/TWDB-1800.pdf

Many of the resources required by the following list of attachments can be acquired for free online. If you are unfamiliar with the resources identified below or are not sure where to find them, please contact your environmental reviewer for assistance.

Map(s): Show existing structures, potential location(s) of new or upgraded structure(s), and areas(s) that will be disturbed by the project, including construction staging area(s). Provide a scale bar, north arrow, and legend.

Label and Describe: Potentially-impacted environment(s) and site feature(s) (e.g., public/private property, developed or landscaped areas, roads, historic properties, wetlands, forested areas, rivers, streams, 100-year floodplain, prime farmland, wild and scenic rivers, protected areas, above and below-ground utilities, U.S. EPA designated sole source aquifer areas, etc.)

Appendix A: Standard Maps

Regional Location Map	Page: A-1
USGS Topographic Map(s) for Preferred Alternative	Page: A-2
Project footprint or plans/plats	Page: A-3 to 9
Geologic Map	Page: A-10
FEMA Floodplain Map(s)	Page: A-11
National Wetlands Inventory Map(s)	Page: A-12

Appendix B: Environmental Setting, Impacts and Mitigation Attachments

Appendix B1 Soils & Prime and Important Farmland (Section 5.3) Page: B-1	NRCS Soil Survey for Proposed Project Area of Interest (Required) ☒ Map + Table of Soils (Series level) ☒ Map + Table of Hydric Soils ☒ Map + Table of Prime & Important Farmlands NRCS Farm Impact Rating (If Applicable) Farm Impact Rating Form	Attached ☐	N/A ☒
Appendix B2 Wetlands, Streams & Waters of the U.S (Section 5.6) Page: B-3	Wetland & Streams Impacts Map (If Applicable) Wetland & Streams Impacts Map Wetland Delineation Report (If Applicable) Wetland Delineation Report	Attached ☒ Attached ☐	N/A ☐ N/A ☒

Section 2: List of Attachments **Documents lacking required attachments will not be accepted**	
Appendix B3 Biological Resources (Section 5.7) Page: B-17	County List of Rare, Candidate, Threatened and Endangered Species (Required) ☒ USFWS: County List of Federal Candidate, Threatened and Endangered Species ☒ TPWD: County List of State and Federal Rare, Threatened and Endangered Species ☒ Potential Impacts Table
Appendix B4 Cultural Resources (Section 5.8) Page: B-	Cultural Resources Report (If Applicable) Cultural Resources Report Attached ☐ N/A ☒
Appendix B5 Hazardous Materials (Section 5.9) Page: B-	Hazardous Materials (If Applicable) Formal Site Assessment Attached ☐ N/A ☒
Appendix B6 Social Implications & Environmental Justice (Section 5.10) Page: B-81	All maps & reports should be generated through the EPA's EJ View Website (Required) ☒ EJ View Map (add a 0.5 mile buffer around the construction area) ☒ ACS Summary Report ☒ Census Summary Report ☒ Environmental Report Census QuickFacts Summary (Required) ☒ City vs. State ☒ County vs. State
Appendix B7 Public Meeting (Section 6) Page: B-89	Public Meeting Documentation ☐ Publisher's affidavit and a copy of the Public Meeting Notice ☐ Statement signed by applicant - meeting was held in conformance with the Public Meeting Notice. ☐ List of witnesses ☐ Written summary of the meeting

Section 3: Project Description

Preferred Action Alternative

For the purposes of this document the project site includes all areas that will be disturbed by the project, including construction staging area(s). The project area includes surrounding areas which may, directly or indirectly, be impacted by the project.

1. **Background:** Briefly describe the existing system (e.g., treatment processes, capacity of treatment plant, annual average and peak demand flows, etc.).

The project is located in the City of Los Fresnos. Part of the drainage area falls within the Arroyo Colorado Watershed. City streets convey storm water flow through a storm water drainage system comprised of roadside ditches, concrete curb and gutters, stormwater inlets, and concrete storm sewer pipes. The storm water is collected and then discharged to existing drainage ditches or to the existing resacas.

2. **Project Location:** Briefly describe the project location (e.g., new undeveloped site, existing treatment plant site, undeveloped portion of an existing site, site adjacent to existing facilities, currently owned, acquisition required, etc.).

Resaca Escondida is located east of N. Arroyo Blvd./FM 1847, south of the Los Fresnos Nature Park, and north of the Resaca Escondida subdivision. The resaca is part of a drainage system that includes the high school's detention pond and a smaller resaca on the west side of FM 1847. No land acquisition will be required for this project.

Latitude/Longitude: 26.078976°, -97.469418°
Project Address (if applicable): N/A

3. **Project Need & Purpose**: What need does the project address? (e.g., improve water quality, increase capacity, inadequate system or system components, increase treatment due to more stringent effluent limits, linear work, etc.)

The resaca does not have an outlet. Once the resaca reaches detention capacity the water begins to back up into the lots of the adjacent residential area. The project will address the drainage issue.

Is the proposed project being pursued in response to a compliance order? No

Section 3: Project Description

Preferred Action Alternative

4. **Project Description**: Description should include project costs, design year and design population.

The proposed project involves improving drainage from Resaca Escondida, an isolated oxbow lake located east of FM 1847 and south of Los Fresnos High School. The resaca currently does not have an outlet and depends on evaporation and transpiration for water levels to recede after heavy rain events. The proposed project area is approximately 120 feet wide and 1,200 feet long extending from the eastern edge of the resaca to south of FM 2480. The estimated project cost is $270,000, the design year is 2024, and the design population is 8,215.

Is the proposed project part of a larger project? ☒ Yes ☐ No

If the proposed project is one phase of a larger project, describe the duration and purpose of the larger project.
This project is part of the Los Fresnos Stormwater Planning and Drainage Improvements project, which also includes drainage improvements to the Valle Alto Subdivision and Whipple Road.

5. **Waste Disposal:** Does the project require sludge/soil/waste disposal? ☐ Yes ☒ No

If yes, identify the location(s) and method(s) of disposal:
N/A

6. **Project Components:** Provide a bulleted list (e.g. install 1,000 linear feet of new 6-8 inch pipeline in existing ROW and easements from the outfall structure in Lake X to the WTP, install new 300,000 gallon ground storage tank at the WTP, demolish existing chemical storage building, etc.).

- Install a 2-foot (ft.) diameter reinforced concrete pipe culvert with a manual valve connecting the east end of the resaca to an existing man-made drainage ditch belonging to Cameron County Drainage District No. 1
- Regrade the existing 35 to 50-ft. wide drainage ditch for a length of approximately 950 feet to improve conveyance of water southward from the location of the new culvert
- Replace two existing 3-ft. diameter reinforced concrete pipe culverts in the drainage ditch to match the elevation of the regraded ditch channel

7. **Project Magnitude:**

i. Current population of service area: 8,215
ii. Anticipated population of service area in 20 years: 8,801
iii. Will the proposed project service the entire population increase? ☒ Yes ☐ No

8. **Project Schedule:**

Anticipated Completion of Environmental Review: August 2024

Completion of Acquisition: N/A

Completion of Permitting: December 2023

Completion of Design: July 2024

Start of Construction: August 2024

Construction Completion: February 2025

Section 3: Project Description
Preferred Action Alternative

9. **Project Costs:** Provide an estimate of the cost of the project.	$270,000

10. **Other Projects:** Provide a description of any other projects in progress that may be affected by the proposed project (e.g., TxDOT plans for Road Construction, etc.).

According to the TxDOT online Project Tracker, no projects are currently underway that would be impacted by the Resaca Escondida project. There is one TxDOT seal coat and traffic control devices project on FM 1847, approximately 0.40 miles southwest of the project area, that is expected to begin summer 2024.

Section 4: Alternative Analysis

No-Action Alternative

Environmental Impact Description

Provide a qualitative description of the environmental impacts of the no-action alternative and compare the impacts to that of the preferred alternative. (e.g., WTP would remain out of compliance with TCEQ primary drinking water standards, leaky on-site septic systems would continue to contaminate surface water, etc.)

If the no-action alternative were adopted, the area would continue to sustain damage due to flooding during heavy rain events. Health and safety of the area residents would continue to be jeopardized. This would not meet the purpose and need of the project.

Environmental Impact Analysis

Please indicate whether the direct impacts of the no-action alternative on the following resources are greater than, less than or the same as the direct impacts of the preferred alternative on the same resource.

Land Use						
Change in land use and land cover is:	☐	Greater	☒	Less	☐	Same
Prime and Important Farmland						
Impacts to prime and important farmland are:	☐	Greater	☒	Less	☐	Same
Water Resources						
Impacts to surface water quality are:	☐	Greater	☒	Less	☐	Same
Impacts to groundwater quality and quantity are:	☐	Greater	☐	Less	☒	Same
Impacts to floodways or floodplains are:	☐	Greater	☐	Less	☒	Same
Impacts to wetlands are:	☐	Greater	☐	Less	☒	Same
Vegetation and Habitat						
Impacts to trust resources are:	☐	Greater	☒	Less	☐	Same
Impacts to wildlife are:	☐	Greater	☒	Less	☐	Same
Impacts to native vegetation is:	☐	Greater	☒	Less	☐	Same
Impacts to endangered species habitat are:	☐	Greater	☒	Less	☐	Same
Cultural Resources						
Impacts to cultural resources or historic properties are:	☐	Greater	☐	Less	☒	Same
Air Quality						
Effects on air quality are:	☐	Greater	☐	Less	☒	Same
Environmental Justice						
Impacts to Low-income or Minority Populations are:	☐	Greater	☐	Less	☒	Same

Section 4: Alternative Analysis

No-Action Alternative

Secondary and Cumulative Impacts: Considering resources that the no-action alternative will impact, identify any past, present or reasonably foreseeable future projects which impact these same resources. This answer will provide important contextual information.

The no-action alternative will have a negative impact on the Resaca Escondida and surrounding areas.

If no action is taken to address the drainage issues in the resaca, surrounding houses and the Los Fresnos High School facilities would continue to be susceptible to flooding during heavy rain events. This could have a negative impact on housing in the Resaca Escondida subdivision. Residential roads and the Los Fresnos Nature Park & Caracara Hike & Bike Trail could be damaged, which would cause additional costs to the City of Los Fresnos.

If left unchanged, the project area would continue to be susceptible to flooding and would cause dangerous conditions for local residents during heavy rain events.

Acceptance/Rejection

Alternative: ☐ Accepted ☒ Rejected

Rationale for Acceptance/Rejection

Discuss the rationale for acceptance/rejection of the no-action alternative, including financial, engineering and environmental considerations (e.g. cost comparison, reliability of alternative, complexity of alternative, significant environmental effects, legal or institutional constraints, etc.):

The no-action alternative would have a negative overall impact on the environment, infrastructure, and local residents. While no-action would save money in the short term, the continuation of drainage issues in the project area could cause greater costs to the City of Los Fresnos later on as residential streets and the Los Fresnos Nature Park & Caracara Hike & Bike Trail could be damaged by flooding.

Section 4: Alternatives Analysis

Alternative Not Selected

Attach additional alternative sheets as necessary

Description

Please provide a description of this alternative:

This alternative would consist of installing a pump station at the east end of the Resaca Escondida to be able to pump water to the Resaca de Los Cuates located approximately 1,800 ft. north. There is approximately a 3 ft. difference in elevation between the Resaca Escondida and the Resaca de Los Cuates. A force main would be installed along a Cameron County Drainage District No. 1 easement to the Resaca de Los Cuates. Improvements would be made within existing drainage easement.

Alternative still in consideration? ☐ *Yes ☒ No

**If yes, please note that the level of detail provided for this alternative should be commensurate with the level of detail provided for the preferred alternative presented in this document. Please work with your Environmental Reviewer to scope this document appropriately in order to prevent project delays.*

Environmental Impact Description

Provide a qualitative description of the environmental impacts (adverse and beneficial) of this alternative and compare the impacts to that of the preferred alternative. Specify temporary versus permanent impacts.

This alternative would address the existing drainage issue that is present in the project area. There would be greater land disturbance for installing the pump station and the force main as well as water impacts to the Resaca de Los Cuates. This alternative would impact the Resaca Escondida as well as the Los Fresnos Nature Park & Caracara Hike & Bike Trail.

Section 4: Alternatives Analysis

Alternative Not Selected

Attach additional alternative sheets as necessary

Environmental Impact Analysis

Please indicate whether the direct impacts of the alternative not selected on the following resources are greater than, less than or the same as the direct impacts of the preferred alternative on the same resource.

Land Use						
Change in land use and land cover is:	☐	Greater	☐	Less	☒	Same
Prime and Important Farmland						
Impacts to prime and important farmland are:	☐	Greater	☐	Less	☒	Same
Water Resources						
Impacts to surface water quality are:	☐	Greater	☐	Less	☒	Same
Impacts to groundwater quality and quantity are:	☐	Greater	☐	Less	☒	Same
Impacts to floodways or floodplains are:	☐	Greater	☐	Less	☒	Same
Impacts to wetlands are:	☐	Greater	☐	Less	☒	Same
Vegetation and Habitat						
Impacts to trust resources are:	☒	Greater	☐	Less	☐	Same
Impacts to wildlife are:	☒	Greater	☐	Less	☐	Same
Impacts to native vegetation is:	☒	Greater	☐	Less	☐	Same
Impacts to endangered species habitat are:	☒	Greater	☐	Less	☐	Same
Cultural Resources						
Impacts to cultural resources or historic properties are:	☐	Greater	☐	Less	☒	Same
Air Quality						
Effects on air quality are:	☐	Greater	☐	Less	☒	Same
Environmental Justice						
Impacts to Low-income or Minority Populations are:	☐	Greater	☐	Less	☒	Same

Section 4: Alternatives Analysis

Alternative Not Selected

Attach additional alternative sheets as necessary

Secondary and Cumulative Impacts: Considering resources that this alternative will impact, identify any past, present or reasonably foreseeable future projects which impact these same resources. This answer will provide important contextual information.

This alternative involves installing a pump station and force main to allow water to be pumped from the Resaca Escondida to the Resaca de Los Cuates. This pump and associated piping could potentially impact future projects in the Village E Drive subdivision to the east of the project area.

Acceptance/Rejection

Alternative: ☐ Accepted ☒ Rejected

Rationale for Acceptance/Rejection

Discuss the rationale for acceptance/rejection of this alternative, including financial, engineering and environmental considerations:

This alternative was rejected as the capital costs were higher than those for the preferred alternative. Additionally, the alternative was not as water or energy efficient as the preferred alternative and had increased environmental impacts.

Section 4: Alternatives Analysis

Alternative Not Selected

Attach additional alternative sheets as necessary

Section 4: Alternatives Analysis

Selection of the Preferred Action Alternative

Discuss the rationale for why the proposed project was chosen as the preferred alternative:

The proposed project was chosen as the preferred alternative as it has lower projected capital costs (which includes construction and operation and maintenance costs) than the alternative not selected while still meeting the purpose and need of the project. Additionally, the preferred alternative has less environmental impacts than other alternatives.

Section 5: Environmental Settings, Impacts and Mitigation

5.1: Land Use

Existing Conditions

Will the project require land use conversion? ☐ Yes ☒ No

If yes, explain:

N/A

Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses.

According to historic aerial imagery of the project site, the residential area to the west of the drainage ditch was built prior to 1995. The drainage ditch was built in 2005 and the residential area to the east of the drainage ditch had its first houses built sometime between March 2014 and January 2016. The primary current and recent past land use is residential. The project is compatible with adjacent and nearby land uses as it will improve drainage and therefore reduce flooding of adjacent residences.

Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project?

☐ Yes ☒ No

If yes, describe additional services needed:

N/A

Impacts

Describe direct impacts of the project (adverse and beneficial) on land use. Specify temporary versus permanent impacts.

This project will have permanent beneficial impacts on land use, as the primary land use is residential and the project will help prevent flooding at local residences from overflow from the resaca.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation

5.2: Geology

Existing Conditions

Physiographic Province:	☒ Gulf Coast Plains	☐ Central Texas Uplift	☐ Grand Prairie
	☐ Edwards Plateau	☐ North-Central Plains	☐ High Plains
	☐ Basin and Range		

Are there faults within the project's area of interest?	☐ Yes ☒ No
Is the project located in a Karst or Pseudo-Karst Zone?	☐ Yes ☒ No

Include the names and brief descriptions of the geologic formations in the project's area of interest.

The project's area of interest is within the geological feature Qas: silty and sandy floodplain alluvium (Holocene).

Discuss any relevant topographical and geological features (e.g. salt domes, sink holes, shallow limestone formations, karst conditions, cave systems, etc.).

There are no relevant geological features present in the project area.

Impacts

Describe direct impacts of geology on the proposed project. Please elaborate on all items checked "Yes" above:

There will be no direct impacts of geology on the proposed project.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.3: Soils & Prime and Important Farmland

Soils

Is soil contamination present?	☐ Yes ☒ No
Does soil type present any constraints to the project?	☐ Yes ☒ No

If yes to either above, explain (if redundant with information provided in the Hazardous Materials section reference that section):
N/A

Will soil be moved offsite? ☐ Yes ☒ No	If yes, how will it be disposed of? N/A
Will soil become contaminated as a result of the proposed project? ☐ Yes ☒ No	If yes, explain: N/A

Prime and Important Farmland

Does the project area contain prime and important farmlands?	☒ Yes ☐ No

If yes, does either of the following exemptions apply?
- ☐ Exempt – corridor subsurface project (e.g., buried water, sewage, and/or electric lines).
- ☒ Exempt – previously converted site (e.g., existing water and wastewater treatment plant sites).

If the project area contains prime and important farmlands and does not qualify for the exemptions listed above, include a completed version of the NRCS' Farmland Conversion Impact Rating Form AD-1006
- ☐ Attach Form AD-1006 to Appendix B1

Impacts

Will prime and important farmland be directly impacted by the project?	☐ Yes ☒ No

Describe direct impacts of the project on prime and important farmland:

The majority of the project area is located within USDA designated prime farmland (Laredo silty clay loam 0 to 1 percent slopes, rarely flooded (LAA)). The project is located in a previously converted site within the City of Los Fresnos, no right-of-way would be acquired, and no change of land use would take place. Therefore, no direct impacts on prime farmland are anticipated.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation

5.4: Water Resources

Existing Conditions		
What river basin(s) is the proposed project located in? Nueces-Rio Grande Coastal Basin		
What major/minor aquifers are located in the greater project area? Southern Portion of the Gulf Coast Aquifer System		
Are any of these a sole source aquifer?		☐ Yes ☒ No
Water supply(ies):	Surface water(s): Rio Grande Groundwater(s): Gulf Coast Aquifer	

Water Well Projects	
Does the project involve the installation of any water wells?	☐ Yes ☒ No
If yes, provide the depth to ground water, duration and quantity of water to be extracted, and potential affects to the public water supply: N/A	
Will the project require test wells?	☐ Yes ☒ No
Will any existing water well(s) be abandoned?	☐ Yes ☒ No
If yes, discuss best management practices that will be used to abandon the existing well(s): N/A	

Impacts to Water Resources	
Will water resources be directly impacted by the project?	☒ Yes ☐ No
Describe direct impacts (adverse and beneficial) to surface water quality and groundwater quality/quantity (surface water runoff, erosion, sedimentation, temporary loss of vegetation cover, etc.). Specify temporary versus permanent impacts.	
Temporary impacts may occur during construction, specifically sedimentation and loss of vegetation cover. Erosion control BMPs will be utilized to minimize any sedimentation or erosion that may take place during construction. The project includes the installation of a new drainage outlet that will carry water from the Resaca Escondida to a drainage ditch, which will help minimize flooding in residential lots adjacent to the project area. This will provide a permanent beneficial impact by protecting surrounding land from erosion and potentially preventing any hazardous materials from being washed into the resaca.	
Will the project include new or relocated discharge site(s)?	☒ Yes ☐ No
Will the project require an amendment to an existing TCEQ discharge permit?	☐ Yes ☒ No
If yes, discuss the nature of the permit changes:	

Section 5: Environmental Settings, Impacts and Mitigation
5.4: Water Resources

N/A

If the project requires a new permit or a permit amendment, list all stream segment(s) found at and immediately downstream of the proposed discharge sites. **Source: TCEQ list of stream segments and water quality data.**

Stream Segment ID	Classification	Impaired?	Reason for Impairment
N/A	N/A	☐ Yes ☐ No	N/A
N/A	N/A	☐ Yes ☐ No	N/A
N/A	N/A	☐ Yes ☐ No	N/A

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☒ Yes ☐ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.5: Topography and Floodplains

Topography

Minimum Elevation in Project Area (MSL):	Maximum Elevation in Project Area (MSL):
20 ft.	31 ft.

Briefly describe the topography in the project area (e.g., gently rolling hills, dominant drainage to the west via tributaries to the Brazos River):

The project area is generally flat with side slopes that allow runoff to flow to the drainage ditch.

Discuss any relevant topographical features (e.g. playa lakes).

Resaca Escondida is an isolated oxbow lake.

Floodplains & Floodways

Is the project site located in a 100-year floodplain?	☐ Yes ☒ No ☐ Partial

If yes, list all streams with floodplains in project area. Specify whether the project will be located within the 100-year floodplain and/or floodway(s) of these streams.

Stream	Project in 100-year floodplain?	Project in floodway?
	☐ Yes ☐ No	☐ Yes ☐ No
	☐ Yes ☐ No	☐ Yes ☐ No

Do the communities (cities and/or counties) in which the project will be constructed participate in the National Flood Insurance Program?	☒ Yes ☐ No ☐ Partial

List all participating cities and counties	List all non-participating cities and counties
Los Fresnos	
Cameron County	

Impacts

Will floodplains or floodways be directly impacted by the project?	☒ Yes ☐ No

Describe direct impacts of the project (adverse and beneficial) on floodplains and floodways. Specify temporary versus permanent impacts:

While the project area is not located within a floodplain, the resaca is within a floodplain. There will be a permanent beneficial impact to the floodplain present in the resaca as the project will be improving the drainage of the resaca.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.6: Wetlands, Streams, and Waters of the United States

Information included in this template represents baseline information pertinent to the majority of projects. Regulatory agencies, including the USACE, may require additional information to determine permitting or mitigation requirements.

List all applicable U.S. Army Corps of Engineers permits for the project (general and/or individual):

Nationwide Permit 7. This permit is for minor impacts to Resaca Escondida and the drainage ditch. It is unlikely the resaca and the drainage ditch would be considered jurisdictional under the pre-2015 regulatory regime and Sackett decision. However, email correspondence with the USACE Corpus Christi regulatory office indicated that given recent changes to the definition of WOTUS, verification of the project under a nationwide permit would be more expedient than an approved jurisdictional determination (Appendix C, page 5). There will be 120 sq. ft. of permanent impacts to Resaca Escondida.

Will any of the applicable permits require pre-construction notification? ☒ Yes ☐ No

If yes, which one(s): Yes, the Nationwide Permit 7 will require pre-construction notification.

Are streams present on the project site or in the project area (perennial, ephemeral, intermittent)?

☐ Yes ☒ No

If yes, list all streams in the project area.

N/A

Are wetlands present on the project site or in the project area? ☐ Yes ☒ No

If yes, discuss the type and quality of wetlands (e.g., forested palustrine, emergent riverine):

N/A

Section 5: Environmental Settings, Impacts and Mitigation
5.6: Wetlands, Streams, and Waters of the United States

Has a site wetlands/waters delineation or jurisdictional determination been performed using the applicable USACE Wetland Delineation Manual*, including regional supplements**?

☒ Yes: If Yes, has it been verified by the USACE? ☒ Yes ☐ No
☐ No

*Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual". Technical Report Y-87-1. U.S. Army Engineers Waterways Experimental Station, Vicksburg, MS.

**The manual is to be used with the appropriate regional supplement. These supplements and the manual can be found on the following website:
http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx

If yes, summarize the findings below and attach a copy of the field survey to Appendix B2. **If no**, describe the basis for above statements regarding presence or absence of wetlands and waters of the U.S..

A formal Waters of the U.S. Delineation Report was not completed. A field survey was conducted on May 3 and 4, 2023 for any jurisdictional features present in the project area. A wetland determination data sheet was completed for a negative point present in the drainage ditch. A summary of the findings as well as figures and photos were sent via letter to the USACE for their review and are included in Appendix B-2.

Impacts

Will wetlands be impacted?	☐ Yes ☒ No	Will streams be impacted?	☐ Yes ☒ No
Are any of the impacted wetlands/streams in the project area tidally influenced?			☐ Yes ☒ No

Describe direct impacts of the project (adverse & beneficial) on streams and wetlands (e.g., fill, dredging, dewatering, surface water runoff, other pollutants, etc.). Specify temporary versus permanent impacts.

The Resaca Escondida will be permanently beneficially impacted by this project, as the installation of the drainage outlet will prevent flooding, which will protect against sediment and potentially hazardous materials washing into the resaca.

Section 5: Environmental Settings, Impacts and Mitigation

5.6: Wetlands, Streams, and Waters of the United States

Stream/Wetland Impacts (if applicable) *add rows if needed

This section must be accompanied by a Stream/Wetland Impact Map:

The map must include a topographic background with footprint of the project overlain. Assign a number to each stream/wetland in the project footprint and label each on the map (e.g., S1, S2, W1, W2).

Attach the map to Appendix B2

Stream Impacts:

Include all streams in project footprint even if impact is zero feet

# Keyed to Map (S1, S2,…)	Temporarily impacted		Permanently impacted	
	All Streams [linear ft]	Potential Waters of U.S. (streams only) [linear ft]	All Streams [linear ft]	Potential Waters of U.S. (streams only) [linear ft]
N/A	N/A	N/A	N/A	N/A
Total Stream Impacts (feet):	N/A	N/A	N/A	N/A

Wetland Impacts:

Include all wetlands in project footprint even if impact is zero acres.

# Keyed to Map (W1, W2,…)	Temporarily impacted		Permanently impacted	
	All Wetlands [ac]	Potential Waters of U.S. (wetlands only) [ac]	All Wetlands [ac]	Potential Waters of U.S. (wetlands only) [ac]
N/A	N/A	N/A	N/A	N/A
Total Wetland Impacts (acres):	N/A	N/A	N/A	N/A

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.7: Biological Elements

Ecoregion:			
	☐ Arizona/New Mexico Mtns.	☐ Central Great Plains	☐ Texas Blackland Prairies
	☐ Chihuahuan Deserts	☐ Cross Timbers	☐ East Central Texas Plains
	☐ High Plains	☐ Edwards Plateau	☒ Western Gulf Coastal Plain
	☐ Southwestern Tablelands	☐ Southern Texas Plains	☐ South Central Plains

Using USFWS and TPWD County Lists of Rare, Candidate, Threatened and Endangered Species, create a table of potential impacts with the following columns:

(1) Species (common and scientific names), (2) State/federal protection status, (3) Habitat, (4) Presence of Critical Habitat, (5) Project Site Suitability, and (6) Potential Impacts of Project

Attach the Potential Impacts Table to Appendix B3

Has a biological field survey been performed?	☒ Yes	☐ No

If yes, summarize the finding below. Attach report to Appendix B3, if applicable – exclude report from publicly available documents to protect location sensitive information.

A separate biological report was not completed. However, environmental specialists conducted a desktop review and field survey as part of this EID. There are no critical habitats, wildlife refuges, or wildlife management areas within the project areas.

Field activities were conducted on May 3 and 4, 2023 and potential habitat was found for 12 state-listed threatened species, one federal threatened species, one federal endangered species, one state and federal threatened species, and one federal proposed endangered species. These species include Black-spotted newt (*Notophthalmus meridionalis),* Mexican treefrog (*Smilisca baudinii),* Sheep frog (*Hypopachus variolosus),* South Texas siren (Large Form) (*Siren sp. 1),* White-lipped frog (*Leptodactylus fragilis),* Black rail (*Laterallus jamaicensis),* Common black-hawk (*Buteogallus anthracinus),* Northern beardless-tyrannuelt (*Camptostoma imberbe),* Red-crowned parrot (*Amazona viridigenalis),* Swallow-tailed kite (*Elanoides forficatus),* Texas Botteri's sparrow (*Peucaea botterii texana),* Wood stork (*Mycteria americana),* Coues' rice rat (*Oryxomys couesi aquaticus),* Black-striped snake (*Coniophanes imperialis),* Tricolored Bat (*Perimyotis subflavus),* and Cactus Ferruginous Pygmy-owl (*Glaucidium brasilianum cactorum).*

Coordination with the TPWD was initiated on November 15, 2023. The TPWD reviewed the Wildlife Habitat Assessment Program Review and responded on December 20, 2023 with general construction recommendations and Best Management Practices (BMPs) that could be implemented to avoid impacts to state- and federally listed species. Responses confirming compliance with these recommendations were sent back to the TPWD on February 13, 2024.

Are any parks, recreational areas, forest preserves, grassland preserves, wildlife refuges, wild or scenic rivers, karst faunal regions or zones, or nature preserves (federal, state or local; public or private) in or near the project area?	☒ Yes	☐ No

If yes, list and describe proximity to project site:

Section 5: Environmental Settings, Impacts and Mitigation
5.7: Biological Elements

The Los Fresnos Nature Park & Caracara Hike & Bike Trail is located northwest of the project area. A continuation of the Caracara Hike & Bike Trail runs through the project area between the resaca and the drainage ditch.

Briefly describe the vegetation and wildlife, including aquatic species, present in the project site and project area.

* Do not include protected species addressed in the potential impacts table.

Along Resaca Escondida, vegetation consisted of Guinea grass (*Magathyrsus maximus*), honey mesquite (*Prosopis glandulosa*), colima (*Zanthoxylum fagara*), black willow (*Salix nigra*), poison sumac (*Toxicodendron vernix*), and Mexican fan palm (*Washingtonia robusta*). Along the drainage ditch, vegetation consisted of Bermuda grass (*Cynodon dactylon*), barnyard grass (*Echinochloa crus-galli*), Guinea grass (*Magathyrsus maximus*), beach sunflower (*Helianthus debilis*), featherfew (*Tanacetum parthenium*), congress grass (*Parthenium hysterophorus*), sweetscent (*Pluchea odorata*), and black willow saplings (*Salix nigra*).

Impacts

Discuss potential impacts (adverse and beneficial) to trust resources, wildlife and natural vegetation, including habitat. Provide information about the nature, extent, duration and location of the impacts. Specify temporary versus permanent impacts.

* Do not include protected species already addressed in the potential impacts table.

Vegetation will be temporarily adversely impacted due to excavation for the drainage outlet installation, culvert replacements, and ditch grading. Erosion control measures may temporarily affect vegetation during construction.

If present in or near the project area, discuss potential impacts to any parks, recreational areas, forests preserves, grasslands preserves, wildlife refuges, wild or scenic rivers, karst faunal regions or zones, or nature preserves (federal, state or local; public or private):

Construction of the proposed resaca outfall will temporarily disturb the Los Fresnos Nature Park & Caracara Hike & Bike Trail and cause temporary closure of the trail to users at this location. The trail will be permanently benefitted by the project due to the reduced potential for damage from flooding.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☒ Yes ☐ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.8: Cultural Resources

Have you notified the State Historic Preservation Officer (SHPO) at the Texas Historical Commission that you intend to use the NEPA process to comply with Section 106 of the National Historic Preservation Act?	☒ Yes ☐ No
Identify parties that were consulted regarding cultural resources, including Tribal Historic Preservation Officers (THPO), the federal Advisory Council on Historic Preservation (ACHP), local governments, or any other interested parties. The State Historic Preservation Officer and the Executive Director of the Texas Historical Commission (THC) reviewed the project via eTRAC, TBH's electronic review and compliance system.	
Has an archeologist and/or an architectural historian performed a desktop review of the proposed project?	☒ Yes ☐ No
Identify cultural resources/historic properties (included in or eligible for inclusion in the National Register of Historic Places) within the proposed project's area of impact. N/A	
Has an archeological and/or architectural survey been conducted?	☐ Yes ☒ No
If Yes, briefly summarize the results of the report(s) and attach them to Appendix B4, if applicable – exclude report from publicly available documents to protect location sensitive information. N/A	
Does the project have the potential to affect significant cultural resources/historic properties?	☐ Yes ☒ No
If you have determined that historic properties will not be impacted, explain how this conclusion was reached. According to the THC, no historic properties are present in the project area.	
Describe direct impacts (adverse and beneficial) of the project on cultural resources/historic properties. Specify temporary versus permanent impacts. No impacts on cultural resources or historic properties are anticipated.	
Mitigation Measures	
Mitigation Measures for Project Environmental Impacts? If yes, list all mitigation measures in Section 5.14.	☐ Yes ☒ Not applicable

Section 5: Environmental Settings, Impacts and Mitigation

5.9: Hazardous Materials

The TWDB does not fund the testing, remediation, removal, disposal, or related work for contaminated or potentially contaminated material.

Is there a Superfund Site in the project area or in an area associated with the proposed work (e.g., Superfund site upstream of project activities in a floodplain)?	
There is not a Superfund Site in the project area or in an area associated with the proposed work.	
Was a site assessment conducted?	☒ Yes ☐ No
If a formal site assessment was conducted please attach the report and/or data search to Appendix B5.	☐ Attached ☒ Not Applicable
If an informal site assessment was conducted, please briefly describe methods and results. Make sure to identify any potential environmental hazards located on the site due to past site uses (e.g. soil contamination or proximity to nearby hazardous liquid or gas pipelines) :	
While a formal site assessment was not conducted for the site, EPA, TCEQ, and TRC databases and maps were reviewed for hazardous material sites within the vicinity of the project area. No hazardous material sites were found to be present near the project area.	
Mitigation Measures	
Mitigation Measures for Project Environmental Impacts? If yes, list all mitigation measures in Section 5.14.	☐ Yes ☒ Not applicable

Section 5: Environmental Settings, Impacts and Mitigation
5.10: Social Implications & Environmental Justice

Social Implications

Will land acquisition for the project require the use of eminent domain?	☐ Yes ☒ No
If yes, describe: N/A	
Will people or businesses be relocated as a result of this project?	☐ Yes ☒ No
If yes, describe the extent and nature of the relocations. N/A	
Will the project cause an increase in resident's monthly service rates?	☐ Yes ☒ No
If yes, provide an estimate of an average monthly residential bill and the anticipated monthly residential increase required to finance the debt.	Average Monthly User Rate: $ Anticipated Increase: $
Will the project require an increase in taxes to finance the debt?	☐ Yes ☒ No
If yes, provide an estimate of the increase required: N/A	

Environmental Justice

Area	Population	% Minority	% Below the Poverty Level/ Per Capita Income
State	30,503,301	61.2%	14% / $37,514
County: Cameron	425,208	91.5%	22.6% / $21,440
City: Los Fresnos	8,215	90%	34.6% / $21,980
Project Area (0.5 mile buffer)	1,477	90%	49% / $19,135

Does the project area have a portion of the population, greater than the city, county or state average, who are members of a racial/ethnic minority category or who have incomes less than or equal to the state's official poverty level?	☒ Yes ☐ No

Impacts

Will the project disproportionally impact low-income or minority populations?	☐ Yes ☒ No
Please explain: All populations within the project area would benefit from the proposed project as flooding will be minimized. The project will improve the drainage of the Resaca Escondida.	

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? If yes, list all mitigation measures in Section 5.14.	☐ Yes ☒ Not applicable

Section 5: Environmental Settings, Impacts and Mitigation
5.11: Other Potential Impacts or Requirements

1. **Air Quality:** Is the project in a maintenance or non-attainment area for any priority air pollutant under the federal Clean Air Act?	☐ Yes ☒ No
If yes, describe the impact the project will have on ambient air quality. N/A	
2. **Scenic Views**: Will the project impact scenic views or vistas during construction or operation?	☐ Yes ☒ No
If yes, indicate which scenic views or vistas will be impacted and discuss adverse impacts. Specify temporary versus permanent impacts. N/A	
3. **Traffic:** Will construction of this project involve rerouting or controlling traffic?	☐ Yes ☒ No
If yes, describe traffic changes and how long traffic will be disrupted: N/A	
4. **Other Potential Impacts:** If the project may cause any adverse impacts not addressed by items 1-3, identify and discuss them here (e.g., odor, prevailing winds, noise, blasting, night work, etc.):	
The proposed improvements may require the use of heavy construction equipment, leading to higher ambient noise levels. The project area is adjacent to a residential neighborhood which is susceptible to noise impacts. Construction activities will only take place during normal working hours and no night work is anticipated.	
Mitigation Measures	
Mitigation Measures for Project Environmental Impacts? If yes, list all mitigation measures in Section 5.14.	☐ Yes ☒ Not applicable

Section 5: Environmental Settings, Impacts and Mitigation

5.12: Secondary and Cumulative Impacts

Considering resources that your project will impact, identify any past, present or reasonably foreseeable future projects which impact these same resources. This answer will provide important contextual information.

According to the TxDOT online Project Tracker, no projects are currently underway that would be impacted by the Resaca Escondida project. There is one TxDOT seal coat and traffic control devices project on FM 1847, approximately 0.40 miles southwest of the project area, that is expected to begin summer 2024.

The proposed project will improve current flood conditions during storm events with heavy precipitation. The project will have positive secondary impacts on water resources by reducing runoff during heavy precipitation events which leads to less erosion and higher water quality. Higher water quality will then positively affect aquatic life.

Mitigation Measures

Mitigation Measures for Project Environmental Impacts? ☐ Yes ☒ Not applicable

If yes, list all mitigation measures in Section 5.14.

Section 5: Environmental Settings, Impacts and Mitigation
5.13: Standard Mitigation, Precautionary Measures and Best Management Practices

Describe any standard mitigation, precautionary measures and best management practices to be used during project construction (e.g., storm water pollution prevention plan, re-vegetation, dust and siltation control, establish original grades in floodplains, etc.).

In the unlikely event that significant cultural resources are discovered during construction, all activity would cease until the Texas Historical Commission assesses the discovery's significance and the need for additional investigation.

Construction activities would only take place during normal working hours to avoid noise impacts to surrounding areas. Contractors would ensure that all equipment is properly maintained and has functional muffler systems.

Best Management Practices (BMPs) may be considered to minimize potential impacts to state and federally listed species and other wildlife. The following BMPs, established under a Programmatic Agreement between the TPWD and the Texas Department of Transportation (TxDOT), have been successfully used on transportation projects statewide. They are relevant to the proposed project, and may be considered, but are not required since this is not a TxDOT project:

General Design and Construction BMP

- Employees and contractors will be provided information prior to start of construction to educate personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.
- Contractors will be informed to avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.

Aquatic Amphibian and Reptile BMP

For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.
- Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.
- Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.
- Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.
- Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.

- When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).
- If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.

Bird BMP

The following Bird BMP applies to projects within the range and in suitable habitat for all bird SGCN listed on TPWD's RTEST application. Please note that projects within the range and in suitable habitat for the bald eagle (*Haliaeetus leucocephalus*) are required to comply with the Bald and Golden Eagle Protection Act.

In addition to complying with the Migratory Bird Treaty Act (MBTA) and Chapter 64 of the Parks and Wildlife Code (PWC) regarding nongame bird protections, perform the following BMP:

- Avoid vegetation clearing activities during the general bird nesting season, March through August, to minimize adverse impacts to birds.
- Prior to construction, perform daytime surveys for nests including under bridges and in culverts to determine if they are active before removal. Nests that are active should not be disturbed. If active nests are observed during surveys, TPWD recommends a 150-ft. buffer of vegetation remain around the nests until the young have fledged or the nest is abandoned.
- Do not disturb, destroy, or remove active nests, including ground nesting birds, during the nesting season.
- If unoccupied, inactive nests will be removed, ensure that nests are not protected under the Endangered Species Act (ESA), MBTA, or BGEPA.
- Prevent the establishment of active nests during the nesting season on TxDOT owned and operated facilities and structures proposed for replacement or repair.
- Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.
- Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foottraffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.
- Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.
- Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.

Small Mammal BMP

The following Mammal BMP apply to projects within the range and in suitable habitat for SGCN below and that are also listed on TPWD's RTEST online application:

For state-threatened Coues' rice rate (*Oryzomys couesi aquaticus):*

- Minimize impacts to wetland, resaca, oxbow lake, and marsh habitats

Section 5: Environmental Settings, Impacts and Mitigation
5.13: Standard Mitigation, Precautionary Measures and Best Management Practices

- Water Quality BMP

Terrestrial Amphibian and Reptile BMP

The following Terrestrial Amphibian and Reptile BMP apply to projects within the range and in suitable habitat for herpetofauna SGCN listed below and that are also listed on TPWD's RTEST online application. Please note that some species may require both aquatic and terrestrial BMP. It is difficult to confirm absence for most species of amphibians and reptiles; therefore, assume presence in suitable habitat and implement the following BMP.

- Inform TPWD WHAB during initial collaborative review phase for projects that may affect habitat for the following species:
    - Black-spotted newt (*Notophthalmus meridionalis)*
    - Brazos water snake (*Nerodia harteri)*
    - Concho water snake (*Nerodia paucimaculata)*
    - Dunes sagebrush lizard *(Sceloporus arenicolus)*
    - Tamaulipan spot-tailed earless lizard (*Holbrookia subcaudalis)*
- For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling
- Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.
- Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.
- Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.
- When designing roads with curbs, consider using Type I or Type III curbs to provide a gentle slope to enable turtles and small animals to get out of roadways.
- If Texas tortoises (Gopherus berlandieri) or box turtles (Terrepene spp.) are present in a project area, they should be removed from the area and relocated between 100 and 200 meters from the project area. After removal of the individuals, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude reentry by turtles, tortoises, and other reptiles. The exclusion fence should be constructed and maintained as follows:
    - The exclusion fence should be constructed with metal flashing or drift fence material.
    - Rolled erosion control mesh material should not be used.
    - The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.
    - The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.
- After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.

Section 5: Environmental Settings, Impacts and Mitigation
5.13: Standard Mitigation, Precautionary Measures and Best Management Practices

Vegetation BMP

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind onsite replacement/restoration of native vegetation.
- To minimize adverse effects, activities should be planned to preserve mature trees, particularly acorn, nut or berry producing varieties. These types of vegetation have high value to wildlife as food and cover.
- It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced. TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.
- Replacement trees should be of equal or better wildlife quality than those removed and be regionally adapted native species.
- When trees are planted, a maintenance plan that ensures at least an 85 percent survival rate after three years should be developed for the replacement trees.
- The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.
- The use of seed mix that contains seeds from only regional ecotype native species is recommended.

Water Quality BMP

In addition to the BMP required for a TCEQ Storm Water Pollution Prevention Plan and/or 401 Water Quality Certification:

- Minimize the use of equipment in streams and riparian areas during construction. When possible, equipment access should be from banks, bridge decks, or barges.
- When temporary stream crossings are unavoidable, remove stream crossings once they are no longer needed and stabilize banks and soils around the crossing.
- Wet-Bottomed detention ponds are recommended to benefit wildlife and downstream water quality. Consider potential wildlife-vehicle interactions when siting detention ponds.
- Rubbish found near bridges on TxDOT ROW should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

Bat BMP

The following Bat BMP apply to projects within the range and in suitable habitat for all bat SGCN and that are also listed on TPWD's RTEST online application. Review the habitat descriptions for species of interest on RTEST and other trusted resources to determine the appropriate beneficial management practice to avoid or minimize impacts to bats. All bat surveys and other activities that include direct contact with bats shall comply with TPWD-recommended white-nose syndrome protocols located on the TPWD Wildlife Habitat Assessment Program website under "Project Design and Construction".

The following survey and exclusion protocols should be followed prior to commencement of construction activities. For the purposes of this document, structures are defined as bridges, culverts (concrete or metal), wells, and buildings.

- Inform TPWD WHAB during initial collaborative review phase for projects that may impact the following bat species:

  - Any *Myotis* spp.
  - Tricolored bat (*Perimyotis subflavus*)
- If identification of a bat species is in question, consult with TPWD or a qualified TxDOT biologist during initial collaborative review phase.
- For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.
- For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.
- If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.
- Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are above 50°F AND minimum daytime temperatures are above 70°F. Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, installation of alternate roosts is recommended to replace the loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.
- If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features.
- Conversion of property containing cave or cliff features to transportation purposes should be avoided.
- Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures ≥ 55°F for at least two consecutive nights), so bats can move away from the disturbance and find new roosts.
- Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.
- Retain mature, large diameter hardwood forest species and native/ornamental palm trees.
- If gating a cave or abandoned mine is desired, consult with TPWD before installing gates. Gating should only be conducted by qualified groups with a history of successful gating operations. Gate designs must be approved by TPWD.
- In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.
- Coordinate with TPWD about the latest bat handling restrictions and protocols involving COVID19 and bat handling. In general, all staff must follow the guidelines listed below:
  - Do not handle bats if not part of a critical or time-sensitive research project. Contact TPWD to discuss your project needs before beginning work.
  - All participants must follow CDC social-distancing guidelines.
  - Wear a face mask to minimize the exchange of respiratory droplets such as a surgical mask, dust mask, or cloth mask when within 6 feet of a living bat.

  - Use disposable exam gloves or other reusable gloves (e.g., rubber dish-washing gloves) that can be decontaminated to prevent spread of pathogens. Do not touch your face or other potentially contaminated surfaces with your gloves prior to handling bats.
  - Limit handling to as few handlers as possible.
  - Do not blow on bats for any reason.
  - Use separate temporary holding containers for each bat such as disposable paper bags.
  - Caves housing bats should be avoided unless absolutely necessary.
  - Implement additional disinfection, quarantine, and cleaning procedures.
- Bat surveys of structures should include visual inspections of structural fissures (cracked or spalled concrete, damaged or split beams, split or damaged timber railings), crevices (expansion joints, space between parallel beams, spaces above supports piers), and alternative structures (drainage pipes, bolt cavities, open sections between support beams, swallow nests) for the presence of bats.
- Before excluding bats from any occupied structure, bat species, weather, temperature, season, and geographic location must be incorporated into any exclusion plans to avoid unnecessary harm or death to bats. Winter exclusion must entail a survey to confirm either, 1) bats are absent or 2) present but active (i.e., continuously active – not intermittently active due to arousals from hibernation).
  - Avoid using materials that degrade quickly, like paper, steel wool or rags, to close holes.
  - Avoid using products or making structural modifications that may block natural ventilation, like hanging plastic sheeting over an active roost entrance, thereby altering roost microclimate.
  - Avoid using chemical and ultrasonic repellents.
  - Avoid use of silicone, polyurethane or similar non-water-based caulk products.
  - Avoid use of expandable foam products at occupied sites.
  - Avoid the use of flexible netting attached with duct tape.
- In order to avoid entombing bats, exclusion activities should be only implemented by a qualified individual. A qualified individual or company should possess at least the following minimum qualifications:
  - Experience in bat exclusion (the individual, not just the company).
  - Proof of rabies pre-exposure vaccinations.
  - Demonstrated knowledge of the relevant bat species, including maternity season date range and habitat requirements.
  - Demonstrated knowledge of rabies and histoplasmosis in relation to bat roosts.
- Contact TPWD for additional resources and information to assist in executing successful bat exclusions that will avoid unnecessary harm or death in bats.

Section 5: Environmental Settings, Impacts and Mitigation
5.14: Mitigation Measures

Provide a list of potential adverse impacts of the proposed project and a description of how those impacts will be avoided, minimized, or mitigated. This list will be used to develop conditions for the environmental determination issued by the TWDB. Please ensure the information is consistent with what was provided to regulatory agencies and incorporates applicable agency recommendations. When responding to recommendations provided by regulatory agencies, identify which are feasible and which will not be implemented.

Impact:	Recommended/Required by What Entity? (if applicable)	Mitigation Measures Description:
Example: *Loss of 5 acres of forested wetland*	*Example:* *USACE*	*Example:* *Purchase 10 credits from ABC Wetland Bank*
Species impacts	TPWD	General Construction Recommendations • TPWD recommends using existing facilities whenever possible for laydown areas and other temporary workspace. By utilizing previously disturbed, existing utility corridors, county roads, and other rights-of-way (ROW), or other previously impacted sites, adverse impacts to fish and wildlife resources would be mitigated by avoiding and/or minimizing impacts to undisturbed habitats. • TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from discrete construction areas, when applicable. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only be removed after the project activities are completed and the disturbed sites have been revegetated or otherwise stabilized. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe

		egress opportunities prior to initiation of construction activities. • If trenching or other excavation is involved in improving the drainage, TPWD recommends contractors keep trenching, excavation, and backfilling crews close together to minimize the number of trenches or excavation areas left open at any given time during construction. Any holes left open for more than two daylight hours should be inspected for the presence of trapped wildlife prior to backfilling. TPWD recommends any open trenches or excavation areas be covered overnight and inspected every morning to ensure no wildlife species have been trapped. If trenches and excavation areas cannot be backfilled the day of initial excavation or covered overnight, then escape ramps should be installed, if feasible, at least every 300 feet. Escape ramps consist of short lateral trenches or wooden planks sloping to the surface at an angle less than 45 degrees (1:1) to allow wildlife to crawl out on their own. • For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats would be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting and hydromulch containing microplastics should be avoided. • TPWD recommends designing the project to minimize removal of vegetation and retain native habitats. TPWD recommends that precautions be taken to avoid impact

		to Species of Greatest Conservation Need (SGCN) flora and fauna, natural plant communities, and priority habitat types of the ecoregion while working in Cameron County, or if encountered during project construction, operation, and maintenance activities. Areas exhibiting a native grass and forbs component should be protected from disturbance and from introduction of non-native vegetation. TPWD encourages clearly marking areas found to contain rare plants as work zone avoidance areas prior to construction, maintenance, and operation activities. • TPWD recommends the exclusive use of a mixture of native grasses, forbs, shrubs, and trees be used for revegetating disturbed areas and landscaping. 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. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented. • Wildlife observed during construction should be allowed to safely leave the site or be translocated to a nearby area with similar habitat that would not be disturbed during construction. TPWD recommends that any translocations of reptiles be the minimum distance possible, no greater than one mile, and preferably with 100-200 yards from the initial encounter location. For purposes of relocation, surveys, monitoring, and research, state listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, please contact the Wildlife Permits Office at (512) 389-4647. <u>Federal Regulations: Migratory Bird Treaty Act</u> • TPWD recommends scheduling any necessary vegetation clearing or trampling to occur outside of the March 15 -

		September 15 migratory bird nesting season in order to comply with the MBTA. If vegetation clearing must be scheduled to occur during the nesting season, TPWD recommends the vegetation to be impacted should be surveyed for active nests by a qualified biologist. Nest surveys should be conducted no more than five days prior to the scheduled clearing to ensure recently constructed nests are identified. If active nests are observed during surveys, TPWD recommends a 100-ft. radius buffer of vegetation remain around nests until eggs have hatched and the young have fledged; however, the size of the buffer zone is dependent on various factors and can be coordinated with the local or regional USFWS office. <u>State Regulations: Parks and Wildlife Code Section 64, Birds</u> • Please review the Federal Regulations: Migratory Bird Treaty Act section above for recommendations as they are applicable for chapter 64 of the PWC compliance. <u>State Regulations: Parks and Wildlife Code Section 68.015, State Listed Species</u> • TPWD recommends reviewing the most current TPWD annotated county lists of rare species for Cameron County. The TPWD annotated county lists, available online at the TPWD Wildlife Diversity website, are updated quarterly when warranted. Since nearly a year has passed since the county list referenced in the material was prepared, TPWD recommends reviewing the most current annotated county list of rare species for Cameron County as it may have been revised since January 2023. <u>Species of Greatest Conservation Need</u>

		Because all snakes are generally perceived as a threat and killed when encountered during vegetation clearing and site preparation, TPWD recommends project plans include comments to inform contractors of the potential for SGCN snake species to occur in the project area. State listed or SGCN snakes that may occur in south Texas are non-venomous and contractors should be advised to avoid impacts to them and other snakes as long as the safety of the workers is not compromised. For the safety of workers and preservation of a natural resource, attempting to catch, relocate and/or kill non-venomous or venomous snakes is discouraged by TPWD. If encountered, snakes should be permitted to safely leave project areas on their own. TPWD encourages construction sites to have a "no kill" policy regarding wildlife encounters.
120 sq. ft. of impacts to Resaca Escondida	USACE	Based on the minimal adverse impact to the resaca, no mitigation measures are proposed.
Temporary closure of the Los Fresnos Nature Park & Caracara Hike & Bike Trail	Los Fresnos	Los Fresnos will be notified of potential trail closure for construction of the proposed resaca overflow. The disturbed area of the trail will be returned to its original condition following construction of the overflow.

Section 5: Environmental Settings, Impacts and Mitigation

5.15: References

Cornell Lab of Ornithology. (n.d.). Ferruginous Pygmy-Owl. Retrieved from https://www.allaboutbirds.org/guide/Ferruginous_Pygmy-Owl/lifehistory#

National Oceanic and Atmospheric Administration Fisheries. (n.d.). Oceanic Whitetip Shark. Retrieved from https://www.fisheries.noaa.gov/species/oceanic-whitetip-shark

National Oceanic and Atmospheric Administration Fisheries. (n.d.). Rice's Whale. Retrieved from https://www.fisheries.noaa.gov/species/rices-whale

National Oceanic and Atmospheric Administration Fisheries. (n.d.). Sei Whale. Retrieved from https://www.fisheries.noaa.gov/species/sei-whale

Oceana. (n.d.). Shortfin Mako Shark. Retrieved from https://oceana.org/marine-life/shortfin-mako-shark/

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Texas Commission on Environmental Quality. (n.d.). Texas Commission on Environmental Quality. Retrieved from https://www.tceq.texas.gov/

Texas Department of Transportation. (n.d.). Project Tracker. Retrieved from https://apps3.txdot.gov/apps-cq/project_tracker/

Texas Parks and Wildlife Department. (n.d.). Aplomado Falcon. Retrieved from https://tpwd.texas.gov/huntwild/wild/species/aplomfal/

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Texas Parks and Wildlife Department. (n.d.). Jaguarundi (Herpailurus yagouaroundi) - Wildlife Fact Sheet. Retrieved from https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_0013_jaguarundi.pdf

U.S. Census Bureau. (n.d.). QuickFacts: United States. Retrieved from https://www.census.gov/quickfacts/fact/table/US/PST045223

U.S. Fish and Wildlife Service. (n.d.). Mexican Fawnsfoot (Truncilla cognata). Retrieved from https://www.fws.gov/species/mexican-fawnsfoot-truncilla-cognata

U.S. Fish and Wildlife Service. (n.d.). Monarch (Danaus plexippus). Retrieved from https://www.fws.gov/species/monarch-danaus-plexippus

USDA Natural Resources Conservation Service. (n.d.). Web Soil Survey. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Section 6: Public Participation

PUBLIC MEETING

1. Does the project or activities involve a probable or known public controversy? ☐ Yes ☒ No
   If yes, please contact your TWDB environmental reviewer for the public hearing guidance.

2. **Notify the Public:** Public participation is required to inform the public of potential social, economic or environmental impacts of the proposed project. The applicant must notify the public of the meeting by advertisement in a newspaper of general circulation within the project area at least thirty (30) days prior to the date of the meeting. The 30-day period may count either the day of the advertisement or the day of the meeting, but not both.

3. **Notify requisite agencies and interested parties:** A written notice of the meeting should be sent to any state, federal or local agency, government, organization or individual that has an interest in the proposed project.

4. **Floodplain/Wetland:** If the proposed action is located in a wetland and/or the 100-year floodplain (500-yr floodplain for critical actions), you are required to notify the public and involve the affected and interested public in the decision making process. Incorporate a discussion of alternatives to construction in the floodplain/wetlands, potential impacts and proposed mitigation measures into the public meeting.

5. **Public Meeting Notice Includes:**
   - ☐ Published 30 days in advance of meeting
   - ☐ Date, time and place of meeting
   - ☐ Brief description of project & floodplain/wetland notice (if applicable)
   - ☐ Cost, including estimated monthly bill and any connection fee, tax or surcharge
   - ☐ Convenient local source for EID (available at least 30 days prior to meeting)
   - ☐ Statement of Purpose: "One of the purposes of this meeting is to discuss the potential environmental impacts of the project and alternatives to it."

Example Public Meeting Notice:

A public meeting is being held on _____(day, date)_____at __(time)___ at_____(location, address)_____ to discuss the _____city/district_____'s proposed project to _____(project description)_____ at _____(project location)_____ . One of the purposes of this hearing is to discuss the potential environmental impacts of the project and alternatives to it. The total estimated cost of the project is $_____. The estimated monthly bill for a typical resident is currently_____. A user rate increase of _____will be required to finance this project. *In addition, a connection fee/tax/surcharge/other fee of $_____will be required.* An application for financial assistance for the project has been *(will be)* filed with the Texas Water Development Board, P.O. Box 13231, Austin, Texas, 78711-3231. An Environmental Information Document for the project has been prepared which will be available for public review at _____(city hall/district offices)___ at_____(address)____between the hours of _____(hours)____for 30 days following the date of this notice. Written comments on the proposed project may be sent to _____(address)_____or to the Texas Water Development Board.

Floodplain/Wetland: Incorporate into Public Meeting Notice for projects in a floodplain or wetland
This project involves construction (a) of a critical facility in the 500-year floodplain, (b) in the 100-year floodplain, or (c) construction located in a wetland. Alternatives to construction in a floodplain/wetland, potential impacts on floodplains/wetlands and proposed mitigation measures will be addressed during the public meeting.

6. **Public Meeting Documentation**
   - ☐ Publisher's affidavit and a copy of the notice
   - ☐ Statement signed by applicant: meeting was held in conformance with the Public Meeting Notice.
   - ☐ List of witnesses
   - ☐ Written summary of the meeting

7. **Were adverse comments about any aspect of the project received?** ☐ Yes ☐ No
   If yes, describe how they were resolved:

Section 7: Agency Coordination

When coordinating with an agency, send hard copies by public carrier with delivery confirmation requested. Retain copies of those confirmations. When a response is not received from an agency, documentation of the delivery must be included with the coordination materials submitted to the TWDB. All agency coordination should be included in Appendix C and should be presented in the same order as the following table.

Mailing addresses for the following agencies are provided online at:
http://www.twdb.texas.gov/financial/instructions/doc/addresses.pdf

Uniform Project Notification Requirements		
Bureau of Reclamation	☐ Sent ☐ *Response* (Not required)	Page: C-
Bureau of Land Management	☐ Sent ☐ *Response* (Not required)	Page: C-
Intergovernmental Review: Depending on the nature and location of the proposed project, notification should be sent to the City Mayor, County Judge or both.	☐ Sent ☐ *Response* (Not required)	Page: C-
Uniform Agency Coordination Requirements		
Texas Historical Commission	☒ Sent ☒ Response	Page: C-1
U.S. Army Corps of Engineers	☒ Sent ☒ Response	Page: C-4
Texas Parks and Wildlife Department Wildlife Habitat Assessment Program	☒ Sent ☒ Response ☒ Response to TPWD recommendations indicating which recommendations will be implemented.	Page: C-27

Circumstantial Requirements

Use the following questions to determine if coordination is required regarding potential impacts to the resource identified. If Yes, provide the page number for coordination materials.

Will the project adversely affect federally listed threatened or endangered species or their critical habitat? ☐ No effect (no coordination required) ☒ Not likely to adversely affect ☐ Likely to adversely affect	U.S. Fish and Wildlife Service Division of Ecological Services If not likely, concurrence that adverse effects have been adequately mitigated **recommended** If likely, formal Section 7 consultation **required** Page: C-
Will the project impact prime and important farmlands? ☐ Yes ☐ No ☒ Exempt (pipeline project, existing site)	U.S. Department of Agriculture Natural Resources Conservation Service If Yes, Page: C-

Section 7: Agency Coordination	
Is the project located within or directly adjacent to a national forest or grasslands? Does the project share a surface water connection that may impact these resources? ☐ Yes ☒ No	U.S. Forest Service National Forest or Grasslands If Yes, Page: C-
Is the project located within or directly adjacent to National Park Service Lands? Does the project share a surface water connection that may impact these resources? Does the proposed project have the potential to impact view sheds, natural sounds, night skies, or air quality of any NPS units or National Historic Landmarks? ☐ Yes ☒ No	National Park Service Environmental Quality Division If Yes, Page: C-
Wild and Scenic Rivers: coordination is required for all projects located in one of the following counties: El Paso, Brewster, Crane, Crocket, Culberson, Edwards, Hudspeth, Jeff Davis, Loving, Pecos, Presidio, Reeves, Schleicher, Sutton, Terrell, Upton, Val Verde, Ward and Winkler. ☐ Yes ☒ No	National Park Service Big Bend National Park, Rio Grande Wild & Scenic River If Yes, Page: C-
Is the project site within the floodplain or adjacent to the channel of the Rio Grande River OR located in, or directly adjacent to, the IBWC's flood control projects in Texas? ☐ Yes ☒ No	International Boundary and Water Commission (U.S. Section) Environmental Management Division If Yes, Page: C-
Is the project located within the contributing zone (stream flow source) or recharge zone of the Edwards Aquifer? ☐ Yes ☒ No	Environmental Protection Agency Groundwater/UIC Section (6WQ-SG) If Yes, Page: C-
Is the project located in, or directly adjacent to, tidal waters or tidally influenced wetlands? ☐ Yes ☒ No	National Marine Fisheries Service Habitat Conservation Division If Yes, Page: C-
Is the project located in a coastal management zone? ☐ Yes ☒ No	General Land Office If Yes, Page: C-
Will the proposed project affect any known organizations or private entities? ☐ Yes ☒ No	Coordination with the affected party(s) is required. If Yes, Page: C-

Section 7: Agency Coordination

<u>For communities that participate in the NFIP:</u> Is the project is located in the 100-year floodplain (1% chance of flooding)? ☐ Yes ☒ No Does the project involve construction of a critical facility (WTP, WWTP,etc.) in the 500-year floodplain (0.2% chance of flooding)? ☐ Yes ☒ No **Any construction in the 100-year floodplain and construction of critical facilities in the 500-year floodplain requires a Floodplain Development Permit. Floodplain Development Permits must be acquired prior to TWDB approval of engineering plans and specifications and release of construction funds.	National Flood Insurance Program Local Floodplain Administrator If Yes, Page: C-
<u>For communities that DO NOT participate in the NFIP:</u> Does the project involve construction in the 100-year floodplain or construction of a critical facility in the 500-year floodplain? ☐ Yes ☐ Exempt: strictly pipeline installation ☐ No ☐ Undetermined: no maps available to make determination **If the project is not exempt and is (a) located in the 100 year floodplain, (b) involves construction of a critical facility in the 500-year floodplain or (c) no floodplain maps are available for the project area, a Flood Risk Assessment must be prepared.	<u>Flood Risk Assessment</u> The assessment should include an elevation study, risk of flooding determination, and recommendation (build, no build, special accommodations). The assessment must be sealed by a licensed engineer. If Yes, Page: C-

Section 7: Agency Coordination

Sample Agency Notification Letter

DATE

CONTACT NAME
ADDRESS
See section 7 for agency contact information

RE: Project Notification: Please Review - No Response Required

Dear CONTACT:

The APPLICANT is pursuing federal funding through the Texas Water Development Board's FUNDING PROGRAM for the proposed PROJECT NAME (TWDB PROJECT NUMBER). The purpose of this notification is to identify if the proposed project will have any potential conflicts with projects being implemented by your agency.

Attached to this letter is a document containing general contact information, project description and project maps. A copy of the full Environmental Information Document (EID), which includes background environmental information and a robust analysis of potential impacts, is available upon request.

If you have any questions or need additional information, please contact me at (tel:)_____ or by e-mail at _____.

Sincerely,
APPLICANT/CONSULTANT

Enclosure: Section 1 (General Information), Section 3 (Project Description) and Appendix A (Standard Maps) from the EID.

Section 7: Agency Coordination

Sample Agency Coordination Letter

DATE

CONTACT NAME
ADDRESS
See section 7 for agency contact information

RE: NEPA Review Requested for Federally Funded Project
Environmental Information Document Available
Consultation#_____, Date_____
_____(Project Name)_____
_____(Applicant)_____
_____(Project Location)_____

Dear CONTACT:

The APPLICANT is pursuing federal funding through the Texas Water Development Board's FUNDING PROGRAM for the proposed PROJECT NAME (TWDB PROJECT NUMBER). The purpose of this coordination is to identify potential environmental and permitting issues: specifically, permits or mitigative measures required to ensure compliance with environmental regulations specific to your agency's area of jurisdiction.

The attached Environmental Information Document (EID) provides a project description, project maps, background environmental information, a robust analysis of potential impacts and a list of all agencies with whom we are coordinating. Sections particularly relevant to your agency include: (use the table of relevant sections by agency provided on the next page to complete this section).

Include a brief description of mitigation measures that will be implemented to reduce impacts to resources under the agency's area of jurisdiction.

Recommended or required actions identified through this coordination, including permits, will be considered for inclusion as conditions in the TWDB's environmental determination. Please cite the relevant authority (statue/regulation) for recommendations.

We request your concurrence with our determination that_____. If you have any questions or need any additional information, please contact me at (tel:)_____ or by e-mail at _____.

Sincerely,
APPLICANT

Enclosure: EID (access to the EID may also be provided by including a link where the EID can be downloaded).

Section 7: Agency Coordination

Relevant Sections by Agency

(for the purposes of this EID, not intended to be all inclusive)

Uniform Project Notification Requirements	
Bureau of Reclamation, Bureau of Land Management, and Local Council of Governments	Section 1: General Information Section 3: Project Description Appendix A: Standard Maps
Uniform Agency Coordination Requirements	
Texas Historical Commission	Section 1: General Information Section 3: Project Description Section 5.8: Cultural Resources Appendix A: Standard Maps Appendix B4: Cultural Resources Report (if applicable)
U.S. Army Corps of Engineers	Section 1: General Information Section 3: Project Description Section 5.4: Water Resources Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Appendix A: Standard Maps Appendix B2: Wetlands, Streams and Waters of the U.S. (if applicable)
Texas Parks and Wildlife Department & U.S. Fish and Wildlife Service	Section 1: General Information Section 3: Project Description Section 5.1: Land Use Section 5.4: Water Resources Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources
Circumstantial Requirements	
U.S. Department of Agriculture Natural Resources Conservation Service	Section 1: General Information Section 3: Project Description Section 5.1: Land Use Section 5.3: Soils & Prime and Important Farmlands Appendix A: Standard Maps Appendix B1: Soils & Prime and Important Farmlands

Section 7: Agency Coordination

Relevant Sections by Agency

(for the purposes of this EID, not intended to be all inclusive)

U.S. Forest Service National Forest or Grasslands	Section 1: General Information Section 3: Project Description Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources
National Park Service Environmental Quality Division	Section 1: General Information Section 3: Project Description Section 5.4: Water Resources Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources
National Park Service Big Bend National Park	Section 1: General Information Section 3: Project Description Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources
International Boundary and Water Commission (U.S. Section) Environmental Management Division	Section 1: General Information Section 3: Project Description Section 5.4: Water Resources Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Appendix A: Standard Maps
Environmental Protection Agency Groundwater/UIC Section (6WQ-SG)	Section 1: General Information Section 3: Project Description Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources

Section 7: Agency Coordination Relevant Sections by Agency (for the purposes of this EID, not intended to be all inclusive)	
National Flood Insurance Program Local Floodplain Administrator & Texas Water Development Board Flood Mitigation Planning Division	Section 1: General Information Section 3: Project Description Section 5.5: Topography and Floodplains Appendix A: Standard Maps
National Marine Fisheries Service Habitat Conservation Division	Section 1: General Information Section 3: Project Description Section 5.5: Topography and Floodplains Section 5.6: Wetlands, Streams and Waters of the U.S. Section 5.7: Biological Resources Appendix A: Standard Maps Appendix B3: Biological Resources
General Land Office	Section 1: General Information Section 3: Project Description Appendix A: Standard Maps

Section 8: Certification

CERTIFICATION

I hereby certify that the information contained in this document is accurate and complete to the best of my knowledge, and that this document describes the complete project. There are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions.

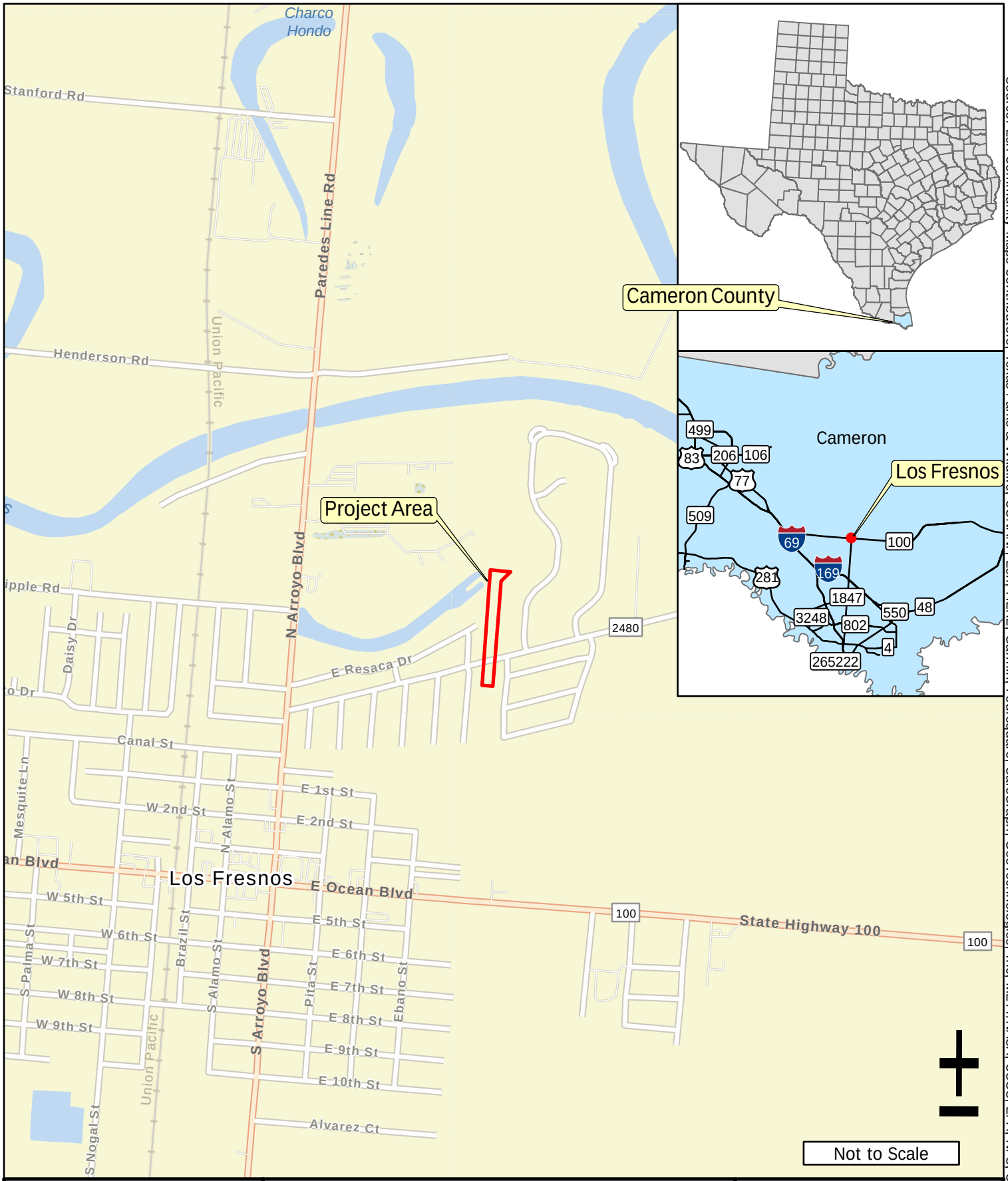
Signature_____ Date_____

Title_____(*project manager for the preparation of the EID*)_____

Section 9: Appendices

APPENDIX A

Standard Maps



Not to Scale

Source: Esri Community Maps Contributors, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

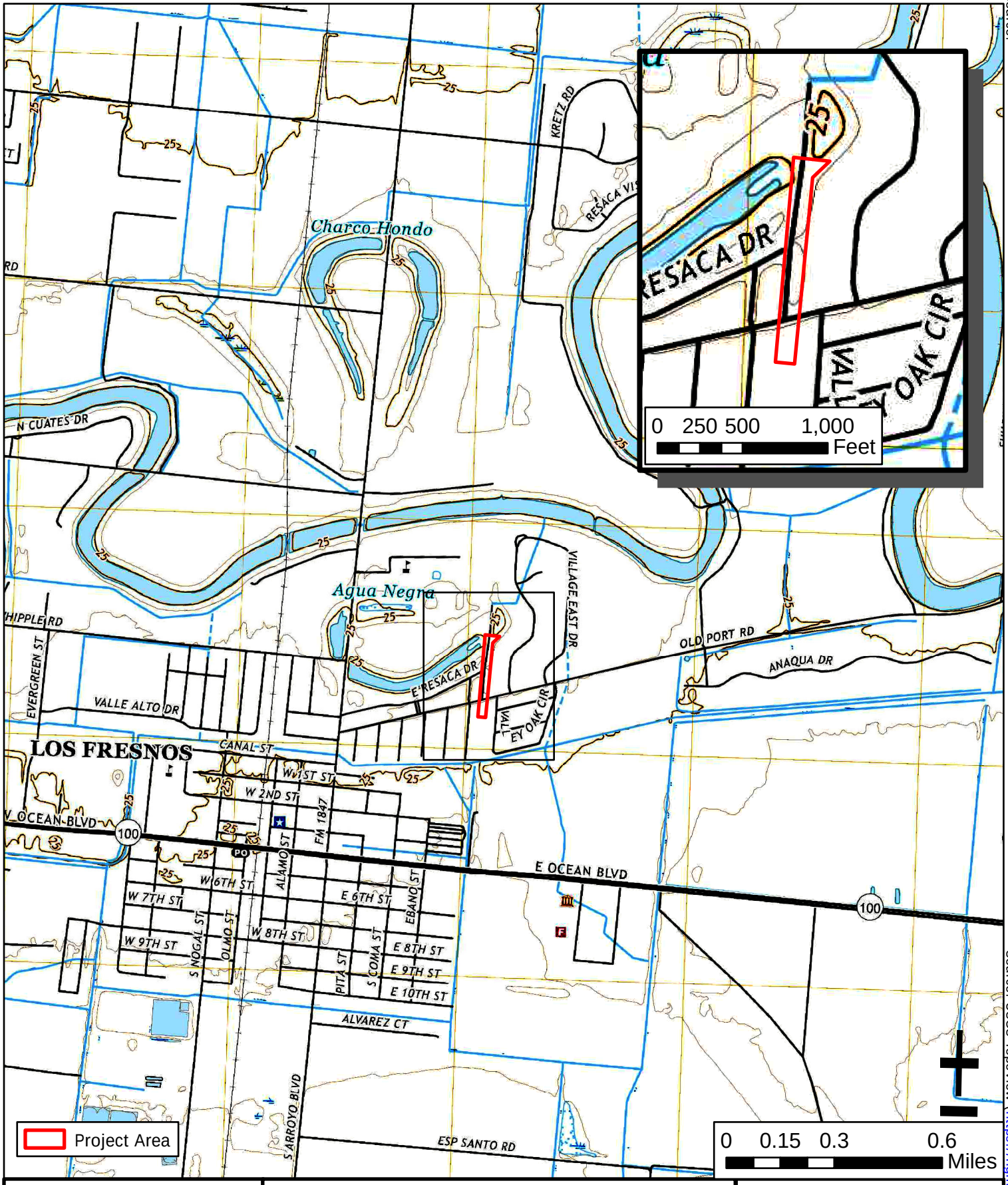
HANSON
Hanson Professional Services Inc.

Regional Location Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 7/5/2023

TEXAS
LOS FRESNOS
COMMUNITY WITH OPPORTUNITY



Source:

Source: USGS TopoView (https://ngmdb.usgs.gov/topoview)

HANSON
Hanson Professional Services Inc.

USGS Topo Map (Los Fresnos, TX Quad)

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 10/19/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

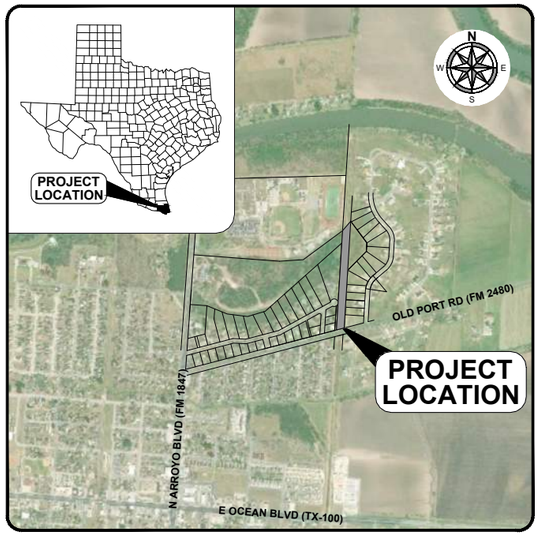
CONSTRUCTION DRAWINGS FOR

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS

LOS FRESNOS, CAMERON COUNTY, TEXAS

JUNE 2020

LOCATION MAP



0 1,000 2,000 FEET
1" = 1,000'-0"

HANSON
TBPE F-000417
TBPLS F-10194412
TBPG F-50556
TBAE F-BR 2458

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

PROJECT INFORMATION

LOCATION DESCRIPTION
THIS PROJECT IS LOCATED IN THE CITY OF LOS FRESNOS, CAMERON COUNTY, TEXAS.

PROJECT DESCRIPTION
THIS PROJECT CONSISTS OF THE FOLLOWING, BUT NOT LIMITED TO, SITE GRADING, DRAINAGE IMPROVEMENTS, AND ALL OTHER INCIDENTALS DEPICTED IN THESE DRAWINGS.

PROJECT DATUM
THE EXISTING CONDITIONS WERE SURVEYED BY AMAYA SURVEYING CO.,LLC ON DATUM NAVD 88. ALL WORK ON THIS PROJECT SHALL BE ON DATUM NAVD 88.

PROJECT NOTIFICATION
1. THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTION DEPARTMENT AND THE ENGINEER AT LEAST *3 WORKING DAYS* PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE CITY TO OBTAIN PERMITS AND PAY ALL APPLICABLE FEES PRIOR TO COMMENCING CONSTRUCTION.
3. RIGHT OF WAY PERMITS ARE REQUIRED PRIOR TO COMMENCING WORK IN PUBLIC RIGHT OF WAY OR EASEMENT. THE CONTRACTOR SHALL CONTACT ENGINEERING SERVICES (TRAFFIC ENGINEERING AND DEVELOPMENT SERVICES) TO DETERMINE ALL APPLICABLE REQUIREMENTS (BUILDING PERMITS, SITE WORK PERMITS, DRIVEWAY PERMITS, FEES, ETC.)

GENERAL CONTACT INFORMATION
EMERGENCY: 911
POLICE *(NON-EMERGENCY)* - 956-233-4473
FIRE *(NON-EMERGENCY)* - 956-233-5007
EMERGENCY MEDICAL SERVICES (EMS) *(NON-EMERGENCY)* - 956-233-5007

OWNER/DEVELOPER
CITY OF LOS FRESNOS - 956-233-5768

ENGINEER
HANSON PROFESSIONAL SERVICES INC. - 956-541-1155

CITY COMMISSION

POLO NARVAEZ..... MAYOR
YOLANDA H. CRUZ..... COUNCILWOMAN PLACE 1
ANDRES LOPEZ..... COUNCILMAN PLACE 2
JAMES HERRERA..... COUNCILMAN PLACE 3
RAY ORTIZ..... COUNCILMAN PLACE 4
JUAN MUNOZ..... COUNCILMAN PLACE 5

CITY ADMINISTRATION

MARK W. MILUM..... CITY MANAGER
CARLOS SALAZAR..... PUBLIC WORKS DIRECTOR
JACQUELINE MOYA..... CITY SECRETARY

SHEET INDEX

NOTICE
THE CONTRACTOR WILL BE REQUIRED TO OBTAIN PERMITS FOR ANY EXCAVATION IN PUBLIC RIGHT OF WAY. EXCAVATION MEANS AN ACTIVITY THAT CUTS, PENETRATES, OR BORES UNDER ANY PORTION OF THE PUBLIC WAY THAT HAS BEEN IMPROVED WITH A PAVED SURFACE FOR STREET, SIDEWALK, SURFACE DRAINAGE, OR RELATED PUBLIC TRANSPORTATION INFRASTRUCTURE PURPOSES. PERMITS WILL NOT BE ISSUED FOR EXCAVATION IN ANY PUBLIC WAY THAT HAS BEEN CONSTRUCTED, RECONSTRUCTED, REPAVED, OR RESURFACED IN THE PRECEDING PERIOD OF FIVE (5) YEARS FROM THE DATE OF ACCEPTANCE BY THE PUBLIC WORKS CONSTRUCTION ENTITY.

NOTICE
1. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) ON THIS PROJECT ARE SOLELY RESPONSIBLE FOR CONTACTING TEXAS 811, LONE STAR 811, AND OTHER UTILITY LOCATING COMPANIES AS WELL AS LOCAL UTILITIES (WATER, STORM SEWER, SANITARY SEWER, GAS, TRAFFIC, ETC.) BY ALL MEANS POSSIBLE FOR THE LOCATING AND MARKING OF UNDERGROUND AND ABOVE GROUND UTILITIES PRIOR TO CONSTRUCTION.
2. HANSON PROFESIONAL SERVICES INC. AND ITS REPRESENTATIVES MAKE NO GUARANTEES THAT ALL UTILITIES WITHIN AND ADJACENT TO THE PROJECT SITE ARE INDICATED ON THE CONSTRUCTION DRAWINGS.
3. DAMAGES TO UTILITIES WILL BE THE SOLE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR TO REPAIR.

LONE STAR 811 DAMAGE PREVENTION FOR THE STATE OF TEXAS
1-800-669-8344 OR www.lonestar811.com
GIVE 4 WORKING DAYS (M-F) NOTICE

Texas 811 Know what's below. Call before you dig.
811 OR 1-800-344-8377 OR www.texas811.org
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LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
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Date 06/2020

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COLTON M. PHILLIPP 132226 LICENSED PROFESSIONAL ENGINEER
DATE 06.25.2020

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TEL: 361.814.9600
TBPE F-000417 / TBPLS F-10194412
TBPG F-50556 / TBAE F-BR 2458

COVER

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C000
1 of 11 sheets

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GENERAL LEGEND FOR SYMBOLS AND LINES WITHIN THE CONSTRUCTION DRAWINGS

THE FOLLOWING IS A GENERAL LEGEND OF THE SYMBOLS AND LINES THAT MAY BE FOUND WITHIN THE CIVIL PORTION OF CONSTRUCTION DRAWINGS. THE ACTUAL LINE WEIGHT, SIZE, COLOR, AND ACTUAL INFORMATION ON THE LINE MAY DIFFER FROM SHEET TO SHEET. WHEN LINE TYPE HAS NUMERAL(S) WITHIN THE SEQUENCE IT IS INDICATING THE SIZE OF THE ITEM THAT IS BEING REPRESENTED. IF AT ANY POINT THAT AN SYMBOL AND/OR LINE IS NOT CLEAR FOR WHAT IT REPRESENTS IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REQUEST CLARIFICATION FROM THE OWNER'S REPRESENTATIVE. ALL EXISTING ITEMS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.

- IRON ROD FOUND
- CALCULATED POINT
- 60D NAIL REFERENCE POINT
- CHISELED "X" IN CONCRETE
- BLOCK IDENTIFICATION
- STORMWATER / DRAINAGE FLOW DIRECTION - EXISTING
- STORMWATER / DRAINAGE FLOW DIRECTION - PROPOSED
- STABILIZED CONSTRUCTION ENTRANCE / EXIT - SCEE
- MANHOLE / GRATE INLET PROTECTION BARRIER - MPB
- CURB INLET PROTECTION BARRIER - CIPB
- GRAVEL SURFACE - EXISTING
- GRAVEL SURFACE - PROPOSED
- HMAC SURFACE - EXISTING
- HMAC SURFACE - PROPOSED
- CONCRETE SURFACE - EXISTING
- CONCRETE SURFACE - PROPOSED
- CURB AND GUTTER - EXISTING
- CURB AND GUTTER - PROPOSED
- ADA CURB RAMP - EXISTING
- ADA COMPLIANT CURB RAMP - PROPOSED (FIELD VERIFY)
- TRAFFIC SIGN - EXISTING
- TRAFFIC SIGN - PROPOSED
- GAS UTILITY - EXISTING METER
- GAS UTILITY - PROPOSED METER
- GAS UTILITY - EXISTING MARKER
- GAS UTILITY - PROPOSED MARKER
- ELECTRICAL UTILITY - EXISTING POWER POLE
- ELECTRICAL UTILITY - PROPOSED POWER POLE
- ELECTRICAL UTILITY - EXISTING GUY WIRE TERMINATION
- ELECTRICAL UTILITY - PROPOSED GUY WIRE TERMINATION
- ELECTRICAL UTILITY - EXISTING TRANSFORMER
- ELECTRICAL UTILITY - PROPOSED TRANSFORMER
- ELECTRICAL UTILITY - EXISTING PEDESTAL
- ELECTRICAL UTILITY - PROPOSED PEDESTAL
- ELECTRICAL UTILITY - EXISTING LIGHT
- ELECTRICAL UTILITY - PROPOSED LIGHT
- ELECTRICAL UTILITY - EXISTING MARKER
- ELECTRICAL UTILITY - PROPOSED MARKER
- COMM UTILITY - EXISTING TELEPHONE RISER
- COMM UTILITY - EXISTING TELEPHONE MARKER
- COMM UTILITY - EXISTING FIBER OPTIC MARKER
- COMM UTILITY - PROPOSED FIBER OPTIC MARKER
- COMM UTILITY - EXISTING TELEVISION MARKER
- OTHER UTILITY - EXISTING UNKNOWN MARKER
- PIPELINE - EXISTING PIPELINE MARKER
- PIPELINE - PROPOSED PIPELINE MARKER
- WATER UTILITY - EXISTING IRRIGATION CONTROL VALVE
- EXISTING BENCHMARK

- SANITARY UTILITY - EXISTING MANHOLE
- SANITARY UTILITY - PROPOSED MANHOLE
- SANITARY UTILITY - EXISTING SINGLE SERVICE CONNECTION
- SANITARY UTILITY - PROPOSED SINGLE SERVICE CONNECTION
- SANITARY UTILITY - EXISTING DOUBLE SERVICE CONNECTION
- SANITARY UTILITY - PROPOSED DOUBLE SERVICE CONNECTION
- SANITARY UTILITY - EXISTING CLEAN OUT
- SANITARY UTILITY - PROPOSED CLEAN OUT
- SANITARY UTILITY - EXISTING PIPE MARKER
- SANITARY UTILITY - PROPOSED PIPE MARKER
- SANITARY UTILITY - EXISTING FOCEMAIN MARKER
- SANITARY UTILITY - PROPOSED FORCEMAIN MARKER
- STORM UTILITY - EXISTING CURB INLET
- STORM UTILITY - PROPOSED CURB INLET
- STORM UTILITY - EXISTING GRATE INLET
- STORM UTILITY - PROPOSED GRATE INLET
- STORM UTILITY - EXISTING POST INLET
- STORM UTILITY - PROPOSED POST INLET
- STORM UTILITY - EXISTING MANHOLE
- STORM UTILITY - PROPOSED MANHOLE
- STORM UTILITY - EXISTING JUNCTION BOX
- STORM UTILITY - PROPOSED JUNCTION BOX
- STORM UTILITY - EXISTING OUTFALL / OPEN END
- STORM UTILITY - PROPOSED OUTFALL / OPEN END
- STORM UTILITY - EXISTING MARKER
- STORM UTILITY - PROPOSED MARKER
- WATER UTILITY - EXISTING VALVE
- WATER UTILITY - PROPOSED VALVE
- WATER UTILITY - EXISTING FITTING
- WATER UTILITY - PROPOSED FITTING
- WATER UTILITY - EXISTING FIRE HYDRANT
- WATER UTILITY - PROPOSED FIRE HYDRANT
- WATER UTILITY - EXISTING SINGLE SERVICE CONNECTION
- WATER UTILITY - PROPOSED SINGLE SERVICE CONNECTION
- WATER UTILITY - EXISTING DOUBLE SERVICE CONNECTION
- WATER UTILITY - PROPOSED DOUBLE SERVICE CONNECTION
- WATER UTILITY - EXISTING MARKER
- WATER UTILITY - PROPOSED MARKER
- LIMITS OF CONSTRUCTION (LOC)
- PROPERTY BOUNDARY LINE
- ADJACENT BOUNDARY LINE
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- ROAD CENTER LINE
- R.O.W.
- EASEMENT
- FENCE - EXISTING (SEE DRAWING NOTE)
- FENCE - PROPOSED (SEE DRAWING NOTE)
- PROPOSED FIBER FILTRATION TUBE - FFT
- PROPOSED REINFORCED FILTER FABRIC FENCE - RFFF
- ROCK FILTER - RF
- PROPOSED STRAW BALE - SB
- PROPOSED STRAW BALE FENCE - SBF
- ELEVATION - EXISTING
- ELEVATION CONTOUR - EXISTING
- ELEVATION CONTOUR - PROPOSED
- DRAINAGE BASIN - EXISTING BASIN
- DRAINAGE BASIN - EXISTING SUB-BASIN
- DRAINAGE BASIN - PROPOSED BASIN
- DRAINAGE BASIN - PROPOSED SUB-BASIN

- SANITARY UTILITY - EXISTING PIPE
- SANITARY UTILITY - PROPOSED PIPE
- SANITARY UTILITY - FUTURE PIPE
- SANITARY UTILITY - EXISTING FORCEMAIN
- SANITARY UTILITY - PROPOSED FORCEMAIN
- SANITARY UTILITY - EXISTING SERVICE CONNECTION
- SANITARY UTILITY - PROPOSED SERVICE CONNECTION
- STORM UTILITY - EXISTING GENERAL PIPE
- STORM UTILITY - PROPOSED GENERAL PIPE
- STORM UTILITY - FUTURE GENERAL PIPE
- STORM UTILITY - EXISTING CONCRETE BOX
- STORM UTILITY - PROPOSED CONCRETE BOX
- STORM UTILITY - EXISTING CONCRETE BOX SIZE
- STORM UTILITY - PROPOSED CONCRETE BOX SIZE
- STORM UTILITY - EXISTING CMP PIPE
- STORM UTILITY - PROPOSED CMP PIPE
- STORM UTILITY - EXISTING HDPE PIPE
- STORM UTILITY - PROPOSED HDPE PIPE
- STORM UTILITY - EXISTING HP PIPE
- STORM UTILITY - PROPOSED HP PIPE
- STORM UTILITY - EXISTING PVC PIPE
- STORM UTILITY - PROPOSED PVC PIPE
- STORM UTILITY - EXISTING RCP PIPE
- STORM UTILITY - PROPOSED RCP PIPE
- STORM UTILITY - EXISTING DITCH CENTERLINE
- STORM UTILITY - PROPOSED DITCH CENTERLINE
- WATER UTILITY - EXISTING GENERAL PIPE
- WATER UTILITY - PROPOSED GENERAL PIPE
- WATER UTILITY - FUTURE GENERAL PIPE
- WATER UTILITY - EXISTING ASBESTOS COATED PIPE
- WATER UTILITY - EXISTING PVC PIPE
- WATER UTILITY - PROPOSED PVC PIPE
- WATER UTILITY - EXISTING SERVICE CONNECTION
- WATER UTILITY - PROPOSED SERVICE CONNECTION
- WATER UTILITY - EXISTING REUSE
- WATER UTILITY - PROPOSED REUSE
- WATER UTILITY - FUTURE REUSE
- GAS UTILITY - EXISTING GAS
- GAS UTILITY - PROPOSED GAS
- ELECTRICAL UTILITY - EXISTING GENERAL LINE
- ELECTRICAL UTILITY - PROPOSED GENERAL LINE
- ELECTRICAL UTILITY - FUTURE GENERAL LINE
- ELECTRICAL UTILITY - EXISTING OVERHEAD LINE
- ELECTRICAL UTILITY - PROPOSED OVERHEAD LINE
- ELECTRICAL UTILITY - EXISTING UNDERGROUND LINE
- ELECTRICAL UTILITY - PROPOSED UNDERGROUND LINE
- ELECTRICAL UTILITY - EXISTING GUY WIRE
- ELECTRICAL UTILITY - PROPOSED GUY WIRE
- COMM UTILITY - EXISTING TELEPHONE GENERAL
- COMM UTILITY - PROPOSED TELEPHONE GENERAL
- COMM UTILITY - EXISTING OVERHEAD TELEPHONE
- COMM UTILITY - PROPOSED OVERHEAD TELEPHONE
- COMM UTILITY - EXISTING UNDERGROUND TELEPHONE
- COMM UTILITY - PROPOSED UNDERGROUND TELEPHONE
- COMM UTILITY - EXISTING FIBEROPTIC
- COMM UTILITY - PROPOSED FIBEROPTIC
- COMM UTILITY - EXISTING OVERHEAD FIBEROPTIC
- COMM UTILITY - PROPOSED OVERHEAD FIBEROPTIC
- COMM UTILITY - EXISTING UNDERGROUND FIBEROPTIC
- COMM UTILITY - PROPOSED UNDERGROUND FIBEROPTIC
- COMM UTILITY - EXISTING OVERHEAD TELEVISION
- COMM UTILITY - PROPOSED OVERHEAD TELEVISION
- COMM UTILITY - EXISTING UNDERGROUND TELEVISION
- COMM UTILITY - PROPOSED UNDERGROUND TELEVISION
- OTHER UTILITY- OVERHEAD UNKNOWN CABLE / PIPE
- OTHER UTILITY - UNDERGROUND UNKNOWN CABLE / PIPE
- PIPELINE - EXISTING PIPELINE (SEE DRAWINGS FOR INFO.)

ENGINEER ESTIMATE OF QUANTITIES

ALL QUANTITIES INDICATED WITHIN THE DRAWINGS ARE APPROXIMATE AND FOR REFERENCE USE; NOT ALL MATERIALS REQUIRED TO CONSTRUCT THE PROJECT MAY BE INDICATED AND IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INCLUDE ALL MATERIALS AND APPURTENANCES TO CONSTRUCT THE PROJECT WITHIN THE AMOUNT BID.

Engineer Estimate of Quantities

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
A. General			
1	Mobilization	1	LS
2	Traffic Control	1	LS
B. Stormwater Pollution Prevention			
1	Stormwater Pollution Prevention Plan	1	LS
2	Stabilized Construction Entrance and Exit	2	EA
3	Manhole/Grate Inlet Protection Barrier	2	EA
4	Reinforced Filter Fabric Fence	2,190	LF
5	Rock Filter Dam	30	LF
6	Fiber Filtration Tube	12	LF
C. Site Improvements			
1	Channel Excavation and Grading	363	CY
2	Seeding in Channel	28,021	SF
D. Storm Utility Improvements			
1	Concrete Headwall Removal/Replacement	6	EA
2	Slide Gate Valve	1	EA
3	Grate Inlet Removal/Replacement	1	EA
4	24" Reinforced Concrete Pipe	100	LF
5	24" Reinforced Concrete Pipe Removal/Replacement	19	LF
6	36" Reinforced Concrete Pipe Removal/Replacement	268	LF
7	Trench Safety	387	LF
E. Miscellaneous Improvements			
1	Pavement Repair - Asphalt	207	SF
2	ALLOWANCE: Landscaping	1	LS
3	ALLOWANCE: Unanticipated Utility Adjustments	1	LS

ABBREVIATION DEFINITIONS

THE FOLLOWING IS A GENERAL ABBREVIATION DEFINITION OF THE INFORMATION THAT MAY BE COMMONLY FOUND WITHIN THE CIVIL PORTION OF CONSTRUCTION DRAWINGS. IN SOME CASES A ABBREVIATION MAY HAVE MULTIPLE DEFINITIONS AND/OR IF AT ANY POINT THAT AN ABBREVIATION IS NOT CLEAR FOR WHAT IT REPRESENTS IT WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO REQUEST CLARIFICATION FROM THE OWNER'S REPRESENTATIVE.

A - AREA
AC - ACRE
AC - ASBESTOS CEMENT
ACP - ARCH CONCRETE PIPE
ADA - AMERICAN WITH DISABILITIES ACT
AE - ACCESS EASEMENT
AEP - AMERICAN ELECTRIC POWER
At - TOTAL AREA
BB - BACK OF CURB TO BACK OF CURB
BC - BACK OF CURB
BRK - BROKEN
BL - BUILDING LINE
BM - BENCHMARK
BW - BOTH WAYS
C - RUNOFF COEFFICIENT
CI - CURB INLET
CL - CENTERLINE
CJ - CONTROL JOINT
CO - CLEANOUT
CONC - CONCRETE
CMP - CORRUGATED METAL PIPE
COMM - COMMUNICATION
D - DRAINAGE / STORM
DBL - DOUBLE
DE - DRAINAGE EASEMENT
DI - DUCTILE IRON
DR - DEED RECORDS
DS - DOWN STREAM
E - ELECTRICAL
ECP - ELLIPTICAL CONCRETE PIPE
EE - ELECTRICAL EASEMENT
EL - ELEVATION
ELEC - ELECTRICAL
ELEV - ELEVATION
EJ - EXPANSION JOINT
EOR - EDGE OF RADIUS
EP - EDGE OF PAVEMENT
EW - EACH WAY
EX - EXISTING
EXIST - EXISTING
EXP - EXPANSION
F - FUTURE
FC - FENCE CORNER
FD - FOUND
FF - FINISH FLOOR
FG - FINISH GRADE
FH - FIRE HYDRANT
FL - FLOWLINE
FM - FORCEMAIN
FOC - FIBER OPTIC CABLE
FT - FEET
G - GAS
GB - GRADE BREAK
GI - GRATE INLET
GT - GUTTER
GW - GUY WIRE
HDPE - HIGH DENSITY POLYETHYLENE
HG - HYDRAULIC GRADE
HGL - HYDRAULIC GRADE LINE
HP - HIGH-PERFORMANCE POLYPROPYLENE
HMAC - HOT MIX ASPHALTIC CONCRETE
I - INTENSITY
IR - IRON ROD
LF - LINEAR FEET
LOC - LIMITS OF CONSTRUCTION
LT - LEFT
MAX - MAXIMUM
ME - MATCH EXISTING
MH - MANHOLE
M.J - MECHANICAL JOINT
MIN. - MINIMUM
MR - MAP RECORDS
NAVD - NORTH AMERICAN VERTICAL DATUM
NG - NATURAL GROUND
NGVD - NATIONAL GEODETIC VERTICAL DATUM
NO. - NUMBER
OC - ON CENTER
O.C. - ON CENTER
OHE - OVERHEAD ELECTRIC
PAVE - PAVEMENT
PC - POINT OF CURVATURE
PE - PRIVATE EASEMENT
PG - PAGE
PG - PROPOSED GRADE
PI - POINT OF INTERSECTION
PL - PROPERTY LINE
PP - POWER POLE
PRO - PROPOSED
PROP - PROPOSED
PT - POINT OF TANGENCY
PVC - POLYVINYL CHLORIDE
Q - FLOW
Qt - TOTAL FLOW
RC - REINFORCED CONCRETE
RCP - REINFORCED CONCRETE PIPE
REFL - REFLECTIVE
ROW - RIGHT-OF-WAY
R.O.W. - RIGHT-OF-WAY
RT - RIGHT
S - SLOPE
S - SANITARY / WASTEWATER
SAN - SANITARY / WASTEWATER
SS - SANITARY / WASTEWATER
SD - SOLID
SE - SANITARY EASEMENT
SF - SQUARE FEET
ST - STORM
STA - STATION
STRM - STORM
STM - STORM
SW - SIDEWALK
SY - SQUARE YARDS
T - TELEPHONE
TC - TOP OF CURB
TDLR - TEXAS DEPARTMENT OF LICENSING AND REGULATION
TEL - TELEPHONE
TG - TOP OF GRATE
TP - TOP OF PAVEMENT
TRW - TOP OF RETAINING WALL
TS - TOP OF SLOPE
TW - TOP OF WALK
TxDOT - TEXAS DEPARTMENT OF TRANSPORTATION
TY - TYPE
TYP - TYPICAL
TV - TELEVISION
UE - UTILITY EASEMENT
US - UP STREAM
VG - VALLEY GUTTER
VOL - VOLUME
W - WATER
W - WHITE
WE - WATER EASEMENT
WHT - WHITE
WL - WATER LINE
WTR - WATER
WV - WATER VALVE
Y - YELLOW
YLW - YELLOW
YR - YARD REQUIREMENT

NOTICE

1. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) ON THIS PROJECT ARE SOLELY RESPONSIBLE FOR CONTACTING TEXAS 811, LONE STAR 811, AND OTHER UTILITY LOCATING COMPANIES AS WELL AS LOCAL UTILITIES (WATER, STORM SEWER, SANITARY SEWER, GAS, TRAFFIC, ETC.) BY ALL MEANS POSSIBLE FOR THE LOCATING AND MARKING OF UNDERGROUND AND ABOVE GROUND UTILITIES PRIOR TO CONSTRUCTION.
2. HANSON PROFESSIONAL SERVICES INC. AND ITS REPRESENTATIVES MAKE NO GUARANTEES THAT ALL UTILITIES WITHIN AND ADJACENT TO THE PROJECT SITE ARE INDICATED ON THE CONSTRUCTION DRAWINGS.
3. DAMAGES TO UTILITIES WILL BE THE SOLE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR TO REPAIR.

LONE STAR 811 DAMAGE PREVENTION FOR THE STATE OF TEXAS

ABOVE IMAGE IS FROM www.lonestar811.com, LONE STAR 811, 363 N. BELT E., SUITE 1100, HOUSTON, TEXAS 77060 PH: (713) 432-0365

1-800-669-8344 OR www.lonestar811.com
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811 OR 1-800-344-8377 OR www.texas811.org
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Hanson No. 19L0257
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Date 06/2020
LAYOUT CMP
DRAWN CMP
REVIEWED CBT

STATE OF TEXAS
COLTON M. PHILLIPP
132226
LICENSED PROFESSIONAL ENGINEER
DATE 06.25.2020

HANSON
Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TBPE F-417 / TBPLS F-10039500
TBPG F-50506 / TBAE F-BR 2458

GENERAL LEGEND AND ESTIMATED QUANTITIES

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

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BENCHMARK TABLE				
	NORTHING	EASTING	ELEV.	DESCRIPTION
1	16555072.78	1322529.99	30.87	SPINDLE IN ASPHALT ROAD
2	16556519.61	1322669.29	31.79	RAILROAD SPIKE IN POWER POLE

0 60 120 FEET
1" = 60'-0"

CONSTRUCTION NOTE:

1. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL APPROPRIATE PUBLIC AND PRIVATE UTILITY COMPANIES, BY ALL MEANS POSSIBLE, PRIOR TO COMMENCING CONSTRUCTION TO DETERMINE UTILITY LOCATION(S) WITHIN AND ADJACENT TO THE PROJECT SITE.
2. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION(S) AND ELEVATION(S) OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND IS RESPONSIBLE FOR COSTS INCURRED BY PROCEEDING WITH ELEVATION(S) OF EXISTING UTILITIES THAT DIFFER FROM THOSE PRESENTED ON THE DRAWINGS.
   2.1. DISCREPANCIES SHALL BE PRESENTED TO THE ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING ABOVE GROUND UTILITIES, UNDERGROUND FACILITIES, STRUCTURES, DITCHES, ROADS, AND ALL PROPOSED IMPROVEMENTS WITHIN AND ADJACENT TO THE PROJECT AREA.
   3.1. IF ANY DAMAGE OCCURS TO ANY OF THE ABOVE MENTIONED ITEMS DURING CONSTRUCTION, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REPAIR, REPLACEMENT, OR REMEDY OF THE DAMAGED ITEM TO EQUAL OR BETTER THAN ITS ORIGINAL CONDITION AS REQUIRED BY THE OWNER OF THE DAMAGED ITEM IN A PROMPT MANNER WITH NO ADDITIONAL TIME ADDED TO THE CONTRACT.
4. ALL COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM FOR THE LAMBERT SOUTH ZONE (NAD 1983) CORS96, EPOCH 2002. ELEVATIONS ARE BASE ON THE VERTICAL DATUM OF NAVD88.

RESACA ESCONDIDA SUBDIVISION
LOS FRESNOS NATURE PARK
LOS FRESNOS HIGH SCHOOL SUBDIVISION
WINDCREST SUBDIVISION LOT 1 BLOCK 1
VALLE ALTO EAST SUBDIVISON
Resaca Drive
Old Port Isabel Road
Huisache Street
Village East Drive
RESACA ESCONDIDA
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 16
LOT 17
LOT 18
LOT 19
EXISTING 24" RCP STORM SEWER
EXISTING 36" RCP STORM SEWER
EXISTING 36" RCP STORM SEWER
TEMPORARY BENCHMARK #1
EXISTING POWER POLE (TYP)
EXISTING POWER POLE (TYP)
PROPERTY LINE (TYP)
PROPERTY LINE (TYP)
EXISTING OVERHEAD ELECTRICAL LINE
EXISTING OVERHEAD ELECTRICAL LINE
EXISTING OVERHEAD ELECTRICAL LINE
100.0' EASEMENT AND R.O.W. TO MAGIC VALLEY ELECTRIC COOPERATIVE, INC.
TEMPORARY BENCHMARK #2

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STATE OF TEXAS
COLTON M. PHILLIPS
132226
LICENSED PROFESSIONAL ENGINEER
06.25.2020

HANSON

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4501 Gollihar Rd
Corpus Christi, Texas 78411
(361) 814-9100 / F-361-814-9235
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EXISTING SITE CONDITIONS

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

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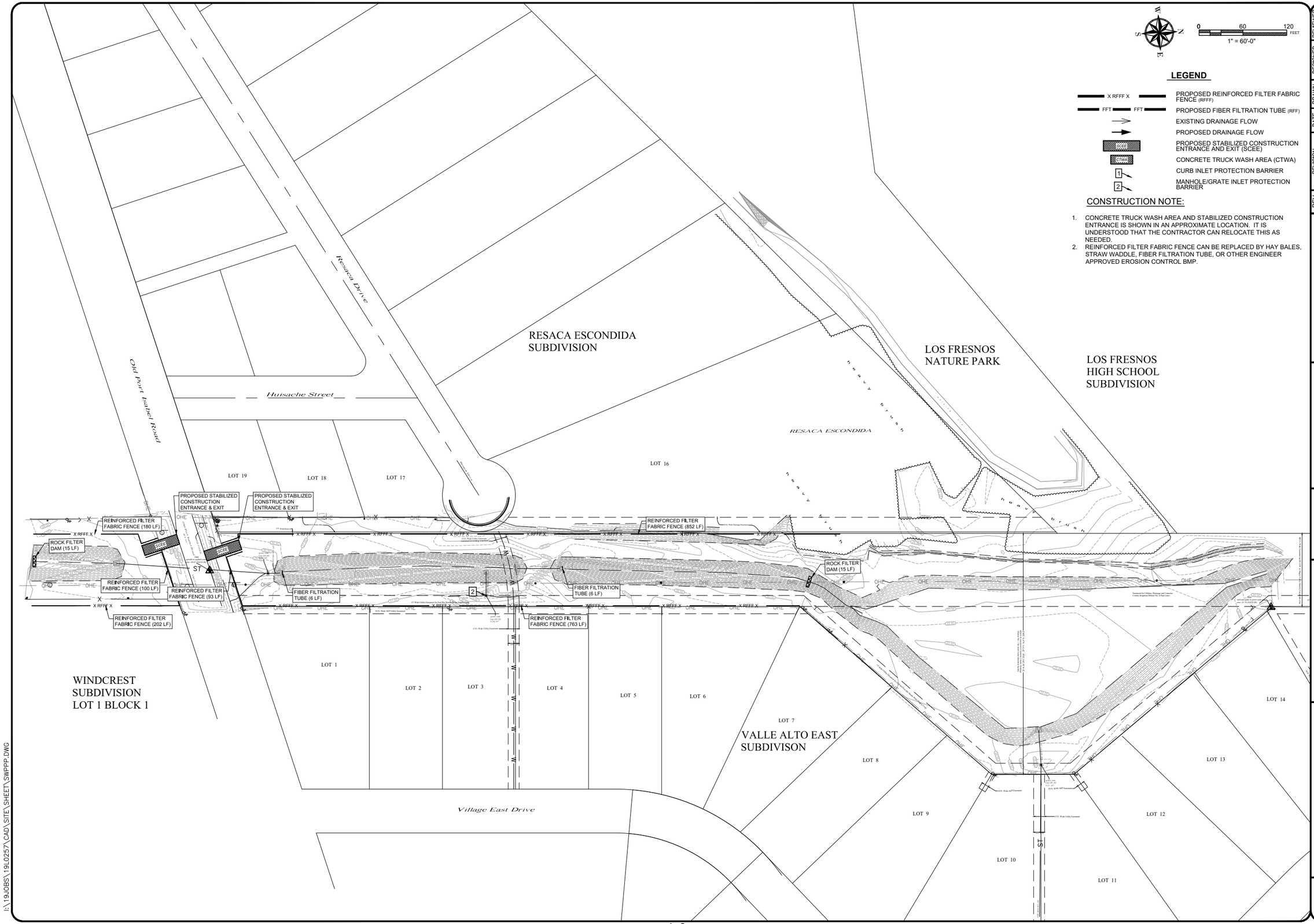

LEGEND

- PROPOSED REINFORCED FILTER FABRIC FENCE (RFFF)
- PROPOSED FIBER FILTRATION TUBE (RFF)
- EXISTING DRAINAGE FLOW
- PROPOSED DRAINAGE FLOW
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE AND EXIT (SCEE)
- CONCRETE TRUCK WASH AREA (CTWA)
- CURB INLET PROTECTION BARRIER
- MANHOLE/GRATE INLET PROTECTION BARRIER

CONSTRUCTION NOTE:

1. CONCRETE TRUCK WASH AREA AND STABILIZED CONSTRUCTION ENTRANCE IS SHOWN IN AN APPROXIMATE LOCATION. IT IS UNDERSTOOD THAT THE CONTRACTOR CAN RELOCATE THIS AS NEEDED.
2. REINFORCED FILTER FABRIC FENCE CAN BE REPLACED BY HAY BALES, STRAW WADDLE, FIBER FILTRATION TUBE, OR OTHER ENGINEER APPROVED EROSION CONTROL BMP.

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EROSION AND POLLUTION CONTROL PLAN

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

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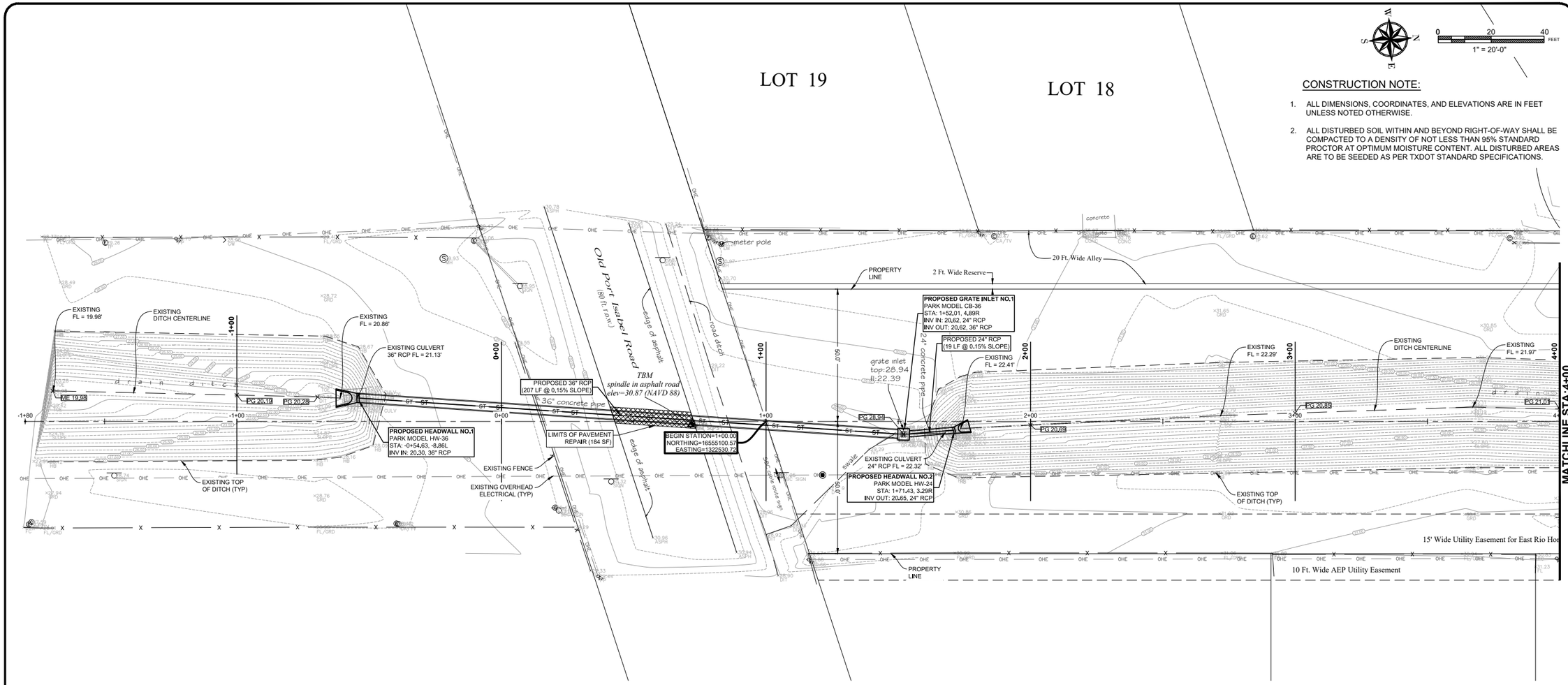
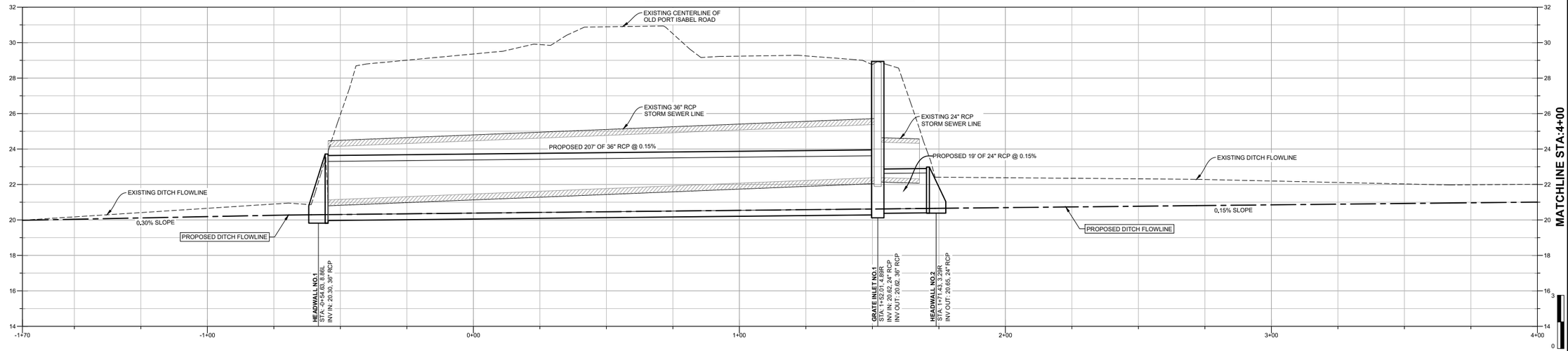


CONSTRUCTION NOTE:

1. ALL DIMENSIONS, COORDINATES, AND ELEVATIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL DISTURBED SOIL WITHIN AND BEYOND RIGHT-OF-WAY SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% STANDARD PROCTOR AT OPTIMUM MOISTURE CONTENT. ALL DISTURBED AREAS ARE TO BE SEEDED AS PER TXDOT STANDARD SPECIFICATIONS.

0 20 40 FEET
1" = 20'-0"

STA:-1+69.53 - STA:4+00.00 PROFILE



GRAPHIC SCALE IN FEET 20 10 0 20 40

REV.	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
Filename PLAN AND PROFILE
Scale AS SHOWN
Date 06/2020

LAYOUT	CBT	
DRAWN	CMP	
REVIEWED	CBT	

STATE OF TEXAS
COLTON M. PHILLIPS
132226
LICENSED
PROFESSIONAL ENGINEER
DATE 06.25.2020

HANSON
Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TBPE F-4 / TBPLS F-10060
TBPG F-50556 / TBAE F-BR 2458

PLAN AND PROFILE
STA -1+70 TO 4+00

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C400
7 of 11 sheets

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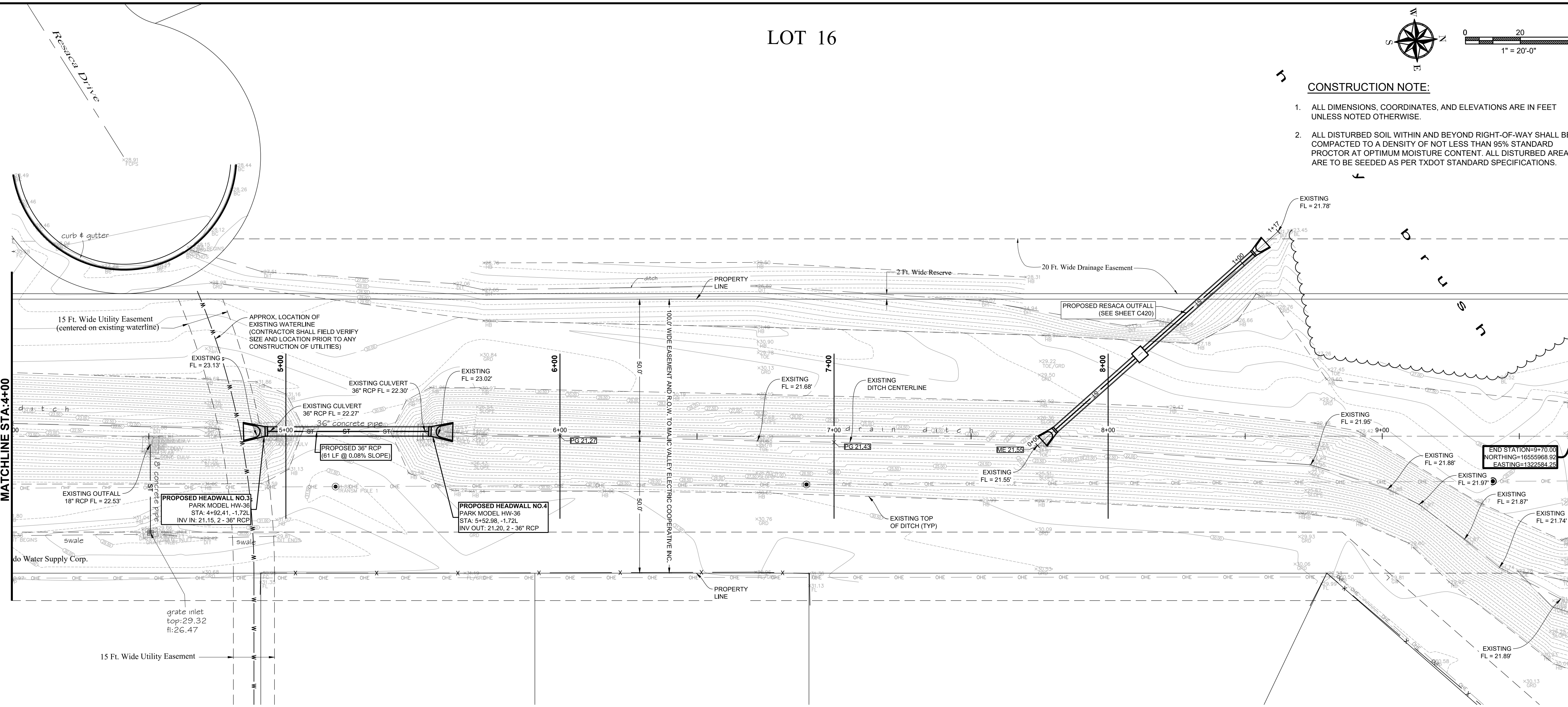
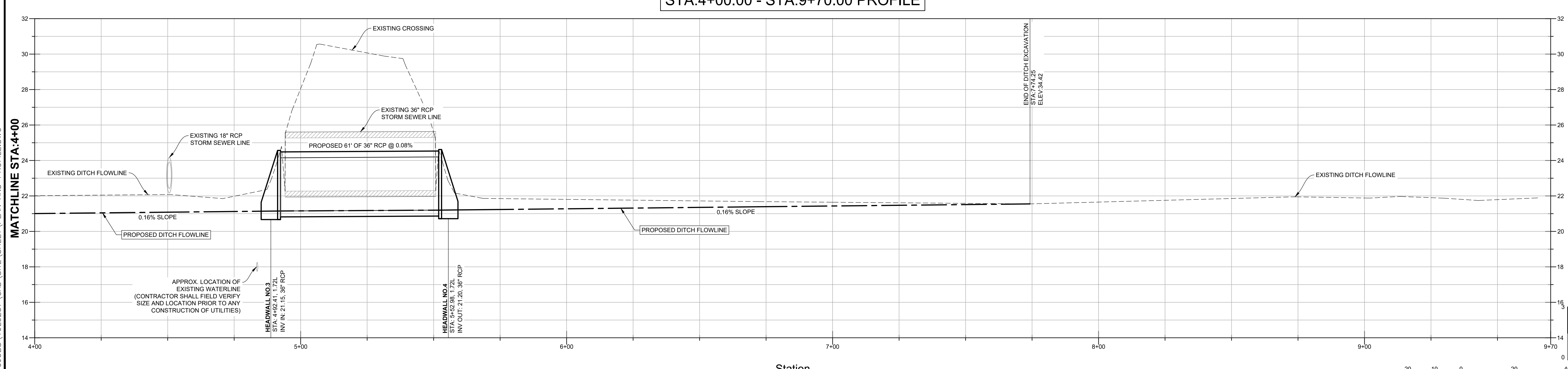


CONSTRUCTION NOTE:

1. ALL DIMENSIONS, COORDINATES, AND ELEVATIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL DISTURBED SOIL WITHIN AND BEYOND RIGHT-OF-WAY SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% STANDARD PROCTOR AT OPTIMUM MOISTURE CONTENT. ALL DISTURBED AREAS ARE TO BE SEEDED AS PER TXDOT STANDARD SPECIFICATIONS.

STA:4+00.00 - STA:9+70.00 PROFILE



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REV	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
Filename PLAN AND PROFILE
Scale AS SHOWN
Date 06/2020
LAYOUT CBT
DRAWN CMP
REVIEWED CBT

STATE OF TEXAS COLTON M. PHILLIPP 132226 LICENSED PROFESSIONAL ENGINEER
DATE 06.25.2020

HANSON

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4501 Gollihar Rd.
Corpus Christi, Texas 78411
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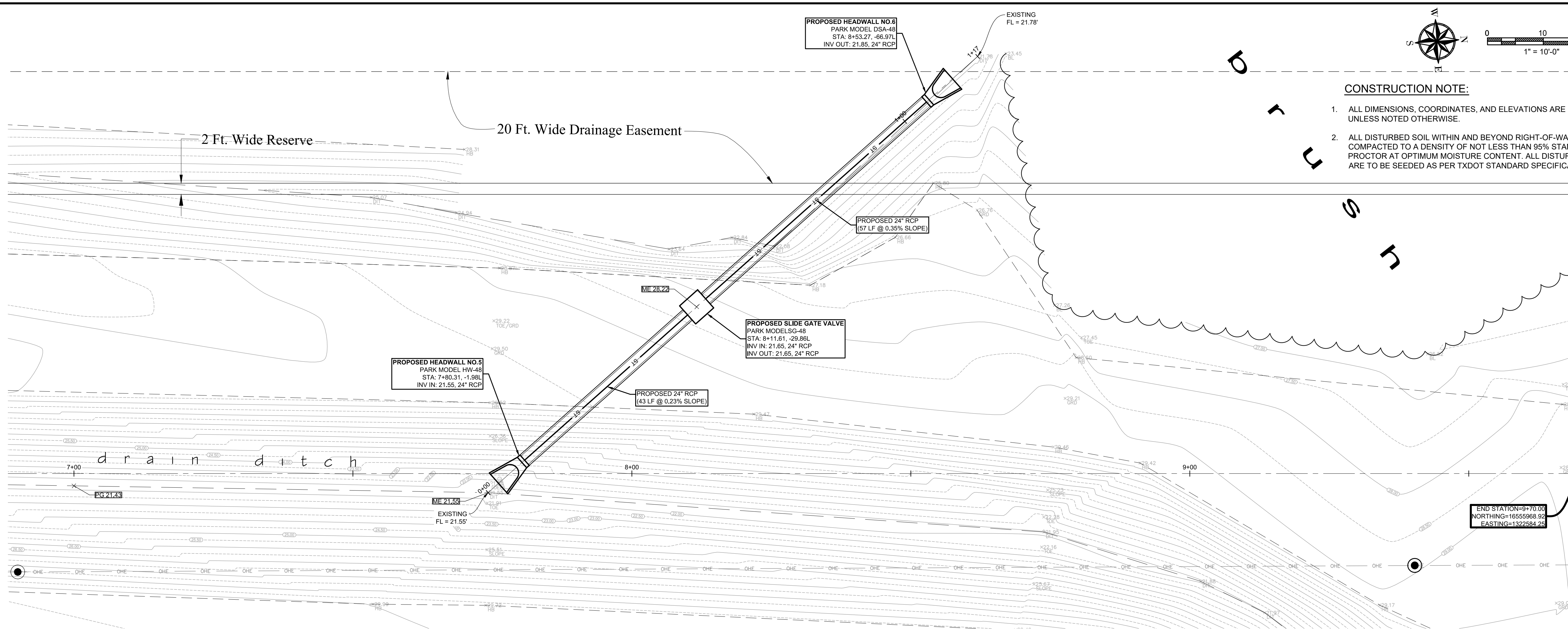
PLAN AND PROFILE STA 4+00 TO 9+70

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C410
8 of 11 sheets



CONSTRUCTION NOTE:

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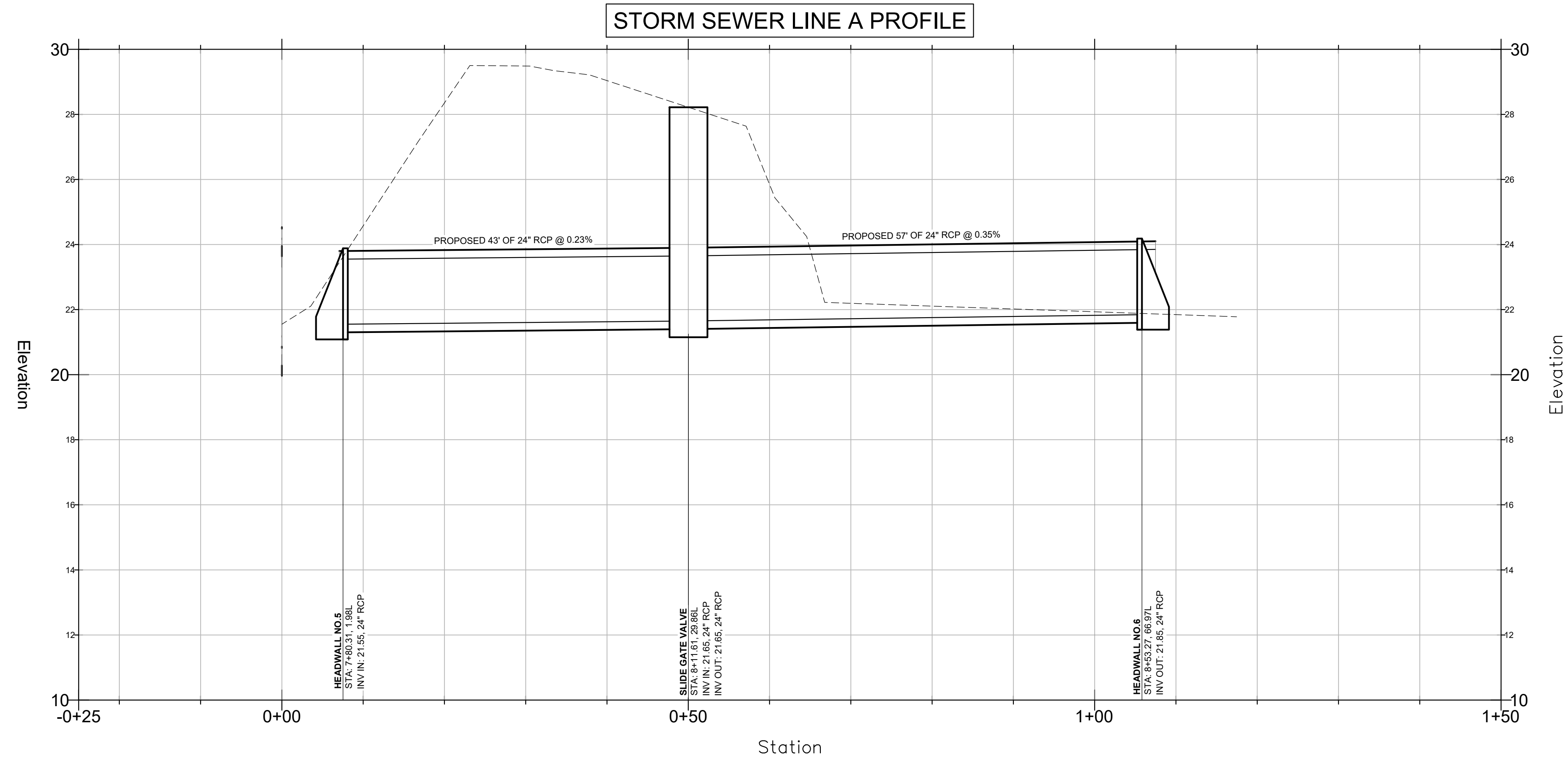
2. ALL DISTURBED SOIL WITHIN AND BEYOND RIGHT-OF-WAY SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% STANDARD PROCTOR AT OPTIMUM MOISTURE CONTENT. ALL DISTURBED AREAS ARE TO BE SEEDED AS PER TXDOT STANDARD SPECIFICATIONS.

STORM SEWER LINE A PROFILE



GRAPHIC SCALE IN FEET

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REV	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
Filename PLAN AND PROFILE
Scale AS SHOWN
Date 06/2020
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STATE OF TEXAS
COLTON M. PHILLIPP
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DATE 06.25.2020

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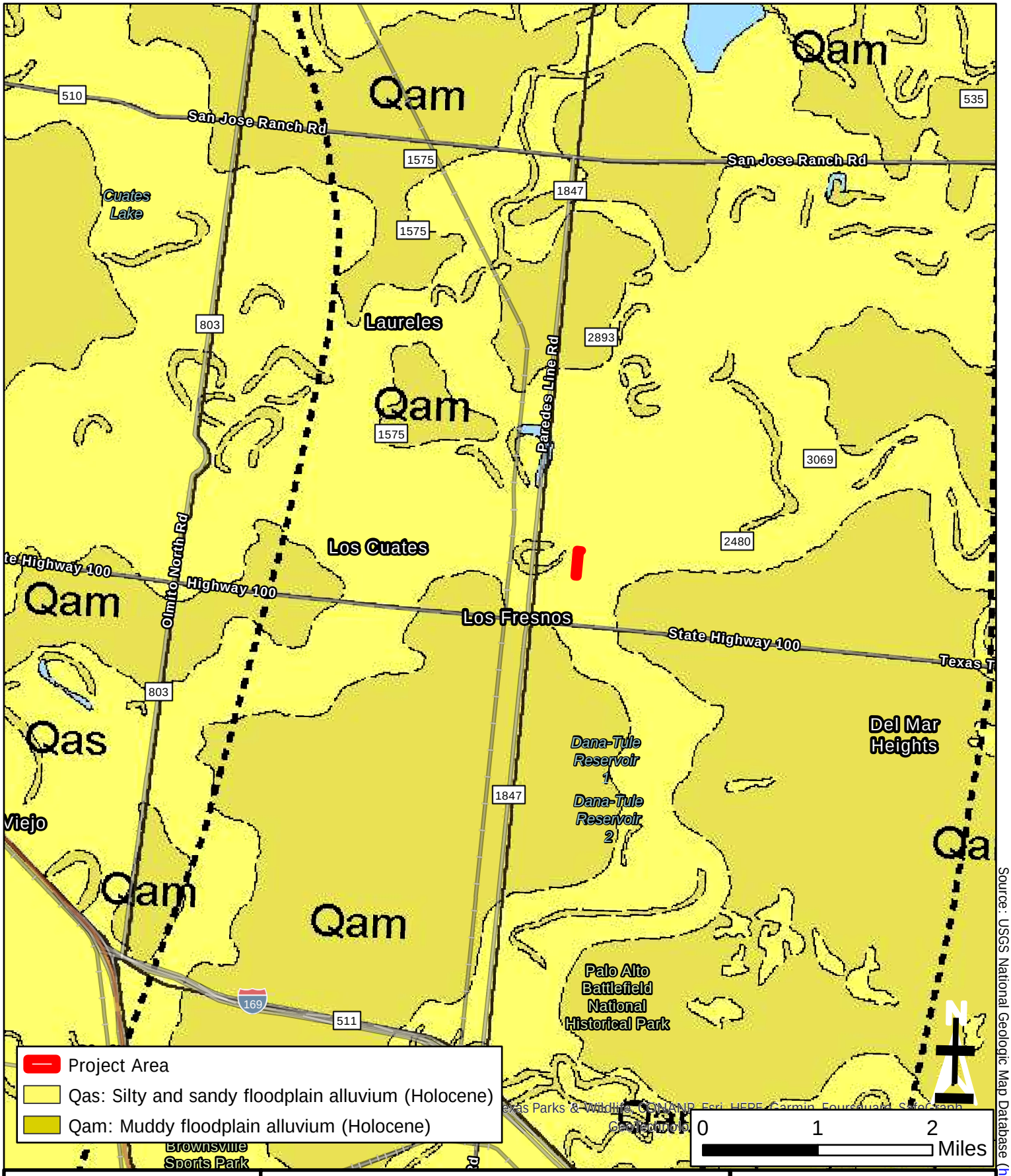
STORM SEWER PROFILE

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C420
9 of 11 sheets



Source: USGS National Geologic Map Database (https://ngmdb.usgs.gov)

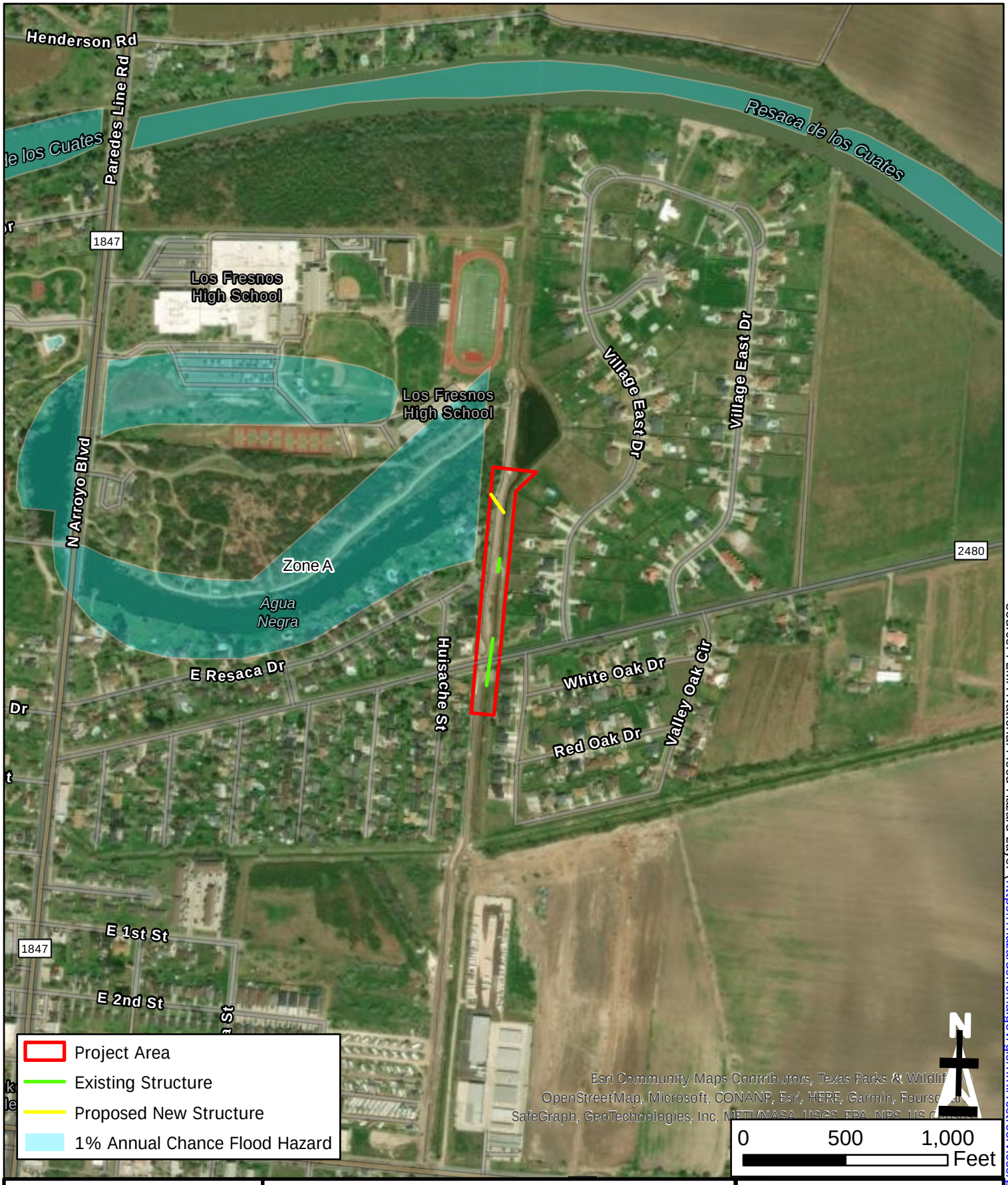
Hanson Professional Services Inc.

USGS Geologic Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 7/5/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY



Source: FEMA National Flood Hazard Layer (https://hazards.fema.gov/gis/nfhl/rest/services/public/NFHL/MapServer)

FEMA Floodplain Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 7/5/2023

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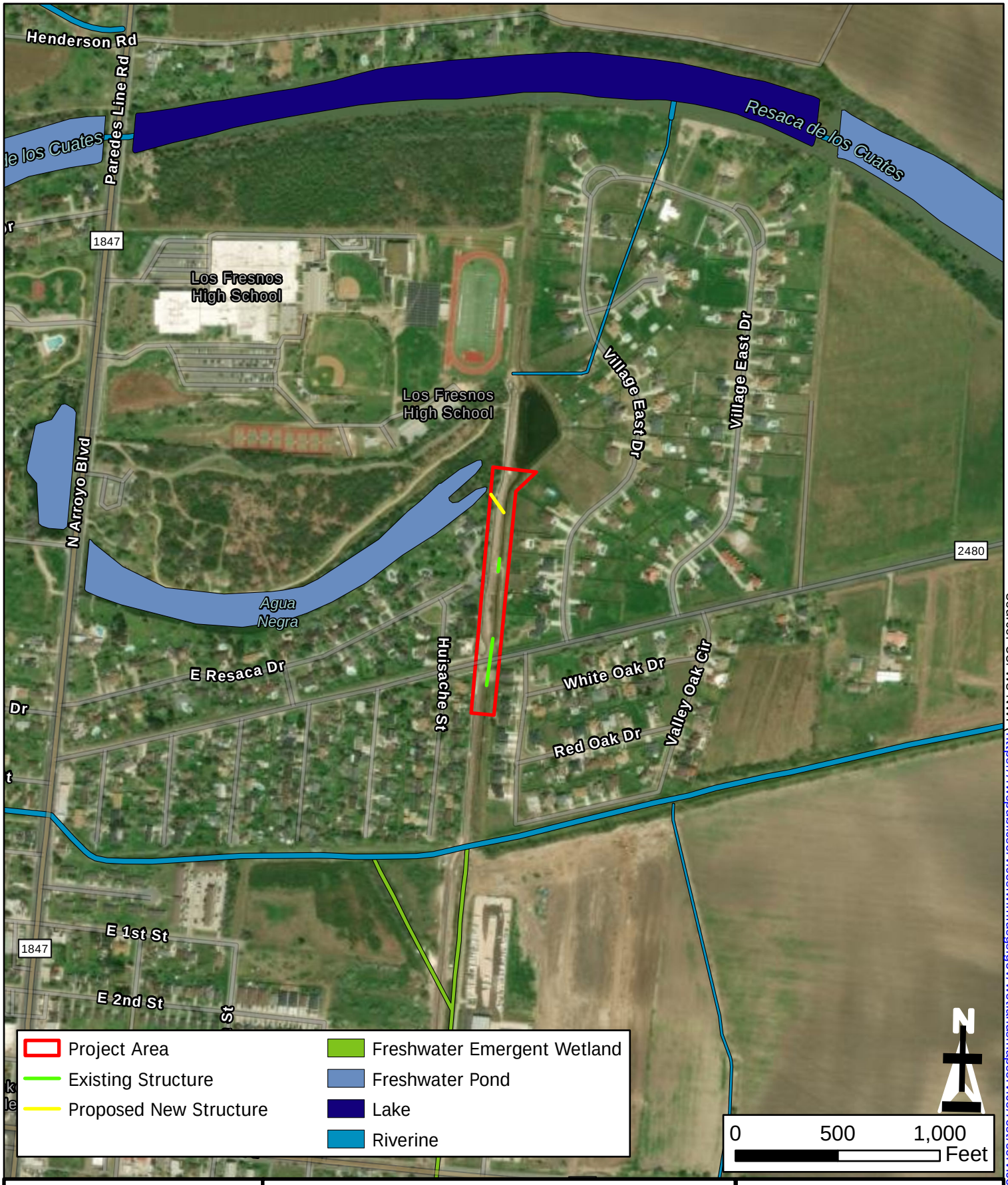
LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY



Source: USFWS NWI (https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/rest/services/Wetlands/MapServer)

Hanson Professional Services Inc.

National Wetlands Inventory Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

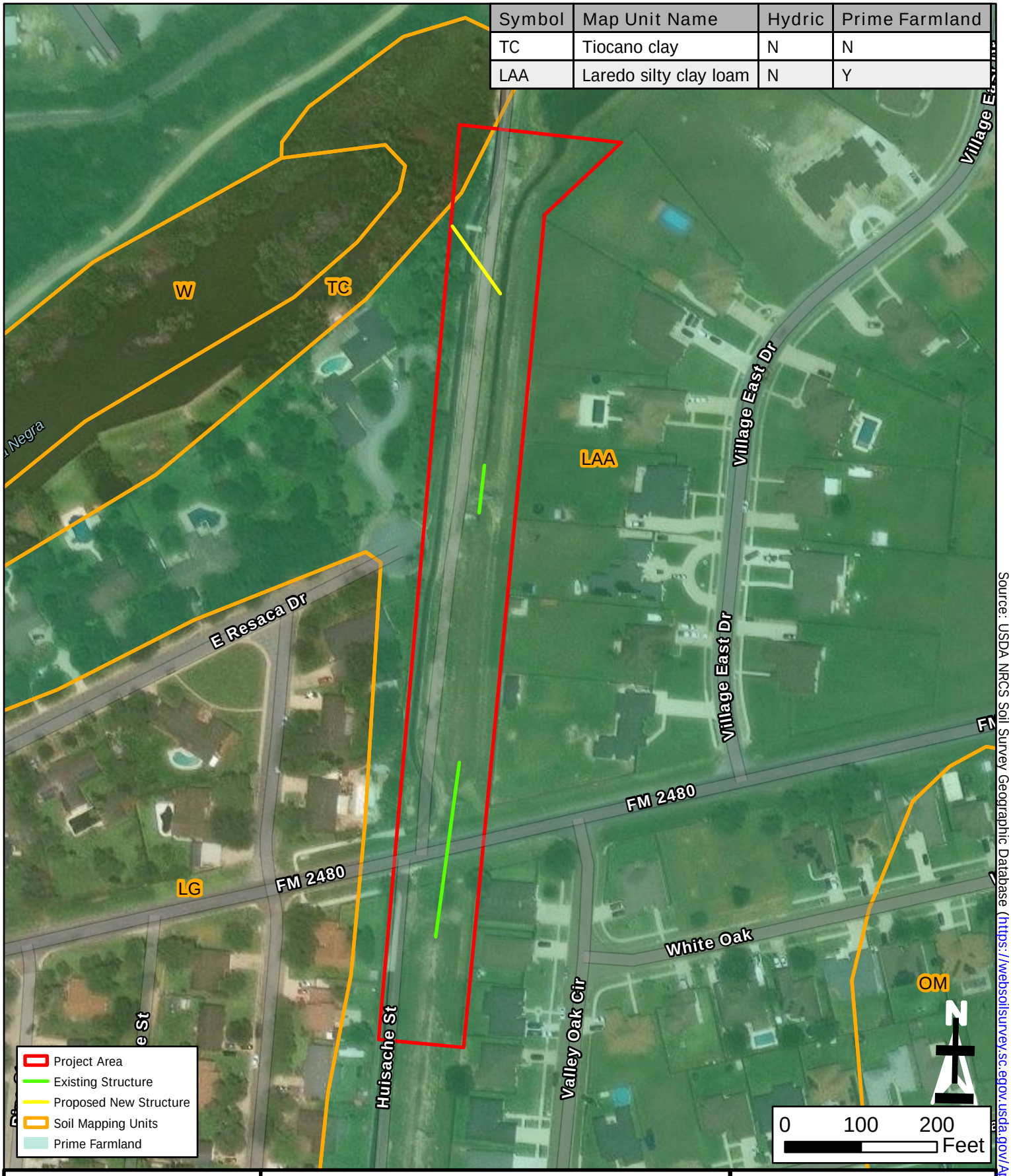
Created: 7/5/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

HANSON

APPENDIX B1

Soils & Prime and Important Farmland



Symbol	Map Unit Name	Hydric	Prime Farmland
TC	Tiocano clay	N	N
LAA	Laredo silty clay loam	N	Y

Source: USDA NRCS Soil Survey Geographic Database (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

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SSURGO Soils Map

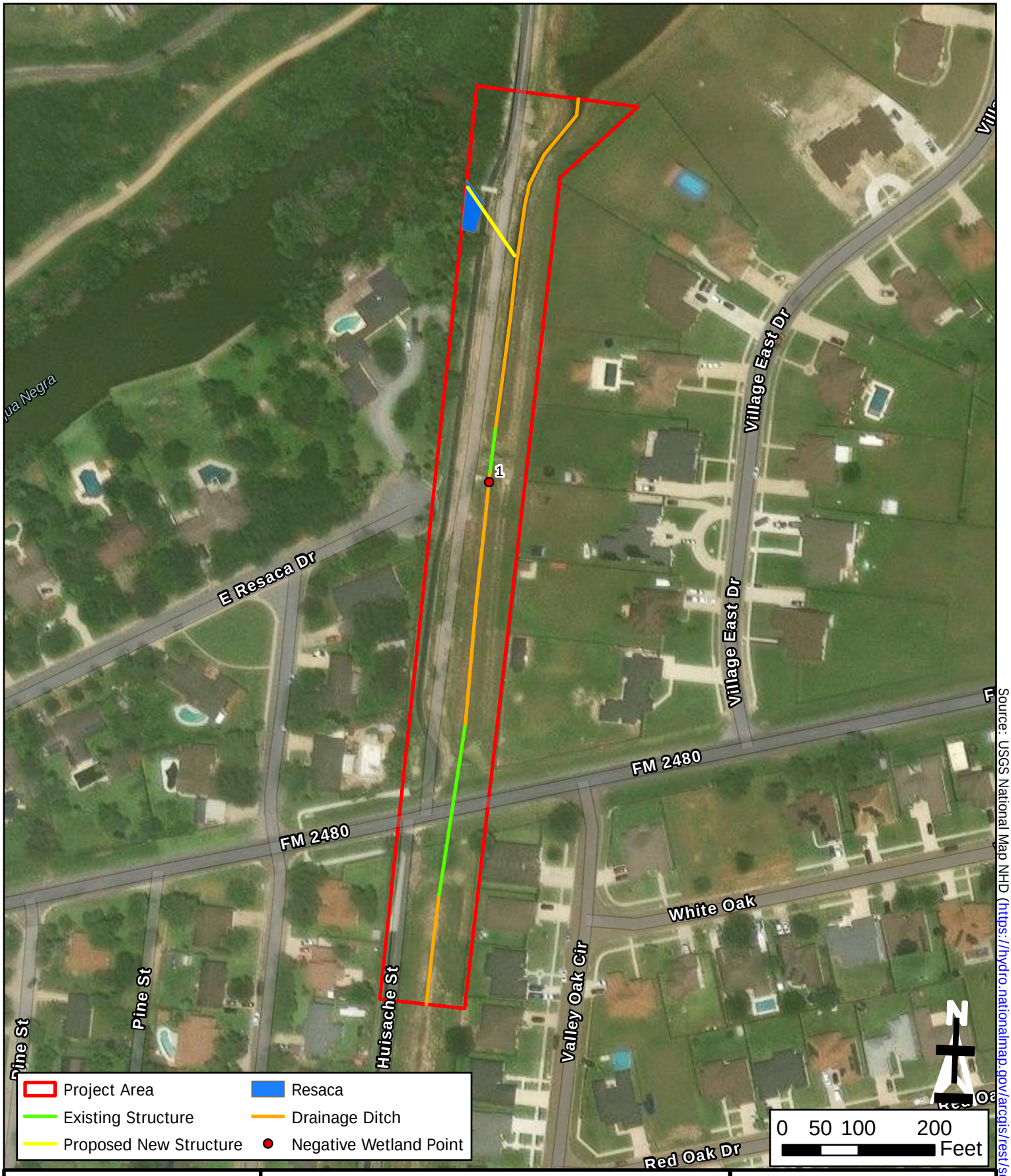
Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 4/11/2024

LOS FRESNOS - TEXAS -
COMMUNITY WITH OPPORTUNITY

APPENDIX B2

Wetlands, Streams, and Waters of the U.S.



Source: USGS National Map NHD (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer)

Identified Water Resources Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Hanson Professional Services Inc.

Created: 4/12/2024

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Great Plains Region
See ERDC/EL TR-10-1; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Resaca Escondida | City/County: Los Fresnos/Cameron Co. | Sampling Date: 5/4/2023

Applicant/Owner: City of Los Fresnos | State: TX | Sampling Point: 1

Investigator(s): Ali Whitehead, Lane Page | Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Ditch | Local relief (concave, convex, none): Concave | Slope (%): 0-3

Subregion (LRR/MLRA): LRR I, MLRA 83D | Lat: 26.079152 | Long: -97.469377 | Datum: NAD 83

Soil Map Unit Name: Laredo silty clay loam | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Panicum maximum*	60	Yes	FAC
2. *Cynodon dactylon*	60	Yes	FACU
3. *Polygonum lapathifolium*	10	No	OBL
4. *Typha latifolia*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	135 =Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	=Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	135 (A)		435 (B)
Prevalence Index = B/A =			3.22

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Loamy/Clayey	
6-18	10YR 5/2	95	10YR 3/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR F)**
- ___ 1 cm Muck (A9) **(LRR F, G, H)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR I, J)**
- ___ High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ___ Presence of Reduced Iron (C4)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): 2

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hanson Professional Services Inc.
789 E. Washington St.
Brownsville, Texas 78520
(956) 541-1155
Fax (615) 871-8013
www.hanson-inc.com

October 3, 2023

Nicolas Laskowski
Chief, Regulatory Division
USACE Galveston District
2000 Fort Point Road
Galveston, TX 77550

Mr. Laskowski:

The City of Los Fresnos is proposing to make improvements to the existing drainage system involving Resaca Escondida, located east of FM 1847, south of the Los Fresnos Nature Park, and north of the Resaca Escondida subdivision. The proposed project location is approximately 1,200 feet in length from the east side of the Resaca to south of FM 2480 in Los Fresnos, Texas.

The City is proposing to improve drainage of the Resaca by installing an outlet from the east side of the Resaca to an existing man-made drainage ditch belonging to the Cameron County Drainage District No. 1. The Resaca does not have an outlet and depends on evaporation and transpiration for water levels to recede after heavy rain events. An outlet to an existing man-made drainage ditch belonging to the Cameron County Drainage District No. 1 located east of the resaca is proposed. The outlet will consist of a reinforced concrete culvert connecting the Resaca to the man-made drainage ditch that will be controlled by a manual valve. Impacts to the waters will be minimal as the proposed headwall is to be installed at the water's edge. Temporary impact is estimated at 0.03 acres. We are not proposing fill to be added. Additional improvements will include grading and two culvert replacements within the existing drainage ditch. No water features in the U.S. Geological Survey National Hydrography Dataset (NHD) or the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) are mapped within the project site. One NWI Freshwater Pond, associated with the Resaca, is located adjacent to the project site.

We are respectfully requesting that the U.S. Corps of Engineers review the referenced project site with regards to possible impacts to jurisdictional waters. The proposed improvements will take place within the existing right-of-way and man-made drainage ditch easement. Best Management Practices will be used throughout construction and all material excavated from the existing drainage ditch will be placed in uplands and contained by silt fence. Materials will be stabilized as to not be dispersed by any water flow. We have included the following attachments for your review:

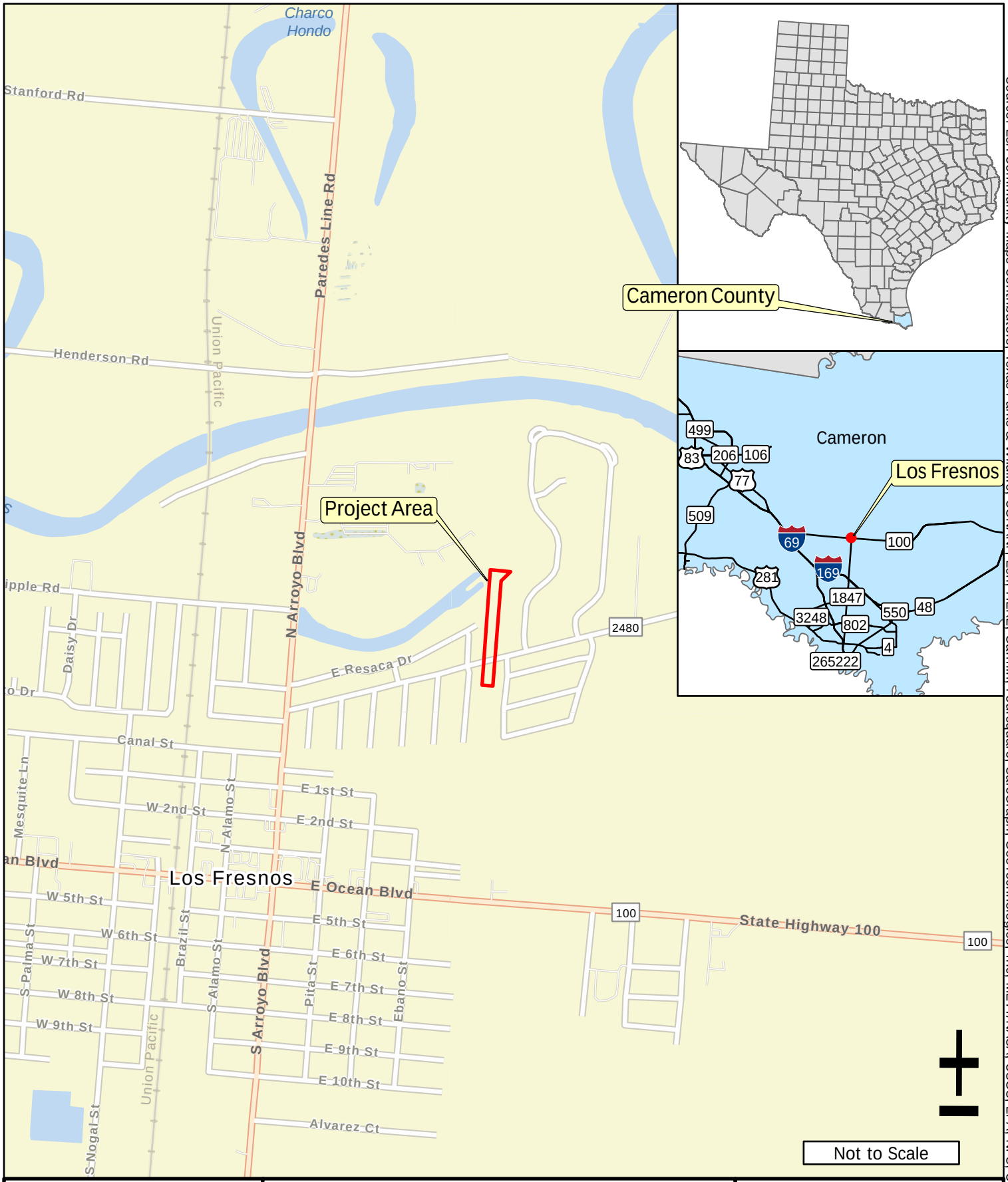
- Project Site Location Map
- NHD Map
- NWI Map
- Site Photographs

If you have any questions, do not hesitate to contact me at 956-551-7512 or by email at pvega@hanson-inc.com.

Thank you,

Paolina Vega

Paolina Vega, PE, CFM
Senior Project Manager



Source: Esri Community Maps Contributors, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

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Regional Location Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 7/5/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Source: USGS National Map NHD (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer)

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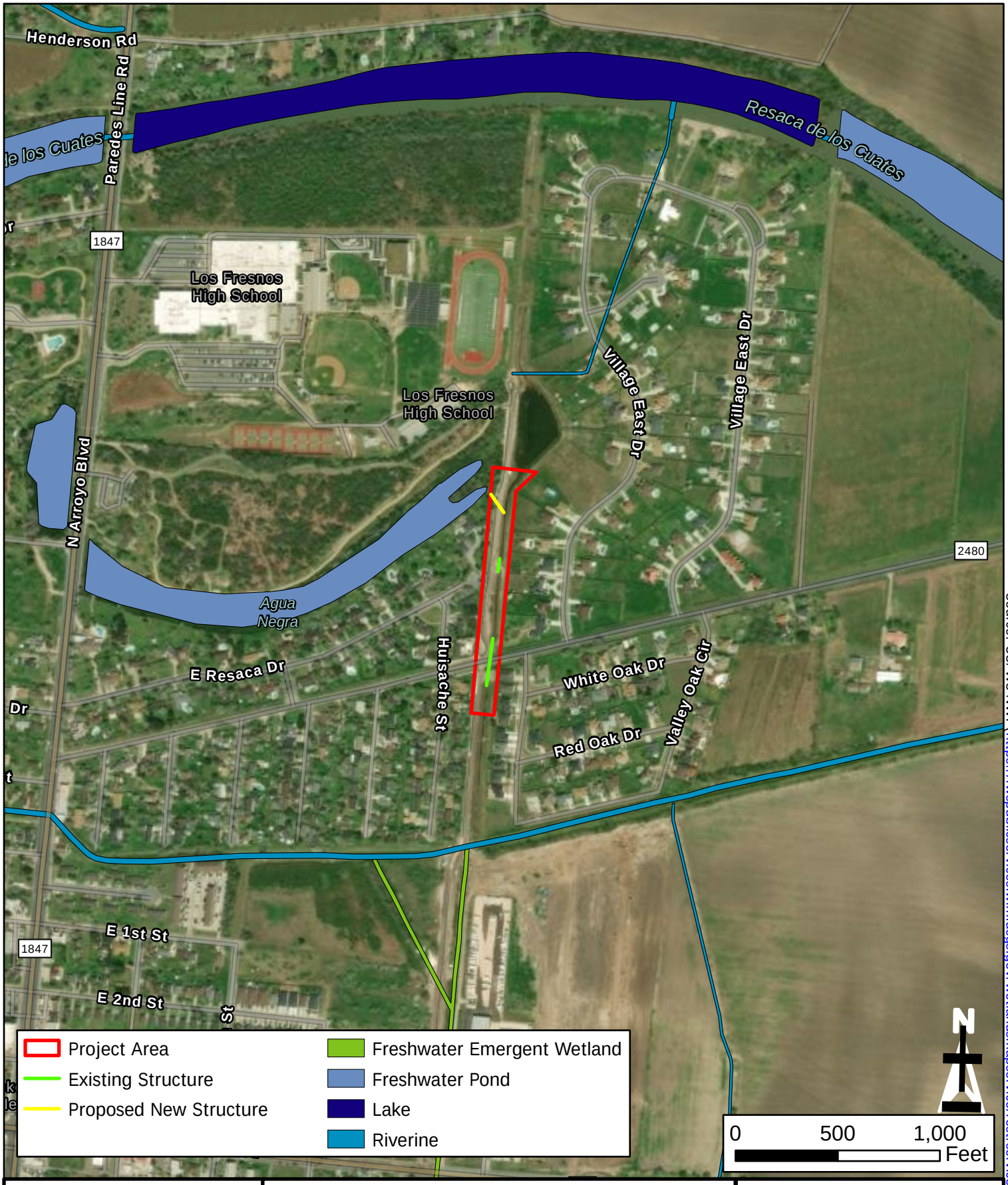
National Hydrography Dataset Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

Created: 7/5/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY



Source: USFWS NWI (https://fwspublicservices.wim.usgs.gov/wetlandsmapservice/rest/services/Wetlands/MapServer)

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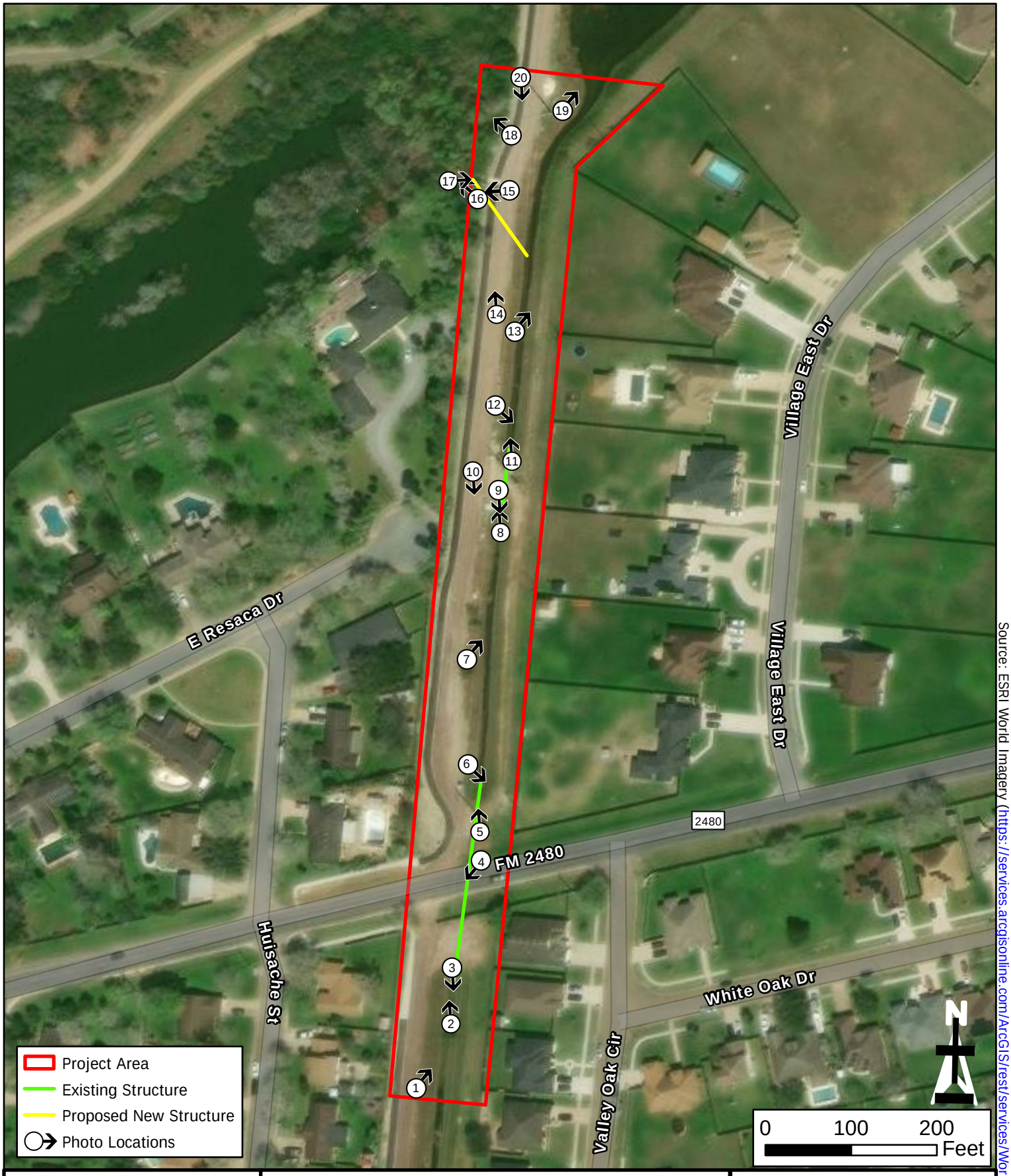
National Wetlands Inventory Map

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

B-10

Created: 7/5/2023

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY



Source: ESRI World Imagery (https://services.arcgisonline.com/ArcGIS/rest/services/World_Imagery/MapServer)

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Aerial Imagery (2022) & Photo Locations

Resaca Escondida Drainage Improvements
Los Fresnos, Cameron County, Texas

B-11

Created: 7/6/2023

LOS FRESNOS - TEXAS -
COMMUNITY WITH OPPORTUNITY

Photo 1. Existing drainage ditch south of FM 2480 (Old Port Rd), viewing northeast

Photo 2. Bottom of drainage ditch with structure outlet south of FM 2480 (Old Port Rd), viewing north

Photo 3. Existing drainage ditch south of FM 2480 (Old Port Rd), viewing south

Photo 4. FM 2480 (Old Port Rd) with mowed grass roadsides, viewing southwest

Photo 5. Existing drainage ditch and surrounding area north of FM 2480 (Old Port Rd), viewing north

Photo 6. Drainage ditch with structure inlet north of FM 2480 (Old Port Rd), viewing southeast

Photo 7. Existing drainage ditch between existing structures, viewing northeast

Photo 8. Drainage ditch with standing water at existing structure outlets, viewing north

Photo 9. Drainage ditch with standing water at existing structure outlets, viewing south

Photo 10. Sparsely vegetated area west of drainage ditch with paved trail and adjacent residential properties, viewing south

Photo 11. Drainage ditch with standing water north of existing structures, viewing north

Photo 12. Existing structure inlet with standing water in drainage ditch, viewing southeast

Photo 13. Drainage ditch slopes with standing water in bottom near proposed new structure outlet, viewing northeast

Photo 14. Paved trail and existing drainage ditch in area of proposed new structure, viewing north

Photo 15. Paved trail and adjacent vegetation at proposed new structure location, viewing west

Photo 16. Wooded area at proposed new structure inlet location with ditch filled with plant debris from adjacent residential property, viewing northwest

Photo 17. Plant debris at proposed new structure inlet location with retaining wall along adjacent residential property, viewing east

Photo 18. Vegetation along northwest edge of project area, viewing northwest

Photo 19. North end of drainage ditch with detention pond, viewing northeast

Photo 20. Paved trail and surrounding area at north end of project area, viewing south

APPENDIX B3

Biological Resources

Last Update: 9/1/2023

CAMERON COUNTY

AMPHIBIANS

black-spotted newt *Notophthalmus meridionalis*

Terrestrial and aquatic: Terrestrial habitats used by adults are typically poorly drained clay soils that allow for the formation of ephemeral wetlands. A wide variety of vegetation associations are known to be used, such as thorn scrub and pasture. Aquatic habitats used for reprodution are a variety of ephemeral and permanent water bodies.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Mexican treefrog *Smilisca baudinii*

Terrestrial and aquatic: Terrestrial habitas used include forested and brush around water bodies. Aquatic habitast used can any any body of water but preferred breeding sites are small, ephemeral wetlands.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

sheep frog *Hypopachus variolosus*

Terrestrial and aquatic: Predominantly grassland and savanna; largely fossorial in areas with moist microclimates.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

South Texas siren (Large Form) *Siren sp. 1*

Aquatic: Mainly found in bodies of quiet water, permanent or temporary, with or without submergent vegetation. Wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods, but does require some moisture to remain.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNRQ	State Rank: S1

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

white-lipped frog *Leptodactylus fragilis*

Terrestrial and aquatic: Lowlands, grasslands, cultivated fields, roadside ditches, and a wide variety of other habitats; often hides under rocks or in burrows under clumps of grass.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

CAMERON COUNTY

AMPHIBIANS

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

BIRDS

black rail *Laterallus jamaicensis*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: T	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

black skimmer *Rynchops niger*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

common black-hawk *Buteogallus anthracinus*

Cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2B

Franklin's gull *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

gray hawk *Buteo plagiatus*

Locally and irregularly along U.S.-Mexico border; mature riparian woodlands and nearby semiarid mesquite and scrub grasslands; breeding range formerly extended north to southernmost Rio Grande floodplain of Texas

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

CAMERON COUNTY

BIRDS

lark bunting *Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

northern aplomado falcon *Falco femoralis septentrionalis*

Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4T2T3	State Rank: S1

northern beardless-tyrannulet *Camptostoma imberbe*

Mesquite woodlands; also cottonwood, willow, elm, and tepeguaje near the Rio Grande. Breeding April to July

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

piping plover *Charadrius melodus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

red-crowned parrot *Amazona viridigenalis*

Starting in the late 1980s to early 1990s, this species has increased in numbers in urban settings in Cameron and Hidalgo counties. This cavity-nesting species prefers dead palm trees, including non-native Washingtonian palms, with abandoned cavities excavated by Golden-fronted Woodpeckers. Grooming of palms (i.e., trimming the dead, drooping fronds) does not appear to directly impact this species; however removal of dead palms with or without cavities should be avoided.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

reddish egret *Egretta rufescens*

CAMERON COUNTY

BIRDS

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2B

rose-throated becard *Pachyramphus aglaiae*

Riparian corridors; trees, woodlands, open forest, scrub, and mangroves; breeding April to July.

Federal Status:	State Status: T	SGCN: N
Endemic: N	Global Rank: G4G5	State Rank: SNA

rufa red knot *Calidris canutus rufa*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

sooty tern *Onychoprion fuscatus*

Primarily an offshore bird; does nest on sandy beaches and islands, breeding April-July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1B

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

swallow-tailed kite *Elanoides forficatus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

CAMERON COUNTY

BIRDS

Texas Botteri's sparrow *Peucaea botterii texana*

Grassland and short-grass plains with scattered bushes or shrubs, sagebrush, mesquite, or yucca; nests on ground of low clump of grasses

Federal Status:	State Status: T	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S3B

tropical parula *Setophaga pitiayumi*

Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

white-tailed hawk *Buteo albicaudatus*

Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S4B

wood stork *Mycteria americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (Taxodium distichum) or red mangrove (Rhizophora mangle); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

zone-tailed hawk *Buteo albonotatus*

CAMERON COUNTY

BIRDS

Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S3B

FISH

alligator gar *Atractosteus spatula*

From the Red River to the Rio Grande (Hubbs et al. 2008); occurs in the Trinity River upstream of Lake Livingston. Found in rivers, streams, lakes, swamps, bayous, bays and estuaries typically in pools and backwater habitats. Floodplains inundated with flood waters provide spawning and nursery habitats.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

american eel *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habtiats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

Mexican goby *Ctenogobius claytonii*

Southern coastal area; brackish and freshwater coastal streams; tidal freshwater associated with silty sandbars and grass beds.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S1

oceanic whitetip shark *Carcharhinus longimanus*

Habitat description is not available at this time.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

CAMERON COUNTY

FISH

opossum pipefish *Microphis brachyurus*

Adults are only found in low salinity waters of estuaries or freshwater tributaries within 30 miles of the coast (Gilmore 1992), where they also give birth. Young move or are carried into more saline waters off the coast after birth. Newly released larvae must have conditions near 18 ppt salinity for at least two weeks after birth to survive, indicating a physiology adapted for downstream transport to estuarine and marine environments (Frias-Torres 2002). Juvenile migration toward the ocean depends on water flow regimes, salinity, and vegetation for cover and capturing prey (Frias-Torres 2002). Seawalls, docks, and riprap construction destroy habitat and poor water quality and alteration of flow regimes may prevent migration (NMFS 2009).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3N

Rio Grande shiner *Notropis jemezanus*

Rio Grande drainage. Occurs over substrate of rubble, gravel and sand, often overlain with silt

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S1

river goby *Awaous banana*

Formerly occupied the mainstream of the Rio Grande in Texas (northern most portion of their range). Generally occupies clear, well oxygenated streams and rivers with slow to moderate current (dependent on flowing water), sandy, muddy, or hard bottom, and little or no vegetation; also enters brackish and marine waters. Shaded areas of streams/rivers may be preferred. Spawning takes place in freshwater and eggs drift downstream to brackish or salt water where they hatch. Larvae migrate back into streams as they develop, but have a higher salinity tolerance than adults. Feeds mainly on filamentous algae.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1

shortfin mako shark *Isurus oxyrinchus*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

smalltooth sawfish *Pristis pectinata*

Different life history stages have different patterns of habitat use: young of year, Age 1, and Age 2 are dependent upon shallow (<1m), eurahayline waters with red mangrove lined shoreline (Norton et al. 2012). These age classes are often found found very close to shore over muddy and sandy bottoms in sheltered bays, on shallow banks, and in estuaries or river mouths. These age classes can tolerate a wide range of salinities, but will move in and out of protected areas (estuaries) due to changes in flow and salinity (Poulakis and Seitz 2011). Larger juveniles may occupy greater depth strata in areas further from shore as they consistently occupy marine waters. Adult sawfish are encountered in various habitat types (mangrove, oyster reef, seagrass, and coral), in varying salinity regimes and temperatures, and at various water depths, feed on a variety of fish species. Adult female sawfish return to protected estuarine areas to give birth.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: SNR

snook *Centropomus undecimalis*

CAMERON COUNTY

FISH

Juvenile common snook are generally restricted to the protection of riverine, salt marshes, seagrass beds, and estuary environments. These environments offer shallow water and an overhanging vegetative shoreline. Juvenile common snook can survive in waters with lower oxygen levels than adults. Adult common snook inhabit many fresh, estuarine, and marine environments including mangrove forests, beaches, river mouths, nearshore reefs, salt marshes, sea grass meadows, and near structure (pilings, artificial reefs, etc.). Adult common snook appear to be less sensitive to cold water temperatures than larvae or small juveniles. The lower lethal limit of water temperature is 48.2°-57.2° F (9°-14° C) for juveniles and 42.8°-53.6° F (6°-12° C) for adults (Hill 2005, Press 2010).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3?

southern flounder *Paralichthys lethostigma*

This is an estuarine-dependent species that inhabits riverine, estuarine and coastal waters, and prefers muddy, sandy, or silty substrates (Reagan and Wingo 1985). Individuals can tolerate wide temperature (~5-35°C) and salinity ranges (0-60 ppt). Southern Flounder spawn in offshore waters of the Gulf of Mexico from October to February (Reagan and Wingo 1985). The oceanic larval stage is pelagic and lasts 30–60 days. Metamorphosing individuals enter estuaries and migrate towards low-salinity headwaters, where settlement occurs (Burke et al. 1991, Walsh et al. 1999). The young fish enter the bays during late winter and early spring, occupying seagrass; some may move further into coastal rivers and bayous. Juveniles remain in estuaries until the onset of sexual maturation (approximately two years), at which time they migrate out of estuaries to join adults on the inner continental shelf. Adult southern flounder leave the bays during the fall for spawning in the Gulf of Mexico. They spawn for the first time when two years old at depths of 50 to 100 feet. Although most of the adults leave the bays and enter the Gulf for spawning during the winter, some remain behind and spend winter in the bays. Those in the Gulf will reenter the bays in the spring. The spring influx is gradual and does not occur with large concentrations that characterize the fall emigration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

INSECTS

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

Boca Chica flea beetle *Chaetocnema rileyi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: S3

Brownsville meadow katydid *Conocephalus resacensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

CAMERON COUNTY

INSECTS

gladiator short-winged katydid *Dichopetala gladiator*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

Manfreda giant-skipper *Stallingsia maculosus*

Most skippers are small and stout-bodied; name derives from fast, erratic flight; at rest most skippers hold front and hind wings at different angles; skipper larvae are smooth, with the head and neck constricted; skipper larvae usually feed inside a leaf shelter and pupate in a cocoon made of leaves fastened together with silk

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

neojuvenile tiger beetle *Cicindela obsoleta neojuvenilis*

Bare or sparsely vegetated, dry, hard-packed soil; typically in previously disturbed areas; peak adult activity in Jul

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5T1	State Rank: SH

No accepted common name *Sphingicampa blanchardi*

Woodland - hardwood; Tamaulipan thornscrub with caterpillars host plant, Texas Ebony (Pitheocellobium flexicaule) an important element

Federal Status:	State Status:	SGCN: Y
Endemic: P	Global Rank: G1	State Rank: S1

No accepted common name *Pachyschelus fisheri*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: GNR	State Rank: S1

No accepted common name *Disonycha barberi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

No accepted common name *Disonycha stenosticha*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

CAMERON COUNTY

INSECTS

No accepted common name *Conotrachelus rubescens*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Ptinus tumidus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Trichodesma pulchella*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: S1

No accepted common name *Trichodesma sordida*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Ormiscus albofasciatus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: S2

No accepted common name *Spectralia prosternalis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: GNR State Rank: S2

No accepted common name *Trigonogya reticulaticollis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: GNR State Rank: S1

CAMERON COUNTY

INSECTS

No accepted common name *Chalcodermus semicostatus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Platyomus flexicaulis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Hyperaspis rotunda*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Cenophengus pallidus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Lachnodactyla texana*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Dacoderus steineri*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Diomus pseudotaedatus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

CAMERON COUNTY

INSECTS

No accepted common name *Talanus mecoscelis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Hapalips texanus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Loberus ornatus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Toramus chamaeropis*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Heterobrenthus texanus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: S1

No accepted common name *Cacostola lineata*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Callipogonius cornutus*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

CAMERON COUNTY

INSECTS

No accepted common name *Brucita marmorata*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Megascelis texana*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Pachybrachis duryi*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Perdita tricincta*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Dichopetala catinata*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: GNR State Rank: SNR

No accepted common name *Heliastus subroseus*
Sand dunes with sparse vegeatation in back of the beach along the Texas coast.
Federal Status: State Status: SGCN: Y
Endemic: Y Global Rank: G2G3 State Rank: S2?

No accepted common name *Cisthene conjuncta*
Habitat description is not available at this time.
Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G1Q State Rank: S1

CAMERON COUNTY

INSECTS

No accepted common name *Ormiscus irroratus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: S1

subtropical black sky tiger beetle *Cicindela nigrocoerulea subtropica*

Most tiger beetles are active, usually brightly colored, and found in open, sunny areas; adult tiger beetles are predaceous and feed on a variety of small insects; larvae of tiger beetles are also predaceous and live in vertical burrows in soil of dry paths, fields, or sandy beaches

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5T2	State Rank: SH

Tamaulipan agapema *Agapema galbina*

Tamaulipan thornscrub with adequate densities of the caterpillar foodplant Condalia hookeri hookeri (= obovata); adults occur Sep - Oct; eggs hatch within two weeks and larvae mature rapidly

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1	State Rank: SH

Tamaulipan clubtail dragonfly *Gomphus gonzalezi*

Rivers, muddy to clear and rocky, should be watched for in substantial creeks as well. This species is considered rare and has a very restricted range in the Rio Grande Valley and southward in eastern Mexico. Abundance information is lacking (Ware et al 2016; Abbott 2005).

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G2	State Rank: S2

thumb-bearing short-winged katydid *Dichopetala pollicifera*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

MAMMALS

barrier island Texas pocket gopher *Geomys personatus personatus*

Limited information available. Likely found in sandy soils.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4TNR	State Rank: SNR

CAMERON COUNTY

MAMMALS

blue whale *Balaenoptera musculus*

Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeeding grounds, but specifics vary. Commonly observed at the surface in open ocean.

Federal Status: LE | State Status: E | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: SH

cave myotis bat *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G4G5 | State Rank: S2S3

Coues' rice rat *Oryzomys couesi aquaticus*

Cattail-bulrush marsh with shallower zone of aquatic grasses near the shoreline; shade trees around the shoreline are important features; prefers salt and freshwater, as well as grassy areas near water; breeds April-August

Federal Status: | State Status: T | SGCN: Y
Endemic: N | Global Rank: G5T2T4 | State Rank: S2

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G4 | State Rank: S1S3

Gulf of Mexico Bryde's whale *Balaenoptera ricei*

Habitat description is not available at this time.

Federal Status: LE | State Status: E | SGCN: N
Endemic: N | Global Rank: G1 | State Rank: SNR

hoary bat *Lasiurus cinereus*

CAMERON COUNTY

MAMMALS

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

humpback whale *Megaptera novaeangliae*

Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.

Federal Status: LE	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SNR

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

North Atlantic right whale *Eubalaena glacialis*

Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or clsoe to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger etal 2011).

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

northern yellow bat *Lasiurus intermedius*

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegtation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

CAMERON COUNTY

MAMMALS

ocelot *Leopardus pardalis*

Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1

sei whale *Balaenoptera borealis*

Habitat description is not available at this time.

Federal Status: LE	State Status: E	SGCN: N
Endemic: N	Global Rank: G5?	State Rank: SNR

southern yellow bat *Lasiurus ega*

Relict palm grove is only known Texas habitat. Neotropical species roosting in palms, forages over water; insectivorous; breeding in late winter. Roosts in dead palm fronds in ornamental palms in urban areas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3S4

sperm whale *Physeter macrocephalus*

Inhabits tropical, subtropical, and temperate waters world wide, avoiding icey waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S1

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

West Indian manatee *Trichechus manatus*

Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S1

CAMERON COUNTY

MAMMALS

western hog-nosed skunk *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

white-nosed coati *Nasua narica*

Woodlands, riparian corridors and canyons.Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1

MOLLUSKS

Mexican fawnsfoot *Truncilla cognata*

Occurs in large rivers but may also be found in medium-sized streams. Is commonly found in habitats with some flowing water, often in protected near shore areas such as banks and backwaters but also at the head of riffles; the latter more often supporting both sub-adults and adults. Typically occurs in substrates of mixed sand and gravel as well as soft unconsolidated sediments. Considered intolerant of reservoirs (Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

No accepted common name *Praticolella candida*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S3

Salina mucket *Potamilus metnecktayi*

Occurs in medium to large rivers, where it may be found in substrates composed of various combinations of mud, sand, gravel, and cobble, as well as under rocks. It occurs in areas with slow to moderate current, most often in stable littoral habitats dominated by boulder or bedrock habitat; not known from reservoirs (Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

Texas hornshell *Popenaias popeii*

Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

CAMERON COUNTY

REPTILES

Atlantic hawksbill sea turtle *Eretmochelys imbricata*

Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating lgae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water lmore than 65 feet deep. They feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

black-striped snake *Coniophanes imperialis*

Terrestrial: Occurs in native thorn scrub and woodlands a well as modfied urban areas. Prefers warm, moist microhabitats, and sandy soils.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

green sea turtle *Chelonia mydas*

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3B,S3N

Kemp's Ridley sea turtle *Lepidochelys kempii*

Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S3

CAMERON COUNTY

REPTILES

leatherback sea turtle *Dermochelys coriacea*

Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the seaturtles with the longest migration (>10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

loggerhead sea turtle *Caretta caretta*

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preffered for nesting. Newly hatched individuals depend on floating alage/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S4

Mexican hog-nosed snake *Heterodon kennerlyi*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: N
Endemic:	Global Rank: G4	State Rank: SNR

northern cat-eyed snake *Leptodeira septentrionalis septentrionalis*

Terrestrial: Thorn scrub and decidious woodland; dense thickets bordering ponds and streams.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Rio Grande river cooter *Pseudemys gorzugi*

Aquatic: Habitat includes rivers and their more permanent spring-fed tributary streams, beaver ponds, and stock tanks (Garrett and Barker 1987). Occupied waters may have a muddy, sandy, or rocky bottom, and may or may not contain aquatic vegetation (Degenhardt et al. 1996).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S2

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

CAMERON COUNTY

REPTILES

speckled racer *Drymobius margaritiferus*

Terrestrial: Dense thickets near water, palm groves, riparian woodlands; often in areas with much vegetation litter on ground.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

Texas indigo snake *Drymarchon melanurus erebennus*

Terrestrial: Thornbush-chaparral woodland of south Texas, in particular dense riparian corridors.Can do well in suburban and irrigated croplands. Requires moist microhabitats, such as rodent burrows, for shelter.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T4	State Rank: S4

Texas tortoise *Gopherus berlandieri*

Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western hognose snake *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

CAMERON COUNTY

REPTILES

western massasauga *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

PLANTS

Bailey's ballmoss *Tillandsia baileyi*

Epiphytic on various trees and tall shrubs, perhaps most common in mottes of Live oak on vegtated dunes and flats in coastal portions of the South Texas Sand Sheet, but also on evergreen sub-tropical woodlands along resacas in the Lower Rio Grande Valley; flowering (February-)April-May, but conspicuous throughout the year

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

Buckley's spiderwort *Tradescantia buckleyi*

Occurs on sandy loam or clay soils in grasslands or shrublands underlain by the Beaumount Formation.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

dune dalea *Dalea austrotexana*

Restricted to deep loose sands of active and somewhat stabilized dunes in South Texas (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

Green Island echeandia *Echeandia texensis*

On somewhat saline clays of lomas along the Gulf Coast near the mouth of Rio Grande, a habitat shared with E. chandleri; both species grow in areas dominated by herbaceous species with scattered brush and stunted trees, or in grassy openings in subtropical thorn shrublands; flowers April, June, and November, and likely in other months, as well

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

Greenman's bluet *Houstonia parviflora*

Grass pastures. Feb- Apr. (Correll and Johnston 1970).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

CAMERON COUNTY

PLANTS

Jones's rainlilly *Cooperia jonesii*

Hardpan swales and other seasonally moist low areas (Jones 1977). Flowering mid summer--early fall (Jul--Oct) (Flagg, Smith & Flory 2002).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

large selenia *Selenia grandis*

Occurs in seasonally wet clayey soils in open areas; Annual; Flowering Jan-April; Fruiting Feb-April

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

lila de los Llanos *Echeandia chandleri*

Most commonly encountered among shrubs or in grassy openings in subtropical thorn shrublands on somewhat saline clays of lomas along Gulf Coast near mouth of Rio Grande; also observed in a few upland coastal prairie remnants on clay soils over the Beaumont Formation at inland sites well to the north and along railroad right-of-ways and cemeteries; flowering (May-) September-December, fruiting October-December

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2S3

marsh-elder dodder *Cuscuta attenuata*

Parasitizes a particular sumpweed (Iva annua) almost exclusively as well as ragweed and heath aster. Host plants typically found in open, disturbed habitats like fallow fields and creek bottomlands; Annual; Flowering late summer through October

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: S2

Mexican mud-plantain *Heteranthera mexicana*

Wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S1

plains gumweed *Grindelia oolepis*

Coastal prairies on heavy clay (blackland) soils, often in depressional areas, sometimes persisting in areas where management (mowing) may maintain or mimic natural prairie disturbance regimes; crawfish lands; on nearly level Victoria clay, Edroy clay, claypan, possibly Greta within Orelia fine sandy loam over the Beaumont Formation, and Harlingen clay; roadsides, railroad rights-of-ways, vacant lots in urban areas, cemeteries; flowering April-December

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

CAMERON COUNTY

PLANTS

Runyon's cory cactus *Coryphantha macromeris var. runyonii*

Gravelly to sandy or clayey, calcareous, sometimes gypsiferous or saline soils, often over the Catahoula and Frio formations, on gentle hills and slopes to the flats between, at elevations ranging from 10 to 150 m (30 to 500 ft); ?late spring or early summer, November, fruit has been collected in August

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T2T3	State Rank: S2S3

Runyon's water-willow *Justicia runyonii*

Margins of and openings within subtropical woodlands or thorn shrublands on calcareous, alluvial, silty or clayey soils derived from Holocene silt and sand floodplain deposits of the Rio Grande Delta; can be common in narow openings such as those provided by trails through dense ebony woodlands and is sometimes restricted to microdepressions; flowering (July-) September-November

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

Shinner's rocket *Thelypodiopsis shinnersii*

Mostly along margins of Tamaulipan thornscrub on clay soils of the Rio Grande Delta, including lomas near the mouth of the river; Tamaulipas, Mexico specimens are from mountains, with no further detail; flowering mostly March-April, with one collection in December

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S2

Siler's huaco *Manfreda sileri*

Rare in a variety of grasslands and shrublands on dry sites; Perennial; Flowering April-July; Fruiting June-July

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Small's rainlily *Zephyranthes smallii*

Open low fields, swales and ditches on sandy loam. Flowering early fall (Sep--Oct) (Flagg, Smith & Flory 2002).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1Q	State Rank: S1

South Texas ambrosia *Ambrosia cheiranthifolia*

Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1

CAMERON COUNTY

PLANTS

South Texas spikesedge *Eleocharis austrotexana*

Occurring in miscellaneous wetlands at scattered locations on the coastal plain; Perennial; Flowering/Fruiting Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

St. Joseph's staff *Manfreda longiflora*

Thorn shrublands on clays and loams with various concentrations of salt, caliche, sand, and gravel; rossettes are often obscured by low shrubs; flowering September-October

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S2

star cactus *Astrophytum asterias*

Gravelly clays or loams, possibly of the Catarina Series (deep, droughty, saline clays), over the Catahoula and Frio formations, on gentle slopes and flats in sparsely vegetated openings between shrub thickets within mesquite grasslands or mesquite-blackbrush thorn shrublands; plants sink into or below ground during dry periods; flowering from mid March-May, may also flower in warmer months after sufficient rainfall, flowers most reliably in early April; fruiting mid April-June

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S1

Texas ayenia *Ayenia limitaris*

Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1

Texas milk vetch *Astragalus reflexus*

Grasslands, prairies, and roadsides on calcareous and clay substrates; Annual; Flowering Feb-June; Fruiting April-June

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Texas stonecrop *Lenophyllum texanum*

Found in shrublands on clay dunes (lomas) at the mouth of the Rio Grande and on xeric calcareous rock outcrops at scattered inland sites; Perennial; Flowering/Fruiting Nov-Feb

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

CAMERON COUNTY

PLANTS

Texas willkommia *Willkommia texana var. texana*

Mostly in sparsely vegetated shortgrass patches within taller prairies on alkaline or saline soils on the Coastal Plain (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4T3	State Rank: S3

Vasey's adelia *Adelia vaseyi*

Mostly subtropical evergreen/deciduous woodlands on loamy soils of Rio Grande Delta, but occassionally in shrublands on more xeric sandy to gravelly upland sites; Perennial; Flowering January-June

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Wright's trichocoronis *Trichocoronis wrightii var. wrightii*

Most records from Texas are historical, perhaps indicating a decline as a result of alteration of wetland habitats; Annual; Flowering Feb-Oct; Fruiting Feb-Sept

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T3	State Rank: S2

yellow-flowered alicoche *Echinocereus papillosus*

Under shrubs or in open areas on various substrates; Perennial; Flowering Jan-April.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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In Reply Refer To: 04/15/2024 20:02:14 UTC
Project Code: 2024-0057554
Project Name: TWDB #73922 Resaca Escondida Drainage Improvements

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, Fort Worth, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058
Angelina, *Austin*, *Brazoria*, *Brazos*, *Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.*

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411
Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516
Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata.

For questions or coordination for projects occurring in counties not listed above, please contact arles@fws.gov.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your

proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/media/endangered-species-consultation-handbook.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. “Harm” is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. “Harass” is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of

injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: https://www.fws.gov/library/collections/habitat-conservation-planning-handbook.

Migratory Birds:
In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: https://www.fws.gov/program/migratory-birds.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Texas Coastal & Central Plains Esfo
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
(281) 286-8282

PROJECT SUMMARY

Project Code: 2024-0057554
Project Name: TWDB #73922 Resaca Escondida Drainage Improvements
Project Type: Stormwater Discharge
Project Description: The proposed project involves improving drainage from Resaca Escondida, an isolated oxbow lake located east of FM 1847 and south of Los Fresnos High School. The resaca currently does not have an outlet and depends on evaporation and transpiration for water levels to recede after heavy rain events. The proposed project area is approximately 120 feet wide and 1,200 feet long extending from the eastern edge of the resaca to south of FM 2480.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@26.07890935,-97.4694401608435,14z

Counties: Cameron County, Texas

ENDANGERED SPECIES ACT SPECIES

There is a total of 18 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gulf Coast Jaguarundi *Puma yagouaroundi cacomitli*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3945	
Ocelot *Leopardus (=Felis) pardalis*	Endangered
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4474	
Tricolored Bat *Perimyotis subflavus*	Proposed Endangered
No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ This species only needs to be considered if the project includes wind turbine operations. Species profile: https://ecos.fws.gov/ecp/species/10515	

BIRDS

NAME	STATUS
Cactus Ferruginous Pygmy-owl *Glaucidium brasilianum cactorum*	Threatened
There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1225	
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*	Threatened
No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	
Northern Aplomado Falcon *Falco femoralis septentrionalis*	Endangered
Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	
Piping Plover *Charadrius melodus*	Threatened
Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	
Rufa Red Knot *Calidris canutus rufa*	Threatened
There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas*	Threatened
Population: North Atlantic DPS There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	

NAME	STATUS
Hawksbill Sea Turtle *Eretmochelys imbricata* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

CLAMS

NAME	STATUS
Mexican Fawnsfoot *Truncilla cognata* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7870	Proposed Endangered
Salina Mucket *Potamilus metnecktayi* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8753	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
South Texas Ambrosia *Ambrosia cheiranthifolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3331	Endangered
Texas Ayenia *Ayenia limitaris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4942	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Forster's Tern *Sterna forsteri* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11953	Breeds Mar 1 to Aug 15
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Painted Bunting *Passerina ciris* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9511	Breeds Apr 25 to Aug 15
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Reddish Egret *Egretta rufescens* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617	Breeds Mar 1 to Sep 15
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere

NAME	BREEDING SEASON
Sandwich Tern *Thalasseus sandvicensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9731	Breeds Apr 25 to Aug 31
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5
Wilson's Plover *Charadrius wilsonia* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9722	Breeds Apr 1 to Aug 20

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: Los Fresnos city
Name: Ali Whitehead
Address: 6510 Telecom Drive
Address Line 2: Suite 210
City: Indianapolis
State: IN
Zip: 46278
Email awhitehead@hanson-inc.com
Phone: 3178038975

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Texas Water Development Board

Table 1. State- and Federally Listed Threatened or Endangered Species, General Habitat Information, and Information Pertaining to Review Area Habitat

Status Key:

LE, LT – Federally Listed Endangered/Threatened

E, T – State-Listed Endangered/Threatened

Name	Description	Impact/Effect?	Pertinent Information
AMPHIBIANS			
Black-spotted newt *Notophthalmus meridionalis* State Status: T	Terrestrial and aquatic: Terrestrial habitats used by adults are typically poorly drained clay soils that allow for the formation of ephemeral wetlands. A wide variety of vegetation associations are known to be used, such as thorn scrub and pasture. Aquatic habitats used for reproduction are a variety of ephemeral and permanent water bodies.	May Impact	The project area contains a resaca margin and drainage ditches that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Mexican treefrog *Smilisca baudinii* State Status: T	Terrestrial and aquatic: Terrestrial habitats include forest and brush around water bodies. Aquatic habitats used can any body of water but preferred breeding sites are small, ephemeral wetlands.	May Impact	The project area contains resacas and drainage ditches that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Sheep frog *Hypopachus variolosus* State Status: T	Terrestrial and aquatic: Predominantly grassland and savanna; largely fossorial in areas with moist microclimates.	May Impact	The project area contains resacas and drainage ditches that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.

Name	Description	Impact/Effect?	Pertinent Information
South Texas siren (Large Form) *Siren sp. 1* State Status: T	Aquatic: Mainly found in bodies of quiet water, permanent or temporary, with or without submergent vegetation. Wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods but does require some moisture to remain.	May Impact	The project area contains resacas and drainage ditches that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
White-lipped frog *Leptodactylus fragilis* State Status: T	Terrestrial and aquatic: Lowlands, grasslands, cultivated fields, roadside ditches, and a wide variety of other habitats; often hides under rocks or in burrows under clumps of grass.	May Impact	The project area contains resacas and drainage ditches that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
BIRDS			
Black rail *Laterallus jamaicensis* Federal Status: T State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine the potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia	May Impact	The project area contains resacas that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Common black-hawk *Buteogallus anthracinus* State Status: T	Cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas	May Impact	The project area contains black willow trees that could provide suitable habitat for this species. This species may be impacted. BMPs recommended

Name	Description	Impact/Effect?	Pertinent Information
			during construction are included in **Section 5.13**.
Gray hawk *Buteo plagiatus* State Status: T	Locally and irregularly along U.S.-Mexico border; mature riparian woodlands and nearby semiarid mesquite and scrub grasslands; breeding range formerly extended north to southernmost Rio Grande floodplain of Texas	No Effect	There are no mature riparian woodlands present in the project area. No impact is expected.
Northern aplomado falcon *Falco gemoralis septentrionalis* Federal Status: LE State Status: E	Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species	No Effect	There are no open country, savannah, open woodland, nor very barren areas within the project area. No impact is expected.
Northern beardless-tyrannuelt *Camptostoma imberbe* State Status: E	Mesquite woodlands; also cottonwood, willow, elm, and tepeguaje near the Rio Grande. Breeding April to July	May Impact	The project area contains black willow and mesquite trees that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Piping plover *Charadrius melodus* Federal Status: LT State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their	No Effect	There are no beaches, sandflats, or dunes present in the project area. No effect is expected.

Name	Description	Impact/Effect?	Pertinent Information
	continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.		
Red-crowned parrot *Amazona viridigenalis* State Status: T	Starting in the late 1980s to early 1990s, this species has increased in numbers in urban settings in Cameron and Hidalgo counties. This cavity-nesting species prefers dead palm trees, including non-native Washingtonian palms, with abandoned cavities excavated by Golden-fronted Woodpeckers. Grooming of palms (i.e., trimming the dead, drooping fronds) does not appear to directly impact this species; however removal of dead palms with or without cavities should be avoided.	May Impact	The project area contains Washingtonian palms that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Reddish egret *Egretta rufescens* State Status: T	Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear	No Effect	The project area is inland without brackish marshes, salt ponds, or tidal flats. No impact is expected.
Rose-throated becard *Pachyramphus aglaiae*	Riparian corridors; trees, woodlands, open forest, scrub, and mangroves; breeding April to July.	No Effect	There are no riparian corridors present in the project area. No effect is expected.

Name	Description	Impact/Effect?	Pertinent Information
State Status: T			
Rufa red knot *Calidris canutus rufa* Federal Status: LT State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.	No Effect	There are no beaches or coastal areas present in the project area. No effect is expected.
Sooty Tern *Onychoprion fuscatus* State Status: T	Primarily an offshore bird; does nest on sandy beaches and islands, breeding April-July.	No Effect	There are no beaches or islands present in the project area. No effect is expected.
Swallow-tailed kite *Elanoides forficatus* State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.	No Effect	The project area does not contain any pond borders that may serve as suitable habitat for this species. No effect is expected.
Texas Botteri's sparrow *Peucaea botterii texana* State Status: T	Grassland and short-grass plains with scattered bushes or shrubs, sagebrush, mesquite, or yucca; nests on ground of low clump of grasses	May Impact	The project area contains grasses and scattered shrubs with expected permanent impacts. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Tropical parula *Setophaga pitiayumi* State Status: T	Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees	No Impact	The project area does not contain any semi-tropical evergreen woodlands. No impact is expected.

Name	Description	Impact/Effect?	Pertinent Information
	along edges of rivers and resacas; breeding April to July.		
White-faced ibis *Plegadis chihi* State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No Impact	The project area does not contain any freshwater marshes, sloughs, or irrigated rice fields. No impact is expected.
White-tailed hawk *Buteo albicaudatus* State Status: T	Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May	No Impact	The project area does not contain any prairies, cordgrass flats, or scrub-live oak. No impact is expected.
Wood stork *Mycteria americana* State Status: T	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (Taxodium distichum) or red mangrove (Rhizophora mangle); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.	May Impact	The project area contains a ditch that could be suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Zone-tailed hawk *Buteo albonotatus*	Arid open country, including open deciduous or pine-oak woodland, mesa or mountain county, often near watercourses, and wooded canyons	No Impact	The project area does not include any arid open country areas. No impact is expected.

Name	Description	Impact/Effect?	Pertinent Information
State Status: T	and tree-lined rivers along middle-slopes of desert mountains; nests in various habitats and sites, ranging from small trees in lower desert, giant cottonwoods in riparian areas, to mature conifers in high mountain regions		
FISH			
Mexican goby *Ctenogobius claytonii* State Status: T	Southern coastal area; brackish and freshwater coastal streams; tidal freshwater associated with silty sandbars and grass beds.	No Impact	There are no tidal freshwater or coastal streams present in the project site. No impact is expected.
Oceanic whitetip shark *Carcharhinus longimanus* Federal Status: LT State Status: T	Tropical and subtropical open ocean, offshore in deep water. Mainly spend time in the upper part of the water column near the surface. Can dive as deep as 1,082 meters (3,549 ft) deep, typically found from the surface to at least 200 meters (656 ft) deep – making them surface-dwelling sharks.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Rio Grande shiner *Notropis jemezanus* State Status: T	Rio Grande drainage. Occurs over substrate of rubble, gravel and sand, often overlain with silt	No Impact	The resaca and drainage ditch does not contain adequate habitat for this species. No impact is expected.
River goby *Awaous banana* State Status: T	Formerly occupied the mainstream of the Rio Grande in Texas (northern most portion of their range). Generally occupies clear, well oxygenated streams and rivers with slow to moderate current (dependent on flowing water), sandy, muddy, or hard bottom, and little or no vegetation; also enters brackish and marine waters. Shaded areas of streams/rivers may be preferred. Spawning takes place in freshwater and eggs drift downstream to brackish or salt water where they hatch. Larvae migrate back into streams as they develop, but have a higher salinity tolerance than adults. Feeds mainly on filamentous algae.	No Impact	The resaca and drainage ditch does not contain adequate habitat for this species. No impact is expected.
Shortfin mako shark	Open ocean, highly migratory and found widely in tropical to temperate waters in	No Effect	There is no marine habitat present in the

Name	Description	Impact/Effect?	Pertinent Information
Isurus oxyrinchus State Status: T	all oceans. Fastest shark, can jump out of the water while hunting.		project site. No effect is expected.
Smalltooth sawfish *Pristis pectinata* Federal Status: LE State Status: E	Different life history stages have different patterns of habitat use: young of year, Age 1, and Age 2 are dependent upon shallow (<1m), eurahayline waters with red mangrove lined shoreline (Norton et al. 2012). These age classes are often found found very close to shore over muddy and sandy bottoms in sheltered bays, on shallow banks, and in estuaries or river mouths. These age classes can tolerate a wide range of salinities, but will move in and out of protected areas (estuaries) due to changes in flow and salinity (Poulakis and Seitz 2011). Larger juveniles may occupy greater depth strata in areas further from shore as they consistently occupy marine waters. Adult sawfish are encountered in various habitat types (mangrove, oyster reef, seagrass, and coral), in varying salinity regimes and temperatures, and at various water depths, feed on a variety of fish species. Adult female sawfish return to protected estuarine areas to give birth.	No Impact	There is no marine habitat present in the project site. No impact is expected.
MAMMALS			
Blue whale *Balaenoptera musculus* Federal Status: LE State Status: E	Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Coues' rice rat *Oryzomys couesi aquaticus* State Status: T	Cattail-bulrush marsh with shallower zone of aquatic grasses near the shoreline; shade trees around the shoreline are important features; prefers salt and freshwater, as well as grassy areas near water; breeds April-August	May Impact	There are grassy areas near the resaca that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are

Name	Description	Impact/Effect?	Pertinent Information
			included in **Section 5.13**.
Gulf of Mexico Bryde's whale *Balaenoptera ricei* Federal Status: LE State Status: E	Northeastern Gulf of Mexico along the continental shelf between roughly 100 and 400 meters deep. Perfer warmer, tropical waters and do not make long-distance migrations.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Humpback whale *Megaptera novaeangliae* Federal Status: LE	Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.	No Effect	There is no marine habitat present in the project site. No effect is expected.
North Atlantic right whale *Eubalaena glacialis* Federal Status: LE State Status: E	Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger etal 2011).	No Effect	There is no marine habitat present in the project site. No effect is expected.
Ocelot *Leopardus pardalis* Federal Status: LE	Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.	No Effect	The project area does not contain dense vegetation. No effect is expected.

Name	Description	Impact/Effect?	Pertinent Information
State Status: E			
Sei whale *Balaenoptera borealis* Federal Status: LE State Status: E	Wide distribution, live in subtropical, temperate, and subpolar waters around the world. Perfer temperate waters in mid-latitudes. Movement and migration patterns are not well known, but are typically observed in deeper waters far from the coastline.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Sperm whale *Physeter macrocephalus* Federal Status: LE State Status: E	Inhabits tropical, subtropical, and temperate waters world wide, avoiding icey waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.	No Effect	There is no marine habitat present in the project site. No effect is expected.
West Indiana manatee *Trichechus manatus* Federal Status: LT State Status: T	Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.	No Effect	The project area does not contain large rivers, bays, or coastal waters. No effect is expected.
White-nosed coati *Nasua narica* State Status: T	Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade	No Effect	Woodlands, riparian corridors, and canyons are not present in the project site. No effect is expected.
MOLLUSKS			
Mexican fawnsfoot *Truncilla cognata* State Status: T	Occurs in large rivers but may also be found in medium-sized streams. Is commonly found in habitats with some flowing water, often in protected near shore areas such as banks and backwaters but also at the head of riffles; the latter more often supporting both sub-adults and adults. Typically occurs in substrates	No Effect	The resaca and drainage ditch does not contain adequate habitat for this species. No effect is expected.

Name	Description	Impact/Effect?	Pertinent Information
	of mixed sand and gravel as well as soft unconsolidated sediments. Considered intolerant of reservoirs (Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]		
Salina mucket *Potamilus metnecktayi* State Status: T	Occurs in medium to large rivers, where it may be found in substrates composed of various combinations of mud, sand, gravel, and cobble, as well as under rocks. It occurs in areas with slow to moderate current, most often in stable littoral habitats dominated by boulder or bedrock habitat; not known from reservoirs (Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]	No Effect	The resaca and drainage ditch does not contain adequate habitat for this species. No effect is expected.
Texas hornshell *Popenaias popeii* Federal Status: LE State Status: E	Occurs in small streams to large rivers in slow to moderate current, often residing in rock crevices, travertine shelves, and under large boulders, where small-grained material, such as clay, silt, or sand gathers. Can also occur in riffles that are clean swept of soft silt; not known from reservoirs (Carman 2007; Inoue et al. 2014; Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]	No Effect	The resaca and drainage ditch does not contain adequate habitat for this species. No effect is expected.
REPTILES			
Atlantic hawksbill sea turtle *Eretmochelys imbricata* Federal Status: LE State Status: E	Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating algae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water more than 65 feet deep. They feed on sponges, jellyfish, sea urchins, mollusks, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.	No Effect	There is no marine habitat present in the project site. No effect is expected.

Name	Description	Impact/Effect?	Pertinent Information
Black-striped snake *Coniophanes imperialis* State Status: T	Terrestrial: Occurs in native thorn scrub and woodlands as well as modified urban areas. Prefers warm, moist microhabitats, and sandy soils.	May Impact	The project area is near a modified urban area. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Green sea turtle *Chelonia mydas* Federal Status: LT State Status: T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Kemp's Ridley sea turtle *Lepidochelys kempii* Federal Status: LE State Status: E	Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Leatherback sea turtle	Inhabit tropical, subtropical, and temperate waters worldwide, including	No Effect	There is no marine habitat present in the

Name	Description	Impact/Effect?	Pertinent Information
Dermochelys coriacea Federal Status: LE State Status: E	the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the sea turtles with the longest migration (10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.		project site. No effect is expected.
Loggerhead sea turtle *Caretta caretta* Federal Status: LT State Status: T	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Northern cat-eyed snake *Leptoderia septentrionalis septentrionalis* State Status: T	Terrestrial: Thorn scrub and deciduous woodland; dense thickets bordering ponds and streams.	No Impact	The project area does not contain adequate vegetation for this species. No impact is expected.
Speckled racer *Drymobius margaritiferus* State Status: T	Terrestrial: Dense thickets near water, palm groves, riparian woodlands; often in areas with much vegetation litter on ground.	No Impact	The project area does not contain adequate vegetation for this species. No impact is expected.
Texas horned lizard *Phrynosoma cornutum* State Status: T	Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.	No Impact	The project area does not contain adequate vegetation or soils for this species. No impact is expected.

Name	Description	Impact/Effect?	Pertinent Information
Texas tortoise *Gopherus berlandieri* State Status: T	Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.	No Impact	The project area does not contain adequate vegetation or soils for this species. No impact is expected.
PLANTS			
South Texas ambrosia *Ambrosia cheiranthifolia* Federal Status: LE State Status: E	Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November	No Effect	According to the TPWD this species is not currently found in Cameron County. No effect is expected.
Star cactus *Astrophytum asterias* Federal Status: LE State Status: E	Gravelly clays or loams, possibly of the Catarina Series (deep, droughty, saline clays), over the Catahoula and Frio formations, on gentle slopes and flats in sparsely vegetated openings between shrub thickets within mesquite grasslands or mesquite-blackbrush thorn shrublands; plants sink into or below ground during dry periods; flowering from mid March-May, may also flower in warmer months after sufficient rainfall, flowers most reliably in early April; fruiting mid April-June	No Effect	According to the TPWD this species is not currently found in Cameron County. No effect is expected.
Texas ayenia *Ayenia limitaris* Federal Status: LE State Status: E	Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall	No Effect	Project area does not include subtropical thorn woodland or tall shrubland on loamy soils. No effect is expected.

Table 2: USFWS IPaC Species List

Species Name	Status	Condition Info	Effect	Pertinent Information
MAMMALS				
Gulf Coast Jaguarundi *Puma yagouaroundi cacomitli*	Endangered	Typical habitat consists of mixed thornshrub species such as spiny hackberry, brasil, desert yaupon, wolfberry, lotebush, amargosa, whitebrush, catclaw, blackbrush, lantana, guayacan, cenizo, elbowbush, and Texas persimmon. Interspersed trees such as mesquite, live oak, ebony, and hackberry may also occur. Riparian habitats along rivers or creeks are sometimes used by Jaguarundis. Canopy cover and density of shrubs are important considerations in identifying suitable habitat. Little information exists concerning optimal habitat for the Jaguarundi in Texas. Scientists speculate that these elusive cats are similar to the Ocelot in their requirement for dense brush cover. Tracts of at least 100 acres of isolated dense brush, or 75 acres of brush interconnected with other habitat tracts by brush corridors, are considered important habitat. Even brush tracts as small as 5 acres, when adjacent to larger areas of habitat, may be used by Jaguarundis. Roads, narrow water bodies, and rights-of-way are not considered barriers to movements. Brushy fence lines, water courses, and other brush strips connecting areas of habitat are very important in providing escape and protective cover. These strip corridors are considered important habitat.	No Effect	The project area does not contain dense enough vegetation to have suitable habitat for this species. No effect is expected.
Ocelot Leopardus	Endangered	Restricted to mesquite-thorn scrub and live-oak mottes; avoids	No Effect	The project area does not

Species Name	Status	Condition Info	Effect	Pertinent Information
(=Felis) pardalis		open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.		contain dense vegetation. No effect is expected.
Tricolored Bat *Perimyotis subflavus*	Proposed Endangered	Tricolored Bats spend six to nine months per year hibernating in caves or mines, mostly at ambient temperatures of 46.4-55.4° F (8-13° C). They typically hibernate singly on cave walls or ceilings where there is minimal airflow. Relatively stable conditions are preferred, enabling the bats to arouse infrequently. These bats are loyal to their hibernation sites and may return to the same cave or mine every winter of their lives. During summer, the sexes live separately; males are often solitary while females form small maternity colonies of 35 individuals or less in buildings, tree cavities, and rock crevices. The tricolored bat forages along forest edges and over ponds and waterways for small insects, such as leafhoppers, ground beetles, flies, small moths, and flying ants.	May Affect	The project area includes trees and drainage structures that could be suitable summer habitat for this species. This species may be affected. BMPs recommended during construction are located in **Section 5.13**.
BIRDS				
Cactus Ferruginous Pygmy-owl *Glaucidium brasilianum cactorum*	Threatened	Ferruginous Pygmy-Owls occupy an incredible diversity of habitats, ranging from Sonoran desert scrub to seasonally flooded Amazonian rainforest. Across their extensive range, these owls occur in rainforest, tropical dry forest, scrubby semiopen areas, savanna, coffee plantations, clearings, and suburban yards. This is an edge species, frequently seen at the border of two habitat types. Although Ferruginous Pygmy-Owls do occur up to 6,500 feet in	May Affect	There are suburban lawns adjacent to the project area and mesquite trees within the project area that could provide suitable habitat for this species. This species

Species Name	Status	Condition Info	Effect	Pertinent Information
		elevation in some places, they are primarily a lowland species, and elevation can be a useful tool for differentiating them from other pygmy-owl species. In Texas, the largest breeding population in the U.S. inhabits live oak and mesquite forest. In Arizona, the species historically nested in cottonwood-mesquite forest and mesquite woodland along streams.		may be affected. BMPs recommended during construction are located in **Section 5.13**.
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*	Threatened	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine the potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia	May Impact	The project area contains resacas that could provide suitable habitat for this species. This species may be impacted. BMPs recommended during construction are included in **Section 5.13**.
Northern Aplomado Falcon *Falco femoralis septentrionalis*	Endangered	Aplomado falcons require open grassland or savannah habitat with scattered trees or shrubs.	No Effect	There is no open grassland or savannah habitat present in the project area. No effect is expected.
Piping Plover *Charadruis melodus*	Threatened	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes	No Effect	There are no beaches, sandflats, or dunes present in the project area. No effect is expected.

Species Name	Status	Condition Info	Effect	Pertinent Information
		along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.		

Species Name	Status	Condition Info	Effect	Pertinent Information
Rufa Red Knot *Calidris canutus rufa*	Threatened	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.	No Effect	There are no beaches or coastal areas present in the project area. No effect is expected.
REPTILES				
Green Sea Turtle *Chelonia mydas*	Threatened	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Hawksbills Sea Turtle *Eretmochelys imbricata*	Endangered	Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating algae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water	No Effect	There is no marine habitat present in the project site. No effect is expected.

Species Name	Status	Condition Info	Effect	Pertinent Information
		more than 65 feet deep. They feed on sponges, jellyfish, sea urchins, mollusks, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.		
Kemp's Ridley Sea Turtle *Lepidochelys kempii*	Endangered	Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.	No Effect	There is no marine habitat present in the project site. No effect is expected.
Leatherback Sea Turtle *Dermochelys coriacea*	Endangered	Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the sea turtles with the longest migration (10,000 miles) between	No Effect	There is no marine habitat present in the project site. No effect is expected.

Species Name	Status	Condition Info	Effect	Pertinent Information
		nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.		
Loggerhead Sea Turtle *Caretta caretta*	Threatened	Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.	No Effect	There is no marine habitat present in the project site. No effect is expected.
CLAMS				
Mexican Fanwsfoot *Truncilla cognata*	Proposed Endangered	Mexican fawnsfoot occur in medium to large rivers, in or adjacent to riffle and run habitats, as well as in stream bank habitats. Small-grained material, like clay, silt or sand, gathers in crevices and provides suitable habitat and great flow refuges from the large flood events that occur regularly. Mexican fawnsfoot use flow refuges to avoid being swept away as large volumes of water move through the system, as there is relatively little particle movement in these refuges, even during flooding.	No Impact	There are no medium or large rivers present in the project area. No impact is expected.

Species Name	Status	Condition Info	Effect	Pertinent Information
Salina Mucket *Potamilus metnecktayi*	Proposed Endangered	Occurs in medium to large rivers, where it may be found in substrates composed of various combinations of mud, sand, gravel, and cobble, as well as under rocks. It occurs in areas with slow to moderate current, most often in stable littoral habitats dominated by boulder or bedrock habitat; not known from reservoirs (Randklev et al. 2017b; Randklev et al. forthcoming). [Mussels of Texas 2019]	No Effect	The resaca and drainage ditch does not contain adequate habitat for this species. No effect is expected.
INSECTS				
Monarch Butterfly *Danaus plexippus*	Candidate	Monarchs can be found in a variety of habitats including grassland, tundra, coastal, mountain, urban, rural, and wetlands. Milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migration, but can only lay eggs on milkweed plants.	No Effect	The project area does not include any milkweed. No effect is expected.
FLOWERING PLANTS				
South Texas Ambrosia *Ambrosia cheiranthifolia*	Endangered	Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November	No Effect	According to the TPWD this species is not currently found in Cameron County. No effect is expected.
Texas Ayenia *Ayenia limitaris*	Endangered	Subtropical thorn woodland or tall shrubland on loamy soils of the Rio Grande Delta; known site soils include well-drained, calcareous, sandy clay loam (Hidalgo Series) and neutral to moderately alkaline, fine sandy	No Effect	Project area does not include subtropical thorn woodland or tall shrubland

Species Name	Status	Condition Info	Effect	Pertinent Information
		loam (Willacy Series); also under or among taller shrubs in thorn woodland/thorn shrubland; flowering throughout the year with sufficient rainfall		on loamy soils. No effect is expected.

APPENDIX B6

Social Implications & Environmental Justice

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Los Fresnos, TX

0.5 miles Ring Centered at 26.079267,-97.469461
Population: 1,477
Area in square miles: 0.79

A3 Landscape

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

COMMUNITY INFORMATION

- Low income: 49 percent
- People of color: 90 percent
- Less than high school education: 19 percent
- Limited English households: 7 percent
- Unemployment: 10 percent
- Persons with disabilities: 10 percent
- Male: 50 percent
- Female: 50 percent
- 78 years — Average life expectancy
- $19,135 — Per capita income
- Number of households: 468
- Owner occupied: 64 percent

BREAKDOWN BY RACE

- White: 10%
- Black: 0%
- American Indian: 0%
- Asian: 0%
- Hawaiian/Pacific Islander: 0%
- Other race: 0%
- Two or more races: 0%
- Hispanic: 90%

BREAKDOWN BY AGE

From Ages 1 to 4	5%
From Ages 1 to 18	31%
From Ages 18 and up	69%
From Ages 65 and up	13%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	100%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

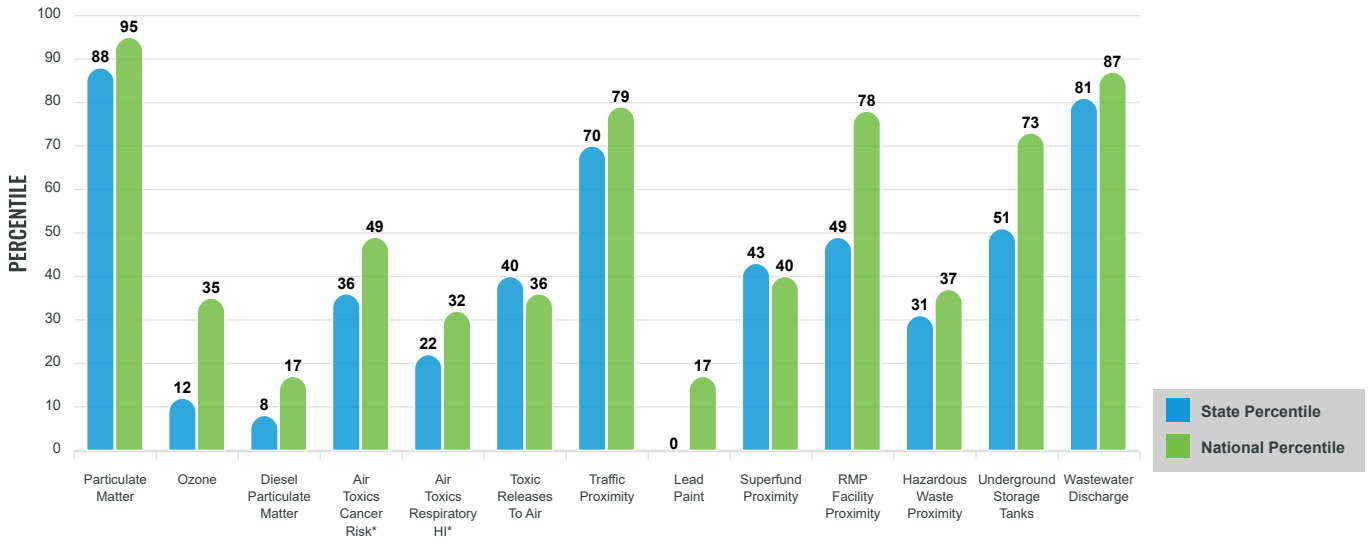
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

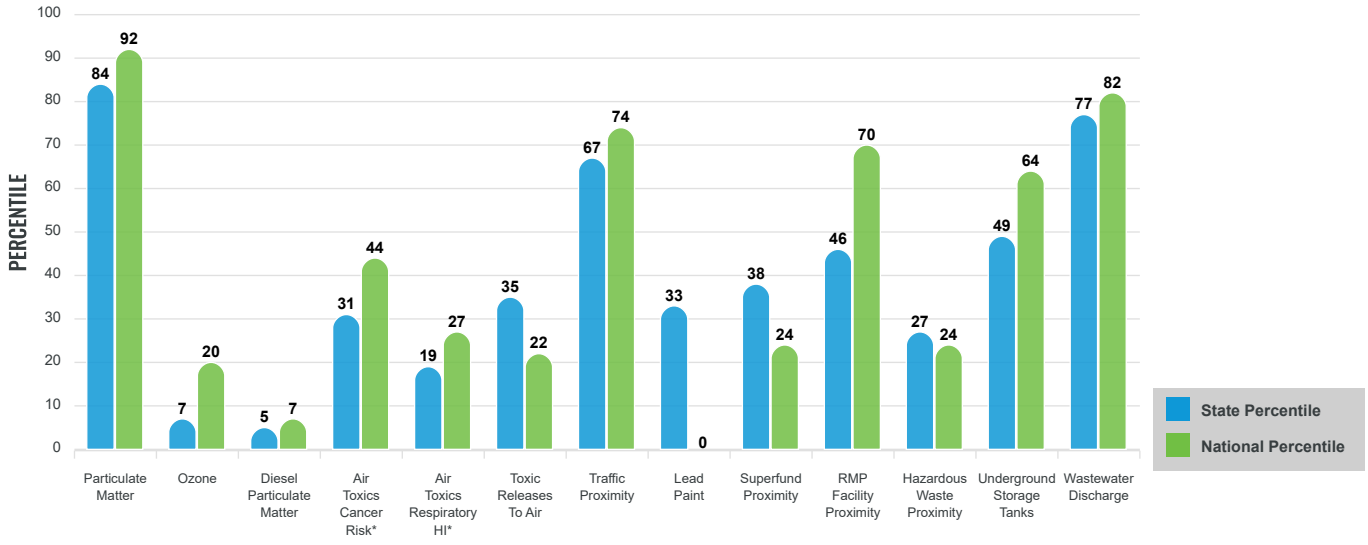
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 0.5 miles Ring Centered at 26.079267,-97.469461

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	9.83	9.11	78	8.08	88
Ozone (ppb)	55.5	64.6	5	61.6	10
Diesel Particulate Matter (µg/m^3)	0.0502	0.218	3	0.261	4
Air Toxics Cancer Risk* (lifetime risk per million)	20	28	1	25	5
Air Toxics Respiratory HI*	0.2	0.3	1	0.31	4
Toxic Releases to Air	18	12,000	19	4,600	11
Traffic Proximity (daily traffic count/distance to road)	80	150	49	210	51
Lead Paint (% Pre-1960 Housing)	0.0076	0.17	33	0.3	0
Superfund Proximity (site count/km distance)	0.016	0.085	20	0.13	12
RMP Facility Proximity (facility count/km distance)	0.15	0.63	26	0.43	45
Hazardous Waste Proximity (facility count/km distance)	0.056	0.75	13	1.9	11
Underground Storage Tanks (count/km^2)	0.46	2.3	29	3.9	38
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0039	0.91	61	22	60
SOCIOECONOMIC INDICATORS					
Demographic Index	69%	46%	80	35%	89
Supplemental Demographic Index	21%	17%	70	14%	81
People of Color	90%	58%	79	39%	89
Low Income	49%	34%	72	31%	79
Unemployment Rate	10%	5%	83	6%	82
Limited English Speaking Households	7%	8%	66	5%	80
Less Than High School Education	19%	16%	66	12%	80
Under Age 5	5%	6%	40	6%	46
Over Age 64	13%	14%	52	17%	38
Low Life Expectancy	19%	20%	38	20%	45

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 0
Hazardous Waste, Treatment, Storage, and Disposal Facilities 0
Water Dischargers 0
Air Pollution 0
Brownfields 0
Toxic Release Inventory 0

Other community features within defined area:

Schools 1
Hospitals 0
Places of Worship 0

Other environmental data:

Air Non-attainment ..... No
Impaired Waters ..... Yes

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... Yes
Selected location contains an EPA IRA disadvantaged community ..... Yes

Report for 0.5 miles Ring Centered at 26.079267,-97.469461

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	19%	20%	38	20%	45
Heart Disease	5.7	5.9	48	6.1	44
Asthma	8.5	9.2	23	10	13
Cancer	4.1	5.2	27	6.1	12
Persons with Disabilities	11.5%	12.3%	50	13.4%	43

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	15%	10%	83	12%	78
Wildfire Risk	53%	30%	69	14%	86

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	17%	15%	63	14%	67
Lack of Health Insurance	22%	18%	68	9%	94
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 0.5 miles Ring Centered at 26.079267,-97.469461

United States Census Bureau

QuickFacts

Los Fresnos city, Texas; Cameron County, Texas; Texas

QuickFacts provides statistics for all states and counties. Also for cities and towns with a ***population of 5,000 or more***.

All Topics	Los Fresnos city, Texas	Cameron County, Texas	Texas
Population estimates, July 1, 2023, (V2023)	NA	NA	**30,503,301**
PEOPLE			
Population			
Population estimates, July 1, 2023, (V2023)	NA	NA	**30,503,301**
Population Estimates, July 1, 2022, (V2022)	8,215	425,208	30,029,848
Population estimates base, April 1, 2020, (V2023)	NA	NA	29,145,459
Population estimates base, April 1, 2020, (V2022)	8,118	421,012	29,145,459
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	NA	NA	4.7%
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	1.2%	1.0%	3.0%
Population, Census, April 1, 2020	8,114	421,017	29,145,505
Population, Census, April 1, 2010	5,542	406,220	25,145,561
Age and Sex			
Persons under 5 years, percent	7.8%	7.1%	6.3%
Persons under 18 years, percent	36.3%	28.6%	24.8%
Persons 65 years and over, percent	9.0%	14.1%	13.4%
Female persons, percent	49.2%	50.5%	50.0%
Race and Hispanic Origin			
White alone, percent	57.6%	96.8%	77.4%
Black or African American alone, percent (a)	0.0%	1.0%	13.4%
American Indian and Alaska Native alone, percent (a)	0.4%	0.7%	1.1%
Asian alone, percent (a)	0.0%	0.9%	5.7%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.0%	0.1%	0.2%
Two or More Races, percent	35.8%	0.6%	2.3%
Hispanic or Latino, percent (b)	89.9%	89.8%	40.2%
White alone, not Hispanic or Latino, percent	10.1%	8.5%	39.8%
Population Characteristics			
Veterans, 2018-2022	170	12,348	1,416,973
Foreign born persons, percent, 2018-2022	19.8%	22.5%	17.1%
Housing			
Housing units, July 1, 2022, (V2022)	X	159,565	12,136,678
Owner-occupied housing unit rate, 2018-2022	66.6%	65.3%	62.4%
Median value of owner-occupied housing units, 2018-2022	$119,900	$109,600	$238,000
Median selected monthly owner costs -with a mortgage, 2018-2022	$1,453	$1,313	$1,913
Median selected monthly owner costs -without a mortgage, 2018-2022	$509	$438	$611
Median gross rent, 2018-2022	$808	$855	$1,251
Building permits, 2022	X	2,509	263,054
Families & Living Arrangements			
Households, 2018-2022	2,187	132,538	10,490,553
Persons per household, 2018-2022	3.70	3.16	2.73
Living in same house 1 year ago, percent of persons age 1 year+, 2018-2022	96.3%	91.7%	85.3%
Language other than English spoken at home, percent of persons age 5 years+, 2018-2022	67.8%	71.0%	35.1%
Computer and Internet Use			
Households with a computer, percent, 2018-2022	97.4%	87.6%	94.8%
Households with a broadband Internet subscription, percent, 2018-2022	83.9%	73.7%	88.4%
Education			
High school graduate or higher, percent of persons age 25 years+, 2018-2022	73.3%	70.9%	85.2%
Bachelor's degree or higher, percent of persons age 25 years+, 2018-2022	15.5%	19.5%	32.3%
Health			
With a disability, under age 65 years, percent, 2018-2022	7.2%	8.0%	8.2%
Persons without health insurance, under age 65 years, percent	26.4%	30.1%	18.9%

Economy			
In civilian labor force, total, percent of population age 16 years+, 2018-2022	55.9%	57.1%	64.6%
In civilian labor force, female, percent of population age 16 years+, 2018-2022	51.6%	50.9%	58.5%
Total accommodation and food services sales, 2017 ($1,000) (c)	7,402	753,230	74,369,383
Total health care and social assistance receipts/revenue, 2017 ($1,000) (c)	13,567	2,310,663	186,108,690
Total transportation and warehousing receipts/revenue, 2017 ($1,000) (c)	NA	724,614	101,947,033
Total retail sales, 2017 ($1,000) (c)	92,932	4,610,826	417,231,877
Total retail sales per capita, 2017 (c)	$12,032	$10,939	$14,748
Transportation			
Mean travel time to work (minutes), workers age 16 years+, 2018-2022	21.8	20.3	26.6
Income & Poverty			
Median household income (in 2022 dollars), 2018-2022	$39,536	$47,435	$73,035
Per capita income in past 12 months (in 2022 dollars), 2018-2022	$21,890	$21,440	$37,514
Persons in poverty, percent	⚠ 34.6%	⚠ 22.6%	⚠ 14.0%
BUSINESSES			
Businesses			
Total employer establishments, 2021	X	6,569	638,183
Total employment, 2021	X	110,493	10,798,364
Total annual payroll, 2021 ($1,000)	X	3,523,838	660,487,293
Total employment, percent change, 2020-2021	X	-2.5%	-3.7%
Total nonemployer establishments, 2020	X	33,722	2,699,864
All employer firms, Reference year 2017	82	4,792	423,488
Men-owned employer firms, Reference year 2017	30	2,713	248,029
Women-owned employer firms, Reference year 2017	S	S	85,010
Minority-owned employer firms, Reference year 2017	23	2,460	111,086
Nonminority-owned employer firms, Reference year 2017	S	1,624	280,280
Veteran-owned employer firms, Reference year 2017	S	S	27,092
Nonveteran-owned employer firms, Reference year 2017	48	3,877	361,218
GEOGRAPHY			
Geography			
Population per square mile, 2020	1,978.5	472.1	111.6
Population per square mile, 2010	1,886.7	456.0	96.3
Land area in square miles, 2020	4.10	891.71	261,267.85
Land area in square miles, 2010	2.94	890.92	261,231.71
FIPS Code	4844116	48061	48

About datasets used in this table

Value Notes

⚠ Methodology differences may exist between data sources, and so estimates from different sources are not comparable.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info ⓘ icon to the left of each row in TAI learn about sampling error.

The vintage year (e.g., V2023) refers to the final year of the series (2020 thru 2023). Different vintage years of estimates are not comparable.

In Vintage 2022, as a result of the formal request from the state, Connecticut transitioned from eight counties to nine planning regions. For more details, please see the Vintage 2022 release notes available here: Release Notes.

Users should exercise caution when comparing 2018-2022 ACS 5-year estimates to other ACS estimates. For more information, please visit the 2022 5-year ACS Comparison Guidance page.

Fact Notes

(a)	Includes persons reporting only one race
(c)	Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data
(b)	Hispanics may be of any race, so also are included in applicable race categories

Value Flags

-	Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest or upper interval of an open ende
F	Fewer than 25 firms
D	Suppressed to avoid disclosure of confidential information
N	Data for this geographic area cannot be displayed because the number of sample cases is too small.
FN	Footnote on this item in place of data
X	Not applicable
S	Suppressed; does not meet publication standards
NA	Not available
Z	Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, Stat Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

APPENDIX B7

Public Meeting

APPENDIX C

Agency Coordination

*Duplicate pages redacted

Texas Historical Commission

Lane Page

From: noreply@thc.state.tx.us
Sent: Thursday, May 16, 2024 11:03 AM
To: Lane Page; reviews@thc.state.tx.us
Subject: City of Los Fresnos, Resaca Escondida Drainage Improvements

TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas
THC Tracking #202409652
Date: 05/16/2024
City of Los Fresnos, Resaca Escondida Drainage Improvements
FM 2480 between Huisache St. and Valley Oak Cir.
Los Fresnos,TX 78566

Description: Drainage improvements: install outlet from Resaca Escondida to existing drainage ditch, regrade ditch channel, replace two existing culverts within ditch

Dear Lane Page:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act and the Antiquities Code of Texas.

The review staff, led by Caitlin Brashear and Mary Galindo, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please

contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: caitlin.brashear@thc.texas.gov, Mary.Galindo@thc.texas.gov.

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Bradford Patterson
Chief Deputy State Historic Preservation Officer

Please do not respond to this email.

U.S. Army Corps of Engineers

Ali Whitehead

From: Kimmel, Matthew L CIV USARMY CESWG (USA) <Matthew.L.Kimmel@usace.army.mil>
Sent: Wednesday, October 11, 2023 1:19 PM
To: Paolina Vega
Subject: RE: SWG-2023-00673 (Resaca Escondida Drainage Improvements / Los Fresnos / Cameron Co)
Attachments: SWG-2023-00673_20231003_ResacaEscondida_USACECoordination.pdf; Eng_Form_6082_2019Jun.pdf; CMPConsistencyStatement-Corpus.pdf

Good afternoon.

On 3 October 2023, we received a request for a Corps review for a proposed project with regards to possible impacts to jurisdictional waters. The City of Los Fresnos is proposing to improve drainage of the Resaca Escondida by installing an outlet from the east side of the Resaca to an existing man-made drainage ditch belonging to the Cameron County Drainage District No. 1. It is not clear whether the City is formally requesting an approved jurisdictional determination (AJD) on the Resaca Escondida and/or the drainage ditch, or whether the proposed project would have the likely impact on jurisdictional waters; and therefore, would require a permit.

Because of the recent Supreme Court decision and subsequent direction from both the EPA and Corps HQ regarding review of all waters for determining jurisdiction, it may be some time before we can provide an AJD regarding the Resaca Escondida and/or the drainage ditch. The process is currently slow with multiple levels of review involved. It may be more expedient for the applicant to simply request review and verification of the project under the general conditions of Nationwide Permit 7 without the need for an AJD.

The types of permitted activities and associated permits are listed here:
https://www.swg.usace.army.mil/Missions/Regulatory/Permits/

See the steps below for specifics.

If you wish to pursue an AJD for the aforementioned waters:

(1) The attached form (RGL 16-01 Appendix 1_Request for Corps JD) is used for a formal request for jurisdictional determination for your parcel(s).

Please fill out the attached form with any additional information (map of parcels in question, with clear boundaries of the review area) and please email to CESWGRegulatoryInbox@usace.army.mil or mail/deliver to the following address:

US Army Corps of Engineers

5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

Additionally, here is a link to the permitting website for the Corps of Engineers if you have any further questions regarding the permitting process or you wish to review information regarding the Regulatory Program: https://www.swg.usace.army.mil/Missions/Regulatory/

(2): If you wish to pursue verification of the project under the general conditions of Nationwide Permit 7 (an AJD is not required):

Attached are the forms necessary for requesting a Corps permit for the proposed project (ENG Form 6082).

Once filled out, with appropriate attachments (see the instruction sheet), please email to CESWGRegulatoryInbox@usace.army.mil <mailto:CESWGRegulatoryInbox@usace.army.mil> or mail/deliver to the following address:

US Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, TX 78411

Please do not hesitate to contact me with any questions.

Respectfully,

Matthew Kimmel
Project Manager
Corpus Christi, TX Regulatory Office
US Army Corps of Engineers
361-814-5847x1002
Web: www.swg.usace.army.mil
Facebook: www.facebook.com/GalvestonDistrict
DVIDS: www.dvidshub.net/units/USACE-GD
Twitter: www.twitter.com/usacegalveston
Flickr: http://www.flickr.com/photos/98857835@N08/
To assist us in improving our service to you, please complete the survey found at https://regulatory.ops.usace.army.mil/customer-service-survey/

-----Original Message-----
From: Brown, Gina S CIV SWG <Gina.S.Brown@usace.army.mil>
Sent: Thursday, October 05, 2023 2:34 PM
To: PVega@hanson-inc.com
Cc: Kimmel, Matthew L CIV USARMY CESWG (USA) <Matthew.L.Kimmel@usace.army.mil>
Subject: SWG-2023-00673 (Resaca Escondida Drainage Improvements / Los Fresnos / Cameron Co)

We received your request on October 3, 2023. It has been assigned Corps of Engineers file number SWG-

2023-00673 has been assigned to Mr. Matthew Kimmel. Mr. Kimmel may be reached by telephone at 361-814-5847 (ext 1002) or by e-mail at Matthew.L.Kimmel@usace.army.mil <mailto:Matthew.L.Kimmel@usace.army.mil> .

Please allow Mr. Kimmel time to review this action and note that he will contact you if further information is required.

Please reference the above number on any future correspondence to this office.

Very Respectfully,

Gina S. Brown

Legal Instruments Examiner

Regulatory Division

Corpus Christi Field Office

☎: (361) 814-5847 x1001

Email: Gina.S.Brown@usace.army.mil <mailto:Gina.S.Brown@usace.army.mil>

Hanson Professional Services Inc.
600 Washington Avenue, Suite 950
St. Louis, Mo 63101
(314) 770-0467
www.hanson-inc.com

November 1, 2023

Mr. Matthew Kimmel, Project Manager
U.S. Army Corps of Engineers
Corpus Christi Regulatory Office
5151 Flynn Parkway, Suite 306
Corpus Christi, TX 78411

Re: SWG-2023-00673
Request for Department of the Army Permit and
Pre-Construction Notification
Resaca Escondida Drainage Improvements
City of Los Fresnos
Cameron County, Texas

Dear Mr. Kimmel:

The City of Los Fresnos (City) requests Section 404/401 permit authorization for minor impacts to Resaca Escondida and an unnamed drainage ditch to improve drainage of the resaca. Hanson Professional Services Inc. (Hanson) is serving as the authorized agent for the City, the applicant.

Resaca Escondida is an isolated oxbow lake. The unnamed drainage ditch was excavated in an upland and is not depicted as a mapped blue line on the U.S. Geological Survey (USGS) topographic map or National Wetland Inventory (NWI) map. It is unlikely the resaca and the drainage ditch would be considered jurisdictional under the pre-2015 regulatory regime and Sackett decision. However, e-mail correspondence with the U.S. Army Corps of Engineers (USACE) Corpus Christi regulatory office indicated that, given recent changes to the definition of waters of the United States (WOTUS), verification of the project under a nationwide permit may be more expedient than an approved jurisdictional determination (AJD). Therefore, the City is requesting verification that drainage improvements are covered under Nationwide Permit 7. The following sections and attachments, including Engineering Form 6082, provide notification for minor impacts to the resaca and drainage ditch.

Attachment A – Engineering Form 6082
Attachment B – CMP Consistency Form
Attachment C – Resaca Escondida Drainage Improvement Plans
Attachment D – Figures
Attachment E – Photographs

PROJECT DESCRIPTION

The City is proposing to improve drainage of the resaca by installing an outlet from the east side of the resaca to an existing man-made drainage ditch belonging to the Cameron County Drainage District No. 1. Improvement plans are included in Attachment C, location maps are included in Attachment D and site photographs are included in Attachment E. The resaca does not have an outlet and depends on evaporation and transpiration for water levels to recede after heavy rain events. The outlet will consist of a reinforced concrete culvert connecting the resaca to the drainage ditch. To maintain water levels in the resaca, a manual valve is included in the culvert design. Permanent impacts associated with the new culvert connecting the resaca and drainage ditch include placement of the culvert within the resaca below the waterline, an impact of 120 square feet.

To improve conveyance of water within the drainage ditch, two existing culverts will be replaced with new 36-inch reinforced concrete pipe culverts with new invert elevations. The channel of the drainage canal will be graded to match inverts and carry water south, away from the project area.

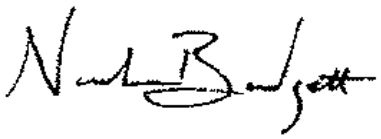
Best Management Practices (BMPs) will be used throughout construction and all material excavated from the existing drainage ditch will be placed in uplands and contained by silt fence. Materials will be stabilized so as to not be dispersed by any water flow. An Erosion and Pollution Control Plan (E&PCP) has been prepared for this project and is presented on pages 3 and 4 of Attachment C.

REQUEST FOR AUTHORIZATION

On behalf of the City, we respectfully request Section 404/401 permit authorization for minor impacts to Resaca Escondida and the unnamed drainage ditch. Engineering Form 6082 form is included in Attachment A to initiate the permit process and provide pre-construction notification.

Thank you for your time and attention regarding this project. Please contact me at 618-623-2636 if you have questions or need additional information.

Sincerely,
HANSON PROFESSIONAL SERVICES INC.



Nathan Badgett
Biologist

CC – Paolina Vega, Senior Project Manager - Hanson

Attachments

ATTACHMENT A

ENGINEERING FORM 6082

U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

33 CFR 330. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 02-28-2022

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority	Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332.
Principal Purpose	Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.
Routine Uses	This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.
Disclosure	Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First - Mark Middle - W. Last - Milum	First - Nathan Middle - David Last - Badgett
Company - City of Los Fresnos	Company - Hanson Professional Services, Inc.
Company Title - City Manager	E-mail Address - nbadgett@hanson-inc.com
E-mail Address - mmilum@citylf.us	
6. APPLICANT'S ADDRESS:	**9. AGENT'S ADDRESS:**
Address- 520 E. Ocean Blvd.	Address- 600 Washington Ave., Suite 950
City - Los Frensos State - TX Zip - 78566 Country - USA	City - St. Louis State - MO Zip - 63101 Country - USA
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Residence b. Business 956-233-5768 c. Fax d. Mobile	a. Residence b. Business 314-942-5297 c. Fax d. Mobile 618-623-2636

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Hanson Professional Services to act in my behalf as my agent in the processing of this this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

Mark W Milum 10/31/23

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)

Resaca Escondida Drainage Improvements

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)
Resaca Escondida, unnamed drainage ditch

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)
n/a

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude °N	Longitude °W	City:	State:	Zip:
26.080291	-97.469426	Los Fresnos	TX	78566

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

State Tax Parcel ID

Municipality
Los Fresnos

Section | Township | Range

17. DIRECTIONS TO THE SITE.
From intersection of W. Ocean Blvd. and S. Arroyo Blvd.: North on N. Arroyo for 0.4 miles; left (east) on E. Resaca Dr. for 0.4 miles. Park at cul-de-sac. Walk north along bike path for 400 feet.

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE:
NWP 7

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)
Installation of a new culvert is proposed to connect Resaca Escondida to an unnamed drainage ditch. To further improve conveyance of water away from the resaca, two existing culverts within the drainage ditch will be replaced with new culverts at new invert elevations. To match the ditch channel to invert elevations, minimal grading within the drainage ditch is proposed.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)
Impact of 120 square feet is below mitigation threshold for NWP 7. BMPs will be used throughout construction and excavated material stored in upland and contained by silt fence. Erosion and Pollution control plan has been prepared for this project.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)
Project will alleviate flooding within the resaca.

22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by Proposed Nationwide Permit Activity (*see instructions*)

Acres	Linear Feet	Cubic Yards Dredged or Discharged
Resaca Escondida: 0.0027 acres	40	

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project on any related activity (*see instructions*)
n/a

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.
n/a

25. Is Any Portion of the Nationwide Permit Activity Already Complete? ☐ Yes ☒ No If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Project will occur within a drainage ditch (dry most of the year) and an isolated oxbow lake surrounded by residential subdivision. No impacts to T&E species anticipated.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

No historic properties impacted by project.

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

n/a

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☐ No

If "yes", please provide the date your request was submitted to the Corps District:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

n/a

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that this information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
	10/31/23		11/1/2023

The Pre-Construction Notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Instructions for Preparing a

Department of the Army

Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant' Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity,including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distance crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 21.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands When Pre-Construction Notification is Required. Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum one-for-one replacement ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 29.

Blocks 31 and 32. For bank stabilization activities, we are collecting information on the use of living shorelines in coastal waters and lakes to inform future NWP rulemaking efforts. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 31 to indicate whether you considered the use of a living shoreline to protect your property from erosion. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 32 to indicate whether there are contractors in your area that construct living shorelines.

Block 33. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

ATTACHMENT B

COASTAL MANAGEMENT PROGRAM CONSISTENCY FORM

CONSISTENCY WITH THE TEXAS COASTAL MANAGEMENT PROGRAM

THE APPLICANT SHOULD SIGN THIS STATEMENT AND RETURN WITH APPLICATION PACKET TO:

COASTAL PERMIT SERVICE CENTER
602 N. STAPLES STREET, SUITE 240
CORPUS CHRISTI, TX 78401
FAX: (361) 888-9305

FOR USACE USE ONLY:

PERMIT #: _____

PROJECT MGR: _____

APPLICANT'S NAME AND ADDRESS (PLEASE PRINT):

Title: Mr. | First: Mark | Last: Milum | Suffix:

Mailing Address: 520 E. Ocean Blvd.

Home:
Work: 956-233-5768
Mobile:
Fax:

City: Los Fresnos | State: Texas | Zip Code: 78566

Country: USA | Email: mmilum@citylf.us

The Texas Coastal Management Program (CMP) coordinates state, local, and federal programs for the management of Texas coastal resources. Activities within the CMP boundary must comply with the enforceable policies of the Texas Coastal Management Program and be conducted in a manner consistent with those policies. The boundary definition is contained in the CMP rules (31 TAC §503.1).

- To determine whether your proposed activity lies within the CMP boundary, please contact the Permit Service Center at permitting.assistance@glo.texas.gov

PROJECT DESCRIPTION:

Is the proposed activity at a waterfront site or within coastal, tidal, or navigable waters? ☐ Yes ☑ No

If Yes, name affected coastal, tidal, or navigable waters:

Is the proposed activity water dependent? ☑ Yes ☐ No (31 TAC §501.3(a)(14))

http://tinyurl.com/CMPdefinitions

Please briefly describe the project and all possible effects on coastal resources:

Installation of a new culvert is proposed to connect Resaca Escondida to an unnamed drainage ditch. To further improve conveyance of water away from the resaca, two existing culverts within the drainage ditch will be replaced with new culverts at new invert elevations. To match the ditch channel to invert elevations, minimal grading within the drainage ditch is proposed.

Indicate area of impact: 120 ☐ acres or ☑ square feet

ADDITIONAL PERMITS/ AUTHORIZATIONS REQUIRED:

- ☐ Coastal Easement - Date application submitted:
- ☐ Coastal Lease - Date application submitted:
- ☐ Stormwater Permit- Date application submitted:
- ☑ Water Quality Certification - Date application submitted: (assumed under Nationwide Permit)
- ☑ Other state/federal/local permits/authorizations required: USACE Nationwide Permit

The proposed activity must not adversely affect coastal natural resource areas (CNRAs).

PLEASE CHECK ALL COASTAL NATURAL RESOURCE AREAS THAT MAY BE AFFECTED:

- ☐ Coastal Barriers
- ☐ Coastal Historic Areas
- ☐ Coastal Preserves
- ☐ Coastal Shore Areas
- ☐ Coastal Wetlands
- ☐ Critical Dune Areas
- ☐ Critical Erosion Areas
- ☐ Gulf Beaches
- ☐ Hard Substrate Reefs
- ☐ Oyster Reefs
- ☐ Special Hazard Areas
- ☑ Submerged Lands
- ☐ Submerged Aquatic Vegetation
- ☐ Tidal Sand or Mud Flats
- ☐ Waters of Gulf of Mexico
- ☐ Waters Under Tidal Influence

The applicant affirms that the proposed activity, its associated facilities, and their probable effects comply with the relevant enforceable policies of the CMP, and that the proposed activity will be conducted in a manner consistent with such policies.

PLEASE CHECK ALL APPLICABLE ENFORCEABLE POLICIES:

http://tinyurl.com/CMPpolicies

☐	§501.15 Policy for Major Actions
☐	§501.16 Policies for Construction of Electric Generating and Transmission Facilities
☐	§501.17 Policies for Construction, Operation, and Maintenance of Oil and Gas Exploration and Production Facilities
☐	§501.18 Policies for Discharges of Wastewater and Disposal of Waste from Oil and Gas Exploration and Production Activities
☐	§501.19 Policies for Construction and Operation of Solid Waste Treatment, Storage, and Disposal Facilities
☐	§501.20 Policies for Prevention, Response and Remediation of Oil Spills
☐	§501.21 Policies for Discharge of Municipal and Industrial Wastewater to Coastal Waters
☐	§501.22 Policies for Nonpoint Source (NPS) Water Pollution
☐	§501.23 Policies for Development in Critical Areas
☐	§501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands
☐	§501.25 Policies for Dredging and Dredged Material Disposal and Placement
☐	§501.26 Policies for Construction in the Beach/Dune System
☐	§501.27 Policies for Development in Coastal Hazard Areas
☐	§501.28 Policies for Development Within Coastal Barrier Resource System Units and Otherwise Protected Areas on Coastal Barriers
☐	§501.29 Policies for Development in State Parks, Wildlife Management Areas or Preserves
☐	§501.30 Policies for Alteration of Coastal Historic Areas
☐	§501.31 Policies for Transportation Projects
☐	§501.32 Policies for Emission of Air Pollutants
☐	§501.33 Policies for Appropriations of Water
☑	§501.34 Policies for Levee and Flood Control Projects

Please explain how the proposed project is consistent with the applicable enforceable policies identified above. Please use additional sheets if necessary. *For example: If you are constructing a pier with a covered boathouse, then the applicable enforceable policy is: §501.24 Policies for Construction of Waterfront Facilities and Other Structures on Submerged Lands. The project is consistent because it will not interfere with navigation, natural coastal processes, and avoids/minimizes shading.*

The proposed project is intended to alleviate flooding within Resaca Escondida, an isolated oxbow lake. Water levels in Resaca Escondida will be maintained at current non-flood conditions. The receiving water is an unnamed drainage ditch owned and operated by Cameron County Drainage District No. 1. Neither the resaca nor the drainage ditch are classified as coastal wetlands. Therefore, the proposed project meets requirements of 501.34 in that it will be designed, constructed, and maintained while avoiding coastal wetlands.

BY SIGNING THIS STATEMENT, THE APPLICANT IS STATING THAT THE PROPOSED ACTIVITY COMPLIES WITH THE TEXAS COASTAL MANAGEMENT PROGRAM AND WILL BE CONDUCTED IN A MANNER CONSISTENT WITH SUCH PROGRAM

Mark W Mahan — Signature of Applicant/Agent

10/30/23 — Date

Any questions regarding the Texas Coastal Management Program should be referred to:

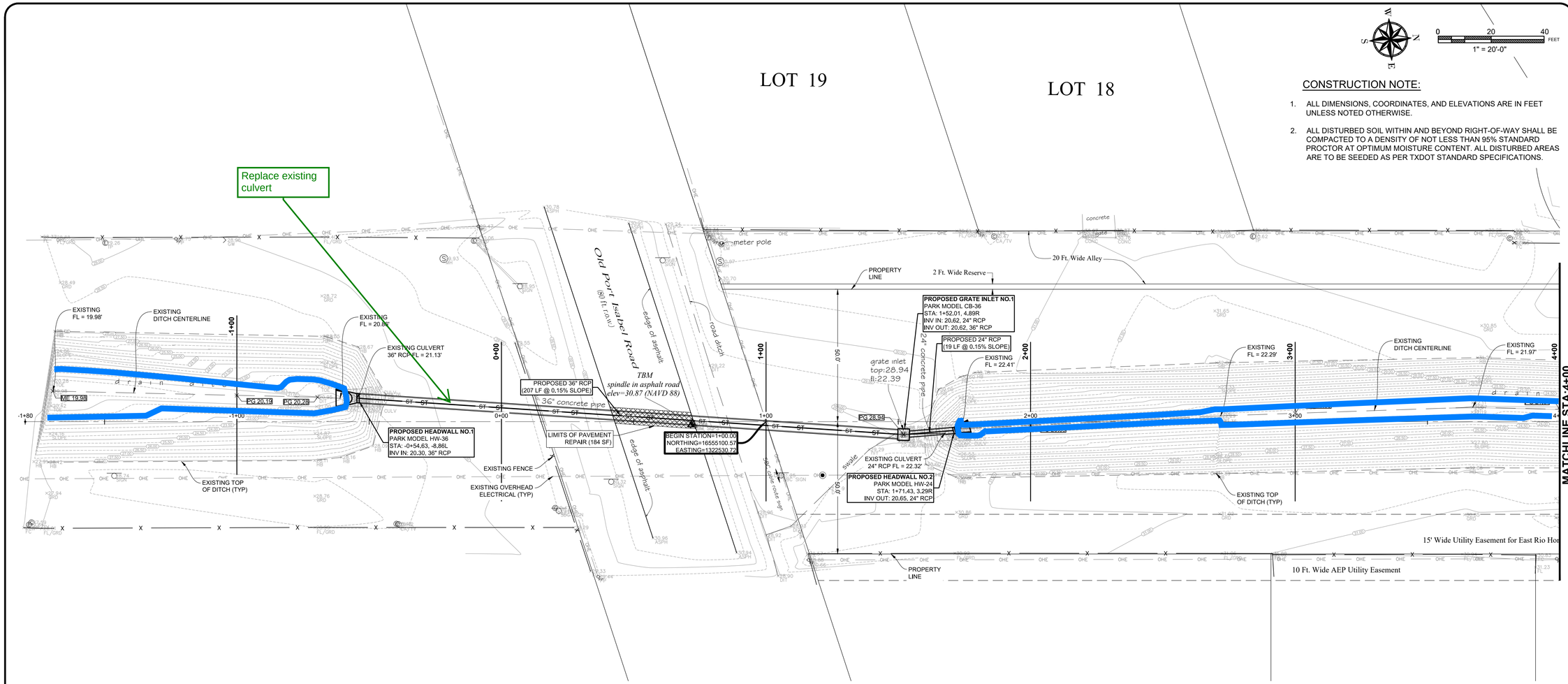
Jesse Solis
Texas General Land Office
602 N. Staples St., Suite 240
Corpus Christi, Texas 78401
Phone: (361) 886-1630
Fax: (361) 888-9305
permitting.assistance@glo.texas.gov

Texas General Land Office
Coastal Protection Division
1700 North Congress Avenue, Room 330
Austin, Texas 78701-1495
Toll Free: 1-800-998-4GLO
federal.consistency@glo.texas.gov

Print Form

ATTACHMENT C

RESACA ESCONDIDA DRAINAGE IMPROVEMENT PLANS

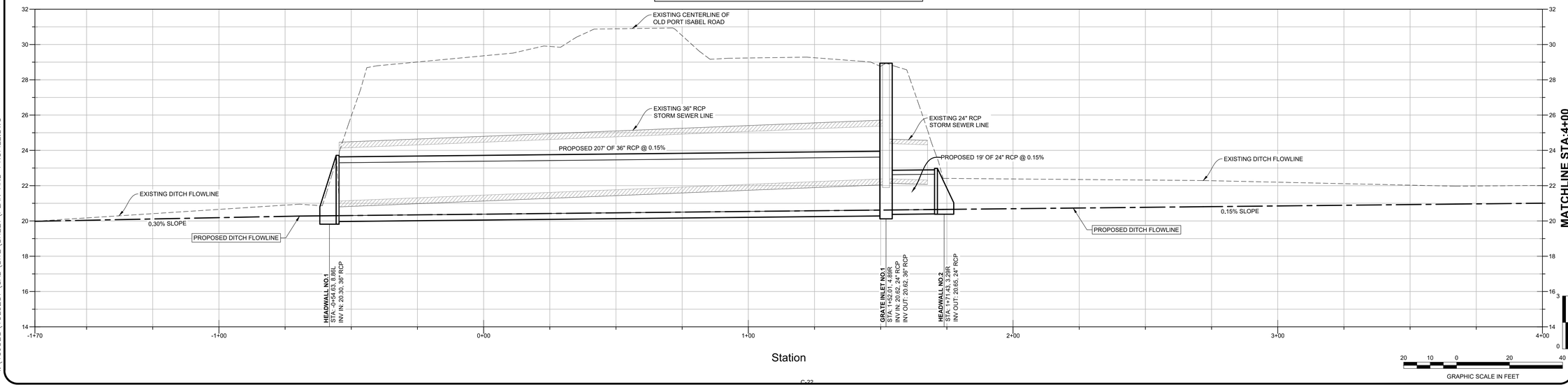


CONSTRUCTION NOTE:

1. ALL DIMENSIONS, COORDINATES, AND ELEVATIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL DISTURBED SOIL WITHIN AND BEYOND RIGHT-OF-WAY SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% STANDARD PROCTOR AT OPTIMUM MOISTURE CONTENT. ALL DISTURBED AREAS ARE TO BE SEEDED AS PER TXDOT STANDARD SPECIFICATIONS.

0 20 40 FEET
1" = 20'-0"

STA:-1+69.53 - STA:4+00.00 PROFILE



REV.	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

- TEXAS -
LOS FRESNOS
COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
Filename PLAN AND PROFILE
Scale AS SHOWN
Date SEPTEMBER 2020

LAYOUT	CBT
DRAWN	CMP
REVIEWED	CBT

STATE OF TEXAS
COLTON M. PHILLIPS
132226
LICENSED
PROFESSIONAL ENGINEER
DATE 09.03.2020

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TBPE F-471 / TBPLS F-10060
TBPG F-50556 / TBAE F-BR 2458

PLAN AND PROFILE
STA -1+70 TO 4+00

RESACA ESCONDIDA DRAINAGE
IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C400
7 of 11 sheets

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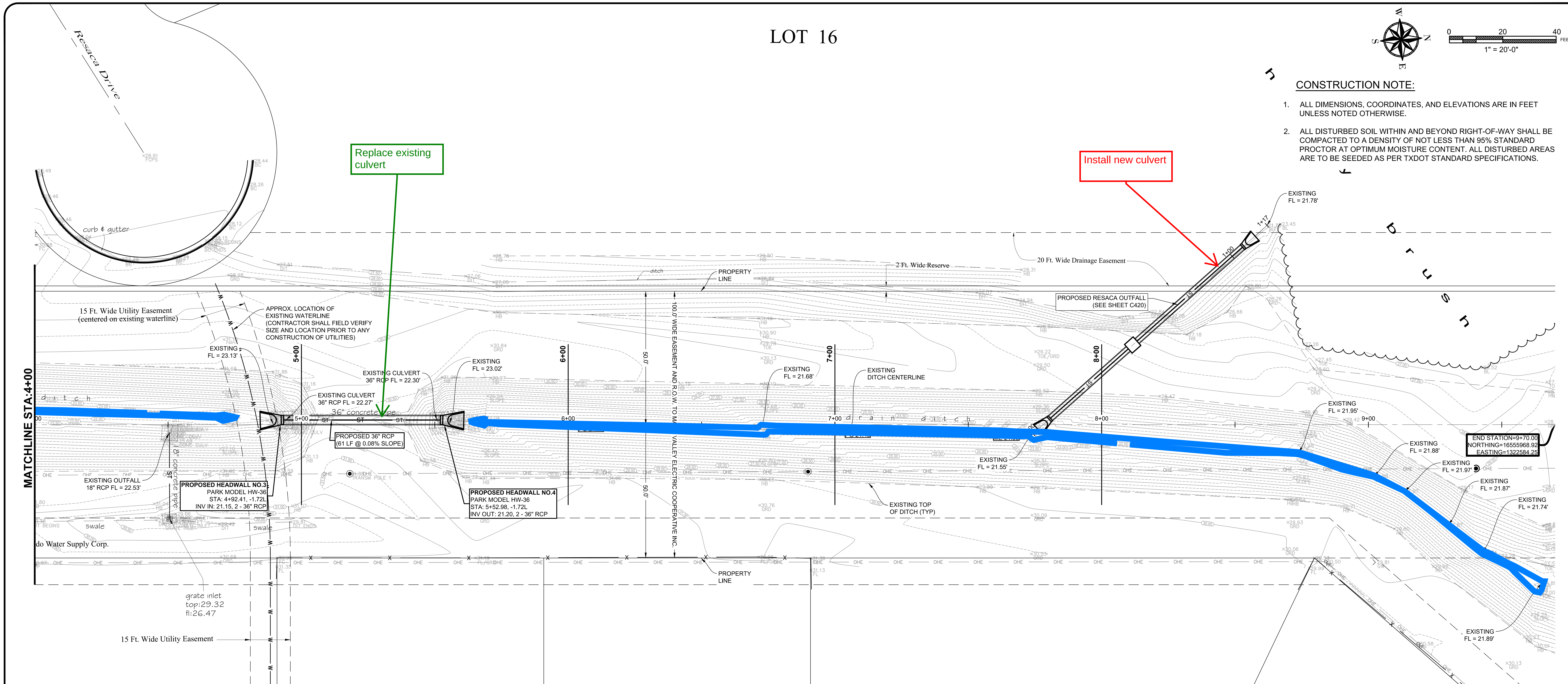

LOT 16
Resaca Drive
Replace existing culvert
Install new culvert
MATCHLINE STA:4+00
15 Ft. Wide Utility Easement (centered on existing waterline)
APPROX. LOCATION OF EXISTING WATERLINE (CONTRACTOR SHALL FIELD VERIFY SIZE AND LOCATION PRIOR TO ANY CONSTRUCTION OF UTILITIES)
EXISTING FL = 23.13'
EXISTING CULVERT 36" RCP FL = 22.30'
EXISTING CULVERT 36" RCP FL = 22.27'
EXISTING FL = 23.02'
PROPOSED 36" RCP (61 LF @ 0.08% SLOPE)
PROPOSED HEADWALL NO.3 PARK MODEL HW-36 STA: 4+92.41, -1.72L INV IN: 21.15, 2 - 36" RCP
PROPOSED HEADWALL NO.4 PARK MODEL HW-36 STA: 5+52.98, -1.72L INV OUT: 21.20, 2 - 36" RCP
EXISTING OUTFALL 18" RCP FL = 22.53'
100.0' WIDE EASEMENT AND R.O.W. TO MAGIC VALLEY ELECTRIC COOPERATIVE INC.
PROPERTY LINE
2 Ft. Wide Reserve
20 Ft. Wide Drainage Easement
PROPOSED RESACA OUTFALL (SEE SHEET C420)
EXISTING FL = 21.68'
EXISTING DITCH CENTERLINE
EXISTING FL = 21.55'
EXISTING TOP OF DITCH (TYP)
EXISTING FL = 21.78'
EXISTING FL = 21.95'
EXISTING FL = 21.88'
EXISTING FL = 21.97'
EXISTING FL = 21.87'
EXISTING FL = 21.74'
EXISTING FL = 21.89'
END STATION=9+70.00 NORTHING=16555968.92 EASTING=1322584.25
grate inlet top:29.32 fl:26.47
15 Ft. Wide Utility Easement
1" = 20'-0"

CONSTRUCTION NOTE:

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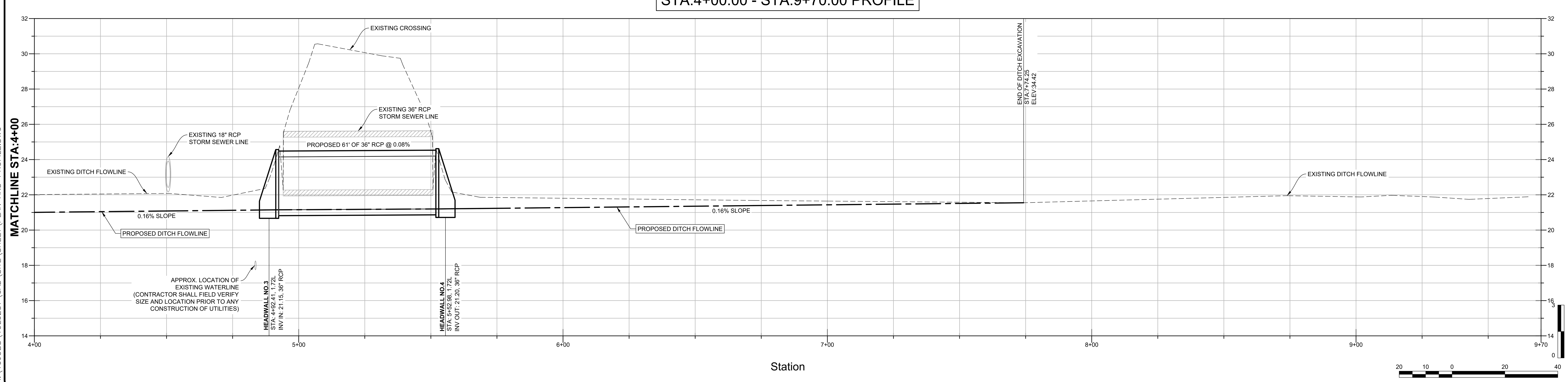
STA:4+00.00 - STA:9+70.00 PROFILE



MATCHLINE STA:4+00
EXISTING CROSSING
EXISTING 36" RCP STORM SEWER LINE
EXISTING 18" RCP STORM SEWER LINE
PROPOSED 61' OF 36" RCP @ 0.08%
EXISTING DITCH FLOWLINE
0.16% SLOPE
PROPOSED DITCH FLOWLINE
END OF DITCH EXCAVATION STA: 7+74.25 ELEV: 34.42
APPROX. LOCATION OF EXISTING WATERLINE (CONTRACTOR SHALL FIELD VERIFY SIZE AND LOCATION PRIOR TO ANY CONSTRUCTION OF UTILITIES)
HEADWALL NO.3 STA: 4+92.41, 1.72L INV IN: 21.15, 36" RCP
HEADWALL NO.4 STA: 5+52.98, 1.72L INV OUT: 21.20, 36" RCP
Station
GRAPHIC SCALE IN FEET

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REV	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No. 19L0257
Filename PLAN AND PROFILE
Scale AS SHOWN
Date SEPTEMBER 2020
LAYOUT CBT
DRAWN CMP
REVIEWED CBT

STATE OF TEXAS — COLTON M. PHILLIPP — 132226 — LICENSED PROFESSIONAL ENGINEER
DATE: 09.03.2020

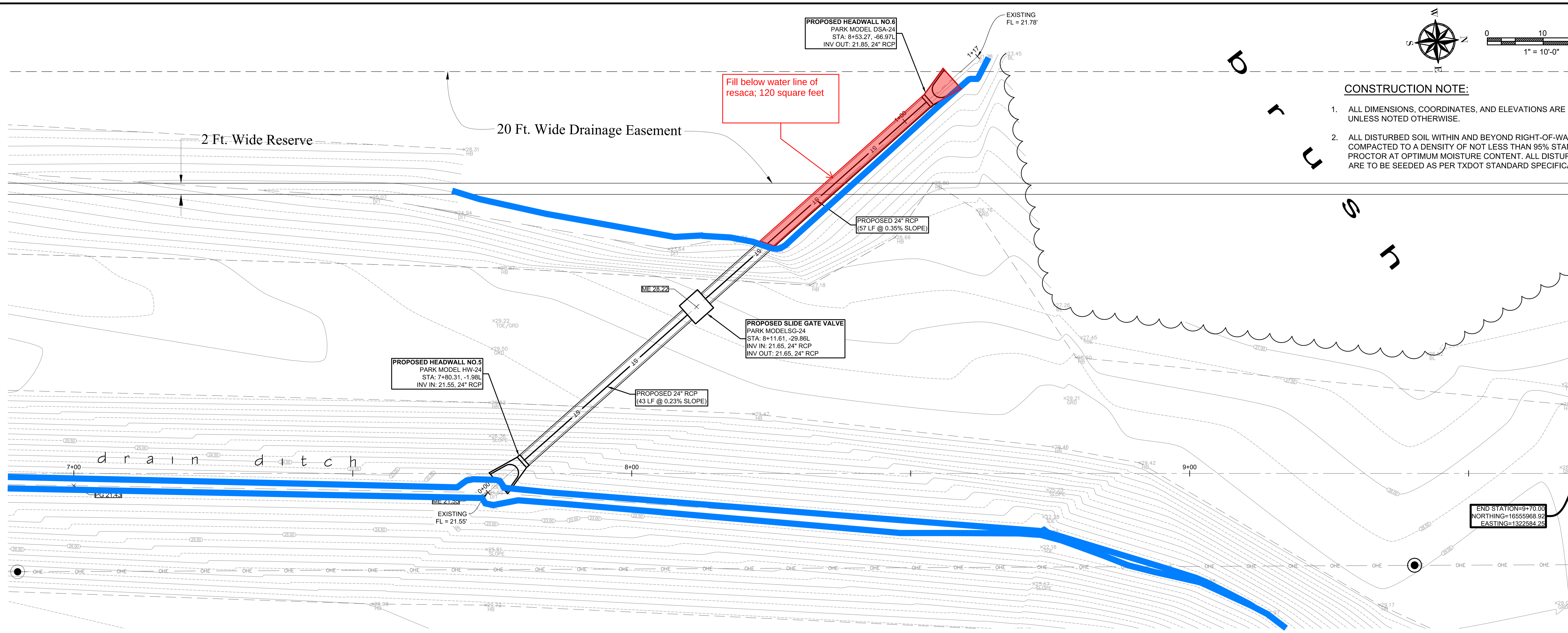
HANSON
Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TBPE F-417 / TBPLS F-10039500
TBPG F-50506 / TBAE F-BR 2458

PLAN AND PROFILE
STA 4+00 TO 9+70

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C410
8 of 11 sheets

C-23



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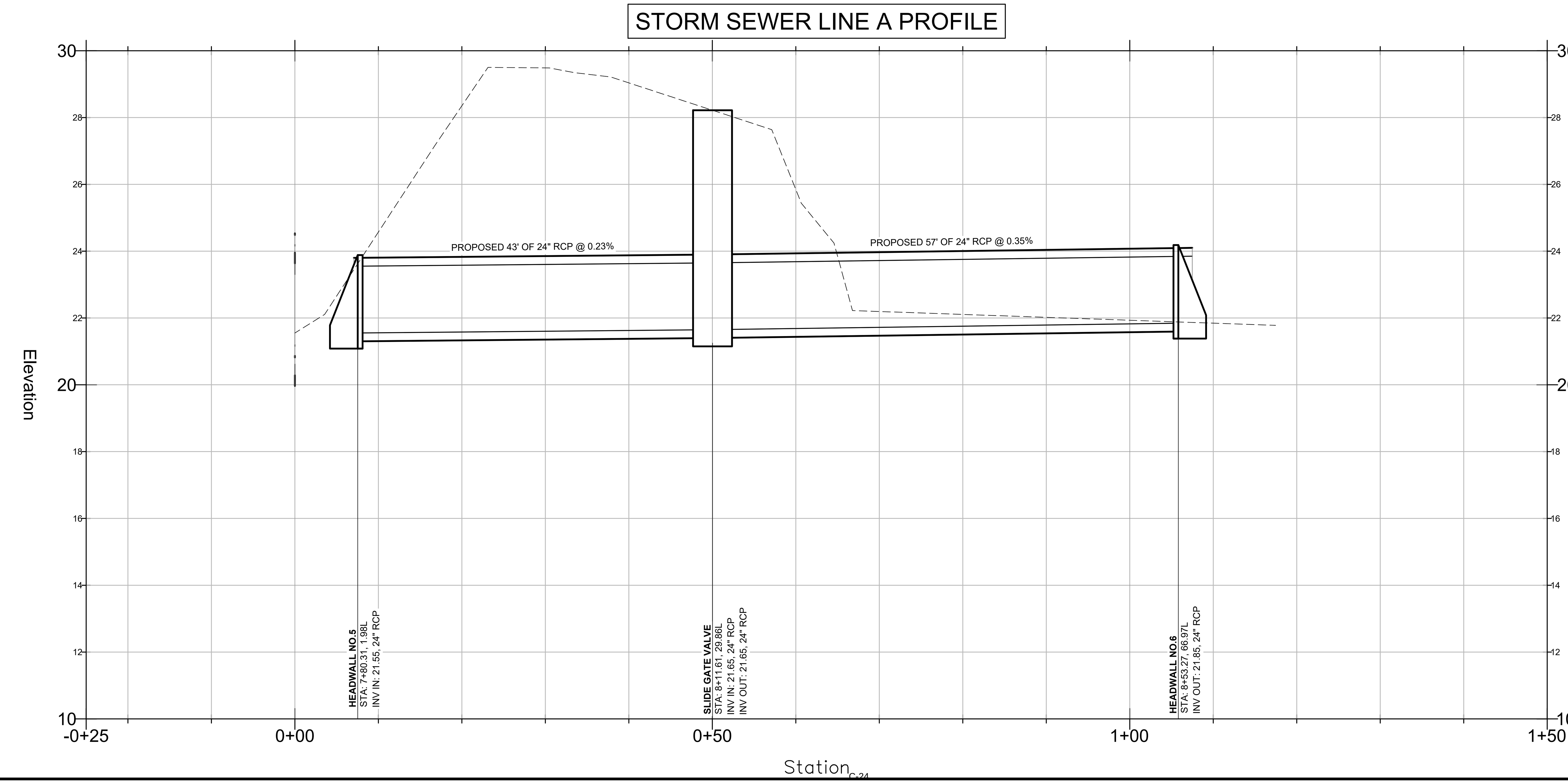
STORM SEWER LINE A PROFILE



GRAPHIC SCALE IN FEET

REV	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

LOS FRESNOS - TEXAS - COMMUNITY WITH OPPORTUNITY

Hanson No.	19L0257	LAYOUT	CBT
Filename	PLAN AND PROFILE	DRAWN	CMP
Scale	AS SHOWN	REVIEWED	CBT
Date	SEPTEMBER 2020		

STATE OF TEXAS
COLTON M. PHILLIPP
132226
LICENSED PROFESSIONAL ENGINEER
DATE: 09.03.2020

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Christi, Texas 78411
TBPE F-417 / TBPLS F-10039500
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STORM SEWER PROFILE

RESACA ESCONDIDA DRAINAGE IMPROVEMENTS
LOS FRESNOS, CAMERON COUNTY, TEXAS

C420

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
5151 FLYNN PARKWAY, SUITE 306
CORPUS CHRISTI, TEXAS 78411-4318

December 18, 2023

Corpus Christi Regulatory Field Office

SUBJECT: Permit No. SWG-2023-00673; Nationwide Permit Verification

Mr. Mark Milum
City of Los Fresnos
520 E Ocean Boulevard
Los Fresnos, Texas 78566-3246

Dear Mr. Milum:

This is in reference to your request, dated November 1, 2023, submitted on your behalf by Hanson Professional Services, Inc., to improve drainage from Resaca Escondida (also labeled as Agua Negra) by installing an outlet from the east side of the resaca to an existing man-made drainage ditch belonging to the Cameron County Drainage District No. 1. The project site is located in the Resaca Escondida immediately southeast of the Los Fresnos High School, and an unnamed drainage ditch that runs in a north-south direction under Farm-to-Market Road (FM) 2480 within the City of Los Fresnos, Cameron County, Texas.

Based on available information, there appear to be "waters of the United States" and/or "navigable waters of the United States" on the project site. Therefore, your letter resulted in the initiation of the Nationwide Permit (NWP) pre-construction notification (PCN) procedures. Your application was considered complete on November 1, 2023. The specified 45-day time-period to process the PCN expired on December 15, 2023. Since you did not receive written notice from the Corps within this time-period, according to the NWP regulations, you may begin the proposed activity.

You may proceed with this proposed activity, as shown on the enclosed project plans in five sheets, dated November 1, 2023. This NWP 7 verification is valid provided the activity is compliant with the NWP General/Regional Conditions, Section 401 Water Quality Certification, and the Coastal Management Program, which can be found at: https://www.swg.usace.army.mil/Missions/Regulatory/Permits/Nationwide-General-Permits/. A hard copy can be provided to you upon request.

NWP 7: Activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (Section 402 of the Clean Water Act). The construction of intake structures is not

authorized by this NWP unless they are directly associated with an authorized outfall structure.

The NWP verification is valid until the NWP is modified, reissued, or revoked. The subject NWPs authorized in 2021 are scheduled to be modified, reissued, or revoked prior to March 15, 2026. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

This letter does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such. If you have any question regarding this verification, please contact Matthew Kimmel by email at Matthew.L.Kimmel@usace.army.mil or by telephone at 361-814-5847 ext. 1002. Please notify the Corpus Christi Regulatory Field Office in writing at the letterhead address, upon completion of the authorized project.

FOR THE DISTRICT COMMANDER:

Kristie Wood

Kristie A. Wood
Supervisor
Corpus Christi Regulatory Field Office

cc w/Encls.
Nathan Badgett, Hanson Professional Services, Inc.

Texas Parks and Wildlife Department

Project Coordination and Review Requests

(Including Threatened and Endangered Species)

EARLY PROJECT COORDINATION

If you are in the information gathering phase of project coordination and assessment, ***in lieu of*** submitting a Project Review form or a letter request, you may obtain information from the following Texas Parks and Wildlife Department (TPWD) sources regarding sensitive resource information for use in your analyses. TPWD recommends you use at least the following two sources of information when analyzing for project impacts to sensitive resources, including before submitting a request for TPWD review and recommendations.

RARE, THREATENED, AND ENDANGERED SPECIES OF TEXAS BY COUNTY - This database includes lists of species known to occur and potentially occurring in Texas at the county level. It can be accessed online at: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/ or by contacting our administrative staff at (512) 389-4571. Appropriate use and interpretation of the county level lists are the responsibility of the recipient.

TEXAS NATURAL DIVERSITY DATABASE (TXNDD) – The TXNDD is publicly available location specific data on rare, threatened and endangered species, natural communities and other significant features of conservation concern to TPWD. This information can be obtained by submitting a data request to txndd@tpwd.state.tx.us. Response to a data request will include available TXNDD records, reports, and geographic information system compatible shapefiles of recorded locations for species and other rare resources on the U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle of the project and surrounding area. Responses generally take a maximum of five business days from receipt of the request. Appropriate use and interpretation of TXNDD data are the responsibility of the recipient.

WILDLIFE HABITAT ASSESSMENT (WHAB) PROGRAM REVIEW

PROJECT REVIEW REQUESTS – The WHAB Program can provide a review of your assessment, after your analysis for impacts using the above two data sources. Please complete the WHAB Review Request form (attached; use Word format for fill-in version), or use the form as an outline of information to include with your letter request. The WHAB Program response will provide an evaluation of your environmental assessment for impacts to fish and wildlife and their habitats, including rare, threatened, and endangered species, other significant resources and concerns presently known or potentially occurring in the vicinity of your project. WHAB Program responses generally take 4 to 6 weeks on average from receipt, depending on the size of your request.

The request should include all the information listed on the next two pages and be sent to the address shown on the last page. The more pertinent information you provide, the more customized our review, and the faster our turnaround. Review requests submitted without adequate project detail may cause a delay in our response as we will need to contact you and wait for supplemental information. The potential for adverse impacts to natural resources from project activities varies based on the type of activity; location; season; vegetation; present physical features (both natural and man-made); degree of disturbance; planned avoidance, minimization, mitigation, enhancement, and restoration measures; species-specific tolerance levels; etc. Current color photographs and aerial photographs of the site greatly facilitate the review process. Complete information allows us to more accurately assess the potential for project impacts, as well as, assists us in narrowing the list of rare, threatened, and endangered species and other natural resources that may need to be addressed further.

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests
(Including Threatened and Endangered Species)

Name: **Lane Page and Ali Whitehead** Date: **11/15/2023**

Your Company: **Hanson Professional Services Inc.** Phone: (**317**) **803-8975**

Your Company Address: **789 East Washington Street** Fax: ( )

City, State, Zip: **Brownsville, TX 78520** E-mail: **lpage@hanson-inc.com**

Project Title, Number and Site Location: **Resaca Escondida Drainage Improvements, 73922, Los Fresnos, TX** County(ies): **Cameron**

1. Scope of Project:

(a) What regulations will this review help you to comply with? OR, if not regulatory, why is the review being requested? Who is the project sponsor?

This review will be included in the Texas Water Development Board Environmental Information Document to comply with the National Environmental Policy Act. The project sponsor is the City of Los Fresnos, Texas.

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent, boundaries, length & width, waterways, vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed)

The proposed project involves improving drainage from Resaca Escondida, an isolated oxbow lake located east of FM 1847 and south of Los Fresnos High School. The resaca currently does not have an outlet and depends on evaporation and transpiration for water levels to recede after heavy rain events. The proposed project area is approximately 120 feet wide and 1,200 feet long extending from the eastern edge of the resaca to south of FM 2480 (see Appendix A for the project location map).

Proposed improvements include (1) installing a 2-foot diameter reinforced concrete pipe culvert with a manual valve connecting the east end of the resaca to an existing man-made drainage ditch belonging to Cameron County Drainage District No. 1, (2) regrading the existing 35- to 50-foot wide drainage ditch for a length of approximately 950 feet to improve conveyance of water southward from the location of the new culvert, and (3) replacing two existing 3-foot diameter reinforced concrete pipe culverts in the drainage ditch to match the elevation of the regraded ditch channel. Total site disturbance will be approximately 0.9 acre.

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what contaminant pathways are being evaluated?

This site is being investigated as potential habitat for state-listed threatened species.

(d) Schedule of activities – Approximately when (which calendar months, how many years) will the project be active on the site?

Construction is anticipated to begin in March 2024 and end in July 2024.

2. Vegetation: Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

A site visit was completed on May 3-4, 2023. See attached photos and figures for additional vegetation information. Dominant species found at the project site are listed below.

Along Resaca Escondida: Guinea grass (Magathyrsus maximus), honey mesquite (Prosopis glandulosa), colima (Zanthoxylum fagara), black willow (Salix nigra), poison sumac (Toxicodendron vernix), Mexican fan palm (Washingtonia robusta)

Along Drainage Ditch: Bermuda grass (Cynodon dactylon), barnyard grass (Echinochloa crus-galli), Guinea grass (Magathyrsus maximus), Beach sunflower (Helianthus debilis), featherfew (Tanacetum parthenium), Congress grass (Parthenium hysterophorus), sweetscent (Pluchea odorata), black willow saplings (Salix nigra)

3. Other Natural Resources/Physical Features:

(a) Soils, geology, watercourses, aquifers, flood zones, etc.

See Appendix A for the NRCS Soil Survey Geographic (SSURGO) Database map, USGS National Hydrography Dataset (NHD) map, USFWS National Wetlands Inventory (NWI) map, and FEMA Floodplain map.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

See Appendix A for the TPWD Vegetation Type map; see Appendix B for the TPWD County List of Rare, Threatened, and Endangered Species; see Appendix C for the TXNDD data request results.

4. **Existing Site Development:** Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.

   The project area lies in a residential subdivision and consists of a 35- to 50-foot wide man-made drainage ditch owned by Cameron County Drainage District No. 1 with overhead power lines along the east side and a paved multi-use trail along the west side. See Appendix A for aerial imagery and site photographs.

5. **Historic Use/Function of Site:** Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?

   The existing drainage ditch was constructed in 2005. Prior to 2005, the site was used for agriculture. The site is currently zoned for residential use and does not contain any cultural resources, state or federal lands, or local parklands. A park owned by the City of Los Fresnos is present north of the resaca but does not intersect the project area and will not be impacted by the project.

6. **Has a threatened and endangered species survey or assessment,** wetland delineation, or other biological assessment already been performed? (In general, TPWD recommends an on-site habitat assessment be performed.) ☐ Yes ☒ No

   (a) If yes, provide surveyor name, qualifications, methods or protocols, acreage surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

WILDLIFE HABITAT ASSESSMENT PROGRAM
Review Requests (Continued)
(Including Threatened and Endangered Species)

6. (b) If yes, please provide results and copy of survey/assessment report.

7. **Could current on-site or adjacent habitat support rare species?** ☐ Yes ☒ No
Specifically, explain why or why not.

The project area is highly disturbed with vegetation dominated by invasive species, and therefore would not be suitable habitat for rare species.

8. **Provide a description of potential negative direct and indirect impacts** from proposed project activities or former and current site activities, such as types of habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.

Brush and tree clearing will be required adjacent to the resaca, and excavation will be required for culvert installations and ditch grading. Only the minimum needed area will be cleared. Vegetation will consist primarily of invasive species, and disturbed areas will be revegetated post-construction. Terrestrial habitat impacts will be temporary. No new impervious surfaces will be added, and the project will not alter the current land use within the project site or in the surrounding area. Approximately 0.0027 acre below the waterline of the resaca will be permanently impacted by the new culvert installation. It has not been determined whether Resaca Escondida is a jurisdictional Waters of the U.S.; however, based on email correspondence with the U.S. Army Corps of Engineers (see Appendix D), the City will request Section 404/401 permit authorization for these impacts under Nationwide Permit 7.

9. **Provide a description of planned beneficial mitigation and enhancements** or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).

There is currently no planned mitigation for this project. Only the minimum work area necessary is proposed, and temporarily disturbed areas will be revegetated post-construction. Storm water erosion and pollution control measures will be implemented throughout construction. All material excavated from the existing drainage ditch will be placed in uplands and contained by silt fence, and materials will be stabilized so as to not be dispersed by any water flow.

10. **Include copies of coordination with other agencies** relevant to impacts or enhancements of natural resources for this project, or agency & contact name.

11. **Clearly delineate exact location of site and its boundaries** using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and a scale that allows us to find your site **and** accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference)

12. **Originals or color-copy photographs** of site and surrounding area with captions or narratives.

13. **Aerial photographs with pertinent features labeled**. Aerials should show the year photograph was taken.

Send completed form to:

Texas Parks and Wildlife Department
Wildlife Division

Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.

Occurrence List for Quads Surrounding Request Area

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Adelia vaseyi	Vasey's adelia	1			7886
Adelia vaseyi	Vasey's adelia	2			4553
Adelia vaseyi	Vasey's adelia	3			327
Adelia vaseyi	Vasey's adelia	5			2740
Adelia vaseyi	Vasey's adelia	15			4516
Adelia vaseyi	Vasey's adelia	26			1335
Adelia vaseyi	Vasey's adelia	27			603
Adelia vaseyi	Vasey's adelia	29			2219
Adelia vaseyi	Vasey's adelia	30			8301
Astragalus reflexus	Texas milk vetch	2			10093
Atractosteus spatula	alligator gar	22			14092
Ayenia limitaris	Texas ayenia	2	E	LE	7196
Ayenia limitaris	Texas ayenia	8	E	LE	1992
Buteo albicaudatus	white-tailed hawk	22	T		8274
Chelonia mydas	green sea turtle	12	T	LT	8993
Conepatus leuconotus	western hog-nosed skunk	67			14248

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Coniophanes imperialis	black-striped snake	1	T		1311
Coniophanes imperialis	black-striped snake	3	T		2830
Coniophanes imperialis	black-striped snake	8	T		142
Coniophanes imperialis	black-striped snake	9	T		6262
Coniophanes imperialis	black-striped snake	10	T		6261
Coniophanes imperialis	black-striped snake	13	T		5000
Coryphantha macromeris var. runyonii	Runyon's cory cactus	5			5304
Cuscuta attenuata	marsh-elder dodder	4			6662
Drymarchon melanurus erebennus	Texas indigo snake	24			12458
Drymarchon melanurus erebennus	Texas indigo snake	29			7926
Drymobius margaritiferus	speckled racer	2	T		5937
Drymobius margaritiferus	speckled racer	8	T		9754
Echeandia chandleri	lila de los Llanos	1			4310
Echeandia chandleri	lila de los Llanos	2			891
Echeandia chandleri	lila de los Llanos	3			7046
Echeandia chandleri	lila de los Llanos	5			7880
Echeandia chandleri	lila de los Llanos	15			3961

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Echeandia chandleri	lila de los Llanos	16			7039
Echeandia chandleri	lila de los Llanos	17			462
Echeandia chandleri	lila de los Llanos	18			395
Echeandia chandleri	lila de los Llanos	19			5583
Echeandia chandleri	lila de los Llanos	20			5582
Echeandia chandleri	lila de los Llanos	21			2736
Echeandia chandleri	lila de los Llanos	24			7181
Echeandia chandleri	lila de los Llanos	28			2093
Echeandia chandleri	lila de los Llanos	32			1835
Echeandia chandleri	lila de los Llanos	34			3724
Echeandia texensis	Green Island echeandia	2			4505
Eleocharis austrotexana	South Texas spikesedge	1			8300
Eleocharis austrotexana	South Texas spikesedge	3			10925
Falco femoralis septentrionalis	northern aplomado falcon	2	E	LE	5542
Gopherus berlandieri	Texas tortoise	23	T		5998
Gopherus berlandieri	Texas tortoise	24	T		3544
Gopherus berlandieri	Texas tortoise	25	T		4711

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Gopherus berlandieri	Texas tortoise	34	T		8278
Gopherus berlandieri	Texas tortoise	35	T		8279
Gopherus berlandieri	Texas tortoise	36	T		8281
Gopherus berlandieri	Texas tortoise	49	T		9397
Gopherus berlandieri	Texas tortoise	51	T		9399
Gopherus berlandieri	Texas tortoise	54	T		9402
Gopherus berlandieri	Texas tortoise	55	T		9403
Gopherus berlandieri	Texas tortoise	60	T		9408
Gopherus berlandieri	Texas tortoise	62	T		9410
Gopherus berlandieri	Texas tortoise	63	T		9411
Grindelia oolepis	plains gumweed	4			1352
Grindelia oolepis	plains gumweed	10			3838
Grindelia oolepis	plains gumweed	16			4681
Grindelia oolepis	plains gumweed	24			4326
Heteranthera mexicana	Mexican mud-plantain	3			7720
Hypopachus variolosus	sheep frog	3	T		3742
Hypopachus variolosus	sheep frog	7	T		3536

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Hypopachus variolosus	sheep frog	26	T		8803
Hypopachus variolosus	sheep frog	30	T		8815
Justicia runyonii	Runyon's water-willow	1			5105
Justicia runyonii	Runyon's water-willow	4			105
Justicia runyonii	Runyon's water-willow	5			4023
Justicia runyonii	Runyon's water-willow	7			401
Justicia runyonii	Runyon's water-willow	9			4130
Justicia runyonii	Runyon's water-willow	13			6686
Lasiurus ega	southern yellow bat	2			6796
Lenophyllum texanum	Texas stonecrop	1			712
Lenophyllum texanum	Texas stonecrop	3			5647
Lenophyllum texanum	Texas stonecrop	5			6917
Lenophyllum texanum	Texas stonecrop	6			1131
Lenophyllum texanum	Texas stonecrop	8			6322
Lenophyllum texanum	Texas stonecrop	18			7461
Lenophyllum texanum	Texas stonecrop	19			2212
Lenophyllum texanum	Texas stonecrop	24			12434

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Leopardus pardalis	ocelot	1	E	LE	6268
Leopardus pardalis	ocelot	12	E	LE	726
Leopardus pardalis	ocelot	15	E	LE	881
Leopardus pardalis	ocelot	37	E	LE	12928
Leptodeira septentrionalis septentrionalis	northern cat-eyed snake	3	T		4888
Manfreda longiflora	St. Joseph's staff	19			3160
Notophthalmus meridionalis	black-spotted newt	1	T		1378
Notophthalmus meridionalis	black-spotted newt	4	T		6494
Notophthalmus meridionalis	black-spotted newt	8	T		2627
Notophthalmus meridionalis	black-spotted newt	11	T		567
Notophthalmus meridionalis	black-spotted newt	28	T		6392
Notophthalmus meridionalis	black-spotted newt	29	T		151
Notophthalmus meridionalis	black-spotted newt	31	T		2042
Notophthalmus meridionalis	black-spotted newt	33	T		2616
Phrynosoma cornutum	Texas horned lizard	37	T		8284
Phrynosoma cornutum	Texas horned lizard	38	T		8285
Phrynosoma cornutum	Texas horned lizard	39	T		8286

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Phrynosoma cornutum	Texas horned lizard	40	T		8287
Phrynosoma cornutum	Texas horned lizard	41	T		8288
Phrynosoma cornutum	Texas horned lizard	63	T		12502
Pithecellobium ebano-ehretia anacua series	Texas Ebony-anacua Series	1			5571
Pithecellobium ebano-ehretia anacua series	Texas Ebony-anacua Series	4			2575
Pithecellobium ebano-ehretia anacua series	Texas Ebony-anacua Series	9			1281
Pithecellobium ebano-ehretia anacua series	Texas Ebony-anacua Series	14			5148
Pithecellobium ebano-phaulothamnus spinescens series	Texas Ebony-snake-eyes Series	1			894
Pithecellobium ebano-phaulothamnus spinescens series	Texas Ebony-snake-eyes Series	4			3593
Pithecellobium ebano-phaulothamnus spinescens-citharexylum berlandieri series	Texas Ebony-snake-eyes-berlandier Fiddlewood Series	1			895
Rookery		3			3146
Rookery		5			5886
Sabal texana series	Texas Palmetto Series	4			14517
Sabal texana series	Texas Palmetto Series	5			14519
Sabal texana series	Texas Palmetto Series	6			14520
Sabal texana series	Texas Palmetto Series	7			14521
Sabal texana series	Texas Palmetto Series	8			14522

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Sabal texana series	Texas Palmetto Series	10			14524
Selenia grandis	large selenia	2			11035
Selenia grandis	large selenia	3			10989
Selenia grandis	large selenia	4			11069
Selenia grandis	large selenia	16			11015
Siren sp. 1	South Texas siren (Large Form)	1	T		2018
Siren sp. 1	South Texas siren (Large Form)	11	T		5392
Siren sp. 1	South Texas siren (Large Form)	12	T		3355
Siren sp. 1	South Texas siren (Large Form)	16	T		6353
Siren sp. 1	South Texas siren (Large Form)	17	T		3471
Siren sp. 1	South Texas siren (Large Form)	26	T		7774
Smilisca baudinii	Mexican treefrog	1	T		3594
Smilisca baudinii	Mexican treefrog	2	T		6940
Smilisca baudinii	Mexican treefrog	6	T		8818
Smilisca baudinii	Mexican treefrog	7	T		8819
Smilisca baudinii	Mexican treefrog	8	T		8820
Smilisca baudinii	Mexican treefrog	10	T		9417

Scientific Name:	Common Name:	Occurrence Number:	State Status:	Federal Status:	Eo Id:
Thelypodiopsis shinnersii	Shinner's rocket	2			10250
Thelypodiopsis shinnersii	Shinner's rocket	3			10058
Thelypodiopsis shinnersii	Shinner's rocket	4			10374
Tillandsia baileyi	Bailey's ballmoss	14			7080
Tillandsia baileyi	Bailey's ballmoss	16			2480
Tillandsia baileyi	Bailey's ballmoss	17			8199
Tillandsia baileyi	Bailey's ballmoss	21			6010
Tillandsia baileyi	Bailey's ballmoss	28			4598
Tillandsia baileyi	Bailey's ballmoss	29			3494
Tillandsia baileyi	Bailey's ballmoss	30			3495
Tradescantia buckleyi	Buckley's spiderwort	3			10918
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	5			10207
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	6			10475
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	7			9990
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	9			10169
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	28			10033
Willkommia texana var. texana	Texas willkommia	3			8299

Element Occurrence Record

Scientific Name: *Adelia vaseyi* **EO ID:** 7886

Common Name: Vasey's adelia

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1957-03-14 **Survey Date:** 1994-02-17 **Last Observation:** 1994-02-17

EO Data: Population 1 - IN FLOWER; Population 2 - SHRUBS OF VARIOUS SIZE CLASSES, TO 8-10' TALL, COMMON IN NORTHWEST CORNER OF WESTERNMOST OF THREE TRACT PARCELS SOUTH OF ROUTE 281, RARE IN EASTERNMOST PARCEL

Comments:

Habitat Description: Population 1 - DENSE THICKET; Population 2 - MESQUITE-GRANJENO THORN WOODLAND ON SILTY CLAY LOAM MOLLISOLS OVER RIO GRANDE DELTA DEPOSITS; CANOPY BROKEN, VERY IRREGULAR LOW SHRUB LAYER MUCH DENSER

References:

CARR, W.R. 1994. FIELD SURVEY OF RANCHITO TRACT, LRGVNWR, 17 FEBRUARY 1994.

Specimens:

University of Texas at Austin Herbarium. 1957. D.S. Correll #17991 and I.M. Johnston, Specimen # none TEX-LL. 14 March 1957.

Source Feature Data:

EO ID: 7886

Source Feature ID: **3890**

Observation Date: 1994-02-17

Observer: Bill Carr

Observation Data: shrubs of various size classes, to 8-10' tall, common in northwest corner of westernmost of three tract parcels south of 281, rare in easternmost parcel

Source Feature ID: **7886**

Observation Date: 1957-03-14

Observer: D. S. Correll

Observation Data: in flower; specimen collected 4 miles east of La Paloma

Element Occurrence Record

Scientific Name: *Adelia vaseyi* **EO ID:** 5594

Common Name: Vasey's adelia

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1926 **Survey Date:** **Last Observation:** 1926-06-01

EO Data: NOT COMMON

Comments:

Habitat Description: BLACK, DRY SOIL

References:

Specimens:

University of Texas at Austin Herbarium. 1926. R. Runyon #64, Specimen # 270114 TEX. 1 June 1926.

Source Feature Data:

EO ID: 5594

Source Feature ID: **8768**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Adelia vaseyi* **EO ID:** 4516

Common Name: Vasey's adelia

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1987-06-10 **Survey Date:** 1994-09-07 **Last Observation:** 1994-09-07

EO Data: Population 1 - 10 June 1987 - 16 INDIVIDUALS IN FRUIT; Population 2 - 7 September 1994 - AT LEAST 25 SHRUBS SEEN, IN TWO CLUSTERS; NO FRUITS OR FLOWERS; Population 3 - 7 September 1994 - 5-10 SHRUBS SEEN, NONE IN FLOWER OR FRUIT; Population 4 - 20 October 1988 RARE ON MARGIN OF WOODLAND; INTERIOR OF WOODLAND NOT SURVEYED

Comments: THREE "OCCURRENCES" OF ADELIA VASEYI IN RESACA DE LA PALMA SP ARE NOT BIOLOGICALLY DISCRETE; Pop. 3 - OCCURRENCE MAY EXTEND INTO IMPENETRABLE WOODLAND; JUST SOUTH OF FIRST UTILITY POLE SOUTH OF UTILITY POLE AT TURN

Habitat Description: Pop. 1 - EXTREMELY DENSE SNAKE-EYES-TEXAS EBONY THICKET DIVIDED BY OLD, WEEDY, OVER-GROWN ROAD TO RESACA; WITH PITHECELLOBIUM EBANO, PHAULATHAMNUS SPINESCENS, PITHECELLOBIUM PALLENS, ZIZPHUS OBTUSIFOLIUS, BACCHARIS SALICIFOLIA, BUMELIA CELASTRINA, AMYRIS MADRENSIS, FRAXINUS BERLANDIERIANA, GUAIACUM ANGUSTIFOLIUM, PARKINSONIA ACULEATA, CENCHRUS CILIARIS, PROSOPIS GLANDULOSA, PANICUM MAXIMUM, ACACIA FARNESIANA, CELTIS PALLIDA, RIVINIA HUMILIS, KOEBERLINA SPINOSA, EHERETIA ANACUA, TILLANDISIA BAILEYI, COCCULUS DIVERSIFOLIUS, SALVIA BALLOTAEFLORA, OPUNTIA LEPTOCAULIS, FORESTIERIA ANGUSTIFOLIA, CORDIA BOISSIERI, KARWINSKIA HUMBOLDTIANA, ZANTHOXYLUM FAGARA, ALOYSIA GRATISSIMA, CARDIOSPERMUM HALICACABUM, BERNARDIA MYRICAEFOLIA, CISSUS INCISA, CHIOCOCCA ALBA, LANTANA HORRIDA, SALVIA COCCINEA, EUPATORIUM ODORATUM, RANDIA RHAGOCARPA, SETARIA SP., DIOSPYROS TEXANA, SIDA SP., HIBISCUS CARDIOPHYLLUS, TYPHA SP., OPUNTIA LINDHEIMERI, FEROCACTUS SETISPINUS, CASTELA TEXENSIS, MATELEA SP.; Pop. 2 - MID-SUCCESSIONAL SUBTROPICAL THORN WOODLAND; Pop. 3 - MARGIN OF MATURE SUBTROPICAL THORN WOODLAND; Pop. 4 - ON MARGIN OF TEXAS EBONY WOODLAND

References:

POOLE, J.M. 1987. FIELD SURVEY TO RESACA DE LA PALMA STATE PARK/NORIEGA TRACT-LOWER RIO GRANDE VALLEY NATIONAL WILDLIFE REFUGE, 10 JUNE 1987.

CARR, W.R. 1994. FIELD SURVEY OF RESACA DE LA PALMA STATE PARK, 6-7 SEPTEMBER 1994.

Specimens:

Southern Methodist University Herbarium. 1988. Bill Carr #9337, Specimen # none SM. 20 October 1988.

Element Occurrence Record

Source Feature Data:

EO ID: 4516

Source Feature ID: **4322**
Observation Date: 1994-09-07
Observer: Bill Carr
Observation Data: 5-10 shrubs seen, none in flower or fruit

Source Feature ID: **4516**
Observation Date: 1987-06-10
Observer: Jackie Poole
Observation Data: 16 indivdiuals in fruit

Source Feature ID: **4914**
Observation Date: 1988-10-20
Observer: Bill Carr
Observation Data: rare on margin of woodland; interior of woodland not surveyed; specimen collected

Source Feature ID: **7089**
Observation Date: 1994-09-07
Observer: Bill Carr
Observation Data: at least 25 shrubs seen, in two clusters; no fruits or flowers

Element Occurrence Record

Scientific Name: *Adelia vaseyi* **EO ID:** 1688

Common Name: Vasey's adelia

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** 1993-12-14 **Last Observation:** 1993-12-14

EO Data: UNCOMMON, 5 OR 6 MATURE PLANTS SEEN, VEGETATIVE ON 14 DECEMBER 1993

Comments:

Habitat Description: EBONY-DOMINATED SUBTROPICAL WOODLAND ALONG RESACA; ADDITIONAL INFORMATION IN GMF

References:

CARR, W.R. 1993. FIELD SURVEY OF VARIOUS TRACTS OF LOWER RIO GRANDE VALLEY NWR, 13-16 DECEMBER 1993.

Specimens:

Source Feature Data:

EO ID: 1688

Source Feature ID: **1688**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Ambrosia cheiranthifolia* **EO ID:** 7388

Common Name: South Texas ambrosia

Global Rank: G2 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: E **Federal Protection Status:** LE

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1932-11-05 **Survey Date:** 1938-11-12 **Last Observation:** 1938-11-12

EO Data: 05 Nov 1932: A specimen was collected: Rare in this region, forming large colonies in llanos, in soil that remains dry for long periods. 12 Nov 1938: A low suffruticose herb, 16 to 20 cm high in clay soil. Collected in open llano near Barreda, Texas. The plant is rare in this region.

Comments:

Habitat Description: Open llano (plain) in soil that remains dry for long periods of time.

References:

Specimens:

University of Texas at Austin Herbarium. 1932. R. Runyon #1440, Specimen # 268683 TEX-LL. 5 November 1932.

University of Texas at Austin Herbarium. 1938. R. Runyon #3291, Specimen # 268754 TEX. 12 November 1938.

Source Feature Data:

EO ID: 7388

Source Feature ID: **7388**

Observation Date: 1932-11-05

Observer: Robert Runyon

Observation Data: Erect fruiticose herb sparingly branched or with flowering branchlets above. In llano near Barreda, Texas. Rare in this region, forming large colonies in llanos, in soil that remains dry for long periods.

Observation Date: 1938-11-12

Observer: Robert Runyon

Observation Data: Specimen record: A low suffruticose herb, 16 to 20 cm high in clay soil. Collected in open llano near Barreda, Texas. The plant is rare in this region.

Element Occurrence Record

Scientific Name: *Ayenia limitaris* **EO ID:** 3199

Common Name: Texas ayenia

Global Rank: G2 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: E **Federal Protection Status:** LE

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1941-06-12 **Survey Date:** **Last Observation:** 1943-06-16

EO Data: IN FLOWER

Comments:

Habitat Description: CHAPARRAL, DRY THICKETS; CLAY SOIL

References:

Specimens:

Southern Methodist University Herbarium. 1943. R. Runyon #3107, Specimen # none SM. 16 June 1943.

University of Texas at Austin Herbarium. 1941. R. Runyon #2744, Specimen # 268885, 290397 TEX. 12 June 1941.

University of Texas at Austin Herbarium. 1943. R. Runyon #3107, Specimen # ? TEX. 16 June 1943.

Source Feature Data:

EO ID: 3199

Source Feature ID: **3199**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Ayenia limitaris* **EO ID:** 1002

Common Name: Texas ayenia

Global Rank: G2 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: E **Federal Protection Status:** LE

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1924 **Survey Date:** **Last Observation:** 1924-10-28

EO Data:

Comments:

Habitat Description:

References:

Specimens:

University of Texas at Austin Herbarium. 1924. R. Runyon #689, Specimen # 268883 TEX. 28 October 1924.

Source Feature Data:

EO ID: 1002

Source Feature ID: 1002

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Ayenia limitaris* **EO ID:** 137

Common Name: Texas ayenia

Global Rank: G2 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: E **Federal Protection Status:** LE

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1932-11-06 **Survey Date:** **Last Observation:** 1939-06-05

EO Data: Population 1 - 1932; 26 September 1938 in flower and fruit; Population 2 - 5 June 1939 in flower

Comments: known only from region north of Olmito

Habitat Description: Population 1 - edge of thickets and open ground; Population 2 - dry alluvial soils; in thickets

References:

Specimens:

University of Texas at Austin Herbarium. 1932. R. Runyon #4911, Specimen # 290393 TEX. 6 November 1932.

University of Texas at Austin Herbarium. 1938. R. Runyon #4910, Specimen # none TEX-LL. 26 September 1938.

University of Texas at Austin Herbarium. 1939. R. Runyon #2093. Specimen # 268884 TEX. 5 June 1939.

Source Feature Data:

EO ID: 137

Source Feature ID: **137**
Observation Date:
Observer:
Observation Data:

Source Feature ID: **4387**
Observation Date:
Observer:
Observation Data:

Element Occurrence Record

Scientific Name: *Coniophanes imperialis* **EO ID:** 6262

Common Name: black-striped snake

Global Rank: G4G5 **State Rank:** S2S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:**

EO Data:

Comments:

Habitat Description:

References:

UNKNOWN COLLECTOR. NO DATE. SPECIMEN #TCWC 30514, ONE SPECIMEN. TCWC.

Specimens:

TEXAS A & M UNIVERSITY, TEXAS COOPERATIVE WILDLIFE COLLECTION. NO DATE. UNKNOWN COLLECTOR, SPECIMEN # 30514 TCWC.

UNKNOWN COLLECTOR. NO DATE. SPECIMEN #TCWC 30514, ONE SPECIMEN. TCWC. (S??XXXAMTXUS)

Source Feature Data:

EO ID: 6262

Source Feature ID: 6262

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Drymarchon melanurus erebennus* **EO ID:** 12462

Common Name: Texas indigo snake

Global Rank: G5T4 **State Rank:** S4 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** 2003-05-03 **Last Observation:** 2003-05-03

EO Data: 2003: One individual captured.

Comments:

Habitat Description:

References:

Duran, C. Michael. 2004. An inventory of reptiles and amphibians of Padre Island National Seashore, San Antonio Missions National Historical Park, and Palo Alto Battlefield National Historic Site. Prepared by The Nature Conservancy for the U.S. National Park Service.

Duran, C.M. 2003. Digital image of Drymarchon corais erebennus at Palo Alto National Battlefield. The Nature Conservancy.

Specimens:

Source Feature Data:

EO ID: 12462

Source Feature ID: **26613**

Observation Date: 2003-05-05

Observer: Herps of Texas iNaturalist Project

Observation Data: iNaturalist observation ID: 298210; Description: This snake had totally destroyed its rostral scales in a trap.

Element Occurrence Record

Scientific Name: *Echeandia texensis* **EO ID:** 4505

Common Name: Green Island echeandia

Global Rank: G1 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1935 **Survey Date:** **Last Observation:** 1967-11-13

EO Data: SCARCE; IN FLOWER AND FRUIT.

Comments:

Habitat Description: CLAY OR CLAY LOAM SOIL; OPEN GROUND.

References:

RARE PLANT STUDY CENTER, UNIVERSITY OF TEXAS AT AUSTIN. NO DATE. FILES.

CRUDEN, R.W. 1999. A NEW SUBGENUS AND FIFTEEN NEW SPECIES OF ECHEANDIA (ANTHERICACEAE) FROM MEXICO AND THE UNITED STATES. NOVON 9:325-338.

Specimens:

Texas Southmost College Herbarium, Brownsville. 1967. Unknown Collector, Specimen # none TS. 13 November 1967.

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1944. R. RUNYON #4036, 4082, SPECIMEN # 296968 TEX. 1 APRIL 1944.

Source Feature Data:

EO ID: 4505

Source Feature ID: **8753**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Eleocharis austrotexana* **EO ID:** 10925

Common Name: South Texas spikesedge

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1964-04-06

EO Data:

Comments: Complete specimen citation: Along Paredes Line road 20 mi. N of Brownsville, Texas, 6 Apr 1944, R. Runyon 3681 (TEX-LL). Orig det. E. cylindricus Buckl; ann. anonymously, probably by M. C. Johnston, to E. austrotexana.

Habitat Description:

References:

Runyon, R. (3681). 1944. Specimen # none TEX-LL.

Specimens:

Runyon, R. (3681). 1944. Specimen # none TEX-LL. (S44RUNTXTXUS)

Source Feature Data:

EO ID: 10925

Source Feature ID: **25116**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Falco femoralis septentrionalis* **EO ID:** 5542

Common Name: northern aplomado falcon

Global Rank: G4T2T3 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: E **Federal Protection Status:** LE

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1995-05-08 **Survey Date:** 2002-04-17 **Last Observation:** 2002-04-17

EO Data: Nest A - 8 May 1995 - two individuals associated with nest located very high, atop highest crossbar of powerline structure, under a static loop; falcons utilized mesquite, as well as wooden posts associated with powerline; birds were very active, flying in vicinity, foraging sitting in and on nest and also sitting atop static line located beside nest; Nest B - 29 March 1996 pair discovered nesting in Spanish dagger; birds observed over course of several months, at least one of the birds was a capitive-bred bird released by the Peregrine Fund; eventually fledgled three offspring, all three chicks banded by the Peregirne Fund; last observed on 20 June 1996; pair observed on 10 March 1997; birds observed over course of several months; eventually fledged one offspring; last observed on 16 June 1997; Nest C - 24 March 1998 - pair first observed nesting in Spanish dagger; birds observed over the course of several months; eventually fledged one offspring; fledgling apparently killed and eaten by an owl according to Amy Nichols of the Peregrine Fund; last observed on 14 May 1998; Nest D - 31 March 2000 - pair observed nesting in mesquite; birds observed during three separate site visits over the course of two months; observations included falcons sitting on the nest; fourth visit in June 2000 it was apparent that the nest had been abandoned; Nest E - 17 April 2002 - pair observed nesting in Spanish dagger; June 2002 nesting attempt failed due to predation per Peregrine Fund personnel.

Comments: Nest A verified by Laguna Atascosa NWR personnel. Nest D observed from public property. Nest E is either on Port of Brownsville property or Vista del Mar tract of LRGV NWR, boundary poorly marked. Other foraging and behavioral observations from 1998 are in reference U02PHI01TXUS.

Habitat Description: General area is coastal prairie with interspersed thornscrub lomas; Nest A - highest crossbar of powerline structure; Nests B and C - Spanish dagger (Yucca treculeana) ~20' tall and isolated from other tall vegetation; commands an unobstructed 360 degree view of surrounding area; Nest D - mesquite (Prosopis glandulosa); Nest E - Spanish dagger (Yucca treculeana).

References:

Phillips, Rick. No Date. Blanton & Associates, 5 Lakeway Centre Court, Austin, Texas, 78734. 512/264-1095. <rphillips@blantonassociates.com>.

CUYER, J. AND D. BLANKENSHIP. 1995. APLOMADO FALCON SURVEY SHEET. USFWS, DIVISION OF REALTY.

PHILLIPS, RICK. 2002. SURVEY RESULTS FOR THE NORTHERN APLOMADO FALCON (FALCO FEMORALIS SEPTENTRIONALIS) IN THE VICINITY OF THE BROWNSVILLE NAVIGATION DISTRICT'S PORT OF BROWNSVILLE.

Specimens:

Element Occurrence Record

Source Feature Data:

EO ID: 5542

Source Feature ID: **5542**

Observation Date: 2000-03-31

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Pair of falcons nesting in mesquite.

Observation Date: 2000-04-01

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Birds observed sitting on the nest.

Observation Date: 2000-05-01

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Birds observed sitting on the nest.

Observation Date: 2000-06-01

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: On fourth visit in June, it was apparent that the nest had been abandoned.

Source Feature ID: **8648**

Observation Date: 1995-05-08

Observer: J. Cuyer, D. Blankenship

Observation Data: Two individuals seen associated with nest located very high, atop highest crossbar of powerline structure, under a static loop; falcons utilized mesquite, as well as wooden posts associated with powerline; birds were very active, flying in vicinity, foraging, sitting in and on nest, and also sitting atop static lines located beside nest.

Source Feature ID: **8649**

Observation Date: 1998-03-24

Observer: Rick Phillips, Blanton & Associates biolgogists

Observation Data: Pair of falcons first observed.

Observation Date: 1998-05-14

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Birds observed over the course of several months; one fledgling; according to Amy Nichols of the Peregrine Fund, fledgling was apparently killed and eaten by an owl.

Source Feature ID: **8650**

Observation Date: 1996-03-29

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Pair of falcons discovered nesting in Spanish dagger; observed over the next several months; one of the birds was a captive-bred bird released by the Peregrine Fund.

Observation Date: 1996-06-20

Observer: Rick Phillips, Blanton & Associates biologists

Observation Data: Pair successfully fledged three offspring; all three chicks were banded by the Peregrine Fund.

Element Occurrence Record

Observation Date:	1997-03-10
Observer:	Rick Phillips, Blanton & Associates biologists
Observation Data:	Pair of falcons observed.
Observation Date:	1997-06-16
Observer:	Rick Phillips, Blanton & Associates biologists
Observation Data:	Pair observed over the course of several months, eventually fledged one offspring.

Source Feature ID:	**8651**
Observation Date:	2002-04-17
Observer:	Rick Phillips, Blanton & Associates biologists
Observation Data:	A pair of falcons discovered nesting in Spanish dagger.
Observation Date:	2002-06-01
Observer:	Peregrine Fund personnel
Observation Data:	Nesting attempt failed due to predation per Peregrine Fund personnel.

Element Occurrence Record

Scientific Name: *Gopherus berlandieri* **EO ID:** 9403

Common Name: Texas tortoise

Global Rank: G4 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 2009-06-23 **Survey Date:** 2009-06-23 **Last Observation:** 2009-06-23

EO Data: 23 Jun 2009: 3 adult males and 1 adult female were found on highway 100.

Comments:

Habitat Description: Highway

References:

Guthrie, Amanda. 2009. Texas Tortoise Research Project Worksheets for 40 tortoises found in 2009.

Specimens:

Source Feature Data:

EO ID: 9403

Source Feature ID: **21957**

Observation Date: 2009-06-23

Observer: Anonymous

Observation Data: 3 adult males and 1 adult female were found on highway 100.

Element Occurrence Record

Scientific Name: *Grindelia oolepis* **EO ID:** 6335

Common Name: plains gumweed

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1930 **Survey Date:** **Last Observation:** 1930-07-15

EO Data:

Comments:

Habitat Description: IN THICKET

References:

Specimens:

Texas A & M University, Tracy Herbariun. 1930. Simon E. Wolff #2401, Specimen # 34214, 91209 TAES. 15 July 1930.

Source Feature Data:

EO ID: 6335

Source Feature ID: **6335**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Grindelia oolepis* **EO ID:** 797

Common Name: plains gumweed

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1939 **Survey Date:** **Last Observation:** 1939-07-04

EO Data:

Comments:

Habitat Description: LOW, BLACK CLAY SOIL

References:

Rare Plant Study Center. 1978. Report on Grindelia oolepis. University of Texas at Austin, Austin, Texas. 11 pp. February 1978.

Specimens:

University of Texas at Austin Herbarium. 1939. R. Runyon #3305, Specimen # none TEX. 4 July 1939.

Source Feature Data:

EO ID: **797**

Source Feature ID: **797**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Heteranthera mexicana* **EO ID:** 7720

Common Name: Mexican mud-plantain

Global Rank: G2G3 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1928-11-09

EO Data:

Comments:

Habitat Description: BLACK CLAY SOIL IN LOW MOIST PLACES

References:

RUNYON, R. (166). 1928. SPECIMEN #?. TEX-LL.

Specimens:

RUNYON, R. (166). 1928. SPECIMEN #?. TEX-LL. (S28RUNTXTXUS)

UNIVERSITY OF TEXAS AT AUSTIN HERBARIUM. 1928. ROBERT RUNYON #166, SPECIMEN # NONE TEX. 9 NOVEMBER 1928.

Source Feature Data:

EO ID: 7720

Source Feature ID: **7720**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Justicia runyonii* **EO ID:** 1813

Common Name: Runyon's water-willow

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1933-10-15 **Survey Date:** 1984 **Last Observation:** 1936-10-15

EO Data: IN FLOWER (1936)

Comments: LITTLE NATIVE VEGETATION REMAINING, INTENSIVELY SEARCHED BY HEEP IN 1984

Habitat Description: EDGE OF THICKET; ALLUVIAL DRY CLAY (1936)

References:

HEEP, MIKE. 1984. REPORT ON SURVEYS FOR JUSTICIA RUNYONII IN THE LOWER RIO GRANDE VALLEY.

Specimens:

University of Texas at Austin Herbarium. 1933. Robert Runyon #3555, Specimen # none TEX. 15 October 1933.

University of Texas at Austin Herbarium. 1936. Robert Runyon #3259, Specimen # none TEX. 15 October 1936.

Source Feature Data:

EO ID: 1813

Source Feature ID: **1813**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Justicia runyonii* **EO ID:** 4023

Common Name: Runyon's water-willow

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1957 **Survey Date:** **Last Observation:** 1957-07-14

EO Data: IN FLOWER

Comments:

Habitat Description: EDGE OF DENSE THICKET

References:

RARE PLANT STUDY CENTER, UNIVERSITY OF TEXAS AT AUSTIN. 1976-12-22. REPORT.

Specimens:

University of Texas at Austin, Lundell Herbarium. 1957. D.S. Correll #17977 and I.M. Johnston, Specimen # none TEX-LL. 14 July 1957.

Source Feature Data:

EO ID: 4023

Source Feature ID: **4023**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Justicia runyonii* **EO ID:** 5720

Common Name: Runyon's water-willow

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1927 **Survey Date:** **Last Observation:** 1974-10-31

EO Data: IN FLOWER

Comments:

Habitat Description:

References:

MAHLER, W. F. 1983. USF& WS ENDANGERED SPECIES ABBREVIATE D STATUS REPORT.

RARE PLANT STUDY CENTER, UNIVERSITY OF TEXAS AT AUSTIN. 1976-12-22. REPORT.

Specimens:

Southern Methodist University Herbarium. 1974. R.J. Fleetwood #11557, Specimen # none SMU. 31 October 1974.

University of Texas Pan American Herbarium, Edinburg. 1974. Jim Everitt (s.n.), Specimen # none PAUH. 31 October 1974.

University of Texas at Austin Herbarium. 1943. L. Irby Davis #53-593, Specimen # none TEX. 17 October 1943.

Source Feature Data:

EO ID: 5720

Source Feature ID: **5720**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Lenophyllum texanum* **EO ID:** 5647

Common Name: Texas stonecrop

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1921 **Survey Date:** **Last Observation:** 1979

EO Data: Brownsville - in flower; occasional; colonies; Loma Alta - several hundred plants

Comments: Loma Alta - In spite of seemingly severe grazing, plants were found under shrubs and among cacti, but none occur in the open

Habitat Description: Brownsville - clay dunes or high dry soil; Loma Alta - raised, dry, silty-clay, stabilized dune dominated by a wide variety of shrubs

References:

TURNER, B. L. 1983. USF& WS STATUS REPORT.

Specimens:

Southern Methodist University Herbarium. 1945. V.L. Cory #51398, Specimen # none SMU. 30 November 1945.

University of Texas at Austin Herbarium. 1936. Robert Runyon #3531, Specimen # 267532 TEX. 5 December 1936.

University of Texas at Austin Herbarium. 1945. V.L. Cory #51398, Specimen # none TEX. 30 November 1945.

Unviersity of Texas at Austin Herbarium. 1943. Robert Runyon #4038, Specimen # none TEX. 15 November 1943.

Element Occurrence Record

Source Feature Data:

EO ID: 5647

Source Feature ID: **5647**
Observation Date: 1979-01-01
Observer:
Observation Data:

Observation Date: 1936-12-05
Observer: Robert Runyon
Observation Data:

Source Feature ID: **8738**
Observation Date: 1921-01-01
Observer:
Observation Data:

Observation Date: 1943-11-15
Observer: R. Runyon
Observation Data:

Element Occurrence Record

Scientific Name: *Manfreda longiflora* **EO ID:** 3160

Common Name: St. Joseph's staff

Global Rank: G2 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1921-07 **Survey Date:** **Last Observation:** 1921-07

EO Data: 1921 SPECIMEN; HOLOTYPE

Comments:

Habitat Description:

References:

Specimens:

U.S. NATIONAL HERBARIUM, SMITHSONIAN, WASHINGTON, D.C. 1921. R. RUNYON #10, SPECIMEN # ? US. JULY 1921. HOLOTYPE.

Source Feature Data:

EO ID: 3160

Source Feature ID: **8752**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Manfreda sileri* **EO ID:** 10467

Common Name: Siler's huaco

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1937-04-25 **Survey Date:** **Last Observation:** 1941-05-02

EO Data:

Comments: Complete specimen citation: Open places in thickets, near Barreda, clay soil, alt. 10 meters, 2 May 1941, R. Runyon 2708 (TEX-LL; originally det. Manfreda variegata; annotated to M. sileri by S. Verhoek, 1977). Also from vicinity: Near Barreda Station, 25 Apr 1937, R. Runyon 5263 (TEX-LL; originally det. Manfreda variegata; annotated to M. sileri by Verhoek, 1977).

Habitat Description: Open places in thickets, clay soil, alt. 10 m.

References:

Runyon, R. (2708). 1941. Specimen #none. TEX-LL.

Specimens:

Runyon, R. (2708). 1941. Specimen #none. TEX-LL. (S41RUNTXTXUS)

Runyon, R. (5263). TEX-LL. (S41RUNTXTXUS) (S37RUNTXTXUS)

Source Feature Data:

EO ID: 10467

Source Feature ID: **24709**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Notophthalmus meridionalis* **EO ID:** 567

Common Name: black-spotted newt

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1948-08-30 **Survey Date:** 1949-12-26 **Last Observation:** 1949-12-26

EO Data: Observation 1 - Larvae; 10 specimens collected; Observation 2 - taken when walking across the wet highway at 2100 hours on a warm and rainy day (SIC); one specimen collected.

Comments:

Habitat Description:

References:

Specimens:

Baylor University, Bryce C. Brown Collection at Strecker Museum. 1948. Bryce C. Brown, Catalog # 4765 BCB. 30 August 1948.

University of Michigan, Museum of Zoology. 1949. R.E. Etheridge, Catalog # 115789 UMMZ. 26 December 1949.

Source Feature Data:

EO ID: 567

Source Feature ID: **567**
Observation Date: 1949-12-26
Observer: R.E. Etheridge
Observation Data: larvae; 10 specimens collected

Source Feature ID: **3670**
Observation Date: 1948-08-30
Observer: Bryce C. Brown
Observation Data: one specimen collected while walking across wet highway at 2100 hrs on a warm and rainy day

Element Occurrence Record

Scientific Name: *Notophthalmus meridionalis* **EO ID:** 2616

Common Name: black-spotted newt

Global Rank: G3 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1923-09-06

EO Data:

Comments: TOPOTYPE

Habitat Description:

References:

Specimens:

Field Museum of Natural History, Chicago. 1923. Alfred C. Weed and R.D. Camp, Catalog # 5404 FMNH. 6 September 1923. Topotype.

Source Feature Data:

EO ID: 2616

Source Feature ID: **2616**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Phrynosoma cornutum* **EO ID:** 12450

Common Name: Texas horned lizard

Global Rank: G4G5 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** 2002-08-09 **Last Observation:** 2002-08-09

EO Data: 2002: Element is abundant at the surveyed location - present in all suitable habitat.

Comments:

Habitat Description:

References:

Duran, C. Michael. 2004. An inventory of reptiles and amphibians of Padre Island National Seashore, San Antonio Missions National Historical Park, and Palo Alto Battlefield National Historic Site. Prepared by The Nature Conservancy for the U.S. National Park Service.

Duran, C.M. 2002. Digital image of Phrynosoma cornutum from Palo Alto Battlefield National Historic Site, Cameron Co., Texas.

Specimens:

Source Feature Data:

EO ID: 12450

Source Feature ID: **26601**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Pithecellobium ebano-ehretia anacua series* **EO ID:** 1283

Common Name: Texas Ebony-anacua Series

Global Rank: G1 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1985 **Survey Date:** 1985-04-04 **Last Observation:** 1985-04-04

EO Data:

Comments:

Habitat Description: SOME EBONY-ANACUA, MESQUITE-ANACUA, LOW BRUSH, PATCHY; PROBABLY EBONY-ANACUA-MIXED BRUSH POTENTIAL

Community EO Information:

Scientific Name:	Stratum:	Dominant:	Lifeform:	Composition Note:

References:

DIAMOND, D. D. 1985. FIELD SURVEY TO THE LOWER RIO GRANDE VALLEY OF APRIL 1-5, 1985.

Specimens:

Source Feature Data:

EO ID: 1283

Source Feature ID: **1283**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Sabal texana series* **EO ID:** 14523

Common Name: Texas Palmetto Series

Global Rank: G2 **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 2019-01-16 **Survey Date:** 2019-01-16 **Last Observation:** 2019-01-16

EO Data: 16 Jan 2019: One community covering 0.25 acres was observed.

Comments: This tract of land needs spring and fall flora surveys to improve on the knowledge of the overall flora of this rare forest type.

Habitat Description:

Community EO Information:

Element Occurrence Record

Scientific Name:	Stratum:	Dominant:	Lifeform:	Composition Note:
Abutilon trisulcatum	Shrub/sapling (tall & short)	N	Broad-leaved deciduous shrub	SFID: 38878
Celtis laevigata	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Celtis pallida	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Chromolaena odorata	Herb (field)	N	Herb	SFID: 38878
Citharexylum berlandieri	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Cocculus diversifolius		N		SFID: 38878
Cordia boissieri	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Ebenopsis ebano	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Ehretia anacua	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Fraxinus berlandieriana	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Leucaena pulverulenta	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Malpighia glabra	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Malvaviscus arboreus var. drummondii	Shrub/sapling (tall & short)	N	Broad-leaved deciduous shrub	SFID: 38878
Mimosa pigra	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Phaulothamnus spinescens	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Rivina humilis	Herb (field)	N	Forb	SFID: 38878
Sabal mexicana	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Schinus terebinthifolius	Tree (canopy & subcanopy)	N	Broad-leaved evergreen tree	SFID: 38878
Sideroxylon celastrinum	Tree (canopy & subcanopy)	N	Broad-leaved deciduous tree	SFID: 38878
Stachys drummondii	Herb (field)	N	Forb	SFID: 38878
Urochloa maxima	Herb (field)	N	Forb	SFID: 38878
Verbesina microptera	Herb (field)	N	Forb	SFID: 38878

Element Occurrence Record

References:

Singhurst, J.R. 2019. Survey of Texas Palmetto-Ebony Forests and associated flora in Cameron County, Texas, 16-18 January 2019.

Specimens:

Source Feature Data:

EO ID: **14523**

Source Feature ID: **38878**

Observation Date: 2019-01-16

Observer: Jason Singhurst

Observation Data: The plant community observed is a subtropical, evergreen forest dominated by a mixture of subtropical and temperate riverine species with scattered Sabal mexicana. In addition to Sabal mexicana, the 15-m canopy includes Celtis laevigata, Ulmus crassifolia, Ebenopsis ebano, Leucaena pulverulenta, and Ehretia anacua. Undergrowth is absent to dense, with a tangle of vines, shrubs, and fallen trees. Typical shrubs include Sideroxylon celastrinum, Malvaviscus arboreus var. drummondii, Havardia pallens, Phaulothamnus spinescens and Celtis ehrenbergiana. This community occurs on the silts and clays of the Rio Grande River floodplain. Fire and periodic flooding of adjacent resaca channels are thought to be critical factors to maintain Sabal mexicana forests. This community has an extremely limited distribution and exists as fragmented stands within an agricultural landscape.

Element Occurrence Record

Scientific Name: *Siren sp. 1* **EO ID:** 5392

Common Name: South Texas siren (Large Form)

Global Rank: GNRQ **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1951-06-07 **Survey Date:** 1972-02-27 **Last Observation:** 1972-02-27

EO Data: Population 1 - 7 June 1951 two specimens collected; Population 2 - 12 June 1953 specimen collected, 14 January 1958 and 7 February 1958 total of 81 specimens collected, two of those albino, 15 March 1964 four specimens collected; Population 3 - Four specimens collected 27 February 1972

Comments: Specimen #10567 collected 7 June 1951 is the(?) type specimen.

Habitat Description:

References:

FLORES VILLELA, OSCAR AND RONALD A. BRANDON. 1992. SIREN LACERTINA (AMPHIBIA: CAUDATA) IN NORTHEASTERN MEXICO AND SOUTHERN TEXAS. ANN. CARNEGIE MUS. 61(4): 289-291.

Specimens:

Los Angeles County Natural History Museum. 1964. via R.D. Worthington, Catalog # 123987-123990 LACM. 15 March 1964.

Texas A & M University, Texas Cooperative Wildlife Collection. 1951. W.F. Kerr, Catalog # 10566, 10567 TCWC. 7 June 1951. Type.

Texas A & M University, Texas Cooperative Wildlife Collection. 1972. C.S. Lieb and F.S. Hendricks, Catalog # 40120-40123 TCWC. 27 February 1972.

University of Texas at Austin, Texas Natural History Collection. 1953. A.G. Flury, Catalog # 25596 TNHC. 12 June 1953.

University of Texas at Austin, Texas Natural History Collection. 1958. Unknown Collector, Catalog # 27913-27993 TNHC. 14 January, 7 February 1958.

Element Occurrence Record

Source Feature Data:

EO ID: 5392

Source Feature ID: 5052

Observation Date:

Observer:

Observation Data:

Source Feature ID: 5392

Observation Date:

Observer:

Observation Data:

Source Feature ID: 7467

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Siren sp. 1* **EO ID:** 3471

Common Name: South Texas siren (Large Form)

Global Rank: GNRQ **State Rank:** S1 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1946-12-28

EO Data:

Comments: COLLECTED 28 DECEMBER

Habitat Description:

References:

FLORES VILLELA, OSCAR AND RONALD A. BRANDON. 1992. SIREN LACERTINA (AMPHIBIA: CAUDATA) IN NORTHEASTERN MEXICO AND SOUTHERN TEXAS. ANN. CARNEGIE MUS. 61(4): 289-291.

Specimens:

UNIVERSITY OF TEXAS AT AUSTIN, TEXAS NATURAL HISTORY COLLECTION. 1946. A.G. FLURY, CATALOG # 90, 6015-6018 TNHC. 28 DECEMBER 1946.

Source Feature Data:

EO ID: 3471

Source Feature ID: **3471**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Smilisca baudinii* **EO ID:** 284

Common Name: Mexican treefrog

Global Rank: G5 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1976-09-14 **Survey Date:** 2003-09-19 **Last Observation:** 2003-09-19

EO Data: 14 Sep 1976: One specimen collected. 19 Sep 2003: A few S. baudinii were heard.

Comments: Bufo valliceps were also heard at this location.

Habitat Description:

References:

Elliott, Lee. 1994. Memorandum to Dorinda Sullivan dated December 2, 1994 concerning Texas A&M-Kingsville Vertebrate Specimens Catalogue.

Martin, Dave. 2004. E-mail of 15 April to Lee Ann Linam, Texas Parks & Wildlife Dept. biologist, concerning observations of Notophthalmus meridionalis in Kenedy County, Hypopachus variolosus and Smilisca baudinii in Cameron County, and H. variolosus in Hidalgo County, TX.

Martin, Dave. 2007. E-mail to Sandy Birnbaum, Natural Diversity Database manager, on 9 February concerning observations of Hypopachus variolosus, Smilisca baudini, Leptodactylus fragilis, and Rhinophrynus dorsalis in South Texas (Starr, Hidalgo, and Cameron counties).

Specimens:

TEXAS A & M UNIVERSITY-KINGSVILLE--VERTEBRATE COLLECTION. 1976. UNKNOWN COLLECTOR, SPECIMEN # 4036 AI. 14 SEPTEMBER 1976.

Element Occurrence Record

Source Feature Data:

EO ID: 284

Source Feature ID: **284**
Observation Date: 1976-09-14
Observer: unknown
Observation Data: One specimen collected.

Source Feature ID: **12662**
Observation Date: 2003-09-19
Observer: Dave Martin
Observation Data: Vigorous chorus of Bufo valliceps and a few Smilisca baudinii were heard.

Element Occurrence Record

Scientific Name: *Smilisca baudinii* **EO ID:** 8818

Common Name: Mexican treefrog

Global Rank: G5 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 2002-10-09 **Survey Date:** 2007-08-04 **Last Observation:** 2007-08-04

EO Data: 9 Oct 2002: A few S. baudinii were heard. 19 Sep 2003: Vigorous choruses of S. baudinii were heard at two listening stations. 17 Mar 2004: A few S. baudinii were heard. 24 June 2007: Choruses with an Amphibian Call Index value of 2 were heard at two listening stations, as well as one chorus with a call index of 3 at another listening station. 4 Aug 2007: Heard a chorus with an Amphibian Call Index value of 3.

Comments: Other species heard at these listening stops include: Bufo valliceps, B. speciosus, Gastrophryne sp., Pseudacris clarkii, Hypopachus variolosus, Scaphiopus couchii, and Acris crepitans. The Amphibian Calling Index is defined by the North American Amphibian Monitoring Program. 9 Oct 2002: It rained 4+ inches in northeastern Cameron Co. In 2003 Brownsville received 33.71 inches of rain of which 40% fell during a 13-day period in September. Spring 2004 was unusually wet (more than 4 inches above the average) with a deluge occurring in northeastern Cameron Co. on 15 March. 4 Aug 2007: A big rain event occurred in eastern Willacy and northeastern Cameron counties. At least 3 inches fell in some areas.

Habitat Description:

References:

Martin, Dave. 2003. E-mail of 15 January to Lee Ann Linam, Texas Parks & Wildlife Dept. biologist, concerning observations of Rhinophrynus dorsalis, Leptodactylus fragilis, Hypopachus variolosus and Smilisca baudinii in Willacy, Starr, and Cameron counties, TX.

Martin, Dave. 2004. E-mail of 15 April to Lee Ann Linam, Texas Parks & Wildlife Dept. biologist, concerning observations of Notophthalmus meridionalis in Kenedy County, Hypopachus variolosus and Smilisca baudinii in Cameron County, and H. variolosus in Hidalgo County, TX.

Martin, Dave. 2007. E-mail to Sandy Birnbaum, Natural Diversity Database manager, on 9 February concerning observations of Hypopachus variolosus, Smilisca baudini, Leptodactylus fragilis, and Rhinophrynus dorsalis in South Texas (Starr, Hidalgo, and Cameron counties).

Martin, Dave. 2008. E-mail of 9 January to Lee Ann Linam, Texas Parks & Wildlife Dept. biologist, concerning amphibian observations in south Texas, 23 February - 14 September 2007.

Specimens:

Element Occurrence Record

Source Feature Data:

EO ID: 8818

Source Feature ID: **12674**

Observation Date: 2002-10-09

Observer: Dave Martin

Observation Data: Gastrophryne sp., Bufo valliceps, Pseudacris clarkii, and a few Smilisca baudinii and Hypopachus variolosus were heard.

Source Feature ID: **12675**

Observation Date: 2003-09-19

Observer: Dave Martin

Observation Data: Vigorous choruses of Smilisca baudinii, Pseudacris clarkii, Scaphiopus couchii, and Gastrophryne sp., as well as moderate choruses of Bufo valliceps and Hypopachus variolosus were heard.

Observation Date: 2004-03-17

Observer: Dave Martin

Observation Data: A few Smilisca baudinii, a few Gastrophryne sp., and one Acris crepitans, in addition to Bufo valliceps and Pseudacris clarkii were heard. Only leopard frog tadpoles were found in the water.

Source Feature ID: **21988**

Observation Date: 2003-09-19

Observer: Dave Martin

Observation Data: Vigorous choruses of Smilisca baudinii, Bufo speciosus, and Pseudacris clarkii, as well as a moderate chorus of Scaphiopus couchii were heard.

Source Feature ID: **22005**

Observation Date: 2007-06-24

Observer: Dave Martin

Observation Data: Heard a chorus of S. baudinii with an Amphibian Call Index value of 2 which means the call of individuals can be distinguished; some overlapping of calls. See the associated species tab for other frogs/toads heard at this listening station.

Source Feature ID: **22006**

Observation Date: 2007-06-24

Observer: Dave Martin

Observation Data: Heard a chorus of S. baudinii with an Amphibian Call Index value of 3 which means a full chorus, the calls are constant, continuous, and overlapping. See the associated species tab for other frogs/toads heard at this listening station.

Observation Date: 2007-08-04

Observer: Dave Martin

Observation Data: Heard a chorus of S. baudinii with an Amphibian Call Index value of 3 which means a full chorus, the calls are constant, continuous, and overlapping. See the associated species tab for other frogs/toads heard at this listening station.

Element Occurrence Record

Source Feature ID:	**22007**
Observation Date:	2007-06-24
Observer:	Dave Martin
Observation Data:	Heard a chorus of S. baudinii with an Amphibian Call Index value of 2 which means the call of individuals can be distinguished; some overlapping of calls. See the associated species tab for other frogs/toads heard at this listening station.

Element Occurrence Record

Scientific Name: *Smilisca baudinii* **EO ID:** 8826

Common Name: Mexican treefrog

Global Rank: G5 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 2002-09-11 **Survey Date:** 2002-09-11 **Last Observation:** 2002-09-11

EO Data: 11 Sep 2002: S. baudinii were heard.

Comments: Other species heard at this listening stop include: Bufo speciosus, B. valliceps, Scaphiopus couchii, and Gastrophryne sp. Additional rains in Cameron Co. raised totals to 5+ in. in areas that had seen less than 4 in. in previous days.

Habitat Description:

References:

Martin, Dave. 2003. E-mail of 15 January to Lee Ann Linam, Texas Parks & Wildlife Dept. biologist, concerning observations of Rhinophrynus dorsalis, Leptodactylus fragilis, Hypopachus variolosus and Smilisca baudinii in Willacy, Starr, and Cameron counties, TX.

Martin, Dave. 2007. E-mail to Sandy Birnbaum, Natural Diversity Database manager, on 9 February concerning observations of Hypopachus variolosus, Smilisca baudini, Leptodactylus fragilis, and Rhinophrynus dorsalis in South Texas (Starr, Hidalgo, and Cameron counties).

Specimens:

Source Feature Data:

EO ID: 8826

Source Feature ID: **12705**

Observation Date: 2002-09-11

Observer: Dave Martin

Observation Data: Large choruses of Bufo speciosus, B. valliceps, Scaphiopus couchii, and Gastrophryne sp. were heard. Smilisca baudinii were also heard.

Element Occurrence Record

Scientific Name: *Smilisca baudinii* **EO ID:** 12485

Common Name: Mexican treefrog

Global Rank: G5 **State Rank:** S3 **Identification Confirmed:** Y - Yes

TX Protection Status: T **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** 2003-09-22 **Last Observation:** 2003-09-22

EO Data: 2003: 2 individuals heard calling during rain on 9/22/03. One individual captured and photographed [then released].

Comments:

Habitat Description:

References:

Duran, C. Michael. 2004. An inventory of reptiles and amphibians of Padre Island National Seashore, San Antonio Missions National Historical Park, and Palo Alto Battlefield National Historic Site. Prepared by The Nature Conservancy for the U.S. National Park Service.

Duran, C.M. 2003. Digital image of Smilisca baudinii from Palo Alto Battlefield National Historic Site. The Nature Conservancy.

Specimens:

Source Feature Data:

EO ID: 12485

Source Feature ID: **26669**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Thelypodiopsis shinnersii* **EO ID:** 10189

Common Name: Shinner's rocket

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1959-04-20

EO Data:

Comments: Complete specimen citation: Under trees, 6 mi N of Olmito, NE edge of Russelltown, 20 Apr 1959, R. C. Rollins & D. S. Correll 5953 (TEX-LL). Also from general area: Barreda Station [=Russelltown], 1 Apr 1936, R. Runyon 1582 (TEX-LL), 19 Mar 1937, R. Runyon 3535 (TEX-LL), 11 Apr 1941, R. Runyon 2521 (TEX-LL) and 26 Mar 1944, R. Runyon 3788 (TEX-LL).

Habitat Description: Under trees.

References:

Rollins, R.C. and D.S. Correll (5953). 1959. Specimen # none TEX-LL.

Specimens:

R. Runyon (3535). 1937. TEX-LL

Rollins, R.C. and D.S. Correll (5953). 1959. Specimen # none TEX-LL. (S59ROLTXTXUS)

Runyon, R. (1582). 1936. TEX-LL

Runyon, R. (2521). 1941. TEX-LL

Runyon, R. (3788). 1944. TEX-LL.

Source Feature Data:

EO ID: 10189

Source Feature ID: **24107**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Thelypodiopsis shinnersii* **EO ID:** 10250

Common Name: Shinner's rocket

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1959-04-20

EO Data:

Comments: Complete specimen citation: In heavy clay soil near thorn scrub, 3 mi NW of Russelltown, near San Benito 20 Apr 1959, R. C. Rollins & D. S. Correll 5954 (TEX-LL).

Habitat Description: In heavy clay soil near thorn scrub.

References:

Rollins, R.C. and D.S. Correll (5954). 1959. Specimen # none TEX-LL.

Specimens:

Rollins, R. C. and D. S. Correll. (5954). 1959. Specimen # none TEX-LL. (S59ROLTXTXUS)

Source Feature Data:

EO ID: 10250

Source Feature ID: **24217**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Tillandsia baileyi* **EO ID:** 6438

Common Name: Bailey's ballmoss

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1927-10-23 **Survey Date:** 1988-10-17 **Last Observation:** 1988-10-17

EO Data: 10 MATURE, DORMANT INDIVIDUALS

Comments:

Habitat Description: SMALL BORDER-TOWN SUBURBIA; WITH PISONIA ACULEATA, CHIOCOCCA ALBA, MALVAVISCUS DRUMMONDIANUS, PETIRERIA ALLIACEA, PITHECELLOBIUM PALLENS, PITHECELLOBIUM FLEXICAULE, FRAXINUS BERLANDIERIANA, FORESTIERA ANGUSTIFOLIA, PASSIFLORA SP., ZANTHOXYLUM FAGARA, SMILAX BONA-NOX, RANDIA RHAGOCARPA, VERBESINA ENCELROIDES, ULMUS CRASSIFOLIA, AMYRIS MADRENSIS, AMYRIS TEXENSIS, PANICUM MAXIMUM, RIVINA HUMILIS, CONDALIA HOOKERI, CARDIOSPERMUM HALICACABUM

References:

POOLE, J.M. 1988. FIELD SURVEY TO OLMITO OF 17 OCTOBER 1988.

Specimens:

Harvard University, Gray Herbarium, Cambridge, MA. 1927. Rose #24197 and Russell, Specimen # ? GH. 23 October 1927.

Source Feature Data:

EO ID: **6438**

Source Feature ID: **6438**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Tillandsia baileyi* **EO ID:** 2480

Common Name: Bailey's ballmoss

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1987-06-10 **Survey Date:** 1994-09-06 **Last Observation:** 1994-09-06

EO Data: Population 1 - 18 October 1988 - CA. 100 INDIVIDUALS, PRIMARILY IN PITHECELLOBIUM EBANO; also observed on 10 June 1987; Population 2 - 6 September 1994 - NO COUNT ATTEMPTED; PLANTS PRESUMABLY SCATTERED IN SOMEWHAT IMPENETRABLE FOREST; NO FLOWERS OR FRUITS

Comments:

Habitat Description: Population 1 - EXTREMELY DENSE SNAKE-EYES-TEXAS EBONY THICKET, WEEDY, OVER-GROWN OLD ROAD TO RESACA SURROUNDED BY DENSE NATIVE VEGETATION; WITH PITHECELLOBIUM PALLENS, ZIZIPHUS OBTUSIFOLIA, BACCHARIS SALICIFOLIA, BUMELIA CELASTRINA, AMYRIS MADRENSIS, PHAULOTHAMNUS SPINESCENS, FRAXINUS BERLANDIERIANA, GUAIACUM ANGUSTIFOLIUM, PARKINSONIA ACULEATA, CENCHRUS CILIARIS, PROSOPIS GLANDULOSA, PANICUM MAXIMUM, ACACIA FARNESIANA, CELTIS PALLIDA, RIVINIA HUMILIS, KOEBERLINIA SPINOSA, EHERETIA ANACUA, ADELIA VASEYI, COCCULUS DIVERSIFOLIUS, SALVIA BALLOTAEFLORA, OPUNTIA LEPTOCAULIS, FORESTIERA ANGUSTIFOLIA, CORDIA BOISSIERI, KARWINSKIA HUMBOLDTIANA, ZANTHOXYLUM FAGARA, ALOYSIA GRATISSIMA, CARDIOSPERMUM HALICACABUM, BERNARDIA MYRICAEFOLIA, CISSUS INCISA, CHIOCOCCA ALBA, LANTANA HORRIDA, SALVIA COCCINEA, EUPATORIUM ODORATUM, RANDIA RHAGOCARPA, SETARIA SP., DIOSPYROS TEXANA, SIDA SP., HIBISCUS CARDIOPHYLLUS, TYPHA SP., OPUNTIA LINDHEIMERI, FEROCACTUS SETISPINUS, CASTELA TEXENSIS, MATELEA SP.; Population 2 - 6-20 FEET UP IN TREES IN MATURE SUBTROPICAL EVERGREEN WOODLAND OR FOREST NEAR RESACA

References:

CARR, W.R. 1994. FIELD SURVEY OF RESACA DE LA PALMA STATE PARK, 6-7 SEPTEMBER 1994.

POOLE, J.M. 1987. FIELD SURVEY TO RESACA DE LA PALMA STATE PARK/NORIEGA TRACT-LOWER RIO GRANDE VALLEY NATIONAL WILDLIFE REFUGE OF OCTOBER 18, 1988.

POOLE, J.M. 1987. FIELD SURVEY TO RESACA DE LA PALMA STATE PARK/NORIEGA TRACT-LOWER RIO GRANDE VALLEY NATIONAL WILDLIFE REFUGE, 10 JUNE 1987.

Specimens:

Element Occurrence Record

Source Feature Data:

EO ID: 2480

Source Feature ID: **2480**

Observation Date: 1987-06-10

Observer: Jackie Poole

Observation Data:

Observation Date: 1988-10-18

Observer: Jackie Poole

Observation Data: ca. 100 individuals, primarily in Pithecellobium ebano

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Source Feature ID: **2597**

Observation Date: 1994-09-06

Observer: Bill Carr

Observation Data: no count attempted; plants presumably scattered in somewhat impenetrable forest; no flowers or fruits observed

Element Occurrence Record

Scientific Name: *Tillandsia baileyi* **EO ID:** 7549

Common Name: Bailey's ballmoss

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 1984 **Survey Date:** 1987-10-01 **Last Observation:** 1987-10-01

EO Data: NUMBERS OF INDIVIDUALS NOT COUNTED

Comments:

Habitat Description: DENSELY WOODED STRIP OF NATIVE WOODLAND BETWEEN AGRICULTURAL FIELD AND RESACA; CLAY SOILS; WITH PITHECELLOBIUM FLEXICAULE, EHRETIA ANACUA, CONDALIA HOOKERI

References:

Poole, J. M. 1987. Field survey to Jopoy Tract of 1 October 1987.

Specimens:

Source Feature Data:

EO ID: 7549

Source Feature ID: **7549**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Tillandsia baileyi* **EO ID:** 6010

Common Name: Bailey's ballmoss

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** 1994-02-17 **Last Observation:** 1994-02-17

EO Data: SCATTERED IN TALLER SHRUBS, NO COUNT ATTEMPTED

Comments:

Habitat Description: MESQUITE-GRANJENO THORN WOODLAND ON SILTY CLAY LOAM MOLLISOLS OVER RIO GRANDE DELTA DEPOSITS; CANOPY BROKEN, IRREGULAR; COVER DENSER IN LOWER SHRUB LAYER

References:

CARR, W.R. 1994. FIELD SURVEY OF RANCHITO TRACT, LRGVNWR, 17 FEBRUARY 1994.

Specimens:

Source Feature Data:

EO ID: **6010**

Source Feature ID: **6010**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Tillandsia baileyi* **EO ID:** 3064

Common Name: Bailey's ballmoss

Global Rank: G2G3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: 2001-10-03 **Survey Date:** 2001-10-03 **Last Observation:** 2001-10-03

EO Data: AT LEAST 100 PLANTS, MOST IN ONE DEAD TREE, ON 3 OCTOBER 2001

Comments:

Habitat Description: SMALLISH ISOLATED STAND OF REMNANT TALL SUBTROPICAL BRUSH ON GENTLE SLOPES ON DOWNWIND SIDE OF RESACA (ACTUALLY NOW A RESERVOIR IN WHICH A CONSTANT WATER LEVEL IS MAINTAINED); SOILS MAPPED AS LAREDO SILTY CLAY LOAM (WELL DRAINED CALCAREOUS FLUVENTIC HAPLUSTOLLS); WOODLAND WITH NEARLY CLOSED (IN MOST AREAS) CANOPY AT PERHAPS 5-6 METERS, DOMINATED BY PITHECELLOBIUM EBANO, PROSOPIS GLANDULOSA, PHAULOTHAMNUS SPINESCENS AND CONTAINING NUMEROUS OTHER SHRUBS, INCLUDING ACACIA SMALLII, ACACIA RIGIDULA, ACANTHECEREUS PENTAGONUS, AMYRIS MADRENSIS, AMYRIS TEXANA, BERNARDIA MYRICIFOLIA, BUMELIA CELASTRINA, CASTELA ERECTA, CELTIS LAEVIGATA, CELTIS PALLIDA, CHIOCOCCA ALBA, CITHAREXYLUM BERLANDIERI, CONDALIA HOOKERI, CORDIA BOISSIERI, DIOSPYROS TEXANA, EHRETIA ANACUA, GUAIACUM ANGUSTIFOLIUM, KARWINSKIA HUMBOLDTIANA, OPUNTIA ENGELMANNII, OPUNTIA LEPTOCAULIS, PITHECELLOBIUM PALLENS, RANDIA RHAGOCARPA, YUCCA TRECULEANA, ZANTHOXYLUM FAGARA, ZIZIPHUS OBTUSIFOLIUS; SEVERAL OTHER NATIVE (AND A BUNCH OF NON-NATIVE) SPECIES HAVE BEEN INTRODUCED TO THE GENERAL AREA, BUT THIS POPULATION OF TILLANDSIA BAILEYI IS MOST LIKELY NATURAL

References:

CARR, W.R. 2001. PLANT SPECIES OBSERVED AT CHACHALACA BEND, CAMERON COUNTY, TEXAS, 3 OCTOBER 2001. UNPUBLISHED REPORT, THE NATURE CONSERVANCY OF TEXAS, SAN ANTONIO.

Specimens:

Element Occurrence Record

Source Feature Data:

EO ID: **3064**

Source Feature ID: **3064**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Trichocoronis wrightii var. wrightii* **EO ID:** 10170

Common Name: Wright's trichocoronis

Global Rank: G4T3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:** 1942-03-16

EO Data:

Comments: Complete specimen citation: Near Olmito, in wet area, 16 Mar 1942, C. L. Lundell & A. A. Lundell 10761 (BRIT/SMU, TEX-LL).

Habitat Description: Wet area.

References:

Lundell, C.L. and A.A. Lundell (10761). 1942. Specimen # none. BRIT/SMU, TEX-LL.

Specimens:

Lundell, C.L. and A.A. Lundell. (10761). 1942. Specimen # none. BRIT/SMU, TEX-LL. (S42LUNSMTXUS) (S42LUNTXTXUS)

Source Feature Data:

EO ID: 10170

Source Feature ID: **24141**

Observation Date:

Observer:

Observation Data:

Element Occurrence Record

Scientific Name: *Trichocoronis wrightii var. wrightii* **EO ID:** 10513

Common Name: Wright's trichocoronis

Global Rank: G4T3 **State Rank:** S2 **Identification Confirmed:** Y - Yes

TX Protection Status: **Federal Protection Status:**

Survey Information:

All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.

First Observation: **Survey Date:** **Last Observation:**

EO Data:

Comments: Voucher specimens, if collected, were not cited in the journal article; general vouchers were reported to be at University of Texas - Pan American (PAUH). Field work was conducted by Al Richardson in 1991, Richardson and Bob Lonard in 1992 and 1993, and by Lonard in 2001-2003.

Habitat Description:

References:

Lonard, R. I., A. T. Richardson and N. L. Richard. 2004. The vascular flora of the Palo Alto National Battlefield Historic Site [sic- should be Palo Alto Battlefield National Historic Site], Cameron County, Texas. Texas Journal of Science 56(1): 15-34.

Specimens:

Source Feature Data:

EO ID: 10513

Source Feature ID: **24582**

Observation Date:

Observer:

Observation Data:

Source Feature List for Quads Surrounding Request Area

Source Feature ID:	Scientific Name:	Source Feature Descriptor:	Source Feature Locator:
27372	Coniophanes imperialis	ID Confirmed: Yes	
27469	Coniophanes imperialis	ID Confirmed: Yes	
27610	Coniophanes imperialis	ID Confirmed: Yes	
27611	Gopherus berlandieri	ID Confirmed: Yes	
27622	Phrynosoma cornutum	ID Confirmed: Yes	
27846	Drymarchon melanurus erebennus	ID Confirmed: Yes	
27856	Siren sp. 1	ID Confirmed: Yes	
27881	Coniophanes imperialis	ID Confirmed: Yes	
27883	Drymarchon melanurus erebennus	ID Confirmed: Yes	
28058	Siren sp. 1	ID Confirmed: Yes	
28059	Siren sp. 1	ID Confirmed: Yes	
28818	Microphis brachyurus	ID Confirmed: Yes	
31147	Centropomus undecimalis	ID Confirmed: Yes	
31150	Centropomus undecimalis	ID Confirmed: Yes	
31151	Centropomus undecimalis	ID Confirmed: Yes	
31639	Coniophanes imperialis	ID Confirmed: Yes	
31791	Notophthalmus meridionalis	ID Confirmed: Yes	
31845	Smilisca baudinii	ID Confirmed: Yes	
32292	Gopherus berlandieri	ID Confirmed: Yes	
32297	Gopherus berlandieri	ID Confirmed: Yes	
32821	Drymarchon melanurus erebennus	ID Confirmed: Yes	
32822	Drymarchon melanurus erebennus	ID Confirmed: Yes	
32823	Drymarchon melanurus erebennus	ID Confirmed: Yes	

Source Feature ID:	Scientific Name:	Source Feature Descriptor:	Source Feature Locator:
32824	Drymarchon melanurus erebennus	ID Confirmed: Yes	
32834	Drymarchon melanurus erebennus	ID Confirmed: Yes	
32838	Drymarchon melanurus erebennus	ID Confirmed: Yes	
33202	Drymarchon melanurus erebennus	ID Confirmed: Yes	
37859	Drymarchon melanurus erebennus	ID Confirmed: Yes	
38159	Phrynosoma cornutum	ID Confirmed: Yes	
38160	Drymarchon melanurus erebennus	ID Confirmed: Yes	
38219	Drymarchon melanurus erebennus	ID Confirmed: Yes	
38256	Coniophanes imperialis	ID Confirmed: Yes	
39243	Laterallus jamaicensis	ID Confirmed: Yes	
39589	Disonycha barberi	ID Confirmed: Yes	
39590	Cacostola lineata	ID Confirmed: Yes	
39592	Brucita marmorata	ID Confirmed: Yes	
39594	Trichodesma pulchella	ID Confirmed: Yes	
39597	Megascelis texana	ID Confirmed: Yes	
39602	Spectralia prosternalis	ID Confirmed: Yes	
39603	Trichodesma pulchella	ID Confirmed: Yes	
39604	Trichodesma sordida	ID Confirmed: Yes	
39605	Ormiscus albofasciatus	ID Confirmed: Yes	
39606	Ormiscus irroratus	ID Confirmed: Yes	
39608	Cacostola lineata	ID Confirmed: Yes	
39609	Brucita marmorata	ID Confirmed: Yes	
39611	Chalcodermus semicostatus	ID Confirmed: Yes	
39612	Conotrachelus rubescens	ID Confirmed: Yes	
39613	Platyomus flexicaulis	ID Confirmed: Yes	
39614	Loberus ornatus	ID Confirmed: Yes	

Source Feature ID:	Scientific Name:	Source Feature Descriptor:	Source Feature Locator:
39615	Toramus chamaeropis	ID Confirmed: Yes	
39616	Cenophengus pallidus	ID Confirmed: Yes	
39617	Lachnodactyla texana	ID Confirmed: Yes	
39717	Drymarchon melanurus erebennus	ID Confirmed: Yes	
39729	Phrynosoma cornutum	ID Confirmed: Yes	
39805	Drymarchon melanurus erebennus	ID Confirmed: Yes	
39898	Gopherus berlandieri	ID Confirmed: Yes	
39967	Smilisca baudinii	ID Confirmed: Yes	
40370	Brucita marmorata	ID Confirmed: Yes	
40371	Cacostola lineata	ID Confirmed: Yes	
40373	Callipogonius cornutus	ID Confirmed: Yes	
40374	Cenophengus pallidus	ID Confirmed: Yes	
40375	Chalcodermus semicostatus	ID Confirmed: Yes	
40376	Conotrachelus rubescens	ID Confirmed: Yes	
40377	Diomus pseudotaedatus	ID Confirmed: Yes	
40378	Disonycha barberi	ID Confirmed: Yes	
40379	Disonycha stenosticha	ID Confirmed: Yes	
40380	Hapalips texanus	ID Confirmed: Yes	
40381	Hyperaspis rotunda	ID Confirmed: Yes	
40382	Loberus ornatus	ID Confirmed: Yes	
40383	Megascelis texana	ID Confirmed: Yes	
40384	Ormiscus albofasciatus	ID Confirmed: Yes	
40385	Ormiscus irroratus	ID Confirmed: Yes	
40386	Pachybrachis duryi	ID Confirmed: Yes	
40388	Platyomus flexicaulis	ID Confirmed: Yes	
40389	Ptinus tumidus	ID Confirmed: Yes	

Source Feature ID:	Scientific Name:	Source Feature Descriptor:	Source Feature Locator:
40390	Spectralia prosternalis	ID Confirmed: Yes	
40391	Talanus mecoscelis	ID Confirmed: Yes	
40392	Toramus chamaeropis	ID Confirmed: Yes	
40393	Trichodesma pulchella	ID Confirmed: Yes	
40394	Trichodesma sordida	ID Confirmed: Yes	
40395	Trigonogya reticulaticollis	ID Confirmed: Yes	
40402	Toramus chamaeropis	ID Confirmed: Yes	
40403	Loberus ornatus	ID Confirmed: Yes	
40406	Hyperaspis rotunda	ID Confirmed: Yes	
40407	Platyomus flexicaulis	ID Confirmed: Yes	
40411	Cenophengus pallidus	ID Confirmed: Yes	
40414	Brucita marmorata	ID Confirmed: Yes	
40415	Heterobrenthus texanus	ID Confirmed: Yes	
40416	Ptinus tumidus	ID Confirmed: Yes	
40417	Hyperaspis rotunda	ID Confirmed: Yes	
40418	Talanus mecoscelis	ID Confirmed: Yes	
40420	Cacostola lineata	ID Confirmed: Yes	
40423	Callipogonius cornutus	ID Confirmed: Yes	
40425	Brucita marmorata	ID Confirmed: Yes	
40426	Disonycha barberi	ID Confirmed: Yes	
40434	Platyomus flexicaulis	ID Confirmed: Yes	
40435	Pachyschelus fisheri	ID Confirmed: Yes	
40436	Spectralia prosternalis	ID Confirmed: Yes	
40437	Ormiscus irroratus	ID Confirmed: Yes	
40441	Drymarchon melanurus erebennus	ID Confirmed: Yes	
40442	Drymarchon melanurus erebennus	ID Confirmed: Yes	

Source Feature ID:	Scientific Name:	Source Feature Descriptor:	Source Feature Locator:
40444	Gopherus berlandieri	ID Confirmed: Yes	
40445	Gopherus berlandieri	ID Confirmed: Yes	
40446	Mustela frenata	ID Confirmed: Yes	
40450	Drymarchon melanurus erebennus	ID Confirmed: Yes	
40815	Gopherus berlandieri	ID Confirmed: Yes	

Source Feature Record

Scientific Name: Brucita marmorata **Source Feature ID:** 39592

Common Name:

State Conservation Rank: SNR **Global Conservation Rank:** GNR

Texas Protection Status: **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The specimen label states that it is located 1.3 miles east of La Paloma, Cameron County, TX.

Mapping Comments: A 1,300 meter buffer was applied to the point to encompass any uncertainty based on the general directions and to include the acreage of the city of La Paloma, TX and its boundary.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1981-06-13	R. H. Turnbow	An unknown number of specimens were examined. Robert H. Turnbow Collection, AL; unknown (#unknown), Catalog #unknown, 13 June 1981, RHTC.

Reference Code:	Full Citation:
R08OSW01TXUS	Oswald, J. D., and E. G. Riley. 2008. Interim Report. Invertebrates of special concern: beetles (Insecta: Coleoptera) of the South Texas Ecoregions. Grant No. T-41-1 State Wildlife Grant. Submitted to Texas Parks and Wildlife Department, Austin, TX. December 2008.

Source Feature Record

Scientific Name: Coniophanes imperialis

Source Feature ID: 27881

Common Name: black-striped snake

State Conservation Rank: S2S3

Global Conservation Rank: G4G5

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The original specimen information included the following information - Specific Locality: Brownsville, 5 mi NW | Latitude: | Longitude: | Locality Comments: . Texas Natural History Collections staff interpreted the specimen information for use in the MaNIS/HerpNet/ORNIS georeferencing calculator (protocol at http://manisnet.org/gci2.html) as the following - LocalityAnnotation: | GeoreferencedLocalityName: Brownsville, 5 mi NW | TreatedAs: Treated as measure "By Air" | NamedPlaceExtent: 4.5 miles. The calculator returned the following NAD27 coordinates and areal estimated uncertainty - Latitude: 25.97326 | Longitude: -97.54739 | MaxError: 6.192 | MaxErrorUnit: mi.

Mapping Comments: Conceptually, this is a point with areal delimited uncertainty. The georeferenced coordinates were accepted, a 5 km buffer was applied, and the feature was delimited to Texas.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1953-06-11	Flury	1 specimen was collected (TNHC 23088).

Reference Code:	Full Citation:
R14LAD01TXUS	LaDuc, Travis. 2014. Creating a centralized catalog for georeferenced specimen records of Texas reptiles and amphibians: the Herps of Texas Database. Contract # 441514. Prepared for USFWS. 3 pp. 9 January 2014.

Source Feature Record

Scientific Name: Disonycha barberi **Source Feature ID:** 40426

Common Name:

State Conservation Rank: SNR **Global Conservation Rank:** GNR

Texas Protection Status: **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The specimen labels state that they were located in San Benito, Cameron County, TX.

Mapping Comments: A 2,000 meter buffer was applied on the georeferenced point to take into account the acreage of the town of San Benito, TX out to its boundary.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1945-03-27	D. J. Smith	One specimen was observed on corn foliage. United States National Museum of Natural History, Washington, D.C.; D. J. Smith (#unknown), Catalog #unknown, 27 March 1945, USNM.
1945-03-27	unknown	One specimen was observed on corn foliage.

Reference Code:	Full Citation:
R08OSW01TXUS	Oswald, J. D., and E. G. Riley. 2008. Interim Report. Invertebrates of special concern: beetles (Insecta: Coleoptera) of the South Texas Ecoregions. Grant No. T-41-1 State Wildlife Grant. Submitted to Texas Parks and Wildlife Department, Austin, TX. December 2008.

Source Feature Record

Scientific Name: Drymarchon melanurus erebennus

Source Feature ID: 27883

Common Name: Texas indigo snake

State Conservation Rank: S4

Global Conservation Rank: G5T4

Texas Protection Status:

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The original specimen information included the following information - Specific Locality: Brownsville, 11 mi NWNW | Latitude: | Longitude: | Locality Comments: . Texas Natural History Collections staff interpreted the specimen information for use in the MaNIS/HerpNet/ORNIS georeferencing calculator (protocol at http://manisnet.org/gci2.html) as the following - LocalityAnnotation: Assumed locality meant NW, there is no NWNW direction | GeoreferencedLocalityName: Brownsville, 11 mi NW | TreatedAs: Treated as measure "By Air" | NamedPlaceExtent: 4.5 miles. The calculator returned the following NAD27 coordinates and areal estimated uncertainty - Latitude: 26.03489 | Longitude: -97.61555 | MaxError: 7.615 | MaxErrorUnit: mi.

Mapping Comments: Conceptually, this is a point with areal delimited uncertainty. The georeferenced coordinates were accepted, an 8 km buffer was applied, and the feature was delimited to Texas.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1956-05-16	Flury	1 specimen was collected (TNHC 24559).

Reference Code:	Full Citation:
R14LAD01TXUS	LaDuc, Travis. 2014. Creating a centralized catalog for georeferenced specimen records of Texas reptiles and amphibians: the Herps of Texas Database. Contract # 441514. Prepared for USFWS. 3 pp. 9 January 2014.

Source Feature Record

Scientific Name: Gopherus berlandieri **Source Feature ID:** 32286

Common Name: Texas tortoise

State Conservation Rank: S2 **Global Conservation Rank:** G4

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

Mapping Comments: The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2003-04-05	Herps of Texas iNaturalist project	iNaturalist observation ID: 310453

Reference Code:	Full Citation:
W17INA01TXUS	iNaturalist Herps of Texas Project. 2017. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

Source Feature Record

Scientific Name: Gopherus berlandieri

Source Feature ID: 39859

Common Name: Texas tortoise

State Conservation Rank: S2

Global Conservation Rank: G4

Texas Protection Status: T

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 31692319) included the coordinates and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2019-08-28	iNaturalist Herps of Texas project user ID: 94135	This visit is based on iNaturalist observation ID: 31692319.

Reference Code:	Full Citation:
W20INA02TXUS	iNaturalist Herps of Texas Project. 2020. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Mustela frenata

Source Feature ID: 40447

Common Name: long-tailed weasel

State Conservation Rank: S5

Global Conservation Rank: G5

Texas Protection Status:

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The observation was made at the provided coordinates, taken with a Garmin GPSMAP 66s, in the western lane of FM 1847.

Mapping Comments: A point with a linear locational uncertainty was applied to take into account any inaccuracies of the GPS unit.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2020-11-16	Zachary M. Wardle	One observation of a roadkill located in an agriculture and residential area consisting of fields with herbaceous cover and a small drainage ditch adjacent to the roadway.

Reference Code:	Full Citation:
U20WAR01TXUS	Wardle, Z. M. 2020. Texas Natural Diversity Database Reporting Forms and photos concerning Drymarchon melanurus erebennus, Gopherus berlandieri, Mustela frenata, and Taxidea taxus roadkill and camera trap observations in Cameron and Kenedy counties , TX.

Source Feature Record

Scientific Name: Notophthalmus meridionalis **Source Feature ID:** 39804

Common Name: black-spotted newt

State Conservation Rank: S3 **Global Conservation Rank:** G3

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m and mapped as a point-estimated feature.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 33537100) included the coordinates and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2016-02-19	iNaturalist Herps of Texas project user ID: 306866	This visit is based on iNaturalist observation ID: 33537100.

Reference Code:	Full Citation:
W20INA02TXUS	iNaturalist Herps of Texas Project. 2020. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Pachyschelus fisheri

Source Feature ID: 40435

Common Name:

State Conservation Rank: S1

Global Conservation Rank: GNR

Texas Protection Status:

Federal Protection Status:

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The specimen labels state that they were located in West Cameron County, TX.

Mapping Comments: A point with a delimited locational uncertainty was applied to account for any uncertainty based on the general directions, and to take into account the western sections of the U.S. Fish and Wildlife Service Lower Rio Grande National Wildlife Refuge in the western part of Cameron County, TX. Ross Winton, Texas Parks and Wildlife Department Invertebrate Biologist, consulted Bellamy (1991) and determined through paper maps and notes from the collector that this is the likely location.

Source Feature Record

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1946-06-08	George B. Vogt	One specimen was observed on Bernardia myricaefolia Scheele S. Wats. foliage. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 8 June 1946, USNM.
1947-06-29	George B. Vogt	Two specimens were reared from a Bernardia myricaefolia Scheele S. Wats. leaf collected on 22 June 1947. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 29 June 1947, USNM.
1947-07-03	George B. Vogt	Two specimens were reared from a Bernardia myricaefolia Scheele S. Wats. leaf collected on 22 June 1947. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 3 July 1947, USNM.
1947-08-10	George B. Vogt	Two specimens were observed on Bernardia myricaefolia Scheele S. Wats. foliage. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 10 August 1947, USNM.
1947-08-30	George B. Vogt	One specimen was observed on Bernardia myricaefolia Scheele S. Wats. foliage. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 30 August 1947, USNM.
1947-09-13	George B. Vogt	One allotype specimen was observed on Bernardia myricaefolia Scheele S. Wats. foliage. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 13 September 1947, USNM.

Reference Code:	Full Citation:
R08OSW01TXUS	Oswald, J. D., and E. G. Riley. 2008. Interim Report. Invertebrates of special concern: beetles (Insecta: Coleoptera) of the South Texas Ecoregions. Grant No. T-41-1 State Wildlife Grant. Submitted to Texas Parks and Wildlife Department, Austin, TX. December 2008.

Source Feature Record

Scientific Name: Phrynosoma cornutum **Source Feature ID:** 40240

Common Name: Texas horned lizard

State Conservation Rank: S3 **Global Conservation Rank:** G4G5

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m and mapped as a point-estimated feature.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 22367985) included the coordinates and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2019-03-30	iNaturalist Herps of Texas project user ID: 17484	This visit is based on iNaturalist observation ID: 22367985.

Reference Code:	Full Citation:
W20INA02TXUS	iNaturalist Herps of Texas Project. 2020. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Platyomus flexicaulis **Source Feature ID:** 40434

Common Name:

State Conservation Rank: SNR **Global Conservation Rank:** GNR

Texas Protection Status: **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The specimen labels state that they were located in West Cameron County, TX.

Mapping Comments: A point with a delimited locational uncertainty was applied to account for any uncertainty based on the general directions, and to take into account the western sections of the U.S. Fish and Wildlife Service Lower Rio Grande National Wildlife Refuge in the western part of Cameron County, TX. Ross Winton, Texas Parks and Wildlife Department Invertebrate Biologist, consulted Bellamy (1991) and determined through paper maps and notes from the collector that this is the likely location.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1946-06-08	George B. Vogt	Four specimens were observed on Pithecolobium flexicaulis Benth Coulter, on coppice. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 8 June 1946, USNM.

Reference Code:	Full Citation:
R08OSW01TXUS	Oswald, J. D., and E. G. Riley. 2008. Interim Report. Invertebrates of special concern: beetles (Insecta: Coleoptera) of the South Texas Ecoregions. Grant No. T-41-1 State Wildlife Grant. Submitted to Texas Parks and Wildlife Department, Austin, TX. December 2008.

Source Feature Record

Scientific Name: Smilisca baudinii **Source Feature ID:** 31847

Common Name: Mexican treefrog

State Conservation Rank: S3 **Global Conservation Rank:** G5

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

Mapping Comments: The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2004-09-11	Herps of Texas iNaturalist project	iNaturalist observation ID: 297326

Reference Code:	Full Citation:
W17INA01TXUS	iNaturalist Herps of Texas Project. 2017. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

Source Feature Record

Scientific Name: Smilisca baudinii **Source Feature ID:** 39733

Common Name: Mexican treefrog

State Conservation Rank: S3 **Global Conservation Rank:** G5

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 35269149) included the coordinates and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2003-09-22	iNaturalist Herps of Texas project user ID: 9570	Frogs were heard, not seen. This visit is based on iNaturalist observation ID: 35269149.
2005-06-09	iNaturalist Herps of Texas project user ID: 9570	This visit is based on iNaturalist observation ID: 35268557.

Reference Code:	Full Citation:
W20INA02TXUS	iNaturalist Herps of Texas Project. 2020. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Smilisca baudinii **Source Feature ID:** 39970

Common Name: Mexican treefrog

State Conservation Rank: S3 **Global Conservation Rank:** G5

Texas Protection Status: T **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The provided error was less than the standard 25 m, so it was rounded to 25 m and mapped as a point-estimated feature.

Mapping Comments: The iNaturalist observation this Source Feature is based on (iNaturalist ID 27695217) included the coordinates and associated error.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
2019-06-25	iNaturalist Herps of Texas project user ID: 18812	This visit is based on iNaturalist observations IDs: 27698083, 27695217. Several individuals were heard, and Gulf Coast toads (Incillius valliceps) were also heard (obs 27698083).

Reference Code:	Full Citation:
W20INA02TXUS	iNaturalist Herps of Texas Project. 2020. http://www.inaturalist.org/projects/herps-of-texas (data downloaded 2020-0-2-03).

Source Feature Record

Scientific Name: Spectralia prosternalis **Source Feature ID:** 40436

Common Name:

State Conservation Rank: S2 **Global Conservation Rank:** GNR

Texas Protection Status: **Federal Protection Status:**

Source Feature Descriptor: ID Confirmed: Yes

Source Feature Locator:

Ditigizing Comments: The specimen labels state that they were located in West Cameron County, TX.

Mapping Comments: A point with a delimited locational uncertainty was applied to account for any uncertainty based on the general directions, and to take into account the western sections of the U.S. Fish and Wildlife Service Lower Rio Grande National Wildlife Refuge in the western part of Cameron County, TX. Ross Winton, Texas Parks and Wildlife Department Invertebrate Biologist, consulted Bellamy (1991) and determined through paper maps and notes from the collector that this is the likely location.

Source Feature Data:

Observation Date:	Observer:	Observation Data:
1947-06-22	George B. Vogt	One specimen was observed on Diospyros texana Scheele. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 22 June 1947, USNM.
1947-06-28	George B. Vogt	Four specimens were observed on Diospyros texana Scheele. United States National Museum of Natural History, Washington, D.C.; George B. Vogt (#unknown), Catalog #unknown, 28 June 1947, USNM.

Reference Code:	Full Citation:
R08OSW01TXUS	Oswald, J. D., and E. G. Riley. 2008. Interim Report. Invertebrates of special concern: beetles (Insecta: Coleoptera) of the South Texas Ecoregions. Grant No. T-41-1 State Wildlife Grant. Submitted to Texas Parks and Wildlife Department, Austin, TX. December 2008.

December 20, 2023

Lane Page
Hanson Professional Services, Incorporated
789 East Washington Street
Brownsville, TX 78520

RE: Proposed Resaca Escondida drainage improvement project, Los Fresnos, Cameron County, Texas

Dear Lane Page:

This letter is in response to your request for review of the proposed project referenced above. Texas Parks and Wildlife Department (TPWD) staff reviewed the information provided and offers the following comments and recommendations.

Project Description

The City of Los Fresnos proposes to improve Resaca Escondida's drainage by incorporating infrastructure improvements within a project corridor between the eastern edge of the resaca to south of Farm-to-Market Road (FM) 2480. Improvements would include the installation of a new 2-foot diameter reinforced concrete pipe (RCP) culvert with a manual valve connecting the east end of the resaca to an existing man-made drainage ditch; re-grading approximately 950 feet of the existing ditch to increase capacity and improve stormwater conveyance; and replacing the existing 3-foot diameter RCP culverts in two locations along the length of the drainage ditch.

It is anticipated that project activities would include shrub and tree clearing, excavation, and revegetation.

General Construction Recommendation

To assist in project planning, TPWD provides the following Beneficial Management Practices (BMP) and general construction recommendations:

Recommendation: TPWD recommends using existing facilities whenever possible for laydown areas and other temporary workspace. By utilizing previously disturbed, existing utility corridors, county roads, and other rights-of-way (ROW), or other previously impacted sites, adverse impacts to fish and wildlife resources would be mitigated by avoiding and/or minimizing impacts to undisturbed habitats.

Recommendation: TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from discrete construction areas,

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when applicable. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only be removed after the project activities are completed and the disturbed sites have been revegetated or otherwise stabilized. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.

Recommendation: If trenching or other excavation is involved in improving the drainage, TPWD recommends contractors keep trenching, excavation, and backfilling crews close together to minimize the number of trenches or excavation areas left open at any given time during construction. Any holes left open for more than two daylight hours should be inspected for the presence of trapped wildlife prior to backfilling. TPWD recommends any open trenches or excavation areas be covered overnight and inspected every morning to ensure no wildlife species have been trapped. If trenches and excavation areas cannot be backfilled the day of initial excavation or covered overnight, then escape ramps should be installed, if feasible, at least every 300 feet. Escape ramps consist of short lateral trenches or wooden planks sloping to the surface at an angle less than 45 degrees (1:1) to allow wildlife to crawl out on their own.

Recommendation: For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats would be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting and hydromulch containing microplastics should be avoided.

Recommendation: TPWD recommends designing the project to minimize removal of vegetation and retain native habitats. TPWD recommends that precautions be taken to avoid impact to Species of Greatest Conservation Need (SGCN) flora and fauna, natural plant communities, and priority habitat types of the ecoregion while working in Cameron County, or if encountered during project construction, operation, and maintenance activities. Areas exhibiting a native grass and forbs component should be protected from disturbance and from introduction of non-native vegetation. TPWD encourages clearly marking

areas found to contain rare plants as work zone avoidance areas prior to construction, maintenance, and operation activities.

Recommendation: TPWD recommends the exclusive use of a mixture of native grasses, forbs, shrubs, and trees be used for revegetating disturbed areas and landscaping. 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. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented.

Recommendation: Wildlife observed during construction should be allowed to safely leave the site or be translocated to a nearby area with similar habitat that would not be disturbed during construction. TPWD recommends that any translocations of reptiles be the minimum distance possible, no greater than one mile, and preferably with 100-200 yards from the initial encounter location. For purposes of relocation, surveys, monitoring, and research, state listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, please contact the Wildlife Permits Office at (512) 389-4647.

Federal Regulations

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling, purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts, or nests, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Based on the information provided, trees and shrubs at the east end of the resaca would be cleared to install the new RCP culvert. Riparian vegetation, including the non-native Brazilian pepper (*Shinus terebinthifolia*), a highly invasive species occurring in the project area, provide suitable nesting, feeding, loafing, and cover habitat for birds.

Recommendation: TPWD recommends scheduling any necessary vegetation clearing or trampling to occur outside of the March 15 - September 15 migratory bird nesting season in order to comply with the MBTA.

If vegetation clearing must be scheduled to occur during the nesting season, TPWD recommends the vegetation to be impacted should be surveyed for active nests by a qualified biologist. Nest surveys should be conducted no more than five days prior to the scheduled clearing to ensure recently constructed nests are identified. If active nests are observed during surveys, TPWD recommends a 100-foot radius buffer of vegetation remain around nests until eggs have hatched and the young have fledged; however, the size of the buffer zone is dependent on various factors and can be coordinated with the local or regional USFWS office.

State Regulations

Parks and Wildlife Code, Chapter 64-Birds

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 Code (PWC); specifically, section 64.002 provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. PWC 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. PWC chapter 64 does not allow for incidental take.

Although not documented in the Texas Natural Diversity Database (TXNDD), many bird species which are not listed as threatened or endangered are protected by chapter 64 of the PWC and are known to be year-round or seasonal residents or seasonal migrants through the proposed project area.

Recommendation: Please review the *Federal Regulations: Migratory Bird Treaty Act* section above for recommendations as they are applicable for chapter 64 of the PWC compliance.

Parks and Wildlife Code, Section 68.015 – State listed Species

PWC 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 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. For purposes of relocation, surveys, monitoring, and research, state listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, 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 amphibians and reptiles that are typically slow moving or unable to move due to cool temperatures are especially susceptible to being directly impacted during vegetation clearing and site preparation. Also, small wildlife such as lizards, tortoises, and snakes are susceptible to falling into open pits, trenches, bore holes, etc. left open and/or uncovered in a project area.

> **Recommendation:** TPWD recommends reviewing the most current TPWD annotated county lists of rare species for Cameron County. The TPWD annotated county lists, available online at the TPWD Wildlife Diversity website, are updated quarterly when warranted. Since nearly a year has passed since the county list referenced in the material was prepared, TPWD recommends reviewing the most current annotated county list of rare species for Cameron County as it may have been revised since January 2023.

Species of Greatest Conservation Need

In addition to state and federally protected species, TPWD tracks SGCN and other special landscape features and natural communities that are not listed and threatened or endangered. These species and communities are tracked in the TXNDD and TPWD actively promotes their conservation. TPWD considers it important to evaluate and minimize impacts to such resources to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future.

Suitable habitat for the following SGCN species may occur in the project area. The following BMP are provided to assist in project planning to avoid/minimize potential impacts.

Texas indigo snake (*Drymarchon melanurus erebennus*)

The Texas indigo snake is the largest nonvenomous snake in North America and is typically associated with aquatic habitats including drainage ditches, ponds and wetlands, and manmade ponds. Due to its high metabolism, this species has a large home range in which it searches for prey and may be encountered away from aquatic habitats, its preferred habitat.

> **Recommendation: Recommendation:** Because all snakes are generally perceived as a threat and killed when encountered during vegetation clearing and site preparation, TPWD recommends project plans include comments to inform contractors of the potential for SGCN snake species to occur in the project area. State listed or SGCN snakes that may occur in

south Texas are non-venomous and contractors should be advised to avoid impacts to them and other snakes as long as the safety of the workers is not compromised. For the safety of workers and preservation of a natural resource, attempting to catch, relocate and/or kill non-venomous or venomous snakes is discouraged by TPWD. If encountered, snakes should be permitted to safely leave project areas on their own. TPWD encourages construction sites to have a "no kill" policy regarding wildlife encounters.

I appreciate the opportunity to review and comment on this project. Please contact me at (361) 431-6003 ext. 829 or **russell.hooten@tpwd.texas.gov** if we may be of further assistance.

Sincerely,

Russell Hooten

Russell Hooten
Ecological and Environmental Planning Program
Wildlife Division

/rh 51678

February 14, 2024

Russell Hooten
Environmental Review Biologist
Ecological and Environmental Planning Program
Texas Parks and Wildlife Department - Wildlife Division
1409 Waldron Road
Corpus Christi, TX 78418

RE: Proposed Resaca Escondida Drainage Improvement Project, Los Fresnos, Cameron County, Texas

Dear Russel Hooten:

Thank you for your review of the aforementioned project. Please see below for responses to TPWD comments and recommendations.

General Construction Recommendations

Recommendation: TPWD recommends using existing facilities whenever possible for laydown areas and other temporary workspace. By utilizing previously disturbed, existing utility corridors, county roads, and other rights-of-way (ROW), or other previously impacted sites, adverse impacts to fish and wildlife resources would be mitigated by avoiding and/or minimizing impacts to undisturbed habitats.

Response: Existing 100 ft. wide utility right-of-way and 20 ft wide drainage easements will be used for laydown areas and temporary workspace.

Recommendation: TPWD recommends the judicious use and placement of sediment control fence to exclude wildlife from discrete construction areas, when applicable. In many cases, sediment control fence placement for the purposes of controlling erosion and protecting water quality can be modified minimally to also provide the benefit of excluding wildlife access to construction areas. The exclusion fence should be buried at least six inches and be at least 24 inches high. The exclusion fence should be maintained for the life of the project and only be removed after the project activities are completed and the disturbed sites have been revegetated or otherwise stabilized. Construction personnel should be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.

Response: Sediment control fence is proposed to be installed surrounding the entire construction area and will be removed after construction activities have been completed and disturbed areas have been stabilized. Contractor is required to perform inspections of all sediment control fencing every 7 calendar days and within 12 hours after a weather even resulting in a precipitation of ½" or greater. Contractor shall be encouraged to examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.

Recommendation: If trenching or other excavation is involved in improving the drainage, TPWD recommends contractors keep trenching, excavation, and backfilling crews close together to minimize the number of trenches or excavation areas left open at any given time during construction. Any holes left open for more than two daylight hours should be inspected for the presence of trapped wildlife prior to backfilling. TPWD recommends any open trenches or excavation areas be covered overnight and inspected every morning to ensure no wildlife species have been trapped. If trenches and excavation areas cannot be backfilled the day of initial excavation or covered overnight, then escape ramps should be installed, if feasible, at least every 300 feet. Escape ramps consist of short lateral trenches or wooden planks sloping to the surface at an angle less than 45 degrees (1:1) to allow wildlife to crawl out on their own.

Response: Trenches shall not be left open or unsecured. Trenches shall be covered and appropriate and adequate barricades shall be placed to prevent access into the trench area.

Recommendation: For soil stabilization and/or revegetation of disturbed areas within the proposed project area, TPWD recommends erosion and seed/mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching and/or hydroseeding due to a reduced risk to wildlife. If erosion control blankets or mats would be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic mesh matting and hydromulch containing microplastics should be avoided.

Response: Hydromulch or hydroseeding will be used for soil stabilization and revegetation of disturbed areas, if needed.

Recommendation: TPWD recommends designing the project to minimize removal of vegetation and retain native habitats. TPWD recommends that precautions be taken to avoid impact to Species of Greatest Conservation Need (SGCN) flora and fauna, natural plant communities, and priority habitat types of the ecoregion while working in Cameron County, or if encountered during project construction, operation, and maintenance activities. Areas exhibiting a native grass and forbs component should be protected from disturbance and from introduction of non-native vegetation. TPWD encourages clearly marking areas found to contain rare plants as work zone avoidance areas prior to construction, maintenance, and operation activities.

Response: Areas exhibiting a native grass and forbs component will be protected from disturbance and from introduction of non-native vegetation. Areas found to contain rare plants will be marked as work zone avoidance areas prior to construction, maintenance, and operation activities.

Recommendation: TPWD recommends the exclusive use of a mixture of native grasses, forbs, shrubs, and trees be used for revegetating disturbed areas and landscaping. 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. Colonization by invasive species, particularly invasive grasses and weeds, should be actively prevented.

Response: Native grasses will be used in mix for hydromulching or hydroseeding.

Recommendation: Wildlife observed during construction should be allowed to safely leave the site or be translocated to a nearby area with similar habitat that would not be disturbed during construction. TPWD recommends that any translocations of reptiles be the minimum distance possible, no greater than one mile, and preferably with 100-200 yards from the initial encounter location. For purposes of relocation, surveys, monitoring, and research, state listed species may only be handled by persons with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on this authorization, please contact the Wildlife Permits Office at (512) 389-4647.

Response: Wildlife observed during construction will be allowed to safely leave the site. If translocation is necessary, the Wildlife Permits Office will be contacted.

<u>Federal Regulations: Migratory Bird Treaty Act</u>

Recommendation: TPWD recommends scheduling any necessary vegetation clearing or trampling to occur outside of the March 15 - September 15 migratory bird nesting season in order to comply with the MBTA. If vegetation clearing must be scheduled to occur during the nesting season, TPWD recommends the vegetation to be impacted should be surveyed for active nests by a qualified biologist. Nest surveys should be conducted no more than five days prior to the scheduled clearing to ensure recently constructed nests are identified. If active nests are observed during surveys, TPWD recommends a 100-foot radius buffer of vegetation remain around nests until eggs have hatched and the young have

fledged; however, the size of the buffer zone is dependent on various factors and can be coordinated with the local or regional USFWS office.

Response: Necessary vegetation clearing or soil excavation within project areas should be scheduled to occur outside of the March 15 through September 15 migratory bird nesting season. If vegetation clearing must be scheduled to occur during the nesting season, a migratory bird survey of the vegetation to be impacted should be conducted by a qualified biologist prior to any work commencing. Nest surveys should be conducted no more than five days prior to the scheduled clearing to ensure recently constructed nests are identified. If active nests are observed during surveys, a 100-foot radius buffer of vegetation remain around nests until eggs have hatched and the young have fledged.

State Regulations: Parks and Wildlife Code Section 64, Birds

Recommendation: Please review the Federal Regulations: Migratory Bird Treaty Act section above for recommendations as they are applicable for chapter 64 of the PWC compliance.

Response: See above.

State Regulations: Parks and Wildlife Code Section 68.015, State Listed Species

Recommendation: TPWD recommends reviewing the most current TPWD annotated county lists of rare species for Cameron County. The TPWD annotated county lists, available online at the TPWD Wildlife Diversity website, are updated quarterly when warranted. Since nearly a year has passed since the county list referenced in the material was prepared, TPWD recommends reviewing the most current annotated county list of rare species for Cameron County as it may have been revised since January 2023.

Response: The most current TPWD annotated county list of rare species for Cameron County, last updated 9/1/2023, has been downloaded and reviewed.

Species of Greatest Conservation Need

Recommendation: Because all snakes are generally perceived as a threat and killed when encountered during vegetation clearing and site preparation, TPWD recommends project plans include comments to inform contractors of the potential for SGCN snake species to occur in the project area. State listed or SGCN snakes that may occur in south Texas are non-venomous and contractors should be advised to avoid impacts to them and other snakes as long as the safety of the workers is not compromised. For the safety of workers and preservation of a natural resource, attempting to catch, relocate and/or kill non-venomous or venomous snakes is discouraged by TPWD. If encountered, snakes should be permitted to safely leave project areas on their own. TPWD encourages construction sites to have a “no kill” policy regarding wildlife encounters.

Response: A note to inform contractor of potential for SGCN snake species to occur in the project area and to avoid impacts to species and other snakes as long as the safety of the workers in not compromised will be added to the construction plans. If encountered, snakes should be permitted to safely leave the project areas on their own.

Sincerely,

Lane Page
Environmental Scientist
Hanson Professional Services Inc.