# Final Environmental Assessment

## STATE HIGHWAY 365

From FM 1016/Conway Avenue to US 281/Military Highway
CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023
HIDALGO COUNTY, TEXAS

June 2015

*The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327, 49 U.S.C. 303, and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.*

**Page**

List of Exhibits ..... ix
List of Tables ..... ix
Acronyms and Abbreviations ..... xiii

**1.0 INTRODUCTION ..... 1-1**
1.1 PROJECT DESCRIPTION ..... 1-1
1.2 PROJECT FUNDING ..... 1-2

**2.0 PROJECT BACKGROUND ..... 2-1**
2.1 1996 HIDALGO COUNTY THOROUGHFARE PLAN ..... 2-1
2.2 2000 HCMPO HIDALGO COUNTY LOOP STUDIES ..... 2-1
2.3 2007 HCRMA PLANNING STUDIES ..... 2-2
2.4 2009–2012 HCRMA PLANNING STUDIES ..... 2-2

**3.0 PURPOSE AND NEED FOR THE PROPOSED PROJECT ..... 3-1**
3.1 PURPOSE OF THE PROPOSED PROJECT ..... 3-1
3.2 PROJECT NEED ..... 3-1
3.2.1 East-West Interconnectivity ..... 3-2
3.2.2 Heavy Truck Traffic on Local Community Roadways ..... 3-4
3.2.3 Safety ..... 3-4
3.2.4 Lack of Funding ..... 3-5

**4.0 DESCRIPTION OF THE PROPOSED ACTION ..... 4-1**
4.1 EXISTING CONDITIONS ..... 4-1
4.2 PROPOSED FACILITY (BUILD ALTERNATIVE) ..... 4-4
4.2.1 Interim Design ..... 4-4
4.2.2 Ultimate Design ..... 4-5
4.2.3 Structures ..... 4-5
4.2.4 ROW Requirements ..... 4-5
4.2.5 Bicycle and Pedestrian Facilities ..... 4-6
4.2.6 Drainage ..... 4-7
4.2.7 Utilities ..... 4-7
4.3 LOGICAL TERMINI AND INDEPENDENT UTILITY ..... 4-7
4.4 TRAFFIC FORECASTS ..... 4-8
4.5 TRAFFIC ANALYSIS – LEVEL OF SERVICE ..... 4-9

**5.0 ALTERNATIVES ANALYSIS ..... 5-1**
5.1 IDENTIFICATION OF TRANSPORTATION OPTIONS ..... 5-1
5.1.1 Range of Transportation Options Considered ..... 5-1
5.1.2 Transportation Options Screening ..... 5-2
5.1.3 Transportation Options Considered and Dismissed ..... 5-2
5.1.4 Transportation Options Advanced for Study ..... 5-3
5.2 EVALUATION OF SH 365/TCC PRELIMINARY ALTERNATIVES ..... 5-4

**Page**


5.2.1 Alignment Options ..... 5-4
5.2.1.1 SH 365/TCC Alternative A ..... 5-5
5.2.1.2 SH 365/TCC Alternative B ..... 5-6
5.2.1.3 SH 365/TCC Alternative C ..... 5-6
5.2.2 Public Input on Alignment Options ..... 5-6
5.3 DETAILED ALTERNATIVE ANALYSIS ..... 5-7
5.3.1 SH 365/TCC Alternatives Considered and Dismissed ..... 5-7
5.3.2 SH 365 at US 281/Military Highway Alternatives Considered and Dismissed ..... 5-9
5.3.2.1 US 281/Military Highway Overpass at San Juan Road (Alternative 1) ..... 5-9
5.3.2.2 SH 365 Overpass at San Juan Road/US 281/Military Highway (Alternative 2) ..... 5-10
5.3.2.3 US 281/Military Highway Overpass at I Road (Alternative 3) ..... 5-10
5.3.2.4 SH 365 Overpass at I Road and US 281/Military Highway (Alternative 4) ..... 5-11
5.3.2.5 Selection of the Preferred Alignment Alternative ..... 5-11
5.4 ALTERNATIVES EVALUATED IN THIS EA ..... 5-13
5.4.1 SH 365 Build Alternative ..... 5-13
5.4.2 No-Build Alternative ..... 5-15

**6.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES ..... 6-1**

6.1 RIGHTS-OF-WAY DISPLACEMENTS ..... 6-1
6.1.1 Build Alternative ..... 6-1
6.1.2 No-Build Alternative ..... 6-4
6.2 EARLY RIGHTS-OF-WAY ACQUISITION ..... 6-4
6.2.1 Build Alternative ..... 6-4
6.2.1.1 Location of Acquired Parcels ..... 6-4
6.2.1.2 Acreage Amounts of ROW Acquired and Number of Parcels ..... 6-4
6.2.1.3 Types of Land Uses for Acquired Parcels ..... 6-6
6.2.1.4 Date of Acquisition ..... 6-6
6.2.1.5 Why Parcels Purchased Do Not Limit the Evaluation of Alternatives ..... 6-6
6.2.1.6 Impacts to Low Income and Minority Communities and Mitigation Measures That Are Anticipated or Have Occurred ..... 6-6
6.2.1.7 Type of Business for Acquired Commercial Properties ..... 6-7
6.2.1.8 Impacts on Community If Displaced Business Is Not Able to Remain in Business ..... 6-7
6.2.1.9 Market Availability for Decent Safe and Sanitary (DS&S) Housing for Displaced Residential Properties ..... 6-8
6.2.1.10 Compliance with Uniform Act for Parcel Acquisitions ..... 6-8
6.2.1.11 Availability of Records and Documentation of Acquired Parcels ..... 6-8
6.2.2 No-Build Alternative ..... 6-8
6.3 SOCIOECONOMIC DATA ..... 6-8

**Page**


6.3.1 Regional and Community Growth ..... 6-8
6.3.2 Socioeconomic Conditions ..... 6-9
6.3.2.1 No-Build Alternative ..... 6-11
6.3.3 Community Cohesion ..... 6-11
6.3.3.1 Build Alternative ..... 6-11
6.3.3.2 No-Build Alternative ..... 6-13
6.3.4 Environmental Justice ..... 6-13
6.3.4.1 Build Alternative ..... 6-13
6.3.4.2 No-Build Alternative ..... 6-16
6.3.5 Limited English Proficiency Populations ..... 6-16
6.3.5.1 Build Alternative ..... 6-17
6.3.5.2 No-Build Alternative ..... 6-18
6.4 PROJECT-LEVEL TOLL ANALYSIS ..... 6-18
6.4.1 Nontolled Facilities ..... 6-19
6.4.2 Toll Policies ..... 6-19
6.4.3 Toll Rates ..... 6-19
6.4.4 Methods of Toll Collection ..... 6-20
6.4.4.1 Toll Tags ..... 6-20
6.4.4.2 Video Billing Payment Methods ..... 6-20
6.4.4.3 Comparison of Payment Methods ..... 6-21
6.4.5 LEP Accommodations ..... 6-21
6.4.6 Toll Gantry Locations ..... 6-22
6.4.7 Project Effect on Environmental Justice Populations ..... 6-22
6.4.8 Potential Economic Impact ..... 6-23
6.5 LAND USE ..... 6-24
6.5.1 Build Alternative ..... 6-25
6.5.2 No-Build Alternative ..... 6-25
6.6 VEGETATION ..... 6-25
6.6.1 Build Alternative ..... 6-28
6.6.1.1 Mitigation for Vegetation Impacts ..... 6-30
6.6.2 No-Build Alternative ..... 6-31
6.7 BENEFICIAL LANDSCAPE PRACTICES ..... 6-31
6.7.1 Build Alternative ..... 6-31
6.7.2 No-Build Alternative ..... 6-31
6.8 INVASIVE SPECIES ..... 6-31
6.8.1 Build Alternative ..... 6-31
6.8.2 No-Build Alternative ..... 6-32
6.9 GEOLOGY, TOPOGRAPHY, AND SOILS ..... 6-32
6.9.1 Geology ..... 6-32
6.9.2 Topography ..... 6-32
6.9.3 Soils ..... 6-33
6.9.3.1 Build Alternative ..... 6-35

**Page**


6.9.3.2 No-Build Alternative ..... 6-36
6.10 FARMLAND PROTECTION POLICY ACT ..... 6-36
6.10.1 Build Alternative ..... 6-36
6.10.2 No-Build Alternative ..... 6-36
6.11 WILDLIFE ..... 6-36
6.11.1 Build Alternative ..... 6-38
6.11.2 No-Build Alternative ..... 6-39
6.12 MIGRATORY BIRD TREATY ACT ..... 6-39
6.12.1 Build Alternative ..... 6-39
6.12.2 No-Build Alternative ..... 6-40
6.13 THREATENED AND ENDANGERED SPECIES ..... 6-40
6.13.1 Build Alternative ..... 6-60
6.13.2 No-Build Alternative ..... 6-60
6.14 WETLANDS AND WATERS OF THE U.S. ..... 6-60
6.14.1 Potential Impacts to Waters of the U.S. ..... 6-61
6.14.1.1 Build Alternative ..... 6-64
6.14.1.2 No-Build Alternative ..... 6-65
6.15 PERMITS ..... 6-65
6.15.1 U.S. Army Corps of Engineers ..... 6-65
6.15.2 Texas Commission on Environmental Quality ..... 6-65
6.15.3 U.S. International Boundary and Water Commission ..... 6-66
6.15.3.1 USIBWC Construction License ..... 6-66
6.15.3.2 USIBWC Levee Construction Process ..... 6-66
6.15.4 U.S. Coast Guard ..... 6-67
6.16 ESSENTIAL FISH HABITAT ..... 6-67
6.16.1 Build Alternative ..... 6-67
6.16.2 No-Build Alternative ..... 6-67
6.17 COASTAL MANAGEMENT PROGRAM ..... 6-67
6.17.1 Build Alternative ..... 6-68
6.17.2 No-Build Alternative ..... 6-68
6.18 WATER QUALITY ..... 6-68
6.18.1 Build Alternative ..... 6-68
6.18.2 No-Build Alternative ..... 6-69
6.19 FLOODPLAINS ..... 6-69
6.19.1 Build Alternative ..... 6-69
6.19.2 No-Build Alternative ..... 6-70
6.20 AIR QUALITY ..... 6-70
6.20.1 Traffic Air Quality Analysis ..... 6-70
6.20.1.1 Conformity ..... 6-70
6.20.1.2 Carbon Monoxide Traffic Air Quality Analysis ..... 6-70
6.20.1.3 Congestion Management Process ..... 6-71

**Page**


6.20.2 Qualitative MSAT Analysis ..... 6-71
6.21 NOISE 6-76
6.21.1 Build Alternative ..... 6-78
6.21.2 No-Build Alternative ..... 6-81
6.22 HAZARDOUS MATERIALS ..... 6-81
6.22.1 Records Review ..... 6-81
6.22.2 Visual Inspection ..... 6-85
6.22.3 Pipelines and Oil/Gas Wells ..... 6-88
6.22.4 Risk Assessment ..... 6-89
6.22.5 Build Alternative ..... 6-92
6.22.6 No-Build Alternative ..... 6-93
6.23 HISTORIC PROPERTIES ..... 6-93
6.23.1 Buildings, Structures, Objects, and Districts ..... 6-93
6.23.2 Archeological Sites ..... 6-96
6.23.2.1 Site 41HG230 ..... 6-97
6.23.2.2 Site 41HG30 ..... 6-98
6.23.2.3 Site 41HG224 ..... 6-98
6.23.2.4 Site 41HG249 ..... 6-98
6.23.2.5 Site 41HG250 ..... 6-99
6.23.2.6 Site 41HG251 ..... 6-100
6.23.2.7 Site 41HG252 ..... 6-101
6.23.2.8 Site 41HG253 ..... 6-101
6.23.2.9 Site 41HG254 ..... 6-102
6.23.2.10 Site 41HG255 ..... 6-103
6.23.3 Build Alternative ..... 6-103
6.23.3.1 Buildings, Structures, Objects, and Districts ..... 6-103
6.23.3.2 Archeological Sites ..... 6-104
6.23.4 No-Build Alternative ..... 6-105
6.24 PARKLANDS ..... 6-105
6.24.1 Build Alternative ..... 6-106
6.24.2 No-Build Alternative ..... 6-107
6.25 VISUAL AND AESTHETIC QUALITIES ..... 6-107
6.25.1 Build Alternative ..... 6-108
6.25.2 No-Build Alternative ..... 6-108
6.26 AIRSPACE CLEARANCE ..... 6-108
6.26.1 Build Alternative ..... 6-109
6.26.2 No-Build Alternative ..... 6-109
6.27 CONSTRUCTION IMPACTS ..... 6-109
6.27.1 Build Alternative ..... 6-109
6.27.1.1 Vegetation ..... 6-109
6.27.1.2 Wildlife ..... 6-110

**Page**

6.27.1.3 Community ..... 6-110

**7.0 INDIRECT IMPACTS ..... 7-1**

7.1 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE NO-BUILD ALTERNATIVE ..... 7-1

7.2 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE BUILD ALTERNATIVE ..... 7-2

7.2.1 Step 1: Scoping ..... 7-2

7.2.2 Step 2: Identify Study Area's Goals and Trends ..... 7-2

7.2.2.1 Goals ..... 7-3

7.2.2.2 Trends ..... 7-5

7.2.3 Step 3: Inventory Study Area's Notable Features ..... 7-9

7.2.4 Step 4: Identify Impact-Causing Activities of the Proposed Action and Alternatives ..... 7-11

7.2.5 Step 5: Identify Potentially Substantial Indirect Effects for Analysis ..... 7-12

7.2.6 Step 6: Analyze Indirect Effects and Evaluate Results ..... 7-14

7.2.7 Step 7: Assess Consequences and Develop Mitigation (As Appropriate) ..... 7-26

**8.0 CUMULATIVE EFFECTS ..... 8-1**

8.1 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE NO-BUILD ALTERNATIVE ..... 8-1

8.2 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE BUILD ALTERNATIVE ..... 8-1

8.2.1 Step 1: Identification of Resources ..... 8-1

8.2.2 Step 2: Definition of Study Area for Each Resource ..... 8-5

8.2.3 Step 3: Description of Current Health and Historical Context of Resources ..... 8-6

8.2.4 Step 4: Identification of Direct and Indirect Impacts That May Contribute to Cumulative Impacts ..... 8-7

8.2.5 Step 5: Other Past, Present, and Reasonably Foreseeable Future Actions ..... 8-7

8.2.6 Step 6: Assessment of Potential Cumulative Impacts ..... 8-7

8.2.7 Step 7: Results of Analysis ..... 8-10

8.2.8 Step 8: Discussion of Regulatory Issues and Mitigation ..... 8-10

**9.0 SUMMARY OF PERMITS AND COMMITMENTS ..... 9-1**

9.1 WATER QUALITY ..... 9-1

9.1.1 Temporary Water Pollution Control Measures ..... 9-1

9.1.2 Permanent Water Pollution Control Measures ..... 9-2

9.2 VEGETATION ..... 9-2

9.3 MIGRATORY BIRDS ..... 9-2

9.4 TPWD COMMITMENTS ..... 9-3

9.5 USIBWC COMMITMENTS ..... 9-6

9.6 AIR QUALITY – CONSTRUCTION EMISSIONS ..... 9-6

9.7 NOISE ..... 9-7

**Page**

9.8 HAZARDOUS MATERIALS ..... 9-7
9.9 HISTORIC RESOURCES ..... 9-8
9.10 ARCHEOLOGICAL RESOURCES ..... 9-8
9.11 FAA COORDINATION ..... 9-8

**10.0 PUBLIC INVOLVEMENT AND AGENCY COORDINATION ..... 10-1**
10.1 PRIOR PUBLIC INVOLVEMENT ..... 10-1
10.2 SH 365 PUBLIC MEETINGS ..... 10-2
10.3 SH 365 PUBLIC HEARING ..... 10-3
10.4 AGENCY COORDINATION ..... 10-4

**11.0 CONCLUSION ..... 11-1**

**12.0 REFERENCES ..... 12-1**

**Page**

## EXHIBITS

Exhibit 4-1: Western project terminus, facing southeast ..... 4-1
Exhibit 4-2: Representative view of upland pasture within the proposed ROW. ..... 4-2
Exhibit 4-3: Representative view of farmland within the proposed ROW ..... 4-2
Exhibit 4-4: Representative view of a wetland within the proposed ROW ..... 4-3
Exhibit 4-5: Representative view of an irrigation canal within the proposed ROW ..... 4-3
Exhibit 4-6: Representative view of upland mesquite scrub within the proposed ROW. ..... 4-4
Exhibit 6-1: SH 365 Proposed Tolling Points ..... 6-23
Exhibit 6-2: National MSAT Emission Trends 1999-2050 for Vehicles Operating on Roadways Using EPA's MOBILE6.2 Model ..... 6-72

## TABLES

Table 1-1: SH 365 Project Listing in Area Plans ..... 1-3
Table 2-1: 2000 Hidalgo County Loop Studies Public Outreach Activities ..... 2-2
Table 2-2: Project Development Summary ..... 2-4
Table 3-1: Hidalgo Truck Trade with Mexico, 2004–2013 (in millions of dollars) ..... 3-2
Table 4-1: Build Alternative Proposed Structures ..... 4-6
Table 4-2: SH 365 Traffic Forecasts by Toll Condition and Year ..... 4-9
Table 5-1: SH 365/TCC Alternatives Evaluation Criteria Presented at the July 13, 2010 Public Meeting ..... 5-7
Table 5-2: SH 365 at US 281/Military Alternatives Evaluation Criteria Presented at the March 2013 Public Meetings ..... 5-12
Table 5-3: Reasons for Levee Relocations ..... 5-13
Table 5-4: SH 365/TCC and SH 365 Build Alternatives Evaluation Criteria Presented at the March 2013 Public Meetings ..... 5-14
Table 6-1: Properties with Displaced Structures ..... 6-2
Table 6-2: Types of Displaced Structures ..... 6-2
Table 6-3: Early Right-of-Way Acquisitions to Date ..... 6-5
Table 6-4: Historical Population Growth ..... 6-9
Table 6-5: Projected Population Growth ..... 6-9
Table 6-6: Race/Ethnicity Characteristics ..... 6-14
Table 6-7: Income Characteristics ..... 6-15
Table 6-8: Limited English Proficiency ..... 6-17
Table 6-9: Potential Economic Impact ..... 6-23
Table 6-10: Summary of Vegetation Communities Identified within the Proposed ROW ..... 6-28
Table 6-11: Unusual Vegetation and Special Habitat Features ..... 6-29
Table 6-12: Federal- and State-Listed Threatened and Endangered Species Hidalgo County, Texas ..... 6-41
Table 6-13: Wetlands and Other Waters of the U.S. within the Proposed ROW ..... 6-62
Table 6-14: Projected National MSAT Emissions and Percent Reduction for 2010–2050 for Vehicles Operating on Roadways Using EPA's MOVES2010b Model ..... 6-72
Table 6-15: FHWA and TxDOT Noise Abatement Criteria ..... 6-77

**Page**

Table 6-16: Traffic Noise Levels (dBA $L_{eq}$) ..... 6-79
Table 6-17: Noise Impact Contours ..... 6-80
Table 6-18: Regulatory Database Records Review ..... 6-82
Table 6-19: Listed Sites within the Project Area ..... 6-84
Table 6-20: Unlisted Potential Hazardous Material Sites ..... 6-85
Table 6-21: Risk Assessment of Potential Hazardous Material Sites ..... 6-90
Table 6-22: Previously Identified Resources within 300-foot APE and 1,300-foot Study Area ..... 6-94
Table 6-23: Historic-age Resources Recorded within APE during Reconnaissance Surveys ..... 6-96
Table 6-24: Amount of In-kind Fill Proposed at Each Site and Mitigation Recommendations ..... 6-104
Table 7-1: Historical Population Growth ..... 7-7
Table 7-2: Projected Population Growth ..... 7-8
Table 7-3: Single-Family New House Construction Building Permits Issued in Cities in the AOI ..... 7-8
Table 7-4: Impact-Causing Activities (Direct Impacts) ..... 7-11
Table 7-5: Acres of Land Available for Project-Influenced Development within the AOI ..... 7-13
Table 7-6: Meetings with Planning Experts ..... 7-16
Table 7-7: Planning Documents ..... 7-23
Table 8-1: Determination of Resources Included in the Cumulative Effects Analysis ..... 8-2
Table 8-2: RSA for Each Resource Considered in the Cumulative Effects Analysis ..... 8-5
Table 8-3: Past, Present, and Reasonably Foreseeable Future Actions ..... 8-8
Table 10-1: Summary of Agency Coordination ..... 10-5

**Page**

**FIGURES**

Figure 1-1 Project Location
Figure 2-1 2008 Hidalgo Loop – Section A
Figure 2-2 SH 365/TCC Alignment
Figure 3-1 Existing Roadway Network
Figure 4-1 Interim Typical Section
Figure 4-2 Ultimate Typical Section
Figure 4-3 Potential Constraints
Figure 5-1 SH 365/TCC Alternatives
Figure 5-2 SH 365 at US 281/Military Highway Alternatives
Figure 5-3 SH 365 Alignment Modifications
Figure 6-1 2010 Census Data
Figure 6-2 Early ROW Acquisition
Figure 6-3 Land Use
Figure 6-4 Wetlands and Vegetation
Figure 7-1 Area of Influence for Indirect Effects Analysis
Figure 7-2 Land Available for Development
Figure 8-1 Resource Study Area for Water Resources
Figure 8-2 Resource Study Area for Vegetation/Wildlife Habitat

**APPENDICES**

**A Project Related Material**
*Applicable Pages of the TIP and MTP*
*Minute Order 112250*
*Minute Order 112391*
*June 1, 2012 HCRMA Letter*
*Minute Order 113200*
*Proposed SH 365 Traffic Data*

**B Project Plans**

**C Agency Coordination**
*Natural Resources Conservation Service*
*Texas Historical Commission*
*Texas Parks and Wildlife Department*
*U.S. Army Corps of Engineers*
*U.S. Fish and Wildlife Service*
*U.S. Section of the International Boundary and Water Commission*

**D Typical Sections**
*Levee Reconstruction*

**E Area Plans and Maps**

*Hidalgo County Thoroughfare Plan*
*City of Mission Zoning Map*
*City of Mission Future Land Use Map*
*City of McAllen Future Land Use Plan*
*City of McAllen Thoroughfare Plan*
*City of Pharr Future Land Use Map (from Current Comprehensive Plan Update)*
*City of San Juan, Pharr ETJ Map*

## Acronyms and Abbreviations

| | |
|---|---|
| AADT | annual average daily traffic |
| ACT | Antiquities Code of Texas |
| AOI | Area of Influence |
| APE | area of potential effect |
| AST | aboveground storage tank |
| BCI | Bat Conservation International |
| BFE | base flood elevation |
| BG | Block Group |
| BMP | best management practice |
| BSIF | Border Safety Inspection Facility |
| CAA | Clean Air Act |
| CAAA | Clean Air Act Amendments of 1990 |
| CCN | Certificate of Convenience and Necessity |
| CDP | Census Designated Place |
| CEQ | Council on Environmental Quality |
| CMEC | Cox\|McLain Environmental Consulting, Inc. |
| CMP | Coastal Management Program |
| CMSA | Consolidated Metropolitan Statistical Area |
| CO | carbon monoxide |
| CPI | Consumer Price Index |
| CRK | Creek |
| CSJ | control section job |
| CT | Census Tract |
| CTRMA | Central Texas Regional Mobility Authority |
| CWA | Clean Water Act |
| CZMA | Coastal Zone Management Act |
| dB | decibels |
| dB(A) | adjustment made to high and low frequencies to approximate the way an average person hears traffic sounds |
| DOT | Department of Transportation |
| DS&S | Decent Safe and Sanitary |
| EA | Environmental Assessment |
| EFH | essential fish habitat |
| EJ | Environmental Justice |
| EMST | Ecological Mapping System of Texas |
| ENV | TxDOT-Environmental Affairs Division |
| EO | Executive Order |
| EPA | U.S. Environmental Protection Agency |
| EPIC | Environmental Permits Issues and Commitments |
| ESA | Endangered Species Act |

| | |
|---|---|
| ETC | electronic toll collection |
| ETJ | extraterritorial jurisdiction |
| ETSI | Ergonomic Transportation Solutions |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FM | Farm-to-Market Road |
| FONSI | Finding of No Significant Impact |
| FPPA | Farmland Protection Policy Act |
| FTZ | foreign trade zone |
| FY | Fiscal Year |
| GIS | Geographic Information System |
| GSA | General Service Administration |
| HCDD #1 | Hidalgo County Drainage District No. 1 |
| HCID | Hidalgo County Irrigation District |
| HCM | Highway Capacity Manual |
| HCMPO | Hidalgo County Metropolitan Planning Organization |
| HCRMA | Hidalgo County Regional Mobility Authority |
| HCTRA | Harris County Toll Road Authority |
| HCWD | Hidalgo County Water District |
| HEI | Health Effects Institute |
| HHS | U.S. Department of Health and Human Services |
| IBTC | International Bridge Trade Corridor |
| IRIS | Integrated Risk Information System |
| ISD | Independent School District |
| LEP | Limited English Proficiency |
| $L_{eq}$ | equivalent sound level a |
| LOS | Level of Service |
| LPST | leaking petroleum storage tank |
| LRGV | Lower Rio Grande Valley |
| MBTA | Migratory Bird Treaty Act |
| MFTZ | McAllen foreign trade zone |
| MLG | mainlane gantry |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| mph | miles per hour |
| MPO | Metropolitan Planning Organization |
| MSAT | Mobile Source Air Toxics |
| msl | mean sea level |
| MTP | Metropolitan Transportation Plan |
| NAAQS | National Ambient Air Quality Standards |

| | |
|---|---|
| NAC | noise abatement criteria |
| NAFTA | North American Free Trade Agreement |
| NCHRP | National Cooperative Highway Research Program |
| NDD | Natural Diversity Database |
| NEPA | National Environmental Policy Act |
| NFIP | National Flood Insurance Program |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Services |
| NOI | Notice of Intent |
| $NO_x$ | nitrogen oxides |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| NTTA | North Texas Toll Authority |
| NWI | National Wetland Inventory |
| NWP | Nationwide Permit |
| NWR | national wildlife refuge |
| OTHM | Official State of Texas Historical Marker |
| PA-TU | First Amended Programmatic Agreement |
| PCN | Preconstruction Notification |
| PEM | palustrine emergent |
| PJD | Pre-Jurisdictional Determination |
| PM | particulate matter |
| PSS | palustrine scrub-shrub |
| ROW | right-of-way |
| RRC | Railroad Commission of Texas |
| RSA | Resource Study Area |
| RTHL | Registered Texas Historic Landmark |
| RTP | Regional Transportation Plan |
| SAL | State Antiquities Landmark |
| SCS | Soil Conservation Service |
| SH | State Highway |
| SHPO | State Historic Preservation Officer |
| SIB | State Infrastructure Bank |
| SIP | State Implementation Plan |
| SP | Spur |
| STIP | Statewide Transportation Improvement Program |
| SW3P | Storm Water Pollution Prevention Plan |
| TAMU | Texas A&M University |
| TARL | Texas Archeological Research Laboratory |
| TCC | Trade Corridor Connector |
| TAZ | traffic analysis zone |

| | |
|---|---|
| TCEQ | Texas Commission on Environmental Quality |
| TCPA | Texas Comptroller of Public Accounts |
| TDM | Travel Demand Management |
| TERP | Texas Emissions Reduction Plan |
| THC | Texas Historical Commission |
| TIFIA | Transportation Infrastructure Finance and Innovation Act |
| TIP | Transportation Improvement Plan |
| TNM | Traffic Noise Model |
| TNW | traditional navigable water |
| TP&P | Transportation Planning and Programming Division |
| TPDES | Texas Pollutant Discharge Elimination System |
| TPWD | Texas Parks and Wildlife Department |
| TRZ | Transportation Reinvestment Zone |
| TTI | Texas Transportation Institute |
| TWDB | Texas Water Development Board |
| TxDOT | Texas Department of Transportation |
| TxDOT ICI Guidance | TxDOT's September 2010 *Revised Guidance on Preparing Indirect and Cumulative Impact Analyses* |
| UPRR | Union Pacific Railroad |
| US | U.S. Highway |
| USACE | U.S. Army Corps of Engineers |
| USCG | U.S. Coast Guard |
| USDOT | U.S. Department of Transportation |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| USIBWC | U.S. International Boundary and Water Commission |
| VOC | volatile organic compound |
| VMT | vehicle miles traveled |
| vpd | vehicles per day |
| VRF | Vehicle Registration Fund |
| WBC | World Birding Center |
| WET | Wetland |
| WMA | Wildlife Management Area |

# 1.0 INTRODUCTION

## 1.1 PROJECT DESCRIPTION

The Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a controlled access tolled facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway in Hidalgo County, Texas. The proposed project also includes the following components:

- Nontoll improvements along US 281/Military Highway from 0.45 mile east of Spur (SP) 600 to FM 2557/Stewart Road.
- A 0.70-mile one-lane connector that would allow vehicles exiting the Pharr Border Safety Inspection Facility (BSIF) with limits from US 281/Military Road to Spur (SP) 29/Veterans Boulevard. The BSIF Connector is a nontolled connected action that accommodates northbound movements onto either the nontolled US 281/Military Highway or the SH 365 toll facility.

Logical termini for the proposed project are from FM 1016/Conway Avenue to US 281/Military Highway (**Figure 1-1**). Construction limits for the proposed toll project are from 0.5 mile west of FM 1016/ Conway Avenue east to US 281/Military Highway. Construction limits for the proposed nontoll improvements along US 281/Military Highway extend from 0.45 mile east of SP 600 to FM 2557/ Stewart Road. Construction limits for the proposed nontoll BSIF Connector extend from US 281/Military Road to SP 29/Veterans Boulevard.

Cities and communities within or in close proximity to the proposed project include Granjeño, Hidalgo, McAllen, Mission, Pharr, and San Juan.

The proposed project, referred to as the State Highway 365 (SH 365), would initially be developed as a four-lane divided controlled access toll facility divided by a grassy median with rights-of-way (ROW) reserved for future widening for the ultimate facility when necessary. The ultimate facility would consist of six travel lanes divided by a flushed median with a concrete barrier. The 16.53-mile-long study corridor is primarily on new location within a typical 300-foot ROW, which varies from a minimum of 160 feet to a maximum of 400 feet. A total of 741.03 acres of ROW (including levee relocations and utility easements) would be required, mainly from private landowners, for the proposed project. The study area for the proposed project extends from FM 1016/Conway Avenue to US 281/Military Highway; the study area and the proposed ROW are the same.

Construction of the proposed project would be conducted in three phases (see **Figure 1-1**). Phase I construction would include:

- a nontolled facility from 0.45 mile east of SP 600 to FM 2557/Stewart Road along US 281/Military Highway, including a grade-separated interchange at the SH 365/US 281/Military Highway intersection, and
- a 0.70-mile one-lane nontolled BSIF Connector from US 281/Military Road to SP 29/Veterans Boulevard.

Phase II construction (listed as Phase I on the MTP) would include a 13.4-mile tolled facility from FM 396/Anzalduas Highway to US 281/Military Highway,

Phase III (listed as Phase II on the MTP) construction would include a 3.13-mile tolled facility from FM 1016/Conway Avenue to FM 396/Anzalduas Highway, with transition westward past FM 1016/ Conway Avenue.

The SH 365 project is proposed under TxDOT control section job (CSJ) numbers 3627-01-001, 3627-01-002, 0921-02-337, and 0220-01-023 and is listed in the Hidalgo County Metropolitan Planning Organization (HCMPO) 2015–2018 Transportation Improvement Plan (TIP) and the 2015–2040 Metropolitan Transportation Plan (MTP). The applicable pages of the TIP and MTP are provided in **Appendix A**. The nontolled Phase I projects consisting of an overpass along US 281 Military Highway and a BSIF Connector are to be let for construction in 2015. The proposed interim Phase II toll project is scheduled to let for construction in 2016. The interim Phase III project is scheduled to let for construction in 2026–2030. The ultimate typical section (expansion of Phase II and III from four to six lanes) is listed in the MTP and is scheduled for fiscal years (FY) 2031–2035.

This environmental document evaluates the potential social, economic, and environmental impacts resulting from the proposed project.

## 1.2 PROJECT FUNDING

Phase I construction cost of the US 281 overpass and BSIF Connector is estimated to be $20.8 million, Phase II construction cost is estimated to be $160.8 million, and Phase III construction cost is estimated to be $37.6 million. Total construction cost for the proposed project is estimated to be approximately $219.2 million. Total project cost is estimated to be $395,239,373 and would include federal, state, and local funds. Potential funding sources for the HCRMA to utilize for the construction of this project include:

- State/Federal Funding
  - State Infrastructure Bank (SIB) Loan
  - Transportation Infrastructure Finance and Innovation Act (TIFIA) Bonds
- Local Funding
  - Vehicle Registration Fund (VRF) Bond Proceeds
  - Toll Revenue Bonds Proceeds

- Transportation Reinvestment Zone (TRZ)

The project funding portfolio comprised of two major funding categories: State/Federal funding and Local funding as outlined above. Although the SIB and TIFIA loans are options that may be secured through government assistance, the repayment would be made via toll revenue collected on the project.

The State/Federal funding in the TIP currently includes funding from the following sources: Category 10 – Demonstration, Category 10 – High Priority, and Category 12 – Commission Strategic. The State/Federal funding also includes a SIB Loan/TIFIA Loan/Market rate financing whose source of repayment is the net toll revenues.

The Local funding in the TIP currently includes the use of the VRF Bond Proceeds and the TRZ fund. The VRF Bond Proceeds are based on a $10 fee that the HCRMA collects on every vehicle registration sticker acquired within Hidalgo County. The TRZ will accumulate a yearly amount from the Hidalgo County Tax roll for 50 percent tax valuation increase on properties within the county's TRZ.

The project listing in the 2015–2018 TIP and 2015–2040 MTP update is provided in **Table 1-1**.

**Table 1-1: SH 365 Project Listing in Area Plans**

| Project Listing | Funding by Year | Total Project Cost |
|---|---|---|
| **Phase I**: BSIF Connector (nontolled project)<br>**CSJ:** 0921-02-337<br>**Limits:** SP 29/Veterans Drive to US 281/Military Highway<br>**Description:** One lane local collector | • Funding for Preliminary Engineering starting TIP Year 2015 includes $117,348 in Local Funds (100% Local).<br>• Funding for ROW starting TIP Year 2015 includes $481,758 in Local Funds (100% Local).<br>• Funding for Construction starting, Construction Engineering and Indirect in TIP Year 2015 includes $3,324,707 in Local Funds (100% Local). | $3,923,814 |
| **Phase I**: US 281/Military Highway Phase I (nontolled project)<br>**CSJ:** 0220-01-023<br>Limits: From 0.45 mile east of SP 600 to FM 2557/Stewart Road<br>**Description:** Widen to 4-lane divided urban, including an overpass on an urban principal arterial. | • Funding for Preliminary Engineering starting TIP Year 2015 includes $616,079 in Local Funds (100% Local).<br>• Funding for ROW starting TIP Year 2014 includes $2,529,228 in Local Funds (100% Local).<br>• Funding for Construction, Construction Engineering and Indirect starting TIP Year 2015includes $5,600,000 in Category 10 Coordinated Border Infrastructure Funds (80% Federal and 20% State) and $11,854,716 in Local Funds (100% local). | $20,600,023 |
| **Phase II:** SH 365 Phase I (Interim)<br>**CSJ:** 3627-01-001<br>**Limits:** From US 281/Military Highway to FM 396/Anzalduas Highway | • Funding for Preliminary Engineering starting TIP Year 2015 includes $10,860,670 in Local Funds (100% Local).<br>• Funding for ROW starting TIP Year 2015 includes | $223,213,321 |

| Project Listing | Funding by Year | Total Project Cost |
|---|---|---|
| **Description:** Construct 4-lane controlled access tolled facility | $51,596,891 in Local Funds (100% Local).<br>• Funding for Construction, Construction Engineering and Indirect starting TIP Year 2016 includes $112,055,735 in Category 12 Commission Strategic Funds (80% Federal and 20% State) and $48,700,025 in Local Funds (100% Local). | |
| **Phase III:** SH 365 Phase II (Interim)<br>**CSJ:** 3627-01-002<br>**Limits:** From FM 396/Anzalduas Highway to FM 1016/Conway Avenue<br>**Description:** Construct 4-lane controlled access tolled facility | • Funding for Preliminary Engineering starting TIP Year 2015 includes $3,215,286 in Local Funds (100% Local).<br>• Funding for ROW starting TIP Year 2015 includes $5,406,143 in Local Funds (100% Local).<br>• Funding for Construction, Construction Engineering and Indirect starting MTP Years 2026-2030 includes $53,637,812 in Local Funds (100% Local). | $62,259,241 |
| **Phase:** SH 365 (Ultimate)<br>**CSJ:** None<br>**Limits:** From US 281/Military Highway to FM 1016/Conway Avenue<br>**Description:** Expansion from a 4- to 6-lane controlled access tolled facility (constructing an additional 2 lanes) | • Funding for Preliminary Engineering starting MTP Years 2026 to 2030 includes $3,841,693 in Local Funds (100% Local).<br>• Funding for Construction, Construction Engineering and Indirect starting MTP Years 2031 to 2035 includes $ 81,401,281 in Local Funds (100% Local). | $85,242,974 |

# 2.0 PROJECT BACKGROUND

## 2.1 1996 HIDALGO COUNTY THOROUGHFARE PLAN

The Hidalgo County Thoroughfare Plan was adopted by the HCMPO on February 22, 1996, with the primary objective of providing guidelines for planning and design transportation improvements, which were expected to accommodate the 2015 projected travel demand (HCMPO, 1996). The purpose of the thoroughfare plan was to provide a framework for implementing improvements that would be beneficial for the future mobility and accessibility of the area. Provisions were made for freeway facilities within the proposed "Outer Loop Corridor," which extended south to the U.S.-Mexico border, north to FM 490, west to FM 2221, and east to FM 1425. The proposed project falls within the "Outer Loop Corridor."

## 2.2 2000 HCMPO HIDALGO COUNTY LOOP STUDIES

In 2000, the HCMPO reexamined the 1996 "Outer Loop Corridor" (now being referred to as the "Hidalgo County Loop") and conducted alternative route analysis for each of four precincts (Precincts 1 through 4) within the Hidalgo County Loop corridor. The corridor study area was modified and redefined, and alternatives route analyses were completed in April 2003 with the purpose being:

- To provide a safe and efficient transportation system for the county populace and its commerce by relieving traffic congestion on existing thoroughfares
- To provide a major controlled-access thoroughfare around and through Hidalgo County connecting existing and future international border crossings, thereby improving the mobility of interstate and international traffic
- To improve local vehicular circulation and provide a more efficient emergency-response route to remote areas of Hidalgo County, also enhancing access to evacuation routes
- To provide hazardous material route around densely populated areas
- To promote economic development

Public outreach for the Hidalgo County Loop was initiated in 2002 for each precinct during the Advance Project Development Phase. Public outreach activities for Precincts 2 and 3, through which the proposed SH 365 corridor traverses, are listed in **Table 2-1**.

In addition to the public information workshops, seven stakeholder meetings were held between April 2002 to April 2003 to obtain input from the major and applicable agencies and entities.

**Table 2-1: 2000 Hidalgo County Loop Studies Public Outreach Activities**

| Public Outreach Activities | Precinct 2 | Precinct 3 |
|---|---|---|
| Public Information Workshop #1[1] | August 12, 2002 | June 12, 2002 |
| Public Information Workshop #2[2] | October 23, 2002 | October 30, 2002 |
| Public Meeting[3] | March 24, 2003 | March 24, 2003 |

Notes:

[1]The first public workshop was conducted to introduce project concept, the project development process, preliminary corridor and routes, and to solicit public comments.

[2]The second public workshop was conducted to present the alternatives analysis at the 75 percent stage and to solicit public comments.

[3]Public meetings were held for Precincts 2 and 3 to present the results of prior public outreach activities and obtain comments on the alternatives.

## 2.3 2007 HCRMA PLANNING STUDIES

In November 2005, the HCRMA was established by the TxDOT Commission to develop and finance various projects within Hidalgo County and to continue the process started by the HCMPO in 2000. In November 2007, the HCRMA initiated studies aimed at advancing the previous work effort conducted during the 2000 studies. The corridor study areas were reevaluated and further developed during the planning studies conducted in 2008. During these studies, the 2000 Hidalgo County Loop was broken out into discrete and independent corridors for carrying forward to construction. Corridor and alignment level options were developed, and a public involvement program was initiated during 2008. The limits of the SH 365 project falls within the Section A corridor (**Figure 2-1**) of the proposed 2008 Hidalgo Loop (Hidalgo Loop – Section A).

In addition to 64 stakeholder meetings held between October 2007 and March 2009, public meetings were held in May and August 2008 for Hidalgo Loop – Section A. The public involvement program is described in detail in **Section 10** of this document. The alignment options were developed through environmental studies, public meetings and coordination with public officials, cities within the study area, adjacent landowners, agencies with local offices such as U.S. Fish and Wildlife Service (USFWS) and U.S. International Boundary and Water Commission (USIBWC), school districts, local organizations, private developers, and the HCRMA planning committee.

In April 2009, the feasibility of the Hidalgo Loop concept was reassessed, and the project was subsequently redefined. As a result, the Trade Corridor Connector (TCC) was developed (**Figure 2-2**).

## 2.4 2009–2012 HCRMA PLANNING STUDIES

In October 2009, the HCRMA initiated additional environmental studies aimed at advancing the previous work effort conducted in 2007. While the TCC study area remained the same as the 2007 studies, the project limits were reduced. On April 29, 2010, the Texas Transportation Commission designated the proposed 12.73-mile TCC from FM 1016/Conway Avenue to FM 3072/Dicker Road as SH 365 in Minute

Order 112250 (**Appendix A**). As part of the planning efforts, an open house/public meeting was held on July 13, 2010, at Mission City Hall to present the SH 365/TCC alternatives and obtain public comments. The potential impacts to the environment as well as public input were considered in determining the Build Alternative. During the development of the proposed project, there has been continuous coordination with public officials, study area municipalities, adjacent landowners, local agencies, school districts, local organizations, private developers, and the HCRMA planning committee.

The HCRMA in conjunction with TxDOT reassessed the proposed SH 365/TCC project to establish independent utility and to more clearly define the connection between the Anzalduas and Pharr International Bridges. Leading up to the 2013–2016 TIP and 2013–2035 MTP updates, the following minute orders, funding agreements, and funding requests occurred:

- On August 26, 2010, the Texas Transportation Commission authorized the negotiation and execution of the financial terms of a $70,000,000 Pass-through Toll Agreement for SH 365/ TCC in Minute Order 112391 (see **Appendix A**).
- In a letter dated June 1, 2012, the HCRMA requested that the TxDOT Pharr District transfer all pass-through funding previously designated for the US 281/Military Highway Overpass (CSJ 0220-01-023) and US 83 La Joya Relief Route (CSJ 0039-02-040), $7,335,735 and $34,700,000, respectively, to the SH 365 project (see **Appendix A**).
- On July 26, 2012, Texas Transportation Commission authorized the project limits to extend from FM 1016, 1.7 miles south of US 83, eastward to FM 3072, approximately 0.9 mile west of FM 2557/Stewart Road and then southward to US 281/Military Highway, a distance of approximately 14.31 miles in Minute Order 113200 (see **Appendix A**). Per Minute Order 113200, the new route would enhance mobility in the area by providing a new east-west corridor and would facilitate the flow of traffic, promote public safety and maintain continuity of the state highway system.

As evident in the project development, the proposed SH 365 project is a part of a larger project that is no longer being pursued by the HCRMA. **Table 2-2** lists the projects from which the SH 365 project has evolved as a result of the aforementioned actions and alignment modifications. The study area for the proposed SH 365 project extends from FM 1016/Conway Avenue to US 281/Military Highway.

The proposed SH 365 project was presented to the public at three public meetings conducted in March 2013.

**Table 2-2: Project Development Summary**

| Project | CSJ | Limits | Length (miles) | ROW Required (acres) |
|---|---|---|---|---|
| Hidalgo Loop - Section A | 0921-02-172 | US 83 Expressway (near Peñitas) to US 281/SP 600 Intersection (north of Pharr International Bridge) | 24.47 | 887 |
| SH 365/TCC | 3627-01-001 | FM 1016/Conway Avenue to FM 3072/Dicker Road | 13.38 | 488 |
| US 281/ International Bridge Trade Corridor (IBTC) Overpass | 0220-01-023; 0921-02-906; 0921-02-908 | • Project 1: 0.45 mile east of SP 600 to FM 2557/ Stewart Road<br>• Project 2: SP 29/I Road at Proposed Pharr Border Safety Inspection Facility (BSIF) to US 281/ Military Highway at San Juan Road<br>• Project 3: 0.166 mile north of US 281/Military on San Juan Road to US 281/ Military Highway | 3.71 | 48 |
| SH 365 | 3627-01-001; 3627-01-002; 0220-01-023 | FM 1016/Conway Avenue to US 281/Military Highway | 16.53 | 741.03 |
| BSIF Connector | 0921-02-337 | SP 29/Veterans Drive to US 281/Military Highway | 0.70 | 7.1 |

# 3.0 PURPOSE AND NEED FOR THE PROPOSED PROJECT

## 3.1 PURPOSE OF THE PROPOSED PROJECT

The proposed SH 365 project, which lies south of the recently designated Interstate Highway 2 (I-2)/ US 83 Expressway (US 83), would be developed to meet the needs identified within the study area and to be compatible with local, regional, and national planning efforts. The intent of the proposed project is to:

- Improve east-west mobility and interconnectivity necessary to effectively distribute traffic between existing and planned border crossings and local freight transfer facilities;
- Reduce community disruption south of I-2/US 83 associated with increasing freight movement originating from and destined to the border to access local freight transfer facilities;
- Address safety concerns regarding the mix of vehicle types and conflicting movements on the arterial and local street network; and
- Construct the proposed project through the use of vehicle registration fees, toll revenue bonds, state/federal funding, SIB loan, TIFIA Bonds, and TRZ revenues, as the funding needs cannot be addressed through traditional nontolled funding sources.

The purpose of the proposed project is supported by the needs that have been previously identified, documented in the Section A Preliminary Alternatives Development Study (L&G Engineering, 2008), and presented to federal, state, and local agencies, public officials, and the public during numerous public meetings. The proposed project is a critical element of the region's long-range transportation plan that would aid to address the transportation issues identified by local and regional stakeholders. A tolled facility would provide the development funding necessary to address the needs outlined in **Section 3.2**. Without the funding options afforded to the HCRMA, the region's ability to fund, plan, and develop projects of this magnitude would take a much longer period to materialize. The use of local funds by way of projected toll revenues, vehicle registration fee, and the TRZ revenues provide a novel approach to act on regional and long-term transportation planning in an era of diminishing state/federal funding. The project would serve as an integral part of the regional transportation system in the long term.

## 3.2 PROJECT NEED

The HCRMA is proposing development of SH 365 to address the problems related to connectivity from the Pharr-Reynosa and Anzalduas International Bridge to the local freight facilities and address safety concerns on the local street network. The proposed project would provide a route for freight trucks and other vehicular traffic between existing border crossings and local freight transfer facilities destinations south of the I-2/US 83. The need for the proposed project has been identified through the evaluation of existing transportation facilities, the assessment of social and economic conditions in the study area and region, consultation with local communities, and input from public meetings and the business community. The project needs are identified below.

### 3.2.1 East-West Interconnectivity

**Lack of east-west interconnectivity south of I-2/US 83 to effectively distribute traffic among the Pharr-Reynosa International Bridge, Anzalduas International Bridge, and local freight transfer facilities.**

**Table 3-1** shows yearly truck trade in dollars for Hidalgo County. In 2013, there was approximately $26.3 billion in truck trade with Mexico for a 65.7 percent increase from 2004 (U.S. Department of Transportation [USDOT], Bureau of Transportation Statistics, 2014).

**Table 3-1: Hidalgo Truck Trade with Mexico, 2004–2013 (in millions of dollars)**

| Area | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|
| Hidalgo | 15,864 | 18,243 | 19,941 | 21,688 | 21,857 | 18,823 | 22,054 | 23,538 | 24,851 | 26,289 |
| % Difference | – | 15.0 | 9.3 | 8.8 | 0.8 | -13.9 | 17.2 | 6.7 | 5.6 | 5.8 |
| *% Difference 2004–2013* | 65.7 | | | | | | | | | |
| Annualized % Increase | 6.1 | | | | | | | | | |

Source: USDOT, Bureau of Transportation Statistics (2014).

To facilitate trade and the warehousing of goods, McAllen Economic Development Corporation operates McAllen's foreign trade zone (MFTZ) and there are several freight transfer facilities scattered throughout Hidalgo County (**Figure 3-1**). Most are generally situated within the study area, west of US 281 and south of US 83 (McAllen Chamber of Commerce, 2013). Foreign trade zones (FTZs) are sites in or near a U.S. Customs Port of Entry where foreign and domestic merchandise is generally considered to be in international trade. Goods can be brought into a zone without formal customs entry or without incurring customs duties or excise taxes unless and until they are imported into the U.S. The FTZs are intended to promote U.S. participation in trade and commerce by eliminating or reducing the unintended costs or obstacles associated with U.S. trade laws (HCMPO, 2010). The MFTZ is located north of the Hidalgo International Bridge; it consists of over 775 acres and offers "full service logistics" solutions to over 100 clients representing over 42 countries worldwide (MFTZ, 2008). According to the McAllen Chamber of Commerce, the MFTZ is one of the most active FTZs in the nation (McAllen Chamber of Commerce, 2013). As shown on **Figure 3-1**, the MFTZ lies within the boundaries of the McAllen Southwest freight transfer facility.

Presently there are five international bridges in Hidalgo County for cross border travel between the U.S. and Mexico. These bridges include:

- The **Pharr International Bridge** that connects to US 281 in Pharr. This facility serves noncommercial and commercial vehicle traffic and pedestrians. It was built to relieve congestion on the Hidalgo International Bridge specifically to relieve commercial traffic congestion.

- The **Progreso International Bridge** that connects Nuevo Progreso in Mexico with the towns of Progreso and Progreso Lakes in the U.S. This facility serves noncommercial and commercial vehicle traffic and pedestrians.
- The **Hidalgo International Bridge** that connects McAllen, Texas, to Reynosa, Mexico, and primarily serves noncommercial vehicle and pedestrian traffic.
- The **Anzalduas International Bridge** that connects Mission and South McAllen international trade areas to the west end of Reynosa, where many maquiladoras and other cross-border businesses are located (McAllen Chamber of Commerce, 2013).
- The **Donna International Bridge** was constructed in December 2010, near US 281 and FM 493, to provide access to future commercial traffic. Once inspection stations are built and commercial traffic can utilize the Donna International Bridge, it would promote direct economic growth for the cities of Donna, Weslaco, and Mercedes, Texas, and the Rio Bravo region in Mexico (*Valley Central News*, 2013).

While the international bridges provide facilities for trucks to cross the Mexico border, they do not provide a high-speed access-controlled connection for freight trucks traveling from Mexico with goods to be supplied to multiple freight transfer facilities within Hidalgo County as shown on **Figure 3-1**.

Forecasts indicate that by 2030, approximately 120,560 vehicles (106,100 autos and 14,460 trucks) will cross these 5 international bridges in Hidalgo County per day, totaling 44,004,400 vehicles for the year (38,726,500 autos and 5,277,900 trucks) (Ergonomic Transportation Solutions [ETSI], 2007).

Due to travel restrictions on Mexican trucks within the U.S., much of the cross border truck traffic is destined to various freight transfer facilities destinations located along the border region where cargo may be transferred for distribution throughout the U.S. As illustrated on **Figure 3-1**, the existing east-west roadway network (including city streets and FM roads) south of I-2/US 83, which provides access between the freight destinations and the international bridges, are circuitous (i.e., not direct or continuous) and does not efficiently facilitate the movement of trucks and vehicles. The disconnected network of circuitous routes were not intended to provide needed connectivity to efficiently transport, transfer, and distribute the forecasted tonnage of freight throughout the region. The Freight Analysis Framework Data,[1] developed by the Federal Highway Administration (FHWA), forecast the average truck tonnage through the Hidalgo/Brownsville area to increase an average of 4 percent per year between 2002 and 2035. This results in an overall increase of 240 percent over this time frame. As economic, population, and trade growth continue, the lack of east-west interconnectivity would increasingly restrict the movement of people, freight, and services in and through the region.

[1] http://ops.fhwa.dot.gov/freight/freight_analysis/faf/faf2userguide/index.htm

### 3.2.2 Heavy Truck Traffic on Local Community Roadways

**South of I-2/US 83, the lack of east-west interconnectivity between border crossings increases the amount of truck traffic on local roads, which disrupts communities and increases the potential for traffic incidents.**

A study conducted by ETSI[2] in 2007 found that there were 818,330 trucks that crossed the Pharr-Reynosa International Bridge based on 2,242 annual average daily traffic (AADT) bi-national truck crossings in 2004. The same study indicated that truck traffic will almost triple at the Pharr-Reynosa International Bridge by 2030 with 2,146,930 crossings based on 5,882 AADT bi-national truck crossings. Per Article 16 (2) of the Presidential Permit 99-01 for Anzalduas International Bridge,[3] freight traffic crossings will not begin on Anzalduas International Bridge until January 1, 2015, unless prior to that date the average northbound freight traffic at the Pharr-Reynosa International Bridge reaches 15,000 vehicles per week. The ETSI study anticipates 1,091,350 truck crossings at Anzalduas International Bridge by 2030 based on an estimate of 2,990 AADT bi-national truck crossings. By 2030, the Anzalduas and the Pharr-Reynosa International Bridges combined are projected to have 3,238,280 bi-national truck crossings annually.

Many of the designated truck routes south of I-2/US 83 in Hidalgo County are two- to four-lane local roads, which traverse residential and commercial areas and are adjacent to numerous schools and hospitals (see **Figure 3-1**). Consequently, trucks carrying hazardous cargo are free to utilize the existing truck routes, which create safety concerns due to the proximity of these routes to nearby schools, hospitals, residences, and commercial areas. Truck traffic on these roads disrupts local communities, creates safety concerns, and deteriorates the roadway network as bigger-heavier trucks damage pavement (HCMPO, 2008). As freight traffic to and from the international bridges increases, it will further disrupt communities, increase the potential for traffic incidents, and will increasingly deteriorate the local roadway network.

### 3.2.3 Safety

**The mix of traffic on the existing two- and four-lane noncontrolled-access street network degrades safety.**

The HCMPO recognizes the growing number of trucks and their movement has heightened public awareness of the need to improve commercial vehicle safety and preserve highway infrastructure (HCMPO, 2010). The combination of truck traffic on the existing local street network and local and regional traffic has resulted in a high accident rate on SH 336 from I-2/US 83 to SP 241 in the study area. This area of roadway had an average accident rate of 1,310 total crashes between 2005 and 2008

[2] Ergonomic Transportation Solutions, Inc. 2007 Traffic Analysis Study for Pharr Reynosa International Bridge in Pharr, Texas
[3] Presidential Permit 99-01: Anzalduas Bridge

compared to the 2005–2008 national average accident rate of 309.91 (TxDOT, 2009), which equates to the crash rate being four times greater than the national average.

There are multiple intersections located along the existing local street network. In 2008, there were 829 people killed in crashes occurring at intersections across the state (TxDOT, 2008). As the commercial truck traffic continues to increase by approximately 60 percent by 2035 nationally and commercial trucks get larger, the mix of heavy truck, autos, and pedestrian traffic on the existing local street network with multiple intersections would result in increased conflicts between through traffic, local traffic, and the different vehicle types on the existing roadways (HCMPO, 2010). Fatalities involving large trucks in Hidalgo County have increased from 2 in 2004 to 11 in 2008, respectively (USDOT, 2008).

### 3.2.4 Lack of Funding

**Forecasted transportation funding is insufficient to finance needed transportation improvements to serve the increasing movement of freight between the international bridges and the freight destinations south of I-2/US 83.**

Available funding from traditional sources (state and federal gas tax revenue) outlined in the fiscally constrained MTP is currently insufficient funding to address the identified transportation needs. It is anticipated that any proposed transportation improvements would be funded through any or a combination of the following: vehicle registration fees, toll revenue bonds, state/federal funding, SIB loan, TIFIA bonds, and TRZ revenues.

# 4.0 DESCRIPTION OF THE PROPOSED ACTION

## 4.1 EXISTING CONDITIONS

The proposed ROW for the SH 365 project would be constructed primarily on new location. Existing east-west roadways within the study area south of I-2/US 83 and west of US 281/Cage Boulevard are not direct or continuous. While West Military Road provides east-west movement within the study area, the route is circuitous and fluctuates between two and four lanes. Roadways within the study area are generally two lanes with the exception of SP 115/23rd Street, SP 336/10th Street, FM 2061/Jackson Road, and US 281/South Cage Boulevard, which are four lanes.

FM 1016/Conway Avenue at the western terminus is a four-lane divided uncontrolled-access facility consisting of two 12-foot travel lanes in each direction with 10-foot outside shoulders separated by a flush median. The existing ROW is 107 feet wide, and the posted speed limit is 55 miles per hour (mph) in this roadway section.

US 281/Military Highway at the eastern terminus is a two-lane uncontrolled access facility consisting of two 12-foot travel lanes with 10-foot shoulders within an 80-foot ROW. The posted speed limit along this section is 55 mph.

Representative photographs of existing conditions within the study area are provided as **Exhibits 4-1** through **4-6**.

**Exhibit 4-1: Western project terminus, facing southeast**

**Exhibit 4-2: Representative view of upland pasture within the proposed ROW.**

**Exhibit 4-3: Representative view of farmland within the proposed ROW.**

**Exhibit 4-4: Representative view of a wetland within the proposed ROW.**

**Exhibit 4-5: Representative view of an irrigation canal within the proposed ROW.**

**Exhibit 4-6: Representative view of upland mesquite scrub within the proposed ROW.**

## 4.2 PROPOSED FACILITY (BUILD ALTERNATIVE)

The proposed 16.53-mile project would consist of constructing a new location tolled facility that would provide for an ultimate six-lane divided controlled-access facility. The proposed project would be constructed within a typical ROW width of 300 feet, but varying occasionally to a minimum of 160 feet and a maximum of 400 feet of ROW required at roadway interchanges. Grade separations along the facility would assure that as many of the roadways of higher functional classification would traverse the proposed facility unimpeded, and local roads of lower functional class may be accommodated if existing traffic patterns are disrupted or where access is severed. The proposed design speed for the tolled facility is 70 mph.

### 4.2.1 Interim Design

The interim design would be a four-lane tolled facility from FM 1016/Conway Avenue east to US 281/ Military Highway divided by a grassy median with overpasses, ramps, and one-lane frontage roads (where necessary). The mainlanes would consist of 4-foot-wide inside shoulders, two 12-foot-wide travel lanes, and 10-foot-wide outside shoulders in each direction. The frontage road would consist of a 12-foot-wide travel lane, a 10-foot-wide outside shoulder, and 4-foot-wide inside shoulder (**Figure 4-1**).

The design also includes a proposed improvement along the existing US 281/Military Highway principal arterial from 0.45 mile east of SP 600 to FM 2557/Stewart Road. The proposed facility would be

contained within the existing 100-foot-wide ROW and would consist of a 16-foot-wide turning lane, two 12-foot-wide travel lanes in each direction, and two 10-foot-wide outside shoulders.

The interim phase also includes the BSIF Connector, which consists of a one-lane facility that would allow vehicles exiting the Pharr BSIF to access either US 281/Military Highway or the SH 365 tolled facility. The BSIF Connector extends from US 281/Military Road to SP 29/Veterans Boulevard and includes a 14-foot lane, a 4-foot inside shoulder, and a 12-foot outside shoulder. From the US 281/ Military Road intersection with San Juan Road, this facility would also provide one 12-foot-wide lane in each direction, a 14-foot median, and 10-foot outside shoulders.

The additional ROW beyond what is required for four-lane facility would provide for future expansion under the ultimate design, when needed. Other intermediate phases of construction would be determined by future traffic conditions.

### 4.2.2 Ultimate Design

The ultimate design would be a six-lane tolled facility from FM 1016/Conway Avenue east to US 281/ Military Highway divided by a concrete traffic barrier with overpasses, ramps, and two-lane frontage roads (where necessary). The ultimate facility would consist of two 10-foot-wide inside shoulders, six 12-foot-wide travel lanes, and two 10-foot-wide outside shoulders divided by a concrete barrier (**Figure 4-2**). Project plans are provided in **Appendix B**.

### 4.2.3 Structures

The proposed project would provide for overpasses and access roads where necessary. As stated in Section 1.0 (Introduction), the project would be constructed in three phases. As shown in **Table 4-1**, a total of 20 structures including 14 overpasses, 3 underpasses, and 3 bridge/culvert water crossings are proposed (**Figure 4-3**).

As shown in **Table 4-1**, Phase I construction includes one overpass, Phase II construction includes nine overpasses, three underpasses, and three bridge water crossings, and Phase III construction includes four overpasses.

### 4.2.4 ROW Requirements

Approximately 741.03 acres of ROW would be required for the proposed project, including 685.6 acres for the roadway ROW, 45 acres for the USIBWC levee relocations, and 11 acres for utility easement. The 685.6 acres of ROW required for Build Alternative would be acquired primarily from private landowners. Approximately 45 acres of ROW would be required for the demolition and relocation of approximately 13,063 linear feet of the USIBWC levees at the following four locations (see **Figure 4-3**):

- 0.16 mile east of S. Bentsen Road to 0.46 mile west of SP 115/23rd Street

- SP 115/23rd Street
- 0.05 mile east of FM 2061/Jackson Road to 0.73 mile east of FM 2061/Jackson Road
- 0.07 mile west of US 281/Cage Boulevard to 0.35 mile east of US 281/Cage Boulevard

**Table 4-1: Build Alternative Proposed Structures**

| No | Location (from West to East) | Structure Type | Phase |
|---|---|---|---|
| 1 | FM 1016/Conway Avenue with a span for the Union Pacific Railroad (UPRR) | Overpass | III |
| 2 | FM 1016/Military Highway | Overpass | III |
| 3 | UPRR (south of FM 1016/Military Highway) | Overpass | III |
| 4 | Anzalduas General Service Administration (GSA) connecting road | Overpass | III |
| 5 | Glascock Road | Underpass[1] | II |
| 6 | FM 494/Shary Road | Overpass | II |
| 7 | Main Floodway Channel Bridge | Water crossing (bridge structure) | II |
| 8 | SP 115/23rd Street | Overpass | II |
| 9 | SH 336/10th Street | Overpass | II |
| 10 | Pharr/San Juan Irrigation Canal (0.6 mile east of SH 336/10th Street) | Water crossing (bridge structure) | II |
| 11 | McColl Road | Underpass | II |
| 12 | FM 2061/Jackson Road | Overpass | II |
| 13 | US 281/S. Cage Boulevard | Overpass | II |
| 14 | "I" Road | Overpass | II |
| 15 | FM 3072/E. Dicker Road | Overpass | II |
| 16 | Drainage channel south of Las Milpas Road | Water crossing (bridge structure) | II |
| 17 | Las Milpas Road | Underpass[2] | II |
| 18 | Anaya Road | Overpass[3] | II |
| 19 | Hi Line Road | Overpass | II |
| 20 | US 281/Military Highway | Overpass | I |

[1]To be deferred until traffic warrants as per May 2013 Value Engineering recommendation.

[2]Underpass location added at Las Milpas Road per comments received during the March 2013 public meetings comment period (HCRMA, 2013).

[3]Former underpass at Anaya Road changed to overpass per comments received during the March 2013 public meetings comment period (HCRMA, 2013)

### 4.2.5 Bicycle and Pedestrian Facilities

The proposed roadway is a high-speed controlled access facility, and no bicycle facilities are proposed. Hidalgo County contains 71 miles of existing bikeways (bicycle lanes, bicycle routes, and shared-use paths), and an additional 82 miles of bicycle lanes on the planning horizon by other local entities (HCMPO, 2012). However, provisions have been made for pedestrian ramps and future sidewalks to be included at major intersections to accommodate the portion of the bicycle system that traverse the facility, and all existing sidewalk segments impacted by construction along major roadways would be replaced in kind. Furthermore, the interim design due calls for the intermittent construction of frontage roads hinders

the ability to comprehensively plan bike/pedestrian facilities since the planning is affected by future construction funding needed to develop all frontage road connections throughout the high-speed controlled access facility.

### 4.2.6 Drainage

Drainage for the proposed roadway and surface drainage from adjacent areas would be achieved via graded roadway ditches from existing high to low areas. Drainage culvert/bridge structure, sized for the discharge (per TxDOT's design requirements) would be constructed to maintain the existing drainage flow patterns throughout the project's limits. Outfalls would be coordinated with the Hidalgo County Drainage District No. 1 (HCDD #1).

The HCDD #1 is required to provide outfalls for developments within Hidalgo County. In 2013, the County issued a bond referendum so that HCDD #1 can provide regional drainage improvements and floodplain remapping throughout County. The HCRMA and HCDD #1 have developed an inter-local agreement whereby the HCDD #1 would develop, own, and operate the outfalls for SH 365, and the HCRMA would pay its prorated share of the new regional outfalls. As such, the SH 365 drainage outfalls would be developed, owned, and operated by the HCDD #1 as separate projects utilizing local HCRMA funds (e.g., TRZ, vehicle registration funds, or toll revenue bonds).

Based on a preliminary drainage assessment conducted for the proposed SH 365 roadway facility, several drainage facilities would be required, totaling approximately 109 acres of ROW. A more detailed study of the drainage easement requirements will be conducted during final design.

### 4.2.7 Utilities

Utilities within the proposed ROW include Union Pacific Railroad (UPRR), irrigation canals, gas, water, sanitary sewer, electrical/transmission, telephone, cable (fiber optic), and overhead power lines. In the western study area, the UPRR branch line runs south along FM 1016 from the railroad that parallels I-2/US 83 in Mission to the Sharyland and McAllen Southwest freight transfer facilities in McAllen (see **Figure 1-1**). Utility adjustments and relocation would be required prior to and during construction of the proposed project. Approximately 11 acres of ROW would be required for utility easements.

## 4.3 LOGICAL TERMINI AND INDEPENDENT UTILITY

The construction limits for the proposed toll project are from 0.5 mile west of FM 1016/Conway Avenue east to US 281/Military Highway. The construction limits extend beyond the logical terminus at FM 1016/Conway Avenue due to the need for an overpass structure with a 23-foot clearance over the UPRR crossing east of FM 1016/Conway Avenue. The UPRR prevents at-grade connections at this location and prompts a longer transition area. A jug handle configuration is proposed to achieve at-grade connections to FM 1016/Conway Avenue. Construction limits for the proposed nontoll improvements

along US 281/Military Highway extend from 0.45 mile east of SP 600 to FM 2557/Stewart Road. Construction limits for the proposed BSIF Connector extend from US 281/Military Highway to SP 29/ Veterans Boulevard.

Logical termini for the proposed project are from FM 1016/Conway Avenue to US 281/Military Highway. The environmental study limits are the same as the logical termini.

The proposed project would have independent utility, serving to improve east-west mobility, reduce community disruption, and address safety concerns in the project area, regardless of other improvements.

## 4.4 TRAFFIC FORECASTS

Typically, traffic forecasts used for environmental studies and roadway configuration design are prepared by TxDOT's Transportation Planning and Programming Division (TP&P) for a fully funded TxDOT highway where tolls are not required. Roadway configuration design for toll road is based on the estimated levels of toll traffic, which are often less than a nontolled highway. Since SH 365 is proposed as a toll road, there are two sources of traffic forecasts for the project. The TP&P provided a conservative (thus higher) forecast for a nontolled ("free") facility for the purposes of conducting air quality and noise studies, while toll forecasts for the highway configuration design was prepared by C&M Associates, Inc. (C&M). This approach results in higher levels of nontolled traffic, which is more conservative from an environmental impact perspective, while lower levels of tolled traffic are more conservative from a financial investment perspective.

**Toll Condition:** C&M developed average weekday traffic forecasts for the proposed project under tolled condition for the years 2020 and 2035 in January 2013. These forecasts assume that the section from FM 369/Anzalduas Highway to US 281/Military Highway would be constructed with a 2018 opening year, and the section from FM 1016/Conway Avenue to FM 396/Anzalduas Highway would be constructed with a 2028 opening year.

**Nontolled condition:** TxDOT TP&P provided nontolled average daily traffic forecasts in February 2013, along with traffic parameters used for pavement design and air and noise analysis for the years 2016 and 2036. Unlike the C&M toll forecasts, the TP&P nontolled forecasts assume that the project is constructed in one phase with limits from FM 1016/Conway Avenue to US 281/Military Highway. Both traffic forecasts are provided in Appendix A. Differences between the roadway configurations for the toll forecast include:

- an eastbound exit to SH 336/10th Street
- a westbound entrance from SH 336/10th Street
- continuous frontage roads between SP 115/23rd Street and SH 336/10th Street

**Table 4-2** provides a comparison of forecasts for three sections of the proposed project by year. Overall, the toll forecasts are generally lower than the nontolled forecasts.

**Table 4-2: SH 365 Traffic Forecasts by Toll Condition and Year**

| Location | Nontolled (TP&P) | | Tolled (C&M) | |
|---|---|---|---|---|
| | 2016 | 2036 | 2020 | 2035 |
| FM 396/Anzalduas Highway to SP 115/23rd Street | 7,100 | 9,900 | 7,600 | 11,600 |
| SP 115/23rd Street to FM 2061/Jackson Road | 15,000 | 20,600 | 7,700 | 13,400 |
| FM 2061/Jackson Road to US 281/Military Highway | 8,300 | 10,900 | 2,900 | 5,000 |

The AADT used for the air quality and noise studies was based on the nontoll condition (obtained from the TP&P) is projected to be 15,000 in 2016 and projected to increase by approximately 37 percent to 20,600 in 2036. The average daily traffic truck percentage for 2016 to 2036 is 17.8 percent.

## 4.5 TRAFFIC ANALYSIS – LEVEL OF SERVICE

A traffic analysis evaluates the traffic operating characteristics of a transportation network to quantify levels of performance experienced on segments of the network and determines whether those levels are acceptable based on performance criteria. The typical traffic analysis process consists of determining the traffic capacity of the transportation network based on patterns of lanes and traffic control devices at intersections (traffic signals, stop signs, etc.), estimating measures of traffic flow based on the traffic volumes using the system, then rating the measures using a qualitative rating scale. Traffic flow measures include speed, delay and traffic density. The rating system used to evaluate performance measures is called Level of Service (LOS). LOS ratings range from A to F. LOS A and B represent uncongested conditions under light traffic. LOS C is typically the worst allowable performance for a rural transportation network, while LOS D is the worst allowable for an urban network. LOS E represents operations near the capacity of a roadway, thus traffic flow is affected by weaving, intersection delays, or other conditions that result in speed reductions. LOS F occurs when volumes of traffic exceed capacity, thus resulting in long delays, traffic queues and congested roadway operations.

LOS Analysis for AM Peak Hour and PM Peak Hour for the year 2028 and 2035 was provided by C&M in March 2013. The year 2028 was used as the first year for the LOS analysis since the section from FM 1016/Conway Avenue to FM 396/Anzalduas Highway would be constructed in 2028; 2035 was used as the last year since this is the last forecast year available from the HCMPO. The AM and PM peak hour traffic analysis was conducted for both toll road mainline segments—which include basic freeway segments, ramp junctions and weave segments—and for cross road interchange intersections for the proposed configuration of the SH 365 corridor. The analysis was conducted using the Highway Capacity Manual (HCM) 2010 methodologies.

C&M evaluated LOS using traffic forecasts for both tolled and nontolled scenarios. Roadway segments types included in the analysis included basic freeway segments, freeway ramp junctions, freeway weaving segments, and signalized intersections. Overall, all freeway segments and intersections along the proposed project are expected to operate at acceptable LOS C or better in both AM and PM peak hours for toll as well as nontolled conditions in 2028 and 2035.

# 5.0 ALTERNATIVES ANALYSIS

An alternatives development and evaluation process was performed in accordance with National Environmental Policy Act (NEPA) and applicable federal and state guidelines to define and analyze a broad range of reasonable transportation alternatives between FM 1016/Conway Avenue and US 281/ Military Highway. The alternatives were developed, analyzed, and advanced or dismissed based upon consideration of their ability to meet the identified project needs; their impact on environmental resources; and input received from environmental resource agencies, the general public, and public officials.

The alternatives analysis for the proposed project was conducted in three stages, which include:

1. Identification of Transportation Options to Study
2. Preliminary Alternatives Analysis
3. Detailed Alternatives Analysis

The following discussion describes the alternatives development and analysis and provides the rationale for dismissing alternatives from further consideration, or carrying them forward for more-detailed study.

## 5.1 IDENTIFICATION OF TRANSPORTATION OPTIONS

### 5.1.1 Range of Transportation Options Considered

The HCRMA, city and county officials reviewed the ability of the following transportation options to either singularly or in combination to address the identified needs for the proposed project. These options include:

- **Improve transit** – This option considered improving existing or providing for new transit services in the study area. Existing transit services in Hidalgo County consists of local and regional bus routes with very limited service throughout the study area. There are no existing or planned rail transit services in Hidalgo County.
- **Travel Demand Management (TDM)/Operational Management Strategies** – This option considered carpooling, high occupancy vehicle lanes, intersection upgrades, new signalization, and provisions for turning lanes.
- **Rail** – This option considered improving existing or providing for new freight rail facilities in the study area.
- **Upgrade of transportation network serving the study area** – This option considered upgrading the existing transportation facilities in the study area. In general, the upgrade option consists of roadway improvements within existing ROW such as roadway widening, intersection improvements, and access control. The upgrade option can also include roadway

widening outside of the existing ROW, roadway realignment, and partial relocation of short roadway sections.

- **New tolled facility** – This option consists of building a six-lane, limited access, tolled facility.
- **No-Build Option** – The No-Build Option consists of taking no action to improve the transportation facilities within the study area with the exception of the following area projects which were considered to be "committed" based on a listing of programmed projects on the HCMPO's 2013–2016 TIP and 2035 MTP.

    1. FM 2061/South McColl Road – construct new two-lane facility from Orangewood Road to Dicker Road, a distance of 2.5 miles (CSJ 0921-02-171). This project is currently under construction.
    2. SP 115/South 23rd Street – widen to a six-lane divided urban roadway from US 83 to FM 1016/Military Highway, a distance of 2.9 miles (CSJ 1804-01-056; MTP # HC-51a). This project is scheduled for FY 2026 to FY 2030.
    3. Thomas Road – construct 52-foot urban roadway with curb and gutter from McColl Road to FM 2557/Stewart Road, a distance of 3.95 miles (MTP # HC-268). This project is scheduled for FY 2031 to FY 2035.
    4. SH 336/10th Street – widen to six-lane divided facility from South 2nd Street to US 281/ Military Highway, a distance of 4.8 miles (CSJ 0621-01-095; MTP # HC-47). This project is scheduled for FY 2031 to FY 2035.
    5. Military Highway – widen to a four-lane divided rural roadway from S. Cage Boulevard to Mile 3 East/Cameron county line, a distance of 22.1 miles (CSJs 0220-01-901, 0220-01-902, 0220-01-903; MTP # HC-55). This project is listed as unfunded.

### 5.1.2 Transportation Options Screening

Based on the collaborative review of the ability of the transportation options listed above to address the identified needs for the proposed project, only the tolled option would address the identified needs for the proposed project. The remaining options would not either singularly or in combination meet the identified needs for the proposed project. The following section outlines the options considered and reasons for dismissal.

### 5.1.3 Transportation Options Considered and Dismissed

**Improve transit:** Transit service within Hidalgo County is limited. Due to the primarily rural nature of the study area, plans for new or expanded bus routes would likely occur in the more densely populated areas. In addition, improvements to the transit system would not address the lack of east-west mobility for freight traffic nor remove truck traffic from the roadway network and therefore would not address safety concerns due to the mixing of traffic and disruption of communities from freight traffic. For these reasons, this option is dismissed from further study.

**TDM/Operational Management Strategies:** These improvements would not address the lack of east-west mobility for freight traffic nor remove truck traffic from the roadway network and therefore would not address safety concerns due to the mixing of traffic and disruption of communities from freight traffic. For these reasons, this option is dismissed from further study.

**Rail:** There are no freight railroads crossings at the international bridges within Hidalgo County. Rio Valley Switching Company maintains daily freight service in Hidalgo County, with 49 track miles between Harlingen and Mission, and a branch to the McAllen FTZ (Hidalgo County, Texas, 2013). The railroad parallels the I-2/US 83 corridor to the north of the proposed project, and the branch line connects to the Sharyland and McAllen Southwest (MFTZ) freight transfer facilities within the project limits. Rail improvements would not address the lack of east-west mobility for freight traffic nor remove truck traffic from the roadway network and therefore would not address safety concerns due to the mixing of traffic and disruption of communities from freight traffic. For these reasons, this option is dismissed from further study.

**Upgrade of transportation network serving the study area:** These improvements would not provide for an access-controlled facility that would remove truck traffic from the roadway network and therefore would not address safety concerns due to the mixing of traffic and disruption of communities from freight traffic. Also, upgrading the local network would not provide time savings considerations for regional and international traffic. Furthermore, expanding current facilities along highly developed corridors would be cost prohibitive due to higher ROW and utility location costs. For these reasons, this option is dismissed from further study.

### 5.1.4 Transportation Options Advanced for Study

**New tolled facility**: This option would address each of the identified needs for the proposed project, including providing for an alternative funding mechanism, and therefore fulfill the purpose for the proposed project. Travel time between the Pharr and Anzalduas International Bridges were analyzed for a new tolled facility and compared to the existing road network; it was determined that a new tolled facility would provide a travel time savings of 10.4 minutes (or 43 percent). Traffic and revenue studies conducted by C&M for the new tolled facility show sufficient toll revenue to fund project development and operations and maintenance costs. For this reason, this option was recommended for further study.

**No-Build Option:** None of the six projects included in the No-Build Option in **Section 5.1.1** would fully address the identified needs for the proposed project since the proposed improvements would not address the lack of east-west mobility for freight movements in the study area. Although the No-Build Option would not meet the identified project needs, it is recommended for further study to provide a baseline for comparison with other options.

## 5.2 EVALUATION OF SH 365/TCC PRELIMINARY ALTERNATIVES

The Build (New Tolled Facility) and the No-Build Alternatives were identified as the alternatives to be evaluated in the preliminary alternatives analysis. It is important to note that the preliminary alternatives development analysis conducted for the Hidalgo Loop – Section A project evaluated alignment options from US 83 Expressway (near Peñitas) to the US 281/SP 600 intersection, a length of 24.47 miles. The majority of the 16.53-mile SH 365 project lies within the limits of Hidalgo Loop – Section A project.

### 5.2.1 Alignment Options

A preliminary alternative development analysis was performed during project development to define and evaluate a range of reasonable transportation options within the study corridor. The preliminary transportation options were developed based on their ability to meet the identified project needs and purpose; their impacts on environmental resources; and on input received from environmental resource agencies, the general public, and public officials.

The preliminary alternative development analysis included social, economic, and environmental impacts and detail engineering concerns as follows:

- Impact to public-owned facilities
- Displacement of residences and businesses
- Impact to land use
- Consideration of impacts to air, noise, and groundwater quality
- Impacts to threatened or endangered species, vegetation, and wildlife habitat
- Impacts to cultural and historical resources
- Impacts to hazardous material sites
- Impacts to wetlands and stream crossings
- Impacts to drainage patterns and floodplains
- Public safety
- Impact to utilities
- ROW acquisition
- Length of alternatives
- Effects on vehicular and pedestrian traffic
- Preliminary construction cost
- Preliminary ROW cost
- Title 43 of the Texas Administrative Code Chapter 15 (Frontage Road Design Criteria)

The various preliminary alignment options were developed based on the following criteria:

- Improve connectivity and mobility between termini points
- Minimize impacts to identified environmental features
- Improve travel times and reduce delays
- Reduce congestion on key roadways and local streets
- Improve access to existing and future industrial parks
- Provide quick access to the three ports of entry within the study area
- Obtain favorable public and local officials support

All preliminary alignment options would have an ultimate design of six mainlanes. This design would require a typical ROW width of 300 feet with an additional 100 feet at overpass locations. For sections constrained by existing development, the ROW is restricted to 200 feet with 300 feet at proposed overpasses. Additionally, at sections where no frontage roads are proposed the typical ROW width would be 160 feet.

Previous studies (Section A Preliminary Alternatives Development Study, L&G Engineering, 2008) conducted for the Hidalgo Loop – Section A project evaluated five preliminary alignments (Options A–E). Two of the alignments, Options A and C, were dismissed because they were considered not feasible. The basis for eliminating Option A was that it would utilize portions of existing US 83 Expressway, which would deteriorate capacity on this highway. Option C was eliminated based on its impact on multiple new developments and the Homeland Security border wall. Options B, D, and E were considered feasible and carried forward for more detailed evaluation. During the SH 365/TCC preliminary alternatives evaluation, Option B from the previous study was reassigned as **SH 365/TCC Alternative A**, Option D from the previous study was reassigned as **SH 365/TCC Alternative B**, and Option A was reassigned as **SH 365/TCC Alternative C** (**Figure 5-1**).

#### 5.2.1.1 SH 365/TCC Alternative A

The western and eastern termini for this southernmost alignment were FM 1016/Conway Avenue and FM 3072/Dicker Road, respectively. In summary, SH 365/TCC Alternative A:

- Has strong support from community (local officials and property owners);
- Provides the highest support from the Las Milpas community;
- Minimizes impacts to communities and developments, business, parks, national wildlife refuges (NWRs), community facilities, schools, and oil/gas facilities;
- Minimizes displacements;
- Utilizes ROW adjacent to the floodway levees to minimize impacts; and

- Requires relocation of approximately 5,000 feet of irrigation canal.

#### 5.2.1.2 SH 365/TCC Alternative B

SH 365/TCC Alternative B would generally follow a route near the southern boundary of the study area at the eastern terminus. The western and eastern termini for Alternative B were FM 1016/Conway Avenue and FM 3072/Dicker Road, respectively. In summary, SH 365/TCC Alternative B:

- Joins existing FM 396/Anzalduas Highway creating high impact to Hunt development property near the Anzalduas GSA Facility;
- Bisects Industrial Zone proposed development east of FM 494/Shary Road;
- Impacts multiple Valley View Independent School District (ISD) school areas and a city park;
- Impacts residential development in the Las Milpas community;
- Contains higher number of gas line crossings; and
- Impacts higher number of farmland acreage.

#### 5.2.1.3 SH 365/TCC Alternative C

SH 365/TCC Alternative C would generally follow a route near the northern boundaries of the study area. The western and eastern termini for SH 365/TCC Alternative C were FM 1016/Conway Avenue and FM 3072/Dicker Road, respectively. In summary, SH 365/TCC Alternative C:

- Impacts highest number of residential homes and businesses;
- Contains one less railroad crossing overpass required;
- Impacts warehousing area in the vicinity of FM 2220/Ware Road;
- Impacts new U.S. Border Patrol facility west of SP 115/23rd Street;
- Requires approximately 20,000 feet of gas line relocation;
- Contains the highest amount of Federal Emergency Management Agency (FEMA) 100-year floodplain areas; and
- Contains the highest acreage of disturbed/developed vegetation areas.

### 5.2.2 Public Input on Alignment Options

On July 13, 2010, the HCRMA, in cooperation with TxDOT, conducted an open-house/public meeting at Mission City Hall to present the SH 365/TCC preliminary alignment alternatives. English and Spanish handouts were made available to meeting attendees including the General Notice, an overall map of the project, and a comment form. Spanish translators were also available to provide assistance to attendees. A total of 45 persons (including project staff) were in attendance. Of the three comments received, two were in favor of the project and one was concerned about impacts to their property. The main concerns

included property appraisal value, number of acres required, timeframe of ROW acquisition, and ingress and egress from the property.

On March 26, 27, and 28, 2013, the HCRMA, in cooperation with TxDOT, conducted a series of three open houses/public meetings in McAllen, Mission, and Pharr to present modifications made to the SH 365 alignment alternative since the July 13, 2010 Public Meeting. In addition, options for connecting SH 365 to US 281/Military Highway in the eastern project terminus were presented. Meeting attendees were encouraged to fill out a comment form or to provide verbal comments to a court reporter. A translator was also available to assist Spanish-speaking attendees. A total of 124 persons (including project staff) were in attendance. A total of 37 comments were received; these comments are further discussed in Section 9.

## 5.3 DETAILED ALTERNATIVE ANALYSIS

### 5.3.1 SH 365/TCC Alternatives Considered and Dismissed

**Table 5-1** provides an evaluation matrix for the SH 365/TCC alignment alternatives advanced for study as well as the No-Build Alternative that was presented at the July 13, 2010 Public Meeting. (Note: The SH 365/TCC Alternatives evaluated impacts from FM 1016/Conway Avenue to FM 3072/ Dicker Road, which covers 13.38 miles [81 percent] of the 16.53-mile SH 365 project.) While the No-Build Alternative would not meet the identified project needs, it was included as a baseline for comparison for the alignment alternatives under consideration.

**Table 5-1: SH 365/TCC Alternatives Evaluation Criteria Presented at the July 13, 2010 Public Meeting**

| Performance Measures | Evaluation Parameters (Units) | SH 365/TCC Alternative A | SH 365/TCC Alternative B | SH 365/TCC Alternative C | No-Build |
|---|---|---|---|---|---|
| Addresses Purpose and Need | Yes/No | Yes | Yes | Yes | No |
| **Facility Characteristics and Issues** | | | | | |
| Total Length of Route | Miles | 13.38 | 13.40 | 12.12 | N/A |
| ROW Taking | Acres | 488 | 468 | 436 | N/A |
| **Construction Cost** | | | | | |
| Construction Cost | $ | 134,100,000 | 143,600,000 | 121,200,000 | N/A |
| ROW | $ | 36,430,000 | 33,500,000 | 130,550,000 | N/A |
| Total Construction Cost | $ | 170,530,000 | 177,100,000 | 251,750,000 | N/A |
| **Construction Issues** | | | | | |
| Gas Pipeline Crossings/<br>Gas Line Relocation | Each/<br>LF | 16/<br>0 | 19/<br>0 | 8/<br>19,200 | N/A |
| Electric Transmission Line Crossings/<br>Line Relocations | Each/<br>LF | 5 | 4 | 4 | N/A |
| Irrigation Canal Crossings/<br>Line Crossings/<br>Canal Relocation/ | Each/<br>Each/<br>LF/ | 9/<br>2/<br>5,100/ | 5/<br>4/<br>0/ | 7/<br>3/<br>2,500/ | N/A |

| Performance Measures | Evaluation Parameters (Units) | SH 365/TCC Alternative A | SH 365/TCC Alternative B | SH 365/TCC Alternative C | No-Build |
|---|---|---|---|---|---|
| Line Relocation | LF | 0 | 1,500 | 0 | |
| Stream-Creek Crossings/<br>Low Drain Area Crossings | Each/<br>Each | 1/<br>1 | 1/<br>0 | 1/<br>0 | N/A |
| Railroad Crossings | Each | 2 | 2 | 1 | N/A |
| **Human Environment** | | | | | |
| Potential Relocations/Displacements | | | | | N/A |
| Home and Associated Structure | Each | 9 | 28 | 74 | N/A |
| Business and Associated Structure | Each | 2 | 5 | 11 | N/A |
| Industrial | Each | 0 | 0 | 3 | N/A |
| Parks | Each | 0 | 1 | 0 | N/A |
| Schools | Each | 0 | 1 | 0 | N/A |
| Churches | Each | 1 | 1 | 0 | N/A |
| Cemeteries | Each | 0 | 0 | 0 | N/A |
| Other Public Facilities | Each | 0 | 0 | 2 | N/A |
| Oil/Gas Facilities | Each | 1 | 1 | 0 | N/A |
| Wildlife Refuge | Each | 0 | 0 | 0 | N/A |
| Potential Hazardous Materials Sites | Each | 0 | 0 | 1 | N/A |
| Cultural Resource Impacts | | | | | N/A |
| NRHP-listed Historic Structures | Each | 1 | 1 | 1 | N/A |
| Recorded Archeological Sites | Each | 1 | 1 | 0 | N/A |
| **Natural Environment** | | | | | |
| *Potential Water Resources Impacts* | | | | | |
| 100-Year Floodplains (FEMA) | Acres | 94.8 | 78 | 124.8 | N/A |
| Irrigation Canal Crossings | Each | 9 | 5 | 7 | N/A |
| Stream-Creek Crossings/Low Drain Area Crossings | Each | 1/1 | 1/0 | 1/0 | N/A |
| Wetlands (NWI) | Acres | 0.2 | 0 | 0 | N/A |
| *Threatened/Endangered Species Potential* | | | | | |
| Flora (NDD) | Yes/No | Yes | Yes | Yes | N/A |
| Fauna (NDD) | Yes/No | Yes | Yes | Yes | N/A |
| *Vegetation* | | | | | |
| Riparian Community | Acres | 0 | 0 | 1.6 | N/A |
| Forested/Shrub/Scrub Community | Acres | 54.7 | 49.7 | 79.2 | N/A |
| Maintained & Unmaintained Grasslands | Acres | 46.3 | 23.9 | 13.2 | N/A |
| Farmland | Acres | 304.1 | 353.2 | 209.5 | N/A |
| Disturbed/Developed | Acres | 43.2 | 42.9 | 121 | N/A |

Notes:
1. Estimates provided in this table are preliminary and may not be reflected in the final calculations and assessments as presented in this Environmental Assessment (EA).
2. N/A = Not Applicable; NWI = National Wetland Inventory; NDD = Natural Diversity Database.
3. Number of potential relocation/displacements are estimated as homes/commercial establishments within 10 feet of proposed ROW.
4. Number of potential relocation/displacements are estimated as homes/commercial establishments within 10 feet of proposed ROW.
5. ROW taking is based on 300 feet of ROW along the proposed route rounded up to the nearest acre.
6. Number of recorded archeological sites is based on review of the Texas Historical Commission's (THC) Online Texas Archeological Site Atlas.
7. Number of National Register of Historic Places (NRHP)-listed Historic Structures include listed properties within the 300-foot ROW.

Alternatives SH 365/TCC B and C were dismissed from further study based on the following:

- SH 365/TCC Alternatives B and C have a higher number of impacts to residences and commercial areas (see **Table 5-1**).
- SH 365/TCC Alternative C impacts recently built neighborhoods and industrial warehouses.
- SH 365/TCC Alternatives B and C require more gas pipeline crossings.
- SH 365/TCC Alternative C requires relocation of approximately 20,000 feet of gas line and impacts more acreage of disturbed/developed vegetation.
- The community of Las Milpas voiced their opposition of SH 365/TCC Alternative B at a May 25, 2008, stakeholder meeting held at St. Francis Church.
- At multiple meetings, comments were received from the Valley View ISD opposing SH 365/TCC Alternative B based on impacts and proximity to one of the school campuses.
- SH 365/TCC Alternative C impacted the largest acreage of the 100-year floodplain.

Although SH 365/TCC Alternatives B and C addressed the needs and purpose for the project, the impacts to the communities and the neighborhoods would be greater than those of SH 365/TCC Alternative A. As a result, SH 365/TCC Alternative A was selected as the preferred alignment since SH 365/TCC Alternatives B and C did not have the level of support from citizens, local officials, and property owners. SH 365/TCC Alternative A was advanced as the preferred alignment for further study (**Figure 5-1**).

## 5.3.2 SH 365 at US 281/Military Highway Alternatives Considered and Dismissed

Four alignment alternatives for connecting SH 365 to the BSIF associated with the Pharr International Bridge were developed (**Figure 5-2**) in spring 2013. In addition to providing a connection to the BSIF, these alignment alternatives included options for the nontolled facility along US 281/Military Highway. The proposed improvements along US 281/Military Highway would extend from 0.45 mile east of SP 600 to FM 2557/Stewart Road. All four alternatives evaluated alignment options from SH 365 at Anaya Road southbound into the BSIF and were presented at the SH 365 public meetings held on March 26, 27, and 28, 2013. Northbound connection to the proposed SH 365 tolled facility differs by alternative but would be achieved by traveling east along US 281/Military Highway and heading south on SP 600. Southbound connection to the Pharr International Bridge for all four alternatives would be achieved by traveling east along US 281/Military Highway and heading south on SP 600. A description of these alignment alternatives are provided below.

### 5.3.2.1 US 281/Military Highway Overpass at San Juan Road (Alternative 1)

Alternative 1 consists of developing a diamond grade separation of US 281/Military Highway in the vicinity of San Juan Road. Alternative 1 would follow a southerly route from Anaya Road along San Juan Road (on the west) where it crosses below the proposed US 281/Military Highway overpass at San Juan

Road. Vehicles are able to exit the BSIF via the proposed BSIF Connector or SP 29/Veterans Boulevard and have the option of directly accessing the proposed SH 365 tolled facility or US 281/Military Highway. A traffic signal is proposed at the SH 365 and US 281/Military Highway grade separation. In summary, Alternative 1:

- Includes two SH 365 overpasses (at Anaya Road/San Juan Road and Hi Line Road/San Juan Road)
- Has the greatest ROW requirements;
- Impacts a commercial/industrial lot;
- Impacts two oil and gas facilities; and
- Requires eight irrigation crossings.

#### 5.3.2.2 SH 365 Overpass at San Juan Road/US 281/Military Highway (Alternative 2)

Alternative 2 consists of developing a grade separation of SH 365 over US 281/Military Highway in the vicinity of San Juan Road. Alternative 2 would follow a southerly route from Anaya Road along San Juan Road (on the west) where it crosses over the US 281/Military Highway at San Juan Road. Vehicles are able to exit the BSIF via the proposed BSIF Connector Road or the proposed SP 29 and have the option of directly accessing the proposed SH 365 tolled facility or US 281/Military Highway. In summary, Alternative 2:

- Includes two SH 365 overpasses (at Anaya Road/San Juan Road and Hi Line Road/San Juan Road);
- One underpass at US 281/Military Highway/San Juan Road;
- Has the lowest ROW requirements;
- Impacts a commercial/industrial lot;
- Impacts two oil and gas facilities; and
- Requires eight irrigation crossings.

#### 5.3.2.3 US 281/Military Highway Overpass at I Road (Alternative 3)

Alternative 3 consists of developing a diamond grade separation of US 281/Military Highway over I Road/SP 29. Alternative 3 would follow a southwesterly route from Anaya Road to Hi Line Road at which point it heads south along I Road where it crosses over US 281/Military Highway to the east of I Road. Vehicles are able to exit the BSIF via the existing access road or directly accessing the proposed SH 365 tolled facility from the BSIF. A traffic signal is proposed at the SH 365 and US 281/Military Highway grade separation. In summary, Alternative 3:

- Includes two SH 365 overpasses (at Anaya Road and San Juan Road and Hi Line Road and I Road);

- Has the second lowest ROW requirements;
- Is located close to a residential community along I Road;
- Impacts two commercial/industrial lots;
- Impacts two oil and gas facilities;
- Requires six irrigation crossings; and
- Includes impacts to 1 potentially hazardous site.

#### 5.3.2.4 SH 365 Overpass at I Road and US 281/Military Highway (Alternative 4)

Alternative No. 4 consists of developing a grade separation of SH 365 over US 281/Military Highway at I Road/SP 29. Alternative 4 would follow a southwesterly route from Anaya Road to Hi Line Road at which point it heads south along I Road and crosses below the proposed US 281/Military Highway Overpass at I Road. Vehicles are able to exit the BSIF via the existing access road and have the option of directly accessing the proposed SH 365 tolled facility or US 281/Military Highway. Two traffic signals are proposed at the SH 365 and US 281/Military Highway grade separation. In summary, Alternative 3:

- Includes three SH 365 overpasses (at Anaya Road and San Juan Road, Hi Line Road and I Road, and at SP 29);
- Has the second highest ROW requirements;
- Is located close to a residential community along I Road;
- Impacts three oil and gas facilities;
- Requires six irrigation crossings; and
- Includes impacts to 1 potentially hazardous site.

#### 5.3.2.5 Selection of the Preferred Alignment Alternative

The four alignment alternatives were presented at the SH 365 public meetings held on March 26, 27, and 28, 2013. While the No-Build Alternative would not meet the identified project needs, it was included as a baseline for comparison for the build alternatives.

**Table 5-2** provides an evaluation matrix for the alternatives considered for the SH 365 at US 281/Military Highway connection. Impacts for each alignment alternative were evaluated between Anaya Road and the BSIF connection and along US 281/Military Highway between SP 600 and FM 2557/Stewart Road.

**Table 5-2: SH 365 at US 281/Military Alternatives Evaluation Criteria Presented at the March 2013 Public Meetings**

| Performance Measures | Evaluation Parameters (Units) | Alternative 1 US 281 Overpass at SJR[4]/SH 365 | Alternative 2 SH 365 Overpass at SJR/US 281 | Alternative 3 US 281 Overpass at I Road/SH 365 | Alternative 4 SH 365 Overpass at I Road/US 281 | No-Build Alternative |
|---|---|---|---|---|---|---|
| Addresses Purpose and Need | Yes/No | Yes | Yes | Yes | Yes | No |
| **Facility Characteristics and Issues** | | | | | | |
| Total Length of Route[1] | Miles | 3.71 | 3.68 | 3.60 | 3.84 | - |
| ROW Taking[2] | Acres | 48 | 37 | 39 | 42 | - |
| **Construction Cost** | | | | | | |
| Construction Cost | Millions | $26.6 | $25.8 | $27.4 | $31.4 | - |
| **Construction Issues** | | | | | | |
| Gas Pipeline Crossings | Each | 0 | 0 | 0 | 0 | 0 |
| Electric Transmission Line Crossings | Each | 1 | 1 | 1 | 1 | 0 |
| Irrigation Crossings | Each | 8 | 8 | 6 | 6 | 0 |
| Drainage Crossings | Each | 5 | 5 | 4 | 4 | 0 |
| Railroad Crossings | | 0 | 0 | 0 | 0 | 0 |
| **Potential Impacts** | | | | | | |
| Impact to Residential Lot[3] | Each | 0 | 0 | 0 | 0 | 0 |
| Impact to Commercial/ Industrial Lot[3] | Each | 1 | 1 | 2 | 0 | 0 |
| Parks | Each | 0 | 0 | 0 | 0 | 0 |
| Schools | Each | 0 | 0 | 0 | 0 | 0 |
| Churches | Each | 0 | 0 | 0 | 0 | 0 |
| Cemeteries | Each | 0 | 0 | 0 | 0 | 0 |
| Other Public Facilities | Each | 0 | 0 | 0 | 0 | 0 |
| Oil/Gas Facilities | Each | 2 | 2 | 2 | 3 | 0 |
| Wildlife Refuge | Each | 0 | 0 | 0 | 0 | 0 |
| Potential Hazardous Materials Sites | Each | 0 | 0 | 1 | 0 | 0 |

Notes:

1. Limits: Anaya Road to BSIF and SP 600 to Stewart Road.
2. ROW taking is based on proposed ROW along the indicated alternative rounded up to the nearest acre.
3. Based on potential environmental/ROW impacts.
4. SJR – San Juan Road

Although Alternative 1 (US 281/Military Highway overpass at San Juan Road) had the greatest ROW requirements, it was selected as the preferred alignment based on the level of support from citizens, local officials (Hidalgo County Precinct 2 and city of Pharr at a February 8, 2013 stakeholder meeting), and property owners. Based on 28 comments received at the March 2013 public meetings with regards to the SH 365 at US 281/Military alternatives, 20 were in favor of Alternative 1. In addition, to public support,

Alternative 1 has the least concerns with regards to traffic flow and access. As such, Alternatives 2, 3, and 4 were dismissed, and Alternative 1 was advanced as the preferred alignment in April 2013.

## 5.4 ALTERNATIVES EVALUATED IN THIS EA

### 5.4.1 SH 365 Build Alternative

In an effort to establish independent utility and provide bridge to bridge connection, the HCRMA and TxDOT reassessed the previously considered connections to the Anzalduas and Pharr International bridges. As a result, several modifications have been made to the Build Alternative since the July 2010 SH 365/TCC Public Meeting. In addition to the Minute Orders referenced in Section 2.4 (2009–2012 HCRMA Planning Studies) and provided in **Appendix A** and working in collaboration with local officials and affected property owners, several modifications were made to the SH 365/TCC Alternative A alignment (**Figure 5-3**) that subsequently resulted in the currently proposed SH 365 project, which is the SH 365 Build Alternative being evaluated in this EA. These alignment modifications include:

- The SH 365 eastern limit was extended from FM 3072/Dicker Road southward to US 281/ Military Highway including a connection to the Pharr BSIF to improve freight movement from the Pharr International Bridge.
- The SH 365 eastern limit was expanded to include nontoll improvements along US 281/ Military Highway from 0.45 mile east of SP 600 to FM 2557/Stewart Road.
- An alignment shift near the community of Granjeño.

During design of the Build Alternative, it was determined that the USIBWC levees at four locations along the floodway would need to be relocated to accommodate the roadway design. As described in **Table 5-3**, the demolition and relocation of approximately 13,063 linear feet of the USIBWC levees is being proposed to minimize community impacts as well as for design purposes.

**Table 5-3: Reasons for Levee Relocations**

| No | Levee Location (from West to East) | Reason for Levee Relocation |
|---|---|---|
| 1 | 0.16 mile east of S. Bentsen Road to 0.46 mile west of SP 115/23rd Street | To maintain the 70 mph design speed curvature while minimizing the impact to the MFTZ industrial complex at Ware Road |
| 2 | SP 115/23rd Street | To protect the floodway bridge landing and substructure elements near the intersection with SP 115/23rd Street |
| 3 | 0.05 mile east of FM 2061/Jackson Road to 0.73 mile east of FM 2061/Jackson Road | To avoid impacts to the Las Milpas community and adjacent school property and residential housing/subdivisions |
| 4 | 0.07 mile west of US 281/Cage Boulevard to 0.35 mile east of US 281/Cage Boulevard | To avoid impacts to the Las Milpas community and adjacent school property and residential housing/subdivisions |

A comparison of impacts between the SH 365/TCC Alternative A and the SH 365 Build Alternative was presented at the SH 365 public meetings held on March 26, 27, and 28, 2013; this evaluation matrix is provided in **Table 5-4**.

**Table 5-4: SH 365/TCC and SH 365 Build Alternatives Evaluation Criteria Presented at the March 2013 Public Meetings**

| Performance Measures | Evaluation Parameters (Units) | SH 365/TCC Alternative A | SH 365 Build Alternative |
|---|---|---|---|
| Addresses Purpose and Need | Yes/No | Yes | Yes |
| **Facility Characteristics and Issues** | | | |
| Total Length of Route | Miles | 13.38 | 16.53 |
| Project Limits | N/A | From FM 1016/Conway Ave to 200 feet N of Las Milpas Road | From FM 1016/Conway Ave to US 281/Military Highway |
| ROW Taking | Acres | 488 | 642 |
| *Construction Cost* | | | |
| Construction Cost | $ | 134,100,000 | 186,464,353 |
| ROW | $ | 36,430,000 | 45,781,179 |
| Total Construction Cost | $ | 170,530,000 | 232,245,532 |
| *Construction Issues* | | | |
| Gas Pipeline Crossings/Gas Line Relocation | Each/ Each | 27/0 | 28/0 |
| Electric Transmission Line Crossings/ Line Relocations | Each/ LF | 5 | 6 |
| Railroad Crossing | Each | 2 | 2 |
| **Human Environment** | | | |
| *Potential Relocations/Displacements* | | | |
| Severed Home and/or Structure | Each | 9 | 4 |
| Severed Business and/or Structure | Each | 2 | 3 |
| Industrial | Each | 0 | 0 |
| Parks | Each | 0 | 0 |
| Schools | Each | 0 | 0 |
| Churches | Each | 1 | 1 |
| Cemeteries | Each | 0 | 0 |
| Oil/Gas Facilities | Each | 5 | 7* |
| Wildlife Refuge | Each | 1 | 0 |
| Potential Hazardous Materials Sites | Each | 1 | 1 |
| Other (USIBWC Levees) | LF | 9,000 | 9,000 |
| *Cultural Resource Impacts* | | | |
| NRHP-listed Historic Structures | Each | 1 | 1 |
| Recorded Archeological Sites | Each | 1 | 2 |
| **Natural Environment** | | | |
| *Potential Water Resources Impacts* | | | |
| 100-Year Floodplains (FEMA) | Acres | 94.8 | 131 |
| Irrigation Canal Crossings | Each | 19 | 25 |
| Wetlands/Waters of the U.S. | Acres | 7.32/1.31 | 7.82/2.59 |

| Performance Measures | Evaluation Parameters (Units) | SH 365/TCC Alternative A | SH 365 Build Alternative |
|---|---|---|---|
| *Threatened/Endangered Species Potential* | | | |
| Flora (NDD) | Yes/No | Yes | Yes |
| Fauna (NDD) | Yes/No | Yes | Yes |
| *Vegetation* | | | |
| Riparian Community | Acres | 0 | 0 |
| Forested/Shrub/Scrub Community | Acres | 40.2 | 49.1 |
| Maintained & Unmaintained Grasslands | Acres | 59.2 | 225.7 |
| Farmland | Acres | 358.8 | 213.0 |
| Disturbed/Developed | Acres | 55.5 | 114.7 |

*3 plugged gas wells, 2 dry holes, 1 permitted, 1 active gas well

Notes:

1. TCC project is for the construction of a two-lane divided toll road facility while the SH 365 project is for the construction of a four-lane divided toll road facility.
2. Interim construction includes (1) toll road from FM 396 to US 281; and (2) nontoll improvements along US 281/Military Highway east of SP 600 to FM 2557.
3. ROW cost includes utility relocation.
4. Number of potential relocation/displacements are estimated as homes/commercial establishments within 10 feet of proposed ROW.
5. ROW taking is based on 300 feet of ROW along the proposed route rounded up to the nearest acre.
6. Number of recorded archeological sites is based on review of the THC's Online Texas Archeological Sites Atlas.
7. Number of NRHP-listed Historic Structures include listed properties within the 300-foot ROW.
8. Subsequent modifications of the SH 365 Build Alternative (alignment and realignment of the levees) after the March 2013 Public Meetings, resulted in increases in impact amounts for some performance measures.

Final design of the Build Alternative as presented and documented in this EA was chosen based on a consideration of transportation options, results from a previous alternatives analysis and planning studies, a current alternatives analysis study, and input from the public and stakeholders obtained during project development.

As currently programmed, the proposed Build Alternative would be constructed in three phases. Phase I would include construction of a new grade separated interchange at SH 365/US 281/Military Highway, a nontolled facility from 0.45 mile east of SP 600 to FM 2557/Stewart Road, and the BSIF Connector from US 281/Military Highway to SP 29/Veterans Boulevard. Phase II would include construction of a 13.4-mile tolled facility from FM 396/Anzalduas Highway to US 281/Military Highway. Phase III would include construction of a 3.13-mile tolled facility from FM 1016/Conway Avenue to FM 396/Anzalduas Highway.

### 5.4.2 No-Build Alternative

While the No-Build Alternative does not address the identified needs for the proposed project, it was advanced to provide a baseline for comparison for the Build Alternative.

# 6.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

## 6.1 RIGHTS-OF-WAY DISPLACEMENTS

### 6.1.1 Build Alternative

Under the Build Alternative, approximately 741.03 acres of ROW would be required, and seven properties containing a total of nine structures would be displaced. The nine displaced structures includes two residences and one church on one property, a structure associated with a residential property, and five buildings associated on five auto salvage yards (three commercially and two privately operated). Access driveways to commercial and residential properties would be realigned on an as-needed basis throughout the ROW acquisition and the configuration of the Build Alternative; this is expected to be minimal based on the rural nature of the project. In addition, the Build Alternative would require the relocation of approximately 13,063 linear feet of the USIBWC levees at four locations along the proposed ROW (0.16 mile east of S. Bentsen Road to 0.46 mile west of SP 115/23rd Street; SP 115/23rd Street; 0.05 mile east of FM 2061/Jackson Road to 0.73 mile east of FM 2061/Jackson Road; and 0.07 mile west of US 281/Cage Boulevard to 0.35 mile east of US 281/Cage Boulevard). The displacements and levee relocations are shown on **Figure 4-3**.

Throughout the evaluation process, every effort was made to minimize relocations. All three residences and the church, Iglesia Bautista, are located along S. Bentsen Road just south of the McAllen Southwest Industrial Park (Page 2 of **Figure 4-3**). According to the city of McAllen, the Iglesia Bautista Church is a residence operating as a church that is not built to city standards and is therefore classified as a nonconforming use. One privately operated auto salvage yard (Map ID #35, Page 3 of **Figure 4-3**) and three commercially operated auto salvage yards (Map IDs #27, 28, 29, Page 4 of **Figure 4-3**) are located along SP 115/23rd Street and McColl Road, respectively. Another private auto salvage yard is located along San Juan Road (Map ID #17, Page 5 of **Figure 4-3**). **Table 6-1** lists the seven properties containing structures that would be displaced during construction.

**Table 6-2** identifies the types of displacements relative to the U.S. Census information; their locations relative to the census geography are shown on **Figure 6-1**. As discussed above and in the alternatives analysis section, due in part to comments received from the public, stakeholders, and public officials, the design of the Build Alternative has been extensively studied in an effort to minimize the potential displacement of both residential and commercial properties.

**Table 6-1: Properties with Displaced Structures**

| Property ID | Site Description | Site Location | Gross Value | Parcel Acreage (acres) | ROW Required from Parcel (acres) | ROW Required from Parcel (%) |
|---|---|---|---|---|---|---|
| 270204 | 2 residences; Iglesia Bautista Church | S. Bentsen Road | $116,111 | 4.2 | 2.7 | 64.3 |
| 270202 | Residence | S. Bentsen Road | $310,290 | 2.13 | 0.61 | 28.6 |
| 185539 | Auto Salvage Yard (Private) | East of SP 115/23rd Street | $1,358,000 | 31.3 | 11.88 | 38.0 |
| 607782 | Auto Salvage Yard (Commercial) | West of S. McColl Road (just south of levee) | $204,726 | 9.03 | 0.65 | 7.2 |
| 581954 | Auto Salvage Yard (Commercial) | West of S. McColl Road (0.11 mile south of levee) | $114,029 | 4.92 | 2.16 | 43.9 |
| 581956 | Auto Salvage Yard (Commercial) | West of S. McColl Road (0.18 mile south of levee) | $115,049 | 4.92 | 0.3 | 6.1 |
| 276565 | Auto Salvage Yard (Private) | San Juan Road and Anaya Road | $74,760 | 6.02 | 0.68 | 11.3 |

All of the potential displacements would occur prior to the initiation of construction of the Build Alternative. Access driveways to some businesses and residences would be altered to accommodate the Build Alternative. TxDOT requires that access to properties be allowed through at least one access point to the nearest roadway would be met. The HCRMA and TxDOT ROW acquisition process would determine the measures required to provide access points, livestock access, or other specific concerns.

**Table 6-2: Types of Displaced Structures**

| Census Geography | Residential | Institutional | Commercial |
|---|---|---|---|
| CT 205.03, BG 2, Block 2094 | 3 | 1* | |
| CT 213.05, BG 1, Block 1015 | | | 1** |
| CT 213.05, BG 1, Block 1006 | | | 3+ |
| CT 213.03, BG 2, Block 2023 | | | 1** |
| Total | 9 | | |

Source: U.S. Census Bureau (2010).

* Church (Iglesia Bautista)

** Privately operated auto salvage yards

+ Commercially operated auto salvage yards

CT = Census Tract, BG = Block Group

According to Hidalgo County Property Tax Records[4] accessed October 2014, the gross value for the two residential properties as well as the church (Iglesia Bautista), all located on one parcel, is $116,111. The gross value for the third residential property is $310,290. It should be noted that the gross property value and appraisal value are not equal; the appraisal value would include the relocation costs, which would be determined during the ROW acquisition process. For the three potential residential displacements that are

[4] https://actweb.acttax.com/act_webdev/hidalgo/index.jsp

located within the proposed ROW, decent, safe, and sanitary replacement housing is available in the vicinity of the Build Alternative. As of October 2014, the available housing included 5 homes listed as below $50,000, 24 between $50,000–$75,000, 31 between $75,000–$100,000, 87 between $100,000–$150,000, and 345 greater than $150,000 (Realtor.com, 2014).

The gross value for each of the commercial properties listed in the Hidalgo County Property Tax Records (2014) range from $61,750 to $1,358,000. Again, it is important to note that the gross value for each commercial property (to be displaced) is different from the appraisal value; it does not reflect the cost to relocate the business, a cost that would be determined during the ROW acquisition process. Because the study area is rural in nature and there is ample land available and zoned for commercial uses, there are opportunities for these businesses to be relocated in the same general area.

Both the U.S. and Texas Constitutions provide that no private land may be acquired for public purposes without adequate compensation to the property owner. The HCRMA and TxDOT ROW Acquisition and Relocation Assistance process would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Public Law 91-6), as amended, and relocation resources are available to all displaced residences and businesses without discrimination.

Consistent with the USDOT policy as mandated by the Surface Transportation and Uniform Relocation Assistance Act of 1987, the HCRMA and TxDOT would provide relocation resources to all displaced persons without discrimination. All property owners from whom property is needed would be entitled to receive just compensation for their land and property. Just compensation is based upon the fair market value of the property. The HCRMA and TxDOT would also provide payment and services to aid in movement to a new location.

Relocation assistance would be available to all individuals, families, businesses, farmers, and nonprofit organizations displaced as a result of a state highway or other transportation projects. This assistance applies to tenants as well as owners occupying the real property needed for the Build Alternative. Replacement structures must be located in the same type of neighborhood and be equally accessible to public services and places of employment. The HCRMA and TxDOT would provide assistance to displaced businesses and nonprofit organizations to aid in their satisfactory relocation and to minimize delay and loss in earnings. The construction of the Build Alternative would proceed only when all displaced families and businesses have been provided the opportunity to be relocated to adequate replacement sites. The available structures must also be open to persons regardless of race, color, religion, or nationality, and be within the financial means of those individuals affected.

The Build Alternative would require utility adjustments. Overhead utilities, including streetlights, telephone cables, and traffic signals are located within or adjacent to the existing ROW. Underground telephone cables, water, and sewer also lie along the proposed ROW along the Build Alternative. Utility

adjustments required within the proposed ROW would be the responsibility of each utility company, and reimbursed by the HCRMA and TxDOT based on actual cost.

### 6.1.2 No-Build Alternative

The No-Build Alternative would not require any ROW; therefore, no relocations and/or displacements would be necessary.

## 6.2 EARLY RIGHTS-OF-WAY ACQUISITION

### 6.2.1 Build Alternative

As of the date of the submittal of this document, the HCRMA performed 22 at-risk ROW acquisitions for the proposed project. No relocations were required for the ROW purchased to date. The HCRMA elected to conduct at-risk ROW acquisition along US 281/Military Highway to preserve the ROW for the proposed east-west overpass bridge improvement on US 281/Military Highway. Parcels associated with the BSIF Connector were purchased in conjunction with the US 281/Military Highway project since many of the landowners own property connected to both the proposed US 281/Military Highway and BSIF Connector projects. The parcel by Dicker Road was purchased because the current landowner purchased the property with the intent of developing a cold storage facility and was not notified by the seller of the proposed HCRMA project.

As required per FHWA's requirements, the following information concerning the at-risk ROW acquisition is being included in the EA.

#### 6.2.1.1 Location of Acquired Parcels

A total of 36.74 acres have undergone or is undergoing at-risk ROW acquisition from 22 parcels located within the proposed ROW. The locations of the acquired parcels are shown on **Figure 6-2**; 21 parcels are located along US 281/Military Highway within the nontolled improvements, and one parcel is located just south of Dicker Road within the tolled improvements.

#### 6.2.1.2 Acreage Amounts of ROW Acquired and Number of Parcels

Of the 36.74 acres being acquired at-risk ROW, 24.85 acres have been acquired from 20 parcels along US 281/Military Highway, and 11.76 acres were acquired from 1 parcel south of Dicker Road. An additional 0.13 acre from a parcel along US 281/Military Highway is currently under contract. The amount of ROW being acquired from each parcel is provided in **Table 6-3**.

**Table 6-3: Early Right-of-Way Acquisitions to Date**

| No. | Legal Description | CSJ | Project Section | ROW Acquired (acres) | Land Use | Closing Date |
|---|---|---|---|---|---|---|
| 1 | John Closner Por 71 S973.20'-W770.76' Exc E192.86' Lot 6 & N476.1-W578' Lot 7 & 1.98ac Lot 9 21.51ac Gr 19.51ac Net | 0220-01-023 | US 281 | 0.13 | Agricultural | 5/31/15 |
| 2 | John Closner Por 71 S934.75'-E247' Lot 6 & N476.1'-E247' Lot 7 8.0ac Gr 7.87 Ac Net | 0220-01-023 | US 281 | 0.13 | Commercial | 10/29/14 |
| 3 | John Closner Por 71 S529.92' Lot 7 All Lot 8 & An Irr Tr N393.9' Lot 9 35.20ac Gr 31.29 Ac Net | 0220-01-023 | US 281 | 0.10 | Agricultural | 2/3/15 |
| 4 | Hidalgo County Irr Dist. No. 2 Canal Row, Block 32, San Juan Plantation Subdivision | 0220-01-023 | US 281 | 0.03 | Agricultural | 1/8/15 |
| 5 | Hidalgo County Irr Dist. No. 2 Canal Row, Block 25, San Juan Plantation Subdivision | 0220-01-023 | US 281 | 0.05 | Agricultural | 1/8/15 |
| 6 | San Juan Plantation Blk 25 Lot 82 & 83 | 0220-01-023 | US 281 | 0.61 | Agricultural | 1/6/15 |
| 7 | San Juan Plantation Blk 32 Lt 95 & 96 | 0220-01-023 | US 281 | 0.62 | Agricultural | 1/6/15 |
| 8 | San Juan Plantation Blk 26 Lot 80 81 84 & 85 | 0220-01-023 | US 281 | 4.63 | Agricultural | 1/6/15 |
| 9 | San Juan Plantation Blk 31 Lot 93 94 97 & 98 | 0220-01-023 | US 281 | 4.23 | Agricultural | 1/6/15 |
| 10 | San Juan Plantation Lot 91 & 92 Blk 30 | 0220-01-023 | US 281 | 1.29 | Agricultural | 1/6/15 |
| 11 | San Juan Plantation 11.94 Ac | 0220-01-023 | US 281 | 1.40 | Agricultural | 1/6/15 |
| 12 | Hidalgo County Irr Dist. No. 2 Canal Row, Block 27, San Juan Plantation Subdivision | 0220-01-023 | US 281 | 0.35 | Agricultural | 10/14/14 |
| 13 | San Juan Plantation N5.61ac Lot 86 Blk 27 5.61ac Gr 5.50ac Net | 0220-01-023 | US 281 | 1.87 | Agricultural | 11/21/14 |
| 14 | Hidalgo County Irr Dist. No. 2 Canal Row, Block 30, San Juan Plantation Subdivision | 0220-01-023 | US 281 | 0.32 | Agricultural | 10/14/14 |
| 15 | San Juan Plantation Lot 91 & 92 Blk 30 | 0220-01-023 | US 281 | 2.14 | Agricultural | 1/6/15 |
| 16 | San Juan Plantation S6.86 Ac Lot 87 Blk 28 | 0220-01-023 | US 281 | 0.44 | Agricultural | 11/21/14 |
| 17 | San Juan Plantation Blk 29 Lt 89 N.W. 10.04 Ac Lt 90 99 W7.09ac Lt 100 & W9.01ac Lt 101 48.86ac | 0220-01-023 | US 281 | 0.21 | Agricultural | 1/6/15 |
| 18 | San Juan Plantation Blk 31 Lot 93 94 97 & 98 | 0921-02-337 | BSIF Connector | 3.99 | Agricultural | 1/6/15 |
| 19 | San Juan Plantation Blk 32 Lt 95 & 96 | 0921-02-337 | BSIF Connector | 1.17 | Agricultural | 1/6/15 |
| 20 | Hidalgo County Irr Dist. No. 2 Canal Row, Block 32, San Juan Plantation Subdivision | 0921-02-337 | BSIF Connector | 0.17 | Agricultural | 1/8/15 |
| 21 | John Closner Por 71 S529.92' Lot 7 All Lot 8 & An Irr Tr N393.9' Lot 9 35.20ac Gr 31.29 Ac Net | 0921-02-337 | BSIF Connector | 1.10 | Agricultural | 2/3/15 |
| 22 | John Closner N500'-W461.04' Lot 7 Blk 16 5.29ac Gr 4.87ac Net | 3627-01-001 | Tolled section | 11.76 | Agricultural | 10/1/14 |

#### 6.2.1.3 Types of Land Uses for Acquired Parcels

Of the 23 parcels being acquired, 22 parcels are designated as agricultural and 1 parcel is designated as commercial.

#### 6.2.1.4 Date of Acquisition

The 20 parcels that were acquired along US 281/Military Highway closed between October 14, 2014 and February 3, 2015. The parcel that was acquired south of Dicker Road was closed on October 1, 2014. The parcel along US 281/Military Highway that is currently under contract is anticipated to close on May 31, 2015.

#### 6.2.1.5 Why Parcels Purchased Do Not Limit the Evaluation of Alternatives

At-risk ROW acquisition for the parcels that have been acquired or is undergoing acquisition has occurred on parcels that have been identified as part of the preferred alignment. The HCRMA took all measures necessary to minimize ROW requirements as much as practicable through direct coordination with the affected property owners and through a series of public/stakeholder meetings beginning in May 2008 through March 2013. As such, early ROW acquisition was not a determinant in the evaluation of alternatives or the determination of the preferred alternative identified in this EA.

#### 6.2.1.6 Impacts to Low Income and Minority Communities and Mitigation Measures That Are Anticipated or Have Occurred

Executive Order (EO) 12898 entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs on minority and low-income populations. A minority population is defined as a group of people and/or community experiencing common conditions of exposure or impact that consists of persons classified by the U.S. Census Bureau as Hispanic or Latino, Black or African American, American Indian and Alaska Native, Asian, and/or Native Hawaiian and other Pacific Islander. “Low-income” is defined as persons in households with income.

U.S. Census Bureau data were collected for the census tract and block group adjacent to the proposed ROW acquisition, Census Tract (CT) 228 Block Group (BG) 1. CT 228 is 95.3 percent Hispanic or Latino, and CT 228 BG 1 is 85.1 percent Hispanic or Latino (U.S. Census Bureau, 2010). This is consistent with the entire SH 365 study area. Due to the homogenous nature of the population, no disproportionately high and adverse effects on minority populations are anticipated. Potential impacts from ROW acquisition do not appreciably exceed or are likely to appreciably exceed the magnitude that would otherwise be experienced in the general population.

The U.S. Census Bureau 2012 American Community Survey provides a 5-year estimate for median household incomes. The 2012 median household income for CT 228 was $28,666 (U.S. Census Bureau, 2012a). This falls within the range of median household incomes in the SH 365 study area. Median household income data are not available at the block group or block level. According to the U.S. Department of Health and Human Services (HHS), the poverty threshold for a household of four in 2014 is $23,850 (HHS, 2014). As discussed above CT 228 median household income is above the poverty threshold. Therefore, no low income communities would be affected by the proposed ROW acquisition.

EO 13166, *Improving Access to Services for Persons with Limited English Proficiency* (LEP) requires federal agencies to examine the services they provide and identify any need of services to those with the LEP. The EO requires federal agencies to work to ensure that recipients of federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and activities may violate the prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations.

According to U.S. Census Bureau data, 35.9 percent speak English less than well in CT 228 (U.S. Census Bureau, 2012b), which is consistent with the entire SH 365 study area. Therefore, Hidalgo County, as part of the public involvement process, would take reasonable steps to ensure that the LEP persons have meaningful access to the programs, services, and information that Hidalgo County provides, such as making available written translations of summary documents upon reasonable request. Notices for public meetings were provided in Spanish and published in a Spanish-language newspaper with circulation in Hidalgo County. Printed Spanish translations were available at the public meeting, and bilingual project team members were available for interpretation. Notices for public hearing were issued in Spanish and published in a Spanish-language newspaper having circulation in Hidalgo County. Therefore, the requirements of EO 13166 were satisfied.

Socioeconomically the ROW acquisition area is consistent with the remainder of the SH 365 study area. No new potential impacts are anticipated, and no new mitigation measure would be necessary.

#### 6.2.1.7 Type of Business for Acquired Commercial Properties

A total of 0.13 acre of a commercial property has been acquired at-risk. This property operates as a salvage yard.

#### 6.2.1.8 Impacts on Community If Displaced Business Is Not Able to Remain in Business

Since only 0.13 acre of the auto salvage yard has been acquired, the business will not be displaced and will be able to continue operations. The salvage yard will be compensated for the junk vehicles that are being affected.

#### 6.2.1.9 Market Availability for Decent Safe and Sanitary (DS&S) Housing for Displaced Residential Properties

No residential properties have been acquired at-risk as yet, but all future residential displacements would ensure that displaced persons would be relocated to DS&S housing within their financial means.

#### 6.2.1.10 Compliance with Uniform Act for Parcel Acquisitions

The HCRMA certifies that all at-risk ROW acquisitions conducted to date followed the FHWA's "Guidance on Early Acquisitions and Compliance with NEPA of 1969 and Uniform Act."

#### 6.2.1.11 Availability of Records and Documentation of Acquired Parcels

The required records and documentation of the acquired parcels and relocations are available for inspection by TxDOT and FHWA at the HCRMA office located at 118 S. Cage Blvd, 4th floor, Pharr, Texas 78577.

### 6.2.2 No-Build Alternative

The No-Build Alternative would not require any additional ROW and therefore would not require any utility adjustments.

## 6.3 SOCIOECONOMIC DATA

### 6.3.1 Regional and Community Growth

The proposed project is in a rapidly growing portion of Hidalgo County. The area is characterized as rural in nature with considerable single-family residential subdivisions as well as public services and infrastructure in the northwest (Madero community in Mission) near FM 1016/Conway Avenue and southeast (Las Milpas community in Pharr) near FM 2061/Jackson Road and US 281/Military Highway. The remaining area is characterized as scattered residential development. The proposed project is located within or partially within the cities of Granjeño, McAllen, Mission, Pharr, San Juan, as well as Hidalgo County. The U.S. Census Bureau estimates show considerable growth in area cities and Hidalgo County in recent years (**Table 6-4**). Historical population estimates for the cities within or partially within the proposed project and Hidalgo County are shown in **Table 6-4**. Hidalgo County's population grew by over 102 percent from 1990 to 2010. In addition, since 1990, the area cities have been growing at rates between 54.6 and 293 percent.

**Table 6-4: Historical Population Growth**

| City or County | 1990 Population | 2000 Population | 2010 Population | Percent Change 1990–2010 |
|---|---|---|---|---|
| City of Granjeño | 0 | 313 | 293 | 293.0 |
| City of McAllen | 84,021 | 106,414 | 129,877 | 54.6 |
| City of Mission | 28,653 | 45,408 | 77,058 | 169.0 |
| City of Pharr | 32,921 | 46,660 | 70,400 | 113.9 |
| City of San Juan | 10,815 | 26,229 | 33,856 | 213.1 |
| Hidalgo County | 383,545 | 569,463 | 774,769 | 102.0 |

Source: HCMPO (2013) and U.S. Census Bureau (2010a).

**Table 6-5** displays population projections for cities within or partially within the project limits as well as Hidalgo County through 2060. Substantial population growth for the area is anticipated through 2060. All cities are expected to increase by more than 120 percent from 2010 to 2060. Hidalgo County is projected to increase by approximately 165 percent.

**Table 6-5: Projected Population Growth**

| Area | 2010* | 2020 | 2030 | 2040 | 2050 | 2060 | Percent Change 2010–2060 |
|---|---|---|---|---|---|---|---|
| City of Granjeño+ | 293 | - | - | - | - | - | - |
| City of McAllen | 129,877 | 158,046 | 186,889 | 218,068 | 252,084 | 286,959 | 121.0 |
| City of Mission | 77,058 | 88,532 | 111,086 | 135,447 | 161,998 | 189,204 | 145.5 |
| City of Pharr | 70,400 | 82,640 | 101,269 | 121,386 | 143,309 | 165,772 | 135.5 |
| City of San Juan | 33,856 | 54,082 | 70,892 | 89,081 | 108,947 | 129,327 | 282.0 |
| Hidalgo County | 774,769 | 987,920 | 1,225,227 | 1,481,812 | 1,761,810 | 2,048,911 | 164.5 |

Source: U.S. Census Bureau (2010a) and Texas Water Development Board (TWDB, 2011a).

*The U.S. Census Bureau data were used for the 2010 populations and TWDB data were used for population projections for 2020, 2030, 2040, and 2060.

+ TWDB only reports population projections for those cities that had population of 500 or more in 2000 per the U.S. Census Bureau. Granjeño had a population of less than 500 in 2000 per the U.S. Census Bureau; therefore, population projections for Granjeño are not provided.

## 6.3.2 Socioeconomic Conditions

As part of the South Texas and Rio Grande Valley regions, Hidalgo County is a center of international economic activity between the U.S. and the Americas. One part of this economic activity is the growth in manufacturing facilities called maquiladoras or twin plants. Among the most active regions on the Texas-Mexico border in terms of maquiladoras or cross-border manufacturing is McAllen, Texas/Reynosa, Mexico. This region offers access to suppliers in both nations, the ability to allow personnel to live in the U.S., and ease of distribution to both north and south. Manufacturing growth in Reynosa, Mexico, creates corresponding employment increases on the Texas side of the border (McAllen Economic Development Corporation, 2013). The region's geographic proximity to Mexico makes industries allied with

international trade extremely important. Its transportation sector, particularly truck transportation, is an engine of local economic growth as well as a lifeline to the national economy. Service industries, particularly education and health care services, also are important (Texas Comptroller of Public Accounts [TCPA], 2008).

There are two inland ports (Hidalgo and Progreso) located in Hidalgo County. According to the Texas Transportation Institute (TTI), an inland port is a site located away from traditional land, air, and coastal borders. It facilitates and processes international trade through strategic investments in multi-modal transportation assets and by promoting value-added services as goods move through the supply chain (TxDOT Center for Transportation Research, 2002). Combined, the Hidalgo and Progreso inland ports had approximately $21.9 billion in trade with Mexico in 2007, a 37.3 percent increase from 2004 (TCPA, 2008).

There are two FTZs in Hidalgo County, which are situated in the cities of McAllen (FTZ No. 12) and Weslaco (FTZ No. 156) (Texas Foreign-Trade Zones, 2013). As discussed in Section 3.1.1, the MFTZ is located within the boundaries of the McAllen Southwest freight transfer facility as shown on **Figure 3-1**.

Study area law enforcement at the county level includes 4 constables and a sheriff, who supervises 11 deputy sheriffs (Hidalgo County Sheriff's Office, 2010). Of the study area cities, McAllen, Mission, Pharr, and San Juan all have their own police departments. In 2007, the McAllen Police Department employed 392 full-time officers, Mission employed 148, Pharr employed 150, and San Juan employed 44 (City-Data, 2013). The county fire marshal's office is located north of the study area in Edinburg. In addition to the fire marshal, numerous fire departments serve the study area. The McAllen Fire Department has 7 stations and employs 152 full-time fire fighters (City of McAllen, 2013; City-Data, 2013). The Mission Fire Department 4 stations and employs 45 full-time fire fighters (City of Mission, 2013; City-Data, 2013). The Pharr Fire Department has 3 stations and employs 57 full-time fire fighters (City of Pharr, 2013; City-Data, 2013). The San Juan Fire Department has 1station and employs 6 fire fighters (City of San Juan, 2013).

The Build Alternative is in a predominantly rural area of Hidalgo County, which includes the cities of McAllen, Mission, Pharr, Granjeño, and San Juan. Local and regional economic growth is expected to continue to drive future development and suburbanization of the area. Most of the study area would likely be annexed into the incorporated limits of the cities over time.

It is estimated that construction of the project would result in approximately nine potential displacements. These displacements include three residences, two privately owned salvage yards, three commercially operated auto salvage yards, and one church. ROW acquisition would have a negligible effect on the county's property tax base.

As indicated in Section 6.1.1, the three potential residential and one institutional (church) displacements resulting from the Build Alternative are in 2010 CT 205.03, BG 2, Block 2094; one privately owned auto

salvage yard is in CT 213.05, BG 1, Block 1015; three commercially operated auto salvage yards are in and CT 213.05, BG 1, Block 1006; and one privately owned auto salvage yard is in CT 213.03, BG 2, Block 2023 (**Table 6-6** and see **Figure 6-1**). These residential, institutional, and commercial properties are either considered minority or have no population; however, as explained in Section 6.3.4.1, due to the homogenous nature of the population, no disproportionately high and adverse effects on minority populations are anticipated. Additionally, these residential and commercial properties are not considered low income (**Table 6-7**).

#### 6.3.2.1 No-Build Alternative

Implementation of the No-Build Alternative would not adversely affect any businesses or residences; however, it would not address traffic congestion, which would worsen and reduce mobility and LOS. The No-Build Alternative would not provide improvements to enhance traffic safety.

### 6.3.3 Community Cohesion

#### 6.3.3.1 Build Alternative

The study area crosses seven separate school districts: Hidalgo ISD, La Joya ISD, McAllen ISD, Mission Consolidated ISD, Pharr-San Juan-Alamo ISD, Sharyland ISD, and Valley View ISD. There are approximately of 40 schools in the vicinity of the study area. Four churches (Church of Jesus Christ of Latter-Day Saints in Hidalgo, Las Milpas Church of Christ in Las Milpas/Pharr, Iglesia Pentecostes El Buen in Las Milpas/Pharr, and Iglesia Bautista in Granjeño) exist in the vicinity of the study area. Additionally, there are several hospitals in the vicinity of the study area. In McAllen, north of the study area, are the McAllen Heart Hospital, and the Rio Grande Regional Hospital. Mission Hospital is located in Mission. Of the approximately 40 schools in the vicinity of the study area, none are located within the study area. Of the four hospitals within the project vicinity, none are located within the study area. Additionally, of the four churches within the project vicinity, there is one church within the study area.

As indicated in Section 4.2 (Proposed Facility [Build Alternative]) the proposed overpass locations are at FM 1016/Conway Avenue/UPRR, FM 1016/Military Highway, UPRR south of FM 1016, FM 494 west of the Anzalduas GSA Facility, Anzalduas International Bridge, FM 494/Shary Road, SP 115/23rd Street, SH 336/10th Street, FM 2061/Jackson Road, US 281/Cage Boulevard, I Road, and FM 3072/Dicker Road. An underpass is proposed at McColl Road. Water crossings (bridge structure or culvert) are proposed at the Main Floodway Channel Crossing and the irrigation canal located 0.6 mile east of SH 336/10th Street.

The Build Alternative would serve the study area and surrounding communities. This alternative would not disrupt orderly planned development or be inconsistent with plans or goals adopted by the municipalities or Hidalgo County. Although individuals would be affected by the displacement of their residences and one church, the neighborhoods located within the study area would not be denied access to

schools, community facilities, or other churches in the area. No isolation of one part of the community from another and no change in accessibility to existing roadway facilities would occur. No community facilities, with exception to one church, would be displaced nor would any neighborhood be bisected or adversely affected.

The proposed project would have a beneficial impact on public safety in the study area. This improvement is attributable to the diversion of drivers from local roads, since many people are likely to prefer the greater convenience, efficiency, and reduced travel times associated with the new roadway. It is likely that the proposed freeway facility would reduce congestion and improve response time for police, fire protection, and medical services. It is also likely that the proposed project would ease commutes through the study area. The proposed project would not bisect any existing neighborhoods or disrupt community cohesion; therefore, no adverse impact to community cohesion is anticipated.

In residential areas within walking distance of elementary schools, children would not have to cross the proposed SH 365. Residents walking to Ruben Hinojosa Elementary School in the Madero community are west of the facility and residents walking to Graciela Garcia Elementary School and Hidalgo Park Elementary School located in the Las Milpas community are south and west of the facility and would not require crossing of the facility. Direct impacts to school bus routes would likely be improved travel times overall due to the new facility. Travel that can incorporate use of the new facility would improve. Local school districts that choose to use the tolled facility could experience quicker school bus routes; however, they would have to absorb the increased cost due to the toll. If local school districts choose not to use the new facility, routes may be slower at intersections of the new facility; however, routes would not be impacted by issues of access, and congestion overall in the study area would improve with the new facility. School bus routing may experience impacts due to increased traffic in the areas of increased development or changes in traffic patterns.

The tolled nature of the proposed facility is not anticipated to cause additional impacts to public safety within the study area. Police, fire protection, and emergency and medical services would likely use the toll road quickly during an emergency. The proposed project would likely have the effects of reducing the emergency response time because the toll road mainlanes would allow more efficient and faster travel through the study area than existing roads. Additionally, preliminary design of the Build Alternative includes the bridging of all public roads crossed by the proposed facility; therefore, emergency response not utilizing the facility would not be impeded.

The proposed improvements would not inhibit public roadway access to adjacent residences, businesses, or other properties. Existing traffic patterns would not be adversely affected, but would become more efficient with the grade separations at FM 1016/Conway Avenue, the UPRR crossing, SP 115/23rd Street, and SH 336/10th Street. No bicycle facilities currently lie within or adjacent to the project's existing ROW. Everything possible would be done during the project construction phase to minimize the inconvenience to vehicles using the roadway.

#### 6.3.3.2 No-Build Alternative

Implementation of the No-Build Alternative would not affect, isolate, or divide any distinct neighborhoods, ethnic groups, or other specific groups.

### 6.3.4 Environmental Justice

EO 12898 mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of the programs on minority and low-income populations. A minority population is defined as a group of people and/or community experiencing common conditions of exposure or impact that consists of persons classified by the U.S. Bureau of the Census as Hispanic or Latino, Black or African American, American Indian and Alaska Native, Asian, and/or Native Hawaiian and other Pacific Islander. “Low-income” is defined as persons in households with income below the federal poverty level ($23,550 for a family of four in 2013). “Disproportionately high and adverse effects” are defined as adverse effects that (1) are predominantly borne by a minority population and/or a low-income population; or (2) would be suffered by the minority population and/or low-income population and would be appreciably more severe or greater in magnitude than the adverse effects that would be suffered by the nonminority population and/or nonlow-income population.

#### 6.3.4.1 Build Alternative

Census data were retrieved for census tracts, block groups, and blocks that overlap either partially or fully within the geographic boundaries of the proposed project. There are six census tracts that overlap the proposed project. As shown in **Table 6-6**, information concerning ethnic and racial distribution and income were gathered for these census tracts, block groups and blocks, and census-designated places (CDP) as well as for the cities of McAllen, Mission, Pharr, Granjeño, San Juan, and Hidalgo County.

Fifty-two census blocks identified on **Figure 6-1** are excluded in **Table 6-6** due to the lack of populations within these blocks. The following blocks had no population: CT 201.02, BG 3, blocks 3100, 3101, 3106, and 3107; CT 204.02, BG 2, blocks 2053, 2066, 2067, 2071; CT 205.03, BG 2,block 2085; CT 213.02, BG 1, blocks 1000; CT 213.02, BG3, blocks 3019, 3020, 3021, 3022, 3023 3091, 3092, 3112, 3113, and 3114; CT 213.03, BG2, blocks 2004, 2006, 2007, 2021, 2022, 2023, 2033, 2034, 2036, 2037, 2057, 2058, 2059, 2074, 2094; CT 213.05, BG 1, blocks 1000, 1001 1003, 1006, 1007, 1008, 1010, 1011, 1015, 1018, 1019, 1020, 1021, 1038, 1045, 1046, and 1051.

## Table 6-6: Race/Ethnicity Characteristics

| Census Geography[1] | | Total Pop. | Racial/Ethnicity Distribution | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Census Tract/City/ County/ CDP | Block Group/ Block | | White | Black | American Indian/ Alaska Native | Asian | Native Hawaiian and Other Pacific Islander | Hispanic or Latino | Some Other Race or Two or More | Percent Racial Minority[2] |
| **CT 201.02** | **--** | **7,150** | **1,237** | **7** | **8** | **20** | **1** | **5,861** | **16** | **82.70** |
| | BG 3 | 1,849 | 476 | 4 | 1 | 17 | 1 | 1,349 | 1 | 74.26 |
| | 3020 | 9 | 5 | 0 | 0 | 0 | 0 | 4 | 0 | 44.44 |
| | 3117 | 15 | 2 | 0 | 0 | 0 | 0 | 13 | 0 | 86.67 |
| | 3127 | 15 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 100.00 |
| **CT 204.02** | **--** | **8,200** | **1,245** | **97** | **7** | **525** | **1** | **6,265** | **60** | **84.82** |
| | BG 2 | 5,615 | 884 | 66 | 6 | 444 | 0 | 4,169 | 46 | 84.26 |
| | 2034 | 9 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 11.11 |
| | 2045 | 29 | | | | | | 29 | 0 | 100.00 |
| | 2062 | 95 | 7 | 0 | 0 | 0 | 0 | 88 | 0 | 92.63 |
| **CT 205.03** | | **11,541** | **393** | **28** | **5** | **162** | **0** | **10,935** | **18** | **96.59** |
| | BG 2 | 5,878 | 333 | 25 | 4 | 154 | 0 | 5,357 | 5 | 94.33 |
| | 2094 | 9 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 100.00 |
| **CT 213.02** | **--** | **15,668** | **191** | **18** | **12** | **19** | **0** | **15,420** | **8** | **98.78** |
| | BG 1- | 3,819 | 48 | 8 | 1 | 0 | 0 | 3,760 | 2 | 98.74 |
| | BG 3 | 7,847 | 95 | 4 | 5 | 14 | 0 | 7,723 | 6 | 98.79 |
| | 3018 | 33 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 100.00 |
| | 3024 | 470 | 0 | 0 | 0 | 0 | 0 | 470 | 0 | 100.00 |
| | 3032 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 100.00 |
| | 3033 | 24 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 100.00 |
| | 3058 | 85 | 0 | 0 | 0 | 0 | 0 | 85 | 0 | 100.00 |
| | 3085 | 588 | 7 | 1 | 0 | 0 | 0 | 579 | 1 | 98.81 |
| | 3087 | 29 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 100.00 |
| | 3089 | 6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 100.00 |
| | 3111 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 100.00 |
| **CT 213.03** | | **9,598** | **110** | **8** | **0** | **7** | **0** | **9,465** | **8** | **98.85** |
| | BG2 | 2,390 | 19 | 0 | 0 | 0 | 0 | 2,366 | 5 | 99.21 |
| | 2003 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 100.00 |
| | 2060 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 100.00 |
| | 2073 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 100.00 |
| **CT 213.05** | **--** | **7,279** | **55** | **4** | **0** | **1** | **2** | **7,215** | **2** | **99.24** |
| | BG 1 | 4,023 | 31 | 4 | 0 | 1 | 2 | 3,983 | 2 | 99.23 |
| | 1014 | 17 | 0 | 2 | 0 | 0 | 0 | 15 | 0 | 100.00 |
| | 1040 | 7 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 100.00 |
| | 1044 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 100.00 |
| | 1047 | 15 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 100.00 |
| | 1048 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 100.00 |

| Census Geography[1] | | Total Pop. | Racial/Ethnicity Distribution | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Census Tract/City/ County/ CDP | Block Group/ Block | | White | Black | American Indian/ Alaska Native | Asian | Native Hawaiian and Other Pacific Islander | Hispanic or Latino | Some Other Race or Two or More | Percent Racial Minority[2] |
| | 1050 | 15 | | | | | | 15 | 0 | 100.00 |
| City of Granjeño | | 293 | 0 | 0 | 0 | 0 | 1 | 292 | 0 | 100.00 |
| City of McAllen | | 129,877 | 15,193 | 833 | 120 | 3,288 | 17 | 109,910 | 516 | 88.30 |
| City of Mission | | 77,058 | 9,465 | 321 | 71 | 1,135 | 11 | 65,812 | 243 | 87.72 |
| City of Pharr | | 70,400 | 4,256 | 149 | 42 | 347 | 0 | 65,496 | 110 | 93.95 |
| City of San Juan | | 33,856 | 1,012 | 32 | 10 | 47 | 21 | 32,734 | 0 | 97.01 |
| Hidalgo County | | 774,769 | 60,553 | 2,777 | 524 | 7,122 | 49 | 702,206 | 1,538 | 92.18 |

Source: U.S. Census Bureau (2010a).

[1]The census tracts that cross the project limits were used to represent the population potentially affected by the proposed project.

[2]Total number of persons reporting in nonwhite racial categories, including Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Hispanic or Latino, some other race, or two or more races.

Due to the homogenous nature of the population, no disproportionately high and adverse effects on minority populations are anticipated. Potential impacts from the Build Alternative do not appreciably exceed or are likely to appreciably exceed the magnitude that would otherwise be experienced in the general population.

**Table 6-7** provides 2012 American Community Survey 5-year estimates for median household income for census tracts, cities and county that the project limits cross. Median household income data are not available at the block group or block level.

**Table 6-7: Income Characteristics**

| Census Geography[1] | Income |
|---|---|
| Census Tract[2] | Median Household Income |
| CT 201.02 | $33,302 |
| CT 204.02 | $88,269 |
| CT 205.03 | $32,077 |
| CT 213.02 | $23,690 |
| CT 213.03 | $22,733 |
| CT 213.05 | $43,676 |
| City of Granjeño | 43,542 |
| City of McAllen | $40,636 |
| City of Mission | $40,513 |
| City of Pharr | $30,868 |
| City of San Juan | 32,531 |
| Hidalgo County | $33,218 |

Source: U.S. Census Bureau (2012c).

[1]The census tracts that cross the project limits were used to represent the population potentially affected by the proposed project.

[2]Household income data are available for counties, cities, and census tracts; however, not available for block groups and blocks.

According to the HHS, the poverty threshold for a household of four in 2014 is $23,850 (HHS, 2014). As shown in **Table 6-7**, CT 213.02 and CT 213.03 both have median household incomes less than the poverty threshold. None of the cities or county crossed by the proposed project has a median household income less than the poverty threshold.

The proposed project would be funded by toll revenue, and users of the road would have to pay a toll. Some possible impacts that may occur with the toll road may be that low-income persons who cannot afford toll tags would be forced to use longer alternative routes to access emergency services. Low-income persons may not have credit cards with which to purchase toll passes, and low-income persons who do not own vehicles would not benefit from the toll road system forcing them to use alternative routes resulting in longer commutes than higher-income persons. However, those who would use the toll road and those who would choose not to use the toll road would both experience benefits. If local residents use the toll road, benefits would include increased access to job markets and services, and decreased travel time to destinations. Local residents that choose to not use the toll road may benefit by reduced traffic on local roadways thereby decreasing their commuting times.

Therefore, the toll road option would not cause any disproportionately adverse impacts to ethnic minorities within the study area. However, the toll road option may cause potential impacts to low-income populations within the study area. Mitigation for low-income populations may include:

- Offering cash purchasing alternatives, such as vending machines at local retailers for applying credit to the EZ Tag that is used to access the toll road.
- Offering reduced toll fares for low-income populations.
- Buses may be allowed to use the toll road for free to allow those low-income populations toll road access.

Based on the above discussion and analysis, the Build Alternative would not cause disproportionately high and adverse effects on minority or low-income populations as per EO 12898.

#### 6.3.4.2 No-Build Alternative

Implementation of the No-Build Alternative would not impact minority or low-income populations in the study area.

### 6.3.5 Limited English Proficiency Populations

EO 13166 requires federal agencies to examine the services they provide and identify any need of services to those with the LEP. The EO requires federal agencies to work to ensure that recipients of federal financial assistance provide meaningful access to their LEP applicants and beneficiaries. Failure to ensure that LEP persons can effectively participate in or benefit from federally assisted programs and

activities may violate the prohibition under Title VI of the Civil Rights Restoration Act of 1987 and Title VI regulations.

#### 6.3.5.1 Build Alternative

**Table 6-8** provides 2012 LEP data for the 2012 census tracts, cities, and county that the project crosses. The LEP data are not available at the block group or block level.

**Table 6-8: Limited English Proficiency**

| Census Geography | Total Population* | Spanish Speakers Who Speak English Less Than Very Well | | All other Language Speakers Who Speak English Less Than Very Well | |
|---|---|---|---|---|---|
| | | Number | Percent | Number | Percent |
| CT 201.02 | 7,853 | 2,563 | 32.6 | NA | NA |
| CT 204.02 | 7,301 | 1,924 | 26.4 | NA | NA |
| CT 205.03 | 9,756 | 4,410 | 45.2 | NA | NA |
| CT 213.02 | 14,525 | 5,593 | 38.5 | NA | NA |
| CT 213.03 | 7,443 | 3,671 | 49.3 | NA | NA |
| CT 213.05 | 6,021 | 2,272 | 37.7 | NA | NA |
| City of Granjeño | 227 | 86 | 37.9 | NA | NA |
| City of McAllen | 120,107 | 34,801 | 30.0 | NA | NA |
| City of Mission | 70,302 | 19,439 | 27.7 | NA | NA |
| City of Pharr | 63,366 | 20,374 | 32.2 | NA | NA |
| City of San Juan | 30,450 | 10,849 | 35.6 | NA | NA |
| Hidalgo County | 699,054 | 227,464 | 32.5 | NA | NA |

Source: U.S. Census Bureau (2012) American Community Survey (ACS) 5-year estimates

NA = less than 5% of population or 1,000 persons (whichever is less) speak English less than very well.

*Population 5 years and over

As shown in **Table 6-8**, census tracts with the LEP populations (populations 5 years of age and older who speak English "less than very well") range from 30.0 to 49.3 percent of total population.

A windshield survey of the study area revealed noticeable billboards and signs printed in Spanish. The proposed project is not anticipated to result in influences that would alter the existing characteristics of the English and Spanish speaking populations within the study area. As part of the public involvement process, Hidalgo County would take reasonable steps to ensure that the LEP persons have meaningful access to the programs, services, and information that Hidalgo County provides, such as making available written translations of summary documents upon reasonable request. Notices for public meetings were provided in Spanish and published in a Spanish-language newspaper with circulation in Hidalgo County. Printed Spanish translations were available at the public meeting and bilingual project team members were available for interpretation. Notices for public hearing were issued in Spanish and published in a

Spanish-language newspaper having circulation in Hidalgo County. Therefore, the requirements of EO 13166 were satisfied.

#### 6.3.5.2 No-Build Alternative

The No-Build Alternative would not impact the LEP populations.

## 6.4 PROJECT-LEVEL TOLL ANALYSIS

In accordance with the FHWA and TxDOT Joint Guidance for Project and Network Level Environmental Justice, Regional Network Land Use, and Air Quality Analyses for Toll Roads (FHWA and TxDOT, 2009), a project-level toll analysis was conducted to determine the potential impact that tolling would have on the Environmental Justice (EJ) communities within the proposed project's area of influence (AOI). As required by the guidance, the following items are to be evaluated to determine the potential for disproportionate impacts to the EJ communities:

- Nontolled facilities
- Travel time differences
- Toll policies
- Anticipated toll rate
- Methods of toll collection
- Comparison of payment methods
- Toll booth/gantry locations
- EJ-related demographic data
- Potential economic impact
- LEP accommodations
- Potential users of the tolled facility
- Model assumptions and limitations

Since the SH 365 project would be the first project within Hidalgo County's toll road network, a regional toll analysis has not yet been conducted and consequently, a travel time analysis for persons residing in the EJ traffic analysis zones (TAZs) and non-EJ TAZs was not developed. As such, the following discussions are not included in this project-level toll analysis:

- EJ-related demographic data
- Potential users of the tolled facility
- Model assumptions and limitations

### 6.4.1 Nontolled Facilities

Alternative nontoll travel options would be available to those who choose not to use SH 365 toll lanes. Implementation of the Build Alternative would not affect access to the existing nontolled facilities. SH 365 connects to FM 1016/Conway Avenue, a principal north-south arterial at the western terminus and to US 281/Military Highway, a principal east-west arterial at the eastern terminus.

Currently, there are no major highways parallel to the proposed SH 365 that provide connection between the Anzalduas and Pharr international bridges. Travel between the international bridges can be accomplished via two signalized facilities: US 281/Military Highway and SP 115/23rd Street. US 281/ Military Highway varies between two and five lanes, and SP 115/23rd Street is a six-lane divided facility that runs north-south. Travel time[5] between the international bridges along the proposed tolled facility is estimated to be 13.7 minutes, while travel time along the existing free roadway network is estimated to be 24.1 minutes.

Public transportation options are limited in Hidalgo County. There is no transit service within the study corridor; however, Valley Metro and Metro McAllen provide service within the larger AOI. Valley Metro Bus Route 30[6] provides limited service between Pharr, San Juan, and Edinburg and runs 6 days per week on a 2-hour frequency. Route 30 runs on US 281/Cage Boulevard within the AOI. Metro McAllen Bus Route 1[7] provides service between downtown McAllen and the MFTZ and runs 7 days per week on a 1-hour frequency. Route 1 provides runs on FM 1016/Military Highway and SP 115/23rd Street within the AOI.

### 6.4.2 Toll Policies

The HCRMA would adopt policies and procedures for toll collection operations on their facilities at some point in the future. Once established, these policies would be made available online. These toll policies would include provisions for emergency and military vehicles operating on the HCRMA's toll road, discounts and incentives customers, and customer service and toll violation. It is anticipated that transit vehicles and other exempt vehicles (i.e., emergency and military vehicles) would not be charged a toll, which would allow these types of vehicles to take advantage of the toll lanes' reliability and predictability.

### 6.4.3 Toll Rates

The anticipated toll rate for the SH 365 Project has not yet been determined. However, per the HCRMA's 2013 Traffic and Revenue Study (C&M, 2013), toll pricing for the proposed project is currently estimated at $0.15 (2010 dollars) per mile, which will be adjusted based on the Consumer Price Index (CPI). Toll

[5] The travel time estimates are based on a congested (loaded) 2020 Model Network.
[6] http://www.lrgvdc.org/downloads/transportation/VM%20Route%2030%20-%20Pharr-San%20Juan-Edinburg%2010-26-12.pdf
[7] http://www.mcallen.net/docs/default-source/metro/route1.pdf?sfvrsn=4

pricing would likely use variable pricing including occupancy management or congestion management (toll rates that vary by time of day and/or number of vehicle occupants).

### 6.4.4 Methods of Toll Collection

The toll collection system for the proposed project would operate under a fully electronic format. No toll collection booths are proposed, vehicles would pass through electronic readers to be assessed a toll charge. As proposed, tolls would be collected using a completely electronic toll tag system. A toll tag (sticker) is placed on the inside of a vehicle's windshield behind the rearview mirror, which uses an electronic chip to send a signal to the electronic overhead toll gantry equipment, which assesses the toll to the motorist's account. This is known as an electronic toll collection (ETC) system. The ETC equipment would be placed on toll gantries positioned at specific locations along the SH 365 mainlanes and at certain ramps. The ETC allows participating motorists to prepay their tolls using a major credit/debit card or direct debit payment option.

#### 6.4.4.1 Toll Tags

Based on TxDOT's objective to establish interoperable statewide toll accounts, any ETC account set up with a tolled facility operator in any city would be able to access tolled or managed lanes in any area; i.e., toll tags issued by a toll authority within Texas would be capable of registering toll transactions across the state to the user's toll account. Users from other states or international drivers would be billed similarly to users without toll tags.

The Central Texas Regional Mobility Authority's (CTRMA) TxTag®, the North Texas Toll Authority (NTTA) TollTag® (Dallas area), and the Harris County Toll Road Authority (HCTRA) EZ TAG® (Houston area) tags would be accepted on SH 365. If the driver has one of these toll transponder accounts, the tolls would automatically be deducted from the account when the facility is used. The account would be a prepay account, which means the driver must maintain sufficient funds in his/her account to cover incurred toll charges, such as for accounts currently in use for the existing toll roads. The CTRMA's, NTTA's, and HCTRA's account payment methods can be accessed online at their respective websites.[8]

#### 6.4.4.2 Video Billing Payment Methods

Motorists using the toll road without an electronic toll transponder or prepaid user account would be charged via the video tolling system. The ETC video records a photograph of the vehicle's license plate and a (monthly) invoice would be mailed to the registered owner of the vehicle. The assessed toll fee for these motorists is higher than that for users with a transponder, and an additional collection fee is included

[8]CTRMA: http://www.txtag.org/docs/use_agreement.pdf, https://csc.ntta.org/olcsc/GetTollTagDisplayAgreement.do and https://www.hctra.org/about_forms/
NTTA: TollTag Application Agreement. Found at https://csc.ntta.org/olcsc/GetTollTagDisplayAgreement.do.
HCTRA: https://www.hctra.org/about_forms/

on the monthly invoices. This tolling program allows infrequent users without a transponder/toll tag to travel the toll road without having to stop and pay. Not maintaining a prepaid TxTag, TollTag, or EZ TAG account results in higher costs for those who utilize the video billing option.

The video tolling method is more expensive for users without a transponder because fees include an additional toll rate premium plus an incidental administrative fee commensurate with the costs related to processing the vehicle registration information. The maximum processing fee is allowed to increase proportionally with the toll rate. There is no interest charged on unpaid tolls; however, there are delinquent penalty fees associated with an unpaid or delinquent bill. If the registered owner does not have a toll transponder, they would receive a bill every month for the balance. There is no minimum threshold for video billing to occur. As with the prepaid account, video billing would allow for cash or credit payments.

#### 6.4.4.3 Comparison of Payment Methods

Not maintaining a prepaid account would impact any user, including low-income users, because the cost of paying the accumulated toll charges without an account would represent a higher toll rate than toll charges affiliated with a prepaid account. Cash payment options are available for each payment method; however, only those users who maintain automatic and manual pay prepaid accounts would benefit from reduced toll rates compared to the video billing policy.

In summary, toll rates are generally 33 percent more for drivers who do not have an electronic toll transponder to offset the costs related to processing the license plate information associated with video billing. Although certain toll transponder account holders are required to pay upfront fees or deposits for toll transponders ($13.85 fee per transponder for TxTag accounts, $25 deposit for TollTag “cash users” accounts, and $15 fee per EZ TAG for the first three EZ TAGs and $10 fee per EZ TAG thereafter), the toll transponder account holders would benefit from lower toll rates compared to the total toll rates associated with video billing. In other words, the upfront fees associated with toll transponders may be offset over time when considering the premium and processing fees affiliated with the video billing method of payment.

### 6.4.5 LEP Accommodations

The HCRMA’s website would provide information regarding the toll tag, toll road network, toll charges or violations, and safety on the toll roads once these policies have been established. Accommodations would also be put in place to allow persons with LEP and the disabled to access the tolled facility. The website would be made available in Spanish and would provide a customer service contact number for the deaf and hearing impaired. In order to provide meaningful communication to persons that could be affected by the project, project materials would be made available in the dominant languages spoken (English and Spanish) in the region.

### 6.4.6 Toll Gantry Locations

The SH 365 Project is proposed as an all-electronic toll road with no cash payments; therefore, no toll booths are proposed. Since the ETC system does not require the installation of toll booths, there would be no disproportionate impact to the EJ communities regarding toll booth placement.

The mainlane toll gantries would span both directions of travel on a structure similar to a typical sign bridge. The gantry would support the ETC reader units, video enforcement system cameras, illumination devices, automatic vehicle identification antennae, communications gear, and other necessary equipment. This equipment would be supported approximately 20 feet above the roadway surface and would be used to collect electronic toll data. Similar, smaller gantries would be needed at some ramps, which would span the width of the entrance/exit ramp. Advantages of the ETC system include:

- Minimizes the amount of ROW needed for the proposed toll collection facilities because additional lanes for cash toll booths and parking and other facilities for toll attendants would not be required.
- The gantry minimizes the acceleration and deceleration of traffic that usually accompanies toll booth collections because cash would not be accepted.
- Last-minute lane changes between toll and cash lanes would not occur, providing smoother traffic conditions at toll collection locations.
- Lighting impacts would be minimized because the gantries would not require any lighting beyond typical roadway-specific lighting for the video enforcement cameras.

As shown on **Exhibit 6-1**, four toll collection points are proposed along the SH 365 mainlanes. Gantries are proposed at the following locations: mainlane gantry 7 (MLG7) between FM 1016/Conway Avenue and FM 396/Anzalduas Highway, MLG6 between FM 396/Anzalduas Highway and FM 494/Shary Road, MLG5 between SH 336/10th Street and FM 2061/Jackson Road, and MLG5 between FM 3072/Dicker Road and US 281/Military Highway. The exact location of the proposed toll gantries (ramps and mainlane) would be determined during final design.

### 6.4.7 Project Effect on Environmental Justice Populations

Since a regional TDM was not utilized to identify potential toll road users and conduct a travel time analysis for persons residing in the EJ TAZs and non-EJ TAZs, these items as well as the TDM assumptions and limitations are not discussed.

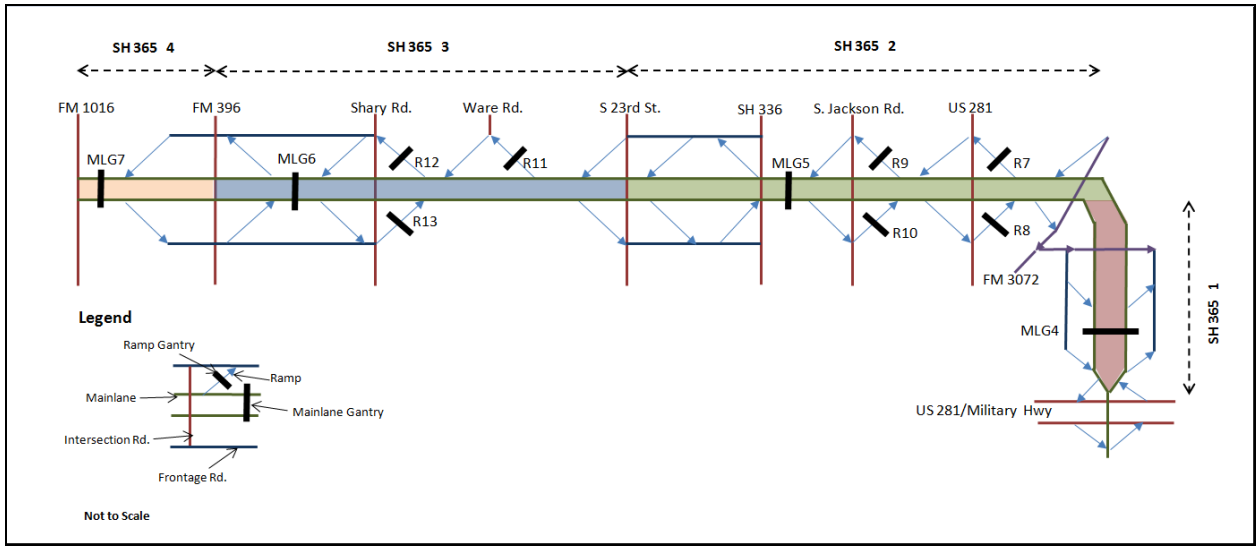



**Exhibit 6-1: SH 365 Proposed Tolling Points**

## 6.4.8 Potential Economic Impact

Potential economic impacts to individuals using the proposed SH 365 Project can be illustrated using the HCRMA's 2013 Traffic and Revenue Study (C&M, 2013) toll rates and the median household income for the counties within the AOI. Currently, the low, mid-range, and high toll rates are 18, 26, and 32 cents per mile. The potential cost per household calculations assumes that a toll road user makes 500 trips (250 round-trips) per year along the 16.53-mile (33.06-mile round-trip) toll road from FM 1016/Conway Avenue to US 281/Military Highway. This assumes an average of 250 work days in year with round trip travel to and from work. As shown in **Table 6-9**, the annual cost for low, mid-range, and high toll rates would be approximately $1,240, $1,488, and $1,736, respectively.

**Table 6-9: Potential Economic Impact**

| Toll Range | Toll Rate Per Mile[1] | Trips per Year | Miles Per Trip | Total Cost Per Year | Percent of Median Household Income[2] | Percent of Poverty Level Income[3] |
|---|---|---|---|---|---|---|
| Low | $0.15 | 500 | 16.53 | $1,240 | 3.8 | 5.3 |
| Mid-range | $0.18 | 500 | 16.53 | $1,488 | 4.6 | 6.3 |
| High | $0.21 | 500 | 16.53 | $1,736 | 5.3 | 7.4 |

Notes:

[1]Per HCRMA's 2013 Traffic and Revenue Study

[2]2010 median household income for Hidalgo County is $32,479

[3]2013 HHS poverty guideline level is $23,550 for a family of four

A user with an annual household income that equals Hidalgo County's 2010 median household income of $32,479 (U.S. Census Bureau, 2011) would spend 3.8, 4.6, and 5.3 percent of their household income on

tolls. Users with an annual household income that falls within the HHS poverty level of $23,550 (HHS, 2014) would spend 5.3, 6.3, and 7.4 percent of their household income on tolls.

None of the census tracts, cities, or county crossed by the proposed project has a median household income less than the poverty threshold. However, a large majority (greater than 85 percent) of the population that lives in the proposed project corridor is classified as a minority. As such, project impacts would likely effect the EJ populations.

Assuming the same level of use, low-income populations would pay a larger percentage of their income in tolls when compared to the general population. If toll costs are beyond the affordability of low-income travelers, they have the alternative of using the existing nontolled transportation network. As a result, potential users who are unable to afford the toll or maintain a toll tag would be denied the travel benefit (reduced travel time) associated with using the tolled facility.

While there would be change in access due to the construction of proposed project, there would be minor impacts to minority and/or low-income populations. However, since access would still be maintained to the existing facilities and the existing nontolled roadway facilities would be maintained, these impacts would not be considered disproportionate.

## 6.5 LAND USE

The study area is rural in nature and located in southern Hidalgo County. Cities and communities within or in close proximity to the study area include Granjeño, Hidalgo, McAllen, Mission, Pharr, and San Juan. Based on a site reconnaissance conducted in June 2010 and October 2012, the majority of the land use within and adjacent to the proposed ROW is primarily undeveloped row crops and grassland/pasture. The land use/land cover within the study area is depicted on **Figure 6-3**. The proposed ROW consists of approximately 626.62 acres (85.0 percent) of of undeveloped land including grassland/pasture (236.09 acres), row crops (369.35 acres), mesquite shrub/woodland (18.41 acres), barren (0.31 acre), and ditches, canals, and ponds (2.46 acres). Approximately 110.68 acres (15.0 percent) consist of developed land.

The study area is mainly row crop and grassland/pasture along the alluvial floodplain of the Rio Grande. Scattered clusters of residential and commercial/light industrial developments exist within the surrounding area. Residential and commercial properties are more prevalent near existing roadways. The UPRR Company provides freight service through the study area. The proposed project traverses the USIBWC Main Floodway and falls within the area protected by the USIBWC levee system.

Anzalduas Park is located in the western study area along the Rio Grande. Several tracts of managed lands operated by the USFWS are located along the Rio Grande including the Lower Rio Grande Valley (LRGV) NWR. The Bentsen-Rio Grande Valley State Park, which is managed by the Texas Parks and Wildlife Department (TPWD), is located to the west of the western project terminus. As shown on **Figure**

**1-1**, an isolated 2.62-acre tract of the LRGV NWR is located adjacent to the proposed project near the community of Granjeño.

Three churches (La Lomita Chapel, Iglesia Bautista Church, and Jackson Ranch Church) are located within 0.5 mile of the proposed project. There are no schools or hospitals within 0.5 mile of the proposed project.

### 6.5.1 Build Alternative

Implementation of the proposed project is not anticipated to impair or substantially change the use of the surrounding area. No schools, hospitals, cemeteries, parks, or managed lands would be directly impacted by project implementation. The Build Alternative would allow better access to the existing residences and commercial properties. Better access would also promote development in the area. Single-family residences and commercial properties are more prevalent near the western termini of the Build Alternative where the Las Milpas community is located.

### 6.5.2 No-Build Alternative

The No-Build Alternative would not affect land use; however, an increase in commercial traffic volume over time along the existing facilities may cause adverse impacts to accessibility to land use in the study area.

## 6.6 VEGETATION

The proposed project is located within the Western Gulf Coastal Plain Ecoregion of Texas. The principal distinguishing characteristics of the Western Gulf Coastal Plain are its relatively flat topography and natural grassland vegetation. Inland from this region the plains are older, more irregular, and have mostly forest or savanna-type vegetation potentials. Largely because of these characteristics, a higher percentage of the land is in farmland than in bordering ecological regions. Rice, grain sorghum, cotton, and soybeans are the principal crops. Urban and industrial land uses have expanded greatly in recent decades, and oil and gas production is common (Griffith et al., 2004).

More specifically, the proposed project is located within the LRGV and the Lower Rio Grande Alluvial Floodplain ecoregions. The LRGV Ecoregion once supported dense, diverse grassland and shrub communities and low woodlands. However, honey mesquite (*Prosopis glandulosa*.), spiny hackberry (*Celtis pallida*), and a variety of brush and shrub species have invaded the landscape. Now, it is almost all in farmland, pasture, and urban land cover. The freeze-free growing season is often over 320 days compared to 250–260 days along the northern Texas coastal area. The Lower Rio Grande Alluvial Floodplain Ecoregion includes the Holocene-age alluvial sands and clays of the Rio Grande floodplain that are now almost completely in farmland or urban land cover. The floodplain ridges once had abundant palm trees, and early Spanish explorers called the river “Rio de las Palmas.” Most large palm trees and

floodplain forests had been cleared by the early 1900s. A few small pieces of unique floodplain forests remain, including Texas ebony (*Ebenopsis ebano*), Texas palmetto (*Sabal mexicana*), and sugar hackberry-cedar elm floodplain forests. It is the most subtropical climate of Texas, but hard freezes occasionally occur, affecting plants and animals that are at the northern limit of their range (Griffith et al., 2004).

The study area is located within urban and agricultural areas, where most of the original vegetation communities have been altered through development, subsequent maintenance activities, and crop farming. Currently, the natural vegetation communities occur in fragmented segments. According to *The Ecological Mapping System of Texas (EMST)* (TPWD, 2014a), the proposed project is comprised mostly of grassland/pasture and row crops (**Figure 6-4**) along with developed, barren, and nonvegetated.

Vegetation communities observed and documented during field surveys conducted for the entire length of the proposed ROW included row crops, grassland/pasture, mesquite shrub/woodland areas, wetlands, ditches and canals, and a pond. The vegetation communities observed during field surveys are discussed below. Descriptions for ditches, canals, and ponds are not described because those areas were typically either inundated with water or otherwise devoid of vegetation.

### *Row Crops*

Row crop vegetation refers to cultivated cover crops or row crops providing food and/or fiber for either man or domestic animals. The vegetation present within the row crop vegetation community consists of Palmer's pigweed (*Amaranthus palmeri*), corn (*Zea mays*), spotted spurge (*Euphorbia maculata*), orange tree (*Citrus sinensis*), grapefruit tree (*Citrus paradisi*), sugarcane (*Saccharum officinarum*), cabbage (*Brassica oleracea*), false ragweed (*Parthenium hysterophorus*), Berlandier's nettlespurge (*Jatropha cathartica*), hog potato (*Hoffmanseggia glauca*), sleepy morning (*Waltheria americana*), Klein grass (*Panicum coloratum*), purple three-awn (*Aristida purpurea*), bermudagrass, Kleberg bluestem, grain sorghum, johnsongrass, Texas gourd, jungle-rice, and Guinea grass.

### *Grassland/Pasture*

Grassland/pasture habitats within the proposed project area include South Texas: Disturbance Grassland and Gulf Coast: Salty Prairie as mapped by the EMST (TPWD, 2014a). The grassland/pasture vegetation community consists of Guinea grass (*Panicum maximum*), buffel grass (*Cenchrus ciliaris*), bermudagrass (*Cynodon dactylon*), whorled dropseed (*Sporobolus pyramidatus*), retama (*Parkinsonia aculeata*), tumbleweed (*Salsola tragus*), Gray's feverfew (*Parthenium confertum*), balloon vine (*Cardiospermum dissectum*), red prickly poppy (*Argemone sanguinea*), grain sorghum (*Sorghum bicolor*), johnsongrass (*Sorghum halepense*), jungle-rice (*Echinochloa colona*), Kleberg bluestem (*Dichanthium annulatum*), common sunflower (*Helianthus annuus*), Texas gourd (*Cucurbita texana*), Asian crabgrass (*Digitaria bicornis*), bushy seaside tansy (*Borrichia frutescens*), and dallisgrass (*Paspalum dilatatum*). This

vegetation community was identified within pastureland, fallow agricultural fields, and areas cleared for development.

### *Mesquite Shrub/Woodland*

Mesquite shrub/woodland habitats within the proposed project area include South Texas: Clayey Mesquite Mixed Shrubland, South Texas: Floodplain Deciduous Shrubland, South Texas: Floodplain Evergreen Forest and Woodland, and South Texas: Floodplain Hardwood Forest and Woodland as mapped by the EMST (TPWD, 2014a). Mesquite shrub/woodland vegetation refers to areas dominated by mesquite and other species of young trees and shrubs. The mesquite shrub vegetation community consists of huisache (*Acacia minuta*), twisted acacia (*Acacia schaffneri*), honey mesquite, spiny hackberry (*Celtis pallida*), western ragweed (*Ambrosia psilostachya*), prickly pear (*Opuntia engelmannii*), hogwort (*Croton capitatus*), lotebush (*Ziziphus obtusifolia*), cotton morning glory (*Ipomoea trichocarpa*), calico bush (*Lantana urticoides*), whorled dropseed, Palmer's pigweed, buffel grass, Guinea grass, retama, jungle-rice, and Kleberg bluestem. The mesquite shrub vegetation community consists of 25 percent or higher dominance of woody species greater than 3 inches diameter at breast height.

### *Nonvegetated*

Nonvegetated habitats within the proposed project area include Barren and Open Water as mapped by the EMST (TPWD, 2014a).

### *Developed*

Developed areas within the proposed project area include Urban High Intensity and Urban Low Intensity as mapped by the EMST (TPWD, 2014a).

### *Wetlands*

Although not mapped with the EMST, wetlands make up a small portion of the proposed ROW, mainly within the IBWC Main Floodway just east of SH 115. Wetlands encountered in the proposed project ROW include palustrine emergent (PEM) and palustrine scrub-shrub (PSS) wetlands.

The PEM wetland vegetation communities identified within the proposed ROW consist of broad-leaf cattail (*Typha latifolia*), vasey grass (*Paspalum urvillei*), maiden-cane (*Panicum hemitomon*), and bushy seaside tansy.

The PSS wetland vegetation communities identified within the proposed ROW consist of black willow (*Salix nigra*), retama, southern cattail (*Typha domingensis*), and jungle-rice.

### 6.6.1 Build Alternative

Under the Build Alternative, the proposed project would result in the direct conversion of approximately 624.16 acres of vegetation to transportation ROW (**Table 6-10**).

**Table 6-10: Summary of Vegetation Communities Identified within the Proposed ROW**

| Vegetation Community | Total Acreage |
|---|---|
| Row Crops | 369.35 |
| Grassland/Pasture | 236.09 |
| Mesquite Shrub/Woodland | 18.41 |
| Barren | 0.31 |
| **Vegetation Total** | **624.16** |
| Developed | 110.68 |
| Waterbodies (Ditch, Canal, Pond) | 2.46 |
| **Unvegetated Total** | **113.14** |

The HCRMA initiated coordination with the TPWD, requesting their review of a biological evaluation (BE) in April 2013. The TPWD comments were received on July 29, 2013, and a response was generated in December 2013, including a summary of vegetation communities crossed. Since that time, additional ROW was evaluated due to modifications in alignment and levee relocation resulting in changes in the acreages of the vegetation communities (provided in the TPWD correspondence). Effective September 1, 2013, vegetation and habitat for the proposed project is evaluated under the parameters established in the *2013 MOU Threshold Table Programmatic Agreement* that was signed April 17, 2014. An updated BE was submitted for TxDOT's review on December 12, 2014, to account for the additional ROW. TxDOT concurred with the BE updates on February 2, 2015, and stated in an email dated February 17, 2015, that no additional coordination was required with TPWD. All TPWD-related correspondence is included in **Appendix C**.

Unusual vegetation features (**Table 6-11**) within the proposed study area, as defined in Tier II Site Assessments Programmatic Agreement under the TxDOT-TPWD 2013 MOU (TxDOT, 2013), are characterized as follows:

- **Unmaintained vegetation**. Approximately 254.5 acres of unmaintained vegetation (categorized above as Upland Pasture, Forest/Mesquite Shrub, and Wetland) were identified within the proposed ROW.
- **Trees or shrubs along a fenceline (ROW) adjacent to a field (fencerow vegetation)**. Fencerow vegetation was not observed within the proposed ROW.
- **Riparian vegetation**. Riparian areas are the interface between the land and rivers or streams. Once a stream is channelized the riparian area disappears because water no longer regularly

floods over the banks. Since each of the waterways within the proposed ROW has been channelized; no riparian areas are present.

- **Trees that are unusually larger than the other trees in the area**. Larger trees were observed within the proposed ROW; however, trees varied in size and species throughout the study area. These larger trees were not considered unusual to the study area or to the general area surrounding the proposed ROW.
- **Unusual stands or islands (isolated) of vegetation**. Unusual and/or isolated stands of vegetation were not observed during the field investigations.

**Table 6-11: Unusual Vegetation and Special Habitat Features**

| Unusual Vegetation Features/ Special Habitat Features | Surface Area (acres) | Impact Area (acres) |
|---|---|---|
| **Total Unusual Vegetation Features** | **254.50** | **254.50** |
| Unmaintained vegetation | 254.50 | 254.50 |
| Trees or shrubs along a fenceline adjacent to a field | 0 | 0 |
| Riparian vegetation | 0 | 0 |
| Trees that are unusually larger than other trees in the area | 0 | 0 |
| Unusual stands or islands of vegetation | 0 | 0 |
| **Total Special Habitat Features** | **14.40*** | **14.40*** |
| Bottomland hardwoods | 0 | 0 |
| Caves | 0 | 0 |
| Cliffs and bluffs | 0 | 0 |
| Native prairies | 0 | 0 |
| Seeps or springs | 0 | 0 |
| Snags | 0 | 0 |
| Wetlands | 19.93* | 19.93* |
| Waterbodies (ditches, canals, ponds) | 14.40 | 14.40 |
| Existing bridges with known or easily observed bird or bat colonies | 0 | 0 |
| **Total Unusual Vegetation Features/Special Habitat Features** | **268.9*** | **268.9*** |

*Wetlands are included as both unmaintained vegetation and as special habitat features and therefore are not added in the tabulated total unusual vegetation features/special habitat features to eliminate double counting.

Special habitat features, as defined in Section 1 of the TxDOT-TPWD MOA, are characterized as follows:

- **Caves**: No caves were noted during the field investigations.
- **Cliffs and bluffs**: No cliffs or bluffs were noted during the field investigations.
- **Native prairies**: No native prairies were identified during the field investigations.
- **Ponds**: One pond is located within the proposed ROW. Refer to Wetlands and Waters of the U.S. section for a more-detailed description of this feature.

- **Seeps or springs**: There were no seeps or springs noted during the field investigations.
- **Snags or groups of snags**: No snags were noted during the field investigations.
- **Wetlands:** Four jurisdictional wetlands totaling 19.24 acres and four nonjurisdictional wetlands totaling 0.69 acre were identified within the Build Alternative. Refer to the Wetlands and Waters of the U.S. (Section 16.4) for a more detailed description of these features.
- **Waterbodies:** Seven jurisdictional waterbodies totaling 4.88 acres and 27 nonjurisdictional waterbodies totaling 9.52 acres were identified within the Build Alternative. Refer to Wetlands and Waters of the U.S. section for a more detailed description of these features.
- **Existing bridges with known or easily observed bird or bat colonies:** No bridges with bird or bat colonies were noted during the field investigations.

#### 6.6.1.1 Mitigation for Vegetation Impacts

In accordance with the 2013 TxDOT-TPWD MOU, and at the TxDOT Pharr District's discretion, habitats given consideration for nonregulatory mitigation during project planning will include:

1. Habitat for federal candidate species (impacted by the project) if mitigation would assist in the prevention of the listing of the species.
2. Rare vegetation series (S1, S2, or S3) that also locally provide habitat for a state-listed species.
3. All vegetation communities listed as S1 or S2, regardless of whether or not the series in question provide habitat for state-listed species.
4. Bottomland hardwoods, native prairies, and riparian sites.
5. Any other habitat feature considered locally important that the TxDOT District chooses to consider.

None of the special habitat features listed above were observed within the project ROW. Project impacts would be minimized by using appropriate best management practices (BMPs). The BMPs include, but are not limited to, implementation of proper erosion/sedimentation control measures, implementation controls for reduction or elimination of pollutant discharge, and conservation of existing vegetation, where possible.

In accordance with the Executive Memorandum of April 26, 1994, all agencies shall comply with NEPA as it relates to vegetation management and landscape practices for all federally assisted projects. The Executive Memorandum directs that where cost-effective and to the extent practicable, agencies will (1) use regionally native plants for landscaping; (2) design, use, or promote construction practices that minimize adverse effects on the natural habitat; (3) seed to prevent pollution by, among other things, reducing fertilizer and pesticide use; (4) implement water-efficient and runoff reduction practices; and (5) create demonstration projects employing these practices. Landscaping included with this project would be in compliance with the Executive Memorandum and the guidelines for environmentally and economically

beneficial landscape practices utilizing seed mixes and rates as specified for the Pharr District in Special Provision 164-006, Seeding for Erosion Control.

### 6.6.2 No-Build Alternative

Under the No-Build Alternative, continual conversion of forest/scrub-shrub, unmaintained grassland, wetland, and mesquite shrub vegetation would continue to be altered through development, subsequent maintenance activities, farming activities, and programmed regional projects.

## 6.7 BENEFICIAL LANDSCAPE PRACTICES

### 6.7.1 Build Alternative

In accordance with the Executive Memorandum of April 26, 1994, all agencies shall comply with NEPA as it relates to vegetation management and landscape practices for all federally assisted projects. Landscaping included with the Build Alternative would be in compliance with the Executive Memorandum and the guidelines for environmentally and economically beneficial landscape practices. Permanent soil erosion and control features would be constructed as soon as feasible during early stages of construction through proper sod and seeding techniques. Disturbed areas would be restored and stabilized as soon as the construction schedule permits and temporary sod would be considered where large areas of disturbed ground would be left bare for a considerable length of time. A revegetation plan will be developed if vegetation cover has not returned to 70 percent of preconstruction conditions within two growing seasons following completion of each of the three project phases.

### 6.7.2 No-Build Alternative

No landscaping would be required under the No-Build Alternative.

## 6.8 INVASIVE SPECIES

### 6.8.1 Build Alternative

EO 13112, issued February 3, 1999, requires federal agencies to prevent introduction of invasive species and provide for their control and then to minimize the economic, ecological, and human health impacts that invasive species cause. In accordance with the Executive Memorandum of April 26, 1994 and EO 13112, landscaping would be limited to seeding and replanting the ROW with native species of grasses, shrubs, or trees where applicable. The Build Alternative would utilize the TxDOT-approved seed mix. No invasive species would be used to establish vegetation within the ROW, and soil disturbance would be minimized to help prevent invasive species from establishing within the disturbed ROW.

### 6.8.2 No-Build Alternative

Invasive species would continue to promulgate throughout the study area under the No-Build Alternative.

## 6.9 GEOLOGY, TOPOGRAPHY, AND SOILS

### 6.9.1 Geology

The Gulf Coast Aquifer in Texas is mainly covered by a smooth, low-lying coastal plain that gradually rises from sea level in the east to as much as 900 feet in the northwest. The coastal uplands end at the contact of the Cretaceous clay and limestone where elevations rise sharply. The surficial geology of the Texas Gulf Coast is complex, consisting of a mosaic of lithofacies with the Pleistocene and Holocene sediments covering most of the outcrop areas. The Coastal Plain is underlain by a massive thickness of sediments that form a homocline sloping gently towards the Gulf of Mexico. Several major rivers dissect the Gulf Coast aquifer and flow nearly perpendicular to the Gulf of Mexico. These rivers include the Sabine, Trinity, Colorado, Guadalupe, Brazos, San Antonio, and Rio Grande. Between the valleys of the major rivers crossing the coastal plains, differential erosion of the softer and harder beds led to the formation of parallel low ridges and escarpments. Sediments of the Texas Gulf Coast aquifer were deposited in the coastal plains of the Gulf of Mexico Basin during the Tertiary and Quaternary periods (Chowdhury and Turco, 2006).

Two geologic mapping units occur within the study area and include Alluvium (Qam) and Alluvium (Qas). The following is a combined description of both mapping units.

The Holocene-aged alluvial systems in the Texas Gulf Coast are local in scale and typically are included within the Chicot aquifer. The Brazos, Trinity, Nueces, and Rio Grande alluvial basins consist of terrace gravels, buried sand deposits, and point bar deposits with grain sizes ranging from clay to gravel. The flat-lying floodplain deposits typically consist of sand and gravel in the lower part and silt and clay in the upper part. This surficial system exhibits the largest outcrop area of all the units in the Texas Gulf Coast and provides a direct hydraulic connection in some cases between the surface water and groundwater systems (Chowdhury and Turco, 2006).

### 6.9.2 Topography

The study area is located within a relatively flat to gently sloping terrain. The study area drains primarily to the south toward the Rio Grande. Surface elevations range from a high of approximately 115 feet above mean sea level (msl) at the study area's northern terminus to a low of approximately 85 feet above msl at the study area's southern terminus.

### 6.9.3 Soils

According to the *Soil Survey of Hidalgo County, Texas* (Soil Conservation Service [SCS, now the Natural Resources Conservation Service (NRCS)], 1981), 11 different soil mapping units are located within the proposed ROW. These soils consist of Arents, loamy (1); Benito clay (2); Camargo silt loam (5); Cameron silty clay (7); Grulla clay (15); Harlingen clay (19); Harlingen clay, saline (20); Reynosa silty clay loam, 0 to 1 percent slopes (55); Reynosa silty clay loam, saline, 0 to 1 percent slopes (56); Runn silty clay (64); and Runn silty clay, saline (65) (SCS, 1981). The NRCS's *Soil Survey of Hidalgo County, Texas*, and Soil Data Mart (SCS, 1981; NRCS, 2011) were used to describe the soil types below. Two of the soils within the proposed ROW, Benito clay (2) and Grulla clay (15), occur on the National Hydric Soils List (NRCS, 2011).

Arents, loamy (1) consists of deep, nearly level soils on uplands. These soils are in areas that were formerly low places and have been filled by land leveling for irrigation. Slopes are mostly less than 0.5 percent but range from 0 to 1 percent. These soils are mixed by land leveling and are deposited in layers of 24 to 60 inches. These soils are moderately well drained, and surface runoff is slow. Permeability is moderately slow and the available water capacity is medium. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Benito clay (2) consists of deep, nearly level saline soil in depressional areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but can range from 0 to 1 percent. Typically, the surface layer is gray clay about 56 inches thick with intersecting slickensides in the lower part. The next layer, extending from 56 to 65 inches, is light gray clay. This soil is calcareous throughout. This soil is poorly drained. Surface runoff is ponded and permeability is very slow. The available water capacity is low. This soil is used for improved pasture. Some areas are used for irrigated cropland. This mapping unit is listed as hydric on the National Hydric Soils List (NRCS, 2011).

Camargo silt loam (5) consists of deep, nearly level soil on the active floodplain of the Rio Grande. Slopes range from 0 to 1 percent. Areas are small and irregular in shape and range from 10 to 30 acres. The surface layer is light brownish-gray silt loam about 8 inches thick. The next layer, from 8 to 20 inches, is grayish-brown silty clay loam. The next layer, from 20 to 50 inches, is silt loam that is light brownish-gray in the upper part and pale brown in the lower. The soil is well drained. Surface runoff is slow and permeability is moderate. The available water capacity is high. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Cameron silty clay (7) consists of deep, nearly level soil found on ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. The surface layer is usually dark grayish-brown silty clay about 18 inches thick. The next layer is brown silty clay from 18 to 30 inches thick. The next layer from 30 to 65 inches is a pale brown silt loam. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is slow and permeability is moderately slow. The available water

capacity is high. This soil is mainly used as irrigated cropland. A few areas are used as pastureland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Grulla clay (15) consists of deep, nearly level soil in partly filled resacas or oxbows on the active floodplain of the Rio Grande. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Areas are long and narrow in shape and rarely exceed 50 acres. Typically, the surface layer is grayish-brown clay about 7 inches thick. The next layer, to a depth of 25 inches, is light brownish-gray clay. The next layer, to 47 inches, is grayish-brown clay. The next layer, to 59 inches, is an old buried surface layer that is gray clay. This soil is somewhat poorly drained. Surface runoff is ponded. Permeability is very slow. The available water capacity is medium. This mapping unit is listed as hydric on the National Hydric Soils List (NRCS, 2011).

Harlingen clay (19) consists of deep, nearly level soil on broad areas of ancient stream terraces. Slopes are mainly less than .05 percent but range from 0 to 1 percent. Typically, the surface layer is grayish-brown clay about 18 inches thick. The next layer, from 18 to 72 inches, is brown clay that has many intersecting slickensides. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is very slow. Permeability is very slow. The available water capacity is low. This soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Harlingen clay, saline (20), consists of deep, nearly level saline soil on broad areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown clay about 16 inches thick. The next layer from 16 to 65 inches is saline, brown clay that has many intersecting slickensides. The soil is calcareous throughout. This soil is moderately well drained. Surface runoff is very slow. Permeability is very slow and the available water capacity is very low. This soil is moderately saline to strongly saline as a result of over-irrigation and evaporation of slightly saline water. This soil is used mostly as irrigated cropland and pasture; however, a few areas are idle. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Reynosa silty clay loam, 0 to 1 percent slopes (55), consists of deep, nearly level soils in areas of ancient stream terraces. Slopes range from 0 to 1 percent, and areas are irregular in shape and range from 20 to 100 acres. Typically, the surface layer is grayish-brown silty clay loam about 15 inches thick. The next layer, from 15 to 48 inches, is light brownish-gray silty clay loam. The layer extending from 48 to 65 inches is pale brown silt loam. This soil is well drained. Surface runoff is slow and permeability is moderate. The available water capacity is high. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Reynosa silty clay loam, saline, 0 to 1 percent slopes (56), consists of deep, nearly level saline soils in areas of ancient stream terraces. Slopes range from 0 to 1 percent and areas are irregular in shape and range from 10 to 75 acres. Typically, the surface layer is saline, grayish-brown silty clay loam about

12 inches thick. The next layer, from 12 to 37 inches, is saline, light brownish-gray silty clay loam. The layer extending from 37 to 65 inches is saline, light brownish-gray silty clay loam. This soil is well drained. Surface runoff is slow, and permeability is moderate. The available water capacity is low. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Runn silty clay (64) consists of deep, nearly level soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is dark grayish-brown, silty clay about 18 inches thick. The next layer, from 18 to 38 inches, is light brownish-gray silty clay. The next layer, from 38 to 55 inches, is pale brown silty clay. The layer extending from 55 to 65 inches is pale brown silty clay loam. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is high. This Runn soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Runn silty clay, saline (65) consists of deep, nearly level saline soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown, silty clay about 16 inches thick. The next layer, from 16 to 54 inches, is saline, brown, silty clay. The layer extending from 54 to 65 inches is saline, light brown, silty clay. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is low. This Runn soil is used almost entirely as irrigated cropland or pastureland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

#### 6.9.3.1 Build Alternative

Under the Build Alternative, construction of the proposed project would require excavation but is not expected to impact the geology of the study area. Operation and maintenance of the proposed roadway are not expected to have an adverse effect on the preexisting geologic conditions at the site.

Construction and operation associated with development of the study area would require selective clearing, excavation, and grading to establish the desired elevations for road infrastructure (i.e., pavement, utilities, drainage ditches, etc.). The existing topography is not expected to limit the proposed actions or require impacts above those typically associated with this level of development. The impact to topography would not be substantial and would be limited to the immediate project ROW. An adequate erosion and sedimentation control plan using the BMPs would be implemented prior to and during construction activities in conformance with applicable state and local regulations.

Short-term impacts to existing soils would result during road preparation activities (e.g., clearing, excavation, and grading). Clearing of the ground cover would not occur until work is ready to commence, and soil preparations and vegetation restoration would follow as soon as construction is complete. Some soils excavated would be redistributed as fill material. Long-term impacts would result because some soils would be covered by impervious surfaces such as roads, parking lots, and walkways. Impacts to

existing soils would result during road preparation activities (e.g., clearing, excavation, and grading). Clearing of the ground cover would not occur until work is ready to commence, and soil preparations and vegetation restoration would follow as soon as construction is complete.

#### 6.9.3.2 No-Build Alternative

Under the No-Build Alternative, impacts to geology, topography, and soils would be altered through development, farming activities, and programmed regional projects.

## 6.10 FARMLAND PROTECTION POLICY ACT

Projects considered exempt under the Farmland Protection Policy Act (FPPA) include those that require no additional ROW or require ROW in which the ROW is developed, urbanized, or zoned for urban use. Because the Build Alternative would require additional ROW, a farmland conservation impact rating (Form NRCS-CPA-106) was completed and forwarded to the NRCS for the SH 365 project in March 2013 (see **Appendix C**) to determine whether prime, unique, or otherwise important farmland would be impacted by the Build Alternative. The NRCS response dated May 22, 2013 is included in **Appendix C**.

### 6.10.1 Build Alternative

According to the state NRCS office, the proposed study area contains Important Farmland soils as defined by the FPPA. However, the Build Alternative received a total score of less than 160 in Part VII of the Form NRCS-CPA-106. The NRCS requested that upon final decision of the Build Alternative, the HCRMA is to submit a return copy of the Form NRCS-CPA-106, indicating the selected alignment. In addition, the NRCS encouraged the use of accepted erosion control methods during construction. Since the score fell below 160, no further considerations for protection needs is anticipated.

### 6.10.2 No-Build Alternative

The No-Build Alternative would not require any additional ROW; therefore, it would not impact prime farmland soils.

## 6.11 WILDLIFE

The study area is located in the Tamaulipan biotic province, as described by Blair (1950), the LRGV and Lower Rio Grande Alluvial Plain, as described by Griffith et al. (2004), and the crops vegetation type, as described by McMahan et al. (1984). In addition to the more common wildlife species, a number of unique and rare animals occur in the region (Williams et al., 1977). Many of the terrestrial wildlife species in the study area are limited in their distribution either partially or entirely to the Tamaulipan Biotic Province, and some are found only within the LRGV.

There are approximately 87 mammals of potential occurrence in the LRGV including whitetail deer (*Odocoileus virginianus*), javelina (*Pecari tajacu*), several different species of wild rabbit (*Sylvilagus sp.*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), coyote *(Canis latrans*), Mexican ground squirrel (*Spermophilus mexicans*), bobcat (*Felis rufus*), beaver (*Castor canadensis*), nutria (*Myocastor coypus*), gopher (*Geomys* and *Cratogeomys* spp.), mice (*Perognathus* and *Peromyscus* spp.), rock squirrel (*Spermophilus variegatus*), spotted ground squirrel (*Spermophilus spilosoma*), and wood rat (*Neotoma* spp.) (Hackland, 2004; USIBWC, 2005).

There are approximately 500 bird species that potentially occur in the LRGV. The four-county (Starr, Hidalgo, Willacy, and Cameron Counties) LRGV has 499 bird species officially accepted by the Records Committee of the Texas Ornithological Society in June 2004. Much of the bird diversity comes from the fact that the LRGV is where the Central and Mississippi flyways meet. Some birds most common to the area are the ground-dove (*Columbia passerina*), golden-fronted woodpecker (*Melanerpes aurifrons*), northern mockingbird (*Mimus polyglottos*), great-tailed grackle (*Quiscalus mexicanus*), and groove-billed ani (*Crotophaga ani*). Common seasonal birds are the indigo bunting (*Passerina cyanea*), orchard oriole (*Icterus spurius*), green heron (*Butorides virescens*), black-chinned hummingbird (*Archilochus alexandri*), mallard (*Anas platyrhynchos*), greater yellowlegs (*Tringa melanoleuca*), laughing gull (*Larus atricilla*), belted kingfisher (*Ceryle alcyon*), sharp-shinned hawk (*Accipiter striatus*), scarlet tanager (*Piranga olivacea*), Mississippi kite (*Ictinia mississippiensis*), broad winged hawk (*Buteo platypterua*), Wilson's phalarope (*Phalaropus tricolor*), and Franklin's gull (*Larus pipixcan*) (USIBWC, 2005).

There are approximately 86 species of reptiles and amphibians that potentially occur in the LRGV. The reptiles consist of snakes (33 species), lizards (21 species), turtles (11 species), and the American alligator (*Alligator mississippiensis*). The amphibians consist of frogs and toads (18 species), and 3 species of salamanders (Hackland, 2004). The turtles include the red-eared slider (*Trachemys scripta elegans*), Texas spiny soft-shelled turtle (*Apalone spinifera*), ornate box turtle (*Terrapene ornata ornata*), Texas tortoise (*Gopherus berlandieri*), and the yellow mud turtle (*Kinosternon flavescens flavenscens*). The American alligator has also been recorded in the LRGV. Lizards in the area include whiptails, skinks (*Eumeces* spp.), introduced Mediterranean gecko (*Hemidactylu turcicus*), and the green anole (*Anolis carolinensis*). Snakes include water snakes (*Nerodia* spp.), rat snakes (*Elaphe* spp.), the venomous western diamondback rattlesnake (*Crotalus atrox*) and the Texas coral snake (*Micrurus fulvius tener*) (Hackland, 2004; USIBWC, 2005).

The LRGV provides a variety of aquatic habitats including the Rio Grande, ox-bow lakes or resacas, arroyos, reservoirs, ponds, irrigation ditches, and other manmade impoundments. There are approximately 178 species of fish that could potentially occur near the study area (USIBWC, 2003). In a 1990 study by Texas A&M (TAMU) at Galveston, 45 fish species were found to inhabit the Lower Rio Grande from Brownsville to upstream of the Anzalduas Dam. The dominant fish species in the 134-mile stretch of river were inland silverside (*Menidia beryllina*), mosquitofish (*Gambusia affinis*), red shiner (*Notropis lutrensis*), channel catfish *(Ictalurus punctatus)* and threadfin shad (*Dorosoma petenense),* which together

produced 81 percent of all fish captured during the 1990 study. Large forage fish include carp (*Cyprinus carpio*), buffalo (*Ictiobus* spp.), striped mullet (*Mugil cephalus*), catfish, and sunfish (*Lepomis* spp.) (USIBWC, 2003). The proposed ROW crosses irrigation canals that contain water pumped from the Lower Rio Grande; therefore, the fish species identified within the Lower Rio Grande may be found in these canals.

### 6.11.1 Build Alternative

Removal and conversion of existing vegetation would be the primary potential impact to wildlife resulting from construction within the proposed ROW. The majority of the vegetation impacts would occur within row crops with approximately 369.35 acres. Another 257.27 acres of vegetation conversion will occur beyond the row crop impacts including, but not limited to wetlands, mesquite shrub/woodland, and grassland/pasture. Refer to **Table 6-9** for a summary of the vegetation communities identified within the proposed ROW. The proposed ROW also crosses 35 waterbodies that provide potential aquatic habitat.

Impacts to stream habitat would be avoided with bridge spanning and culverts; the construction plan would minimize modifications to stream habitats. Existing aquatic habitat conditions would be maintained through implementation of the BMPs and strict implementation and maintenance of erosion and sedimentation controls during construction activities. Typical short-term construction impacts on water quality include increased turbidity and siltation. High turbidity is either tolerated by many species or temporarily displaces the fish until acceptable levels of turbidity are restored. However, high levels of turbidity can create situations that clog the gills of fish and reduce their ability to extract oxygen from the water. Turbidity and sedimentation may also affect food supplies and the ability of a fish to locate prey. While fish normally recover quickly from stress, such circumstances during spawning seasons may reduce reproductive success. Construction of the proposed project would include temporary erosion control measures to decrease turbidity and siltation during construction. These may include the use of silt fencing, inlet protection barriers, hay bales, seeding or sodding of bare areas, or other suitable means of containment. Temporary erosion control structures would be built before construction begins (where appropriate) and maintained during construction. Vegetation would be cleared only as needed, and clearing may be phased to maintain soil integrity and minimize exposure of an erosive surface.

Trees observed within the study area provide potential migratory bird habitat. A cursory nest survey was conducted during field investigations. No nests were observed within the proposed ROW during the investigations. Construction activities, if conducted during the breeding season, may destroy nests and broods of some bird species. In accordance with the Migratory Bird Treaty Act (MBTA), no vegetation would be removed containing active nests, eggs, and/or young should they occur on the project during their nesting and breeding season. If migratory bird nests are encountered during construction, the HCRMA Environmental Coordinator would be immediately notified and construction would cease within the area of concern until clearance is received. The contractor would remove all old migratory bird nests between September 1 and January 31 from any structure where work would be done. In addition, the

contractor would be prepared to prevent migratory birds from building nests between February 1 and August 31.

Impacts to wildlife associated with any construction include short-term effects resulting from physical disturbance during construction, and long-term effects resulting from habitat alteration. The proposed project would result in clearing of vegetation; however, the majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. Adverse effects on ground species such as small mammals, amphibians, and reptiles are typically minor and temporary, although the nests of small mammals and others may be lost during clearing or construction. Some animals, being temporarily deprived of cover would be subject to increased natural predation. Ground-dwelling animals may be adversely affected by soil compaction caused by heavy machinery. Wildlife in the immediate area may experience a slight loss of browse or forage material resulting from the clearing of mesquite shrub habitats within the study area. Periodic clearing along the easement, while producing temporary negative impacts to some wildlife, improves habitat for ecotonal or edge species resulting from the increased production of small shrubs, perennial forbs, and grasses.

### 6.11.2 No-Build Alternative

Under the No-Build Alternative, habitat fragmentation would continue as a result of development, farming activities, and programmed regional projects.

## 6.12 MIGRATORY BIRD TREATY ACT

The MBTA states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, young, feather, or egg in part or in whole, without a federal permit issued in accordance within the MBTA's policies and regulations. Bald and Golden Eagles receive federal protection under the MBTA as migratory species as well as under the Bald and Golden Eagle Protection Act.

### 6.12.1 Build Alternative

During the field investigations, no nests were visually identified within the proposed ROW of the Build Alternative. Reasonable and practicable measures to avoid impacts to migratory bird species, their nests or their young would be taken. It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 1 through September 15. When practicable, ROW clearing activities would be executed outside of the preferred nesting season as to avoid impacts to migratory bird species. Work to be performed within the nesting season would be preceded by surveying for nests within the study area. If nests containing migratory birds are found they must be avoided and no work would be performed within 50 to 100 feet of the nesting areas, depending on the species until the young birds have fledged. Every effort would be made to minimize impacts during construction by complying with the

MBTA. Weekly reports of bird surveys and survey protocol would be provided during nesting season until construction activities are completed.

### 6.12.2 No-Build Alternative

Under the No-Build Alternative, development, farming activities, and programmed regional projects would continue, potentially removing migratory bird habitat.

## 6.13 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) requires consideration of potential influence attributed to the proposed project activities upon federally protected species. Ecologists reviewed the TPWD's Natural Diversity Database (NDD) on October 8, 2014, to identify previously recorded occurrences of both state- and/or federal-threatened/endangered species within the vicinity of the study area as defined within 1.5 miles of the proposed project ROW. The USFWS and TPWD threatened and endangered species county lists were also reviewed (USFWS, 2014a; TPWD, 2014b) to determine the potential of occurrence within the study area.

Biologists traversed the entire proposed ROW during field surveys conducted in October 2008, December 2008, May 2010, and November 2013 to document the existing conditions present within the proposed ROW and to assess the suitability of potential habitats that may be present for utilization by protected species. The proposed ROW was subsequently reviewed in October 2014, and no further field surveys for state- and/or federally listed threatened or endangered species are recommended.

**Table 6-12** contains a list of the threatened and endangered species within Hidalgo County, their federal and state statuses, a brief life history or habitat description, and habitat presence within the study area.

Geographic information systems (GIS) review of the TPWD's NDD (2014c) indicated that there are documented occurrences of the gray hawk (*Asturina nitida*), rose-throated becard (*Pachyramphus aglaiae*), Walker's manioc (*Manihot walkerae*), Texas indigo snake (*Drymarchon corais*), black-spotted newt (*Notophthalmus meridionalis*), sheep frog (*Hypopachus variolosus),* South Texas siren (large form) (*Siren* sp 1), river goby (*Awaous banana*), Gulf Coast jaguarundi (*Herpailurus yaguarondi cacomitli*), and ocelot (*Leopardus pardalis*) within the proposed ROW or within 1.5 miles of the proposed ROW. The proposed project does not cross any portions of the LRGV NWR.

**Table 6-12: Federal- and State-Listed Threatened and Endangered Species**
**Hidalgo County, Texas**

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| **BIRDS** | | | | | | | |
| Yellow-billed cuckoo *Coccyzus americanus* | LT | - | Riparian habitat along low gradient streams and rivers or open riverine valleys with wide floodplains; nests in large tracts of willow-cottonwood or mesquite forests or woodland; rarely next at sites less than 50 acres in size | No | No effect | No | The proposed ROW does not provide suitable habitat for this species. |
| American peregrine falcon *Falco peregrinus anatum* | -- | T | Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in U.S. and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast, and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Cactus ferruginous pygmy-owl *Glaucidium brasilianum cactorum* | -- | T | Riparian trees, brush, palm, and mesquite thickets; during day also roosts in small caves and recesses on slopes of low hills; breeding April through June. | Yes | May Impact | No | Potential habitat for this species within the proposed ROW is extremely fragmented due to surrounding urban development and row crop conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. |
| Common black-hawk *Buteogallus anthracinus* | -- | T | Cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Gray hawk *Asturina nitida* | -- | T | Locally and irregularly along U.S.-Mexico border; mature riparian woodlands and nearby semi-arid mesquite and scrub grasslands; breeding range formerly extended north to southernmost Rio Grande floodplain of Texas. | Yes | May Impact | Yes | Potential habitat for this species within the proposed ROW is extremely fragmented foraging habitat due to surrounding urban development and row crop conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. |
| Interior least tern *Sterna antillarum athalassos* | -- | E | Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also known to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc.); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony. | No | No Impact | No | Although categorized as federally endangered, the USFWS does not list this species in Hidalgo County. The proposed ROW does not provide suitable habitat for this species. |
| Northern aplomado falcon *Falco femoralis septentrionalis* | LE, EXPN | 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 | No Effect | No | The proposed ROW does not contain suitable habitat for this species. |
| Northern beardless-tyrannulet *Camptostoma imberbe* | -- | T | Mesquite woodlands near Rio Grande; frequents cottonwood, willow, elm, and great leadtree; breeding April through July. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Red-crowned parrot *Amazona viridigenalis* | C | -- | Native to Mexico and is currently found in northeastern Mexico, inhabiting lush areas in arid lowlands and foothills, particularly gallery forests, deciduous woodlands, and dry, open, pine-oak woodlands on ridges up to 3,281 feet. | No | No Impact | No | The proposed ROW does not provide suitable habitat for this species and any potential individuals are likely vagrants. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Reddish egret *Egretta rufescens* | -- | 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 | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Rose-throated becard *Pachyramphus aglaiae* | -- | T | Riparian trees, woodlands, open forest, scrub, and mangroves; breeding April through July | No | No Impact | Yes | EO ID occurrence records are located in expansive woodland and thorn scrub habitats in the nearby LRGV NWR. The proposed ROW does not provide suitable habitat for this species. |
| Sprague's pipit *Anthus spragueii* | C | -- | Only in Texas during migration and winter, mid-September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare farther west; sensitive to patch size and avoids edges. | Yes | No Impact | No | The proposed project would likely impact wintering habitat; however, natural habitat adjacent to the proposed ROW would provide ample alternative winter habitat. In addition, this species may utilize urban areas adjacent to the proposed project as stopover sites. |
| Texas Botteri's sparrow *Aimophila botterii texana* | -- | T | Grassland and short-grass plains with scattered bushes or shrubs, sagebrush, mesquite, or yucca; nests on ground of low clump of grasses. | Yes | May Impact | No | Potential habitat for this species within the proposed ROW is extremely fragmented due to surrounding urban development and row crop conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. |
| Tropical parula *Parula pitiayumi* | -- | T | Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April through July. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| White-faced ibis *Plegadis chihi* | -- | T | Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| White-tailed hawk *Buteo albicaudatus* | -- | 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 through May. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Wood stork *Mycteria americana* | -- | T | Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including saltwater; 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. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Zone-tailed hawk *Buteo albonotatus* | -- | T | Arid, open country, including open deciduous or pine-oak woodland, mesa or mountain country, 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. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| **FISHES** | | | | | | | |
| Rio Grande silvery minnow *Hybognathus amarus* | -- | E | Extirpated; historically Rio Grande and Pecos River systems and canals; pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; probably spawns on silt substrates of quiet coves. | No | No Impact | No | The species is considered extirpated from Hidalgo County and only experimental, nonessential populations exist in the Big Bend reach of the Rio Grande (TPWD, 2014b). |
| River goby *Awaous banana* | -- | T | Southern coastal waters; clear water with slow to moderate current, sandy or hard bottom, and little or no vegetation; also enters brackish and ocean waters. | No | No Impact | Yes | The TPWD's NDD (2014c) records indicate the species presence within 1.5 miles of the proposed ROW; however, no potential habitats are crossed by the proposed ROW. |
| **MAMMALS** | | | | | | | |
| Coues' rice rat *Oryzomys couesi* | -- | 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 through August. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Gulf Coast jaguarundi *Herpailurus yaguarondi cacomitli* | LE | E | Thick brushlands, near water favored; 60- to 75-day gestation, young born sometimes twice per year in March and August, elsewhere the beginning of the rainy season and end of the dry season. | No | No Effect | Yes | Optimal or marginal habitats are not crossed by the proposed ROW. Streams, ditches, canals, and brush lines crossed by the proposed ROW would not provide viable corridors to connect existing habitats outside the proposed ROW. |
| Jaguar *Panthera onca* | -- | E | Extirpated; dense chaparral; no reliable Texas sightings since 1952 (TPWD, 2014b). | No | No Impact | No | The proposed ROW does not provide suitable habitat for this species, and it is considered extirpated from Hidalgo County. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Ocelot *Leopardus pardalis* | LE | E | Dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June through November. | No | No Effect | Yes | Optimal or marginal habitats are not crossed by the proposed ROW. Streams, ditches, canals, and brush lines crossed by the proposed ROW would not provide viable corridors to connect existing habitats outside the proposed ROW. |
| Southern yellow bat *Lasiurus ega* | -- | T | Associated with trees, such as palm trees (*Sabal texana*) in Brownsville, which provide them with daytime roosts; insectivorous; breeding in late winter. | Yes | May Impact | No | The proposed ROW contains scattered palm trees along existing roads that may provide habitat for the southern yellow bat. Existing palm trees would be avoided to the maximum extent practicable. |
| White-nosed coati *Nasua narica* | -- | 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 | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| **AMPHIBIANS** | | | | | | | |
| Black-spotted newt *Notophthalmus meridionalis* | -- | T | Arroyos, canals, ditches, shallow depressions. | Yes | May Impact | Yes | Limited impacts to individual specimens may occur where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, should be implemented where practicable along with the implementation of BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Sheep frog *Hypopachus variolosus* | -- | T | Grassland and savanna, moist sites in arid areas. | Yes | May Impact | Yes | Limited impacts to individual specimens may occur where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, should be implemented where practicable along with the implementation of BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species. |
| South Texas siren (large form) *Siren* sp 1 | -- | T | Arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods. | Yes | May Impact | Yes | Limited impacts to individual specimens may occur where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, should be implemented where practicable along with the implementation of BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species. |
| White-lipped frog *Leptodactylus fragilis* | -- | T | Grasslands, cultivated fields, roadside ditches, and a wide variety of other habitats; often hides under rocks or in burrows under clumps of grass; species requirements incompatible with widespread habitat alteration and pesticide use in south Texas. | Yes | May Impact | No | Limited impacts to individual specimens may occur where individuals are present, particularly in areas where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, should be implemented where practicable along with the implementation of BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Mexican treefrog *Smilisca baudinii* | -- | T | Subtropical region of extreme southern Texas; breeds May through October coinciding with rainfall, eggs laid in temporary rain pools. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| **REPTILES** | | | | | | | |
| Texas tortoise *Gopherus berlandieri* | -- | T | Open brush with grass understory/sometimes in burrows or under objects. | Yes | May Impact | No | Potential habitat for this species within the proposed ROW is extremely fragmented due to surrounding urban development and row crop conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. If concrete barriers are determined necessary in areas with potential to obstruct travel patterns of the Texas tortoise, the HCRMA would consider measures that could allow this species to pass through the roadway unobstructed. |
| Texas horned lizard *Phrynosoma cornutum* | -- | T | Open, arid and semi-arid regions with sparse vegetation, including grass, 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; breeds March through September. | Yes | May Impact | No | Potential habitat for this species within the proposed ROW is extremely fragmented due to surrounding urban development and row crop conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. If concrete barriers are determined necessary in areas with potential to obstruct travel patterns of the Texas horned lizard, the HCRMA would consider measures that could allow this species to pass through the roadway unobstructed. |
| Speckled racer *Drymobius margaritiferus* | -- | T | Extreme south Texas; dense thickets near water, Texas palm groves, riparian woodlands; often in areas with much vegetation litter on ground; breeds April through August. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Reticulate collared lizard *Crotaphytus reticulatus* | -- | T | Requires open brush-grasslands; thorn-scrub vegetation, usually on well-drained rolling terrain of shallow gravel, caliche, or sandy soils; often on scattered flat rocks below escarpments or isolated rock outcrops among scattered clumps of prickly pear and mesquite. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Northern cat-eyed snake *Leptodeira septentrionalis* | -- | T | Gulf Coastal Plain south of the Nueces River; thorn brush woodland; dense thickets bordering ponds and streams; semi-arboreal; nocturnal. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Texas indigo snake *Drymarchon melanurus erebennus* | -- | T | Texas south of the Guadalupe River and Balcones Escarpment; thornbush-chaparral woodlands of south Texas, in particular dense riparian corridors; can do well in suburban and irrigated farmlands if not molested or indirectly poisoned; requires moist microhabitats, such as rodent burrows, for shelter. | Yes | May Impact | Yes | The mesquite shrub/woodland habitat within the proposed ROW may provide potential habitat for this species; however, the proposed project crosses limited mesquite shrub habitat and would have a minimal impact to this potential habitat. |
| Black-striped snake *Coniophanes imperialis* | -- | T | Extreme south Texas; semi-arid coastal plain, warm, moist micro-habitats and sandy soils; proficient burrower; eggs laid April through June. | Yes | May Impact | No | Emergent wetlands within the proposed ROW provide potential habitat for this species. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, implementation of BMPs, and avoidance of fill discharge would minimize impacts to the black-striped snake. |
| **PLANTS** | | | | | | | |
| Star cactus *Astrophytum asterias* | LE | E | On gentle slopes and flats in grasslands or scrub-shrub. | No | No Effect | No | The proposed ROW does not contain suitable habitat for this species. |

| Species | Federal Status[1] | State Status[1] | Habitat Description | Habitat Present[2] | Species Effect | EO Found in the NDD Search[3] | Pertinent Project Information |
|---|---|---|---|---|---|---|---|
| Texas ayenia *Ayenia limitaris* | LE | E | Woodlands on alluvial deposits on floodplains and terraces along the Rio Grande; flowering throughout the year with sufficient rainfall. | No | No Effect | No | The proposed ROW does not contain suitable habitat for this species. |
| Walker's manioc *Manihot walkerae* | LE | E | Periphery of native brush in sandy loam. | No | No Effect | Yes | The proposed ROW does not cross suitable habitat for this species (i.e., undisturbed native brush with sandy loam soils were not present) and the species was not observed during field investigations. |
| **MOLLUSKS** | | | | | | | |
| False spike mussel *Quadrula mitchelli* | -- | T | Possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Salina mucket *Potamilus metnecktayi* | -- | T | Lotic waters; submerged soft sediment (clay and silt) along river bank; other habitat requirements are poorly understood; Rio Grande Basin. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |
| Texas hornshell *Popenaias popeii* | -- | T | Both ends of narrow, shallow runs over bedrock; in areas where small-grained materials collect in crevices; along river banks, and at the base of boulders; not known from impoundments; Rio Grande Basin and several rivers in Mexico. | No | No Impact | No | The proposed ROW does not contain suitable habitat for this species. |

Source: USFWS (2014a) and TPWD (2014a).

1 LE, LT – Federally Listed Endangered/Threatened; LE, EXPN – Federally Listed Endangered, Nonessential Population; C – Federal Candidate for Listing, DL – Federally Delisted; "--" – Not Listed; E, T – State Listed Endangered/Threatened.

2 Assessed within the proposed ROW based on a combination of field surveys and desktop analysis.

3 EO – Element Occurrence (TPWD, 2014c). Element Occurrence marked present for species occurrences documented within 1.5 miles of the proposed ROW.

### *Federally Listed Species*

According to the USFWS (2014a) federal threatened and endangered species list, the following species are listed as potentially occurring in Hidalgo County: yellow-billed cuckoo (*Coccyzus americanus*) – threatened, northern aplomado falcon (*Falco femoralis septentrionalis*) – endangered, Gulf Coast jaguarundi – endangered, ocelot – endangered, star cactus (*Astrophytum asterias*) – endangered, Texas ayenia (*Ayenia limitaris*) – endangered, and Walker's manioc – endangered. Additionally, the USFWS (2014a) is currently evaluating the following species as candidates for listing as a federal threatened or endangered species potentially occurring in Hidalgo County: red-crowned parrot (*Amazona viridigenalis*) and Sprague's pipit (*Anthus spragueii*). Descriptions for federally listed species and federal candidates for listing are provided below.

### *Birds*

The western **yellow-billed cuckoo** is a neotropical migrant bird that winters in South America and breeds in western North America. Adult yellow-billed cuckoos have a slender, long-tailed profile, with a fairly stout and heavy slightly down-curved bill, that is blue-black with yellow on the basal half of the lower mandible. The legs are short and blueish-gray and they have a narrow yellow colored bare skin around the eyes. The plumage is loose, grayish-brown above and white below. The primary flight feathers are reddish and the tail feathers, which are more distinct in males, are black with 6 white spots. They are medium-sized approximately 12 inches in length, weighing approximately 2 ounces. The western yellow-billed cuckoo appears to be distinct from other yellow-billed cuckoos based on their physical, biological, ecological, and behavioral factors. During breeding season the western yellow-billed cuckoo is separated from other populations and migrates about a month earlier. The western yellow-billed cuckoos prefer isolated wooded riparian corridors that are surrounded by extensive arid uplands. The western yellow-billed cuckoos are also larger in size and produce larger eggs that have thicker shells. The western yellow-billed cuckoo occurs generally west of the Continental Divide, from British Columbia to Northern Mexico and migrate to South America for winter. For nesting the yellow-billed cuckoo requires a relatively large multilayered riparian habitat consisting of cottonwoods and willows. The western yellow-billed cuckoos arrive to their breeding grounds early to mid-June, creating flat, saucer-shaped nests that are 1 to 6 meters above ground below dense canopy cover. Degradation and loss of native riparian habitat is largely the reason for the species decline (USFWS, 2014b).

The **northern aplomado falcon** is a colorful neotropical falcon. Aplomado, in Spanish, means "steel-gray" in reference to an adult's dorsal plumage. Adult falcons have bold face markings, contrasting breast, belly, and undertail plumage, and long wings that narrow at the body, and a long tail. The face of the northern aplomado falcon consists of a blue-gray crown, white eyebrows, blue-gray eye stripes, white cheeks, and blue-gray mustache. The underside of the falcon consists of a white breast and throat, cinnamon lower belly, dark wings with a cummerbund lining, and a dark tail with six to eight narrow white crossbars. The only real difference between the male and females is the size of the falcon. Females

are noticeably larger. The northern aplomado falcon, weighing between 7.5 and 18 ounces, measures approximately 15 to 18 inches in height with a wingspan ranging from 32 to 36 inches. The northern aplomado falcon's distribution ranges from Argentina to the southwestern U.S. In southern Texas, the northern aplomado falcon inhabits coastal prairies and marshes that support small islands of trees and shrubs or that interface with woodlands along freshwater drainages and estuaries. The northern aplomado falcon's habitat almost always contains an open grassland component. Northern aplomado falcons are monogamous. Mated pairs remain together year-round. During mating season, northern aplomado falcons take over old or newly constructed nests from other raptors, large jays, or ravens. They usually nest in trees, but on rare occasions, their nests can be found on the ground. Not much is known about the decline of the northern aplomado falcon. It is suspect that the decline can be contributed to severe overgrazing and the resultant brush encroachment. Overgrazing also contributes to the decline in prey for the falcon. Another idea for the decline of the northern aplomado falcon is related to the decline of the black-tailed prairie dog. Falcon and prairie dog ranges mirrored one another closely. When prairie dog eradication began in the early 1900s, the decline of the northern aplomado falcon coincided (Campbell, 2003). Based on the results of literature reviews, there are no known occurrences of the northern aplomado falcon within the survey corridor. Additionally, no suitable habitat for the northern aplomado falcon was observed during field investigations. Therefore, “no effect” to the northern aplomado falcon is anticipated as a result of construction and operation of the proposed project.

The **red-crowned parrot** is a colorful bird that originates from Mexico. Due to its increasing popularity as a caged bird, where released, these parrots have become established in metropolitan areas. The red-crowned parrot is a medium-sized Amazonian parrot and is primarily green in color like most Amazonian parrots. The red-crowned parrot has a bright red forehead with violet-blue streaks behind the eyes. There is a red patch on the underside of the parrot’s wings that may only be seen in flight. Wild populations of the red-crowned parrot vary in appearance. Some variations include yellow feathers, on the head and neck, and red feathers on the bend of the wing. The parrot’s diet generally consists of tropical fruits found in ebony (*Ebenopsis* sp.), strangler fig (*Ficus aurea*), coma (*Bumelia celastrina*), and anacua trees (*Ehretia anacua*). Other items, such as seeds, nuts, buds, leaves, berries, and insects, are also consumed. City populations have adapted to eating whatever food source is more abundant.

The red-crowned parrot lives in tropical areas with deciduous forest, palm trees, and occasionally pine-oak woodlands in lowland areas. They are also found along riparian corridors, occasionally in ravines. The red-crowned parrot has also adapted to living within wooded areas in major cities. Large, old trees with suitable cavities for nesting are required. The red-crowned parrot is a pair-oriented bird. They rarely fly around individually. The current range of the red-crowned parrot wild population is northeastern Mexico. Several smaller populations within cities have established in the southern U.S., especially along the Rio Grande Valley in cities such as Brownsville, San Benito, Harlingen, Weslaco, and McAllen. Wild populations are in decline due to human interference along riparian corridors (National Audubon Society, 2013). Based on the results of literature reviews, there are no known occurrences of the red-crowned

parrot within the survey corridor. Additionally, no suitable habitat for the red-crowned parrot was observed during field investigations. Therefore, “no impact” to the red-crowned parrot is anticipated as a result of construction and operation of the proposed project.

**Sprague's pipit** is a grassland-dwelling bird endemic to the North American countries of Canada, the U.S., and Mexico. The species is migratory with core breeding habitat located within the prairies of the north-central U.S. (North Dakota, Montana, South Dakota) and south-central Canada (Alberta, Manitoba, Saskatchewan). The species is primarily an insectivore, but may also consume vegetative material. It hunts by gleaning insects from the ground and grasses. In the breeding season, the species requires large, contiguous tracts of native prairie vegetation. The species responds negatively to encroachment from woody vegetation, anthropogenic structures, and fragmentation of contiguous habitat (Jones, 2010). Preferred nesting sites contain patches of short grasses interspersed with taller clump grasses. Thick clumps of warm-season grasses are utilized for nest concealment. Light to moderate grazing, fire, and mowing have been utilized to maintain preferred habitat. The species arrives on the breeding grounds in late April to mid-May and winters in the southern U.S. in Arizona, New Mexico, Arkansas, Oklahoma, Texas, and Louisiana, and in northern Mexico. The species prefers large tracts of grasslands that may or may not consist of native grasses. In Texas, highest densities are recorded in grass-forb prairies and rarely in shrub grasslands. This species generally arrives in south Texas in mid- to late October and departs the region by mid-April. Within their wintering range, Sprague’s pipits prefer moderate to heavily grazed pastures with very short grass (<0.2 meter). Sprague's pipit also utilizes sod farms, golf courses, heavily grazed bermudagrass, and areas of burned pasture (Jones, 2010). The species has also been recorded on both paved and unpaved roads with little traffic and may utilize urban areas adjacent to the project as stopover sites as well. Sprague’s pipits have the potential to occur on fallow farmlands and poor grassland habits where present within the proposed project ROW; however, natural habitat adjacent to the proposed project would provide ample alternative habitat to sustain them through the winter months. In addition, this species may utilize urban areas adjacent to the proposed project as stopover sites. The proposed project would result in only minimal loss of abundant habitat available throughout Hidalgo County; therefore, “no impact” to the Sprague’s pipit is anticipated as a result of construction and operation of the proposed Project.

### *Mammals*

The **Gulf Coast jaguarundi** and **ocelot** inhabit thick, thorny scrub-shrub in South Texas. Jaguarundi preferred habitat is thought to be similar to that of the ocelot. In Texas, ocelots occur in the dense, thorny scrub-shrub of the LRGV and Rio Grande Plains. Deep, fertile clay or loamy soils are generally needed to produce suitable habitat. Typical ocelot habitat consists of mixed brush species such as spiny hackberry, brasil (*Condalia hookeri*), desert yaupon (*Schaefferia cuneifolia*), wolfberry (*Lycium* sp.), lotebush, amargosa (*Amargosa niterwort*), whitebrush (*Aloysia gratissima*), catclaw (*Acacia greggii*), blackbrush (*Vachellia rigidula*), lantana (*Lantana* sp.), guayacan (*Guaiacum angustifolium)*, cenizo (*Leucophyllum* sp.), elbowbush (*Forestiera pubescens*), and Texas persimmon (*Diospyros virginiana*). Interspersed trees

such as mesquite, live oak (*Quercus virginiana*), ebony, and hackberry (*Celtis* sp.) may also occur. Canopy cover and density of shrubs are important considerations in identifying suitable habitat. Optimal habitat has at least 95 percent canopy cover of shrubs, whereas marginal habitat has 75-95 percent canopy cover. Shrub density below the 6-foot level is the most important component of ocelot habitat. Optimal shrub density would be such that the depth of vision from outside the brush line is restricted to about 5 feet. 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 very important. Even brush tracts as small as 5 acres, when adjacent to larger areas of habitat, may be used by ocelots. Roads, narrow waterbodies, and ROW are not considered barriers to movement. Brushy fence lines, water courses, and other brush strips connecting larger habitats provide travel corridors linking otherwise isolated habitats together (Campbell, 2003).

The mesquite shrub habitats located primarily within large parcels managed as part of the LRGV NWR system south of the proposed ROW provide optimal habitat for the jaguarundi and the ocelot. The TPWD's NDD (2014c) records include multiple sightings of both species in these habitats. The majority of the proposed ROW would be constructed within farmland and open grassland communities following existing roadways and would not fragment existing undisturbed habitat; however a small isolated patch of disturbed mesquite shrub habitat is crossed by the proposed ROW approximately 0.3 mile southeast of Madero. Based on field observations in 2010, the shrub habitat at that location is less than 20 acres in size, did not provide adequate canopy cover below the 6-foot level to constitute marginal or optimal habitat, and is encroached from the south and west by residential development and to the east by industrial development severely limiting its viability as potential habitat for the ocelot and jaguarundi. Multiple watercourses crossed by the proposed ROW near its western and eastern termini would provide travel corridors to the LRGV NWR system; however, because optimal habitats are not currently available north of the proposed ROW those corridors would have no connective function.

During initial coordination meetings with the USFWS on February 6, 2008 and June 20, 2008, regarding the Hidalgo Loop – Section A studies, the USFWS indicated specific concern for a potential ocelot migration route between two USFWS refuge properties located adjacent to the proposed ROW within the northern portion of the proposed project ROW. An unnamed tributary and associated riparian zone consisting of mesquite woods provides a natural wildlife corridor between the two refuge properties. Informal Section 7 consultation was initiated for the Hidalgo Loop – Section A project in March 2009 (see **Appendix C**). HCRMA once again initiated coordination with the USFWS in July 2014 to discuss the discontinuation of the Hidalgo Loop – Section A Project and the associated alignment modifications for the SH 365 Project. The USFWS was also informed that the two refuge properties located west of FM 1016 (Conway Avenue) now fall outside the SH 365 project limits and therefore the potential ocelot migration corridor would no longer be impacted.

The proposed project crosses only a small amount of mesquite shrub habitat, and no travel corridors providing a connection between the habitats in the LRGV NWR system to other mesquite shrub habitats

are present. Due to the extremely fragmented habitat crossed by the proposed project ROW and the absence of travel corridors that would provide a connection to habitats outside of the proposed ROW, the proposed project would result in "no effect" to the ocelot and jaguarundi. In an October 17, 2014 letter to the HCRMA (provided in **Appendix C**), the USFWS concurred that there will be no need for a wildlife corridor crossing for the SH 365 Project and that any disturbance to vegetation should avoid the March through August nesting period for migratory birds. If the nesting period cannot be avoided, the USFWS recommends that the HCRMA conduct a bird survey to avoid destruction of nests, eggs, etc. during construction activities.

*Plants*

The **star cactus** can occupy gentle slopes and flats on grasslands or scrub-shrub in sparsely vegetated areas and is found in saline clays or loam soils at low elevations (TPWD, 2014d). Historically, this species was known from Cameron, Hidalgo, and Starr counties; however, it is presently only known from one population each in Starr County and Tamaulipas, Mexico. Over-collection of wild specimens, loss of habitat by conversion of native habitat to agricultural fields, and loss of habitat due to urbanization has greatly contributed to the decline of this species. Additionally, this species is also threatened by root-plowing, mechanical and chemical brush control, and seeding of nonnative grasses. Due to habitat conversion, numerous known sites of star cactus have been eliminated in Hidalgo County. The mesquite shrub and upland pastures in the proposed ROW would not provide suitable habitat for the star cactus due to past habitat conversion activities throughout the proposed SH 365 ROW, mainly in the form of conversion to farmland, brush removal, plowing, and the seeding of nonnative grass species such as Kleberg bluestem and bermudagrass prevalent throughout the proposed SH 365 ROW. Due to the lack of habitat, formal presence/absence surveys were not conducted; however, the species was not observed during field investigations and no known occurrences have been recorded within 1.5 miles of the proposed ROW (TPWD, 2014c). Therefore, the proposed project would result in "no effect" to the star cactus.

**Texas ayenia** is a member of the chocolate family. It is a thornless medium-sized shrub that ranges in height from 2 to 5 feet tall. The leaves of the Texas ayenia are simple, alternate, and hairy with toothed margins. They range in length from roughly 1.5 to 3 inches long and are an inverted tear-drop in appearance. The flowers of the Texas ayenia are small and clustered in the upper leaves of the plant. The five petal clusters include colors of green, pink, or cream. The fruit of the Texas ayenia include five-celled capsules, approximately 0.25 inch in diameter, which are round and covered with short, curvy, sharp prickles. The Texas ayenia can be found on the terraces and floodplains of dense, moist, subtropical riparian woodlands with a canopy cover of roughly 95 percent. The Texas ayenia can be found growing in association with coma, brasil, mesquite, lotebush, spiny hackberry, Colima (*Zanthoxylum fagara*), and snake-eyes (*Phaulothamnus spinescens*). Historically, this species occurs in Cameron and Hidalgo Counties, Texas and the states of Coahuila and Tamaulipas, Mexico. Currently, this species is only known to exist in small populations in Hidalgo County, Texas (TPWD, 2014e). Based on the results of literature

reviews, there are no known occurrences of the Texas ayenia within the survey corridor. Additionally, no suitable habitat for the Texas ayenia was observed during field investigations. Therefore, "no effect" to the Texas ayenia is anticipated as a result of construction and operation of the proposed project.

**Walker's manioc** has the potential to exist on the periphery of native brush found on sandy loam soils. Walker's manioc grows in dense stands of native brush or in small openings. On the sites where it is found, Walker's manioc grows in areas that are somewhat shaded and relatively moist compared with the surrounding environment (TPWD, 2014f). Based on the TPWD's NDD (2014c) records, the western portion of the project ROW crosses a historic occurrence ring for Walker's manioc; however, the species was last observed at this location in 1940 along the banks of the Rio Grande. Although historic records of this species exist near the proposed project ROW, native brush habitats on sandy loam soils are not crossed by the proposed project ROW, and this species was not observed during field investigations; therefore, the proposed project would result in "no effect" to this species.

### *Federally Listed Species Summary*

Based on a review of the habitat descriptions of federally listed species potentially occurring within Hidalgo County, no potential suitable habitat for federally listed threatened or endangered species are crossed by the proposed project ROW; therefore, a determination of "no effect" is appropriate for the proposed project. Potential habitat for the Sprague's pipit, a candidate for listing federally as threatened or endangered, is present throughout the proposed project ROW; however, those habitats are limited to wintering territory in fallow farmland fields and/or poor grassland habitats. The proposed project would result in only minimal loss of abundant habitats available throughout Hidalgo County; therefore, "no impact" to the Sprague's pipit is anticipated as a result of construction and operation of the proposed project.

### *State-Listed Species*

Based on a review of the habitat descriptions of each state-listed threatened or endangered species potentially occurring within the study area, the following species may potentially occur within the proposed ROW at various periods throughout the year: cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), gray hawk, Texas Botteri's sparrow (*Aimophila botterii texana*), southern yellow bat (*Lasiurus ega*), black spotted newt, sheep frog, South Texas siren, white-lipped frog (*Leptodactylus fragilis*), Texas tortoise (*Gopherus berlandieri*), Texas horned lizard (*Phrynosoma cornutum*), Texas indigo snake, and black-striped snake. A brief description of each of these species, their potential habitats, and potential impacts resulting from the construction of the proposed project are provided below.

### *Birds*

The mesquite shrub and upland pasture in the proposed ROW provide potential habitat for the **cactus ferruginous pygmy-owl**, **gray hawk**, and **Texas Botteri's sparrow**. These habitats are extremely

fragmented due to surrounding urban development and farmland conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. Disturbances associated with vegetation clearing and construction noise would temporarily affect birds that may occupy habitats within the ROW at the time of the survey; however, those impacts would be short lived as the birds would be expected to move to readily available and abundant habitats throughout southern Hidalgo County. It is recommended that construction be initiated outside of the typical nesting season for migratory bird species in Texas from February 15 to October 1. If the nesting period cannot be avoided, pre-construction surveys are recommended to ensure nesting birds are not impacted by construction of the proposed project.

*Mammals*

**Southern yellow bats** are associated with trees that can provide daytime roosting sites. In the vicinity of Brownsville, numbers of southern yellow bats inhabit a natural grove of palm trees. These bats may be increasing their range in Texas due to the increased usage of ornamental palm trees in landscaping (Schmidly, 2004). The proposed ROW contains scattered palm trees along existing roads that may provide habitat for the southern yellow bat. Removal of existing palm trees should be avoided to the maximum extent practicable in order to avoid/minimize impacts to southern yellow bats.

*Amphibians*

In Texas, the presence of **black-spotted newts** and **South Texas sirens** appears to be related to soil type. Deep, poorly drained, clayey sediments with slow permeability allow for the formation of ephemeral ponds or wetlands during periods of heavy rain. Most adults have generally been found in the vicinity of, or in, such breeding ponds. Several localities were seasonally dry ditches along railroad ROW or highway borrow pits. The presence of intact Tamaulipan thorn forest in clayey soils, with ephemeral wetlands, should be considered optimal adult habitat. With the advent of extensive land-clearing for row crop agriculture and root-plowing of native brush for cattle grazing, much of the original habitat has been lost (AmphibiaWeb, 2013). Limited impacts to individual specimens may occur where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed project ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals should be implemented where practicable along with the implementation of the BMPs for sediment control and avoidance of fill/discharge into potential habitats to minimize impacts to these species.

**Sheep frog** breeding typically occurs in temporary pools following heavy rains. Sheep frogs have been observed calling in temporary wetlands ranging from roadside ditches, railroad ROW ditches, and natural pothole basins. Thus, it appears that breeding may occur in a variety of temporary to permanent aquatic habitats (AmphibiaWeb, 2013). Sheep frogs are also commonly found in vegetative debris near ponds and irrigation ditches. Upland pasture habitat, ditches, and emergent wetlands within the proposed ROW may provide habitat for the sheep frog. Limited impacts to individual specimens may occur where grading

activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed project ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals should be implemented where practicable along with the implementation of the BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species.

**Adult white-lipped frogs** have been found in a variety of habitats where moisture is sufficient. These frogs can be found in semi-permanent waterbodies such as prairie potholes, oxbow lakes, and resacas. White-lipped frogs may be encountered in irrigated agricultural fields, irrigation ditches, low grasslands, and runoff areas (AmphibiaWeb, 2013). Farmland, upland pasture habitat, ditches, and emergent wetlands within the proposed ROW may provide habitat for the white-lipped frog. Although the proposed project would impact potential habitat for this species, the abundance of pasture, ditches, wetlands, and farmland adjacent to the proposed project would provide additional potential habitat for the individuals that may inhabit the proposed project ROW. Limited impacts to individual specimens may occur where individuals are present particularly in areas where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed project ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals should be implemented where practicable along with the implementation of the BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species.

*Reptiles*

The **Texas tortoise** inhabits dry scrub and grasslands. Succulent plants, a preferred food of the Texas tortoise, are common in these areas. They especially like the fruit of cacti such as the prickly pear. Although the mesquite shrub and upland pasture habitat provide potential habitat within the proposed project ROW, potential habitats for the Texas tortoise are extremely fragmented due to surrounding urban development and farmland conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. If concrete barriers are determined necessary in areas with potential to obstruct travel patterns of the Texas tortoise, the HCRMA would consider measures that could allow this species to pass through the roadway unobstructed.

The **Texas horned lizard** can be found in arid and semi-arid habitats in open areas with sparse plant cover. Because horned lizards dig for hibernation, nesting, and insulation purposes, they commonly are found in loose sand or loamy soils (TPWD, 2014g). The mesquite shrub habitat and upland pasture habitat may provide potential habitat for the Texas horned lizard. The mesquite shrub and upland pasture are extremely fragmented due to surrounding urban development and farmland conversion. The majority of the proposed ROW follows existing roadways and easements and would not fragment existing undisturbed habitat. Individual specimens, if present within the proposed ROW, would be expected to disperse to adjacent habitats. If concrete barriers are determined necessary in areas with potential to

obstruct travel patterns of the Texas horned lizard, the HCRMA will consider measures that could allow this species to pass through the roadway unobstructed.

The **Texas indigo snake** is a potential resident in thick brushlands near the Rio Grande. The mesquite shrub habitat within the proposed ROW may provide potential habitat for this species. Because of the limited amount of mesquite shrub habitat crossed by the proposed project, it is unlikely that the Texas indigo snake would be present within the proposed ROW. Individual specimens, where present within the proposed ROW would be expected to disperse to adjacent habitats.

The **black-striped snake** is a potential inhabitant in moist microhabitats and sandy soils in the semi-arid coastal plain. Emergent wetlands within the proposed ROW provide potential habitat for this species. Limited impacts to individual specimens may occur where individuals are present particularly in areas where grading activities and/or box culvert installations would occur in streams, wetlands, canals, or ditches within the proposed project ROW. Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals should be implemented where practicable along with the implementation of the BMPs for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to this species. Individual specimens, where present within the proposed ROW would be expected to disperse to adjacent habitats.

### *State-Listed Species Summary*

Based on a review of the habitat descriptions of each state-listed threatened or endangered species potentially occurring within the study area, the following species may potentially occur within the proposed ROW at various periods throughout the year: cactus ferruginous pygmy-owl, gray hawk, Texas Botteri's sparrow, southern yellow bat, black spotted newt, sheep frog, South Texas siren, white-lipped frog, Texas tortoise, Texas horned lizard, Texas indigo snake, and black-striped snake.

Potential habitats for the following state-listed threatened or endangered species listed as potentially occurring in Hidalgo County were not observed present within the proposed project ROW: American peregrine falcon (*Falco peregrines anatum*), common black-hawk (*Buteogallus anthracinus*), Northern beardless tyrranulet (*Camptostoma imberbe*), reddish egret (*Egretta rufescens*), rose-throated becard, tropical parula (*Parula pitiayumi*), white-faced ibis (*Plegadis chihi*), white-tailed hawk (*Buteo albicaudatus*), wood stork (*Mycteria Americana*), zone-tailed hawk (*Buteo albonotatus*), Rio Grande silvery minnow (*Hybognathus amarus*), river goby (*Awaous banana*), Coues' rice rat (*Oryzomys couesi*), jaguar (*Panthera onca*), white-nosed coati (*Nasua narica*), Mexican treefrog (*Smilisca baudinii*), speckled racer (*Drymobius margaritiferus*), reticulate collared lizard (*Crotaphytus reticulatus*), northern cat-eyed snake (*Leptodeira septentrionalis*), false spike mussel (*Quadrula mitchelli*), Salina mucket (*Potamilus metnecktayi*), and Texas hornshell (*Popenaias popeii*). Additionally, the interior least tern (*Sterna antillarum anthalassos*) is a federally listed endangered species listed by the state of Texas as potentially occurring in Hidalgo County; however, this species is not listed by the USFWS as potentially occurring in

Hidalgo County. Based on field surveys supplemented by desktop evaluation, no potential habitats for the interior least tern are crossed by the proposed project ROW.

### 6.13.1 Build Alternative

Although potentially suitable habitat for threatened and endangered species occurs in study area, the proposed project is not likely to impact or adversely affect these species. Aquatic features within the proposed ROW would be surveyed prior to construction for the presence of listed rare, threatened, or endangered species. Coordination with the USFWS was initiated with a meeting for the Hidalgo Loop - Section A project in February and June 2008 and informal Section 7 consultation was initiated in a March 2009 letter (see **Appendix C**). Additional coordination with the USFWS was conducted by the HCRMA in July 2014 and October 2014; the USFWS concurred in an October 17, 2014 letter that a wildlife corridor crossing is not necessary for the SH 365 Project and that the HCRMA adhere to standard practices for bird species protected under the MBTA (see **Appendix C)**.

### 6.13.2 No-Build Alternative

Under the No-Build Alternative, continued development, farming activities, and programmed regional projects would continue; however, would be regulated under the ESA.

## 6.14 WETLANDS AND WATERS OF THE U.S.

A formal wetland delineation was initiated beginning in October 2008 and was completed in May 2010 and supplemented in January 2013 by desktop review in order to determine the location and acreages of waters of the U.S., including wetlands, subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010) were used for identifying potential wetlands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

The following sources were utilized during the preliminary data review: 2006 color-infrared aerial Digital Orthophoto Quarter Quadrangle photography, 2007 true-color aerial photography, 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle maps (USGS 1982, 1983a, 1983b, 1983c), FEMA Q3 Data, NRCS *Soil Survey of Hidalgo County, Texas* (SCS, 1981), and the USFWS National Wetland Inventory (NWI) maps of the study area (USFWS, 1989a, 1989b, 1989c, 1989d).

During the detailed field surveys, ecologists established data point locations based on soil mapping information, aerial photograph “signatures,” and vegetative community changes. Vegetation, hydrology, and soils were evaluated and recorded in the field at each wetland and upland data point. Reference data points were also collected. Wetland determination data forms were prepared for all upland data points and

wetland data points associated with mapped wetlands as depicted on **Figure 6-4**. All plant species were recorded at each data point by visually estimating the percentage of areal cover of each plant species (Correll and Johnston, 1996; Cowardin, 1979; Gould, 1975; Vines, 1990) in each stratum. To determine if the composition of the dominant plant community satisfied the hydrophytic vegetation parameter, the indicator status of dominant plant species occurring at each station was obtained from the USFWS *National List of Plant Species That Occur in Wetlands: South Plains (Region 6)* (Reed, 1988). Direct observation of inundation, saturation, and other indicators of wetland hydrology (i.e., water marks, drift lines, oxidized rhizospheres, sediment deposits, water-stained leaves, and drainage patterns in wetlands) were used to determine if the wetland hydrology parameter was satisfied. Soils at each data point were evaluated and described noting the depth, horizon, matrix color, mottle colors (if any), mottle abundance and contrast, texture, concretions, and structure. The moist matrix color and moist mottle color of the soil were determined utilizing the *Munsell Soil Color Chart* (Kollmorgan Instruments Corporation, 2000).

The boundary of each potential water of the U.S. (including jurisdictional and nonjurisdictional wetlands) was determined through combined observation, correlation, and aerial photo-interpretation, in conjunction with field results regarding hydrophytic vegetation, indicators of wetland hydrology, and the presence of hydric soil indicator data collected at each of the sampling points. All coordinates and boundaries were mapped with a differentially corrected global positioning system using a Trimble GeoXT GPS receiver and post-processed to submeter accuracy. The points, lines, and polygons were downloaded into ArcView™ Geographic Information System software for creating maps of the soil stations and wetland boundaries. The USACE (Galveston District) Standard Operating Procedures for recording jurisdictional delineations using GPS (USACE, 2003) were used during this wetland delineation.

### 6.14.1 Potential Impacts to Waters of the U.S.

Field surveys and coordination with USACE identified the presence of 19.24 acres of wetlands and 4.88 acres of open water subject to USACE jurisdiction under Section 404 of the Clean Water Act within the proposed ROW. Included within the proposed ROW are 0.69 acre of non-jurisdictional wetlands and 9.52 acre of nonjurisdictional open water. **Figure 6-4** provides the specific locations of the wetlands on 2010 aerial photography, and **Table 6-13** provides the acreage of each wetland and water located within the proposed ROW.

Canal 1A, Canal 1-1, Canal 1-2, Canal 1-3, Canal 2, Canal 3, Canal 6, Canal P1, Ditch 2A, Ditch 2B, Ditch 3A, Ditch 4A, Ditch 6, Ditch 7, Ditch 7A, Ditch 8A, Ditch 9A, Ditch 10, Ditch 10A, Ditch 11, Ditch 11-1, Ditch 11A, Ditch 16, Ditch 18, Ditch 19, and Ditch P1 consist of raised irrigation canals and ditches maintained by the Hidalgo County Irrigation Districts (HCIDs). Water is supplied to the raised irrigation ditches/canals by a series of pumps that draw water from La Cruz Resaca. The water is then diverted to smaller irrigation ditches to irrigate farmland. These ditches and canals do not drain La Cruz Resaca; they were created in uplands and do not drain to a traditional navigable water (TNW). Therefore, these ditches and canals are not subject to Section 404 jurisdiction.

**Table 6-13: Wetlands and Other Waters of the U.S. within the Proposed ROW**

| Map ID (Exhibits 6 & 7) | Classification | Acreage | | Jurisdiction |
|---|---|---|---|---|
| | | Wetland | Open Water | |
| **Jurisdictional Wetlands and Waterbodies** | | | | |
| CRK 2 | Tributary to La Cruz Resaca | -- | 0.34 | §404 |
| Ditch 1 | Tributary to La Cruz Resaca | -- | 0.38 | §404 |
| Ditch 2 | USIBWC Floodway Pilot Channel | -- | 1.85 | §404 |
| Ditch 3 | Tributary to La Cruz Resaca | -- | 0.60 | §404 |
| Ditch 4 | Tributary to La Cruz Resaca | -- | 0.21 | §404 |
| Ditch 5 | Tributary to La Cruz Resaca | -- | 1.22 | §404 |
| Ditch 5A | Drainage Canal South of Las Milpas Road | -- | 0.28 | §404 |
| WET 2 | PEM Wetland | 1.44 | -- | §404 |
| WET 3A | PEM Wetland | 8.48 | -- | §404 |
| WET 7 | PEM Wetland | 6.11 | -- | §404 |
| WET AOI6 | PEM Wetland | 3.21 | -- | §404 |
| **Total Jurisdictional Wetlands and Waterbodies** | | **19.24** | **4.88** | |
| **Nonjurisdictional Wetlands and Waterbodies** | | | | |
| Canal 1A | Irrigation Feature | -- | 0.14 | None |
| Canal 1-1 | Irrigation Feature | -- | 0.57 | None |
| Canal 1-2 | Irrigation Feature | -- | 1.26 | None |
| Canal 1-3 | Irrigation Feature | -- | 1.20 | None |
| Canal 2 | Pharr San Juan Irrigation Canal | -- | 1.45 | None |
| Canal 3 | Irrigation Feature | -- | 0.29 | None |
| Canal 6 | Irrigation Feature | -- | 0.39 | None |
| Canal P1 | Irrigation Feature | -- | 0.31 | None |
| Ditch 2A | Irrigation Feature | -- | 0.34 | None |
| Ditch 2B | Irrigation Feature | -- | 0.34 | None |
| Ditch 3A | Irrigation Feature | -- | 0.21 | None |
| Ditch 4A | Irrigation Feature | -- | 0.18 | None |
| Ditch 6 | Irrigation Feature | -- | 0.24 | None |
| Ditch 7 | Irrigation Feature | -- | 0.18 | None |
| Ditch 7A | Irrigation Feature | -- | 0.04 | None |
| Ditch 8A | Irrigation Feature | -- | 0.08 | None |
| Ditch 9A | Irrigation Feature | -- | 0.13 | None |
| Ditch 10 | Irrigation Feature | -- | 0.32 | None |
| Ditch 10A | Irrigation Feature | -- | 0.01 | None |

| Map ID (Exhibits 6 & 7) | Classification | Acreage | | Jurisdiction |
|---|---|---|---|---|
| | | Wetland | Open Water | |
| Ditch 11 | Irrigation Feature | -- | 0.05 | None |
| Ditch 11-1 | Irrigation Feature | -- | 0.52 | None |
| Ditch 11A | Irrigation Feature | -- | 0.17 | None |
| Ditch 16 | Irrigation Feature | -- | 0.31 | None |
| Ditch 18 | Irrigation Feature | -- | 0.34 | None |
| Ditch 19 | Irrigation Feature | -- | 0.15 | None |
| Ditch P1 | Irrigation Feature | -- | 0.17 | None |
| Pond 1 | Open Water | -- | 0.13 | None |
| WET 3 | PSS Wetland | 0.02 | -- | None |
| WET 4 | PSS Wetland | 0.42 | -- | None |
| WET 5 | PSS Wetland | 0.10 | -- | None |
| WET 6 | PEM Wetland | 0.15 | -- | None |
| **Total Nonjurisdictional Wetlands and Waterbodies** | | **0.69** | **9.52** | |
| **Total Waters and Wetlands** | | **19.93** | **14.40** | |

Creek (CRK) 2 and Ditch 5A (Drainage Canal South of Las Milpas Road) are historical tributaries of La Cruz Resaca and the Sardinas Resaca that have been modified to serve as irrigation ditches. La Cruz Resaca continues east beyond the proposed ROW into a system of impoundments within the north floodway, and discharges into a pilot channel east to the Arroyo Colorado, which connects to the Laguna Madre, which connects to the Gulf of Mexico. Therefore, these features are potentially subject to Section 404 jurisdiction.

Ditch 1, Ditch 2 (USIBWC Floodway Pilot Channel), Ditch 3, Ditch 4, and Ditch 5 are man-made drainage ditches within the USIBWC Main Floodway. The Anzalduas Dam diverts water from the Rio Grande, a TNW, into the USIBWC Main Floodway, and into these ditches. During flood events, water from all these ditches has the potential to drain into La Cruz Resaca. Additionally, water from Ditch 2 (USIBWC Floodway Pilot Channel) has the potential to drain into Laguna Madre. La Cruz Resaca continues east beyond the proposed ROW into a system of impoundments within the north floodway, and discharges into a pilot channel east to the Arroyo Colorado, which connects to the Laguna Madre, which connects to the Gulf of Mexico. Therefore, these ditches are potentially subject to Section 404 jurisdiction.

POND 1 is man-made isolated pond that appears to be an excavated pit, and WET 6 (0.15 acre) is a PEM wetland located on its fringe. Neither of these features exhibits a significant nexus to a traditionally navigable waterbody and therefore would not be subject to Section 404 jurisdiction.

Wetland (WET) 2 (1.44 acres), WET 3A (8.48 acres), WET 7 (6.11 acres), and WET AOI6 (3.21 acres) are PEM wetlands located within the USIBWC Main Floodway. These wetlands are within the 100-year floodplain and are directly abutting waters of the U.S. that exhibit a significant nexus to a TNW. Therefore, these wetlands are potentially subject to Section 404 jurisdiction.

WET 3 consists of 0.02 acre of PSS wetland. WET 3 is not located within the 100-year floodplain and does not exhibit a significant nexus to a TNW. This wetland is located adjacent to a historical tributary of La Cruz Resaca (CRK 2) that was modified to serve as an irrigation ditch. WET 3 formed as a result of the berm created during construction of the ditch; it is separated from the ditch by the berm, and no surface connection is present based on observations in the field. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

WET 4 consists of 0.42 acre of PSS wetland. A portion of this wetland is located within the 100-year floodplain; however, it does not exhibit a significant nexus to a TNW. This wetland is located adjacent to a historical tributary of La Cruz Resaca (CRK 2) that was modified to serve as an irrigation ditch. WET 4 formed as a result of the berm created during construction of the ditch; it is separated from the ditch by the berm, and no surface connection is present based on observations in the field. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

WET 5 consists of 0.10 acre of PSS wetland. WET 5 is not located within the 100-year floodplain and does not exhibit a significant nexus to a TNW. This wetland is located adjacent to an irrigation ditch but is separated by a berm that was created as a result of modifications to the ditch. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

#### 6.14.1.1 Build Alternative

A total of 24.12 acres of waters of the U.S., including 19.24 acres of wetlands and 4.88 acres of open waters subject to the USACE jurisdiction under Section 404 of the CWA are located within the proposed ROW. Detailed design information regarding fill quantities could not be determined based upon the preliminary information at the time of report preparation. Once the final design has been completed for the proposed project, fill quantities and exact impact amounts to waters of the U.S., including wetlands will be determined. Coordination with the USACE was initiated on February 27, 2013, for the proposed project and will continue, as required; the USACE jurisdictional determination (USACE PN SWG-2013-00175) issued on January 3, 2014, is included in **Appendix C** of the EA. Since that time, additional ROW was evaluated due to alignment modifications and levee relocations resulting in changes in the acreages of impacted wetlands and waters of the U.S. An updated Pre-Jurisdictional Determination (PJD) was submitted to USACE on March 4, 2014, to account for the additional ROW (see Appendix C).

#### 6.14.1.2 No-Build Alternative

Under a No-Build Alternative, development, farming activities, and programmed regional projects would continue but would be regulated under the CWA.

## 6.15 PERMITS

### 6.15.1 U.S. Army Corps of Engineers

Based on the preliminary data review, approximately 19.24 acres of jurisdictional wetlands and 4.88 acres of jurisdictional waters are located within the proposed ROW. It is anticipated that the proposed project would impact jurisdictional waters of the U.S., including wetlands, and thus would require a Section 404 permit. After completion of the proposed project design, the total impacts to jurisdictional waters of the U.S., including wetlands, would be calculated and an Individual Permit Application would be submitted to the USACE Galveston District, Corpus Christi Field Office. Ongoing coordination associated with the Individual Permit Application would occur under the USACE regulatory project number SWG-2013-00175 to provide quantities of fill and impact until the final fill and impacts are determined. All USACE correspondence completed to date is included in **Appendix C**.

### 6.15.2 Texas Commission on Environmental Quality

The CWA makes it unlawful to discharge stormwater from construction sites into waters of the U.S. unless authorized by the Texas Commission on Environmental Quality's (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) General Construction Permit. If more than 5 acres of ROW are disturbed at one time during construction, a Notice of Intent (NOI) must be filed with the TCEQ. Construction activities would disturb an estimated 725.59 acres of land within existing and proposed ROW; therefore, TxDOT would be required to obtain a TPDES General Permit and to file an NOI with the TCEQ.

In accordance with TxDOT policies, a Storm Water Pollution Prevention Plan (SW3P) would be prepared before construction; compliance with the practices and procedures in the SW3P would be implemented and followed during construction. Pollution from stormwater would be minimized through adherence to measures in the project's SW3P. Construction of the proposed project would include temporary erosion control measures to minimize impacts to water quality during construction as specified in the TxDOT manual *Storm Water Management and Guidelines for Construction Activities*. Temporary erosion control methods may include the use of silt fencing, rock berms, seeding or sodding of bare areas, or other suitable means of containment. Temporary erosion control structures would be built before construction begins (where appropriate) and maintained during construction. Vegetation would be cleared only as needed, and clearing may be phased to maintain soil integrity and minimize exposure of erosive surfaces. When construction is completed, disturbed areas would be restored and reseeded according to the TxDOT specification *Seeding for Erosion Control*.

## 6.15.3 U.S. International Boundary and Water Commission

The USIBWC is an international body that was created by the U.S. and Mexico to administer boundary and water-rights treaties and agreements between the two nations. Some of the rights and obligations administered by the USIBWC include:

- Distribution of the waters of the Rio Grande and the Colorado River;
- Regulation and conservation of the waters of the Rio Grande for use by joint construction, operation and maintenance of international storage dams and reservoirs, and plants for generating hydroelectric energy at the dams;
- Protection of lands along the river from floods by levee and floodway projects;
- Solution of border sanitation and other border water quality problems;
- Preservation of the Rio Grande and Colorado River as the international boundary; and
- Demarcation of the land boundary.

### 6.15.3.1 USIBWC Construction License

Because the proposed project traverses the USIBWC floodway, coordination with the USIBWC is required to obtain a construction license. Coordination with the USIBWC was initiated for the Hidalgo Loop – Section A and SH 365 projects in February 2008 and August 2013, respectively, to determine the requirements for the construction license. Notes from the August 2013 coordination meeting is provided in **Appendix C**. Once final design is completed, as part of the license application, the HCRMA would provide the USIBWC with (1) the hydraulic model analysis, (2) construction plans within the floodway, and (3) letters of concurrence from the TCEQ, Texas Historical Commission (THC), TPWD, USACE, and USFWS. The license will be approved if the proposed work or its operation and maintenance will not interfere with the operation and maintenance of any project works of the USIBWC and is consistent with permissible floodplain uses. All construction within the USIBWC ROW would be completed in accordance with all applicable USIBWC guidelines and policies. Any additional agency coordination and commitments made by the HCRMA would be included in the Environmental Permits Issues and Commitments (EPIC) sheet as part of the final construction plans.

### 6.15.3.2 USIBWC Levee Construction Process

Because the HCRMA proposes to demolish and relocate approximately 13,063 linear feet of levees at four locations along the USIBWC floodway as a part of the roadway project, a hydraulic impact statement (containing the pertinent hydraulic model outputs and proposed levee realignments) would be submitted for the USIBWC's review and approval. The USIBWC levee relocation process would require that a new levee be designed to run adjacent to the old levee. The new levee alignment must be modeled so as to not impede the 100-year floodplain. The height and dimensions of the new levees would be determined upon completion of the hydraulic modeling to occur during final design.

Construction of the new levee would be conducted in stages; the new levee would be built adjacent to the old levee to the desired specification to assure the USIBWC operational standards as established in the construction license. At the ends where the new levee departs the old alignment, the land-facing side of the old levee is excavated in stair-step fashion. The new levee fill is laid out onto those benches and compacted to the specified design. The old levee is demolished once the new levee is approved by the USIBWC. Along the ends, the floodway-facing side of the old levee is removed to obtain the final new levee configuration until the realignment meets the old levee alignment. Typical sections for the levee reconstruction process are provided in **Appendix D**.

### 6.15.4 U.S. Coast Guard

The proposed project does not cross navigable waterways; therefore, a U.S. Coast Guard (USCG) bridge permit is not required for the proposed project.

## 6.16 ESSENTIAL FISH HABITAT

Magnuson-Stevens Fishery Conservation and Management Act, as amended on October 11, 1996, directs all federal agencies whose actions will impact essential fish habitat (EFH) must consult with the National Marine Fisheries Services (NMFS) regarding potential adverse effects. As a result, any project receiving federal funding must address potential impacts to the EFH.

### 6.16.1 Build Alternative

As previously stated, the study area is outside any tidally influenced coastal waters; therefore, the Build Alternative would not impact the EFH.

### 6.16.2 No-Build Alternative

Coordination with the NMFS is not required for the No-Build Alternative.

## 6.17 COASTAL MANAGEMENT PROGRAM

The Texas Coastal Management Program (CMP) was approved by the National Oceanic and Atmospheric Administration on December 23, 1996, as published in the *Federal Register* (Volume 62, Number 7) on January 10, 1997. The CMP boundary delineates the coastal zone in accordance with the requirements of the Coastal Zone Management Act of 1972 (CZMA), federal program development and approval regulations, and the Texas Coastal Coordination Act.

### 6.17.1 Build Alternative

The proposed action and study area are wholly outside any coastal barrier systems and is therefore in compliance with the CZMA. Coordination with the CZMA would not be required under the Build Alternative.

### 6.17.2 No-Build Alternative

Coordination with the CZMA would not be required under the No-Build Alternative.

## 6.18 WATER QUALITY

The TCEQ is required under Section 303(d) of the CWA to identify waterbodies needing additional management, beyond existing controls, to achieve or maintain water quality standards. The TCEQ routinely monitors surface water quality in Texas and publishes the results in the TCEQ's *The State of Texas Water Quality Inventory Surface Water Quality Monitoring Program*. The Rio Grande, Segment 2302, has been designated as a threatened or impaired segment in the 2012 CWA Section 303(d) list for bacteria and within 5 miles of the proposed project location.

### 6.18.1 Build Alternative

Potential water quality impacts associated with the proposed project may occur during construction activities. The construction phase impacts are short-term effects mainly caused by disturbing and exposing existing ground to erosion, and by the excavation, grading, and soil movement operations. These operations may result in sediment loads entering the receiving waterbodies, especially during storm events, which would impact water quality, such as increasing the turbidity and suspended sediment levels. Other potential impacts during construction include oil and grease as well as other constituents that may be on the construction site and may enter the storm water system or leak to the ground and later enter into waterbodies during storm events. Given that the Build Alternative would disturb more than 5 acres, the Build Alternative would be required to obtain coverage under the TPDES General Permit for Construction Activities. Hidalgo County would comply with the permit by designing, implementing, and maintaining an SW3P, and also filing an NOI with the TCEQ in accordance with the General Permit before initiating construction activities. Erosion and sedimentation controls and other BMPs would be developed or designed and included in the SW3P. The BMPs may include, but would not be limited to, hay bales, sediment fences, containment structures, vegetative cover and/or rock dams.

During the operation phase of the highway, potential water quality impacts may include runoff of debris and other constituents that may accumulate on the surface of the proposed roadway and its ROW during dry weather and then wash off during wet weather into the receiving waterbodies. Typical constituents associated with roadway operation include suspended sediments, oil and grease, and heavy metals.

Another potential impact during roadway operation is traffic accident related spills. The BMPs would be implemented to minimize potential adverse impacts.

### 6.18.2 No-Build Alternative

Under the No-Build Alternative, continued development, farming activities, and programmed regional projects would increase impervious cover, increasing stormwater runoff potentially affecting water quality.

## 6.19 FLOODPLAINS

Hidalgo County is mapped and in the regular phase of the National Flood Insurance Program (NFIP) as administered by FEMA. This project would be designed to permit the conveyance of a 100-year flood and would not increase the base flood elevation (BFE) to a level that would violate applicable ordinances or regulations.

Based on a review of the FEMA's Q3 Data for Hidalgo County, a portion of the proposed project lies within the 100-year floodplain of the Rio Grande and its associated tributaries.

### 6.19.1 Build Alternative

**Figure 6-4** depicts the 100-year FEMA flood zones within the project limits. Approximately 174.57 acres of the proposed ROW are located within the floodplain of numerous channels designated as Zone A, an area inundated by 100-year flooding for which the BFEs have been determined. Zone A areas have a 1 percent annual chance of flooding. Of the 174.57 acres of floodplains located within the Build Alternative, it is anticipated that levees would be relocated for approximately 45 acres; bridges would span approximately 20 acres; and culverts would be provided for approximately 48 acres. Therefore, impacts to the floodplains located within Build Alternative would be minimized.

Between 2007 and 2010 the Department of Homeland Security – USIBWC and Hidalgo County participated in the reconstruction of earthen levees and the construction of concrete vertical wall levees throughout the County. Per the 2013 bond referendum, the HCDD #1 will provide regional drainage improvements and floodplain remapping throughout Hidalgo County. The HCRMA would work with the HCDD #1 to conduct the floodplain remapping in the areas protected by the improved USIBWC levees, of which a significant portion abuts or crosses the proposed project ROW.

Because detailed hydraulic analyses have not been performed, no BFE or depths are known. A storm drain system would be constructed and the hydraulic design of the proposed improvements would be in accordance with the current TxDOT and FHWA policy standards. Coordination with the floodplain administrator and the USIBWC would occur during final design.

### 6.19.2 No-Build Alternative

Development would continue to occur under the No-Build Alternative but would be done in accordance with the NFIP guidelines.

## 6.20 AIR QUALITY

The Clean Air Act Amendments of 1990 (CAAA) require transportation plans, programs, and projects in nonattainment areas, which are funded or approved by the FHWA or Federal Transit Administration, to conform to the State Implementation Plan (SIP). This ensures that transportation plans, programs, and projects do not produce new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS), which were criteria established under the Clean Air Act (CAA) by the U.S. Environmental Protection Agency (EPA) to determine the health threat of criteria pollutants, generally located within the Consolidated Metropolitan Statistical Area (CMSA). If a CMSA has a health threat, it is designated as a "nonattainment" area until compliance is achieved.

Transportation conformity is an analytical methodology that establishes the connection between projected on-road emissions from the Regional Transportation Plan (RTP) and the known reductions in the motor vehicle emission budget from the SIP. Through the process of transportation conformity, the RTP uses the SIP on-road mobile strategies and air quality targets to demonstrate if the RTP complies with the federal air quality requirements. Vehicle emissions resulting from the implementation of transportation projects in the 2035 RTP cannot exceed emission budgets established by the SIP.

### 6.20.1 Traffic Air Quality Analysis

#### 6.20.1.1 Conformity

The proposed action is consistent with the TxDOT Pharr District FY 2013–2016 Statewide Transportation Improvement Plan (STIP), as revised August 2012 (TxDOT, 2012). The project is located in Hidalgo County, which is in an area in attainment or unclassifiable for all NAAQS; therefore, the transportation conformity rules do not apply.

#### 6.20.1.2 Carbon Monoxide Traffic Air Quality Analysis

Traffic data for the design year 2036 are 20,600 vehicles per day (vpd). A prior TxDOT modeling study and previous analyses of similar projects demonstrated that it is unlikely that a carbon monoxide (CO) standard would ever be exceeded as a result of any project with an AADT below 140,000. The AADT projections for the project do not exceed 140,000 vpd; therefore, a Traffic Air Quality Analysis was not required.

#### 6.20.1.3 Congestion Management Process

This project is located in an area that is in attainment or unclassifiable for all NAAQS; therefore, a Congestion Management Process/System analysis is not required.

### 6.20.2 Qualitative MSAT Analysis

*Mobile Source Air Toxics*

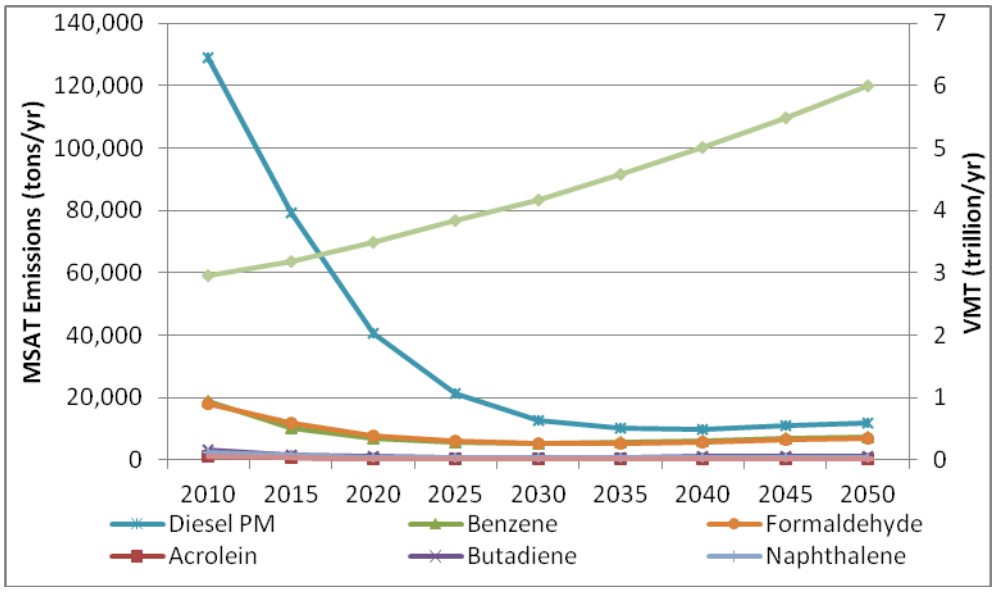
Controlling air toxic emissions became a national priority with the passage of the CAAA of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (*Federal Register*, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System[9] (IRIS). In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment[10]. These are acrolein, benzene, 1,3-butadiene, diesel particulate matter (diesel PM) plus diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter. While the FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA Mobile Source Air Toxics (MSAT) rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Based on an FHWA analysis using the EPA's MOVES2010b model, as shown on **Exhibit 6-2** and **Table 6-14**, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA. The FHWA, EPA, the Health Effects Institute (HEI), and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field.

[9] http://www.epa.gov/ncea/iris/index.html
[10] http://www.epa.gov/ttn/atw/nata1999/

**Exhibit 6-2: National MSAT Emission Trends 1999-2050 for Vehicles Operating on Roadways Using EPA's MOBILE6.2 Model**




Source: Table 6-14.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

**Table 6-14: Projected National MSAT Emissions and Percent Reduction for 2010–2050 for Vehicles Operating on Roadways Using EPA's MOVES2010b Model**

| Pollutant / VMT | Pollutant Emissions (tons) and Vehicle-Miles Traveled (VMT) by Calendar Year | | | | | | | | | Change |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | 2010 to 2050 |
| Acrolein | 1,244 | 805 | 476 | 318 | 258 | 247 | 264 | 292 | 322 | -74% |
| Benzene | 18,995 | 10,195 | 6,765 | 5,669 | 5,386 | 5,696 | 6,216 | 6,840 | 7,525 | -60% |
| Butadiene | 3,157 | 1,783 | 1,163 | 951 | 890 | 934 | 1,017 | 1,119 | 1,231 | -61% |
| Diesel PM | 128,847 | 79,158 | 40,694 | 21,155 | 12,667 | 10,027 | 9,978 | 10,942 | 11,992 | -91% |
| Formaldehyde | 17,848 | 11,943 | 7,778 | 5,938 | 5,329 | 5,407 | 5,847 | 6,463 | 7,141 | -60% |
| Naphthalene | 2,366 | 1,502 | 939 | 693 | 607 | 611 | 659 | 727 | 802 | -66% |
| Polycyclics | 1,102 | 705 | 414 | 274 | 218 | 207 | 219 | 240 | 262 | -76% |
| Trillions VMT | 2.96 | 3.19 | 3.5 | 3.85 | 4.16 | 4.58 | 5.01 | 5.49 | 6 | 102% |

Source: EPA MOVES2010b model runs conducted during May–June 2012 by FHWA.

*Project Specific MSAT Information*

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is

derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*[11].

For each alternative in this document, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No-Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the Build Alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives would have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built. However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT would be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

### *Unavailable Information for Project-Specific MSAT Impact Analysis*

In the FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives.

[11] http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/environmental-resources.html#air

The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the CAA and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects[12]." Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including HEI. Two HEI studies are summarized in Appendix D of the FHWA's *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents.*[13] Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations[14] or in the future as vehicle emissions substantially decrease[15].

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts—each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

[12] http://www.epa.gov/iris/

[13] http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/environmental-resources.html#air

[14] http://pubs.healtheffects.org/view.php?id=282

[15] http://pubs.healtheffects.org/view.php?id=306

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI.[16] As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA[17] and the HEI[18] have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the CAA to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA's approach to addressing risk in its two step decision framework.

Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable. Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

### *Construction Emissions*

During the construction phase of this project, temporary increases in air pollutant emissions may occur from construction activities. The primary construction-related emissions are particulate matter (fugitive dust) from site preparation. These emissions are temporary in nature (only occurring during actual construction); it is not possible to reasonably estimate impacts from these emissions due to limitations of the existing models. However, the potential impacts of particulate matter emissions will be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression

[16] http://pubs.healtheffects.org/view.php?id=282
[17] http://www.epa.gov/risk/basicinformation.htm#g
[18] http://pubs.healtheffects.org/getfile.php?u=395

techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate. The construction activity phase of this project may generate a temporary increase in MSAT emissions from construction activities, equipment, and related vehicles. The primary MSAT construction-related emissions are particulate matter from site preparation and diesel particulate matter from diesel-powered construction equipment and vehicles. The Texas Emissions Reduction Plan[19] (TERP) includes incentive programs to encourage the development of multi-pollutant approaches to ensure that the air in Texas is both safe to breathe and meets minimum federal standards. TxDOT encourages construction contractors to utilize this program to the fullest extent possible to minimize diesel emissions. However, considering the temporary and transient nature of construction-related emissions, as well as the mitigation actions to be utilized, it is not anticipated that emissions from construction of this project would have any significant impact on air quality in the area.

*Conclusion*

In this document, a qualitative MSAT assessment has been provided relative to the various alternatives of MSAT emissions and has acknowledged that all of the project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

## 6.21 NOISE

According to TxDOT's TP&P, the AADT along the study corridor is projected to increase from 15,000 vpd in 2016 to 20,600 vpd in 2036 with an AADT truck percentage of 17.8 percent. This represents worst case traffic conditions because the AADT was obtained for a free as opposed to a tolled facility. Since the proposed project consists of a new location roadway, field measurements of existing noise levels were obtained at representative locations near identified receivers in October 2012. Weather conditions were cloudy, and wind speed was variable from the south-southeast at less than 10 mph. Temperatures varied from a low of 80 degrees to a high of 96 degrees Fahrenheit. Field measurements were taken between 8:00 AM and 3:00 PM. Ambient noise sources at the representative locations included neighborhood traffic, wind, wildlife, aircraft, construction, and farm machinery.

This analysis was accomplished in accordance with TxDOT's (FHWA-approved) *Guidelines for Analysis and Abatement of Highway Traffic Noise* (TxDOT Center for Transportation Research, 2011).

Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in decibels and is expressed as "dB."

[19] http://www.tceq.state.tx.us/implementation/air/terp/

Sound occurs over a wide range of frequencies. However, not all frequencies are detectable by the human ear; therefore, an adjustment is made to the high and low frequencies to approximate the way an average person hears traffic sounds. This adjustment is called A-weighting and is expressed as "dB(A)."

Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average or equivalent sound level and is expressed as "$L_{eq}$."

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise
- Determination of existing noise levels
- Prediction of future noise levels
- Identification of possible noise impacts
- Consideration and evaluation of measures to reduce noise impacts

**Table 6-15** outlines the noise abatement criteria (NAC) established by the FHWA for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur.

**Table 6-15: FHWA and TxDOT Noise Abatement Criteria**

| Activity Category | FHWA dB(A) $L_{eq}$ | Description of Land Use Activity Areas |
|---|---|---|
| A | 57 (exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose |
| B | 67 (exterior) | Residential |
| C | 67 (exterior) | Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings |
| D | 52 (interior) | Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios |
| E | 72 (interior) | Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F |
| F | – | Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing |
| G | – | Undeveloped lands that are not permitted |

A noise impact would occur when either the absolute or relative criterion is met:

Absolute criterion: the predicted noise level at a receiver approaches, equals or exceeds the NAC. "Approach" is defined as 1 dB(A) below the FHWA NAC. For example, a noise impact would occur at a Category B residence if the noise level is predicted to be 66 dB(A) or above.

Relative criterion: the predicted noise level substantially exceeds the existing noise level at a receiver even though the predicted noise level does not approach, equal or exceed the NAC. "Substantially exceeds" is defined as more than 10 dB(A). For example: a noise impact would occur at a Category B residence if the existing level is 54 dB(A) and the predicted level is 65 dB(A) (11 dB(A) increase).

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

The FHWA Traffic Noise Model software (TNM 2.5) was used to calculate existing and predicted traffic noise levels. The model primarily considers the number, type and speed of vehicles; highway alignment and grade; cuts, fills and natural berms; surrounding terrain features; and the locations of activity areas likely to be impacted by the associated traffic noise.

### 6.21.1 Build Alternative

Existing and predicted traffic noise levels were modeled at receiver locations (**Table 6-16** and see **Figure 4-3**) that represent the land use activity areas adjacent to the proposed project that might be impacted by traffic noise and potentially benefit from feasible and reasonable noise abatement.

As indicated in **Table 6-16**, the proposed project would result in a traffic noise impact, and the following noise abatement measures were considered: traffic management, alteration of horizontal and/or vertical alignments, acquisition of undeveloped property to act as a buffer zone and the construction of noise barriers.

Before any abatement measure can be incorporated into the project, it must be both feasible and reasonable. In order to be feasible, the abatement measure must be able to reduce the noise level by greater than 50 percent of impacted, first row receivers by at least 5 dB(A); and to be reasonable, it must not exceed the cost-effectiveness criterion of $25,000 for each receiver that would benefit by a reduction of at least 5 dB(A) and the abatement measure must be able to reduce the noise level of at least one impacted, first row receiver by at least 7 dB(A).

Traffic management: control devices could be used to reduce the speed of the traffic; however, the minor benefit of 1 dB(A) per 5 mph reduction in speed does not outweigh the associated increase in congestion and air pollution. Other measures such as time or use restrictions for certain vehicles are prohibited on state highways.

**Table 6-16: Traffic Noise Levels (dBA $L_{eq}$)**

| Receiver | Description | NAC Category | NAC Level | Existing 2012 | Predicted 2036 | Change | Noise Impact |
|---|---|---|---|---|---|---|---|
| R1 | Residential | B | 67 | 55 | 64 | 9 | No |
| R2 | Residential | B | 67 | 51 | 63 | 12 | Yes |
| R3 | Residential | B | 67 | 49 | 65 | 16 | Yes |
| R4 | Cemetery | C | 67 | 54 | 58 | 4 | No |
| R5 | Residential | B | 67 | 54 | 61 | 7 | No |
| R6 | School | C | 67 | 47 | 62 | 15 | Yes |
| R7 | Residential | B | 67 | 44 | 64 | 20 | Yes |
| R8 | Residential | B | 67 | 45 | 69 | 24 | Yes |
| R9 | Residential | B | 67 | 52 | 61 | 9 | No |
| R10 | Residential | B | 67 | 54 | 67 | 13 | Yes |
| R11 | Residential | B | 67 | 53 | 61 | 8 | No |

Alteration of horizontal and/or vertical alignments: any alteration of the existing alignment would displace existing businesses and residences, require additional ROW and not be cost effective/reasonable.

**Buffer zone:** The acquisition of undeveloped property to act as a buffer zone is designed to avoid rather than abate traffic noise impacts and therefore is not feasible.

**Noise barriers:** This is the most commonly used noise abatement measure. Noise barriers were evaluated for each of the impacted receiver locations.

Noise barriers would not be feasible and reasonable for any of the following impacted receivers and therefore are not proposed for incorporation into the project.

**R2:** This receiver represents six residential homes within the Madero Community. A noise barrier analysis was completed. A barrier of approximately 985 feet in length was modeled from heights ranging from 6 to 20 feet. A noise barrier of 20 feet high only achieved a maximum of 2 dB(A) reduction at two receivers. Therefore, a noise barrier that achieved the minimum reduction of 5 dB(A) at impacted receivers and at least 7 dB(A) at one receiver was not feasible. A noise barrier is not proposed at this location.

**R3:** This receiver represents a separate, individual residence. A noise barrier that would achieve the minimum, feasible reduction of 5 dB(A) and the noise reduction goal of 7 dB(A) at this receiver would exceed the reasonable, cost-effectiveness criterion of $25,000.

**R6:** This receiver represents Garcia Elementary School. Per TxDOT guidance, the land area of the school was divided by the representative receptor single family residential lot size development adjacent to the school. Based on this, the school represented 10 receivers. A noise barrier analysis was completed and a barrier of approximately 395 feet in length was modeled with heights ranging from 6 to 20 feet. A noise barrier of 20 feet high only achieved a maximum of 2 dB(A). Therefore, a noise barrier that achieved the minimum reduction of 5 dB(A) and at least 7 dB(A) was not feasible. A noise barrier is not proposed at this location.

**R7:** This receiver represents 16 residential homes within a subdivision. A noise barrier analysis was completed and a noise barrier approximately 1,330 feet in length was modeled along the proposed ROW. The least expensive barrier that achieved the minimum, feasible reduction of 5 dB(A) for 10 receivers and a 7 dB(A) reduction for one receiver costs $344,048. This is above the reasonable cost of $25,000 per benefitted receiver and therefore not proposed.

**R8:** This receiver represents 5 residential homes within a subdivision. A noise barrier analysis was conducted and a noise barrier approximately 550 feet in length was modeled along the proposed ROW. The least expensive barrier that achieves a feasible reduction of 5 dB(A) for four receivers and a 7 dB(A) reduction for one receiver costs $198,947. This is above the reasonable cost of $25,000 per benefitted receiver and therefore not proposed.

**R10:** This receiver represents three residential homes along US 281. A noise barrier analysis was completed and a noise barrier approximately 420 feet in length and ranging in heights from 6 to 20 feet was modeled along the US 281 ROW. A noise barrier of 20 feet high only achieved a maximum of 5 dB(A) at one receiver and 3 dB(A) at the other two receivers. Therefore, a noise barrier that achieved the minimum reduction of 5 dB(A) at impacted receivers and at least 7 dB(A) at one receiver was not feasible. A noise barrier is not proposed at this location.

To avoid noise impacts that may result from future development of properties adjacent to the project, local officials responsible for land use control programs must ensure, to the maximum extent possible, no new activities are planned or constructed along or within the predicted (2036) noise impact contours provided in **Table 6-17**.

**Table 6-17: Noise Impact Contours**

| Land Use | Impact Contour | Distance from ROW |
|---|---|---|
| NAC Category B and C | 66 dB(A) | 224 feet |
| NAC Category E | 71 dB(A) | 89 feet |

None of the above noise abatement measures would be both feasible and reasonable; therefore, no abatement measures are proposed for this project.

Noise associated with the construction of the project is difficult to predict. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns. However, construction normally occurs during daylight hours when occasional loud noises are more tolerable. None of the receivers is expected to be exposed to construction noise for a long duration; therefore, any extended disruption of normal activities is not expected. Provisions would be included in the plans and specifications that require the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

A copy of this traffic noise analysis will be made available to local officials to ensure, to the maximum extent possible, future developments are planned, designed and programmed in a manner that would avoid traffic noise impacts. On the date of approval of this document (Date of Public Knowledge), the FHWA and TxDOT are no longer responsible for providing noise abatement for new development adjacent to the project.

### 6.21.2 No-Build Alternative

There would be no traffic noise impact under the No-Build Alternative.

## 6.22 HAZARDOUS MATERIALS

An initial site assessment including a visual survey of the project limits and surrounding area, research of existing and previous land use, and limited review of federal and state regulatory databases/lists was performed in September 2014. The purpose of the initial site assessment is to identify possible hazardous materials within the project limits. A Hazardous Materials Initial Site Assessment Report (Atkins, 2014a) was prepared and approved by TxDOT in December 2014.

### 6.22.1 Records Review

A regulatory database search was performed by GeoSearch on August 28, 2014 (GeoSearch, 2014), in order to identify documented environmental conditions associated with the proposed project area. The standard records that were reviewed and the approximate search distances, measured from an estimated center point of the proposed ROW, are provided in **Table 6-18**.

Two unlocatable sites were identified in the federal database. Additionally, 10 separate sites were identified in the state database. One of these sites has multiple facility types. **Table 6-19** lists the hazardous materials sites identified from the records review as having the potential to impact construction of the proposed project. The locations of these sites are mapped on **Figure 4-3**.

**Table 6-18: Regulatory Database Records Review**

| Database | Acronym | Distance Searched (miles) |
|---|---|---|
| Aerometric Information Retrieval System/Air Facility Subsystem | AIRSAFS | Target Property |
| Affected Property Assessment Reports | APAR | 0.5 |
| Brownfields Management System | BF | 0.5 |
| Biennial Reporting System | BRS | Target Property |
| Brownfields Site Assessments | BSA | 0.5 |
| Closed & Abandoned Landfill Inventory | CALF | 0.5 |
| Clandestine Drug Laboratory Locations | CDL | Target Property |
| Comprehensive Environmental Response, Compensation, and Liability Information System | CERCLIS | 0.5 |
| Dry Cleaner Registration Database | DCR | 0.25 |
| Delisted National Priorities List | DNPL | 1.0 |
| EPA Docket Data | DOCKETS | Target Property |
| Department of Defense Sites | DOD | 1.0 |
| Federal Engineering Institutional Control Sites | EC | Target Property |
| Emergency Response Notification System | ERNSTX | Target Property |
| Facility Registry System | FRSTX | Target Property |
| Formerly Used Defense Sites | FUDS | 1.0 |
| Groundwater Contamination Cases | GWCC | Target Property |
| Historic Groundwater Contamination Cases | HISTGWCC | Target Property |
| Historic Gas Stations | HISTPST | 0.25 |
| Hazardous Materials Incident Reporting System | HMIRSR06 | Target Property |
| Integrated Compliance Information System (formerly DOCKETS) | ICIS | Target Property |
| Integrated Compliance Information System National Pollutant Discharge Elimination System | ICISNPDES | Target Property |
| Industrial and Hazardous Waste | IHW | 0.25 |
| Industrial and Hazardous Waste Corrective Action | IHWCA | 1.0 |
| Indian Reservations | INDIANRES | 1.0 |
| Innocent Owner/Operator Database | IOP | 0.5 |
| TCEQ Liens | LIENS | Target Property |
| Leaking Petroleum Storage Tanks | LPST | 0.5 |
| Land Use Control Information System | LUCIS | Target Property |
| Leaking Underground Storage Tanks on Tribal Lands | LUSTR06 | 0.5 |
| Material Licensing Tracking System | MLTS | Target Property |
| Municipal Setting Designations | MSD | Target Property |
| Municipal Solid Waste Landfill Sites | MSWLF | 0.5 |

| Database | Acronym | Distance Searched (miles) |
|---|---|---|
| No Further Remedial Action Planned | NFRAP | 0.5 |
| No Longer Regulated Resource Conservation & Recovery Act Corrective Action Facilities | NLRRCRAC | 1.0 |
| No Longer Regulated Resource Conservation & Recovery Act Generator Facilities | NLRRCRAG | Target Property and Adjoining |
| No Longer Regulated Resource Conservation & Recovery Act Non-Corrective Action TSD Facilities | NLRRCRAT | 0.5 |
| Notice of Violations | NOV | Target Property |
| National Pollutant Discharge Elimination System | NPDESR06 | Target Property |
| National Priorities List | NPL | 1.0 |
| Open Dump Inventory | ODI | 0.5 |
| Open Dump Inventory on Tribal Lands | ODINDIAN | 0.5 |
| PCB Activity Database System | PADS | Target Property |
| Permit Compliance System | PCSR06 | Target Property |
| Permitted Industrial Hazardous Waste Sites | PIHW | 0.25 |
| Proposed National Priorities List | PNPL | 1.0 |
| Resource Conservation & Recovery Act – Corrective Action Facilities | RCRAC | 1.0 |
| Resource Conservation & Recovery Act – Generator Facilities | RCRAGR06 | Target Property and Adjoining |
| Resource Conservation & Recovery Act Sites with Controls | RCRASC | Target Property |
| Resource Conservation & Recovery Act – Treatment, Storage, & Disposal Facilities | RCRAT | 0.5 |
| Record of Decision System | RODS | 1.0 |
| Railroad Commission VCP and Brownfield Sites | RRCVCP | 0.5 |
| Radioactive Waste Sites | RWS | 0.5 |
| State Superfund Sites | SF | 1.0 |
| CERCLIS Liens | SFLIENS | Target Property |
| State Institutional/Engineering Control Sites | SIEC01 | Target Property |
| Spills Listing | SPILLS | Target Property |
| Section Seven Tracking System | SSTS | Target Property |
| Tier II Chemical Reporting Program Facilities | TIERII | 0.5 |
| Toxics Release Inventory | TRI | Target Property |
| Toxic Substance Control Act Inventory | TSCA | Target Property |
| Underground Storage Tanks on Tribal Lands | USTR06 | 0.25 |
| Petroleum Storage Tanks | PST | 0.25 |
| Voluntary Cleanup Program Sites | VCP | 0.5 |
| Recycling Facilities | WMRF | 0.5 |

**Table 6-19: Listed Sites within the Project Area**

| Map ID # | Figure 4-3, Page # | Site Name | Address | Database | Est. Distance from Project (mile) | Direction from Project | Concerns |
|---|---|---|---|---|---|---|---|
| 1 | 6 | Krenmueller Farms | Not Reported | PST | 0.03 | SE | None |
| 2 | 3 | Essex Brownell | 7001 S 33rd Street Bldg V | IHWCA | 0.18 | N | Information Unknown |
| 2 | 3 | Essex Brownell | 7001 S 33rd Street Bldg V | IHW | 0.2 | N | Information Unknown |
| 3 | 3 | Kimball McAllen American | 3600 Formosa Ave., Ste 2 | IHW | 0.2 | N | None |
| 4 | 2 | Gleco Plating | 7021 S Bentsen Road | IHWCA | 0.2 | N | None |
| 5 | 3 | Del Nosa Plantas 1-4, 5 and 6 | 6901 S. 33rd St. Bldg T | IHW | 0.25 | N | None |
| 6 | 3 | Recycling Consultant Services | 3500 Durango Ave. | MSWLF | 0.38 | N | None |
| 7 | 3 | Union Plastic & Metal Recycling LLC | 6620 S 33rd Street Building J | MSWLF | 0.40 | N | None |
| 8 | 3 | Falco Johnnie | 3701 W Military Hwy | LPST | 0.43 | N | Too far away to warrant further investigation |
| 9 | 3 | Parker Seal – Brownsville Rubber | 3700 W Military Hwy | IHWCA | 0.66 | N | Too far away to warrant further investigation |
| 10 | - | Menardi Criswell McAllen | 6110 S 42nd Street | IHWCA | 0.78 | N | Too far away to warrant further investigation |

Krenmueller (Map ID 1, **Figure 4-3**) is listed in the PST database. No spills or releases are listed as occurring on site.

Essex Brownell (Map ID 2, **Figure 4-3**) is listed as an IHW and IHWCA Site. TCEQ reports a unit closure was approved on November 12, 2013, and the site is no longer active. The project manager for the site was unable to be contacted, and specific information related to the site is unknown.

Kimball McAllen American (Map ID 3, **Figure 4-3**) and Del Nosa Plantas 1-4, 5, and 6 (Map ID 5, **Figure 4-3**) are listed in the IHW database. No spills or releases are listed as occurring on-site.

Gleco Plating (Map ID 4, **Figure 4-3**) is listed as an IHWCA site though TCEQ confirmed the facility is closed, and all units were closed out with no releases. The TCEQ approved the closure on July 15, 2014.

There are two landfills (Union Plastic & Metal Recycling LLC [Map ID 7, **Figure 4-3**] and Recycling Consultant Services [Map ID 6, **Figure 4-3**]) located within the project area. Only Union Plastic & Metal

is active. Neither site has any reported releases to the environment. No impacts are anticipated associated with these sites.

Review of the database search indicated one LPST site (Falco Johnnie) adjacent to the proposed project (Map ID 8, **Figure 4-3**). According to the priority and status indicated in the list search, only minor soil contamination was indicated for this adjacent LPST listing. The TCEQ issued the final concurrence for this listing, and the case was closed on October 25, 1989.

Parker Seal-Brownsville Rubber (Map ID 9, **Figure 4-3**) and Menardi Criswell McAllen (Map ID 10, **Figure 4-3**) are listed in the IHWCA databases. Both sites are too far away to warrant further investigation.

### 6.22.2 Visual Inspection

A visual inspection of the proposed study area was conducted on September 24, 2014, to identify the presence of potentially hazardous materials or substances that would impact the proposed project and to identify any sites that were not listed on the hazardous materials database search. **Table 6-20** identifies the 27 facilities identified during this inspection and as the result of interviews conducted.

**Table 6-20: Unlisted Potential Hazardous Material Sites**

| Map ID | Figure 4-3, Page # | Site Name | Site Location | Location from Proposed ROW | ROW Required from Parcel (ac) | ROW Required from Parcel (%) |
|---|---|---|---|---|---|---|
| 11 | 6 | Auto Salvage Yard (Commercial) | Military Highway (0.1 mile east of S I Road) | Within ROW | 0.5 | 5.8 |
| 12 | 6 | Oil/Gas Well (with ASTs) | 0.25 mile west of San Juan Road | Adjacent to ROW | 0 | 0 |
| 13 | 6 | Equipment Yard (with ASTs and USTs) | Military Highway (0.22 mile east of S Steward Road) | Adjacent to ROW | 0 | 0 |
| 14 | 6 | Mobile Storage Tank | San Juan Road and Doffin Canal Road | Adjacent to ROW | 0 | 0 |
| 15 | 6 | Dump Site | Doffin Canal Road (0.15 mile West of San Juan Road) | Adjacent to ROW | 0 | 0 |
| 16 | 6 | Eli Jackson Cemetery | Doffin Canal Road (0.18 mile east of S I Road) | Adjacent to ROW | 0 | 0 |
| 17 | 5 | Auto Salvage Yard (Private) | San Juan Road and Anaya Road | Within ROW | 0.68 | 11.3 |
| 18 | 5 | Booster Station (with ASTs) | San Juan Road (south of Las Milpas Road) | Adjacent to ROW | 0 | 0 |
| 19 | 5 | Dump Site | 0.01 mile north of Las | Within ROW | 3.48 | 7.5 |

| Map ID | Figure 4-3, Page # | Site Name | Site Location | Location from Proposed ROW | ROW Required from Parcel (ac) | ROW Required from Parcel (%) |
|---|---|---|---|---|---|---|
| | | | Milpas Road and San Juan Road | | | |
| 20 | 5 | City of Pharr Lift Station | S I Road 0.26 mile south of Juan Balli Road | Adjacent to ROW | 0 | 0 |
| 21 | 4 | Oil/Gas Well (with ASTs) | US 281/Cage Boulevard and Gabriella Avenue | Adjacent to ROW | 0 | 0 |
| 22 | 4 | Dump Site | 0.50 mile West of S Cage Blvd (south of levee) | Adjacent to ROW | 0 | 0 |
| 23 | 4 | Dump Site | 0.34 mile east of S Jackson Road (north of levee) | Within ROW | 12 | 67.4 |
| 24 | 4 | Fill Dump Site | S Jackson Road and W Juan Balli Road (south of canal) | Within ROW | 0.75 | 33.2 |
| 25 | 4 | Auto Salvage Yard (Commercial) | S Jackson Road and W Juan Balli Road | Within ROW | 0.62 | 65.3 |
| 26 | 4 | Auto Salvage Yard | S Jackson Road and W Juan Balli Road | Within ROW | 7.84 | 73.3 |
| 27 | 4 | Auto Salvage Yard (Commercial) | West of McColl Road (just south of levee) | Within ROW | 0.65 | 7.2 |
| 28 | 4 | Auto Salvage Yard (Commercial) | West of McColl Road (0.11 mile south of levee) | Within ROW | 2.16 | 43.9 |
| 29 | 4 | Auto Salvage Yard (Commercial) | West of S. McColl Road (0.18 mile south of levee) | Within ROW | 0.3 | 6.1 |
| 30 | 3 | Race Track | SH 366 (south of levee) | Within ROW | 1.83 | 5.5 |
| 31 | 3 | Equipment Yard | SH 366 (south of levee) | Within ROW | 1.84 | 33.8 |
| 32 | 3 | Dump Site | SH 366 (south of levee) | Within ROW | 3.26 | 27.8 |
| 33 | 3 | Oil/Gas Well (with ASTs) | 0.4 mile east of SP 115/23rd Street | Adjacent to ROW | 0 | 0 |
| 34 | 3 | Oil/Gas Well (with ASTs) and Dump Site | 0.17 mile east of SP 115/ 23rd Street | Adjacent to ROW | 0 | 0 |
| 35 | 3 | Auto Salvage Yard (Private) | East of SP 115/23rd Street | Within ROW | 11.88 | 38 |
| 36 | 2 | Granjeno Cemetery | S FM 494 and Anzalduas Drive | Adjacent to ROW | 0 | 0 |
| 37 | 1 | Madero Pond | El Rancho | Within ROW | 3.09 | 8.2 |

Eight auto salvage yards (Map IDs 11, 17, 25, 26, 27, 28, 29, and 35 on **Figure 4-3**) are located within the proposed ROW. Because land acquisitions would be required at these locations, additional investigations are recommended to determine whether potential contamination from the sites would be encountered during construction.

Five dump sites are located within or adjacent to the proposed ROW (Map IDs 15, 19, 22, 23, and 32 on **Figure 4-3**). Waste includes but is not limited to tires, bricks, shingles, household trash, construction debris, and televisions. Additional investigations are recommended to determine the extent of the dump sites and would be required to confirm if contamination from the site would be encountered during construction. Disposal of tires and other regulated waste should be conducted in accordance with applicable and relevant regulations.

A fill dump site (Map ID 24 on **Figure 4-3**) is located within the proposed ROW. Additional investigations are recommended to determine if contaminants are present that could be encountered during construction.

A racetrack (Map ID 30 on **Figure 4-3**) with unidentified barrels is located within the proposed ROW. Drums located within the proposed ROW may contain hazardous materials. Removal and proper management of wastes associated with this site are anticipated. Additional investigations may be necessary to evaluate if releases from storage areas at this site have resulted in environmental impacts that would be encountered during construction.

An equipment yard (Map ID 31 on **Figure 4-3**) is located within the proposed ROW. The equipment yard contained abandoned vehicles, fill material, and a liquid hauler truck. Removal and proper management of wastes associated with this site are anticipated. Additional investigations may be necessary to evaluate if releases from storage areas at this site have resulted in environmental impacts that would be encountered during construction.

An equipment yard (Map ID 13 on **Figure 4-3**) is located adjacent to the proposed ROW. The equipment yard contained fuel storage tanks, fertilizer, ASTs and USTs. Additional investigations may be necessary to evaluate if releases from storage areas at this site have resulted in down-gradient environmental impacts that would be encountered during construction.

A mobile storage tank trailer (Map ID 14 on **Figure 4-3**) containing a corrosive liquid was located adjacent to the proposed ROW. No evidence of a release was noted during visual inspection; therefore, this site poses a low risk to construction of the proposed project.

The City of Pharr operates a Lift Station (Map ID 20 on **Figure 4-3**) adjacent to the proposed ROW. No recognized environmental concerns were noted during the visual inspection; therefore, this site poses a low risk to construction of the proposed project.

Two oil/gas wells (Map IDs 12 and 33 on **Figure 4-3**) containing ASTs are located adjacent to the proposed ROW. No recognized environmental concerns were noted during the visual inspection; therefore, this facility poses a low risk to construction of the proposed project.

An oil/gas booster station (Map ID 18 on **Figure 4-3**) with ASTs is located adjacent to the proposed ROW. No recognized environmental concerns were noted during the visual inspection; therefore, this facility poses a low risk to construction of the proposed project.

An oil/gas well (Map ID 34 on **Figure 4-3**) is located adjacent to the proposed ROW. There was also dumping of tires adjacent to the oil/gas well within the proposed ROW. Additional investigations are recommended and would be required to confirm if contamination from the site would be encountered during construction. Disposal of tires and other regulated waste would need to be in accordance with current regulations.

An oil/gas well (Map ID 21 on **Figure 4-3**) is located immediately adjacent to the proposed ROW. The site previously contained ASTs, which have been removed except for secondary containment berms. Additional investigations are recommended and would be required to confirm if contamination from the site would be encountered during construction.

In response to a request for spill and emergency response information, the City of Mission Fire Department responded that reports had been made that chemical dumping occurred in Madero Pond (Map ID 37 on **Figure 4-3**) sometime during the 1950s. No information was returned in the regulatory review. Because land acquisitions would be required at this location, additional investigations are recommended and would be required to confirm if contamination from the site would be encountered during construction.

In addition, two cemeteries (Map IDs 16 and 36 on **Figure 4-3**) are located adjacent to the proposed ROW, and the ROW crosses the UPRR twice. Additional investigations may be necessary to evaluate if releases from railroad activities at these sites have resulted in environmental impacts that would be encountered during construction.

### 6.22.3 Pipelines and Oil/Gas Wells

Based on data from the Railroad Commission of Texas (RRC, 2013) and confirmed during field investigations, several natural gas and propane pipelines and oil and gas wells are located within the proposed study area. Pipelines traverse the proposed study area a total of 25 times. The pipelines include:

- 1 DCP Mistream Pipeline
- 3 Enterprise Pipelines
- 1 Vernon Faulconer Inc. Pipeline
- 3 Mission Pipelines
- 1 Tennessee Gas Pipeline
- 1 Texas Eastern Transmission Pipeline

- 15 Texas Gas Service Company Pipelines

In addition, six oil and gas wells are located within the proposed ROW. Of the six, two are dry holes, three are plugged, and one is a gas well. The gas well located north of FM 3072/Dicker Road is currently active. Applicable plugging and supervision requirements would be required for any impacted oil and gas wells; these requirements are provided in Texas Administrative Code, Title 16, Part I, Chapter 3, Section 3.14 under the jurisdiction of the RRC. Well plugging would need to be performed by cementing companies, service companies, or operators approved by the RRC. Arrangements with the responsible well operator for proper plugging according to applicable regulations would be addressed during the ROW acquisition and negotiation process. If not plugged prior to construction, the wells would be addressed per TxDOT standard specification Item 103 Disposal of Wells.

**Figure 4-3** provides the locations of these pipelines and oil and gas wells.

### 6.22.4 Risk Assessment

The risk associated with each hazardous material site was assessed based on historical reviews, regulatory searches, inspections of individual parcels, and a review of the plan, profile, and cross sections relative to the site location. The risk level for each site was assessed in general accordance with the following guidelines:

- **No** – After a review of all available information, there is nothing to indicate contamination would be a problem. It is possible that contaminants could have been handled on the property; however, all information indicates problems should not be expected.
- **Low** – The former or current operation has a hazardous waste generator identification (ID) number or deals with hazardous materials; however, based on all available information there is no reason to believe there would be any involvement with contamination. This is the lowest possible rating a gasoline station operating within current regulations could receive. This could also be applied to a retail hardware store that blends paint.
- **Medium** – After a review of all available information, indications are found that identify known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping of groundwater, etc.), or that continued monitoring is required. The complete details of remediation requirements are important to determine what must be done if the property were to be acquired. A recommendation should be made on each property falling into this category to its acceptability for use within the proposed project, what actions might be required if the property is acquired, and the possible alternatives if there is a need to avoid the property.
- **High** – After a review of all available information, there is a potential for contamination problems. A recommendation must be included for what further assessment is required. Properties that were previously used as gasoline stations and have not been evaluated or assessed would probably receive this rating.

**Table 6-21** provides the risk assessment for the hazardous material sites.

**Table 6-21: Risk Assessment of Potential Hazardous Material Sites**

| Map ID | Site Name | Site Location | Location from Proposed ROW | ROW Required from Parcel (acres) | ROW Required from Parcel (%) | Type of Construction Activity at Site Location | Depth of Impact from Construction Activity | Risk Assessment | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 11 | Auto Salvage Yard (Commercial) | Military Highway (0.1 mile east of S I Road) | Within ROW | 0.5 | 5.8 | Roadway fill | None | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX |
| 12 | Oil/Gas Well (with ASTs) | 0.25 mile west of San Juan Road | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 13 | Equipment Yard (with ASTs and USTs) | Military Highway (0.22 mile east of S Steward Road) | Adjacent to ROW | 0 | 0 | None | None | Low | Regulatory information on ASTs and USTs were unavailable. Soil testing recommended downgradient of site within proposed ROW to eliminate concern for contaminants. |
| 14 | Mobile Storage Tank | San Juan Road and Doffin Canal Road | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 15 | Dump Site | Doffin Canal Road (0.15 mile West of San Juan Road) | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 16 | Eli Jackson Cemetery | Doffin Canal Road (0.18 mile east of S I Road) | Adjacent to ROW | 0 | 0 | None | None | No | Arsenic and formaldehyde are common leaching chemicals associated with historic cemeteries. This cemetery is located down-gradient from the project site and is of low concern. |
| 17 | Auto Salvage Yard (Private) | San Juan Road and Anaya Road | Within ROW | 0.68 | 11.3 | None | None | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 18 | Booster Station (with ASTs) | San Juan Road (south of Las Milpas Road) | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 19 | Dump Site | 0.01 mile north of Las Milpas Road and San Juan Road | Within ROW | 3.48 | 7.5 | Roadway fill, side ditch and grading | 2.5-foot ditch 11-foot grading | High | Surface waste to be removed and disposed of based on appropriate regulations. Soil testing may be required based on composition of waste. Contaminated soil will be disposed of appropriately. |
| 20 | City of Pharr Lift Station | S I Road 0.26 south of Juan Balli Road | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 21 | Oil/Gas Well (with ASTs) | US 281/Cage Boulevard and Gabriella Avenue | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 22 | Dump Site | 0.50 mile West of S Cage Blvd (south of levee) | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 23 | Dump Site | 0.34 mile east of S Jackson Road (north of levee) | Within ROW | 12 | 67.4 | Roadway fill | None | High | Surface waste to be removed of and disposed of according to appropriate regulations. |
| 24 | Fill Dump Site | S Jackson Road and W Juan Balli Road (south of canal) | Within ROW | 0.75 | 33.2 | Roadway fill and retaining wall | 2-foot retaining wall | High | Surface waste to be removed and disposed of based on appropriate regulations. Soil testing may be required based on composition of waste. Contaminated soil will be disposed of appropriately. |
| 25 | Auto Salvage Yard (Commercial) | S Jackson Road and W Juan Balli Road | Within ROW | 0.62 | 65.3 | Roadway fill and side ditch | 2.25 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 26 | Auto Salvage Yard | S Jackson Road and W Juan Balli Road | Within ROW | 7.84 | 73.3 | Roadway fill and retaining wall | 2-foot retaining wall | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |

| Map ID | Site Name | Site Location | Location from Proposed ROW | ROW Required from Parcel (acres) | ROW Required from Parcel (%) | Type of Construction Activity at Site Location | Depth of Impact from Construction Activity | Risk Assessment | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 27 | Auto Salvage Yard (Commercial) | West of McColl Road (just south of levee) | Within ROW | 0.65 | 7.2 | Roadway fill and side ditch | 1.25 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 28 | Auto Salvage Yard (Commercial) | West of McColl Road (0.11 mile south of levee) | Within ROW | 2.16 | 43.9 | Roadway fill and side ditch | 2 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 29 | Auto Salvage Yard (Commercial) | West of S. McColl Road (0.18 mile south of levee) | Within ROW | 0.3 | 6.1 | Roadway fill and side ditch | 2 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 30 | Race Track | SH 366 (south of levee) | Within ROW | 1.83 | 5.5 | Roadway fill and side ditch | 2 feet | High | Drums located within proposed ROW may contain hazardous materials and would be characterized for transportation and disposal. Testing of site soils is recommended where evidence of leaks from the drums is noted. |
| 31 | Equipment Yard | SH 366 (south of levee) | Within ROW | 1.84 | 33.8 | Roadway fill and side ditch | 2 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 32 | Dump Site | SH 366 (south of levee) | Within ROW | 3.26 | 27.8 | Roadway fill and side ditch | 2.5 feet | High | Surface waste to be removed and disposed of based on appropriate regulations. Soil testing may be required based on composition of waste. Contaminated soil will be disposed of appropriately. |
| 33 | Oil/Gas Well (with ASTs) | 0.4 mile east of SP 115/23rd Street | Adjacent to ROW | 0 | 0 | None | None | No | No disturbance |
| 34 | Oil/Gas Well (with ASTs) and Dump Site | 0.17 mile east of SP 115/23rd Street | Adjacent to ROW | 0 | 0 | None | None | High | Surface waste to be removed and disposed of based on appropriate regulations. Soil testing may be required based on composition of waste. Contaminated soil will be disposed of appropriately. |
| 35 | Auto Salvage Yard (Private) | East of SP 115/23rd Street | Within ROW | 11.88 | 38 | Roadway fill and side ditch | 2 feet | High | Surface waste including vehicles will be removed and disposed of according to appropriate regulations. Soil testing recommended for metals, total petroleum hydrocarbons, and BTEX. |
| 36 | Granjeno Cemetery | S FM 494 and Anzalduas Drive | Adjacent to ROW | 0 | 0 | None | None | No | Arsenic and formaldehyde are common leaching chemicals associated with historic cemeteries. This cemetery is located down-gradient from the project site and is of low concern. |
| 37 | Madero Pond | El Rancho | Within ROW | 3.09 | 8.2 | Roadway fill | None | Medium | Due to reports of chemical dumping during the 1950s soil testing is recommended to evaluate potential risk during construction disturbance. |

Source: FHWA (1987).

Additional investigations and testing and/or Phase II environmental assessments are recommended prior to construction for sites identified as having a medium or high risk to encounter hazardous materials. Each assessment would be site specific based on the risk identified, the hazardous material concern, the type of work occurring at the site, and the excavation depth. Based upon the results of each site assessment, clean-up would occur including the proper handling and disposal of any regulated wastes, if necessary.

### 6.22.5 Build Alternative

Under the Build Alternative, the project would require earthwork operations and utility adjustments. In the event that unanticipated contaminated media (petroleum residual contaminated material or hazardous materials) are encountered during construction, they would be managed in accordance with applicable federal, state, and local regulations. The HCRMA and TxDOT would assume all responsibilities to properly containerize, store, manage, characterize (analyze), transport, and dispose of all contaminated materials and/or potentially hazardous materials. Though not anticipated, if dewatering is required during construction, additional investigations may be undertaken. Hazardous materials requiring special handling would be removed only by certified abatement contractors having documentation of prior acceptable abatement work.

Universal precautions would be taken during construction and the contractor would take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. The use of construction equipment within sensitive areas would be minimized or eliminated entirely. All construction materials used for this project would be removed as soon as work schedules permit.

The Build Alternative includes the demolition of building structures. The buildings may contain asbestos-containing materials. Asbestos inspections, specification, notification, license, accreditation, abatement and disposal, as applicable, would comply with federal and state regulations. Asbestos issues would be addressed during the ROW process prior to construction. No asbestos and lead are anticipated with roadway construction, but asbestos and lead base investigations studies would be conducted where buildings would be acquired and demolished.

The natural gas and propane pipelines and the oil and gas wells may require relocation. There is the potential for encountering contamination during construction activities. Coordination with the pipeline and oil and gas companies regarding potential activities would be addressed during the ROW acquisition stage of the project development. It is anticipated that all pipeline and well adjustments and relocations would be completed prior to construction.

There is a potential for encountering contaminated railroad bed ballast and/or underlying contaminated soil during any construction activities that may involve excavation within the railroad ROW.

Further investigation is recommended at the salvage yards identified during the field investigations and the landfills to confirm if contamination from the site would be encountered during construction.

### 6.22.6 No-Build Alternative

Under the No-Build Alternative, no hazardous materials associated with the project would be created. However, the generation, storage, use, transportation, and disposal of hazardous materials would continue to increase with urbanization.

Selection of the No-Build Alternative would not lessen the likelihood of hazardous materials spills, because it would result in the continued transportation of these substances on congested routes.

The No-Build Alternative would not result in the displacement of any structures or construction, and therefore there would be no potential impacts from asbestos-containing materials or contamination encountered during construction.

## 6.23 HISTORIC PROPERTIES

NEPA requires consideration of important historic, cultural, and natural aspects of our national heritage. Important aspects of our national heritage that may be present in the proposed study area have been considered under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the implementing regulations, 36 CFR 800. This act requires federal agencies to "take into account" the "effect" that an undertaking would have on "historic properties." Compliance with Section 106 and its implementing regulations was undertaken under the terms of the First Amended Programmatic Agreement (PA-TU) among the FHWA, the Texas State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and TxDOT. The identification of potential historic (the National Register of Historic Places [NRHP]-listed or eligible) properties is complete for historic-age structures, buildings, objects, and districts, as well as archeological sites, found within the proposed ROW and the associated area of potential effects (APE).

### 6.23.1 Buildings, Structures, Objects, and Districts

As per an approved historic resources research design, a combined reconnaissance and intensive-level survey was conducted to identify historic-age resources (buildings, structures, objects, districts, etc.) within the APE of the proposed SH 365 ROW. Consultation between the consultant and TxDOT-Environmental Affairs Division (ENV) staff established an APE for nonarcheological resources extending 300 feet beyond the proposed ROW, including the entirety of property parcels extending into that area. The APE included a portion of a previous project subject to historic resources survey. Coordination was initiated with the THC for that project in September 2010. The ROW was cleared for construction by the THC pending receipt of final design specifications where it crosses components of the NRHP-listed Louisiana-Rio Grande Canal Company Irrigation System (see **Appendix C**). However, as the project was

only subject to the Antiquities Code of Texas (ACT), no documentation or evaluation of non-archeological historic-age resources within a larger APE was conducted at that time. Instead, these areas were surveyed as part of the SH 365 project in 2011, 2013, and 2014.

During the records review, a professional historian consulted the Texas Historic Sites Atlas, THC Survey Files, the NRHP, the list of State Antiquities Landmarks (SALs), and the list of Registered Texas Historic Landmarks (RTHLs) to identify previously recorded historic properties within the APE and within a larger study area extending 1,300 feet beyond the proposed ROW. **Table 6-22** lists the identified resources and notes whether they are within the proposed ROW, within the 300-foot APE, and/or within the 1,300-foot study area.

**Table 6-22: Previously Identified Resources within 300-foot APE and 1,300-foot Study Area**

| Resource No. | Name | Designation | In ROW? | In APE? | Within 1,300 feet |
|---|---|---|---|---|---|
| 13 | La Lomita Ranch Historic District | NRHP | No | Yes | Yes |
| 35 | Louisiana-Rio Grande Canal Company Irrigation System | NRHP | Yes | Yes | Yes |
| 13B | La Lomita Farms | OTHM | No | Yes (on parcel ) | Yes |
| 13C | Spider Web Railroad | OTHM | No | Yes | Yes |
| 23 | Granjeño Cemetery | OTHM | No | No | Yes |
| 42A | Jackson Ranch Church | OTHM | Possibly | Yes | Yes |
| 41A | Eli Jackson Cemetery | Historic Texas Cemetery | No | Yes (on parcel) | Yes |
| 42B | Eli Jackson Cemetery Historic Marker | OTHM | Possibly | Yes | Yes |
| 41B | Jackson Ranch Cemetery | Cemetery | No | Yes (on parcel) | Yes |
| N/A | San Juan Plantation | RTHL | No | No | Possibly (on parcel) |

The records review and field survey revealed five Official State of Texas Historical Markers (OTHMs) and three historic-age cemeteries within the project APE. The Spider Web Railroad commemorative marker (OTHM number 5009) is located within the APE southeast of Madero near the entrance to the parcel containing the NRHP-listed St. Peter's Novitiate, and the marker commemorating La Lomita Farms (OTHM number 2998) was located near the front entrance to the Novitiate building. The marker is currently in storage awaiting repair from fire damage. The Jackson Ranch Church commemorative marker (OTHM number 2706) and the Eli Jackson Cemetery Historic Texas Cemetery Marker (OTHM number 13730) are located within the APE along the south side of US 281/Military Highway just east of its intersection with South I Road. The Eli Jackson Cemetery and a cemetery associated with the Jackson Chapel are located on the same parcel within the APE. Finally, the OTHM associated with the Granjeño Cemetery (OTHM number 1420) and the cemetery itself is located on a parcel that extends into the APE

on the north side of Military Road east of its intersection with Glasscock Road (see **Figure 4-3**). Per current project plans, none of the recorded markers would be impacted by the proposed project. Only the Eli Jackson Cemetery and Jackson Chapel markers are located within the proposed ROW; however, project plans would be modified to ensure they remain in their current location. None of the other markers are located within proposed construction areas.

Two NRHP-listed resources, the Louisiana-Rio Grande Canal Company Irrigation System and the La Lomita Ranch Historic District, were identified within the APE of the proposed route. The Louisiana-Rio Grande Canal Company Irrigation System includes canals, ditches, pump stations, and other irrigation features constructed prior to 1949 currently under the jurisdiction of the HCID #2, and the proposed route crosses various features associated with the system. The La Lomita Ranch Historic District, which is situated between the Rio Grande to the south and the proposed route to the north, includes the La Lomita Chapel, Saint Peter's Novitiate, and the original 122 acres of ranchland controlled by the Oblate fathers. This resource is located immediately adjacent to but outside of the proposed ROW within the historic resources APE. Within the larger study area boundaries, project historians identified one additional RTHL associated with the San Juan Plantation. No other previously designated resources were identified within the study area.

Upon approval of the research design and methodology, the original field survey was conducted in October and November 2008 and January of 2009, with historians examining the project APE for circa 1965 and older resources. Additional survey of parcels extending into the APE of the project's new ROW areas was undertaken in June 2011, March 2013, November 2013, and April 2014. As a result of the survey efforts, historians recorded a combined total of 281 historic-age resources within the APE. **Table 6-23** lists the counts of recorded resources documented for all three survey reports and counts for eligible and noneligible resources as well as irrigation- and nonirrigation-related resources. NRHP eligibility and effect assessments for all of the recorded resources were documented in a report entitled *Historic Resources Survey Report, Proposed SH 365 from FM 1016 to US 281/Military Highway, Hidalgo County, Texas* (Harris et al., 2013), a first addendum (Harris, 2013), and a second addendum (Russell, 2014). The report and addendums provide details of the reconnaissance and intensive survey methods, findings, and assessments.

Upon initial coordination of project findings with the THC, TxDOT ENV historians received a request for additional information regarding two properties recorded during the historic resources survey in order to finalize eligibility and effect determinations (see **Appendix C**). The supplemental information was provided to the THC on January 16, 2014. In the communication, TxDOT ENV determined there were four historic properties eligible for or listed in the NRHP within the APE, including the Saint Peter's Novitiate, the Granjeño Cemetery, the Eli Jackson Cemetery, and the Louisiana-Rio Grande Canal Company Irrigation System (San Juan HCID #2), but that none of the properties would be adversely affected by the proposed project. Additionally, despite the acquisition of ROW from the NRHP-listed San Juan HCID #2, TxDOT ENV determined that the potential actions would not adversely affect the qualities

and characteristics that contribute to the significance of the historic property, including its integrity of location, design, setting, materials, workmanship, feeling, or association. As a result, TxDOT ENV historians recommended a *de minimis* impact finding for the historic property. In accordance with 36 CFR 800 and the PA-TU, the THC concurred with these determinations and recommendations on February 4, 2014 (see **Appendix C**).

**Table 6-23: Historic-age Resources Recorded within APE during Reconnaissance Surveys**

| Eligibility Determination | Resource Type | No. of Resources | | | Total |
|---|---|---|---|---|---|
| | | Original Survey (May 2013) | Survey Addendum No. 1 (Nov 2013) | Survey Addendum No. 2 (2014) | |
| Eligible Resources | Nonirrigation | 3 | 0 | 0 | 3 |
| | Irrigation | 82 | 10 | 1 | 93 |
| Noneligible Resources | Nonirrigation | 110 | 0 | 7 | 117 |
| | Irrigation | 67 | 1 | 0 | 68 |
| Total | Nonirrigation | 113 | 0 | 7 | 120 |
| | Irrigation | 149 | 11 | 1 | 161 |
| **Total No. of Resources** | | 262 | 11 | 8 | 281 |

During the April 2014 updated survey for the second addendum (Russell, 2014), historians recorded 8 historic-age properties within the revised APE for historic resources, including 1 resource which was an additional resource of the NRHP-listed Louisiana-Rio Grande Canal Company Irrigation System (San Juan HCID #2). TxDOT ENV determined that the proposed project would have no effect to this component of the NRHP-listed district and that none of remaining 7 historic-age properties were eligible for listing in the NRHP. In accordance with 36 CFR 800 and the PA-TU, the THC concurred with these determinations and recommendations on September 22, 2014 (see **Appendix C**).

### 6.23.2 Archeological Sites

Because the proposed project involves federal-aid funding, it is considered an undertaking subject to Section 106 of the NHPA of 1966. Also, because the proposed project occurs on non-federal public land and involves a state agency, it is subject to the ACT. The PA-TU and an MOU exists between TxDOT and the THC that facilitates the satisfaction of the requirements of the ACT. The required consultation with the SHPO shall occur according to the stipulations of the PA-TU and the MOU between TxDOT and the THC. The proposed project would also be coordinated, according to the PA-TU, with the appropriate federally recognized Native American tribes.

A site file and records review was conducted prior to commencing the fieldwork utilizing the records at the Texas Archeological Research Laboratory (TARL) and the THC. The files at TARL were used to identify previously recorded archeological sites within the study area. The archeological APE is defined as the physical area of ground disturbance, which is within the proposed ROW. The files at the THC were

used to identify sites listed in the NRHP and/or sites designated as SALs. The THC's State Marker Program files were also examined to identify the number and location of Texas Historical Markers within the APE. The TARL files revealed that portions of one archeological site (41HG230) have been mapped within the APE. In addition, archeological site 41HG30 lies along the eastern portion of the APE adjacent to the proposed ROW. No currently listed SALs or Texas Historical Markers are within the APE. An intensive cultural resources survey of the accessible portions of the APE was conducted by project archeologists January 15–30, 2009; February 26–March 8, 2013; November 6–December 9, 2013; and February 7–25, 2014. As a result of these surveys, nine archeological sites (41HG224, 41HG230, and 41HG249–41HG255) were recorded within the APE.

Subsequent to these surveys, 15.44 acres of new ROW were added to the APE in April 2014 as a result of changes to TxDOT design guidelines. The addition of this acreage was addressed in a background review submitted to TxDOT on August 13, 2014, per the MOU between TxDOT and the THC (Atkins, 2014b). In a November 5, 2014 memorandum, TxDOT cleared the additional 15.44 acres of new ROW for archeological resources (see Appendix C). As provided under the MOU, individual coordination with the THC was not required for this additional ROW.

#### 6.23.2.1 Site 41HG230

Site 41HG230 is the location of a historic military road that follows the border from La Puerta to Brownsville, Texas. The roadway is widely believed to be a supply route laid out by General Zachary Taylor during the Mexican War to supply men in northern Mexico. The original road led from Fort Ringgold in Rio Grande City to Fort Brown in Brownsville, paralleling the Rio Grande on either the floodplain or the terraces above the river. The majority of the route has been paved over for the creation of US 281. Other sections have been impacted by agriculture activities, canals, and erosion.

Although the road had been noted by previous investigations, the actual alignment or trinomial had not been documented on the THC's On-line Atlas until 2009 by GTI Environmental, Inc. The current mapped alignment was determined from historic documentation research conducted during eligibility testing at prehistoric site 41HG177, located approximately 20 miles northwest of the proposed ROW. Project archeologists revisited the site as plotted on the THC's restricted-access Texas Archeological Sites Atlas where it crosses the proposed ROW in 2013. Results of the survey indicate that large portions of the site within the proposed ROW have been paved over by FM 1016, FM 494, and Doffin Canal Road. As no indications of the historic elements of the road were observed, it appears these have been severely disturbed or removed by modern roadway construction. Based on this evidence, it is recommended that the portions of 41HG230 mapped within the proposed ROW lack integrity and are not eligible for listing in the NRHP under any criteria or for nomination as a SAL. Therefore, no further investigation of this site is recommended in association with the proposed SH 365 Project.

#### 6.23.2.2 Site 41HG30

Site 41HG30 is an open prehistoric campsite that measures approximately 60 x 30 meters located on a leveled floodplain just north of the proposed ROW between US 281/Cage Boulevard and FM 2061/Jackson Road. The site sits adjacent to an alignment of the Main Floodway levee. Additional irrigation canals are located to the north and southwest of the site boundaries. The site was initially recorded in 1972 (Brown, 1972) based on cultural artifacts observed on the surface. Materials collected included chert debitage, one ceramic sherd, faunal and mussel shell fragments, burned clay, and historic glass.

Pedestrian survey and shovel testing in the vicinity of site 41HG30 near the proposed ROW boundaries in 2009 revealed no surficial or subsurface cultural materials or deposits. Based on this evidence, it appears the site does not extend into the APE.

#### 6.23.2.3 Site 41HG224

Site 41HG224 is a historic site located on the west side of San Juan Road, just south of the canal between Anaya Road and Las Milpas Road. This site was discovered and recorded in 2009. Cultural features present at the site include a cement foundation, a cement walkway, a brick cistern, and several piles of structural debris created by heavy machinery. Artifacts observed at the site include glass, stoneware, whiteware, a glass marble, and local brick. Modern trash has also been dumped at the site. Several trees at the site appeared burned, and it is probable that the structures were burned prior to their demolition. The site appears to be a multifunctional cinder-block construction complex, likely dating to the mid-twentieth century. It was recommended that the site was not eligible for inclusion in the NRHP under any criteria in the 2010 survey report for the proposed IBTC, and the THC subsequently concurred.

#### 6.23.2.4 Site 41HG249

Site 41HG249 is a prehistoric open campsite that is approximately 80 meters east-west by 60 meters north-south within the proposed ROW. The site is located in a cultivated agricultural field on level ground near (north of) the IBWC north levee. Site 41HG249 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones, 14 discrete cultural features, and a filled-in resaca. The occupation zones consist of buried bands of burned earth, charcoal, bone, and *Rabdotus* snail shell. Cultural features observed at the site include pits filled with charcoal and burned earth representing possible hearths, the possible remnants of a burned structure or structures (large pieces of burned daub and possible charred wooden posts), and concentrations of burned clay. Few durable artifacts were noted at the site, with exception of bones found within the resaca deposits; however, the absence of durable artifacts is overshadowed by the presence of multiple features such as pits and in situ burned surfaces (delineated by continuous reddened reaction rims) that appear to be hearths. A radiocarbon sample collected from the site in November 2013 dates to Cal A.D. 1160 to 1260 (Cal B.P. 790 to 690), which places it within the Late Prehistoric cultural division.

Thus, site 41HG249 appears to be a series of short-term prehistoric camps located on the edge of a resaca, which were subsequently buried by flood deposits during the Late Prehistoric and possibly Historic periods, with the oldest occupation possibly dating to the Archaic period. The site displays a very high degree of integrity, although it is possible deposits were impacted by construction of the linear borrow pit that borders the site to the south. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, it is recommended that the site is eligible for inclusion to the NRHP under Criterion D, and is eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG249's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG249 (Galindo, 2015). The schematic and section profiles depict that a varying amount of silty clay loam fill (between 3.5 and 4 meters [11.48 and 13.12 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.5 Site 41HG250

Site 41HG250 is a prehistoric open campsite that is approximately 60 meters east-west by 60 meters north-south within the proposed ROW. The site is located in a cultivated agricultural field on level ground north of a linear borrow pit that in turn lies adjacent to the IBWC north levee bordering the north side of the Hackney Lake inlet. Site 41HG250 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and 13 cultural features. The occupation zones consist of buried bands of burned earth, charcoal, lithic debitage, and *Rabdotus* snail shell. Cultural features observed at the site include pits filled with charcoal, burned earth, and mussel and snail shell representing possible hearths, the possible remnants of a structure (possible post mold), a large concentration of possible worked or cut freshwater mussel and snail shell that may represent a shell workshop, and a possible historic irrigation ditch. Artifacts observed at the site include worked and unworked mussel shell and one lithic flake. A radiocarbon sample collected from the site in November 2013 dates to Cal A.D. 890 to 1020 (Cal B.P. 1060 to 930), which places it within the Late Prehistoric cultural division. Thus, site 41HG250 appears to be a series of short-term prehistoric campsites located near a resaca that were subsequently buried by flood deposits during the Late Prehistoric period. The site displays a very high degree of integrity, although it is possible deposits were impacted by construction of the linear borrow pit that borders the site to the south. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway

construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG250's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG250 (Galindo, 2015). The schematic and section profiles depict that a varying amount of silty clay loam fill (between 3.25 and 3.75 meters [10.66 and 12.30 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.6 Site 41HG251

Site 41HG251 is a prehistoric open campsite that is approximately 80 meters east-west by 80 meters north-south within the proposed ROW. The site is located in a cultivated agricultural field on level ground near (south of) the IBWC south levee that borders the Hackney Lake inlet. Site 41HG251 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and 11 cultural features. The occupation zones consist of buried bands of burned earth, charcoal, and *Rabdotus* snail shell. Cultural features observed at the site include pits filled with charcoal, burned earth, and bone representing possible hearths, and the possible remnants of a structure (possible charred post). No durable artifacts were noted at the site, with exception of bone; however, the absence of durable artifacts is overshadowed by the presence of multiple features such as pits (containing charred sediment within, some of which included fragments of burnt earth) and in situ burned surfaces (delineated by continuous reddened reaction rims) that appear to be hearths. A radiocarbon sample collected from the site in November 2013 dates to Cal A.D. 1430 to 1480 (Cal B.P. 520 to 470), which places it within the Late Prehistoric cultural division. Thus, site 41HG251 appears to be a series of short-term prehistoric camp sites that were subsequently buried by flood deposits during the Late Prehistoric period. The site displays a very high degree of integrity. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG251's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG251 (Galindo, 2015). The schematic and section profiles depict that a varying amount of silty clay fill (between 3 and 3.25 meters [9.84 and 10.66 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.7 Site 41HG252

Site 41HG252 is a prehistoric open campsite that is approximately 60 meters east-west by 65 meters north-south within the proposed ROW. The site is located in a cultivated agricultural field on level ground near (south of) the IBWC south levee that borders the Hackney Lake inlet. Site 41HG252 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and three cultural features. The occupation zones consist of buried bands of burned earth and charcoal. Cultural features observed at the site include pits filled with charcoal and burned earth representing possible hearths. No durable artifacts were noted at the site. Site 41HG252 appears to be a series of short-term prehistoric camps that were subsequently buried by flood deposits during the Late Prehistoric and Archaic periods based on soils data. The site displays a very high degree of integrity. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG252's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG252 (Galindo, 2015). The schematic and section profiles depict that a varying amount silty clay fill (between 3.53 and 5.05 meters [11.58 and 16.56 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.8 Site 41HG253

Site 41HG253 is a prehistoric open campsite that is approximately 50 meters east-west by 50 meters north-south within the proposed ROW. The site is located in a bermudagrass hayfield on level ground within the Hackney Lake inlet, west of its confluence with the Main Floodway (the former Sardinas Resaca) near (north of) the IBWC south levee. Site 41HG253 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and three cultural features. The occupation zones consist of buried scatters of burned earth and charcoal. Cultural features observed at the site include pits filled with charcoal, burned earth, lithic debitage, and *Rabdotus* snail shells representing possible hearths. Artifacts from the site consisted of lithics including one broken pebble and six microflakes. A radiocarbon sample collected from the site in November 2013 dates to Cal A.D. 430 to 600 (Cal B.P. 1520 to 1350), which places it within the Late Archaic cultural division. Thus, site 41HG253 appears to be a series of short-term prehistoric camps that were subsequently buried by flood deposits during the Late Archaic period. The site displays a very high degree of integrity. At this point in history, sites of this age within the Rio Grande delta have rarely been

investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG253's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG253 (Galindo, 2015). The schematic and section profiles depict that 4 meters [13.12 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.9 Site 41HG254

Site 41HG254 is a multicomponent site characterized by a historic canal and prehistoric habitation features that is approximately 110 meters east-west by 30 meters north-south within the proposed ROW. The site is located in an irrigated bermudagrass hay field on level ground within the Hackney Lake Inlet flood channel near (north of) the IBWC south levee. Site 41HG254 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and five cultural features. The occupation zones consist of buried bands of burned earth, charcoal, and Rabdotus snail shell. Cultural features observed at the site include discrete clusters of Rabdotus shells, a dense burned earth scatter, a possible burned post, and a historic ditch or canal. The only artifacts observed at the site consisted of a fragment of amber glass and a cut nail from the canal. A radiocarbon sample collected from the lowest cultural feature at the site in November 2013 dates to Cal B.C. 2200 to 2160 (Cal B.P. 4150 to 4110)/Cal B.C. 2150 to 2030 (Cal B.P. 4100 to 3980), which indicates site deposits date from the Early Archaic cultural division. Thus, site 41HG254 appears to be a series of short-term prehistoric camps that were subsequently buried by flood deposits from the Early Archaic to Late Prehistoric periods. The irrigation ditch is presumed to be historic in age and in use prior to formation of the floodway, after which it was in filled. The site displays a very high degree of integrity, although it is possible deposits were impacted by historical construction of irrigation canals within the site area. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG254's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile

specifications, a mitigation plan was developed for site 41HG254 (Galindo, 2015). The schematic and section profiles depict that 4.25 meters [13.94 feet]) will be placed over the site boundaries within the APE.

#### 6.23.2.10 Site 41HG255

Site 41HG255 is a prehistoric open campsite that is approximately 60 meters east-west by 75 meters north-south within the proposed ROW. The site is located in at the nexus of two cultivated agricultural fields and fallow land south of the IBWC levee on the south side of the Main Floodway. Site 41HG255 was recorded during intensive archeological survey of the proposed ROW in November 2013. The site exhibits multiple stratified prehistoric occupation zones and five cultural features. The occupation zones consist of buried bands of burned earth, charcoal, and *Rabdotus* snail shell. Cultural features observed at the site include concentrations of *Rabdotus* snail shells and burned earth; a pit filled with charcoal, burned earth, and *Rabdotus* snail shells representing a possible hearth; and the possible remnants of a structure (possible charred post, in situ patch of burned clay with associated burned posts). No durable artifacts were noted at the site. A radiocarbon sample collected from the lowest cultural feature at the site in November 2013 dates to Cal B.C. 3640 to 3490 (Cal B.P. 5590 to 5440)/Cal B.C. 3470 to 3370 (Cal B.P. 5420 to 5320), which indicates site deposits date from the Early Archaic cultural division. Thus, site 41HG255 appears to be a series of short-term prehistoric camps located on the edge of a resaca that were subsequently buried by flood deposits spanning the late Early Archaic to Late Prehistoric periods. The site displays a very high degree of integrity. At this point in history, sites of this age within the Rio Grande delta have rarely been investigated archeologically and given the integrity of the site and evidence of substantial and repeated human habitation, the research value of these deposits is considerable. Therefore, the site is recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of the site by the proposed highway construction is recommended. Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by site 41HG255's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a letter dated September 23, 2014, and by the THC on October 3, 2014. A copy of this correspondence is included in Appendix C. Subsequently, based on the January 23, 2015 plan and profile specifications, a mitigation plan was developed for site 41HG255 (Galindo, 2015). The schematic and section profiles depict that a varying amount of clay fill (between 2 and 3.5 meters [6.56 and 11.48 feet]) will be placed over the site boundaries within the APE.

### 6.23.3 Build Alternative

#### 6.23.3.1 Buildings, Structures, Objects, and Districts

Four historic properties eligible for or listed in the NRHP are located within the APE; however, pursuant to Stipulation VI "Undertakings with Potential to Cause Effects" of the PA-TU and the MOU, TxDOT and the THC concurred that the project will not adversely affect any historic (NRHP-listed or -eligible)

properties and that impacts to the NRHP-listed HCID #2 can be coordinated using the *de minimis* guidelines under Section 4(f).

#### 6.23.3.2 Archeological Sites

Burden and Frederick (2014) recommended that sites 41HG249–41HG255 are eligible for inclusion to the NRHP under Criterion D and are eligible for nomination as these sites are repeatedly occupied, short-term prehistoric campsites that retain a high degree of integrity and significance. The NRHP- and SAL-eligibility recommendations for all seven sites have been concurred upon through consultation dated September 23, 2014, between TxDOT and the THC (Appendix C). Burden and Frederick (2014) recommended avoidance of these sites by the proposed construction of SH 365; however, because the HCRMA determined that neither avoidance nor mitigation through research-oriented data recovery was feasible, it was recommended that adverse effects to the site be mitigated by depositing at least 2 meters (6.6 feet) of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by each site's boundary within the APE. These recommendations were reviewed and concurred upon by TxDOT in a September 23, 2014 letter and by the THC on October 3, 2014.

Subsequently, Atkins developed a mitigation plan (Galindo, 2015) on behalf of the HCRMA based on the THC mandate to deposit at least 2 meters of in-kind sterile fill dirt over the area encompassed by seven site boundaries within the APE as a form of mitigation for the adverse effects to the sites that would be caused by the construction of the proposed project (**Table 6-24**). Based on the January 23, 2015 plan and profile specifications, Atkins recommends covering sites 41HG249, 41HG250, 41HG251, 41HG252, 41HG253, 41HG254, and 41HG255 as proposed (Galindo, 2015).

**Table 6-24: Amount of In-kind Fill Proposed at Each Site and Mitigation Recommendations**

| Site Number | In-kind Capping Fill Required by the THC | In-kind Capping Fill Proposed | Percent of Site Coverage with 2 meters of Fill* | Mitigation Recommendation |
|---|---|---|---|---|
| 41HG249 | 1.60 meters (5.3 feet) | 3.5 to 4 meters (11.48 to 13.12 feet) | 88 | Cover with fill as proposed |
| 41HG250 | 1.60 meters (5.3 feet) | 3.25 to 3.75 meters (10.66 to 12.30 feet) | 80 | Cover with fill as proposed |
| 41HG251 | 1.65 meters (5.4 feet) | 3 to 3.25 meters (9.84 to 10.66 feet) | 94 | Cover with fill as proposed |
| 41HG252 | 1.47 meters (4.8 feet) | 3.53 to 5.05 meters (11.58 to 16.57 feet) | 93 | Cover with fill as proposed |
| 41HG253 | 1.30 meters (4.3 feet) | 4 meters (13.12 feet) | 72 | Cover with fill as proposed |
| 41HG254 | 1.50 meters (4.9 feet) | 4.25 meters (13.94 feet) | 70 | Cover with fill as proposed |
| 41HG255 | 1.65 meters (5.4 feet) | 2 to 3.5 meters (6.56 to 11.48 feet) | 93 | Cover with fill as proposed |

*Estimated percent of site covered with 2 meters of fill within the APE

While 2 meters (6.6 feet) of in-kind fill was recommended for mitigation, it is important to note that the fill depth at each site varies in thickness and does not extend across the entire site boundaries within the APE. These deviations in the amount of fill can be attributed to construction constraints; i.e., the need for a concrete retaining wall would require excavation for a footing that might extend into cultural deposits. As a result, while the majority of the site is covered with 2 meters of fill, portions of each site falls below the minimum 2 meters (6.6 feet). The limitations of this mitigation plan were coordinated with TxDOT and the THC as documented in an email dated February 10, 2015 (Appendix C); they concurred that the fill amounts proposed are sufficient to mitigate adverse effects.

### 6.23.4 No-Build Alternative

The No-Build Alternative would have no effect on historic properties (including buildings, structures, objects, districts, etc.) and archeological resources.

## 6.24 PARKLANDS

Section 4(f) of the Department of Transportation Act of 1966 (Title 49 USC, Section 1653 (f) as amended and codified in 49 USC, Section 303 in 1983), states the Secretary of Transportation may approve a transportation program or project requiring use of publicly owned land of a public park, recreation area, wildlife/waterfowl refuge, or land of a historic site of national, state, or local significance (as determined by the officials having jurisdiction over the park, recreation area, refuge or site) only if there is no prudent and feasible alternative to such use and the project includes all planning to minimize harm.

Texas Parks and Wildlife Code, Title 3, Chapter 26 contains similar language concerning the taking of park and recreational lands. The TPWD restricts the use or taking of any public land designated and used as a park (recreation area, scientific area, wildlife refuge, or historic site) unless the department, agency, political subdivision, county, or municipality determines there is no feasible and prudent alternative and that the project/program includes all reasonable planning to minimize harm to the land.

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Pub. L. 109-59, amended existing Section 4(f) legislation at Section 138 of Title 23 and Section 303 of Title 49, U.S. Code, to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This revision provides that once the Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. An impact to a park, recreation area, or wildlife and waterfowl refuge may be determined to be *de minimis* if the transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

### 6.24.1 Build Alternative

The proposed project does not cross any publicly owned parklands, recreation areas, areas of unique scenic beauty, or any other lands of national, state, or local importance. However, as shown on **Figure 1-1**, an isolated 2.62-acre tract of the LRGV NWR lies adjacent to the proposed project near the community of Granjeño. To the south of the Build Alternative along the Rio Grande are Anzalduas Park and the LRGV NWR, which is comprised of several tracts.

Seven (41HG249–41HG255) newly recorded archeological sites within the proposed APE were determined eligible for inclusion in the NRHP under Criteria D and as SALs by TxDOT and THC on September 23, 2014 (Appendix C). A mitigation plan for adverse effects to the sites was developed by Atkins on the HCRMA's behalf and was approved by TxDOT and THC on February 26, 2015 (Appendix C). The HCRMA will comply with the provisions of the mitigation plan and deposit at least 2 meters of in-kind sterile fill dirt over the area encompassed by the site boundaries within the APE. In addition, the HCRMA will conduct archeological monitoring during the intentional burial of each site.

One NRHP-listed resource, the Louisiana-Rio Grande Canal Company Irrigation System, also known as the San Juan HCID #2, is located within the proposed ROW and thus requires consideration under Section 4(f). As outlined in the associated NRHP nomination and TxDOT's *Field Guide to Irrigation in the Lower Rio Grande Valley* (Knight, 2009), the HCID #2 has a period of significance extending from 1904 to 1949 and is comprised of three contributing resources: two pumphouses and a canal system. The canal system includes canals, ditches, sluice gates, standpipes, and other irrigation features constructed prior to 1949 that are currently under the jurisdiction of the HCID #2 (Meyers [Myers] and Weitze, 1995).

Neither of the contributing pumphouses is within the proposed ROW; however, 93 components of the canal/irrigation system were recorded within the historic resources or on parcels extending into the APE. Of these, 37 resources are located within or extend into the proposed ROW including 13 concrete standpipes, 1 sluice gate, 21 unlined canals/ditches, 1 lined/elevated portion of the Pharr/San Juan Main Canal, and 1 section of underground pipeline (see **Figure 4-3**). Several of these resources are of indeterminate age and may not be contributing components of the NRHP-listed resource if they were constructed or significantly altered after 1949.

At present, current design specifications propose to either relocate or pipe sections of canals and ditches that extend into the proposed ROW. All of the canals/ditches will maintain their original inlets and outlets as well as their original capacity (Dos Logistics, Inc., 2013). Similarly, standpipes, pipelines, and sluice gates within the proposed ROW would be relocated and/or reconstructed outside of the ROW; however, they would be reconnected to the system so as to maintain its original flow and function (Dos Logistics, Inc., 2013). As the canal system's capacity, flow, and function are its most significant character defining features, the proposed changes would not constitute an adverse effect to the NRHP-listed resources. TxDOT ENV and the THC concurred with the "no adverse effect" conclusion on February 4, 2014. As

defined in Part 774 of the Section 4(f) Final Rule, TxDOT ENV historians recommended a *de minimis* impact finding as the proposed project would not adversely affect or diminish the qualities and characteristics that contribute to the historic significance of the property. The final results of that coordination would be included in future versions of this document.

The project also crosses components of three additional HCIDs, including the United Irrigation District, Sharyland HCID #19, and McAllen Hidalgo County Water District (HCWD) #3. TxDOT has completed coordination of NRHP eligibility determinations with the THC regarding these irrigation districts and has determined that none of the three districts are eligible for NRHP inclusion. The United Irrigation District received a "not eligible" determination in 2004 (letter regarding CSJ Nos. 0862-01-037 and 0669-01-043); the THC concurred with a "not eligible" determination for the Sharyland Irrigation District in 2009 (regarding CSJ No. 0921-02-197); and HCWD #3 was identified as ineligible for NRHP listing in an October 2008 THC letter. No further consideration of resources within any of these districts under Section 4(f) is anticipated in connection with the current project.

Other than the impacts to select components of the NRHP-listed HCID #2, the Build Alternative would not require the use of any publicly owned parklands, wildlife/waterfowl refuge, recreational areas, areas of unique scenic beauty or national, state, or local significance, or privately or publicly owned historic or archeological properties.

Texas Parks and Wildlife Code, Title 3, Chapter 26 does not apply.

### 6.24.2 No-Build Alternative

The No-Build Alternative would not impact wildlife or waterfowl refuges, publicly owned parklands, recreational areas, areas of unique scenic beauty, or other lands of national, state, or local importance. Therefore, the No-Build Alternative would have no effect on Section 4(f) properties/resources.

## 6.25 VISUAL AND AESTHETIC QUALITIES

The visual quality assessment is used to determine if the proposed project would be compatible with the visual character of the setting into which it would be introduced. The impact assessment also takes into consideration that existing transportation uses traverse the proposed ROW. Visual impacts are discussed in terms of the effect that the new physical elements associated with the proposed project would have on landform quality (i.e., the existing natural or man-made landform) and visual resources (i.e., the physical resources, including native vegetation, introduced landscaping, and the built environment that make up the character of the area).

Federal and state regulations require that visual impacts be addressed for Section 106 and Section 4(f) properties. There are no specific federal or state visual regulatory requirements that apply to properties that are not designated historic, and/or eligible for listing in the NRHP, or parkland. Generally, the

existing visual and aesthetic qualities of the study area include the LRGV NWR, open pastures, farmland, canals, upland pasture, and residential housing.

### 6.25.1 Build Alternative

Characteristics of the Build Alternative that could have a visual/aesthetic impact on the resource include elevated structures/bridges and other vertical elements such as signs, light standards, and toll gantries. Due to the length of the new location project and the rural setting of the study area, the Build Alternative would have some effect on the existing aesthetic quality of the surrounding area. Visual impacts along the Build Alternative would vary by location. Views both from and of the facility would be greatest at grade separated locations including the floodway/canal crossings and overpass/interchange locations. The Build Alternative would visually affect rural single-family homes and subdivisions located along the proposed ROW. Other than the grade separated locations, potential views of the proposed facility would be limited due to the relatively flat nature of the study area. The impact on the overall viewshed for existing residential communities would primarily occur at elevated crossings where views of the proposed facility would be visible. Change in the visual setting would be more pronounced in the less developed rural areas, but the facility would be observed by fewer individuals.

The tolled facilities and exit/entrance ramps would incorporate safety lighting, which could be considered as a negative effect for visual and aesthetic qualities, especially where residential areas are located near the toll collection facilities. Where reasonable and feasible, mitigation measures would include naturally vegetated medians, minimized ROW clearing, incorporation of design specifications to blend into the landscape, and promotion of roadside native wildflower planting programs. For roadside revegetation, landscape planting and revegetation of natural areas impacted by construction, native plants would be considered to improve the visual aesthetics and to control the introduction of invasive species. As currently proposed, the roadway lighting system would consist of low impact, downward directional lighting.

### 6.25.2 No-Build Alternative

The No-Build Alternative would have minimal effect on the visual and aesthetic qualities of the surrounding environment. With the exception of the IBTC project, the other projects included in the No-Build Alternative include expansions to existing roadway corridors.

## 6.26 AIRSPACE CLEARANCE

Title 14 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for (1) evaluating the effect of the construction or alteration on operating procedures, (2) determining the potential hazardous effect of the proposed construction on air navigation, (3) identifying mitigating measures to enhance safe air navigation, and (4) charting of new objects. Notification allows the Federal Aviation Administration (FAA) to identify potential aeronautical

hazards in advance thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace. Any person/organization who intends to sponsor any of the following construction or alterations must notify the FAA Administrator:

- Any construction or alteration exceeding 200 feet above ground level.
- Any construction or alteration within 20,000 feet of a public use or military airport, which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet.
- Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the above noted standards.

## 6.26.1 Build Alternative

The McAllen-Miller International Airport has a runway length of over 3,200 feet and is located approximately 11,088 feet (2.1 miles) north of the proposed ROW. Several overpass structures proposed for the Build Alternative are located within the 20,000-foot threshold; however, none meet or exceed 200 feet in height, and none would exceed the 100:1 surface from the runway. Since temporary obstructions would occur during construction, in accordance with 14 CFR Part 77, the HCRMA and TxDOT would notify the FAA of their intent to construct the proposed project.

## 6.26.2 No-Build Alternative

The No-Build Alternative would not involve construction of vertical structures; therefore, no coordination with the FAA would be required.

# 6.27 CONSTRUCTION IMPACTS

In accordance with the final guidance issued on August 10, 1995 to implement an April 26, 1994 Presidential Executive Memorandum on Federal Landscaping Practices, all federal agencies shall comply with NEPA as it relates to vegetation management and landscape practices for all federally assisted projects. The Executive Memorandum directs that where cost effective and to the extent practicable, agencies will (1) use regionally native plants for landscaping; (2) design, use, or promote construction practices that minimize adverse effects on the natural habitat; (3) seek to prevent pollution by, among other things, reducing fertilizer and pesticide use; (4) implement water-efficient and runoff reduction practices; and (5) create demonstration projects employing these practices.

## 6.27.1 Build Alternative

### 6.27.1.1 Vegetation

Potential impacts to vegetation that may occur with any construction activity include (1) fugitive dust accumulating on foliage and temporarily reducing primary production, (2) soil erosion may result in

sedimentation of downstream/downslope plant communities, and (3) off-site pollution may occur as run-off carries oil and grease from heavy equipment to adjacent plant communities. Landscaping included with the Build Alternative would be in compliance with the Executive Memorandum of April 26, 1994, and the subsequent final guidance issued on August 10, 1995 regarding environmentally and economically beneficial landscape practices.

#### 6.27.1.2 Wildlife

Impacts to wildlife associated with any construction include short-term effects resulting from physical disturbance during construction and long-term effects resulting from habitat alteration.

The majority of the vegetation required to clear for the SH 365 project would be farmland. Clearing of the vegetation may adversely affect animals of lesser mobility and size, which may suffer some loss of habitat by the actions of mechanical clearing machinery. The noise and physical activity of work crews and machinery might temporarily disturb the normal behavior of certain species. Adverse effects on mobile, earthbound species such as small mammals, amphibians, and reptiles are typically minor and temporary, although the nests of small mammals and others may be lost during clearing or construction. Some animals being temporarily deprived of cover would be subject to increased natural predation. Ground-dwelling animals may be adversely affected by soil compaction caused by heavy machinery.

These same activities, if conducted during the breeding season, may destroy nests and broods of some bird species. However, if practicable, clearing would not occur during the bird nesting season. If construction/clearing is necessary during the bird nesting season, surveys would be conducted within suitable habitat prior to commencing work.

The increased noise and activity levels during construction could potentially disturb breeding or other activities of species inhabiting the areas adjacent to the study area. Dust and gaseous emissions should minimally affect wildlife. Although the normal behavior of many wildlife species would be disturbed during construction, little permanent damage to the populations of such organisms should result. Periodic clearing along the easement, while producing temporary negative impacts to wildlife, improves the habitat for ecotonal or edge species as a result of the increased production of small shrubs, perennial forbs, and grasses.

#### 6.27.1.3 Community

During construction, access to adjacent properties would be maintained. Air emissions would result from the operation of construction equipment and the generation of dust during construction activities. Construction equipment emits nitrogen oxides, volatile organic compounds, CO, sulfur dioxide, and PM from the combustion of diesel or gasoline fuels.

Fugitive dust is produced from soil disturbances, materials handling, transfer and storage, and vehicular traffic on unpaved roads at the construction sites. It is expected that air contaminant emissions from construction activities would result in minor short-term impacts on air quality in the immediate vicinity of the project, including increased levels of PM and exhaust emissions from construction equipment. However, since the proposed project would be constructed in phases and most of the area where the construction would occur is on farmland, these impacts would be short in duration and minimal. Additionally, measures to control dust, such as low emission diesel, idling restrictions, and efficient scheduling would be considered and may be incorporated into the final design and construction specifications depending on the projected impacts.

#### *6.27.1.3.1 No-Build Alternative*

The No-Build Alternative would not create any construction impacts.

# 7.0 INDIRECT IMPACTS

The preceding sections of this document have described the proposed project and its direct effects on the environment. The Council on Environmental Quality (CEQ) defines direct effects as those effects that are "caused by the action and occur at the same time and place" (40 CFR §1508.8). Direct effects are predictable and are a direct result of the project.

In addition to direct effects, major transportation projects may also have indirect effects on land use and the environment. As defined by the CEQ, indirect effects are "caused by an action and occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR §1508.8).

Probability is important in providing a distinction between direct and indirect effects because direct effects are generally inevitable, while indirect effects are merely probable. The term "reasonably foreseeable" means that effects are "sufficiently likely to occur that a person of ordinary prudence would take them into account in making a decision" (National Cooperative Highway Research Program [NCHRP], 2002); such effects are probable, not just possible. Further, "effects that can be classified as possible but not probable may be excluded from consideration" (NCHRP, 2002).

Cumulative effects are defined as effects "on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (NEPA, Section 1508.7, 1978).

The following discussion follows TxDOT's September 2010 *Revised Guidance on Preparing Indirect and Cumulative Impact Analyses*, hereafter referred to as "TxDOT ICI Guidance" (TxDOT, 2010)

## 7.1 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE NO-BUILD ALTERNATIVE

As described in **Section 3.1** of the EA, the proposed facility provides a high-speed access-controlled connection for freight trucks traveling from Mexico with goods to be supplied to multiple freight transfer facilities within Hidalgo County. Truck traffic operating on local roads disrupts communities, creates safety concerns, and deteriorates the roadway network as heavy freight carrying trucks wear out existing pavement meant for local traffic. As freight traffic to and from the international bridges increases, it will further disrupt communities, increase the potential for traffic incidents, and will increasingly deteriorate

the local roadway network. Data indicate that freight traffic is increasing in Hidalgo County, along with population growth in project area cities and increased safety incidents.

The No-Build Alternative would not result in indirect impacts.

## 7.2 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE BUILD ALTERNATIVE

The indirect effects analysis for the proposed project follows the seven-step process recommended by TxDOT ICI Guidance: (1) initial scoping for the indirect effects analysis and determination of an indirect effects study area; (2) identification of study area goals and trends; (3) inventory of notable features within the study area; (4) identification of impact-causing activities of the proposed action and alternatives; (5) identification of potentially substantial effects for analysis; (6) analysis of indirect effects and evaluation of the results of the analysis; and (7) assessment of the consequences and development of appropriate mitigation and enhancement strategies.

### 7.2.1 Step 1: Scoping

The primary objective of the scoping process is to determine the level of effort and general approach needed to complete the study. The location and extent of the study area for the indirect effects analysis will be determined based on project characteristics such as the project type, design features, purpose, project setting, and data available, among others. In order to distinguish it from the study areas considered for the analysis of direct effects of the project, the study area for the indirect effects analysis will be referred to as the AOI.

The geographic AOI for the proposed project comprises a total of approximately 18,618 acres, bounded on the south by the Rio Grande/U.S.-Mexico border, on the north by I-2/US 83, on the east by Alamo Road/FM 907, and on the west by the Mission main irrigation canal west of FM 1016 (**Figure 7-1**). This AOI was selected based on a determination of those neighborhoods and areas best served by the proposed roadway, a determination of those areas most likely to be potentially opened for development following construction of the overpass, and a determination of natural resources that could be potentially indirectly impacted by development. The AOI includes all or portions of the cities of Pharr, McAllen, Mission, San Juan, Alamo, Hidalgo, and Granjeño.

This analysis uses a temporal boundary of 2035, which coincides with the planning horizon for the HCMPO's MTP.

### 7.2.2 Step 2: Identify Study Area's Goals and Trends

The purpose of this step is to describe the general trends and goals of the AOI, including community planning goals, demographic and development trends, factors influencing growth, and areas of

environmental or social sensitivity. Information contributing to this description comes from local planning documents, local and/or regional trend data collected for the proposed project area, and communications with local planners.

#### 7.2.2.1 Goals

Goals for the AOI were ascertained by consulting a number of sources including city planning documents, city websites, local planning officials, and RTPs.

According to the city of Pharr's City Manager, Fred Sandoval, the most important goal set by his administration is the "improvement of the city's finances through improved management, budget forecasting, audits and complete transparency.[20]"

The city of San Juan's Mission Statement (2013), as stated on their website[21] is:

> *An exemplary service provider, the City of San Juan will be a political leader in the region, cultivating local attractions, aesthetics, location, and community spirit to become a center for commerce, culture and recreation.*

The city of San Juan has a Thoroughfare Plan, which incorporates SH 365 and proposes improvements to collector roadways in anticipation of being compatible with SH 365 once it is built.

The city of Hidalgo's mission statement, as stated on their website[22] is:

> *The City of Hidalgo is committed to providing cost effective municipal facilities, infrastructure and services that meet the needs of citizens, businesses and visitors through well planned development resulting in exceptional quality of life.*

The city of McAllen puts forth a number of goals for their community in the *Foresight McAllen Comprehensive Plan*, adopted in 2007 (McAllen, 2007). These are summarized in the city's mission statement:

> *The mission of this plan is to promote orderly growth with a renewed emphasis on quality development and redevelopment. McAllen will improve quality of life for its citizens by improving the overall appearance of the city, stabilizing and improving areas in decline, reserving land for parks, open space, and new employers. McAllen will coordinate public*

[20] http://www.pharr-tx.gov/about-pharr-tx/city-government/city-managers-office
[21] http://www.cityofsanjuantexas.com/
[22] http://cityofhidalgo.net/mission.html

*and private investment to promote retail shopping, cultural and entertainment options, major higher-paying employment and varied tourist attractions.*

*McAllen will continue to invest in infrastructure in a sustainable manner. Its unique culture, diversity, and history will be preserved and enhanced with new cultural and entertainment venues, added efforts in nurturing, attracting, and retaining its creative class youth, and reinvestment in its historic areas. The tax base will be stabilized and strengthened by improved codes and enforcement, fostering an entrepreneurial spirit, adapting to new and changing economies, and attracting new businesses and manufacturing to the area. McAllen will continue to improve parks and its greenbelt image through the expansion of existing parks, recreational facilities, and plans for increased open space in developing areas.*

*By achieving these goals, McAllen will become the "Destination City" for the entire region of South Texas and Northern Mexico.*

The city of McAllen's comprehensive plan also lays forth specific goals with respect to mobility, including:

- Development of the street system in a continuous manner so that connectivity within and between neighborhoods is improved,
- Preserving the traffic-carrying capacity of roadways through access standards,
- Utilizing advanced planning and ordinance provisions to preserve ROW for trails and pedestrian-ways,
- Observing the causal link between patterns of development and the efficiency of the transportation system,
- Planning for the eventual need for high-capacity transit, and
- Maintaining the appearance of the roadway environs such that the character and identity of the city is distinguished.

The HCMPO's 2010–2035 MTP presents a vision for the development of the transportation system for the metropolitan area of Hidalgo County. The main goals for the MTP include rehabilitation and preservation of the existing transportation network and employing a corridor analysis approach to construction. There are eight objectives related to the corridor analysis approach:

1. To create a functional relationship between transportation planning and area development,
2. To ensure multi-modal capability,
3. To ensure efficient movement of freight,

4. To protect the environment,

5. To promote and ensure compliance with the EJ regulations,

6. To serve existing and projected future needs,

7. To incorporate fiscal constraint/innovative financing, and

8. To promote economic development.

The MTP addresses international border crossings and freight movement as especially important for the Metropolitan Planning Organization (MPO) planning area because the regional transportation system was designed in large part to serve the movement of goods and people between the U.S. and Mexico.

#### 7.2.2.2 Trends

Aerial photography from the NRCS's 1981 Soil Survey for Hidalgo County shows the majority of the land within the AOI as undeveloped, with much of it appearing to be under cultivation. The only development at that time was within the cities of Granjeño, Madero (which has since been annexed by Mission), Mission, McAllen, Pharr, San Juan, Alamo, and Las Milpas (which has since been annexed by Pharr).

The implementation of the North American Free Trade Agreement (NAFTA) in 1994 removed many of the previous barriers to trade between Mexico and the United States; as a consequence, many of the main cities along the U.S.-Mexico border have experienced increased truck traffic as shipments of goods are transported across the border. There are three international bridges within the AOI—Anzalduas, McAllen-Hidalgo-Reynosa, and Pharr-Reynosa. The McAllen-Hidalgo-Reynosa International Bridge has been in operation since 1926 and is the fourth busiest border crossing in the U.S., according to the HCMPO's MTP. Since northbound commercial traffic from the McAllen-Hidalgo-Reynosa International Bridge was halted in 2006, the Anzalduas International Bridge (recently completed in 2009) and the Pharr-Reynosa International Bridge (constructed as a state-of-the-art modern facility in 2004) now provide the main routes for northbound commercial traffic into the U.S. between Harlingen and Laredo. These bridges serve as important corridors for the transport of goods between the U.S. and Mexico, and particularly for those goods produced at maquiladoras in Reynosa and transported to the FTZs in the U.S., such as the MFTZ No. 12. According to the MTP, approximately 200 maquiladoras were in operation in Reynosa in 2008, and approximately 130 manufacturing facilities were in operation in McAllen. According to the McAllen Chamber of Commerce Economic Development Profile (2009 update), the Foreign Trade Zones have contributed to economic development including the following:

- Between January 1988 and March 2008, 250 new companies have set up operations in McAllen and 326 in Reynosa, for a total of 576 new facilities.

- When combined with expansions of these facilities, the McAllen Economic Development Corporation was involved in the creation of over 120,000 new jobs.
- According to the Reynosa Maquiladora and Manufacturers Association, 28 new foreign firms are expected to begin operations this year of 2008 in the Northern Tamaulipas border, creating over 3,000 new jobs. Seventeen of these companies will build facilities and begin operations in the Reynosa area, while the other 11 firms will open plants in the Rio Grande Valley communities like Mission, McAllen, Pharr, and Edinburg (McAllen Economic Development Corporation, 2009).

To reiterate these trends:

- Conservative forecasts indicate that by 2030, approximately 120,560 vehicles (106,100 autos and 14,460 trucks) will cross the five international bridges per day, totaling 44,004,400 vehicles for the year (38,726,500 autos and 5,277,900 trucks) (ETSI, 2007).
- The Freight Analysis Framework Data, developed by the FHWA, forecasts the average truck tonnage through the Hidalgo-Brownsville area to increase an average of 4 percent per year between 2002 and 2035. This results in an overall increase of 240 percent over this time frame.
- A study conducted by the ETSI in 2007 found that there were 818,330 trucks that crossed the Pharr-Reynosa International Bridge based on 2,242 AADT binational truck crossings in 2004. The same study indicated that truck traffic will almost triple at the Pharr-Reynosa International Bridge by 2030 with 2,146,930 crossings based on 5,882 AADT binational truck crossings.
- An ETSI study anticipates 1,091,350 truck crossings at Anzalduas International Bridge by 2030 based on an estimate of 2,990 AADT binational truck crossings. By 2030, the Anzalduas and the Pharr-Reynosa International Bridges combined are projected to have 3,238,280 binational truck crossings annually. The city of McAllen in coordination with TxDOT proposes to expand the Anzalduas International Bridge BSIF as part of the Coordinated Border Infrastructure Program.
- The projected AADT along the study corridor is 15,000 in 2016. According to the TxDOT TP&P, the AADT in 2036 is projected to increase by approximately 37 percent to 20,600. The average daily traffic truck percentage for 2016 to 2036 is 17.8 percent.

In general, the economy of Hidalgo County has had fluctuations over the past decade:

- According to *Ignite Hidalgo County – A Comprehensive Economic Development Strategy for Hidalgo County 2011–2015,* "the maquiladora industry in Reynosa took a hit during the recession. Manufacturing plants in Reynosa, many of them automotive related, declined from 200 factories in 2005, to 142 factories in 2009, while employment at maquiladoras in Reynosa decreased from 88,691 employees in 2005, to 72,916 employees in 2009, affecting the Hidalgo County economy…Hidalgo County has been one of the few areas in the U.S. to have weathered the recession well. Since the recession began in the fourth quarter of 2007, through

> the first quarter of 2010, the Hidalgo County economy was identified as one of the top 21 strongest performing economies in the U.S. according to MetroMonitor.[23]"

The Hidalgo County MPO's MTP presents data projections, which suggest that Hidalgo County as a whole will reach a total of approximately 1,641,770 residents by 2035 (from 569,686 in 2000), making it the fifth largest metropolitan area in Texas. As population increases, regional employment is also anticipated to increase, from 154,209 in 2000 to 445,536 in 2035. Historically, agriculture was the area's main focus, but an increase in retail and industrial sectors have resulted in a shift away from agricultural jobs and an increase in retail, factory, industrial, and human service jobs. This shift has led to a change in the population distribution in the area, with the county's central core of McAllen showing higher population growth due to the availability of these types of employment. These trends are anticipated to continue through 2035. According to the city of McAllen's *Foresight McAllen Comprehensive Plan*, the population of McAllen has experienced significant growth since 1970 and is forecasted to reach approximately 208,000 persons by 2025, which represents an approximate doubling of the year 2000 population.

Population grew substantially in Hidalgo County and project area cities between 1990 and 2010. Historical population growth is shown in **Table 7-1** below.

**Table 7-1: Historical Population Growth**

| City or County | 1990 Population | 2000 Population | 2010 Population | Percent Change 1990–2010 |
|---|---|---|---|---|
| City of McAllen | 84,021 | 106,414 | 129,877 | 54.6 |
| City of Mission | 28,653 | 45,408 | 77,058 | 169.0 |
| City of Pharr | 32,921 | 46,660 | 70,400 | 113.9 |
| City of Granjeño | 0* | 313 | 293 | 293.0 |
| City of San Juan | 10,815 | 26,229 | 33,856 | 213.1 |
| City of Hidalgo | 3,292 | 7,322 | 11,198 | 240.1 |
| Hidalgo County | 383,545 | 569,463 | 774,769 | 102.0 |

Source: HCMPO (2013) and U.S. Census Bureau (2010b).

*Granjeño has existed since the 1700s but was incorporated as a city in 1993.

Population is projected to continue to grow through 2060 as shown in **Table 7-2** below.

[23] http://www.co.hidalgo.tx.us/DocumentCenter/Home/View/4158

**Table 7-2: Projected Population Growth**

| Area | 2010* | 2020 | 2030 | 2040 | 2050 | 2060 | Percent Change 2010–2060 |
|---|---|---|---|---|---|---|---|
| City of McAllen | 129,877 | 158,046 | 186,889 | 218,068 | 252,084 | 286,959 | 121.0 |
| City of Mission | 77,058 | 88,532 | 111,086 | 135,447 | 161,998 | 189,204 | 145.5 |
| City of Pharr | 70,400 | 82,640 | 101,269 | 121,386 | 143,309 | 165,772 | 135.5 |
| City of Granjeño+ | 293 | - | - | - | - | - | - |
| City of San Juan | 33,856 | 54,082 | 70,892 | 89,081 | 108,947 | 129,327 | 282.0 |
| City of Hidalgo | 11,198 | 16,240 | 21,350 | 26,875 | 32,905 | 39,089 | 249.1 |
| Hidalgo County | 774,769 | 987,920 | 1,225,227 | 1,481,812 | 1,761,810 | 2,048,911 | 164.5 |

Source: U.S. Census Bureau (2010a) and TWDB (2011b).

*The U.S. Census Bureau data were used for the 2010 populations and TWDB data were used for population projections for 2020, 2030, 2040, and 2060.

+ TWDB only reports population projections for those cities that had population of 500 or more in 2000 per the U.S. Census Bureau. Granjeño had a population of less than 500 in 2000 per the U.S. Census Bureau; therefore, population projections for Granjeño are not provided.

Residential new house construction is another indicator of growth trends in the AOI. While most cities in the AOI continue with new construction, the peak years of building permits issued fell between 2003 and 2005 (**Table 7-3**). According to the planners interviewed for this analysis, growth was more rapid in the early 2000s and has slowed in more recent years, reflective of overall national economic trends.

**Table 7-3: Single-Family New House Construction Building Permits Issued in Cities in the AOI**

| Year | City of McAllen | City of Mission | City of Pharr | City of Granjeño | City of San Juan | City of Hidalgo |
|---|---|---|---|---|---|---|
| 1997 | 553 | 401 | 285 | 0 | 201 | 91 |
| 1998 | 747 | 608 | 388 | 0 | 242 | 91 |
| 1999 | 837 | 683 | 371 | 0 | 202 | 117 |
| 2000 | 788 | 823 | 533 | 0 | 202 | 116 |
| 2001 | 873 | 1,043 | 620 | 0 | 195 | 188 |
| 2002 | 843 | **1,182** | 925 | 0 | 221 | 139 |
| 2003 | * | 1,166 | 633 | 0 | 259 | 167 |
| 2004 | 0 | 1,061 | 553 | 0 | 405 | **224** |
| 2005 | 951 | 901 | 784 | 0 | **501** | 135 |
| 2006 | **1,075** | 775 | **1,284** | **1** | 435 | 0 |
| 2007 | 754 | 634 | 537 | 0 | 276 | 102 |
| 2008 | 573 | 389 | 216 | 0 | 122 | 56 |
| 2009 | 352 | 296 | 187 | 0 | 153 | 46 |
| 2010 | 472 | 346 | 282 | 0 | 123 | 44 |
| 2011 | 397 | 326 | 290 | 0 | 111 | 46 |
| Permits issued 1997–2011 | 9,215 | 10,634 | 7,888 | 1 | 3,648 | 1,562 |

Source: http://www.city-data.com/city (each city).

*Data not available. Bold represents highest number of building permits between 1997 and 2011.

### 7.2.3 Step 3: Inventory Study Area's Notable Features

"Notable features" are defined as specific, valued, vulnerable, or unique elements of the environment, which may include sensitive species and habitats, valued environmental components, valued landscape components, or vulnerable elements of the population. A number of information sources were used to determine notable features present within the AOI, including constraints mapping performed for the proposed project, planner interviews, and the direct effects of the project.

Notable features in the AOI are indicated on **Figure 7-1**. The features present within the study area include:

- **International Border Crossings** – There are three international bridges within the AOI – Anzalduas, Hidalgo-Reynosa, and Pharr-Reynosa. A discussion of these international bridges is found in the Trends discussion above.
- **Santa Ana National Wildlife Refuge** – The Santa Ana NWR, managed together with the LRGV NWR by the USFWS, consists of approximately 2,088 acres of thorn forest and riparian woodland habitat that provides refuges for a variety of wildlife species. The USFWS's LRGV NWR has refuge units (more than 100 separate tracts) spread throughout the region. According to the USFWS, approximately 95 percent of wildlife habitat has been cleared regionally, leaving little high-quality native habitat for wildlife. The LRGV NWR is helping protect and restore wildlife habitat in the area.[24]
- **Las Palomas Wildlife Management Area, Lower Rio Grande Valley Units** – The TPWD's Las Palomas Wildlife Management Area (WMA) consists of approximately 3,311 acres, which is broken down into 18 separate units ranging in size from two to 604 acres. It was established to provide habitat protection for white-winged doves (*Zenaida asiatica*), including brush nesting habitat, wetlands, and farmland.[25]
- **World Birding Center at the Old Hidalgo Pumphouse** – The World Birding Center (WBC) is a joint partnership between the TPWD, Rio Grande Valley Communities, and USFWS. The WBC currently includes a network of nine locations throughout south Texas. The Old Hidalgo Pumphouse location of the WBC is in the city of Hidalgo and includes a museum centered around the old pumphouse as well as hummingbird gardens.[26] The 600-acre USFWS property adjacent to the WBC is being replanted with native trees, and there are plans to open this land as part of the WBC as well as to extend hike-and-bike trails throughout the property for visitors to explore.
- **WBC at Quinta Mazatlan** – This WBC location is centered around a historic Spanish Revival adobe hacienda in McAllen.[27] The hacienda functions as a conference and events center and is surrounded by tropical gardens with bird feeding and watering stations. The 15-acre property has trails for birding.

[24] http://www.fws.gov/refuges/

[25] http://www.tpwd.state.tx.us/huntwild/hunt/wma/find_a_wma/list/?id=47

[26] http://www.theworldbirdingcenter.com/Hidalgo.html

[27] http://www.theworldbirdingcenter.com/Quinta.html

- **Bentsen-Rio Grande Valley State Park** – This state park is located partially within the AOI at the western edge, within the city of Mission. The park is part of the WBC and includes butterfly gardens, trails, birding blinds, and a hawk observation tower.[28]
- **Anzalduas County Park** – Anzalduas Park is owned by Hidalgo County and consists of approximately 96 acres situated on a bend of the Rio Grande and to the south of a levee and floodway bridge. The park provides scenic views, picnic areas, and space for large events.[29]
- **Agriculture** – As described in Step 2, the area within the AOI was historically dominated by agricultural land. Irrigation canals traverse the AOI, particularly in the southern portion. Although urbanized areas have grown, there is still much cultivated land within the AOI, particularly near irrigation canals and the Rio Grande. A variety of types of crops can be seen growing within the AOI, including corn, sorghum, cotton, sugar cane, and grapefruit.
- **McAllen Foreign Trade Zone** – The MFTZ #12 was created in 1973 and was the first nonseaport FTZ in the U.S. The MFTZ consists of 775 acres, which serves as home to approximately 410 manufacturing, industrial, and distribution companies. These companies serve over 100 clients representing over 42 countries.
- **Madero Community** – The community of Madero is the closest unincorporated community to the proposed project. According to the Texas State Historical Association, it is also known as Wheel City, and is located off Farm Road 1016 four miles southwest of McAllen and half a mile north of the Rio Grande in southern Hidalgo County. The community is on land that was granted to Ermenegilda Ochoa by Spain in 1767. In 1913 the San Benito and Rio Grande Valley Railway built a line through Madero. In the late 1960s a colonia developed there. By 1986 the number of dwellings had risen to 160, and the population was estimated at 720. In 1990, the community of Madero was still mainly a colonia.[30]
- **Granjeño and Granjeño Cemetery** – Granjeño is off the junction of Farm Road 494 and the Old Military Telegraph Road 4 miles southwest of McAllen in southern Hidalgo County. The community was founded in the eighteenth century, and Granjeño Cemetery was established in 1872 with burials from both sides of the Rio Grande. There is an OTHM associated with the Granjeño Cemetery (OTHM number 1420). In 1936 Granjeño had several dwellings. During the 1960s growth in Granjeño was stimulated by the development of a colonia. In 1983 Granjeño proper was centered around a church and several dwellings. The colonia's population had decreased to 450 by 1986. The city was incorporated in 1993. In 2000 the population was 313.[31]
- **Louisiana-Rio Grande Canal Company Irrigation System** – This NRHP-listed district is called the Louisiana-Rio Grande Canal Company Irrigation System and includes canals, ditches, pump stations, and other irrigation features constructed prior to 1949 currently under the jurisdiction of the HCID #2.
- **The La Lomita Ranch Historic District** – This NRHP-listed district is situated between the Rio Grande to the south and the proposed route to the north. It includes the La Lomita Chapel,

[28] http://www.tpwd.state.tx.us/state-parks/bentsen-rio-grande-valley

[29] http://www.missiontexas.net/attractions/anzalduas-county-park

[30] http://www.tshaonline.org/handbook/online/articles/htm04

[31] http://www.tshaonline.org/handbook/online/articles/hrgvh

Saint Peter's Novitiate, and the original 122 acres of ranchland controlled by the Oblate fathers.

### 7.2.4 Step 4: Identify Impact-Causing Activities of the Proposed Action and Alternatives

There are 10 general categories of project impact-causing activities, each of which is reviewed in **Table 7-4**.

**Table 7-4: Impact-Causing Activities (Direct Impacts)**

| Type of Activity | Project Specific Activity | Relevant Details |
|---|---|---|
| Modification of Regime | Removal of vegetation and wildlife habitat | Approximately 573 acres of vegetation would be removed for roadway ROW |
| | Alteration of surface drainage | BMPs would be put in place |
| Land Transformation and Construction | Noise | Noise and vibration would result from construction equipment trenching, excavation, backfilling, grading, and pavement laying activities |
| Resource Extraction | Excavation | Surface and subsurface excavation would be required throughout the project limits for construction |
| Processing | Storage of construction materials including aggregate, concrete pipes, traffic control barricades, steel rebar, road signs, etc., temporary construction office trailers equipped with temporary utility service including some means of sanitary waste disposal | Material storage areas and construction office trailers are commonly located within the project ROW during construction |
| Land Alteration | Erodible materials exposed to surface runoff | Erosion Control and Sedimentation Control BMPs would be implemented and maintained until construction is complete; upon completion of the project, Post-Construction Total Suspended Solids Control BMPs would be implemented |
| | Landscaping | Landscaping in accordance with EO 13112 on Invasive Species and Executive Memorandum on Beneficial Landscaping |
| Resource Renewal | No revegetation or remediation activities anticipated | N/A |
| Changes in Traffic | None anticipated (no current travel patterns established within the proposed area of project construction) | N/A |
| Waste Emplacement and Treatment | Disposal of vegetation removed for construction | Vegetation removed for construction would be either burned on-site, mulched, or hauled to a landfill for disposal |
| Chemical Treatment | Fertilization | When used, fertilizers are generally only used during the revegetative phase of the project, after which the use of fertilizers is discontinued |
| | Deicing | TxDOT typically uses inert sand materials for ice control, and these are applied only on bridges and pavement over culverts |
| Access Alteration | Access created by construction of new roadway | Undeveloped land opened for development |

Impact-causing activities that have the potential to be substantial and could affect resources in the AOI including notable features are discussed below.

### 7.2.5 Step 5: Identify Potentially Substantial Indirect Effects for Analysis

This step determines which effects are potentially substantial and merit subsequent detailed analysis. Types of indirect effects considered here include encroachment-alteration effects, access alteration effects (also known as project-influenced effects or induced growth effects), and effects related to project-influenced development (or effects related to induced growth).

**Encroachment-alteration effects (ecological)** – Encroachment-alteration effects would occur with regard to water quality. Alteration of stormwater quality could occur because storm water from the project would flow offsite into the Rio Grande and/or creeks within and immediately adjacent to the AOI. Encroachment-alteration effects regarding water quality are analyzed in Step 6.

Construction of the roadway would result in the removal of existing vegetation which provides habitat for various species of wildlife. Further, the project could cause habitat fragmentation by splitting vegetated tracts into smaller pieces. According to the TPWD's NDD data, occurrences of three federally listed endangered species (Walker's manioc, ocelot, and jaguarundi) and five state-listed threatened species (black-spotted newt, sheep frog, south Texas siren, Texas indigo snake, and gray hawk) have been recorded within the AOI. Encroachment-alteration effects regarding wildlife habitat quality are analyzed in Step 6.

**Encroachment-alteration effects (socioeconomic)** – Construction of the proposed project could result in development of undeveloped lands within the AOI. Such development would cause changes to current land values, including increasing values for developed uses and increasing anticipated property tax income in the cities within the AOI and their extraterritorial jurisdictions (ETJs). Overall, this would have a positive effect on the tax base for the cities but a negative effect by resulting in an increased tax burden for lower-income individuals. Much of the land available for development in the AOI has limited infrastructure serving it, has a low potential for development given its proximity to the levee system, or it is currently in cultivation for agricultural purposes. There are some displacements anticipated as a result of the proposed project, but the impacts of anticipated changes in access are expected to be somewhat limited and are discussed in the access alteration section.

Given the economic focus on supporting international trade and the need for infrastructure to facilitate transportation of goods and services, along with the potential for increased tax burden on lower income individuals, socioeconomic indirect effects are generally considered to be both positive and negative. These impacts are not anticipated to be substantial, especially because the location of the facility is limited access and minimizes direct impacts to communities. In addition, land use/community character including access alteration is carried forward for more-detailed analysis. Therefore, socioeconomic encroachment-alteration effects will not be analyzed in detail in Step 6.

The AOI is located within Hidalgo County, which is currently in attainment for all NAAQS pollutants. No change in attainment status is anticipated within the AOI as the result of emissions associated with the proposed project. Based on the results of Steps 1 through 4 that evaluated the possible project-related actions that can indirectly impact air, it was determined that the proposed project would not be anticipated to cause indirect air quality impacts in the AOI. Indirect air quality impacts from MSATs are unquantifiable due to existing limitations to determine pollutant emissions, dispersion, and impacts to human health. Emissions would likely be lower than present levels in future years as a result of the EPA's national control regulations (i.e., new light-duty and heavy duty on road fuel and vehicle rules, the use of low sulfur diesel fuel). Even with an increase in the VMT and possible temporary emission increases related to construction activities, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions of on road emissions, MSATs, and the ozone precursors volatile organic compound (VOC) and nitrogen oxide ($NO_X$). As the proposed project is not anticipated to result in indirect air quality impacts, further discussion in Steps 6 and 7 below is not necessary.

**Access alteration effects/project-influenced effects** – Some changes in land use could occur within the AOI if undeveloped areas are developed as a result of increased access to previously undeveloped land. To determine the potential for induced growth, existing land uses within the AOI were quantified (**Table 7-5**). **Figure 7-2** shows land within the AOI depicted as developed, available for development, or other land uses considered to be undevelopable including floodplains and preserves. Within the 65,146 total acres of the AOI, approximately 26,960 acres (41 percent) are already developed. Approximately 23,360 acres (36 percent) are undevelopable including floodplain and land south of the border fence, and 5,173 acres (8 percent) are devoted to transportation uses. Subtracting out areas not available for development within the AOI results in approximately 9,654 acres (15 percent) that could potentially be developed. Indirect effects of induced growth in the undeveloped areas within the AOI are analyzed in Step 6.

**Table 7-5: Acres of Land Available for Project-Influenced Development within the AOI**

| Existing Land Uses | Acres | Percentage of Total |
|---|---|---|
| Developed Land | 26,960 | 41 |
| Undevelopable Land (includes floodplain, parks, and land south of the border fence) | 23,360 | 36 |
| Transportation Uses | 5,173 | 8 |
| Available for Development within the AOI | 9,654 | 15 |
| Total Area within the AOI | 65,146 | 100 |

Complementary development would primarily be anticipated near access points. Complementary development is analyzed in Step 6.

**Effects related to induced growth** – Within the 9,654 acres available for development, various resources could be affected. Some resources are carried forward for further analysis in Step 6 while others are not.

Some induced development could occur so land use and community character will be assessed in Step 6, based on discussions will local planning experts.

Prime farmland soils within the AOI could be impacted by induced development. Much of the undeveloped land within the AOI is currently under cultivation, and irrigation canals are found throughout the AOI. Farmland is discussed further in Step 6.

As previously stated, occurrences of three federally listed endangered species and five state-listed threatened species have been recorded within the AOI. Induced growth could result in habitat loss for these and other species of potential occurrence in Hidalgo County. The effects of induced growth on these species and their habitats will be examined in more detail in Step 6.

Induced growth would have some effect on water resources because induced development would result in increased impervious cover, which would in turn have an effect on water quality. This will be analyzed in Step 6.

Because archeological and historic and/or historic-age resources are likely to be present in the AOI, indirect impacts to archeological and historic and/or historic-age resources are discussed in more detail in Step 6.

Potential indirect impacts to archeological properties could result from induced development within the AOI. Formal, permitted archeological surveys are required only when a development project has a public funding component. Indirect effects to archeological resources are discussed in Step 6.

### 7.2.6 Step 6: Analyze Indirect Effects and Evaluate Results

**Encroachment-alteration effects (ecological)** – The indirect effect of altering stormwater would not be potentially substantial because impacts would be minimized by the implementation of the BMPs required by the TCEQ regulations. Creeks within the AOI would not be adversely affected in a substantial way because the implementation of the BMPs would prevent impacts.

Wildlife habitat could be removed and/or fragmented as a result of the project. Wildlife habitat in the region has been experiencing fragmentation for decades as a result of development and conversion for agricultural uses. For this reason, habitat conservation in the LRGV has focused on the preservation of small habitat patches, as illustrated by the USFWS' LRGV NWR and TPWD's Las Palomas WMA. Although large, contiguous habitat patches are ideal, fragmented habitat can still provide travel corridors and serve as smaller patches for animal foraging and use. Encroachment-alteration effects on wildlife habitat are not anticipated to be substantial.

**Access alteration effects/project-influenced effects and induced changes to land uses** – Existing travel patterns would likely be altered where new access to SH 365 is provided. However, proposed

underpasses and overpasses would ensure that existing traffic patterns on the local roadway network are maintained, beyond the duration of construction. At one location ("I" Road), roadways would be constructed to reestablish connectivity with the existing road system where SH 365 turns toward the southeast and alters travel patterns at nearby roadways and land parcels. Once SH 365 is open, it is anticipated that it would draw truck traffic in particular off the local roadway network and improve separation between local traffic and goods and services/regional traffic.

Complementary development, such as highway-oriented businesses, could develop as a result of this project. There are overpasses and underpasses proposed, in addition to the list below, but a review of the proposed ramp designs indicates that travel on to and off of SH 365 would be limited to the following locations. Therefore, complementary development is only expected to occur in and around these access points:

- FM 494/Shary Road
- SP 115/23rd Street
- SH 336/10th Street
- FM 2061/Jackson Road
- US 281/South Cage Boulevard
- "I" Road
- FM 3072/East Dicker Road
- FM 1016/Conway Avenue
- Anzalduas GSA Connecting Road
- Anaya Road
- SH 365 and US 281/Military Highway

For a large project area such as this AOI, it is important to obtain the expertise and opinions of local planners and professionals who work in the communities to be affected by an infrastructure project. Therefore, interviews were conducted with planning experts to incorporate their insight about the extent to which the proposed project would be expected to induce development in the AOI. On March 6–8, 2013, planners from Cox|McLain Environmental Consulting, Inc. (CMEC) conducted interviews with representatives from numerous municipalities and the ISDs in Hidalgo County in the vicinity of the proposed project. Meetings were held with representatives from the communities of Mission, Granjeño, McAllen, Hidalgo, Pharr, and San Juan. A questionnaire was sent to the city of Alamo. Planners also met with representatives from Hidalgo, McAllen, Valley View, and Pharr-San Juan-Alamo ISDs. A phone interview was conducted with Sharyland ISD. In addition, engineers who have worked on portions of the project contributed their local knowledge to this section. Table 7-6 provides a listing of the entities, contact, and date contacted.

**Table 7-6: Meetings with Planning Experts**

| Entity | Contact Name and Title | Date of Contact |
|---|---|---|
| Hidalgo County | T.J. Arredondo, Planning Supervisor | 3/6/2013 |
| City of Mission | Bobby Salinas, Assistant Planning Director; Sonia Marroquin, Deputy City Manager; Daniel Tijerina, Planning Director | 3/7/2013 |
| City of Granjeño | Yvette Cabrera, Mayor | 3/7/2013 |
| City of Hidalgo | Joe Vera, Hidalgo City Manager; Virsilio A. Gonzalez, Hidalgo Code Enforcer | 3/7/2013 |
| City of McAllen | Jeremy Santoscoy, P.E. CFM Transportation Engineer; Ed Taylor, Planner; Yvette Barrera, City Engineer | 3/6/2013 |
| City of San Juan | Xavier Cervantes, Director of Planning; Monica Gomez, Planner; Ronnie Cruz, City Engineer | 3/7/2013 |
| City of Pharr | Roland Gomez, City Planner; Dora Robles, Intern Graduate Engineer; Bill Ueckert, City Engineer | 3/8/2013 |
| City of Alamo | Dalia Zuniga, Planner I | Returned questionnaire 2/26/2013 |
| McAllen ISD | Mike Barrera, Assistant Superintendent; Kevin Hitchcock | 3/8/2013 |
| Pharr-San Juan-Alamo ISD | James Rodriguez, Project Manager; Rene Campos, Assistant Superintendent | 3/8/2013 |
| Hidalgo ISD | Librado S. DeHoyos, Hidalgo ISD Superintendent | 3/7/2013 |
| Sharyland ISD | Selinda Anzaldua, Assistant Superintendent Secretary | Phone interview 3/26/2013 |
| Valley View ISD | Leonel Galsco, Valley View ISD | 3/7/2013 |
| Hidalgo MPO | Linda de la Fuente, Assistant Director; Maria Champine, Assistant Director | 3/8/2013 |

At each meeting, a map of the AOI for the indirect effects analysis was presented along with several questions. General discussions about the project and project area were also held, and project team members distributed information about the March public meetings scheduled for March 26–28, 2013. The following questions were asked of the experts:

- Are there new developments within this area that are planned or platted but not yet developed?
- What parcels (if any) do you think would likely be developed as a result of the proposed construction of SH 365?
- In your opinion, will transportation improvements induce land use development in your jurisdiction, alone or in conjunction with other factors?

- Would the proposed construction of SH 365 affect the rate of land use development in your jurisdiction?
- If development does occur, would it likely be in keeping with your city's Comprehensive Master Plan?
- Please draw on the maps to indicate areas you think are likely to develop. Please indicate whether or not they are currently platted for development.

There were some general messages that arose from the meetings that are summarized here. In the subsequent section, more specific notes from each meeting are provided for further detail.

- Most planners had been aware of the proposed project for several years; they had minor alignment questions about the project but generally knew its proposed location.
- Planners were aware that the alignment along the floodway was the result of several alternatives that had been analyzed and this was considered to be a generally acceptable alignment.
- Most (not all) municipalities had comprehensive plans, land use plans, or thoroughfare plans. The proposed project occurs within or near the city limits or ETJs of municipalities but some municipalities are outside the project impact area but within the AOI.
- Some developments are proposed within the AOI but only a few were identified in speaking with the municipal representatives.
- Local planning experts stated that they work closely with the MPO staff to coordinate their thoroughfare plans, so those are consistent with each other.
- Provision of water and wastewater services has an influence on the rate of development and would contribute to influencing where new development occurs.
- Some larger scale development projects were discussed, but no specific information could be provided to ensure those projects could be considered "reasonably foreseeable" as opposed to "possible."
- Most planners consider this limited access roadway to be a facility for truck travel east and west across Hidalgo County and to provide options and access to two international bridge crossings. SH 365 is not perceived to be used largely for residential users or commuters but rather to facilitate goods and services transport.
- The construction of infrastructure in Mexico and increased industrial/commercial development internationally are seen as contributors to overall economic and land use development in Hidalgo County.
- The school district representatives discussed plans to add one or two schools in their districts if growth occurs, but there are not major initiatives for numerous new schools at this time.

*Summary of Interviews*

Interviews were conducted with the professionals listed in **Table 7-7**.

Planning Staff members from the **city of Mission** directed interviewers to their future land use map and comprehensive plan. Developments in Mission include the growing Sharyland development (residential and mixed use development), and the Bentsen Palm Development which exists on several plots of land in Mission totaling approximately 2,600 acres. The Sharyland Plantation planned unit development and zoning district is expecting continued growth and would fall within the city limits. The area closest to the Anzalduas International Bridge has the highest likelihood of industrial commercial development, in association with the GSA facility. Flooding issues and drainage are a major concern after local community members saw the impact of Hurricane Alice on the levees and the potential damage caused to structures during flooding.

Zoning in Mission includes planned development, light industrial, general business, and agricultural (see **Appendix E**). According to the Mission Future Land Use Map (provided in **Appendix E**), land within the AOI is public (wildlife preserve), planned unit development, general commercial, industrial, some heavy commercial, and low density residential. The proposed roadway is consistent with local plans and policies, as long as infrastructure is made available to support that growth.

The **Mayor of Granjeño** stated that the community is landlocked and not growing. The population is approximately 400 persons with one business (Cabrera's Bar). The town was founded in 1767 but just incorporated in 1993. The historical cemetery is maintained. She wanted to know why land would be acquired from Granjeño when it is such a small city. They do not have a Comprehensive Plan. She has met with project planners previously and was aware of the proposed roadway. She stated that Granjeño is on the international bridge board (although not a voting member) and would potentially receive some revenue once the bridge becomes profitable. She anticipates that Glasscock and FM 494 would provide access points to the roadway for Granjeño residents.

According to the **Planning Supervisor of Hidalgo County**, the AOI falls within Precinct 2, which represents a small portion of overall county land. Much more county development takes place in other precincts. In general, there is a concern about owner financing in the county outside of areas where water/wastewater service is provided. The Planning Supervisor stated that in general, development would not be expected to occur in the floodplain. He expected that development would be most likely to occur near the international bridges (such as Pharr and Anzalduas). Transportation would be one factor in inducing development especially at access points along with other factors (water/wastewater infrastructure), and general economic forces. Drainage is a big issue for the county (mostly residential developments). The challenge is finding an outfall or discharge point. Adequate water facilities exist for large development. For development within the historic irrigation district, coordination is required but not perceived to inhibit development.

The **Assistant Directors of the Hidalgo MPO** discussed their updated Thoroughfare Plan. There were changes in the boundaries of the urbanized areas within Hidalgo County between 2000 and 2010, and there are some gaps that are likely to fill in over the planning horizon. The MPO planners stated that

transportation improvements support growth, especially since people on the Mexican side of the Rio Grande are constructing infrastructure to connect with U.S. infrastructure and businesses. In addition, they stated that residential development is not likely to occur as a result of roadway construction because "few people want to live next to an expressway." The limited access toll road would most likely influence commercial development at access points.

In general, the various municipalities interviewed stated that they coordinated closely with the MPO so their thoroughfare plans were compatible. The SH 365 roadway has been incorporated into the thoroughfare plan for many years (it has been depicted as a loop and it is shown on the 2012 Thoroughfare Map as a New Facility Expressway), so it is expected to be developed and the MPO planners take it into consideration along with other proposed HCRMA and TxDOT projects. The Hidalgo County Thoroughfare Plan (provided in **Appendix E**) includes numerous new roadways and expanded roadways within the AOI to support growing international trade and development within the County.

The project team met with the **Planning Staff at the city of McAllen**. They mentioned that TxDOT and Hidalgo County are currently improving McColl Road. They also mentioned the proposed racetrack at 10th, WD Canal, and 23rd Street. This proposed racetrack would open if there is a vote in the Texas legislature allowing gambling at racetracks. There are a few other parcels that may be slated for development but no specific platting information was provided.

The floodway already forms a barrier to development and the construction of the roadway along the floodway does not result in a new barrier. Planners were aware of the NRHP irrigation district, and stated that it was not known to be prohibitive for development as long as the irrigation system remains functional. According to the planners, their Comprehensive Plan (2025) may be optimistic from an anticipated growth perspective, due to recent economic slowdowns. Lots of immigration has been occurring from Mexico. In terms of building rates, there were more than 1,400 water connections in 2007 compared to 550 in 2012. A statement was made that a proposed school may be constructed near Dicker and McColl in the Valley View ISD.

One of the planners stated that development occurs as infrastructure gets built. Water is available but there are challenges getting sewer lines to undeveloped areas. The limited access roadway may or may not spur development; one planner stated that there are lots of buildings with vacancies that are available for use. There are efforts underway to attract a small auto assembly plant near the McAllen-Mexico border but there are no concrete plans. Access to rail is a key factor for industrial development.

According to one of the planners, connection to a limited access facility could help with business recruitment. Also, some Mexican businesses want to be in McAllen for safe operations and connectivity to Mexico. One planner stated that there is a good possibility that there will be a research and development facility in the area in the near future, but there were no concrete plans available.

Once the Presidential Permit is granted and the Anzalduas bridge can take truck traffic, development would likely increase around the Anzalduas Highway. Produce traffic, maquiladoras, and auto industry growth and decline affect industrial trade in the region, and future growth is dependent on infrastructure both on the Mexican and U.S. sides of the border.

Hurricane Alice flooded areas west and south of Anzalduas in recent years, and emphasized generally the dangers of development too close to the floodplain. With some exceptions, McAllen planners agreed that development typically does not occur in the floodplain.

The McAllen Texas Future Land Use Plan (provided in **Appendix E**) shows a mix of agricultural land use and open space (especially along the floodplain associated with Ackney Branch Channel and Mission Pilot Canal), and Auto-Urban Single Family Residential (a yellow-orange color), Vacant (light green), Neighborhood Conservation (gray), and Industrial (purple). The Hidalgo County Thoroughfare Plan (see **Appendix E**) shows various collectors and arterials within the AOI and reflects an earlier version of the Expressway (SH 365). The proposed roadway is consistent with local plans and policies.

According to the Superintendent and facilities manager, **McAllen ISD** is landlocked. Land for expansions has been purchased but it is not in the SH 365 AOI. Should substantial development occur in the southern portion of the ISD, it is possible that another elementary school would need to be constructed (Houston and Roosevelt elementary schools are at capacity).

In general, McAllen ISD staff believe that most growth in their district has occurred north of I-2/US 83. Induced growth is most likely at access points along SH 365. The rate of growth would be affected because, without the roadway, the rate of growth would be different. If an industrial facility is built near the border, it is possible that workers would drop off their children at McAllen ISD schools.

The **Sharyland ISD** Assistant Superintendent Secretary stated that their school district is growing. They have more than 10,000 students with one high school, another high school planned on 6.5 Mile Road and Shary Lane (Sharyland Pioneer High School with expected enrollment between 1,500 to 2,000 students), two junior high schools, and eight elementary schools.

A group meeting was held with the **Hidalgo City Manager, Hidalgo ISD Superintendent, Hidalgo Code Enforcer**, and **Valley View ISD** Representative. At that meeting, the local experts agreed that development was most likely to happen at access points. In Hidalgo, those areas would be 10th, 23rd, McColl, and Jackson. The ISD is landlocked in terms of development. The racetrack was mentioned as a reasonably foreseeable development. Valley View ISD is not building new schools. According to Hidalgo ISD, if development happens in the AOI, Hidalgo would need to build a middle school. These local experts stated that Pharr-San Juan-Alamo ISD was building around the roadway at this time. Hidalgo Park Elementary in the Pharr area is located near SH 365. The Valley View ISD representative said he supports the location of the roadway along the floodway.

The city of Hidalgo has a City Planning Commission and Zoning but a Comprehensive Plan was not available. However, the city profile states: "Hidalgo is located in South Texas on the U.S.-Mexico border. It is south of McAllen and just across the border from Reynosa, Mexico, a city of over 1,000,000 population and approximately one hour from the Gulf of Mexico. Border crossings are frequent and daily, both into and from Mexico. Hidalgo is home to one of the busiest ports-of-entry along the U.S.-Mexico border and is situated close to existing trade and manufacturing-related infrastructure. The Hidalgo-Reynosa, Mexico International Bridge is the 4th largest port of entry on the Southern U.S. border" (Hidalgo Economic Development Corporation, 2013). Based on this emphasis on international trade and manufacturing, the proposed roadway is considered to be consistent with Hidalgo's local policies.

A meeting was held with several members of the **city of Pharr Planning staff**. When asked if the historic irrigation district posed an obstacle to development, the planners stated that new development plats are reviewed by the irrigation district, but as long as canal activity is not hindered, development can usually proceed. Recent annexations into the Pharr city limits were prompted by large lot land holders who wanted to be part of the city of Pharr rather than the city of Donna. No development plans have been submitted for review (despite other municipalities mentioning a development called San Juan Plantation). A possible produce center is in planning stages near Doffin Canal and US 281. Wastewater service provision affects development rates in the outer portion of the city limits. Pharr would support development that occurs as a result of transportation and other infrastructure. The city plans to extend service to the city limits, but other developments beyond those limits would have to provide their own water and sewer service. Development is most likely around access points and near SH 365 and US 281, in addition to along the HCRMA's IBTC project.

Planners discussed some current challenges with trucks attempting to move from I-2/US 83 to various industrial facilities closer to the international bridges. There are congestion issues and conflicts with local traffic. Additional development near the Anzalduas Bridge is contingent upon that bridge receiving its Presidential Permit to allow tractor trailers to cross at that facility. Construction of the expanded BSIF is nearing completion at the Pharr-Reynosa International Bridge. Construction of SH 365 would facilitate goods and services movement across the region and make options available for where to cross international bridges once Anzalduas Bridge opens. Freight Transfer Facilities are designed to accommodate growth related to this development of international trade. Tolled crossings help generate revenue directly and indirectly for the local economy.

A comprehensive plan update is currently underway for 2035 and planners from Pharr provided a draft future land use map GIS layer (see **Appendix E**). Land uses within the city limits in the AOI include industrial, single-family residential, commercial, and agricultural with some multi-family and some parks/public use. Much of the Pharr land within the AOI is actually within the newly expanded ETJ of Pharr, as shown on the Pharr Future Land Use Map (hatched area) provided in **Appendix E**. There is some potential for induced development especially near the project terminus at US 281. Particularly with

the extension of Pharr's ETJ to encompass more area around proposed SH 365, any induced development is considered to be consistent with Pharr's evolving plans and policies.

According to the **Pharr-San Juan-Alamo ISD** staff members, South "I" Road divides Pharr and San Juan. The ISD has approximately 32,000 students enrolled. In the recent past, the district changed their location for a middle school between Dicker Road and Juan Balli Road to avoid the anticipated impacts from SH 365. Thomas Road Elementary is now under construction. Access ramps along FM 3072/Dicker Road would be built to reestablish connectivity for local roads. In general, there is very little land available for development in their jurisdiction. If San Juan Plantation is constructed east of US 281/Cage Boulevard south of FM 3072/Dicker Road to Donna, then Hidalgo ISD would serve those students. Recently their District policy changed and now those who live within a particular city can attend the schools within their city boundaries. About 2,000 students have been lost to charter schools in the recent past.

The ISD staff stated that in their opinions, construction of SH 365 would induce growth along US 281/ Military Highway at US 281/Cage Boulevard. If traffic is diverted off of SP 29/Veterans Boulevard and onto SH 365, then development would likely occur at FM 2061/Jackson Road north to I-2/US 83. Another growth area is Bentsen Park/Anzalduas Bridge area. There are no other plans to develop additional school facilities within the ISD in the AOI (their growth plans are elsewhere in their district limits).

The planning director and staff of the **city of San Juan** stated that within the AOI in San Juan, there is a small area where a warehouse has been developed on Dicker Road, but no other recent or planned development falls within San Juan. There is a low likelihood of development associated with SH 365, except where access points are provided. It would create a barrier to development similar to the floodway where access is not provided. Provision of sewer service is a factor in the extent of development; there are water supply corporations that provide water service within the city limits. According to the planners, it is not clear whether construction of SH 365 would affect the rate of development in the AOI. The planners stated that development associated with SH 365 would be considered neutral with respect to the city's comprehensive plan; the roadway would not necessarily be beneficial or detrimental in San Juan. Their roadways are consistent with the Hidalgo County MPO's Thoroughfare Plan. San Juan does not have an ETJ because it abuts Pharr (and Pharr's ETJ). The municipal boundaries and ETJ boundaries are provided in **Appendix E**. San Juan controls the sewer Certificate of Convenience and Necessity (CCN) but Pharr controls the subdivision process. Were any large development to be proposed (i.e., San Juan Plantation), it would have to be formally planned in order for San Juan to pursue the CCN to provide sewer service. According to San Juan Planners, San Juan Plantation is not "reasonably foreseeable" as of today.

The planner from the **city of Alamo** responded to the written questionnaire by saying that no developments were known in the AOI near Alamo; there were not specific parcels pointed out as likely to develop; the planner thought that the roadway would not induce development and was unsure about how

it would affect the rate of development; and considered the project to be consistent with plans in the city of Alamo.

Several planning documents are available for the AOI. These are listed in **Table 7-7** below.

**Table 7-7: Planning Documents**

| Entity | Document Name | Publication Date and Planning Horizon |
|---|---|---|
| City of McAllen | Foresight McAllen (Future Land Use Map, Thoroughfare Plan) | 2008\2025 |
| City of Pharr | Future Land Use GIS Shape File (flu200808.shp); Pharr Into The Future Comprehensive Plan | 2008\2035; 2000\2020 |
| City of San Juan | San Juan/Pharr Updated City Limits and ETJ Map; San Juan Thoroughfare Plan | Provided by city of San Juan GIS staff (March 2013) |
| City of Mission | Future Land Use GIS Shape File (Mission_FLUM_05-03-2010) | 2008\2025 |
| Hidalgo MPO | MTP | 2010\2035 |
| Hidalgo MPO | Hidalgo County Thoroughfare Plan | 2012\NA |
| Hidalgo MPO | 2010 Census Urban Areas | 1990\2010 |

The engineers from S&B infrastructure (personal communication, Danny Garces, PE), are very familiar with the project area and offered helpful information. Engineers identified San Juan Plantation as a planned development project in the vicinity of the southeastern project terminus. Several others mentioned the plantation, but the city of Pharr indicated that there was no filed plat for the project. Parcels that would be expected to develop, according to the engineer, are those at the major intersections of FM 2061, US 281, I Road, and US 281 Military Highway. In the opinion of the engineer, the route would connect directly to the truck traffic exit from the Pharr International Bridge at the US 281 Military Highway intersection which could directly affect development in that area. The project has the potential to affect the rate of land use development. According to the engineer, local entities are aware of the project so the likelihood is good that the development is included (in local development plans and policies). The area around Pharr International Bridge and US 281 Military Highway is not currently platted for development.

The engineers from L&G infrastructure (personal communication, Anthony Garza, PE) are also very familiar with the project area and offered helpful information. With regard to land at the western end of the proposed project, the engineer stated that “vacant land along the Anzalduas Highway in Mission may become more attractive to development as a result of the increased access to other ports of entry and free trade zones. The Anzalduas Highway north-south corridor has the most existing ROW and capacity currently in place to accommodate a divided-controlled access corridor from an international bridge to the I-2/US 83.” This is the location of the proposed expansion of the BSIF at Anzalduas International Bridge.

According to the engineer, retail and residential developments are unlikely along the toll road; commercial development is most likely to occur at intersections such as US 281, SH 396, SH 336,

SH 107, and SP 115 where access is provided. If the HCRMA installs ramps in phases, that would affect where the development is or is not likely to occur.

The engineer specifically pointed out information about international bridges and waiting times for crossing trucks: "Border Safety Inspection Facility (BSIF) capacity will play a role in the distribution of truck traffic between international bridges in the future. Currently a BSIF is being constructed at the Pharr-Reynosa International Bridge. Any reduction in crossing wait times would influence the entry points for truck traffic. The construction of the SH 365 project may improve access within the area south of I-2/US 83 to the degree that a commercial truck could utilize a different bridge to reduce wait times across the border regardless of their destination. The same can be said for any proposed southbound inspection stations" (see also *The Monitor*, 2013.)

Other transportation projects would also influence future development patterns. According to the engineer, "the timelines for improvements to the I-2/US 83/US 281 interchange (TxDOT), the La Joya Bypass (TxDOT), the construction of the IBTC project (HCRMA), and the SH 68 mid valley connection (TxDOT) will also be a large factor on the location of any development."

With regard to the rate of development, the engineer stated: "The construction of the proposed SH 365 is not likely to have a direct impact on increased development. Economic conditions in Mexico and the U.S. are more likely to influence development as the existing infrastructure is not at capacity and congestion is not a major issue along existing roadways. Further in the future this may play a larger role. The specific location of any commercial development may be influenced by the SH 365 project, but only at areas where nontolled roads provide easy access to the site." Development related to the construction of SH 365 would be consistent with the plan for the city of Mission since the ETJ extends south to Anzalduas.

**Effects related to induced growth** – As discussed in detail above, land use development is expected to occur, particularly around access points between SH 365 and connecting roadways. The growth is expected by local planning experts to be limited due to the limited access nature of the proposed roadway and its primary purpose of serving regional and international goods and services transportation, providing options of the BSIFs and connections to infrastructure in Mexico. Because the location of the roadway was developed over many years of study and alternatives analysis, the current location along the existing floodway minimizes direct impacts and does not create a new barrier to existing residential communities or community cohesion. Although many people within the AOI are minority or LEP persons, impacts from induced development are not expected to be extensive (see **Section 6.3.4** of the Environmental Assessment). The community of Madero would not be directly affected, although the community is adjacent to the western terminus of the project and may be inconvenienced during construction. The community of Granjeño would experience temporary impacts during construction, but no displacements would occur in the community. The historic cemetery would be protected from development. Given that development is anticipated and planned for the numerous municipalities within the AOI, impacts from induced growth are not expected to be substantial.

Induced development would result in increased impervious cover, which would in turn have an effect on the water quality of streams and wetlands within the AOI; however, because the TCEQ regulations require developers to implement the BMPs to reduce impacts to stormwater, induced growth effects would not be potentially substantial.

Induced growth could result in the conversion of as many as 9,654 acres of undeveloped land to developed uses. This undeveloped land currently consists of vegetation and provides habitat for various wildlife species. Induced growth, therefore, could result in the removal and/or fragmentation of wildlife habitat within the AOI. Wildlife habitat in the region has been experiencing fragmentation for decades as a result of development and conversion for agricultural uses. Because of this fragmentation, it has been difficult to provide protection to large, contiguous tracts of land, and habitat conservation efforts in the LRGV have largely focused on smaller tracts that can provide for "islands" of habitat and travel corridors between them. This conservation trend is illustrated by the USFWS's LRGV NWR and the TPWD's Las Palomas WMA, both of which consist of multiple small tracts, some of which are located within the AOI. Because the proposed roadway is a controlled-access roadway, induced development within the AOI would likely be limited to areas near the roadway access points. Induced growth effects are not anticipated to be substantial because areas of growth would likely be limited, fragmentation and land conversion have been ongoing trends in the area, and habitat conservation has been a priority for the USFWS and TPWD in the region.

As previously mentioned, several listed species have been reported to occur within the AOI. Potential impacts to the state- and federally listed species would be subject to state and federal laws. State law prohibits direct harm to individuals of state-listed species. Federal laws protect federally listed species and their habitats. Individual developers would be required to comply with these laws.

Although soil types designated as prime farmland throughout the AOI could be affected by induced development, indirect impacts to actively farmed lands as a result of induced development would be limited to access points along the limited access roadway. Farming is expected to continue as a strong business in Hidalgo County regardless of whether the proposed roadway is constructed. The FPPA does not apply to land dedicated to urban use.

Indirect impacts on historic resources may occur as a result of changes to the setting, utility, or functionality of the resource, or by damage or removal of historic resources during new development projects related to induced growth effects of the project. As discussed previously, the transportation improvement alone would have only a limited effect on the rate of development. Likewise, the limitations posed by utility service within the AOI hampers such development. Development that involves federal funding or permits would be subject to review under the NHPA, and thus any impacts to historic resources would be identified, avoided, or mitigated.

Indirect impacts on archeological resources may occur as a result of residential, commercial, industrial, and public-sector development. Archeological sites are usually most dramatically and immediately affected by activities such as clearing, grading, and excavation prior to the construction or modification of structures, streets, and utilities. Indirect impacts may also occur as a result of accelerated erosion driven by drainage modifications such as channelization of existing waterways or the addition of impermeable cover. Drainage-related impacts may not be fully accounted for even within projects subject to cultural resources-compliance requirements, since the APE for an archeological field study mandated by federal or state regulations is typically restricted to the footprint of the specific project under review, or perhaps the footprint plus a minimal buffer. Any future development projects that include a public funding component would require archeological survey and—assuming full regulatory compliance—no impacts to archeological sites would occur without the required documentation and, if necessary, testing and mitigation. Indirect effects on archeological resources within the AOI would not be substantial.

### 7.2.7 Step 7: Assess Consequences and Develop Mitigation (As Appropriate)

Although approximately 9,654 acres of undeveloped land uses within the AOI could be opened up for development, particularly land around access points, development projects that fall within the planning horizons of the various municipalities through which the project traverses through 2025 or 2030 would have to comply with that city's land development code as it applies within the city limits and ETJ where applicable.

Existing regulatory processes would provide controls to avoid potential adverse impacts to threatened or endangered species. Impacts to individuals of federally listed species are subject to federal regulations under the ESA of 1973, and impacts to state-listed threatened species are subject to state law.

With regard to potential effects on water quality, regulations are in place to minimize impacts to the resource. These include the TCEQ regulations requiring preparation of the SW3Ps and use of the BMPs, in addition to city drainage/water quality requirements. The USACE Section 404 provisions of the CWA govern activities that would affect waters of the U.S. and wetlands, regardless of who proposes the development activity. Individual developers would be responsible for complying with these regulations.

Projects involving public funding would be evaluated in accordance with the NHPA, and NRHP-eligible historic resources would be protected and mitigated if necessary. Archeological resources on private land would not have regulatory protection. Any future development projects that include a public funding component would require archeological survey, and—assuming full regulatory compliance—no impacts to archeological sites would occur without the required documentation and, if necessary, testing and mitigation.

The indirect effects that have been described in this section do not conflict with study area goals, are not expected to worsen the condition of a sensitive or vulnerable notable feature, would not delay or interfere with planned improvement of a notable feature, would not eliminate a valued or unique notable feature,

and are not inconsistent with applicable laws. Therefore, no additional mitigation is proposed for the anticipated indirect effects to land use.

# 8.0 CUMULATIVE EFFECTS

Cumulative effects are defined as effects "on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (NEPA, Section 1508.7, 1978)

## 8.1 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE NO-BUILD ALTERNATIVE

The No-Build Alternative would not result in cumulative impacts.

## 8.2 ENVIRONMENTAL CONSEQUENCES OF IMPLEMENTING THE BUILD ALTERNATIVE

In accordance with TxDOT's 2010 Guidance, the analysis of cumulative effects addresses the following: (1) identification of resources; (2) definition of the study area for each resource; (3) description of the current health and historical context of each resource; (4) identification of direct and indirect impacts that may contribute to cumulative impacts; (5) identification of other reasonably foreseeable future actions that may affect resources; (6) assessment of potential cumulative impacts to each resource; (7) presentation of the results of the analysis; and (8) discussion of mitigation issues for adverse impacts. The cumulative effects analysis for the proposed project follows the eight-step process recommended above.

### 8.2.1 Step 1: Identification of Resources

According to TxDOT guidance, if a project does not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource. This analysis focuses on resources that are affected by the proposed project or are considered to be at risk of declining. **Table 8-1** describes direct and indirect effects for each resource category and provides a determination of whether the topic will be included in the cumulative effects analysis. The four resources to be evaluated in the Cumulative Effects Analysis include:

- Land Use and Community Character – There are direct impacts to land use anticipated. Although indirect adverse impacts on land use and community character are not anticipated to be substantial, and the resource is generally not viewed as being in poor/declining health or at risk, there remains the possibility for cumulative impacts to occur as a result of development induced by the project; therefore, an analysis of cumulative effects on land use is warranted.

**Table 8-1: Determination of Resources Included in the Cumulative Effects Analysis**

| Resource | Direct Effects | Indirect Effects | Topic Included in Cumulative Effects Analysis? | Reason Eliminated from Cumulative Effects Analysis |
|---|---|---|---|---|
| Land use and community character | Approximately 725.59 acres of ROW would be required. Driveway access would be realigned on an as-needed basis. Relocation of approximately 13,063 linear feet of USIBWC levees at 4 locations would be required. 10 displacements would be required, including 4 residences, 1 church, 1 booster station, 1 oil/gas well, and 3 buildings at commercial properties. No impacts to community cohesion. Improved safety. Improved travel time for school buses and emergency vehicles. Access to adjacent residences and businesses would not be inhibited. Noise impacts would occur at 6 modeled receiver locations; however, noise barriers would not be feasible or reasonable. | Approximately 9,654 acres of land are available for development within the AOI. Census data indicate that many of the residential communities are minority or limited-English proficiency. However, development is most likely to occur around access points and according to interviews with planners, development would be commercial or industrial. | Yes | N/A |
| Farmland | Approximately 403 acres of farmland would be converted to transportation use. Some prime farmland soils would be impacted. | Much of the project area is committed to urban use per census urbanized areas information; some of the undeveloped land is currently used as farmland. Farming is a strong industry in Hidalgo County, and it is expected to continue despite construction of the roadway. Ample farmland would remain in Hidalgo County after construction of the project. | No | Although some direct impact to farmland could occur and although there are prime farmland soils in the AOI, induced development is expected to be limited to access points. |
| Water Resources | Several waters of the U.S. and wetlands occur within the project area; direct impacts will be determined after detailed design information becomes available. | Increased runoff from addition of impervious cover may contribute to water quality degradation of creeks within the AOI; TCEQ SW3P and BMP requirements and USACE Section 404 regulations would minimize impacts. | Yes | N/A |
| Vegetation and Wildlife Habitat | Approximately 572.88 acres of various types of vegetation would be converted to transportation use. | As much as 9,654 acres of undeveloped land within the AOI are available for development; however, a limited amount of induced development impacting wildlife habitat would be anticipated due to limited access provided by the new roadway. | Yes | N/A |
| Threatened and | None | None | No | No direct or indirect effects; numerous wildlife refuges exist |

| Resource | Direct Effects | Indirect Effects | Topic Included in Cumulative Effects Analysis? | Reason Eliminated from Cumulative Effects Analysis |
|---|---|---|---|---|
| Endangered Species | | | | within the AOI where development is disallowed and habitat would be preserved. |
| Hazardous Materials | Asbestos issues and relocation of pipelines and oil/gas wells would be addressed prior to construction. There is potential for encountering contaminated railroad bed ballast within railroad ROW. Further investigation is recommended at salvage yards and landfills to determine if contamination could be encountered. | Indirect impacts would result in removal or remediation of hazardous materials sites should development occur in the AOI. | No | Impacts to hazardous materials sites would result in resolution or remediation; impacts are considered positive and therefore hazardous materials are not carried forward to cumulative effects analysis. |
| Air Quality | None | None | No | No direct or indirect effects anticipated. |
| Historic Properties | A total of 281 historic-age resources on 47 properties are located in the historic resources APE. The first addendum to the survey report was cleared by TxDOT ENV and the THC in February 2014 with determination of "no adverse effect" to historic properties. The second addendum to the survey report was cleared by the TxDOT ENV and the THC in September 2014 with a determination of "no effect" to historic properties.<br><br>Build Alternative would directly impact 37 (and 13,338 linear feet) of the 93 components (recorded within the APE) of the NRHP-listed Louisiana-Rio Grande Canal Company Irrigation District currently under the purview of HCID #2. TxDOT ENV and the THC concurred that impacts to the resource would be considered *de minimis* under Section 4(f). One additional component (not within the ROW) of the NRHP-listed district was recorded during the 2014 survey. The TxDOT ENV and the THC concurred that the proposed project would have "no effect" to the historic property. | Within the historic resources APE (1,300 feet around ROW), records review identified approximately 14 cemeteries, 8 RTHLs, 4 NRHP-listed resources/districts, and 4 SALS within the larger AOI. These resources may or may not be subject to indirect impacts as a result of development prompted by construction of the proposed project.<br><br>The Build Alternative would visually impact the NRHP-listed La Lomita District and ruins of Saint Peter's Novitiate (Resource 13A) through construction of an overpass. Though, due to loss of integrity, TxDOT and THC concurred that the proposed project would have "no adverse effect" to the property. | Yes | N/A |
| Archeology | Nine archeological sites are within the proposed ROW. While none of these sites is currently listed in the NRHP, seven sites are eligible for inclusion to the NRHP under Criterion D, and eligible for nomination | 35 recorded archeological sites are within the AOI that may or may not be subject to indirect impacts. | No | Because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in- |

| Resource | Direct Effects | Indirect Effects | Topic Included in Cumulative Effects Analysis? | Reason Eliminated from Cumulative Effects Analysis |
|---|---|---|---|---|
| | as a SAL | | | kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by the site's boundaries within the APE, in accordance with Section 106 regulations, and in consultation with the THC. The APE for archeological resources in the indirect impacts analysis did not reveal NRHP-listed sites. Due to the limited development potential along the limited access roadway, archeological resources are not carried forward. |

- Water Resources – Direct and indirect effects on water resources as a result of the proposed project would not be substantial (several bridges are planned to reduce direct impacts); however, this resource is generally considered to be in poor/declining health. An analysis of cumulative effects on water resources will be performed.
- Vegetation and Wildlife Habitat – Some indirect effects would likely occur as induced development results in the clearing of undeveloped, vegetated land. An analysis of cumulative effects on vegetation and wildlife habitat is included.
- Historic Resources – Because there are numerous historic resources within the APE, and because two NRHP-listed districts occur within the APE (Louisiana-Rio Grande Canal Company Irrigation System and The La Lomita Ranch Historic District), historic resources will be carried forward to cumulative impacts analysis.

### 8.2.2 Step 2: Definition of Study Area for Each Resource

The Resource Study Area (RSA) for each resource was chosen based on the direct effects and on the indirect effects stemming from changes in land use occurring around the proposed project as well as other known projects that could contribute to cumulative effects. The RSAs were reviewed from both geographical and temporal perspectives.

This analysis uses a past temporal boundary of 1994 when NAFTA was passed, opening up the international border for increased trade. The future temporal boundary is 2035, which coincides with the planning horizon for the Hidalgo County MPO's MTP.

The geographic area reviewed for each resource's RSA is summarized in **Table 8-2**.

**Table 8-2: RSA for Each Resource Considered in the Cumulative Effects Analysis**

| Resource | RSA |
|---|---|
| Land use and community character | Land use/communities within the AOI |
| Water resources | Watersheds crossed by the project AOI |
| Vegetation and wildlife habitat | Extent of Lower Rio Grande Valley National Wildlife Refuge area |
| Historic resources | NRHP Districts within the AOI |

The geographic RSA considered for land use and community character encapsulates the AOI described for the indirect effects analysis, including the various communities within the AOI (see **Figure 7-1**). This RSA was chosen because land use changes would likely be related to limited induced development at access points in conjunction with the proposed project. Other roadways would better serve development outside the RSA. To the south, the RSA is bounded by the Rio Grande and the international border between Texas and Mexico.

The geographic RSA for water resources includes the Llano Grande Lake-Arroyo Colorado, Outlet Rio Grande, and Upper Pilot Channel-Laguna Madre watersheds (**Figure 8-1**). These are the watersheds that would be most affected by any development within the AOI for indirect effects.

The geographic RSA for vegetation and wildlife habitat includes the outer extent of the LRGV NWR units (**Figure 8-2**). This boundary represents the area the USFWS has recognized as containing habitat for local wildlife, including rare and listed species, which has been prioritized for conservation. Because several LRGV NWR units are located within close proximity to the project, vegetation and wildlife habitat within this area is most likely to be affected.

The geographic RSA for historic resources coincides with the AOI because it encompasses a sizable portion of the Louisiana-Rio Grande Canal Company Irrigation System NRHP District and also includes the La Lomita NRHP District (see **Figure 7-1**).

### 8.2.3 Step 3: Description of Current Health and Historical Context of Resources

**Land Use and Community Character** – As previously described in the Indirect Impacts analysis, there are numerous municipalities that fall within the RSA. Their city limits and ETJs fall to some extent within the RSA. In addition to several large municipalities, the RSA is primarily comprised of minority populations, and the EJ communities of concern such as the Madero Community and the small land-locked community of Granjeño. Land use has gradually changed over time from primarily agricultural uses to increasing levels of land use development to support international trade. Land use and community character are considered to be stable, given municipal land development regulations in place in municipalities in the RSA, and the economic health of the resource is on a stable trend.

**Water Resources** – The flowpath from watercourses in the area covered by the RSA is generally to the south and east, draining toward the Rio Grande and the Gulf of Mexico. The portion of the Arroyo Colorado within the AOI (Water Quality Segment 2202, Arroyo Colorado Above Tidal) is listed on the 2012 Section 303(d) list as impaired due to high bacterial levels and the presence of mercury and PCBs in edible fish tissue. The Rio Grande (Segment 2302, Rio Grande Below Falcon Reservoir) is listed as impaired due to elevated bacterial levels. The health of water resources within the RSA is considered stable, with slight declines in water quality due to pollutants in runoff issuing from roads and developments in the area.

**Vegetation and Wildlife Habitat** – Vegetation types found within the RSA are locally abundant and are also found throughout the South Texas Plains Ecological Region in areas outside of the RSA boundary-Hidalgo County. Wildlife habitat within the RSA has been experiencing fragmentation for decades as a result of development and conversion for agricultural uses. Habitat conservation efforts in the LRGV have adapted to this by focusing on the preservation of small habitat patches, as illustrated by the USFWS' LRGV NWR and the TPWD's Las Palomas WMA. Although large, contiguous habitat patches

are ideal, fragmented habitat can still provide travel corridors and serve as smaller patches for animal foraging and use. The RSA is located at the convergence of the Central and Mississippi Flyways and thus boasts more than 500 species of migratory bird species. The WBC, including three locations within the RSA, along with the USFWS NWR tracts and the TPWD's Las Palomas WMA, provide ecotourism opportunities and information to the public about migratory birds in the region.

**Historic Resources** – In the RSA, the La Lomita Historic District was NRHP listed in 1975. The district is self-contained and therefore considered to have a low potential for development pressure. The Louisiana-Rio Grande Canal Company Irrigation System Irrigation District was listed in the NRHP in 1995. It is very extensive, covering approximately 31,350 acres. Against the backdrop of the district, and given the typical requirements for coordinating with those staff persons who are responsible for its protection, it appears that development projects can take place within the Irrigation District as long as they do not directly impact the functioning of the canal. When prepared properly, studies for development projects within the district can result in a no adverse effects determination under Section 106 of the NHPA and a *de minimis* determination under Section 4(f) of the Department of Transportation Act. The resource is considered to be stable given that the NRHP District already exists and provides a mechanism for coordination regarding development proposals.

### 8.2.4 Step 4: Identification of Direct and Indirect Impacts That May Contribute to Cumulative Impacts

Direct and indirect impacts were discussed in detail in previous sections. Direct and indirect impacts that may contribute to cumulative impacts are summarized by resource in **Table 8-1**.

### 8.2.5 Step 5: Other Past, Present, and Reasonably Foreseeable Future Actions

**Table 8-3** lists past, present, and reasonably foreseeable future actions identified in the vicinity of the project. Most projects are listed on the STIP website for the Pharr District and Hidalgo County. These projects are shown on **Figure 7-2**. In addition, the proposed racetrack is included given that it is expected to move forward upon the passage of favorable legislation for gambling in Texas. The HCRMA's IBTC project is reasonably foreseeable; a separate environmental document is underway for that project and indirect and cumulative impacts are being assessed within that document. All of these projects are consistent with the overall goals of the municipalities, Hidalgo County, and the HCRMA to create adequate transportation infrastructure to support the county's growing international economy.

### 8.2.6 Step 6: Assessment of Potential Cumulative Impacts

**Land Use and Community Character** – The proposed roadway is expected to carry primarily truck traffic and to support goods and services trade through infrastructure development. Other reasonably foreseeable projects are primarily roadway improvements to similarly support the increasing development

of international goods and services distribution. The proposed racetrack, if developed, would be a periodic attraction but would not necessarily stimulate other land use development nearby. Because development of transportation infrastructure is consistent with local area plans and policies (as previously discussed, and shown on figures depicting the anticipated land use development), and because where development would occur within city limits or ETJs those land development codes would apply, impacts to land use and community character are not expected to be significant.

**Table 8-3: Past, Present, and Reasonably Foreseeable Future Actions**

| Project Location | Description | Type of Action | Map ID |
|---|---|---|---|
| Transportation Projects | | | |
| Mission | Anzalduas International Bridge Port of Entry: construction of U.S. Border Facility (CSJ 0921-02-303); construction of additional northbound passenger lanes (CSJ 0921-02-921) | Future | 1 |
| | Construction of overpass/underpass on US 83 at FM 396 (CSJ 0039-17-167) | Past | 11 |
| | Rebuild roadway on McColl, Orangewood to Dicker Road (CSJ 0921-02-171) | Future | 2 |
| | Intersection improvements to FM 494 from Sunset Lane to Colorado Street, includes signal re-timing and addition of lanes at US 83 (CSJ 0864-01-065) | Future | Various locations |
| Hidalgo | Construction of bicycle/pedestrian path on US 281 and SH 336 from the City of Hidalgo east to the Santa Ana NWR and north to McAllen (CSJ 0921-02-282) | Future | 3 |
| Pharr | Addition of roadway lanes at Pharr-Reynosa International Bridge (CSJ 0921-02-289) | Future | 5 |
| | International Bridge Trade Corridor Overpass: widening of US 281 from 0.45 miles east of Spur 600 to FM 2557/Stewart Road, with an overpass at San Juan Road (CSJ 0220-01-023) | Future | 6 |
| | Construction of U.S. Border Facility at US 281 (CSJ 0921-02-173) | Past | 7 |
| | Addition of center turn lanes on Sam Houston, US 281 at "I" Road (0921-02-256) | Present | 9 |
| Unincorporated Area | Widening of Pharr-Reynosa International Bridge (0921-02-193) | Future | 4 |
| | Widen and rehabilitate US 281 from FM 907 to FM 493 (0220-01-029) | Past | 8 |
| HCRMA Projects | | | |
| Hidalgo County | International Bridge Trade Corridor | Future | 12 |
| Development Projects | | | |
| | Racetrack | Future | 10 |

Source: TxDOT (2012a, 2012b)

**Water Resources** – Several waters of the U.S. and wetlands occur within the project area. Some direct impacts would be anticipated to occur as a result of the project. Increased impervious cover from the construction of the proposed roadway, in conjunction with possible induced development in the RSA,

could result in some reduction in water quality over time in area watercourses. Impervious cover channels pollutants more directly into creeks without the water purification benefit provided by infiltration and overland flow across vegetated areas. The TCEQ regulations and BMP requirements would help ensure that stormwater runoff associated with development is slowed down and/or treated to greatly reduce adverse impacts to water quality in study area features; therefore, substantial adverse cumulative effects would not occur.

**Vegetation and Wildlife Habitat** – Approximately 573 acres of vegetation would be removed for construction of the proposed project. Vegetation that provides habitat for various wildlife species could also be removed as a result of induced development of formerly undeveloped, vegetated areas within the RSA. Although as much as 9,654 acres of undeveloped land within the AOI are available for development, a limited amount of induced development impacting wildlife habitat would be anticipated due to limited access provided by the new roadway. The vegetation types in the project area are found in large quantities throughout Hidalgo County and surrounding counties; therefore, the cumulative loss of vegetation/habitat associated with possible indirect effects is not considered substantial.

**Historic Resources** – Irrigation districts typically encompass thousands of acres of land; however, the irrigation system often consists of the pumphouse, associated small buildings or features, and the linear features including the canals, laterals, and irrigation ditches. It is the irrigation systems that are often nominated to the NRHP, not the irrigated fields associated with them. Because irrigation systems cover many miles with the laterals, ditches, and canals, most projects would either have No Effect or No Adverse Effect since typically the proposed project would only involve such a small portion of the listed district. No Adverse Effect determinations for Section 106 usually also involve Section 4(f) *De Minimis* recommendations if the project is remaining within existing ROW or improvements would be within existing feature-crossing footprints. Therefore, a *de minimis* determination is often recommended for the contributing linear features crossed by new road construction to ensure the proposed work would not render the canals ineligible NRHP listing. With large-scale development occurring throughout the Rio Grande Valley in South Texas, most linear irrigation features have modern construction near them with no effect. Where eligible or contributing linear features to an irrigation district would have new construction nearby, either a no effect recommendation or a no adverse effect recommendation followed by a *de minimis* recommendation would be made, with reference to other similar construction occurring at other similar linear features either in the existing district or in other listed districts. Cumulative impacts would likely be minimal as the land use around the irrigation districts has been continually changing.

In February 2014, TxDOT ENV and the THC concurred that the proposed project would not adversely affect the NRHP-listed Louisiana-Rio Grande Canal Company Irrigation District (San Juan HCID #2), and TxDOT ENV recommended a *de minimis* impact finding. The no adverse effect determination was based on the fact that the irrigation system's function will not be impaired by the project nor would construction activities diminish the resource's integrity of location, design, setting, materials, workmanship, feeling, or association. An additional resource of the NRHP-listed district was recorded

during the 2014 survey. In September 2014 TxDOT ENV and the THC concurred that the proposed project would have no effect on this component of the district as only the parcel that it is located on extends into the ROW and not the component itself. Additionally, TxDOT ENV also asserted that the proposed undertaking would have no reasonably foreseeable adverse effects that may occur later in time, be farther removed in distance, or be cumulative. Any growth pressures that may or may not exist near the property are already in place, and the replacement or moving of resources would not increase the likelihood that the property's integrity will be diminished. Furthermore, the proposed project would not adversely impact the property's ability to convey its historical significance or impair its current function. As a result, the proposed project would not pose indirect or cumulative adverse effects to the historic property. The THC concurred with this assessment in February 2014 and in September 2014.

### 8.2.7 Step 7: Results of Analysis

As described in Step 6, the results of this cumulative effects analysis led to the conclusion that potential cumulative effects to land use and community character, water resources, vegetation/wildlife habitat, and historic resources would not result in significant cumulative effects particularly given regulatory protection mechanisms that are currently in place.

### 8.2.8 Step 8: Discussion of Regulatory Issues and Mitigation

Particular regulatory protection mechanisms were discussed in Step 6 with respect to the resources carried forward to this cumulative effects analysis. Specifically, city zoning ordinances apply to all lands within city limits as well as the city's ETJ. Other regulations that would govern land use development in the area include the USACE Section 404 regulations, SW3P requirements, and ESA protections, which are applicable to any proposed development that would take place in the RSAs. Water quality protection is provided by the CWA. Section 404 of the CWA provides protection for waters of the U.S. and wetlands, by means of a permitting process overseen by the regulatory branch of the USACE. Section 401 of the CWA requires water quality certification for projects requiring Section 404 permits. Certification requirements are met by means of implementing the BMPs such as erosion controls, sediment controls, and post-construction total suspended solids controls. Section 402 of the CWA further protects water quality through the TCEQ's TPDES program, which requires preparation and implementation of an SW3P.

The NHPA of 1966 was established to help preserve our cultural heritage. From the NHPA, several other preservation laws were created including the NRHP, which is maintained by the National Park Service and is a registry of culturally and historically significant resources and Section 106, where agencies consider the effects of their plans and projects on places including resources listed in the NRHP. The DOT Act and its conservative Section 4(f) was created at the same time as the NHPA. Section 4(f) applies to DOT actions only. Section 4(f) comes into being for DOT projects if a resource is eligible for listing or listed in the NRHP, is a publicly owned park, recreation area, refuge, or wetland and there is no feasible

or prudent alternative, all possible planning to minimize harm has been evaluated or the FHWA finds that the project has a *de minimis* impact on a Section 4(f) resource. In Texas, the Texas Antiquities Code protects archeological sites and historic buildings on public land. The code, established in 1969, requires state agencies and political subdivisions of the state to notify the THC of ground-disturbing activity on public land. The law also established the SAL where a resource may be designated and protected if it is already listed in the NRHP.

With these protections in place, cumulative effects of past, present, and reasonably foreseeable projects including the proposed improvements would not be significant.

# 9.0 SUMMARY OF PERMITS AND COMMITMENTS

All permits and commitments made by the HCRMA and any additional agency coordination requirements would be included in the EPIC sheet as part of the final construction plans. A summary of these permits and commitments are provided below.

## 9.1 WATER QUALITY

Proposed permanent impacts to waters of the U.S. would be permitted according to NWP #14, Linear Transportation Projects. Each crossing is a single and complete project as defined in 33 CFR 330.2(c)(i). The permanent fill into waters of the U.S. would be more than 0.10 of an acre and a pre-construction notification to the USACE would be required. Permanent fill impacts greater than 0.50 acre would require an Individual Permit from the USACE.

The proposed project would disturb more than 5 acres of land; therefore, the HCRMA is required to comply with the TPDES *General Permit for Construction Storm Water Discharges*. An SW3P would be in place prior to the start of construction and would be maintained until the site is stabilized. An NOI stating that an SW3P has been developed would be filed with TCEQ prior to starting construction.

The proposed Build Alternative includes a drainage system that would be regulated under the MS4 permit held by TxDOT. The MS4 program regulates stormwater discharges to local waterbodies to protect receiving streams. The city of McAllen operates the MS4 within the city boundaries. The HCRMA would provide an NOI for the change to the MS4 permit to the city of McAllen and coordination would occur as necessary.

Measures would be taken to prevent and correct erosion that may develop during construction. Temporary erosion controls would be in compliance with TxDOT Standard Specifications and would be in place, according to the construction plans, prior to commencement of construction. They would be inspected on a regular basis to ensure maximum effectiveness.

Temporary and permanent water pollution control measures are discussed below.

### 9.1.1 Temporary Water Pollution Control Measures

Water quality impacts would be minimized during construction of the proposed project through the implementation of an SW3P. These plans would include structural controls and practices that would be followed throughout the construction of the project to minimize water impacts. Guidance documents, such as TxDOT's *Storm Water Management Guidelines for Construction Activities*, provide a detailed discussion of construction BMPs and additional information on implementation of temporary stormwater controls. The controls would include the following:

- Minimize the extent and the duration of disturbed areas. Plan the phases of construction to minimize exposure and use vegetation to stabilize disturbed areas as practicable.
- Apply erosion control practices to minimize the loss of sediment and keep the soil covered and in place as much as possible using temporary or permanent vegetation, erosion control blankets, or various mulch materials. Other practices include diversion structures to channel surface runoff from exposed soils and the use of slope drains where grades may be prone to erosion.
- Apply perimeter controls to minimize the discharge of sediment laden stormwater. This objective relates to using practices that effectively remove sediment from the runoff water and prevent its transport from the site. These controls include silt fences, diversion structures, swales, dikes, sediment traps, rock berms, and vegetative filters.
- Stabilize disturbed areas as quickly as possible after final grade has been attained. Permanent structures, temporary or permanent vegetation, mulch, stabilizing emulsions, or a combination of these measures should be employed as quickly as possible after the land is disturbed.

### 9.1.2 Permanent Water Pollution Control Measures

Examples of storm water pollution mitigation measures include detention ponds, wet ponds, sand filters, vegetative filter strips, and grassed swales. The primary mechanisms making these measures effective in removing pollutants from storm water are detention and filtration. The selection, design, and effectiveness of these measures are highly site dependent, but all have been shown to be effective in treating highway runoff. The type and location of appropriate permanent water pollution control measures would be determined during the final design of the proposed project. These measures would be designed for site-specific conditions.

## 9.2 VEGETATION

Efforts would be taken to avoid and minimize disturbance of vegetation and soils during construction. All disturbed areas would be revegetated, according to TxDOT specifications, after construction is complete. In accordance with *EO 133112 on Invasive Species, the Executive Memorandum on Beneficial Landscaping*, and the 1999 FHWA Guidance on Invasive Species, only noninvasive species would be planted within the ROW.

## 9.3 MIGRATORY BIRDS

In the event that migratory birds are encountered during project construction, every effort would be made to avoid harm of protected birds, active nests, eggs, and/or young. The contractor would remove all old migratory bird nests between September 1 and January 31 from any structure where work would be done. In addition, the contractor would be prepared to prevent migratory birds from building nests between February 1 and August 31. All methods would be approved by the HCRMA and TxDOT in advance of planned use.

## 9.4 TPWD COMMITMENTS

The following BMPs are to be implemented as specified under the BMP Programmatic Agreement with the TPWD. The BMPs will be updated as necessary upon completion of coordination with the TPWD.

Bird BMPs

- Not disturbing, destroying, or removing active nests, including ground nesting birds, during the nesting season
- Avoiding the removal of unoccupied, inactive nests, as practicable
- Preventing the establishment of active nests during the nesting season on HCRMA owned and operated facilities and structures proposed for replacement or repair
- Not collecting, capturing, relocating, or transporting birds, eggs, young, or active nests without a permit

Tree Bat BMPs

- Avoid unnecessary removal of dead fronds on native and ornamental palm trees
- Large hollow trees should be surveyed for maternity colonies and, if found, should not be disturbed until after the pups fledge

Vegetation BMPs

- Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided to the greatest extent possible. Wherever practicable, impacted vegetation should be replaced with in-kind on-site 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 dbh that are removed be replaced. The TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to the extent practicable 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 trees.
- When trees are planted, a maintenance plan that ensures at least an 85 percent survival rate after 3 years should be developed for the replacement trees.
- The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted species should be used.

- The use of seed mix that contains sees from only locally adapted native species is recommended.
- Avoid vegetation clearing activities during the general bird nesting season, March through August, to minimize adverse impacts to birds.

Water Quality BMPs

- Once construction is complete and disturbed areas have been revegetated, remove silt fence and accumulated sediment to reduce wildlife barriers and hazards.
- 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 crossing.
- Wet-bottomed detention ponds are recommended to benefit wildlife and downstream water quality. Consider potential wildlife-vehicle interactions when sitting detention ponds.
- Rubbish found near bridges on HCRMA ROW should be removed and disposed of properly to minimize the risk of pollution. Rubbish does not include brush piles or snags.

Invasive BMPs

- For all work in waters listed in the distribution of Zebra mussels[32] as well as those waters in specified in 31 TAC § 57.972 and any TPWD emergency orders regarding prevention of the spread of Zebra mussels, all machinery, equipment, or vehicles coming in contact with such waters should follow clean/drain/dry protocols to prevent the potential spread of invasive Zebra mussels.
- Care should be taken to avoid the spread of aquatic invasive plants (such as Giant Salvinia, Hydrilla, Hyacinth, Watermilfoil, Water Lettuce, and Alligatorweed) from infested waterbodies into areas not currently infested. All machinery/equipment/vehicles coming in contact with waters containing aquatic invasive plant species should follow clean/drain/dry protocols to prevent the potential spread of invasive plants.
- Colonization by invasive plants should be actively prevented on disturbed sites in terrestrial habitats. Vegetation management should include removing invasive species as soon as practical while allowing the existing native plants to revegetate the disturbed areas. If using hay bales for sediment control, use locally grown weed-free hay to prevent the spread of invasive species. Leave the hay bales in place and allow them to break down, as this acts as mulch assisting revegetation.

Stream Crossings

- Use spanning bridges rather than culverts where feasible.

[32] http://texasinvasives.org/

- If using a culvert, staggered culverts that concentrate low flows but provide conveyance of higher flows through staggered culverts placed at higher elevations is recommended.
- Bottomless culverts are recommended to allow for fish and other aquatic wildlife passage in the low flow channel. If bottomless culverts are not feasible, making a low flow channel for fish passage is recommended.
- Avoid placing riprap across stream channels and instead use alternative stabilization such as biotechnical stream bank stabilization methods including live native vegetation or a combination of vegetation and structural materials. When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of aquatic and terrestrial wildlife underneath the bridge. In some instances, rip rap may be buried, back-filled with topsoil, and planted with native vegetation.
- Incorporate bat-friendly design into bridges and culverts.
- Design bridges for adequate vertical and horizontal clearances under the roadway to allow for terrestrial wildlife to safely pass under the road.
- A span wide enough to cross the stream and allow for dry ground and a natural surface path under the roadway is encouraged. For culverts, incorporation of an artificial ledge inside the culvert on one or both sides for use by terrestrial wildlife is recommended.
- Riparian buffer zones should remain undisturbed where possible.

Reptile BMPs

- Due to increased activity (mating) of reptiles during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (April-May) season. Also, timing ground disturbing activities before October when reptiles become less active and may be using burrows in the project areas 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 are present in a project area they should be removed from the area. After removal of the tortoises, the area that would be disturbed during active construction and project specific locations should be fenced off to exclude 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.

Reticulate Collared Lizard (*Crotaphytus reticulates*)

- Contractors would be advised of potential occurrence in the project are, and not to avoid harming the species if encountered.

Texas Horned Lizard (*Phrynosoma cornutum*)

- Contractors would be advised of potential occurrence in the project area and not to avoid harming the species if encountered. This should include avoiding harvester ant mounds in the selection of the Project Specific Locations (PSLs) where feasible.

Texas Indigo Snake (*Drymarchon melanurus erebennus*)

- Contractors would be advised of potential occurrence in the project area and not to avoid harming the species if encountered.

Texas Tortoise (*Gopherus berlandieri*)

- Contractors would be advised of potential occurrence in the project area and not to avoid harming the species if encountered.
- Utility trenches should be covered overnight to prevent tortoises from being trapped.
- Utility trenches should be visually inspected before filling to avoid burial of the species.

## 9.5 USIBWC COMMITMENTS

The proposed project traverses the USIBWC floodway; therefore, coordination between the HCRMA and USIBWC is required. In addition, the demolition and relocation of approximately 13,063 linear feet of levees at four locations along the USIBWC floodway is proposed as part of the roadway project, which requires the USIBWC's review and approval of the HCRMA's hydraulic impact statement. The new levee alignment will be modeled to not impede the 100-year floodplain. An USIBWC Construction License and their approval of the hydraulic impact statement would be obtained prior to construction. All construction within the USIBWC ROW would be completed in accordance with all applicable USIBWC guidelines and policies.

## 9.6 AIR QUALITY – CONSTRUCTION EMISSIONS

During construction, potential impacts of particulate matter emissions will be minimized by using fugitive dust control measures such as covering or treating disturbed areas with dust suppression techniques, sprinkling, covering loaded trucks, and other dust abatement controls, as appropriate. Since the primary MSAT construction-related emissions are particulate matter from site preparation and diesel particulate matter from diesel-powered construction equipment and vehicles, the HCRMA will encourage construction contractors to utilize the TERP program to minimize diesel emissions.

## 9.7 NOISE

For noise associated with the construction of the project, the HCRMA will include provisions in the plans and specifications requiring the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and proper maintenance of muffler systems.

## 9.8 HAZARDOUS MATERIALS

Sites that were identified in the Hazardous Materials Initial Site Assessment Report (Atkins, 2014a) were assessed based upon their potential to encounter hazardous materials, which included no, low, medium, and high risk. Prior to construction, additional investigations and testing and/or Phase II environmental assessments would be conducted on sites identified in the risk assessment as being either a medium or high risk to the project. Each assessment would be site specific based on the risk identified and the type of work occurring at the site, including the excavation depth. Based upon the results of each site assessment, clean-up would occur including the proper handling and disposal of any regulated wastes, if necessary. Additionally, the HCRMA will adhere to the following:

- Any unanticipated contaminated media (petroleum residual contaminated material or hazardous materials) or regulated solid waste encountered during construction would be managed in accordance with applicable federal, state, and local regulations. Hazardous materials requiring special handling would be removed only by certified abatement contractors having documentation of prior acceptable abatement work.
- Universal precautions would be taken during construction and the contractor must take appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area.
- The use of construction equipment within sensitive areas would be minimized or eliminated entirely.
- All construction materials used for this project would be removed as soon as work schedules permit.
- Asbestos and lead based paint investigations studies would be conducted where buildings or structures would be acquired and demolished. Asbestos inspections, specification, notification, license, accreditation, abatement and disposal, as applicable, would comply with federal and state regulations.
- Coordination with the pipeline and oil and gas companies regarding natural gas and propane pipelines and oil and gas wells that may require relocation. All pipeline and well adjustments and relocations would be completed prior to construction.
- Coordination with UPRR if contaminated railroad bed ballast and/or underlying contaminated soil is encountered during construction activities within the railroad ROW.

## 9.9 HISTORIC RESOURCES

Pursuant to Stipulation VI "Undertakings with Potential to Cause Effects" of the PA-TU and the MOU, TxDOT and the THC concurred that the project will not adversely affect any historic (NRHP-listed or -eligible) properties and that impacts to the NRHP-listed HCID #2 can be coordinated using the *de minimis* guidelines under Section 4(f) as of the first addendum to the survey report.

## 9.10 ARCHEOLOGICAL RESOURCES

A total of seven sites within the proposed ROW (41HG249–41HG255) are recommended eligible for inclusion to the NRHP under Criterion D, and eligible for nomination as a SAL. Avoidance of these eligible sites was recommended (Burden and Frederick, 2014); however, because avoidance is not feasible, it is recommended that adverse effects to the site be mitigated by depositing at least 2 meters of in-kind sterile fill dirt (i.e., clay over clay, loam over loam, sand over sand) over the area encompassed by the sites' boundaries within the APE. These eligibility determinations and mitigation alternatives have been concurred upon through September 23, 2014 consultation, between TxDOT and the THC (see Appendix C). A mitigation plan (Galindo, 2015) for the intentional burial of these seven sites was developed based on consultations with TxDOT and THC on November 12, 2014, and February 10, 2015. Concurrence with the findings and recommendations of the mitigation plan were concurred upon by the THC on February 26, 2015 (see Appendix C). The HCRMA will comply with the mitigation plan by adhering to the following:

- Acquisition of an Antiquities Permit and production of a report in conformance with the Council of Texas Archeologists and THC standards for the archeological monitoring.
- Archeological monitoring of the construction process associated with the intentional burial of each site will consist of a qualified archeologist observing:
  - the hand removal of vegetation,
  - the installation of a chemically inert filter fabric,
  - the installation of a geogrid, and
  - the deposition of in-kind fill by lightweight, tracked vehicles in such a manner as to minimize damage to the sites from grinding or compression.

## 9.11 FAA COORDINATION

Due to the proximity of the proposed project to the McAllen-Miller International Airport and since temporary obstructions would occur during construction, coordination with the FAA is required. In accordance with 14 CFR Part 77, the HCRMA would submit Form 7460-1, Notice of Proposed Construction or Alteration to notify the FAA of construction activities at least 45 days prior to the start of construction or alteration. Coordination would be completed prior to construction of the proposed project.

# 10.0 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

## 10.1 PRIOR PUBLIC INVOLVEMENT

As detailed in **Section 2.2** (2000 HCMPO Hidalgo County Loop Studies), during 2002 and 2003, 10 public workshops/meetings were held for the 2003 Hidalgo County Loop Alternatives Analysis. The public workshop were conducted to introduce project concept, the project development process, present the preliminary corridor and routes, present the alternatives analysis, solicit public comments, obtain comments on the alternatives, and to present the results of public outreach activities. Additionally, a total of seven stakeholder meetings were held to obtain input from agencies.

As referenced in **Section 2.3** (2007 HCRMA Planning Studies), during the 2007 Hidalgo Loop planning studies, two series of open house/public meetings were held in May and August 2008 for Hidalgo Loop – Section A. The meetings were announced in an official Notice to the Public published in English in the *McAllen Monitor* and in Spanish in *El Nuevo Heraldo*. Letters announcing the public meeting were also distributed to residents in the study area. Maps and handouts pertaining to the alternatives under consideration were presented at the public meetings. The public meeting for each study corridor was held in the relevant study area. The section meetings pertaining to the proposed project were held at the Valley View High School cafeteria. A total of 85 persons (including project staff) attended the May 20, 2008 open house/public meeting for Hidalgo Loop – Section A. Of the 45 comments received, 44 were in favor of the project and 1 was opposed. Most concerns were regarding ROW/displacements/condemnation, school zone and pedestrian safety, declining property values, using other alternatives, and access to the road/ramp (HCRMA, 2008a). A total of 90 persons (including project staff and 2 elected officials) attended the August 5, 2008 open house/public meeting for Hidalgo Loop – Section A. A total of 12 written comments related to ROW/displacements, impacts to schools, property values, public involvement, engineering design, and access/frontage roads were received (HCRMA, 2008b).

Public meetings for the entire loop (the four proposed study corridors) were also held at the McAllen Chamber of Commerce on May 22, 2008, and August 13, 2008. There were 60 attendees at the May 22, 2008, and 84 attendees at the August 13, 2008 open houses/public meetings. Of the 14 comments received at the May 2008 open house/public meeting, 12 were in favor of some portion of the loop, and 2 were opposed. Comments received related to ROW/displacements/condemnation, safety, alternatives, utilize existing infrastructure, access, route modification, development, and public outreach (HCRMA, 2008c). Of the 13 written comments received at the August 13, 2008, open house/public meeting, 5 were in support of the proposed Hidalgo Loop. The comments received related to cost, ROW/displacements, safety, property values, alternative analysis, public outreach, engineering design, access/frontage roads, noise, wildlife/endangered species, funding/tolling/toll fees, utilities, purpose and need, environmental documentation, TxDOT's role, and the HCRMA's role in the project (HCRMA, 2008d).

Public Meeting Summary and Analysis Reports were prepared for each open house/public meeting and are available for review at the HCRMA office.

In addition to the 2008 open houses/public meetings, during the development of alternatives, 64 stakeholders meetings were held from October 2007 through March 2009. Stakeholders included developers, individual property owners, public organizations, school districts, resource agencies, and cities and communities within the study corridor. The comments and concerns received at these meetings were instrumental in developing the Build Alternative. Team members also attended several city council meetings to present the proposed project.

During the development of the SH 365/TCC project, the HCRMA conducted a public meeting on July 13, 2010, to present the project alternatives. Official Notices to the public were posted in English in the *McAllen Monitor* and in Spanish in *El Nuevo Heraldo* newspapers. Letters announcing the public meeting and hearing were distributed to residents in the study area. Maps and descriptions of project alternatives were presented at the public meeting. All public involvement activities included English and Spanish publications in the local newspaper and notices to residents and businesses and translation services. A total of 45 persons attended the July 2010 public meeting; 25 were property owners, residents, and business proprietors/owner, 1 represented a public entity, and 20 were TxDOT, HCRMA staff, and consultants. Three written comments were received; two were in support of the proposed project, and one comment expressed concerns on the property appraisal process, ROW requirements, timeframe for acquisition and property access. A Public Meeting Summary and Analysis Report was prepared and is available for review at the HCRMA office (HCRMA, 2010).

## 10.2 SH 365 PUBLIC MEETINGS

As a result of the project redefinition and subsequent change in project limits, the HCRMA conducted three public meetings on March 26, 27, and 28, 2013, to present the SH 365 project. Official Notices to the public were posted in English and Spanish in *The Monitor* and in English in the *Advance News Journal* newspapers. Notices (in the form of a postcards) announcing the public meetings in English and Spanish were distributed to land owners, residents, business owners, and public officials within the study area. Maps and descriptions of project alternatives were presented at the public meetings. Bilingual staff was on hand to explain project details and to encourage public comment via comment forms, verbal comments via a court reporter and translator, or correspondence.

A total of 124 persons attended the public meetings held in March 2013; 59 were property owners, residents, and business proprietors/owner, 24 represented a public entity, and 41 were TxDOT, HCRMA staff, and consultants. A total of 34 comments forms, 2 verbal comments, and 4 pieces of correspondence were received. Of the 37 comments received, 26 were in support of the proposed project, and 11 comments expressed concerns on the property appraisal process, ROW requirements, utility relocations,

timeframe for acquisition, and property access. A Public Meeting Summary and Analysis Report has been prepared and made available for review at the HCRMA office (HCRMA, 2013).

## 10.3 SH 365 PUBLIC HEARING

The public hearing for the SH 365 Project was held on May 26, 2015 beginning at 5:30 PM at the South Texas College Technology Campus, 3700 West US 281/Military Highway, McAllen, Texas 78503. Official public notices (classified legal and display advertisements) were published in the following newspapers:

- Sunday, April 26, 2015 – *The Monitor* (English and Spanish)
- Wednesday, April 29, 2015 – *The Advance* (English and Spanish)
- Sunday, May 10, 2015 – *The Monitor* (English Only)
- Wednesday, May 13, 2015 – *The Advance* (English and Spanish)
- Saturday, May 16, 2015 – *The Monitor* (Spanish Only)
- Saturday, May 16, 2015 – *El Manana* (Spanish)

Additional notice was provided through the HCRMA and HCMPO websites and a project information package that was mailed to community members within a 500-foot radius of the project corridor. Electronic message signs announcing the event were also placed along the route to the public hearing location on the day of the hearing.

As part of the public hearing, an open house was held from 5:30 to 6:30 PM. The open house displayed project exhibits for the public to view, with the project team (HCRMA, TxDOT, and consultant staff) available to provide information. At 6:30 PM, a formal presentation was given by HCRMA and TxDOT to inform the public of the public hearing rules, the status of the planning efforts, purpose and need for the project, and the preferred alternative. Comment forms were available to the public during the open house, as well as an opportunity to register to comment during the public hearing.

A total of 54 stakeholders were in attendance, which included 20 community members, 3 public entity representatives, and 31 TxDOT, HCRMA, and consultant staff. Attendees were provided a handout packet (in English or Spanish) that included the public hearing notice, project location map, a comment form, and a speaker registration form. Copies of the draft Environmental Assessment document and ROW maps were also available for public review.

A Public Hearing Summary Report was prepared and posted to the HCRMA website (www.HCRMA.net). The Public Hearing Summary Report included responses to the comments received, copies of handouts and exhibits, and a summary of the public involvement for the project (HCRMA, 2015). During the comment period that extended from April 26 through June 5, 2015, the public was afforded the opportunity to submit comments electronically via e-mail, in writing via regular mail, and by

phone. A total of 14 submissions were received: 12 written and 2 speakers gave public testimony at the Public Hearing. It should be noted that one citizen provided three individual written comments and a verbal comment, and the second verbal commenter did not provide contact information; however, their concern will be addressed through the utility relocation process. The majority of the concerns were based on project ROW, utilities logistics, and property access.

## 10.4 AGENCY COORDINATION

As identified in **Table 10-1**, coordination has been initiated and would continue as necessary with the following agencies: NRCS, TxDOT, THC, TPWD, USACE, USFWS, and USIBWC. Copies of all agency correspondence are provided in **Appendix C.** Coordination has also been ongoing with the HCMPO and municipalities within the study area.

**Table 10-1: Summary of Agency Coordination**

| Agency* | Regulatory Compliance | Environmental Resource | HCRMA Action | Agency Correspondence | Further Coordination Requirements |
|---|---|---|---|---|---|
| NRCS | FPPA | Farmlands | • Form AD 1006 submitted to NRCS on 1/30/09 requesting their determination of farmlands within the Hidalgo Loop – Section A project area.<br>• Form AD 1006 submitted to NRCS on 3/13/13 requesting their determination of farmlands within project area. | • NRCS response received on 3/4/09 stating that the project area does not contain soils classified as important farmlands.<br>• NRCS response received on 5/22/13. NRCS requested return copy indicating final decision. | • No further consideration is required for the Hidalgo Loop – Section A project since combined rating of soil was 142.<br>• Return revised form CPA-106 to NRCS upon approval of project final design. |
| THC & TxDOT ENV | NEPA; Section 106 of the NHPA; Section 4(f) of the DOT Act | Nonarcheological historic-age resources | • Coordination with the THC initiated for separate project (which covered portions of the SH 365 ROW) in September 2010.<br>• Research Design for combined reconnaissance/intensive survey submitted to TxDOT on 1/18/13.<br>• Draft Historic Resources Survey Report submitted in March 2013.<br>• Draft Historic Resources Survey Report First Addendum submitted in December 2013.<br>• Draft Historic Resources Survey Report Second Addendum submitted in July 2014. | • Portion of the proposed ROW conditionally cleared for historic resources as part of coordination for a separate project on 10/25/10.<br>• TxDOT ENV issued conditional approval of the research design on 1/23/13.<br>• Draft Historic Resources Survey Report cleared by TxDOT ENV in May 2013.<br>• THC requested additional information regarding 2 historic properties from TxDOT ENV on 6/27/13.<br>• The THC concurred that the project would have no adverse effect to historic properties on 2/4/14. TxDOT intends to seek a *de minimis* impact finding for the NRHP-listed HCID #2 irrigation system.<br>• The THC concurred with TxDOT ENV that the project design changes surveyed and reported in the Second Addendum would have no effect to historic properties on 9/22/14. | • Section 4(f) *de minimis* finding for NRHP-listed irrigation system. |

| Agency* | Regulatory Compliance | Environmental Resource | HCRMA Action | Agency Correspondence | Further Coordination Requirements |
|---|---|---|---|---|---|
| THC & TxDOT ENV | ACT (Title 9, Chapter 191 of the Texas Administrative Code 26), Section 106 of the NH PA | Archeological resources | • Research Design submitted to TxDOT on 2/13/13.<br>• Draft Archeological Survey Report submitted to TxDOT in March 2013.<br>• TAC Amendment Request submitted to TxDOT and THC featuring additional proposed trenching and new ROW survey on 9/27/13.<br>• TAC Permit Amendment submitted to TxDOT on 10/21/13.<br>• Memo of additional survey findings and request for consultation regarding site delineation methods submitted to TxDOT on 12/17/13.<br>• Interim Archeological Survey Report including additional trenching, pedestrian survey, and newly documented archeological sites submitted to TxDOT on 4/28/14 for early coordination.<br>• Draft Archeological Survey Report detailing site delineation findings submitted to TxDOT on 5/19/14.<br>• New ROW was added to the APE in April 2014 as a result of changes to TxDOT's design guidelines. A background review for the new ROW was submitted to TxDOT on 8/13/14.<br>• Revised survey report submitted to TxDOT on 9/23/14.<br>• Mitigation Plan submitted for TxDOT and THC review on 2/17/15. | • TxDOT and THC approved the research design on 2/21/13.<br>• TxDOT and THC recommended additional trenching locations in August 2013.<br>• TxDOT transmitted letter of second Permit Amendment request to the THC seeking concurrence on 10/4/13.<br>• TxDOT submitted comments on interim survey report on 5/5/14.<br>• TxDOT and the THC submitted comments on Draft Archeological Survey Report on 5/29/14.<br>• TxDOT and THC approved Draft Archeological Survey Report on 10/3/14, and concurred with NRHP and SAL eligibility determinations for 7 newly recorded archeological sites.<br>• TxDOT cleared the additional new ROW for archeological resources based on the background review on 11/5/14, per the MOU between TxDOT and the THC.<br>• Mitigation Plan approved by TxDOT and THC on 2/26/15. | • Acquisition of an Antiquities Permit for the archeological monitoring. |

| Agency* | Regulatory Compliance | Environmental Resource | HCRMA Action | Agency Correspondence | Further Coordination Requirements |
|---|---|---|---|---|---|
| TPWD | Provision (4)(A)(ii) of the MOU between TxDOT and TPWD, ESA | Vegetation, Wetlands, Protected and Rare Species, Wildlife Crossings | • BE submitted for TPWD's review on 5/21/13.<br>• HCRMA provided a response to TPWD's recommendations on 12/20/13.<br>• Per 2013 TxDOT-TPWD MOU, an updated BE to account for the additional ROW was submitted for TxDOT's review on 12/12/14. | • TPWD submitted recommendations on 7/29/13.<br>• TxDOT stated in a 2/17/15 email that no additional coordination was required with TPWD for the additional ROW documented in the 12/12/14 BE update. | • Coordination with TPWD prior to vegetation related mitigation to identify and develop a mitigation plan. |
| USACE | Section 404 of the CWA | Waters of the U.S., including wetlands | • Jurisdictional Determination requested on 6/24/10 for a separate project (which covered portions of the SH 365 ROW).<br>• SH 365 PJD request (Wetlands Delineation Report) submitted to USACE on 2/27/13.<br>• Responses to comments provided on 4/24/13.<br>• PJD modification for expanded project limits submitted to USACE on 3/4/14. | • USACE issued JD for IBTC on 8/3/10 (covering portions of the SH 365 ROW).<br>• Project No. SWG-2013-00175 issued 2/28/13 and USACE requested supplemental information on 3/27/13. PJD issued on 1/3/14. | • Continue coordination ahead of final design proceed with Section 404 permitting process once final design is completed. Include information on EPIC sheet. |

| Agency* | Regulatory Compliance | Environmental Resource | HCRMA Action | Agency Correspondence | Further Coordination Requirements |
|---|---|---|---|---|---|
| USFWS | Section 404 of CWA, ESA Section 7, Section 4(f) | Vegetation, Wetlands, Protected and Rare Species, Recreation; Permits; Migratory Birds | • Hidalgo Loop – Section A coordination meeting conducted on 2/6/08 to discuss alignment options<br>• Hidalgo Loop – Section A coordination meeting conducted on 6/20/08<br>• Informal Section 7 Consultation initiated in 3/26/09 letter<br>• USFWS representative attended 7/13/10 SH 365/TCC Public Meeting<br>• SH 365 coordination meeting conducted on 7/29/14 to notify the USFWS of the SH 365 alignment and that the tracts of concern are to the west of SH 365 project terminus and no longer affected.<br>• The HCRMA submitted a request for concurrence of the SH 365 project impacts in a 10/2/14 letter. | • The USFWS stated their concerns with regards to the alignment options and noted the tracts of concerns.<br>• The USFWS requested a bridge over wildlife corridor and a protective easement along the drainage ditch between two USFWS tracts located west of FM 1016 (Conway Avenue).<br>• The USFWS concurred that the tracts of concern are to the west of SH 365 project terminus and that a wildlife crossing is no longer needed for the SH 365 alignment on 10/17/14. | • Continue coordination ahead of final design and during construction activities.<br>• Any disturbance to vegetation should avoid the March through August nesting period for migratory birds. If it cannot be avoided, bird surveys are to be conducted during construction to avoid destruction of nests, eggs, etc. |
| USIBWC | Processing and coordinating of leases, licenses, and permits for activities in USIBWC ROW at the border or USIBWC-maintained floodways | International Waters | • Coordination regarding USIBWC license initiated in February 2008 regarding the Hidalgo Loop – Section A alignment options.<br>• Coordination meeting with USIBWC held on 8/21/13. | • Received guidance on requirements for USIBWC license and application.<br>• Received update on the SH 365 project alignment, floodway encroachment areas, and levee relocation considerations. | • Complete final design and submit plans, maps, letter requesting license, and agency letters of compliance (THC, USACE, TCEQ, TPWD, and USFWS). Include information on EPIC sheet.<br>• HCRMA to provide HIS and construction license packet for USIBWC's review and approval. |

Note: Coordination letters and/or e-mails are included in **Appendix C**.

# 11.0 CONCLUSION

The No-Build Alternative is always considered in the process of environmental documentation to provide a basis for comparing the effects of the Build Alternative. As discussed, none of the projects included in the No-Build Alternative would address the identified needs for the proposed project. With the exception of the unfunded widening of Military Highway, the projects included in the No-Build Alternative would not provide for improved east-west mobility. However, the widening of Military Highway would not address movement of goods between the freight transfer facilities and concerns regarding the mix of trucks/auto traffic on local roads. Under the No-Build Alternative, regional roadways would continue to deteriorate at an accelerated rate as a result of truck traffic and communities would continue to be impacted by truck traffic along existing routes.

The Build Alternative would address the specified project needs by providing a safe and effective alternative to move people and goods from the Pharr, Hidalgo, and Anzalduas International bridges to the local freight transfer facilities. The proposed project would reduce delays and increase the trade capacity between Mexico and the U.S. by providing better access points to international bridges, major roadways, and existing and proposed infrastructure on both sides of the U.S.-Mexico border. Safety concerns would also be addressed by moving trucks off the local street network.

The engineering, social, economic, and environmental investigations conducted for the 16.53-mile Build Alternative indicate that impacts to the environment as a result of the proposed project would not be considered significant; therefore, a Finding of No Significant Impact (FONSI) is requested.

# 12.0 REFERENCES

AmphibiaWeb. 2013. Information on amphibian biology and conservation [web application]. Berkeley, California. http://amphibiaweb.org/ (accessed January 2013).

Atkins. 2014a. State Highway 365 Hazardous Materials Initial Site Assessment (ISA) Report, CSJs: 3624-01-001, 33627-01-002, 1921-02-337, 0220-01-023, Hidalgo County, Texas. Prepared for the Texas Department of Transportation, October.

Atkins. 2014b. Archeological Background Study of Additional Areas Along SH 365, Hidalgo County, Texas, CSJs: 3627-01-001, 3627-01-002, 0921-02-337, and 0220-01-023. Prepared for the Texas Department of Transportation, August.

Blair, W. Frank. 1950. Biotic Provinces of Texas. The Texas Journal of Science 2: 93-117. Map also available online at http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070ae_08.pdf

Brown, D. 1972. An Assessment of the Archeological Resources to be Affected by Construction of Retamal International Diversion Dam, United States Dike and Modified Hackney Floodway and Closure of Mission Floodway. Research Report No. 15. University of Texas at Austin and Texas Archeological Society.

Burden, Andrea S., and Charles D. Frederick. 2014. Results of Archeological Survey of the Proposed Hidalgo Loop Sections A and C, the International Bridge Trade Corridor, and State Highway 365 Projects, Hidalgo County, Texas. Vols. 1 and 2. Document No. 140023. Prepared for Hidalgo County Regional Mobility Authority. Atkins, Austin.

C&M Associates, Inc. (C&M). 2013. Hidalgo County Regional Mobility Authority (HCRMA) Hidalgo County Loop (SH 365 and IBTC) Intermediate Traffic and Revenue Study.

Campbell, Lisa. 2003. Endangered and Threatened Animals of Texas their Life History and Management. Texas Parks and Wildlife Department, Austin.

Chowdhury, Ali H., and Mike J. Turco. 2006. Geology of the Gulf Coast Aquifer. Aquifers of the Gulf Coast. Robert E. Mace, Sarah C. Davidson, Edward S. Angle and William F. Mullican III, editors. Texas Water Development Board, Austin. Pp 23–50.

City-Data.com. 2013. City data for each city discussed, accessed at www.city-data.com/city (each city), 3/29/2013.

City of McAllen. 2013. Website: http://www.mcallen.net/fire/stations.aspx (accessed February 2013)

City of Mission. 2013. Website: http://www.missiontexas.us/city-departments/fire-department (accessed February 2013)

City of Pharr. 2013. Website: http://www.pharr-tx.gov/public-safety/fire-department/contact-information (accessed February 2013)

City of San Juan. 2013. Website: http://www.cityofsanjuantexas.com/fire%20department.html (accessed February 2013)

Correll, D.S., and M.C. Johnston. 1996. Manual of the Vascular Plants of Texas. The University of Texas at Dallas.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior. U.S. Government Printing Office, Washington, D.C.

Dos Logistics, Inc. 2013. SH 365/TCC East Project, Report, Prepared for S&B Infrastructure, Ltd., copy on file at Atkins, Austin, Texas.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Ergonomic Transportation Solutions, Inc. (ETSI). 2007. Traffic Analysis Study for Pharr International Bridge in Pharr Texas. November.

Federal Highway Administration (FHWA). 1987. Guidance for Preparing and Processing Environmental and Section 4(f) Documents. FHWA's Technical Advisory T 6640.8A. October 30.

Federal Highway Administration and Texas Department of Transportation Environmental Affairs Division (FHWA and TxDOT). 2009. Joint Guidance for Project and Network Level Environmental Justice, Regional Network Land Use, and Air Quality Analyses for Toll Roads.

Galindo, Mary Jo. 2015. Mitigation Plan for 7 Sites Along the Proposed State Highway 365 Corridor, Hidalgo County, Texas. Prepared for the Hidalgo County Regional Mobility Authority. Document No. 140067. Atkins, Austin.

GeoSearch. 2014. Radius Report for SH 365, Hidalgo County, Texas. Prepared for Atkins North America, Inc., San Antonio. August 28.

Gould, F.W. 1975. The Grasses of Texas. Texas A&M University Press, College Station.

Griffith, G.E., S.A. Bryce, J.M. Omernik, J.A. Comstock, A.C. Rogers, B. Harrison, S.L. Hatch, and D. Bezanson. 2004. Ecoregions of Texas (color poster with map, descriptive text, and photographs). U.S. Geological Survey, Reston, Virginia (map scale 1:2,500,000).

Hackland, Keith. 2004. South Texas Nature Guide. RGV Nature Marketing Co-op www.southtexasnature.com

Harris, Brandy, Amy McWhorter, Kelley Russell, and Casey Hanson. March 2013. Draft Historic Resources Reconnaissance and Intensive Survey Report, Proposed SH 365 from FM 106 to US 281/Military Highway, Hidalgo County, Texas. Atkins, Austin, Texas.

Harris, Brandy. November 2013. Addendum to Historic Resources Reconnaissance and Intensive Survey Report Proposed SH 365 from FM 1016/Conway Avenue to US 281/Military Highway, Hidalgo County, Texas. Atkins, Austin, Texas.

Harris County Toll Road Authority (HCTRA). 2013. EZ Tag Agreement. Found at https://www.hctra.org/about_forms/ (accessed: August 2013).

Health and Human Services, U.S. Department of (HHS). 2014. Poverty Guidelines. http://aspe.hhs.gov/poverty/14poverty.cfm

Hidalgo County Metropolitan Planning Organization (HCMPO). 1996. Hidalgo County Thoroughfare Plan. Prepared for Hidalgo County Metropolitan Planning Organization. April.

———. 2008. 2035 MTP Chapter 4, Chapter 4.7.B and 4.7.C. http://www.lrgvdc.org/hcmpo/files/MTP/Ch4.4_4.7.pdf.

———. 2010. 2035 MTP Chapter 4, Page 1, 64, 122, 125. http://www.hcmpo.org/files/MTP/MTP_2035/14-Chapter%204.pdfMcAllen

———. 2012. HCMPO Bike Plan. http://www.hcmpo.org/home/files/3713/5575/7154/BikePlan.8.10.12.pdf (accessed April 2014)

———. 2013. HCMPO Planning Area. http://www.hcmpo.org/home/files/1313/5575/8087/CensusTrends.pdf (accessed February 2013)

Hidalgo County, Texas. 2103. Ignite Hidalgo County – A Comprehensive Economic Development Strategy for Hidalgo County 2011–2015, page 35 http://www.co.hidalgo.tx.us/DocumentCenter/Home/View/4158.

Hidalgo County Property Tax Records. 2014. Hidalgo County, Texas. https://actweb.acttax.com/act_webdev/hidalgo/index.jsp (accessed October 2014).

Hidalgo County Regional Mobility Authority (HCRMA). 2008a. Public Meeting Summary and Analysis Report, May 2008. Hidalgo Loop Section A (South Loop) Project, from US 83 Expressway (0.59 mile east of BUS 83) to the US 281/SP 600 intersection. CSJ 0921-02-172. Prepared for Hidalgo County Regional Mobility Authority.

———. 2008b. Public Meeting Summary and Analysis Report, August 2008. Section A (South Loop) Hidalgo Loop Project, from US 83 Expressway (0.59 mile east of BUS 83) to the US 281/SP 600 intersection. CSJ 0921-02-172. Prepared for Hidalgo County Regional Mobility Authority.

———. 2008c. Public Meeting Summary and Analysis Report, May 2008. Hidalgo Loop (Entire Loop) Project, CSJs 0921-02-172; 0921-02-142; 0921-02-202; and 0921-02-203. Prepared for Hidalgo County Regional Mobility Authority.

———. 2008d. Public Meeting Summary and Analysis Report, August 2008. Hidalgo Loop (Entire Loop) Project, CSJs 0921-02-172; 0921-02-142; 0921-02-202; and 0921-02-203. Prepared for Hidalgo County Regional Mobility Authority.

———. 2010. Public Meeting Summary and Analysis Report, July 13, 2010. SH 365/Trade Corridor Connector from FM 1016 east to FM 3072 (Dicker road, Hidalgo County, Texas. Prepared for Hidalgo County Regional Mobility Authority.

———. 2013. Public Meeting Summary and Analysis Report for State Highway 365 (SH 365). Prepared for Hidalgo County Regional Mobility Authority (HCRMA), Pharr, Texas. Prepared by Dannenbaum Engineering Corporation, McAllen, Texas. August 7.

———. 2015. Public Hearing Summary and Analysis Report for State Highway 365 (SH 365). Prepared for TxDOT. Prepared by Dannenbaum Engineering Corporation and Hidalgo County Regional Mobility Authority (HCRMA), Pharr, Texas. June 11.

Hidalgo County Sheriff's Office. 2010. http://hidalgoso.org/template3/commandstaff.htm.

Hidalgo Economic Development Corporation. 2013. Hidalgo City Profile. http://cityofhidalgo.net/pdf/cityprofile.pdf (accessed April 9, 2103).

Jones, S.L. 2010. Sprague's Pipit (*Anthus spragueii*) Conservation Plan. U.S. Department of Interior, Fish and Wildlife Service, Washington, D.C. Available on-line at http://www.fws.gov/mountain-prairie/species/birds/spraguespipit/SpraguesJS2010r4.pdf (accessed October 29, 2012).

Knight, Lila. 2009. Texas Department of Transportation Environmental Affairs Division, Historical Studies Branch, Historical Studies Report No. 2009-01, A Field Guide to Irrigation in the Lower Rio Grande Valley, Knight and Associates, Buda, Texas.

Kollmorgan Instruments Corporation. 2000. Munsell Soil Color Charts. Year 2000 Revised Washable Edition. GretagMacbeth, New Windsor, New York.

L&G Engineering. 2008. Preliminary Alternatives Development Study Technical Memorandum. Section "A" from US 83 0.59 mi. E of BUS 83 southeast to US 281/SP 600 at the Pharr Int. Bridge. Prepared by L&G Engineering for Hidalgo County Regional Mobility Authority and Hidalgo County Road Builders. December.

McAllen Chamber of Commerce. 2013. Website. http://www.mcallen.org/Business-Community/Economic-Development (accessed March 21, 2013)

McAllen Economic Development Corporation. 2009. http://www.mcallen.org/pdf/profile/McAllenEconomicDevelopmentCorporation.pdf (accessed May 2014).

———. 2013. http://www.mcallenedc.org/our-border.php (accessed March 21, 2013).

McAllen Free Trade Zone (MFTZ). 2008. Website. http://www.mftz.org/ftz_about_us.php

McAllen, Texas. 2007. Foresight McAllen Comprehensive Plan, adopted in 2007 (accessed March 2013).

McMahan, C.A., R.G. Frye, and K.L. Brown. 1984. The vegetation types of Texas. Texas Parks and Wildlife Department, Austin.

Meyers [Myers], Terri, and Karen J. Weitze. 1995. National Register of Historic Places Registration Form, "Louisiana-Rio Grande Canal Company Irrigation System (a.k.a. Hidalgo County Irrigation District No. 2)." Copy on file at the Texas Historical Commission, Austin. Prepared by Hardy Heck Moore & Associates, Inc., Austin, Texas.

*Monitor, The.* Anzalduas Bridge Prepares for Southbound Traffic, 2/25/2013 by Dave Hendricks, (http://www.themonitor.com/news/local/article_a11cc550-7efb-11e2-b62f-001a4bcf6878.html).

National Audubon Society. 2013. Red-crowned Parrot (*Amazona viridigenalis*). http://birds.audubon.org/species/74

National Cooperative Highway Research Program, National Research Council, Transportation Research Board (NCHRP). 2002. The National Cooperative Highway Research Program (NCHRP) Report 466: Desk Reference for Estimating Indirect Effects of Proposed Transportation Projects. The Louis Berger Group, Inc., National Academy Press, Washington D.C.

Natural Resources Conservation Service (NRCS). 2011. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/.

Railroad Commission of Texas (RRC), 2013. Public GIS Map Viewer for Oil, Gas and Pipeline Data. http://www.rrc.state.tx.us/data/online/gis/index.php# (accessed February 2013).

Realtor.com. 2014. The official site of the National Association of Realtors operated by Move, Inc. www.realtor.com (accessed October 24, 2014).

Reed, P.B., Jr. 1988. National List of Plant Species That Occur in Wetlands: South Plains (Region 6). U.S. Fish and Wildlife Service Biological Report 88 (26.6).

Russell, M. Kelley. August 2014. Addendum #2 to Historic Resources Reconnaissance and Intensive Survey Report Proposed SH 365 from FM 1016/Conway Avenue to US 281/Military Highway, Hidalgo County, Texas. Atkins, Austin, Texas.

San Juan Mission Statement. 2013. City of San Juan, Texas. http://www.cityofsanjuantexas.com/ (accessed March 2013).

Schmidly, David J. 2004. The Mammals of Texas Revised Edition. The University of Austin Press, Texas.

Soil Conservation Service (SCS, now Natural Resources Conservation Service [NRCS]). 1981. Soil Survey of Hidalgo County, Texas.

Texas Commission on Environmental Quality (TCEQ). 2012. 2012 Texas Integrated Report of Surface Water Quality and 303(d) List. Austin.

Texas Comptroller of Public Accounts (TCPA). 2008. Texas in Focus: South Texas. http://www.window.state.tx.us/specialrpt/tif/southtexas/pdf/SouthTexasFullReport.pdf.

Texas Department of Transportation. 2008. Texas Motor Vehicle Traffic Crash Highlights Calendar Year 2008. ftp://ftp.dot.state.tx. us/pub/txdot-info/trf/crash_statistics/2008/2008_2.pdf.

———. 2009. Accident rates for Hidalgo County roads, supplied by Norma Garza, TxDOT Pharr District.

———. 2010. Revised Guidance on Preparing Indirect and Cumulative Impact Analyses. September 2010.

———. 2011. Guidelines for Analysis and Abatement of Roadway Traffic Noise. April.

———. 2012. Texas Department of Transportation FY 2013–2016 STIP (Statewide Transportation Improvement Program, Pharr District, Transit. August.

———. 2013. Memorandum of Agreement Between Texas Department of Transportation and Texas Parks and Wildlife Department for Finalization of 1998 MOU, concerning Habitat Descriptions and Mitigation. Available at ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/natural/habitat_desc_mitigation.pdf (accessed 22 March 2013).

Texas Department of Transportation (TxDOT), Center for Transportation Research. 2002. *Impacts of Inland Ports and Trade Flows and Transportation in Texas Summary* (accessed March 21, 2013).

Texas Foreign-Trade Zones. 2013. Texas Wide Open for Business. Office of the Governor, Economic Development & Tourism, www.TexasWideOpenForBusiness.com. http://www.governor.state.tx.us/files/ecodev/TexasFTZs.pdf (accessed January 2014).

Texas Parks and Wildlife Department (TPWD). 2014a. Ecological Mapping System of Texas. http://www.tpwd.state.tx.us/gis/data/ (accessed 2014).

———. 2014b. Annotated County Lists of Rare Species, Hidalgo County, Texas.

———. 2014c. Texas Natural Diversity Database Review. Received October 8, 2014.

———. 2014d. Star Cactus. http://www.tpwd.state.tx.us/huntwild/wild/species/starcac/ (accessed 2014).

———.2014e. Texas Ayenia. http://www.tpwd.state.tx.us/huntwild/wild/species/ayenia/ (accessed 2014).

———. 2014f. Walker's Manioc. http://www.tpwd.state.tx.us/huntwild/wild/species/wmanioc/ (accessed 2014).

———.2014g. Texas Horned Lizard. http://www.tpwd.state.tx.us/huntwild/wild/species/thlizard/ (accessed 2014).

Texas Water Development Board (TWDB). 2011a. 2011 Regional and 2012 State Water Plan Population Projections Data. http://www.twdb.state.tx.us/wrpi/data/proj/2012popproj.asp (accessed August 2011).

———. 2011b. Population Projections by County.

U.S. Army Corps of Engineers (USACE). 2003. SWG – Standard Operating Procedures (SOP); Recording Jurisdictional Delineations Using Global Positioning Systems (GPS). Available at http://www.swg.usace.army.mil/Portals/26/docs/regulatory/Wetlands/GPS%20SOF.pdf.

———. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-1. U.S. Army Engineers Research and Development Center, Vicksburg, Mississippi.

U.S. Census Bureau. 2010. U.S. Census Bureau 2010 data.

———. 2010a. Decennial Census of Population and Housing, American Factfinder (2010).

———. 2010b. U.S. Census Bureau, 2011 American Community Survey (ACS) 5-year estimates.

———. 2010c. U.S. Census Bureau 2006–2010 American Community Survey, Selected Economic Characteristics.

———. 2010. U.S. Census. http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

———. 2011. Income in the past 12 months (in 2011 inflation-adjusted dollars) 2007–2011 American Community Survey 5-Year Estimates. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

———. 2012a. U.S. Census Bureau, 2012 American Community Survey (ACS) 5-year estimates for household income.

———. 2012b. U.S. Census Bureau, 2012 American Community Survey (ACS) 5-year estimates for limited English proficiency.

U.S. Department of Transportation (USDOT). 2008. Traffic Safety Facts, Texas 2004-2008. http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/48_TX/2008/48_TX_2008.PDF (accessed March 21, 2013)

U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics. 2014. http://www.rita.dot.gov/bts/publications (accessed 2014).

U.S. Fish and Wildlife Service (USFWS). 1989a. National Wetlands Inventory map: La Joya, Texas (scale 1:24,000). U.S. Department of the Interior, Washington, D.C.

———. 1989b. National Wetlands Inventory map: Las Milpas, Texas (scale 1:24,000). U.S. Department of the Interior, Washington, D.C.

———. 1989c. National Wetlands Inventory map: Mission, Texas (scale 1:24,000). U.S. Department of the Interior, Washington, D.C.

———. 1989d. National Wetlands Inventory map: Pharr, Texas (scale 1:24,000). U.S. Department of the Interior, Washington, D.C.

———.2014a. Endangered Species List. http://www.fws.gov/southwest/es/EndangeredSpecies/EndangeredSpecies_Lists/EndangeredSpecies_Lists_Main.cfm (accessed October 2014).

———. 2014b. Public Advisory – Western Yellow-Billed Cuckoo. Available online at http://www.fws.gov/sacramento/outreach/public-advisories/westernyellow-billedcuckoo/outreach_PA_western-yellow-billed-cuckoo.htm (accessed October 2014).

U.S. Geological Survey (USGS). 1982. La Joya, Hidalgo County, Texas. 7.5-Minute Topographic Quadrangle.

———. 1983a. Las Milpas, Hidalgo County, Texas. 7.5-Minute Topographic Quadrangle.

———. 1983b. Mission, Hidalgo County, Texas. 7.5-Minute Topographic Quadrangle.

———. 1983c. Pharr, Hidalgo County, Texas. 7.5-Minute Topographic Quadrangle.

U.S. International Boundary and Water Commission (USIBWC). 2003. Draft Environmental Impact Statement for Alternative Vegetation Management Practices for the Lower Rio Grande Flood Control Project Cameron, Hidalgo and Willacy Counties, Texas, Volume I of V. El Paso, Texas.

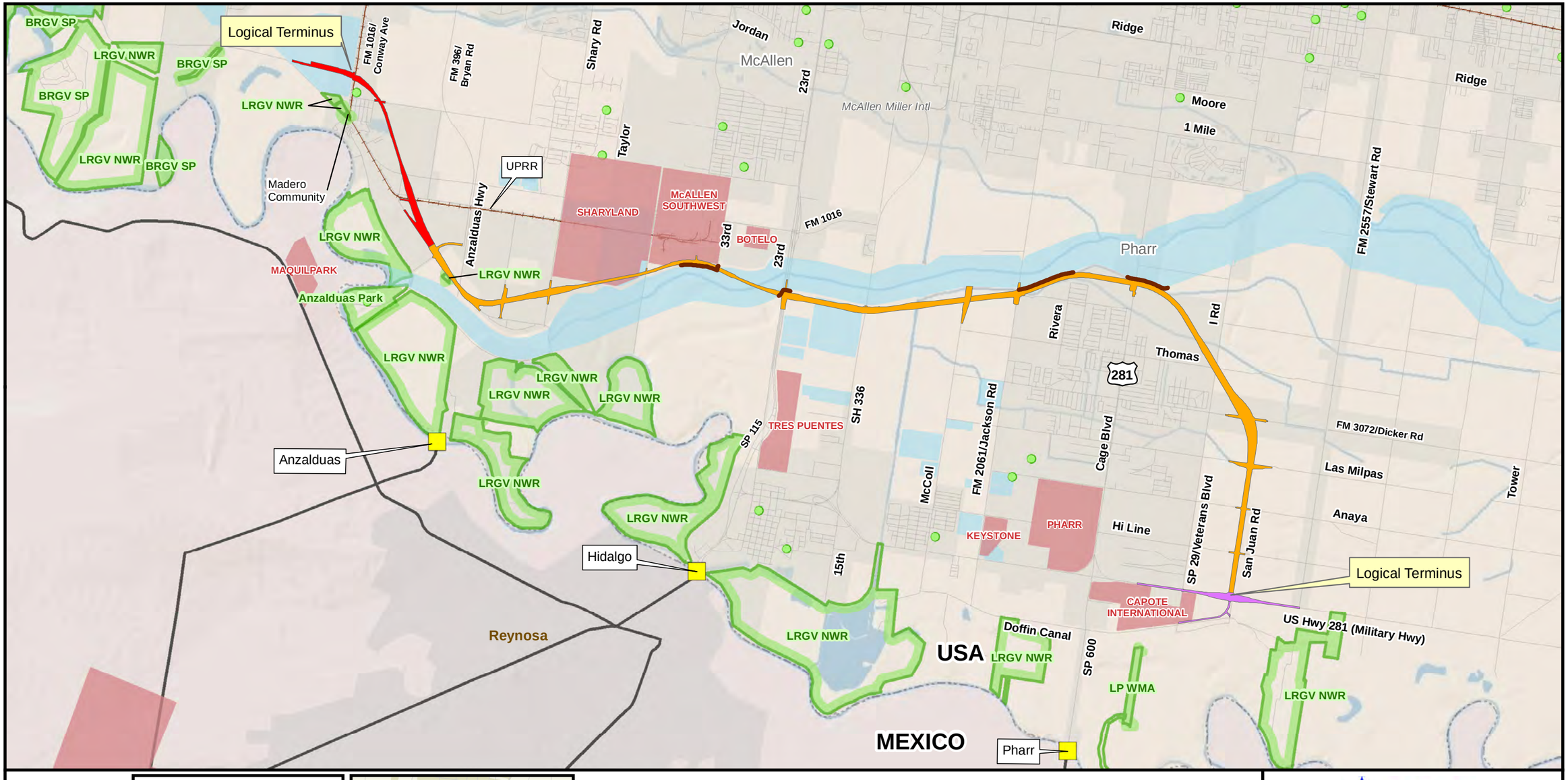
———. 2005. Biological Resources Survey Rio Grande and Tijuana River Flood Control Projects New Mexico, Texas and California. El Paso, Texas.

*Valley Central News*. 2013. http://www.valleycentral.com/news/story.aspx?list=195030&id=554386 (accessed March 21, 2013).

Vines, R.A. 1990. Trees, Shrubs, and Woody Vines of the Southwest, seventh printing, the University of Austin Press, Texas. 1,104 pp.

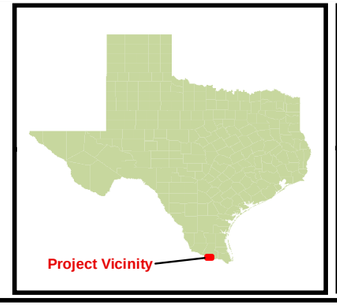
Williams, D., C.M. Thompson, and J.L. Jacobs. 1977. Soil Survey of Cameron County, Texas. United States Department of Agriculture, Soil Conservation Service in cooperation with the Texas Agricultural Experiment Station.

# FIGURES




0 0.5 1
Miles

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters



**Proposed ROW**
- Phase I (non-tolled)
- Phase II (tolled)
- Phase III (tolled)

- Levee Relocation
- International Bridge
- Freight Transfer Facility
- Floodway
- Park

- Managed Land
- BRGV SP — Bentsen-Rio Grande Valley State Park
- LP WMA — Las Palomas Wildlife Management Area
- LRGV NWR — Lower Rio Grande Valley National Wildlife Refuge

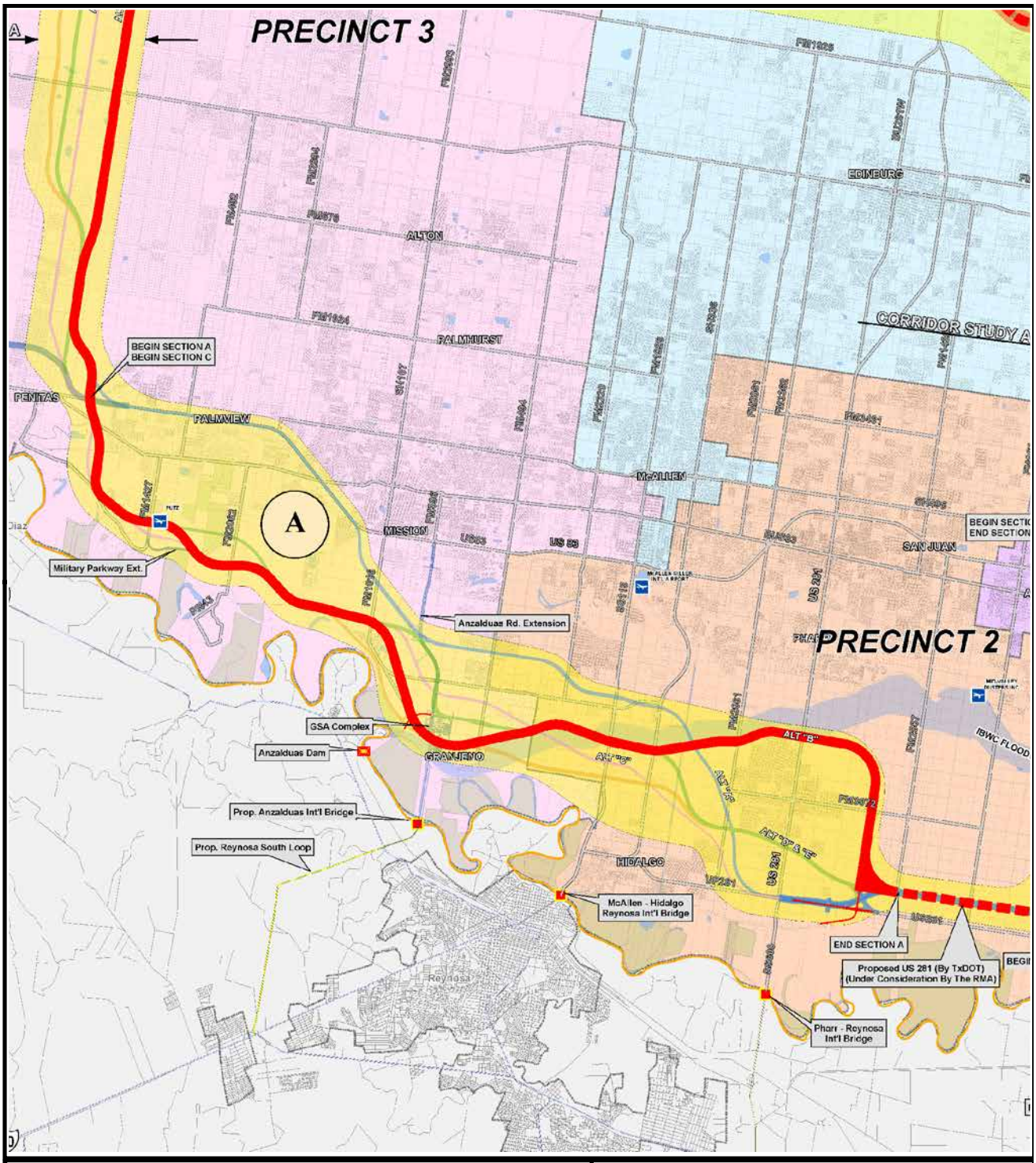
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

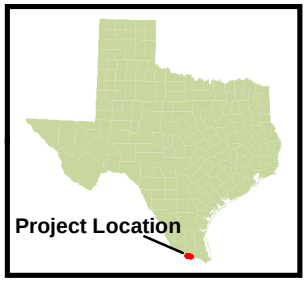
**Figure 1-1**
**Project Location**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 11 Jun 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\01-1_ProjectLocation.mxd




- Option A
- Option B
- Option C
- Option D
- Option E

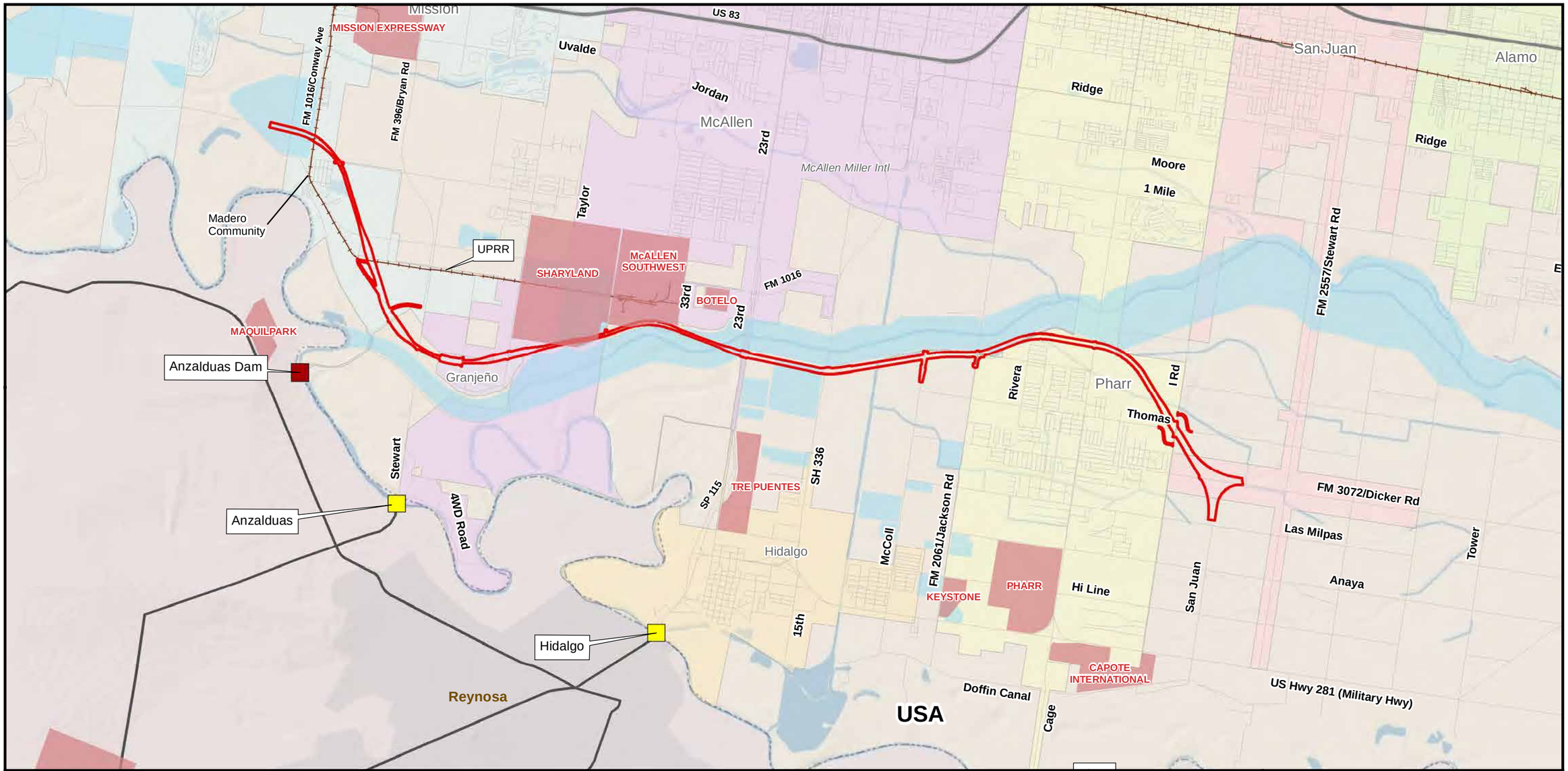
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 2-1**
**2008 Hidalgo Loop**
**Section A**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

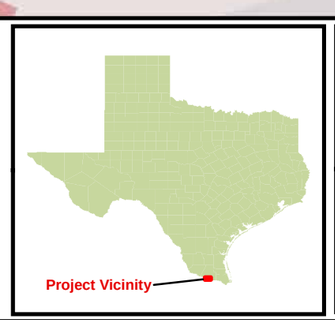
Date: 24, Jul 2014

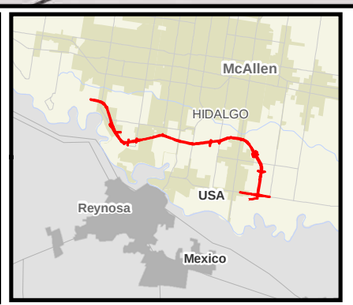
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\02-1_2008HidalgoLoop.mxd




0 0.5 1
Miles

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters




Freight Transfer Facility
International Bridge
Dam
SH 365/TCC
Floodway

HCRMA

**Figure 2-2**
**SH 365/TCC Alignment**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 24 Jul 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\02-2_SH365TCC.mxd

Logical Terminus

Construction Limit

Anzalduas

Hidalgo

Logical Terminus

Construction Limit

Pharr

Donna

Mission

Uvalde

McAllen

McAllen Miller Intl

Granjeño

Hidalgo

Reynosa

USA

MEXICO

Pharr

San Juan

Alamo

MISSION EXPRESSWAY

SHARYLAND

McALLEN SOUTHWEST

BOTELO

MAQUILPARK

TRE PUENTES

KEYSTONE

PHARR

CAPOTE INTERNATIONAL

FM 1016/Conway Ave

FM 396/Bryan Rd

Taylor

US 83

Shary Rd

Jordan

23rd

Ridge

Moore

1 Mile

FM 1016

Anzalduas Hwy

33rd

FM 2061/Jackson Rd

FM 2557/Stewart Rd

Rivera

I Rd

Thomas

281

Stewart

AWD Road

SP 115

SH 336

McColl

Hi Line

SP 29/Veterans Blvd

San Juan Rd

15th

Doffin Canal

Cage

FM 495

Carroll

Border

Lakes

El Gato

FM 1423

Billman

Hutto

FM 3072/Dicker Rd

Las Milpas

Anaya

Tower

Border

US Hwy 281 (Military Hwy)

0 0.5 1

Miles

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

Project Vicinity

McAllen

HIDALGO

Reynosa

USA

Mexico

Proposed ROW

School

International Bridge

McAllen FTZ

Freight Transfer Facility

Floodway

**Existing Network**

US Highway 4 or More Lanes

US Highway Less Than 4 Lanes

Other Road 4 or More Lanes

Road/Street Network Less Than 4 Lanes

HCRMA

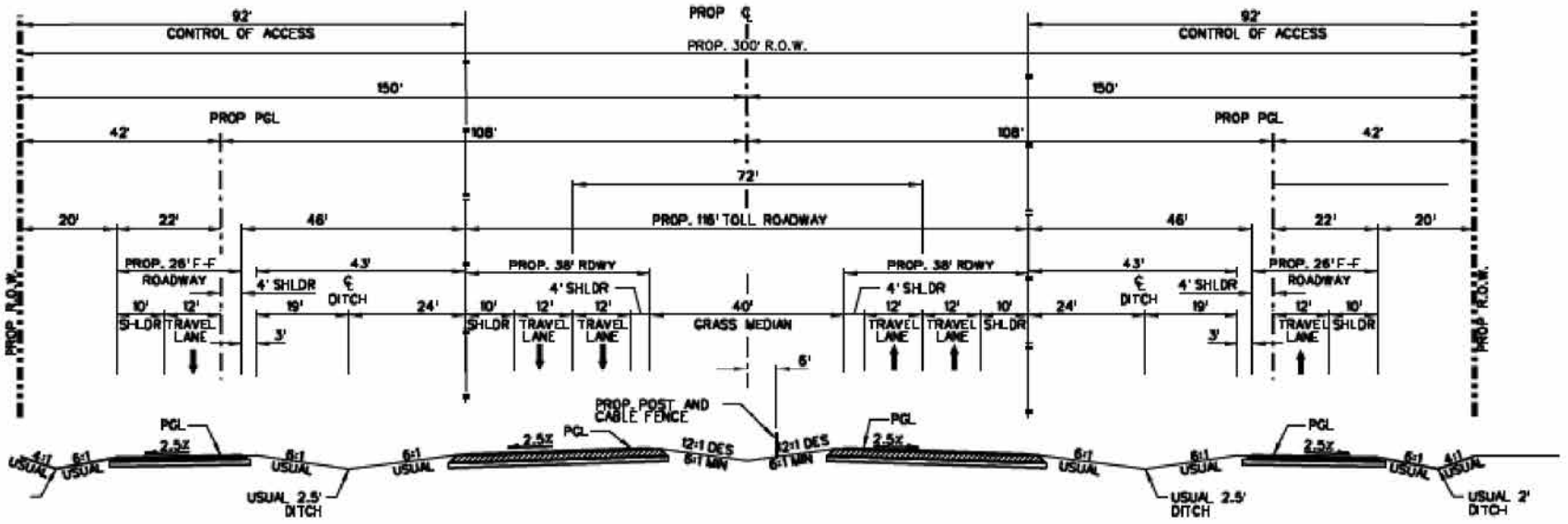
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

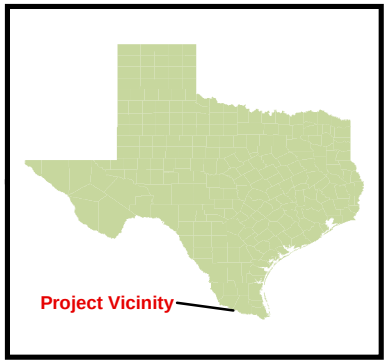
**Figure 3-1**
**Existing Roadway Network**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 23 Jul 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\03-1_ExistingRoadwayNetwork.mxd



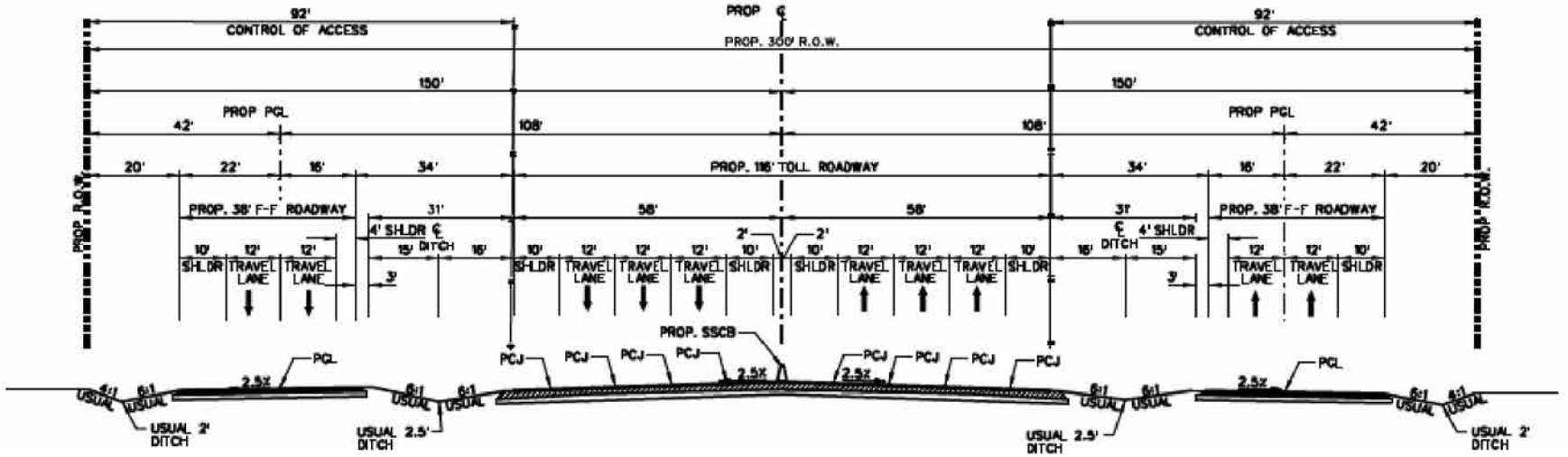



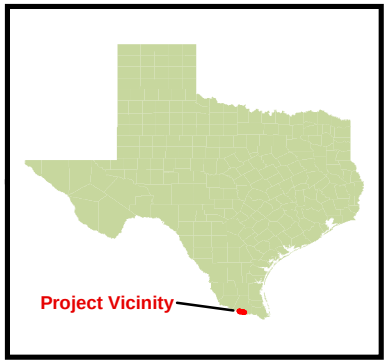
HCRMA

**Figure 4-1**
**Interim Typical Section**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

| CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023 | Date: July 24, 2014 |
|---|---|

N:\...100020726\geo\figs\20140606\Figure4-1_InterimTypicalSection.mxd



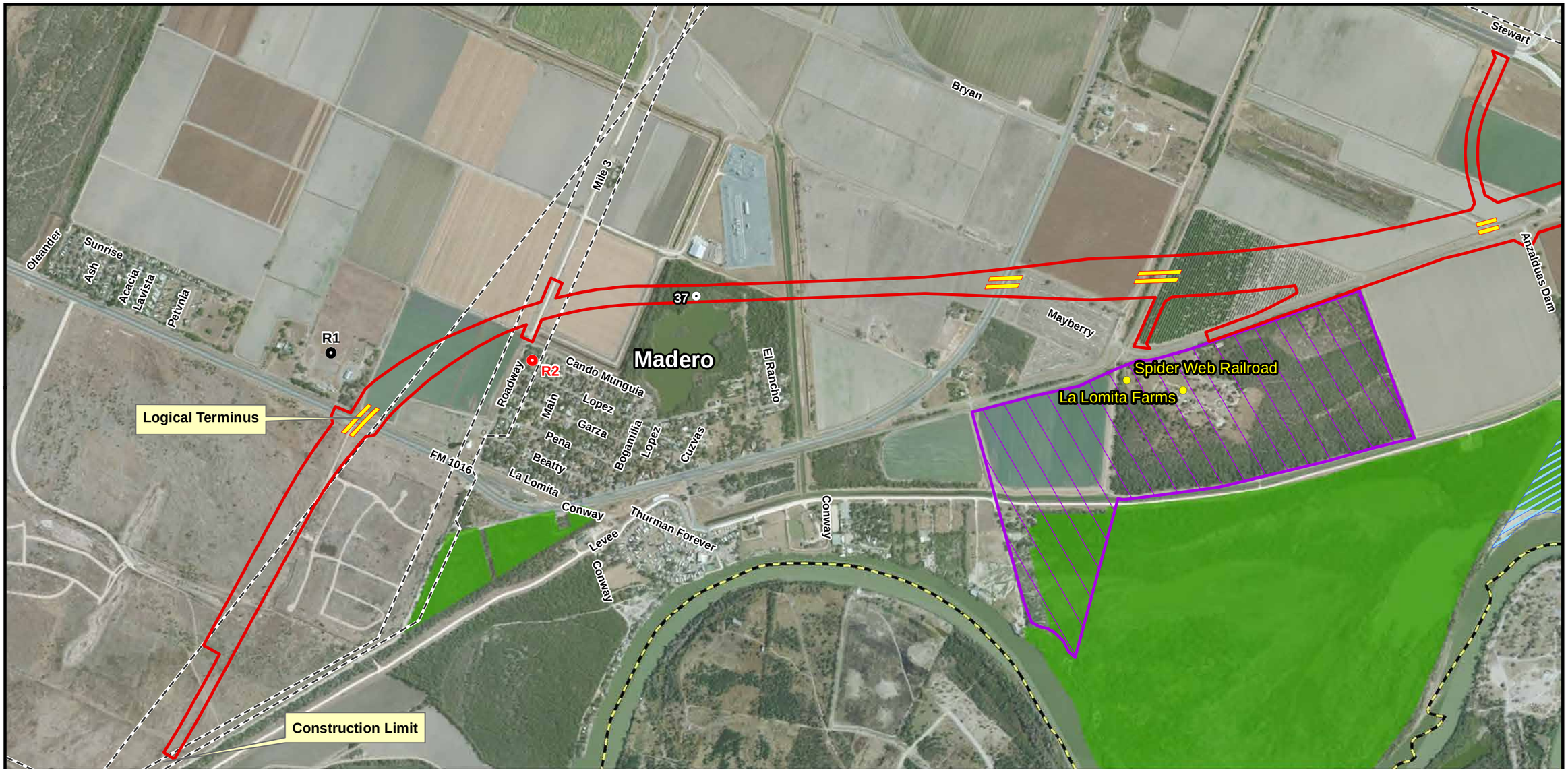



HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 4-2**
**Ultimate Typical Section**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

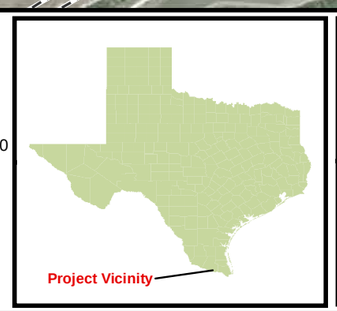
| CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023 | Date: July 24, 2014 |
|---|---|

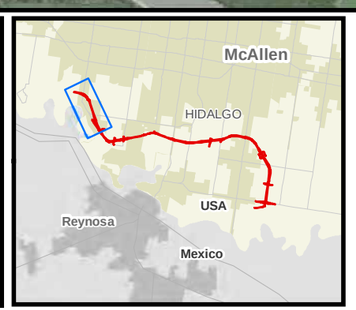
N:\...100020726\geo\figs\20140606\Figure4-2_UltimateTypicalSection.mxd




0 500 1,000
Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet




- Proposed ROW
- Proposed Overpass/Underpass
- Levee to be Relocated
- Displacement
- Hazmat Site (Records Review)
- Potential Hazmat Site (Field Verified)
- Dry Hole
- Gas Well
- Plugged Gas Well
- Pipeline
- Non-impacted Noise Receiver
- Impacted Noise Receiver
- Official Texas Historical Marker
- HCID #2 Canal
- Louisiana - Rio Grande Canal Company Irrigation System
- La Lomita Ranch Historic District
- Floodway
- Freight Transfer Facility
- Parkland

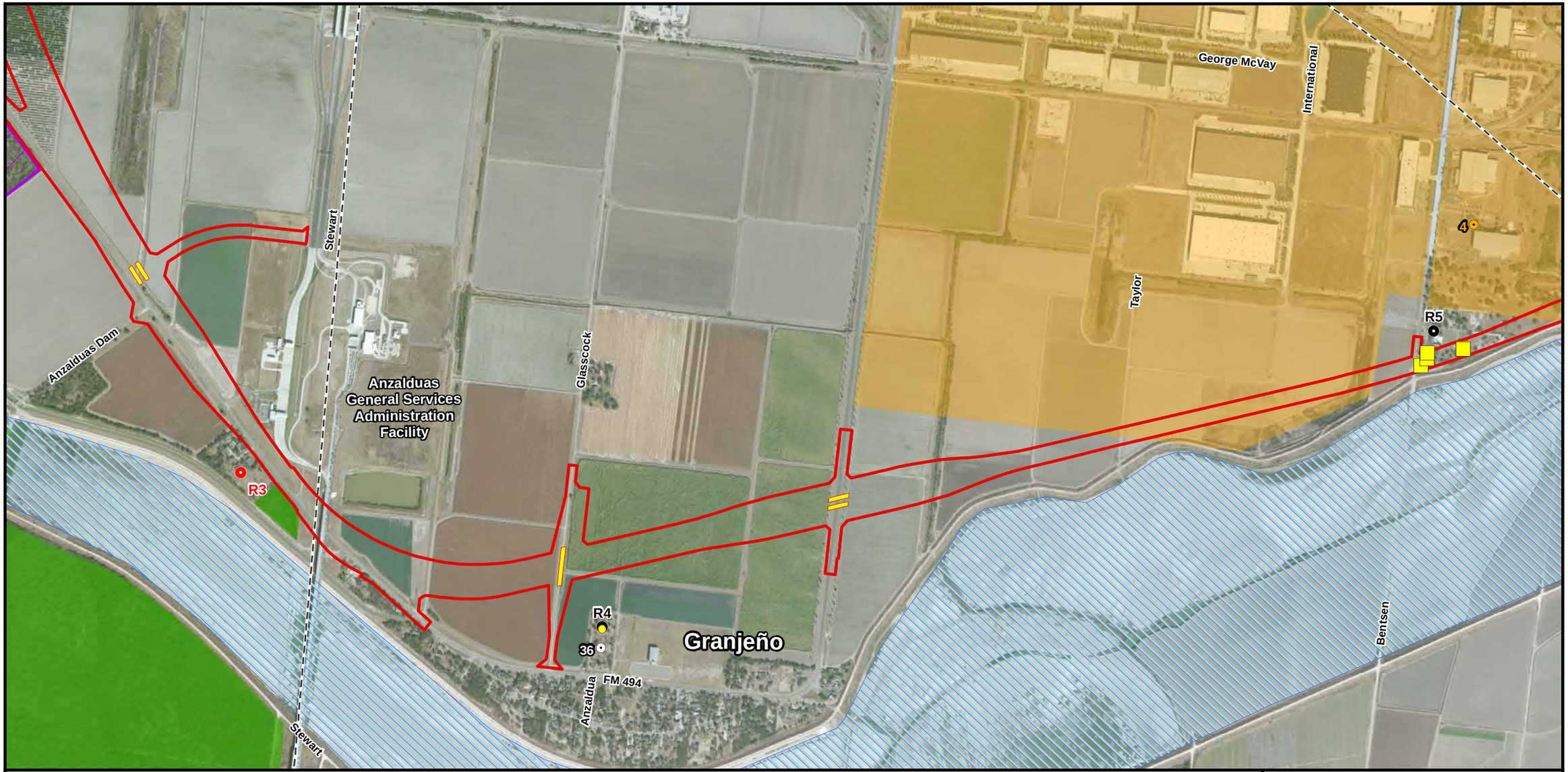
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**
**Page 1 of 6**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

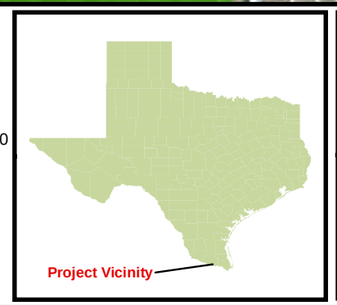
Date: 12 Dec 2014

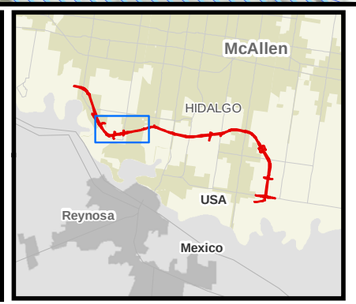
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




0 500 1,000
Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet




- Proposed ROW
- Proposed Overpass/Underpass
- Levee to be Relocated
- Displacement
- Hazmat Site (Records Review)
- Potential Hazmat Site (Field Verified)
- Dry Hole
- Gas Well
- Plugged Gas Well
- Pipeline
- Non-impacted Noise Receiver
- Impacted Noise Receiver
- Official Texas Historical Marker
- HCID #2 Canal
- Louisiana - Rio Grande Canal Company Irrigation System
- La Lomita Ranch Historic District
- Floodway
- Freight Transfer Facility
- Parkland

HCRMA

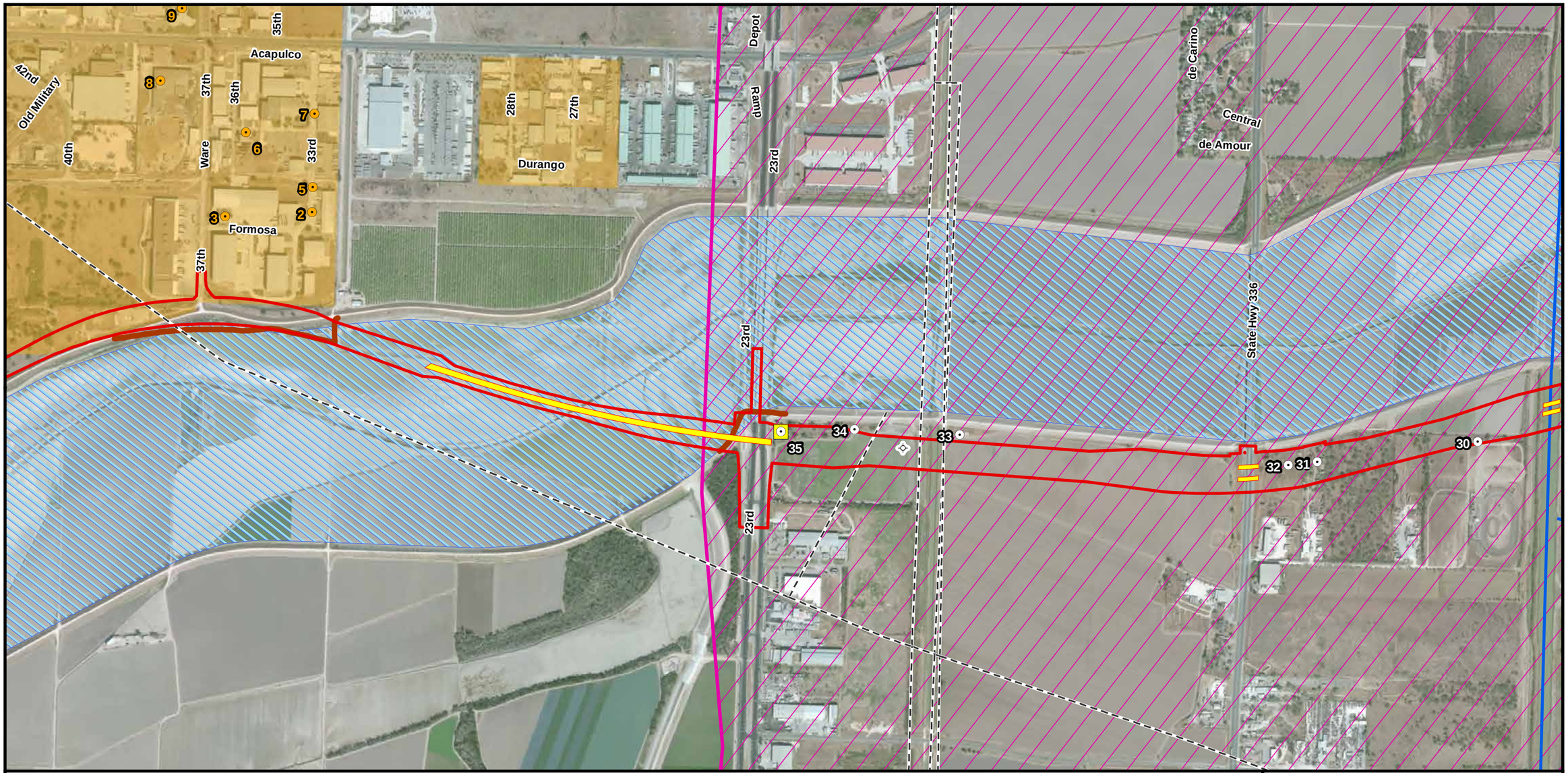
**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**



CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 12 Dec 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

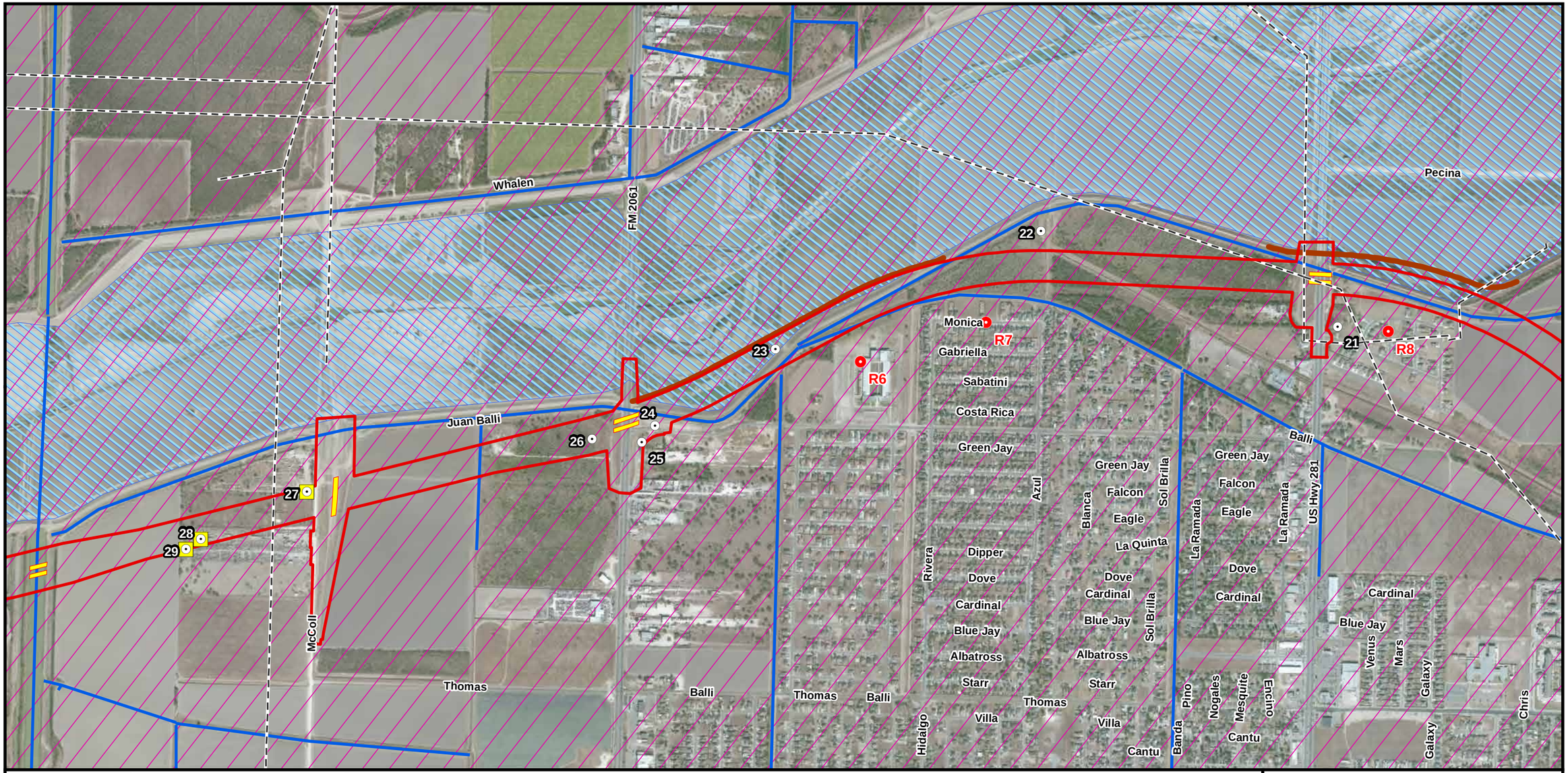
**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**



CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

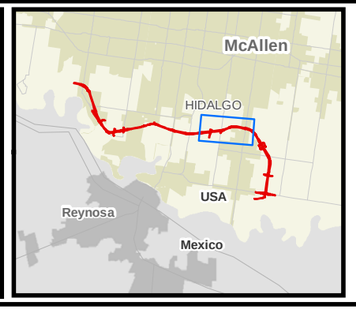
Date: 12 Dec 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




0 500 1,000
Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet




- Proposed ROW
- Proposed Overpass/Underpass
- Levee to be Relocated
- Displacement
- Hazmat Site (Records Review)
- Potential Hazmat Site (Field Verified)
- Dry Hole
- Gas Well
- Plugged Gas Well
- Pipeline
- Non-impacted Noise Receiver
- Impacted Noise Receiver
- Official Texas Historical Marker
- HCID #2 Canal
- Louisiana - Rio Grande Canal Company Irrigation System
- La Lomita Ranch Historic District
- Floodway
- Freight Transfer Facility
- Parkland

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

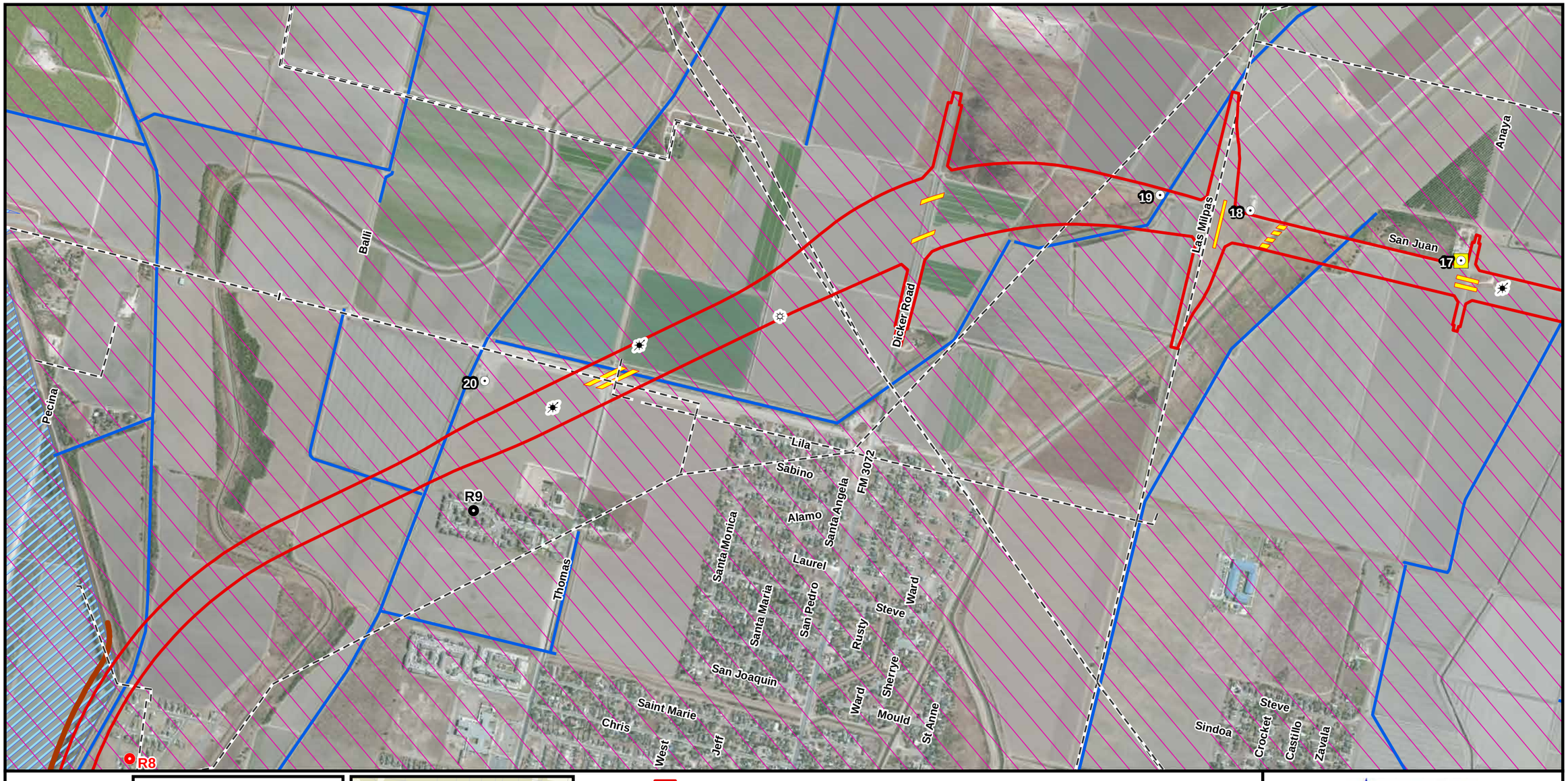
**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**



CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

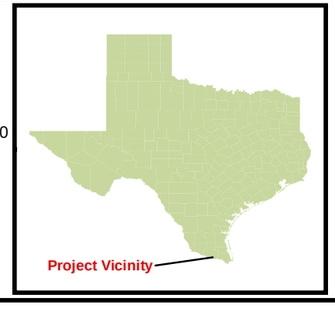
Date: 12 Dec 2014

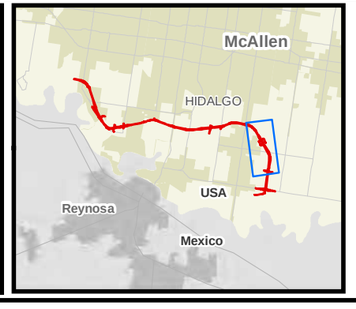
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




0 500 1,000
Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet




- Proposed ROW
- Proposed Overpass/Underpass
- Levee to be Relocated
- Displacement
- Hazmat Site (Records Review)
- Potential Hazmat Site (Field Verified)
- Dry Hole
- Gas Well
- Plugged Gas Well
- Pipeline
- Non-impacted Noise Receiver
- Impacted Noise Receiver
- Official Texas Historical Marker
- HCID #2 Canal
- Louisiana - Rio Grande Canal Company Irrigation System
- La Lomita Ranch Historic District
- Floodway
- Freight Transfer Facility
- Parkland

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

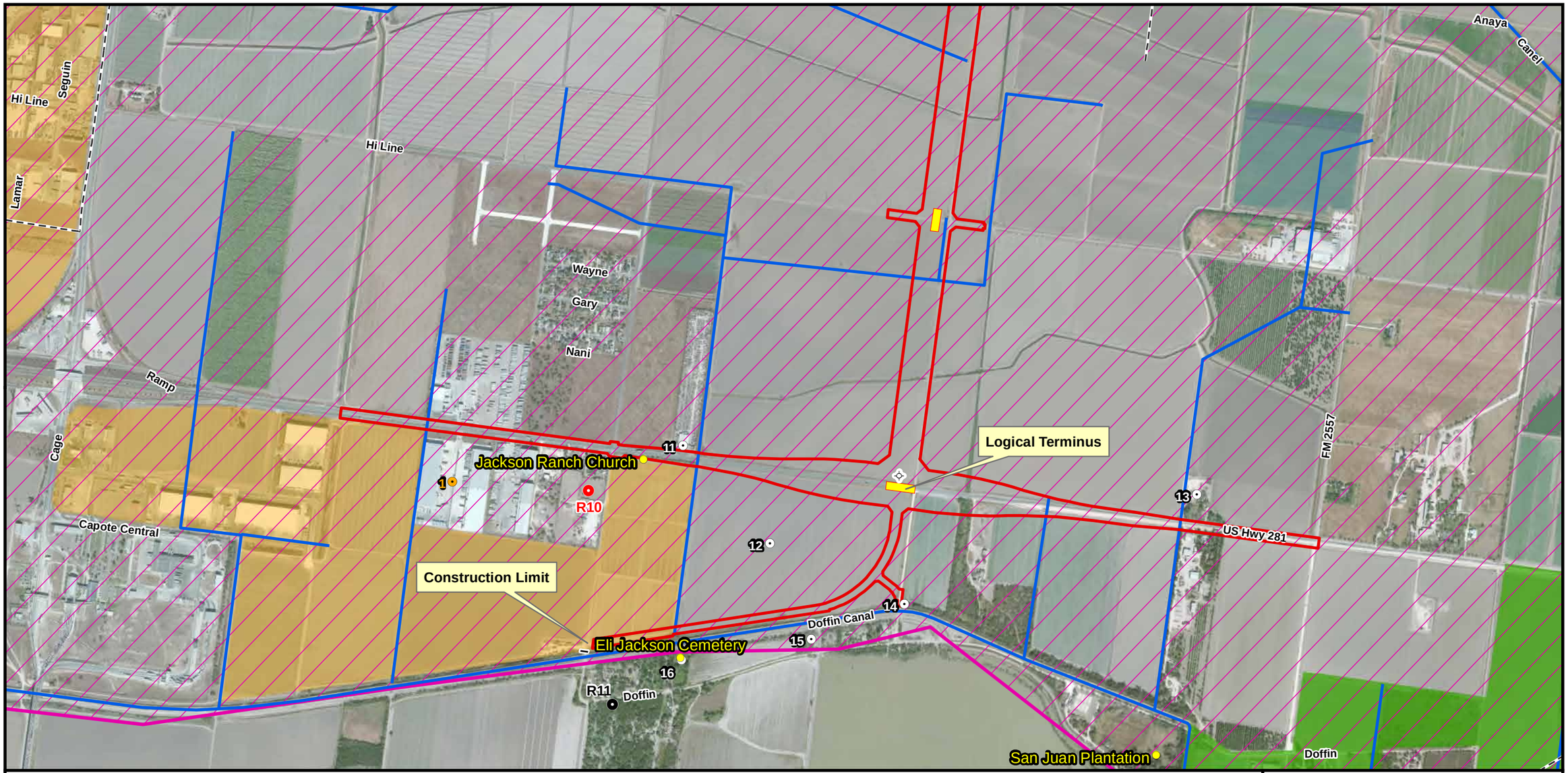
**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**



CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 12 Dec 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




HCRMA

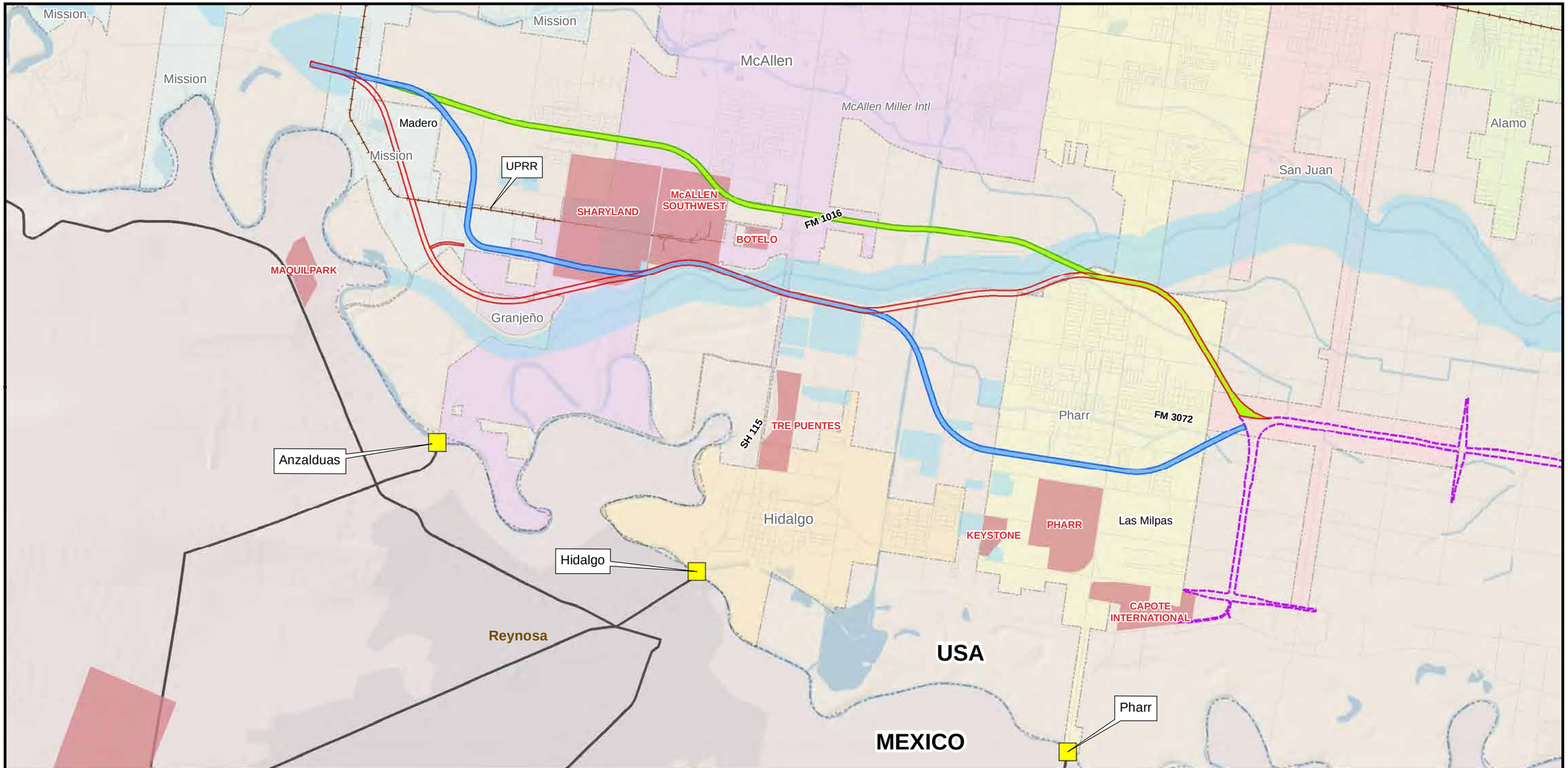
**Figure 4-3**
**Potential Constraints**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

**Page 6 of 6**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 12 Dec 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\04-3_PotentialConstraints.mxd




0 5,000
Feet

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- International Bridge
- Floodway
- Freight Transfer Facility
- SH 365/TCC Alternative A
- SH 365/TCC Alternative B
- SH 365/TCC Alternative C
- IBTC ROW

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 5-1**
**SH 365/TCC Alternatives**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 24 Jul 2014

N:\...100020726\geo\figs\20130320\Figure5-1_SH365_TCCAlternatives.mxd

HCRMA

**Figure 5-2**
**SH 365 at US 281/Military Highway**
**Alternatives**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 24 Jul 2014

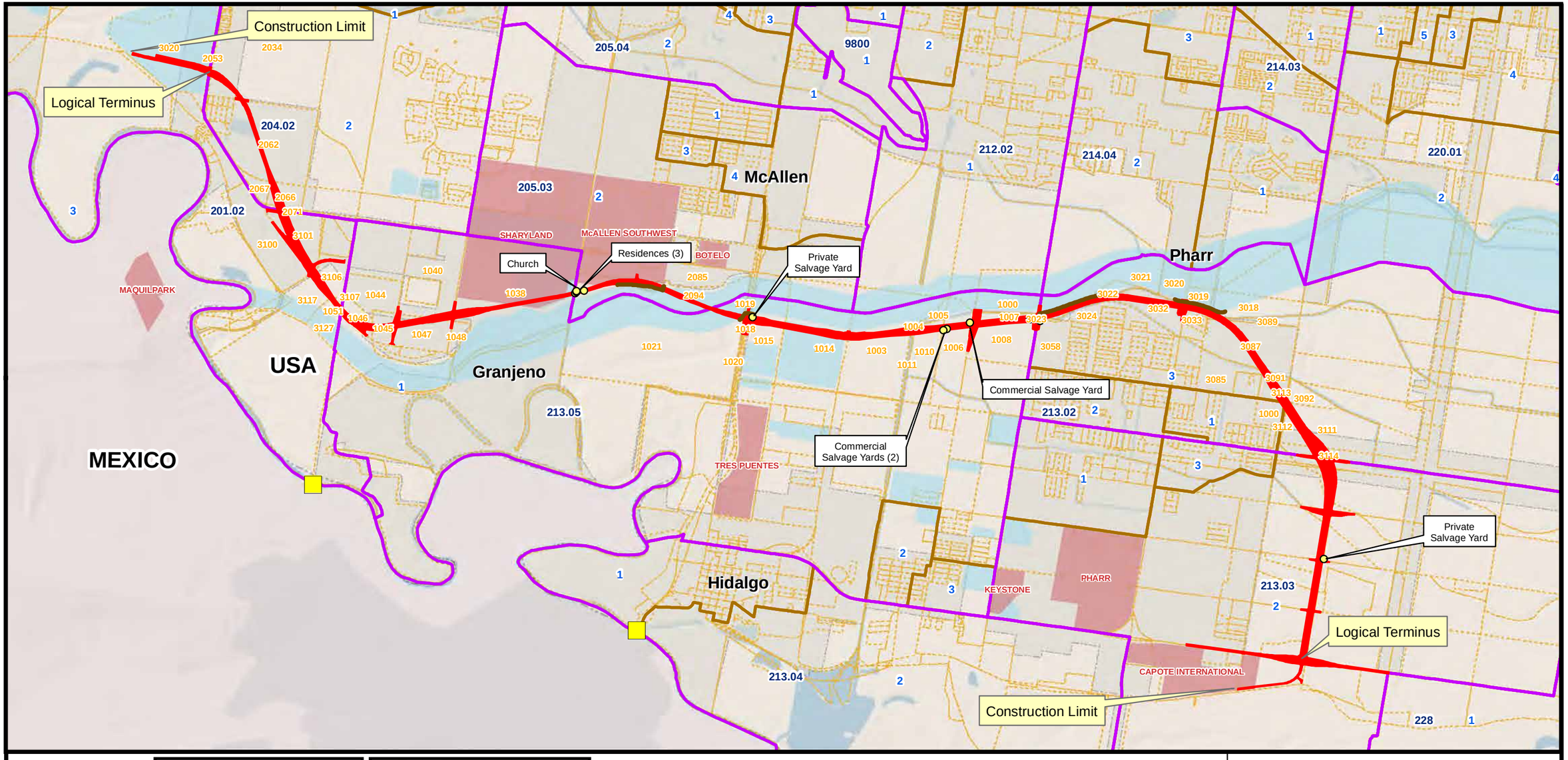
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\05-2_US281_Alts_ROWs.mxd

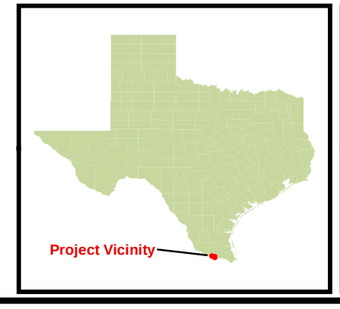
HCRMA

**Figure 5-3**
**SH 365 Alignment Modifications**

| CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023 | Date: Mar 12, 2014 |
|---|---|

N:\...100020726\geo\figs\20130320\EA 20130320\05-2_SH365_AlignmentMods.mxd



0 0.5 1
Miles

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- Proposed ROW
- Displacement
- Levee Relocation
- International Bridge
- Floodway
- Census Block
- Census Block Group
- Census Tract

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 6-1**
**2010 Census Data & Displaced Structures**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

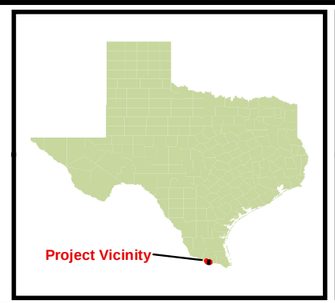
CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 12 Dec 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20140723\06-1_2010CensusData.mxd

0 500
Feet

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters



SH 365 Proposed Right of Way

Affected Parcel

Parcel Portion Required for ROW

3 Map ID Number

This map is for informational purposes only and is not suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. The Hidalgo County Regional Mobility Authority expressly disclaims any and all liability in connection herewith.

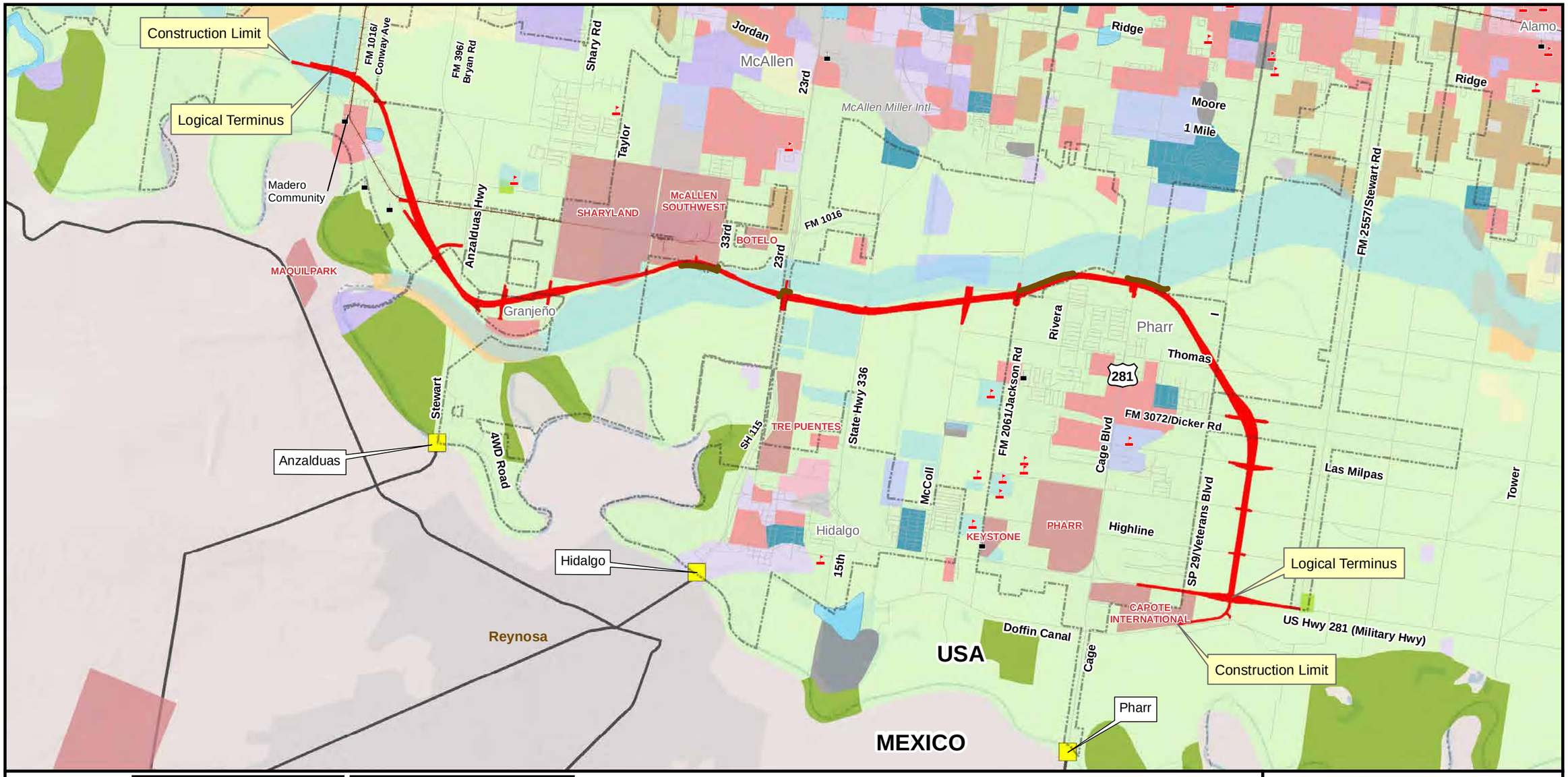
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 6-2**
**Early Right of Way Aquisition**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

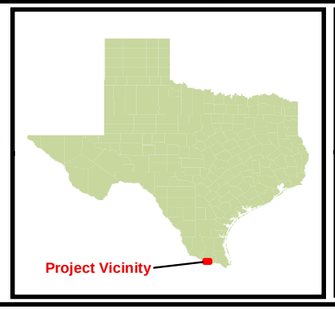
Date: 23 Feb 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-2_ROWReq.mxd




0 5,000
Feet

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters



- Proposed ROW
- Church
- School
- International Bridge
- Levee Relocation
- Floodway
- Freight Transfer Facility

**Land Use/Land Cover**

- Commercial and Services
- Cropland and Pasture
- Deciduous Forest Land
- Herbaceous Rangeland
- Industrial
- Mixed Rangeland
- Mixed Urban or Built-up Land
- Orchands, Groves, Vineyards, Nurseries, etc.
- Other Agricultural Land
- Other Urban or Built-up Land
- Reservoirs
- Residential
- Shrub and Brush Rangeland
- Strip Mines, Quarries and Gravel Pits
- Transitional Areas
- Transportation, Communication and Utilities

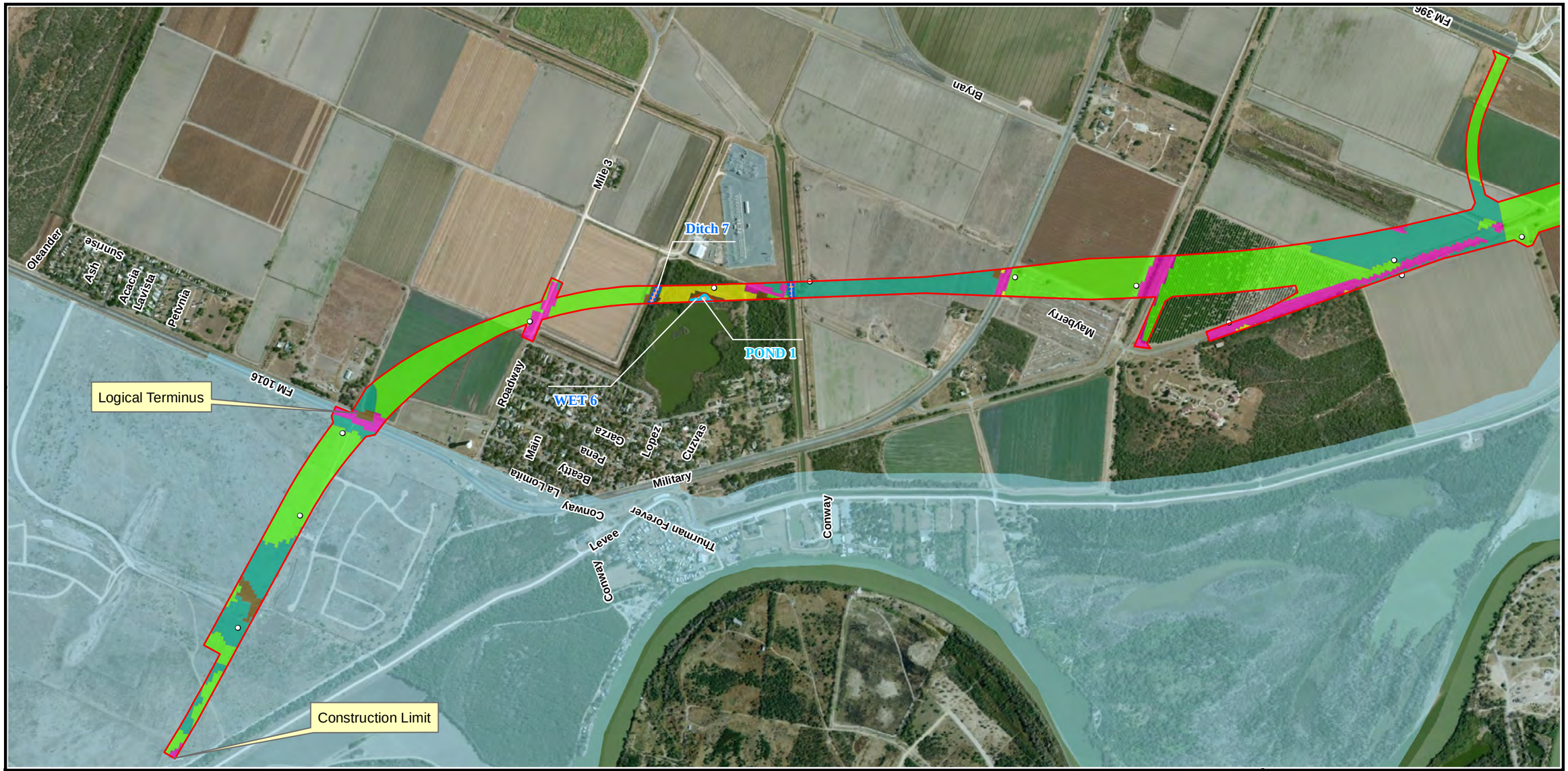
HCRMA

**Figure 6-3**
**Land Use**
**SH 365**
**From FM 1016/Conway Avenue to US 281/Military Highway**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

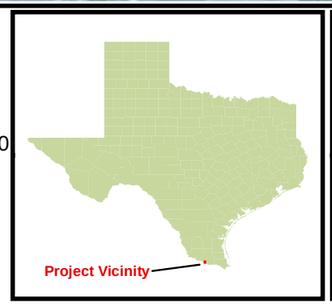
Date: 25 Jul 2014

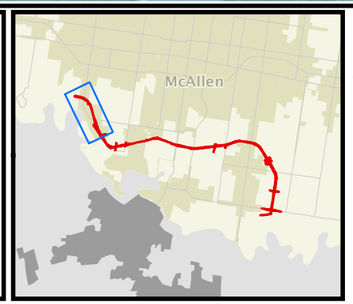
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-3_LandUse.mxd




0 1,000
Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters




- Proposed ROW
- Levee to be Relocated
- Floodway
- 100 Year Floodplain
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

**Vegetation**

- Developed
- Pond
- Farmland
- Forest
- Scrub Shrub
- Maintained/Unmaintained Grassland
- Mesquite Shrub
- Barren
- Wetland

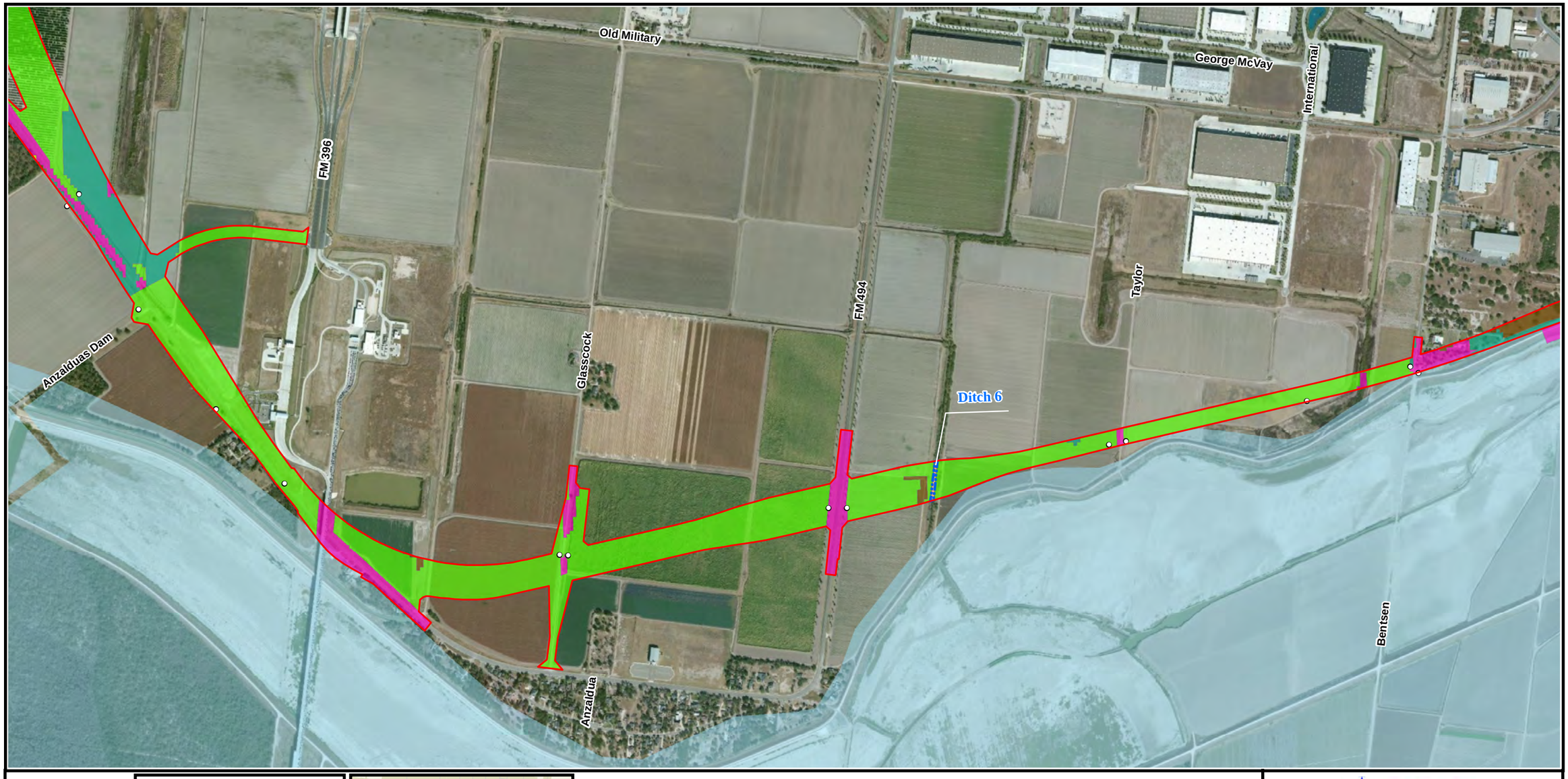
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**
Page 1 of 6

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

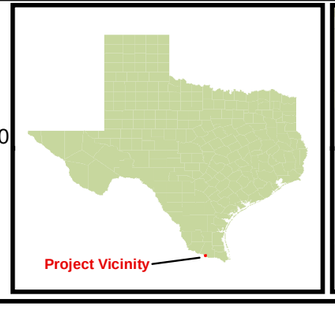
Date: 20 Apr 2015

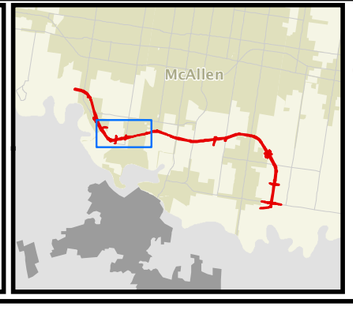
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd




0 1,000
Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters




- Proposed ROW
- Levee to be Relocated
- Floodway
- 100 Year Floodplain
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

**Vegetation**

- Developed
- Pond
- Farmland
- Forest
- Scrub Shrub
- Maintained/Unmaintained Grassland
- Mesquite Shrub
- Barren
- Wetland

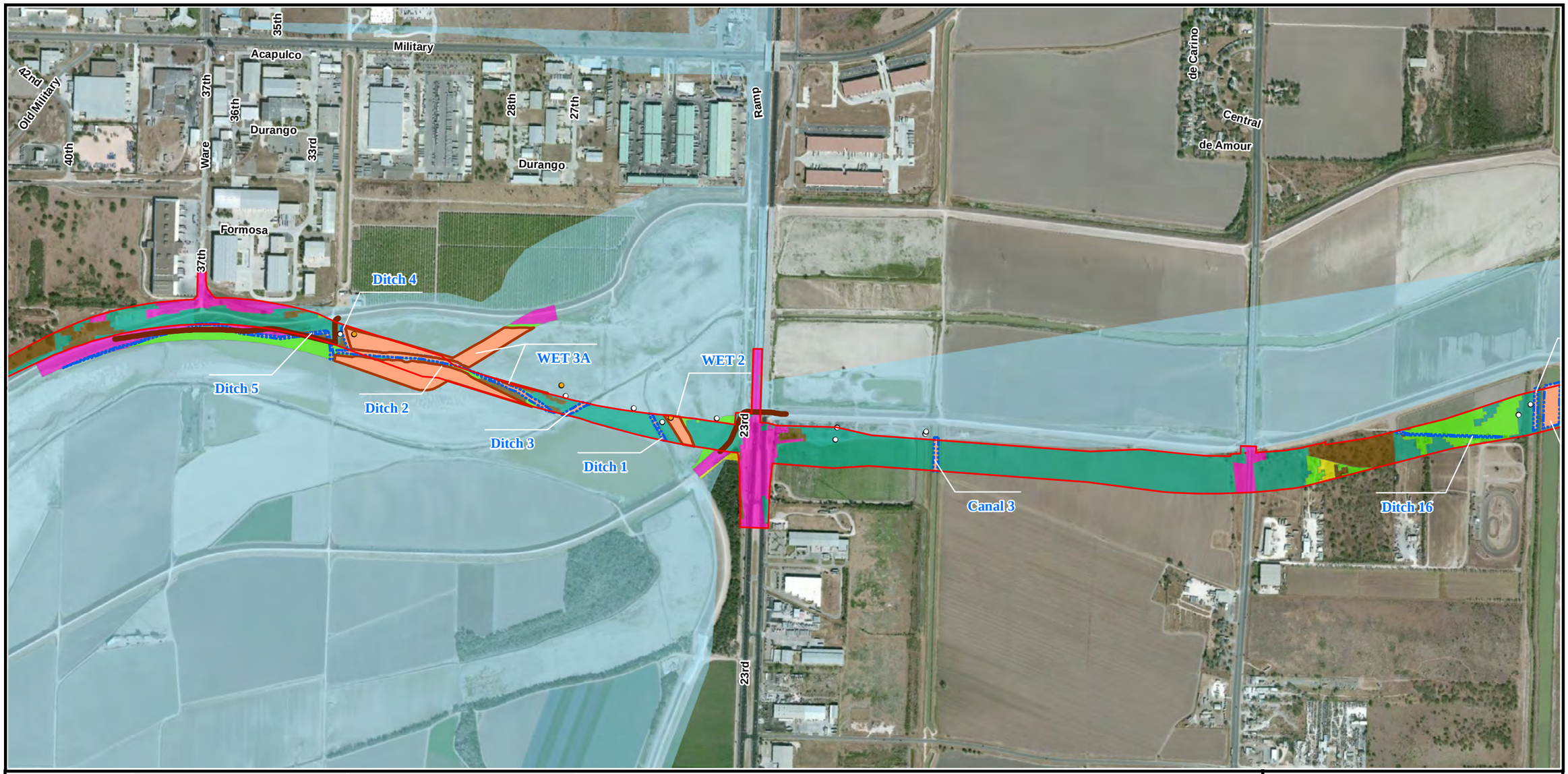
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**
Page 2 of 6

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

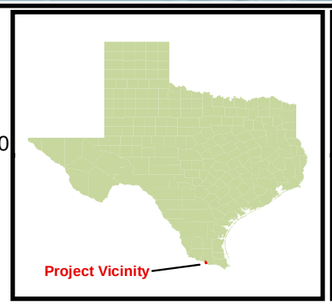
Date: 20 Apr 2015

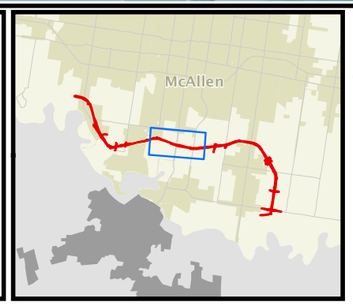
N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd




0 1,000
Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters




- Proposed ROW
- Levee to be Relocated
- Floodway
- 100 Year Floodplain
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

**Vegetation**

- Developed
- Pond
- Farmland
- Forest
- Scrub Shrub
- Maintained/Unmaintained Grassland
- Mesquite Shrub
- Barren
- Wetland

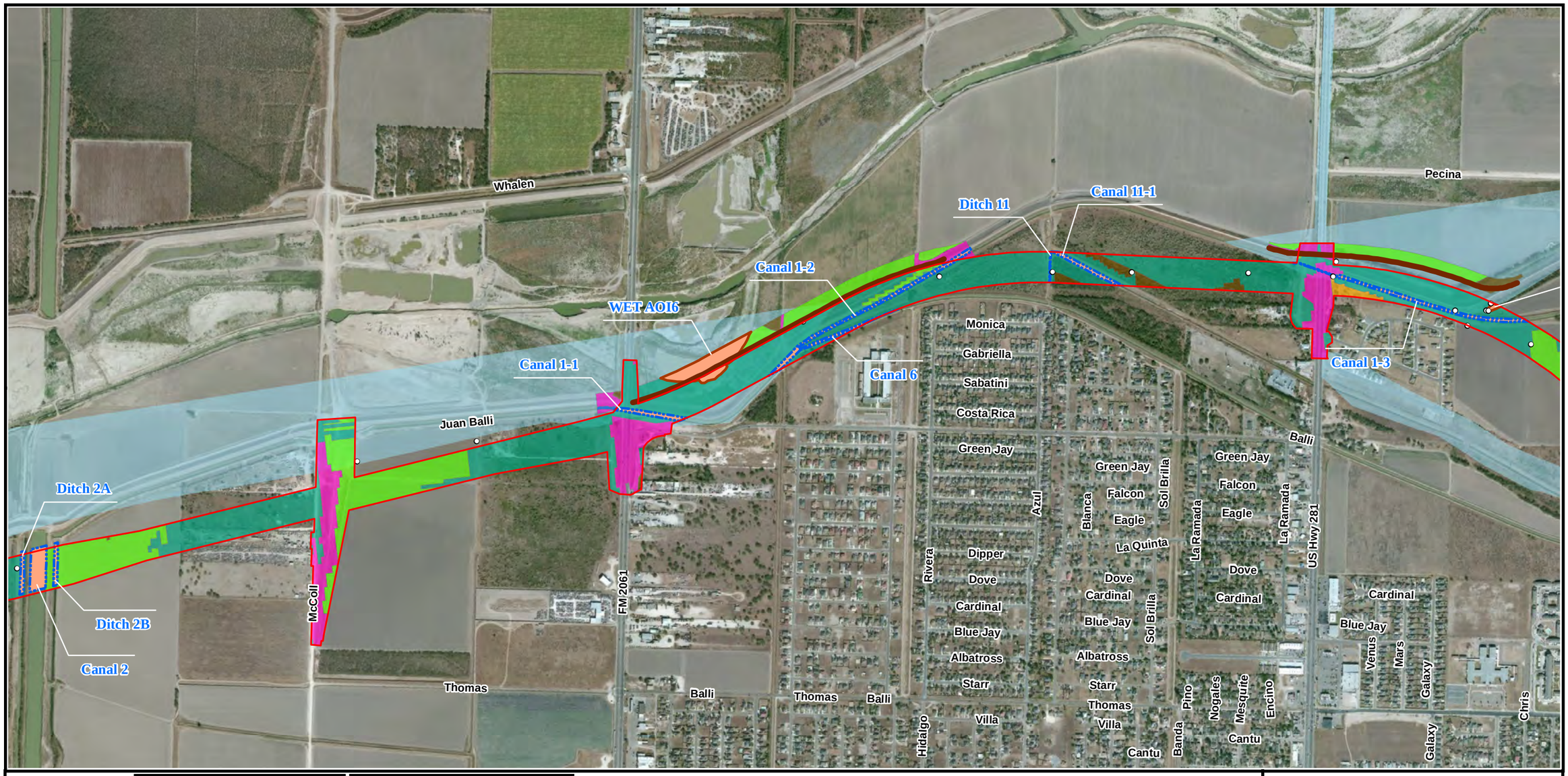
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**
Page 3 of 6

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 20 Apr 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd




HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

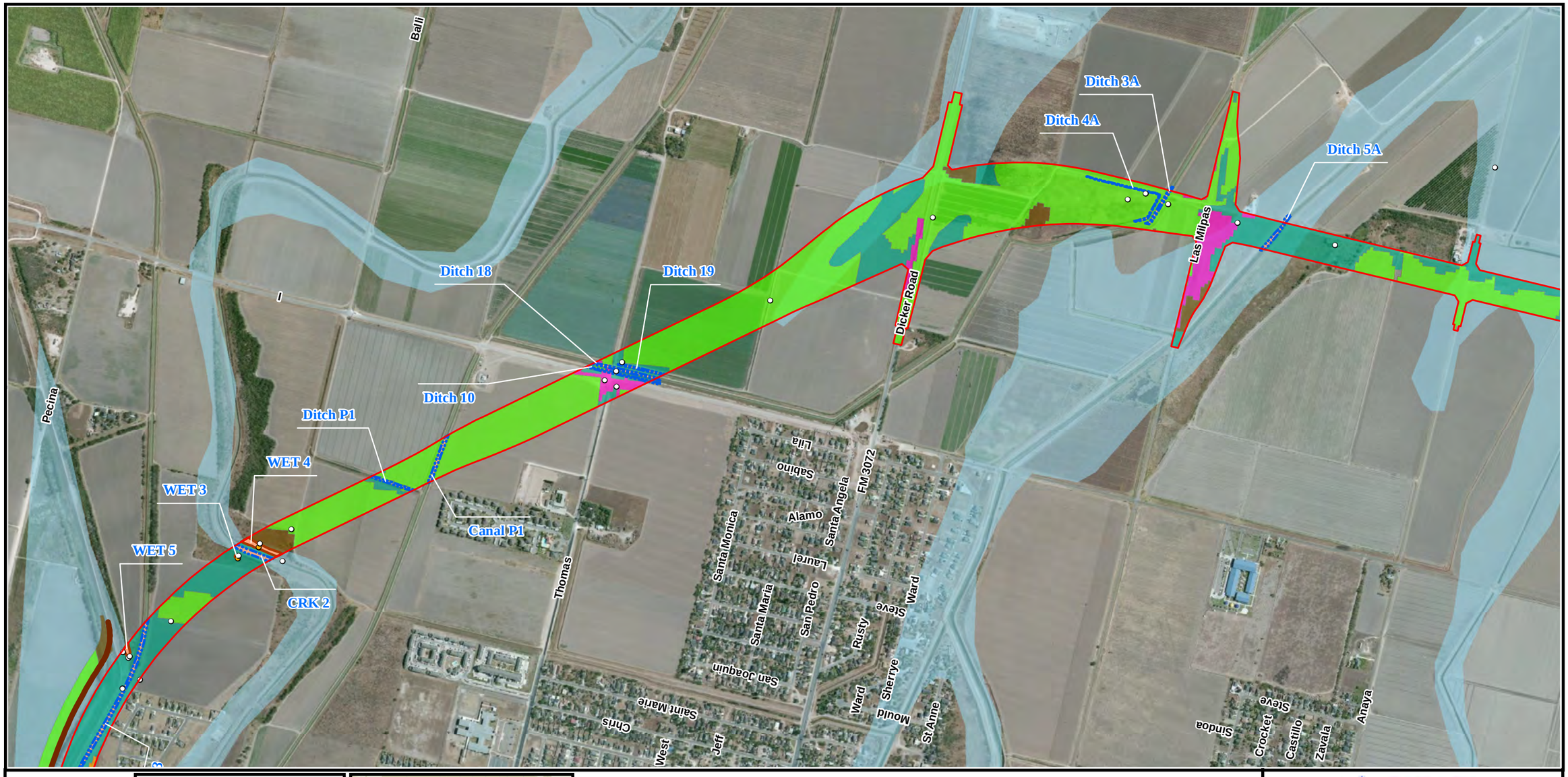
**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**



CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 20 Apr 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd




HCRMA

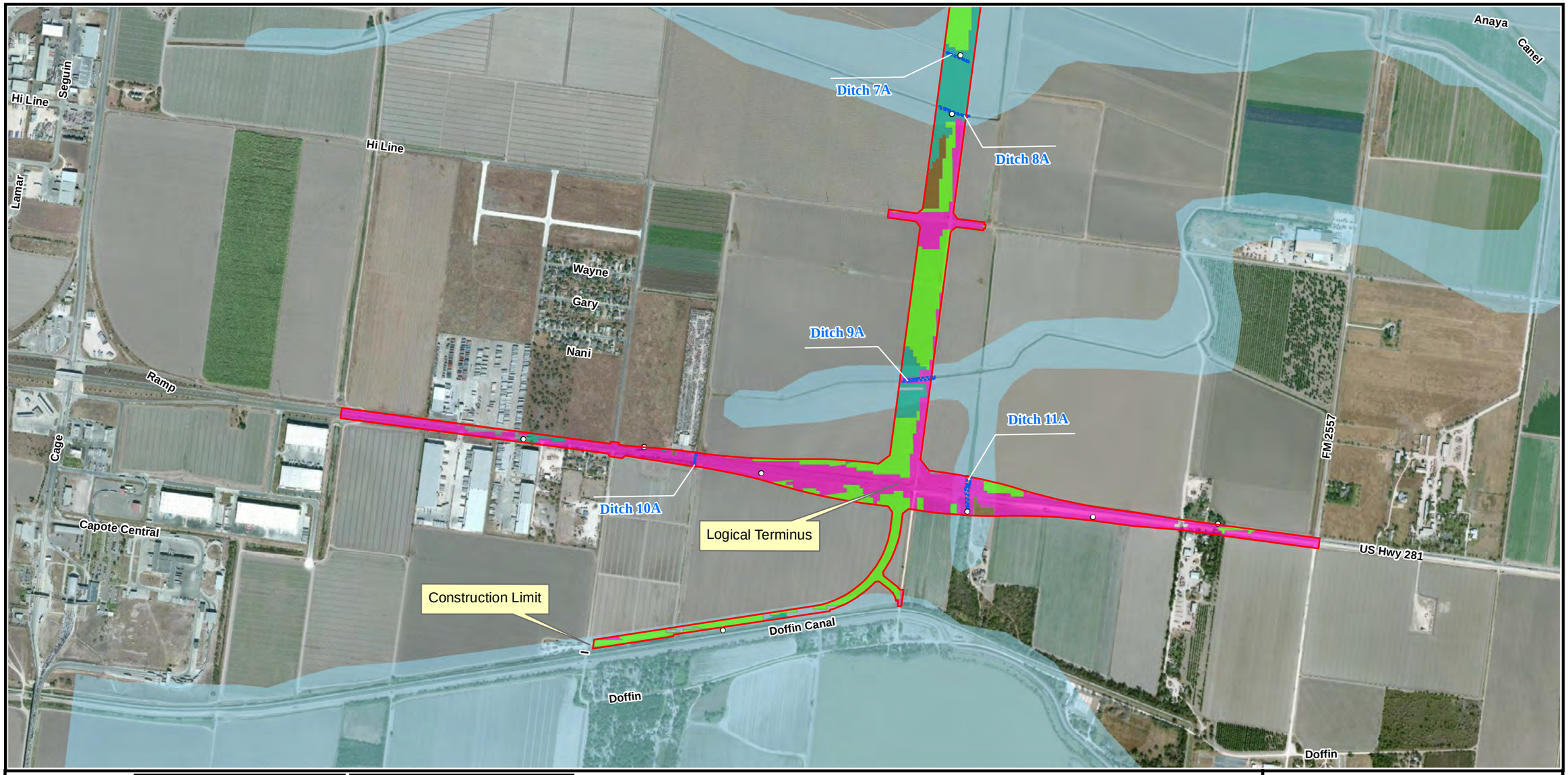
**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

Page 5 of 6

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 20 Apr 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd




HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

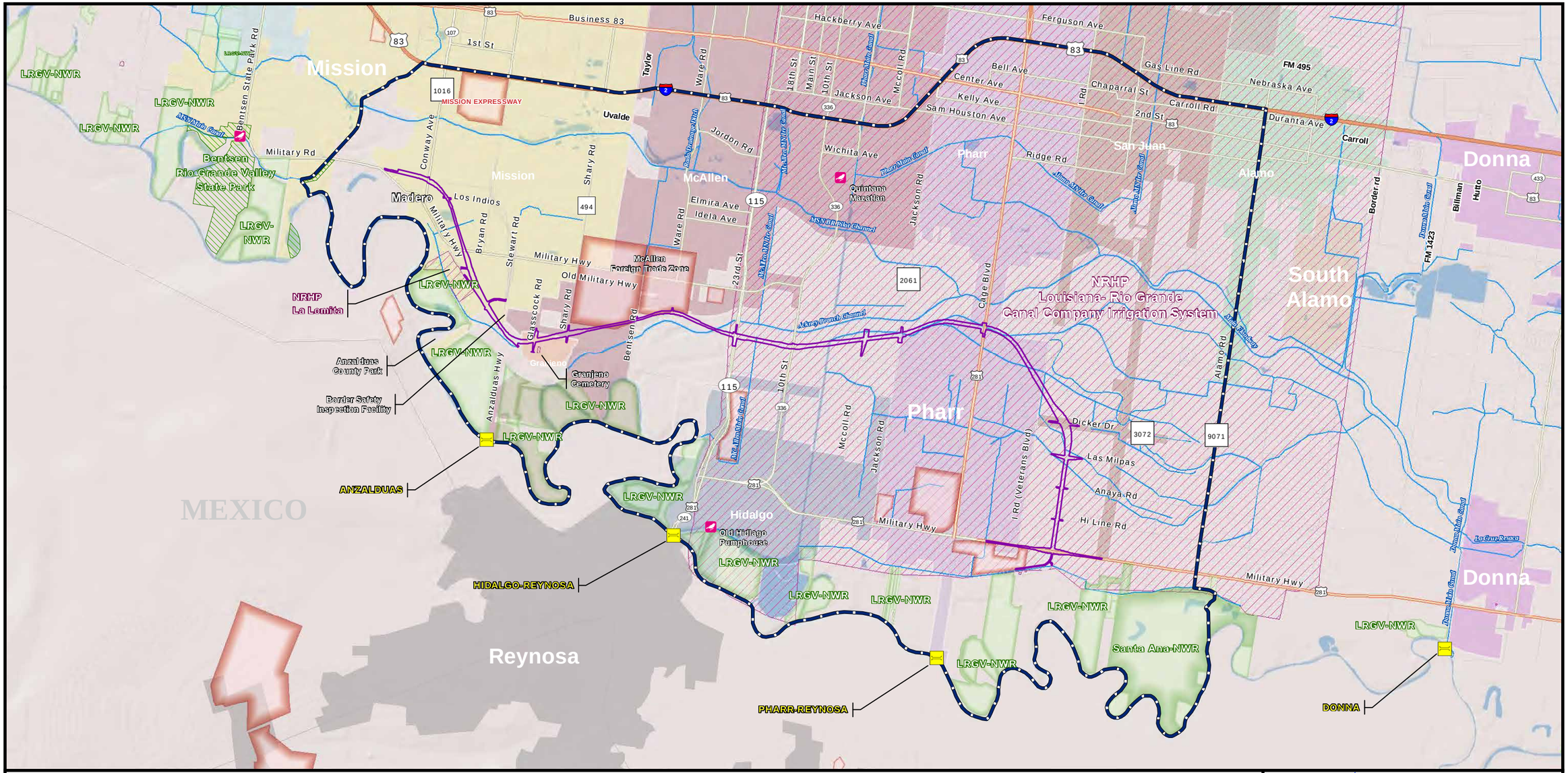
**Figure 6-4**
**Wetlands and Vegetation**
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

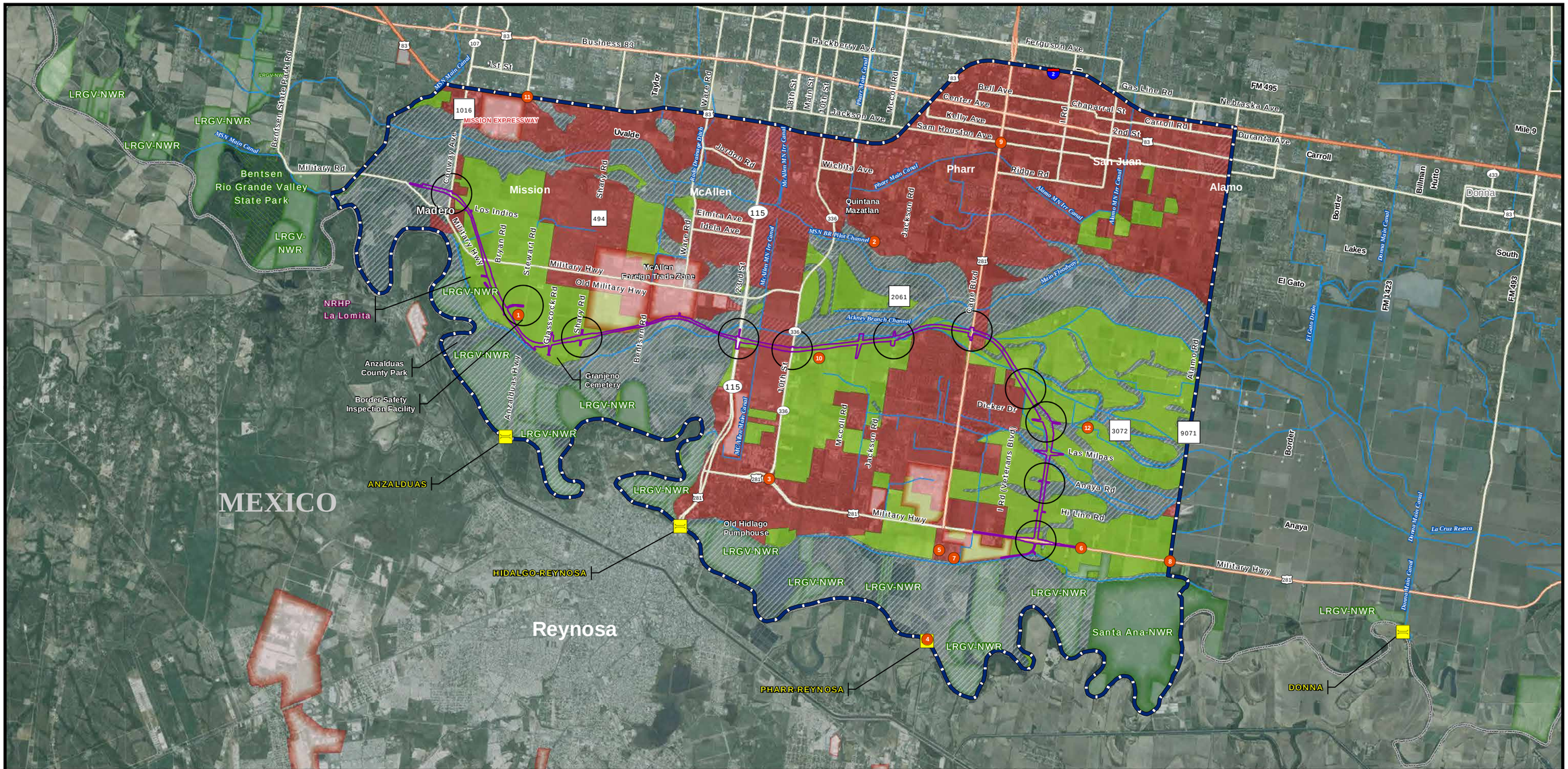


CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 20 Apr 2015

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\EA 20150217\06-4_EA_WetlandsVeg.mxd


Mission
Business 83
1st St
MISSION EXPRESSWAY
Uvalde
Taylor
Ware Rd
Hackberry Ave
Ferguson Ave
Bell Ave
Center Ave
Kelly Ave
Sam Houston Ave
Jackson Ave
Jordon Rd
Wichita Ave
Ridge Rd
Gas Line Rd
Chaparral St
Carroll Rd
2nd St
Nebraska Ave
FM 495
Duranta Ave
Carroll
San Juan
Alamo
Donna
Border rd
Hutto
Billman
FM 1423
McAllen
Quintana Mazatlan
Pharr
Madero
Los Indios
Military Hwy
Old Military Hwy
Elmira Ave
Idela Ave
Bryan Rd
Stewart Rd
Shary Rd
Conway Ave
Glasscock Rd
McAllen Foreign Trade Zone
23rd St
Jackson Rd
Cage Blvd
Mccoll Rd
10th St
18th St
Main St
Bentsen State Park Rd
Bentsen Rio Grande Valley State Park
Military Rd
LRGV-NWR
NRHP
La Lomita
Anzalduas County Park
Border Safety Inspection Facility
Granjeno
Granjeno Cemetery
Anzalduas Hwy
ANZALDUAS
MEXICO
Reynosa
Hidalgo
Old Hidalgo Pumphouse
HIDALGO-REYNOSA
PHARR-REYNOSA
DONNA
Santa Ana-NWR
NRHP
Louisiana- Rio Grande Canal Company Irrigation System
South Alamo
Alamo Rd
Dicker Dr
Las Milpas
Anaya Rd
Hi Line Rd
I Rd (Veterans Blvd)
La Grulla Resaca
1016
494
115
2061
336
281
241
3072
9071
83
107
433
Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters
Project Vicinity
McAllen
HIDALGO
USA
Reynosa
Mexico
Existing International Bridges
World Birding Center
Proposed ROW
Area of Influence (AOI)
Federal Managed Lands
TPWD - State Park
Freight Transfer Facility \ FTZ
THC \ NRHP Property
0
7,000
14,000
Feet
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY
Figure 7-1
Area of Influence for Indirect Effects Analysis
Hidalgo County, Texas
CSJs: 3627-01-001, 3627-01-002
0921-02-337 & 0220-01-023
Date: June 12, 2014
G:\Projects\Hidalgo_RMA\SH365_TCC\Figures\Figure 7-1_20140612.mxd



Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- Existing International Bridges
- Foreseeable Projects
- Proposed ROW
- Access Points
- Area of Influence (AOI)
- Developed Areas
- Undeveloped Areas
- International Border
- FEMA - 100 Year Floodplain
- Federal Managed Lands
- TPWD - State Park
- Freight Transfer Facility \ FTZ

0 7,000 14,000 Feet

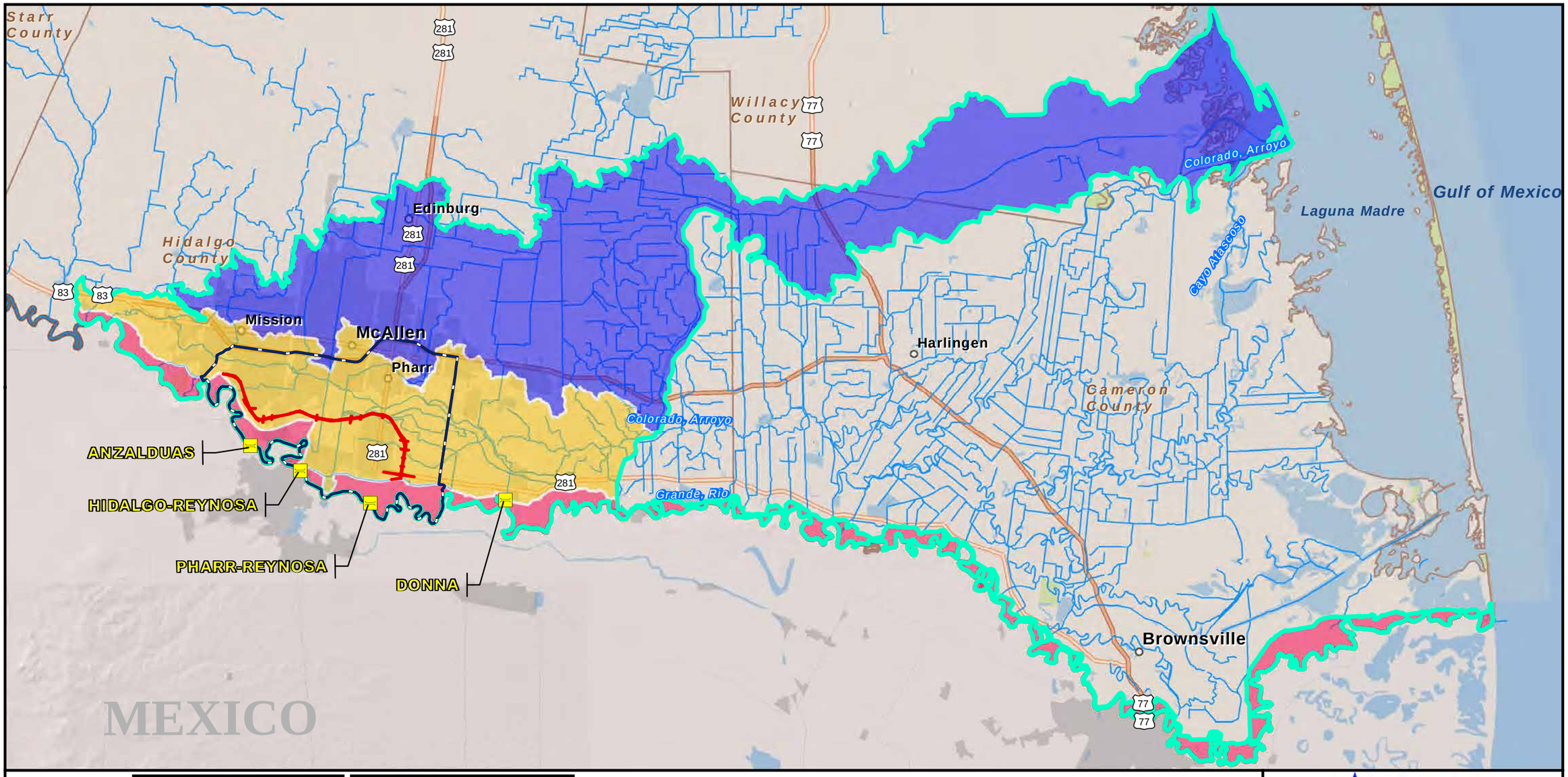
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

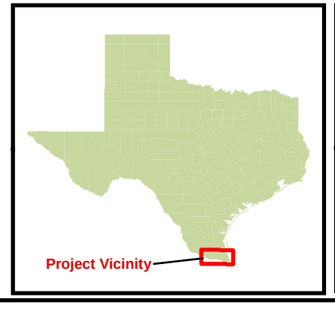
**Figure 7-2**
**Land Available for Development**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002
0921-02-337 & 0220-01-023

Date: June 12, 2014

G:\Projects\Hidalgo_RMA\SH365_TCC\Figures\Figure 7-2_20140612.mxd



Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- Existing International Bridges
- Proposed ROW
- Area of Influence (AOI)
- Resource Study Area (RSA) for Water Resources
- NHD - Streams

**NRCS - Watershed**

- Llano Grande Lake-Arroyo Colorado
- Outlet Rio Grande
- Upper Pilot Channel-Laguna Madre

0 6 12 Miles

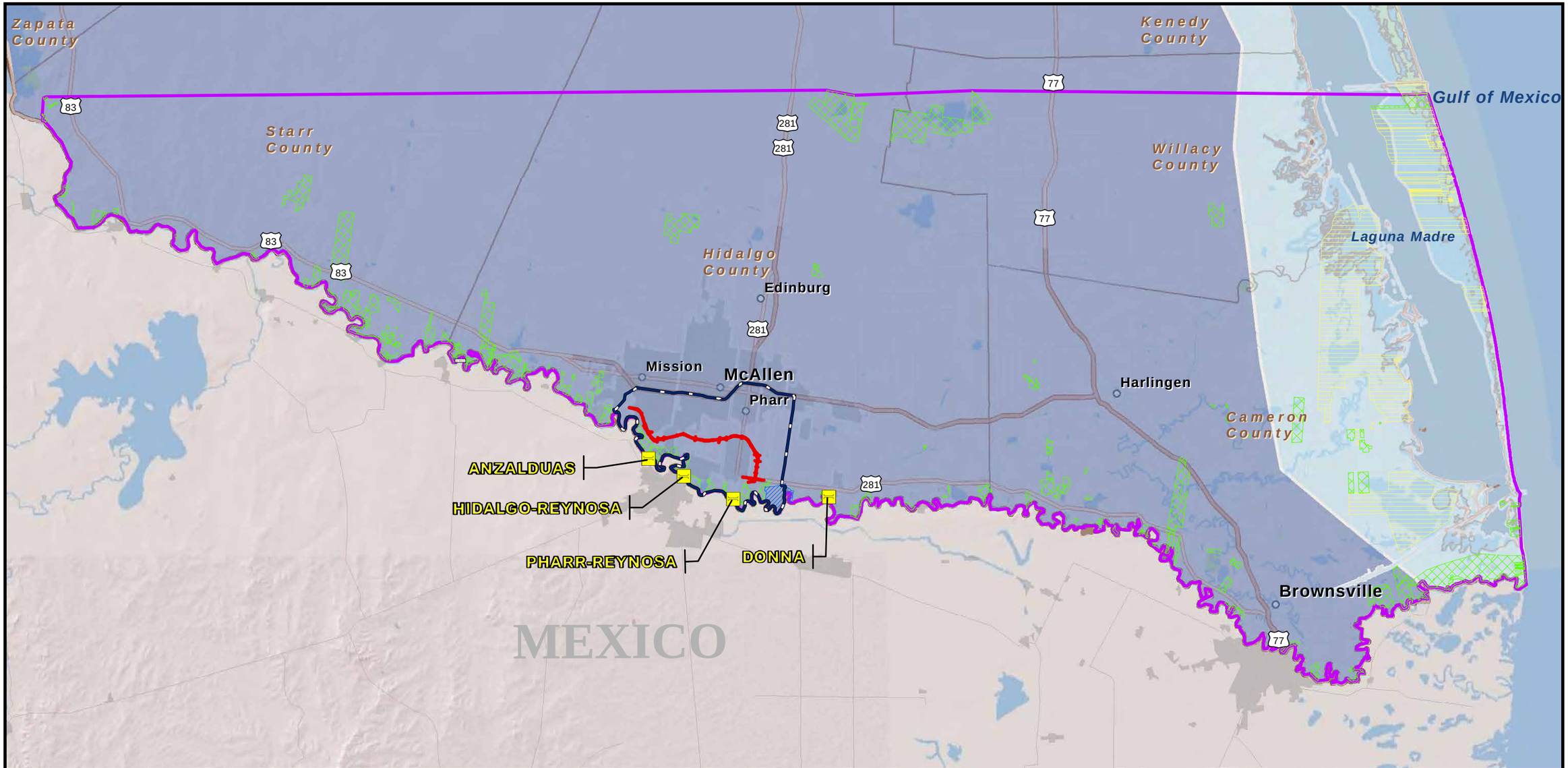
HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

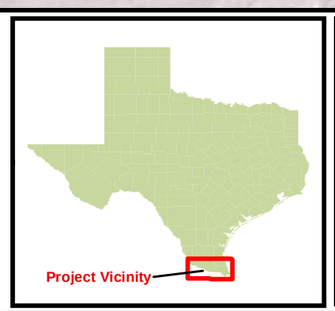
**Figure 8-1**
**Resource Study Area for Water Resources**
**Hidalgo County, Texas**

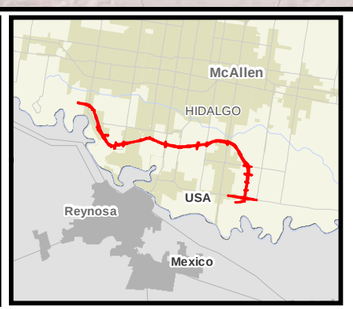
CSJs: 3627-01-001, 3627-01-002
0921-02-337 & 0220-01-023

Date: June 12, 2014

G:\Projects\Hidalgo_RMA\SH365_TCC\Figures\Figure 8-1_20140612.mxd




Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- Existing International Bridges
- Proposed ROW
- Area of Influence (AOI)
- Resource Study Area (RSA) for Vegetation/Wildlife Habitat
- Laguna Atascosa National Wildlife Refuge
- Lower Rio Grande Valley National Wildlife Refuge
- Santa Ana National Wildlife Refuge

**Ecoregions**

- Gulf Prairies
- South Texas Plains Ecoregion

0 8 16

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 8-2**
**Resource Study Area for Vegetation/Wildlife Habitat**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002
0921-02-337 & 0220-01-023

Date: June 12, 2014

G:\Projects\Hidalgo_RMA\SH365_TCC\Figures\Figure 8-2_20140612.mxd

# APPENDIX A - PROJECT RELATED MATERIAL

**Applicable Pages of the TIP and MTP**

**Minute Order 112250**

**Minute Order 112391**

**June 1, 2012 HCRMA Letter**

**Minute Order 113200**

**Proposed SH 365 Traffic Data**

# STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM
## Hidalgo County MPO FY 2015-2018 TIP
## Pharr District Projects
## FY 2015



| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0921-02-194 | LIBERTY BLVD (PHASE I) | E | PENITAS | COUNTY | $411,600 |

**LIMITS FROM:** US 83
**LIMITS TO:** MILE 3 RD
**PROJECT DESCRIPTION:** WIDEN TO 4 LANES WITH DEDICATED LEFT TURN LANE
**REMARKS:** E = PRELIMINARY ENGINEERING
**P7:**

**REVISION DATE:** 2_2015
**MPO PROJ NUMBER:** HC-284a
**FUNDING CAT(S):** 10 - EARMARK, 3 - LOCAL

**PROJECT HISTORY:**
PE = 100% LG

ADDED

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.90% | $411,600 | COST OF APPROVED PHASES: $411,600 |
| ROW PURCHASE: | | $1,224,171 | |
| CONST COST: | | $8,400,000 | |
| CONST ENG: | 4.50% | $378,000 | |
| CONTING: | 6.50% | $546,000 | |
| IND COSTS: | 6.20% | $520,800 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $11,480,571 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 10 - EARMARK | $231,889 | | $57,972 | | $289,861 |
| CAT 3 - LOCAL | | | | $121,739 | $121,739 |
| TOTALS | $231,889 | $0 | $57,972 | $121,739 | $411,600 |

| PHARR | HIDALGO | 0921-02-322 | LIBERTY BLVD (PHASE II) | E | COUNTY | COUNTY | $372,400 |
|---|---|---|---|---|---|---|---|

**LIMITS FROM:** MILE 3 RD
**LIMITS TO:** FM 2221
**PROJECT DESCRIPTION:** CONSTRUCT 2 LANES WITH SHOULDERS
**REMARKS:** E = PRELIMINARY ENGINEERING
**P7:**

**REVISION DATE:** 2_2015
**MPO PROJ NUMBER:** HC-284b
**FUNDING CAT(S):** 10 - EARMARK, 3 - LOCAL

**PROJECT HISTORY:**
PE = 100% LG

ADDED

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.90% | $372,400 | COST OF APPROVED PHASES: $372,400 |
| ROW PURCHASE: | | $1,107,584 | |
| CONST COST: | | $7,600,000 | |
| CONST ENG: | 4.50% | $342,000 | |
| CONTING: | 6.50% | $494,000 | |
| IND COSTS: | 6.20% | $471,200 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $10,387,184 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 10 - EARMARK | $209,804 | | $52,451 | | $262,255 |
| CAT 3 - LOCAL | | | | $110,145 | $110,145 |
| TOTALS | $209,804 | $0 | $52,451 | $110,145 | $372,400 |

| PHARR | HIDALGO | 3627-01-001 | SH 365 (PHASE I) | E | HCRMA | HCRMA | $10,860,670 |
|---|---|---|---|---|---|---|---|

**LIMITS FROM:** US 281 MILITARY HIGHWAY
**LIMITS TO:** FM 396 (ANZALDUAS HIGHWAY)
**PROJECT DESCRIPTION:** A TOLL IMPROVEMENT BEING A 4 LANE CONTROLLED ACCESS FACILITY
**REMARKS:** E = PRELIMINARY ENGINEERING
**P7:**

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1aa
**FUNDING CAT(S):** 3 - LOCAL

**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 7.90% | $10,860,670 | COST OF APPROVED PHASES: $10,860,670 |
| ROW PURCHASE: | | $51,596,891 | |
| CONST COST: | | $137,405,566 | |
| CONST ENG: | 3.92% | $5,385,907 | |
| CONTING: | | $0 | |
| IND COSTS: | 13.07% | $17,964,287 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $223,213,321 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $10,860,670 | $10,860,670 |
| TOTALS | $0 | $0 | $0 | $10,860,670 | $10,860,670 |

PHASE: C = CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER
* FUNDING NOT FIXED

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 3627-01-001 | SH 365 (PHASE I) | R | HCRMA | HCRMA | $51,596,891 |

**LIMITS FROM:** US 281 MILITARY HIGHWAY
**LIMITS TO:** FM 396 (ANZALDUAS HIGHWAY)
**PROJECT DESCRIPTION:** A TOLL IMPROVEMENT BEING A 4 LANE CONTROLLED ACCESS FACILITY
**REMARKS**
**P7:**

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1aa
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| **PRELIM ENG:** | 7.90% | $10,860,670 | **COST OF APPROVED PHASES:** **$51,596,891** |
| **ROW PURCHASE:** | | $51,596,891 | |
| **CONST COST:** | | $137,405,566 | |
| **CONST ENG:** | 3.92% | $5,385,907 | |
| **CONTING:** | | $0 | |
| **IND COSTS:** | 13.07% | $17,964,287 | |
| **BND FINANCING:** | | $0 | |
| **TOTAL PROJECT COST:** | | $223,213,321 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $51,596,891 | $51,596,891 |
| **TOTALS** | **$0** | **$0** | **$0** | **$51,596,891** | **$51,596,891** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0220-01-023 | US 281 MILITARY HIGHWAY | E | HCRMA | HCRMA | $616,079 |

**LIMITS FROM:** 0.45 MILES E SPUR 600
**LIMITS TO:** FM 2557 (STEWARD RD)
**PROJECT DESCRIPTION:** WIDENING TO 4 LANE DIVIDED WITH OVERPASS AT SAN JUAN RD
**REMARKS** E = PRELIMINARY ENGINEERING
**P7:**

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1ab
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| **PRELIM ENG:** | 4.22% | $616,079 | **COST OF APPROVED PHASES:** **$616,079** |
| **ROW PURCHASE:** | | $2,529,228 | |
| **CONST COST:** | | $14,594,604 | |
| **CONST ENG:** | 5.30% | $774,041 | |
| **CONTING:** | | $0 | |
| **IND COSTS:** | 14.29% | $2,086,071 | |
| **BND FINANCING:** | | $0 | |
| **TOTAL PROJECT COST:** | | $20,600,023 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $616,079 | $616,079 |
| **TOTALS** | **$0** | **$0** | **$0** | **$616,079** | **$616,079** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0220-01-023 | US 281 MILITARY HIGHWAY | R | HCRMA | HCRMA | $2,529,228 |

**LIMITS FROM:** 0.45 MILES E SPUR 600
**LIMITS TO:** FM 2557 (STEWARD RD)
**PROJECT DESCRIPTION:** WIDENING TO 4 LANE DIVIDED WITH OVERPASS AT SAN JUAN RD
**REMARKS**
**P7:**

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1ab
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| **PRELIM ENG:** | 4.22% | $616,079 | **COST OF APPROVED PHASES:** **$2,529,228** |
| **ROW PURCHASE:** | | $2,529,228 | |
| **CONST COST:** | | $14,594,604 | |
| **CONST ENG:** | 5.30% | $774,041 | |
| **CONTING:** | | $0 | |
| **IND COSTS:** | 14.29% | $2,086,071 | |
| **BND FINANCING:** | | $0 | |
| **TOTAL PROJECT COST:** | | $20,600,023 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $2,529,228 | $2,529,228 |
| **TOTALS** | **$0** | **$0** | **$0** | **$2,529,228** | **$2,529,228** |

PHASE: C = CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER
* FUNDING NOT FIXED

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0220-01-023 | US 281 MILITARY HIGHWAY | C/E | HCRMA | HCRMA | $17,454,716 |

**LIMITS FROM:** 0.45 MILES E SPUR 600
**LIMITS TO:** FM 2557 (STEWARD RD)
**PROJECT DESCRIPTION:** WIDENING TO 4 LANE DIVIDED WITH OVERPASS AT SAN JUAN RD
**REMARKS P7:** CAT 10 CBI = $5,600,000 AND LOCAL = $11,854,716 FOR CONSTRUCTION, CE, AND INDIRECT E = CONSTRUCTION ENGINEERING
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1ab
**FUNDING CAT(S):** 10, 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.22% | $616,079 | COST OF APPROVED PHASES: $17,454,716 |
| ROW PURCHASE: | | $2,529,228 | |
| CONST COST: | | $14,594,604 | |
| CONST ENG: | 5.30% | $774,041 | |
| CONTING: | | $0 | |
| IND COSTS: | 14.29% | $2,086,071 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $20,600,023 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 10 - CBI | $4,480,000 | $1,120,000 | | | $5,600,000 |
| CAT 3 - LOCAL | | | | $11,854,716 | $11,854,716 |
| **TOTALS** | **$4,480,000** | **$1,120,000** | **$0** | **$11,854,716** | **$17,454,716** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 3627-01-002 | SH 365 (PHASE II) | E | HCRMA | HCRMA | $3,215,286 |

**LIMITS FROM:** FM 396 (ANZALDUAS HIGHWAY)
**LIMITS TO:** FM 1016 (CONWAY RD)
**PROJECT DESCRIPTION:** TOLL IMPROVEMENT BEING A 4 LANE CONTROLLED ACCESS FACILITY
**REMARKS P7:** E = PRELIMINARY ENGINEERING
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1b
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 8.55% | $3,215,286 | COST OF APPROVED PHASES: $3,215,286 |
| ROW PURCHASE: | | $5,406,143 | |
| CONST COST: | | $37,620,524 | |
| CONST ENG: | 3.67% | $1,380,765 | |
| CONTING: | | $0 | |
| IND COSTS: | 2.05% | $770,762 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $48,393,480 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $3,215,286 | $3,215,286 |
| **TOTALS** | **$0** | **$0** | **$0** | **$3,215,286** | **$3,215,286** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 3627-01-002 | SH 365 (PHASE II) | R | HCRMA | HCRMA | $5,406,143 |

**LIMITS FROM:** FM 396 (ANZALDUAS HIGHWAY)
**LIMITS TO:** FM 1016 (CONWAY RD)
**PROJECT DESCRIPTION:** TOLL IMPROVEMENT BEING A 4 LANE CONTROLLED ACCESS FACILITY
**REMARKS P7:**
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1b
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 8.55% | $3,215,286 | COST OF APPROVED PHASES: $5,406,143 |
| ROW PURCHASE: | | $5,406,143 | |
| CONST COST: | | $37,620,524 | |
| CONST ENG: | 3.67% | $1,380,765 | |
| CONTING: | | $0 | |
| IND COSTS: | 2.05% | $770,762 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $48,393,480 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $5,406,143 | $5,406,143 |
| **TOTALS** | **$0** | **$0** | **$0** | **$5,406,143** | **$5,406,143** |

PHASE: C = CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER
* FUNDING NOT FIXED

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0921-02-337 | BSIF CONNECTOR | E | HCRMA | HCRMA | $117,348 |

**LIMITS FROM:** SP 29/VETERANS DRIVE AT THE BSIF
**LIMITS TO:** US 281
**PROJECT DESCRIPTION:** NON-TOLL IMPROVEMENT BEING A LOCAL COLLECTOR
**REMARKS:** E = PRELIMINARY ENGINEERING
**P7:**
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-2
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.22% | $117,348 | COST OF APPROVED PHASES: $117,348 |
| ROW PURCHASE: | | $481,758 | |
| CONST COST: | | $2,779,924 | |
| CONST ENG: | 5.30% | $147,436 | |
| CONTING: | | $0 | |
| IND COSTS: | 14.29% | $397,347 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $3,923,814 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $117,348 | $117,348 |
| TOTALS | $0 | $0 | $0 | $117,348 | $117,348 |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0921-02-337 | BSIF CONNECTOR | R | HCRMA | HCRMA | $481,758 |

**LIMITS FROM:** SP 29/VETERANS DRIVE AT THE BSIF
**LIMITS TO:** US 281
**PROJECT DESCRIPTION:** NON-TOLL IMPROVEMENT BEING A LOCAL COLLECTOR
**REMARKS:**
**P7:**
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-2
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.22% | $117,348 | COST OF APPROVED PHASES: $481,758 |
| ROW PURCHASE: | | $481,758 | |
| CONST COST: | | $2,779,924 | |
| CONST ENG: | 5.30% | $147,436 | |
| CONTING: | | $0 | |
| IND COSTS: | 14.29% | $397,347 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $3,923,814 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $481,758 | $481,758 |
| TOTALS | $0 | $0 | $0 | $481,758 | $481,758 |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0921-02-337 | BSIF CONNECTOR | C/E | HCRMA | HCRMA | $3,324,707 |

**LIMITS FROM:** SP 29/VETERANS DRIVE AT THE BSIF
**LIMITS TO:** US 281
**PROJECT DESCRIPTION:** NON-TOLL IMPROVEMENT BEING A LOCAL COLLECTOR
**REMARKS:** E = CONSTRUCTION ENGINEERING
**P7:**
**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-2
**FUNDING CAT(S):** 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | | |
|---|---|---|---|
| PRELIM ENG: | 4.22% | $117,348 | COST OF APPROVED PHASES: $3,324,707 |
| ROW PURCHASE: | | $481,758 | |
| CONST COST: | | $2,779,924 | |
| CONST ENG: | 5.30% | $147,436 | |
| CONTING: | | $0 | |
| IND COSTS: | 14.29% | $397,347 | |
| BND FINANCING: | | $0 | |
| TOTAL PROJECT COST: | | $3,923,814 | |

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 3 - LOCAL | | | | $3,324,707 | $3,324,707 |
| TOTALS | $0 | $0 | $0 | $3,324,707 | $3,324,707 |

PHASE: C = CONSTRUCTION, E = ENGINEERING, R = ROW, T = TRANSFER
* FUNDING NOT FIXED

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 0921-02-301 | INSPIRATION ROAD | C/E/R | MISSION | COUNTY | $12,594,306 |

**LIMITS FROM:** 0.13 Mi N of US 83
**LIMITS TO:** 0.15 Mi N of FM 1924 (MILE 3 N)
**PROJECT DESCRIPTION:** WIDEN TO 4 LANE DIVIDED - CURB & GUTTER SECTION
**REMARKS P7:** CONST, CE & CONTINGENCIES CAT 7 = $10,515,588 & CAT 12 = $1,230,000; ROW CAT 7 = $848,718; ALL OTHER COSTS 100% LOCAL
E = CONSTRUCTION ENGINEERING

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** HC-282
**FUNDING CAT(S):** 7, 12S
**PROJECT HISTORY:**
PE = 100% LG

**TOTAL PROJECT COST INFORMATION**

| | | |
|---|---|---|
| PRELIM ENG: | 4.90% | $518,499 |
| ROW PURCHASE: | | $848,718 |
| CONST COST: | | $10,581,611 |
| CONST ENG: | 4.50% | $476,172 |
| CONTING: | 6.50% | $687,805 |
| IND COSTS: | 6.20% | $656,060 |
| BND FINANCING: | | $0 |
| TOTAL PROJECT COST: | | $13,768,865 |

COST OF APPROVED PHASES: **$12,594,306**

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 7 (ROW) | $678,974 | | $169,744 | | $848,718 |
| CAT 7 (CONST) | $8,412,470 | $1,997,962 | $105,156 | | $10,515,588 |
| CAT 12S (CONST) | $984,000 | $233,700 | $12,300 | | $1,230,000 |
| **TOTALS** | **$10,075,444** | **$2,231,662** | **$287,200** | **$0** | **$12,594,306** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 3627-01-001 | SH 365 (PHASE I) | C/E | HCRMA | HCRMA | $160,755,760 |

**LIMITS FROM:** US 281 MILITARY HIGHWAY
**LIMITS TO:** FM 396 (ANZALDUAS HIGHWAY)
**PROJECT DESCRIPTION:** A TOLL IMPROVEMENT BEING A 4 LANE CONTROLLED ACCESS FACILITY
**REMARKS P7:** CAT 12 = $112,055,735 AND LOCAL = $48,700,025 FOR CONSTRUCTION, CE AND INDIRECT
E = CONSTRUCTION ENGINEERING

**REVISION DATE:** 11_2014
**MPO PROJ NUMBER:** RMA-1aa
**FUNDING CAT(S):** 12, 3 - LOCAL
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | |
|---|---|---|
| PRELIM ENG: | 7.90% | $10,860,670 |
| ROW PURCHASE: | | $51,596,891 |
| CONST COST: | | $137,405,566 |
| CONST ENG: | 3.92% | $5,385,907 |
| CONTING: | | $0 |
| IND COSTS: | 13.07% | $17,964,287 |
| BND FINANCING: | | $0 |
| TOTAL PROJECT COST: | | $223,213,321 |

COST OF APPROVED PHASES: **$160,755,760**

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| CAT 12 | $89,644,588 | $22,411,147 | | | $112,055,735 |
| CAT 3 - LOCAL | | | | $48,700,025 | $48,700,025 |
| **TOTALS** | **$89,644,588** | **$22,411,147** | **$0** | **$48,700,025** | **$160,755,760** |

| DISTRICT | COUNTY | CSJ | HWY | PHASE | CITY | PROJECT SPONSOR | YOE COST |
|---|---|---|---|---|---|---|---|
| PHARR | HIDALGO | 3629-01-001 | SH 68 | R | COUNTY | TXDOT | $13,500,000 |

**LIMITS FROM:** US 83
**LIMITS TO:** FM 1925
**PROJECT DESCRIPTION:** CONSTRUCT NEW 4-LANE DIVIDED RURAL HIGHWAY FACILITY
**REMARKS P7:**

**REVISION DATE:** 9_2014
**MPO PROJ NUMBER:** HC-295b
**FUNDING CAT(S):** OTHER - TxDOT ROW FUND
**PROJECT HISTORY:**

**TOTAL PROJECT COST INFORMATION**

| | | |
|---|---|---|
| PRELIM ENG: | 11.82% | $6,500,000 |
| ROW PURCHASE: | | $23,500,000 |
| CONST COST: | | $55,000,000 |
| CONST ENG: | 4.50% | $2,475,000 |
| CONTING: | 7.00% | $3,850,000 |
| IND COSTS: | 6.20% | $3,410,000 |
| BND FINANCING: | | $0 |
| TOTAL PROJECT COST: | | $94,735,000 |

COST OF APPROVED PHASES: **$13,500,000**

**AUTHORIZED FUNDING BY CATEGORY/SHARE**

| | FEDERAL | STATE | LOCAL | LC | TOTAL |
|---|---|---|---|---|---|
| OTHER (TXDOT ROW FUND) | $10,800,000 | $2,700,000 | | | $13,500,000 |
| **TOTALS** | **$10,800,000** | **$2,700,000** | **$0** | **$0** | **$13,500,000** |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data: Type of Improvement | Proposed Project Data: Jurisdiction | Total Project Cost: Construction Cost 2013 dollars | Total Project Cost: Letting Year Construction dollars | Total Project Cost: ROW cost (12% 2011 const cost) | Total Project Cost: Preliminary Engineering (4.9% 2011 const cost) | Total Project Cost: CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Total Project Cost: Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost: Total Project Cost | Total Project Cost: Year of Expenditure Dollars (YOE) | Funding Categories: Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **REHABILITATION & PREVENTIVE MAINTENANCE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LS | LUMP SUM | | | | | | Maintenance / Rehabilitation | Various | | | | | | | | $ 295,161,902 | | | | | | | | | | | $ 295.16 |
| **BRIDGE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LS | Lump Sum | | | | | | Bridge Replacement | Various | | | | | | | | $ 4,296,855 | | | | | | | | | | | $ 4.30 |
| **SAFETY** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LS | Lump Sum | | | | | | Safety Improvements | Various | | | | | | | | $ 45,937,229 | | | | | | | | | | | $ 45.94 |
| **DISTRICT DISCRETIONARY** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LS | Lump Sum | | | | | | District Discretionary | Various | | | | | | | | $ 22,797,701 | | | | | | | | | | | $ 22.80 |
| **MOBILITY** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | FY 2015 | |
| 82 | Off | Mile 1 East **PE** | Bus 83 | Mile 8 North | HC-269 | 0921-02-254 | 7 | Reconstruct & widen to urban 2 lanes & shoulders | Mercedes | $ 6,000,000 | $ 6,000,000 | $ 720,000 | $ 294,000 | $ 300,000 | $ 390,000 | $ 8,076,000 | $ 650,000 | | | | | | | | $ 0.65 | | | $ 0.65 |
| 218a | On | US 83/US 281 Interchange - **PE** | @ US 83 / US 281 Interchange | | HC-287a | 0039-17-175 | | Improvements at US 83/US 281 interchange | TxDOT | $ 4,987,619 | $ 4,987,619 | $ - | $ 250,000 | $ 249,381 | $ - | $ 5,849,600 | $ 250,000 | | | | | | | 0.25 | | | | $ 0.25 |
| 214 | Off | Liberty Blvd (Phase I-II) - **PE** | US 83 | FM 2221 | HC-284 | 0921-02-194 | 6.2 | Widen to 4 lanes with dedicated left turn lane & Construct 2 lanes with shoulders | County | $ 16,000,000 | $ 16,000,000 | $ 2,331,755 | $ 784,000 | $ 720,000 | $ 1,040,000 | $ 21,867,755 | $ 784,000 | | | | | | | | $ 0.55 | $ 0.23 | | $ 0.78 |
| 40 | On | FM 676 (Mile 5 N) - **PE** | SH 364 (La Homa Rd) | SH 107 (Conway) | HC-117b | 1064-01-028<br>1064-01-027 | 2.39 | Widen to 4 Lane Divided | Alton / County | $ 8,652,800 | $ 8,652,800 | $ 1,038,336 | $ 423,987 | $ 432,640 | $ 562,432 | $ 11,646,669 | $ 423,987 | | | | | | | | | $ 0.42 | | $ 0.42 |
| 223 | Off | Dicker Road - **PE** | Spur 115 (23rd St) | FM 2061 (Jackson Rd) | HC-291 | 0921-02-312 | 2.56 | Widen to 4 lane with continuous left turn | County | $ 12,700,000 | $ 12,700,000 | $ - | $ 1,270,000 | $ 571,500 | $ 825,500 | $ 16,154,400 | $ 1,270,000 | | | | | | | | | $ 1.27 | | $ 1.27 |
| 70 | On | FM 1925 - **PE** | FM 907 (Alamo Rd) | FM 493 (La Blanca) | HC-12 | 1803-02-901 | 4.1 | Widen to 4 Lane Divided | County | $ 14,226,519 | $ 14,226,519 | $ 1,900,000 | $ 697,099 | $ 640,193 | $ 924,724 | $ 19,270,580 | $ 697,099 | | | | | | | | | $ 0.70 | | $ 0.70 |
| 224 | On | FM 494 - **PE** | FM 676 (Mile 5) | SH 107 | HC-292a | 0864-01-068 | 2 | Widen to 4 lane | County | $ 8,000,000 | $ 8,000,000 | $ 500,000 | $ 392,000 | $ 400,000 | $ 520,000 | $ 10,308,000 | $ 392,000 | | | | | | | | | $ 0.39 | | $ 0.39 |
| 224 | On | FM 494 - **PE** | FM 1924 (Mile 3) | FM 676 (Mile 5) | HC-292b | 0864-01-069 | 2 | Widen to 4 lane | County | $ 8,000,000 | $ 8,000,000 | $ 500,000 | $ 392,000 | $ 400,000 | $ 520,000 | $ 10,308,000 | $ 392,000 | | | | | | | | | $ 0.39 | | $ 0.39 |
| 216 | Off | Mile 3 N (Phase I) - **PE** | East Goodwin Road | Tom Gill Road | HC-286a | 0921-02-321 | 3.8 | Widen to 4 Lane Divided - Curb & Gutter Section | County | $ 8,453,684 | $ 8,453,684 | $ 1,186,754 | $ 414,231 | $ 422,684 | $ 549,489 | $ 11,550,970 | $ 414,231 | | | | | | | | | $ 0.41 | | $ 0.41 |
| 216 | Off | Mile 3 N (Phase II) - **PE** | Tom Gill Road | FM 2221 | HC-286b | 0921-02-332 | 2.5 | New location 2 lane rural roadway | County | $ 4,100,000 | $ 4,100,000 | $ 996,342 | $ 200,900 | $ 205,000 | $ 266,500 | $ 6,022,942 | $ 200,900 | | | | | | | | | $ 0.20 | | $ 0.20 |
| 229 | On | SH 68 **PE** | US 83 | US 281 @ FM 2812 | HC-295a | 3629-01-001 | 10 | Construct new 4 lane divided rural highway facility | TxDOT | $ 55,000,000 | $ 55,000,000 | $ 23,500,000 | $ 6,500,000 | $ 2,475,000 | $ 3,850,000 | $ 94,735,000 | $ 6,500,000 | | | | | | | | | $ 6.50 | | $ 6.50 |
| 229 | On | SH 68 **ROW** | US 83 | FM 1925 | HC-295b | 3629-01-001 | 10 | Construct new 4 lane divided rural highway facility | TxDOT | $ 55,000,000 | $ 55,000,000 | $ 23,500,000 | $ 6,500,000 | $ 2,475,000 | $ 3,850,000 | $ 94,735,000 | $ 10,000,000 | | | | | | | | | $ 10.00 | | $ 10.00 |
| 237 | On | Nolana - **PE & ROW** | FM 1426 (Raul Longoria) | FM 88 | HC-152 | 0921-02-169 | 10 | Reconstruct & Widen to 2 lanes with shoulders | Various | $ 16,000,000 | $ 16,000,000 | $ 2,573,503 | $ 784,000 | $ 720,000 | $ 1,040,000 | $ 22,109,503 | $ 2,000,000 | | | | | | | | $ 2.00 | | | $ 2.00 |
| 238 | Off | Thomas Road - **PE & ROW** | FM 2061 | FM 2557 (Stewart Road) | HC-304 | 0921-02-302 | 3.6 | Construct 4 lane urban roadway | County | $ 11,600,000 | $ 11,600,000 | $ 1,392,000 | $ 568,400 | $ 522,000 | $ 754,000 | $ 15,555,600 | $ 1,960,400 | | | | | | | | $ 0.69 | $ 1.27 | | $ 1.96 |
| 74 | Off | Mile 6 W Rd - **PE & ROW** | Mile 9 N | SH 107 | HC-148b | 0921-02-168 | 7.5 | ROW & PE for Widen to 4 Lane | Weslaco | $ 16,762,500 | $ 16,762,500 | $ 1,718,637 | $ 821,363 | $ 754,313 | $ 1,089,563 | $ 22,185,651 | $ 2,540,000 | | | | | | | | $ 2.54 | | | $ 2.54 |
| 27 | Off | Owassa - **PE & ROW** | Jackson Rd | US 281 | HC-106 | 0921-02-296 | 1.21 | Widen to 4 Lane Divided | Pharr | $ 5,673,187 | $ 6,136,119 | $ 377,936 | $ 300,670 | $ 306,806 | $ 398,848 | $ 7,900,818 | $ 678,606 | | | $ 0.38 | | | | | | $ 0.30 | | $ 0.68 |
| 25 | Off | SH 364 (La Homa) - **ROW** | FM 495 | FM 1924 (Mile 3 N) | HC-48a | 2966-01-009 | 2 | Right of Way for Widen to 4 Lane Urban Divided | Palmview | $ 7,750,000 | $ 7,750,000 | $ 2,930,494 | $ 379,750 | $ - | $ 503,750 | $ 12,044,494 | $ 2,930,494 | | | $ 2.93 | | | | | | | | $ 2.93 |
| 52 | On | FM 1925 (Monte Cristo rd) - **ROW** | Kenyon | FM 907 (Alamo Rd) | HC-10 | 1803-02-028 | 0.95 | Widen to 4 Lane Divided | Edinburg / County | $ 3,700,000 | $ 3,700,000 | $ 790,000 | $ 181,300 | $ - | $ 240,500 | $ 5,141,200 | $ 790,000 | | | $ 0.79 | | | | | | | | $ 0.79 |
| 220 | Off | N Alamo Road Extension - **ROW** | FM 1925 0.5m North | | HC-289 | 0921-02-311 | 0.5 | Road Realignment | Edinburg / County | $ 650,000 | $ 650,000 | $ 200,000 | $ 31,850 | $ 48,750 | $ 45,500 | $ 1,016,400 | $ 200,000 | | | $ 0.20 | | | | | | | | $ 0.20 |
| 234 | Off | Edinburg Hike & Bike Trail | Intersection Jackson Rd / Chapin Rd | Intersection Jackson Rd / Canton Rd | HC-300 | 0921-02-316 | 3.3 | Construction of Hike & Bike Trail along Jackson Rd | Edinburg | $ 1,747,853 | $ 1,747,853 | $ - | $ - | $ 262,178 | $ - | $ 2,010,031 | $ 2,010,031 | | | | | $ 0.96 | | | | $ 1.05 | | $ 2.01 |
| 235 | On | FM 676 (Mile 5) | SH 107 east to Taylor Road | | HC-301 | 1064-01-034 | 3 | Drainage improvements | TxDOT | $ 500,738 | $ 500,738 | $ 150,000 | $ 24,536 | $ 37,555 | $ 32,548 | $ 776,423 | $ 500,738 | | | | | | | | $ 0.50 | | | $ 0.50 |
| 219 | Off | Pharr/Reynosa Int'l Bridge (NB Phase II) | At Pharr/Reynosa Int'l Bridge - Northbound Lanes Improvements Phase II | | HC-288 | 0921-02-289 | | Addition of 2 commercial northbound entrance lanes, booths and canopies | Pharr | $ 2,645,473 | $ 2,645,473 | $ - | $ - | $ 118,770 | $ 154,400 | $ 2,918,643 | $ 2,918,643 | | | | | | | $ 2.92 | | | | $ 2.92 |
| 216 | Off | US 83 Interchange @ Bicentennial | SH 336 | SP 115 | HC-285 | 0039-17-180 | 0.1 | Interchange improvements at Main Street & Bicentennial | McAllen | $ 30,000,000 | $ 30,000,000 | $ - | $ 2,000,000 | $ 1,350,000 | $ 2,700,000 | $ 37,910,000 | $ 32,000,000 | | | | | | $ 32.00 | | | | | $ 32.00 |
| 205c | On | US 83 La Joya Relief Route | 0.85 M East of FM 886 (El Faro Rd) | 0.04 M West of FM 1427 | HC-60ca | 0039-02-040 | 6.458 | New location 4-lane divided highway | TxDOT | $ 42,858,590 | $ 42,858,590 | $ 17,000,000 | $ 1,600,000 | $ 2,000,000 | $ 2,000,000 | $ 68,366,590 | $ 63,458,590 | | $ 45.13 | | | | | $ 18.33 | | | | $ 63.46 |
| 205c | On | US 83 La Joya Relief Route | 0.04 Mi West of FM 1427 | 0.28 Mi West of Showers Rd | HC-60cb | 0039-17-131 | 1.742 | New location 4-lane divided highway | TxDOT | $ 12,141,410 | $ 12,141,410 | $ 6,500,000 | $ 600,000 | $ 800,000 | $ 800,000 | $ 21,931,910 | $ 20,041,410 | | $ 15.11 | | | | | $ 4.94 | | | | $ 20.04 |
| 245 | Off | IBTC (Phase I) - **PE** | Interchange to SH 365 to I-2 | Valley View Interchange to FM 493 | RMA-3 | 0921-02-142 | | 4 lane controlled access facility with 2 lane connector | HCRMA | $ - | $ - | $ 40,163,746 | $ 16,724,991 | $ - | $ - | $ 56,888,737 | $ 16,724,991 | | | | | | | | | $ 16.72 | | $ 16.72 |
| 245 | Off | IBTC (Phase I) - **ROW** | Interchange to SH 365 to I-2 | Valley View Interchange to FM 493 | RMA-3 | 0921-02-142 | | 4 lane controlled access facility with 2 lane connector | HCRMA | $ - | $ - | $ 40,163,746 | $ 16,724,991 | $ - | $ - | $ 56,888,737 | $ 40,163,746 | | | | | | | | | $ 40.16 | | $ 40.16 |
| 203a | On | SH 365 (Phase I) **PE** | US 281 Military Highway | FM 396 (Anzalduas Highway) | RMA-1aa | 3627-01-001 | 12.5 | A toll improvement being a 4 lane controlled access facility | HCRMA | $ 137,405,566 | $ 137,405,566 | $ 51,596,891 | $ 10,860,670 | $ 5,385,907 | $ - | $ 223,213,321 | $ 10,860,670 | | | | | | | | | $ 10.86 | | $ 10.86 |
| 203a | On | SH 365 (Phase I) **ROW** | US 281 Military Highway | FM 396 (Anzalduas Highway) | RMA-1aa | 3627-01-001 | 12.5 | A toll improvement being a 4 lane controlled access facility | HCRMA | $ 137,405,566 | $ 137,405,566 | $ 51,596,891 | $ 10,860,670 | $ 5,385,907 | $ - | $ 223,213,321 | $ 51,596,891 | | | | | | | | | $ 51.60 | | $ 51.60 |
| 203b | On | SH 365 (Phase II) **PE** | FM 396 (Anzalduas Highway) | FM 1016 (Conway Rd) | RMA-1b | 3627-01-002 | | Toll improvement being a 4 lane controlled access facility | HCRMA | $ 37,620,524 | $ 37,620,524 | $ 5,406,143 | $ 3,215,286 | $ 1,380,765 | $ - | $ 48,393,480 | $ 3,215,286 | | | | | | | | | $ 3.22 | | $ 3.22 |
| 203b | On | SH 365 (Phase II) **ROW** | FM 396 (Anzalduas Highway) | FM 1016 (Conway Rd) | RMA-1b | 3627-01-002 | | Toll improvement being a 4 lane controlled access facility | HCRMA | $ 37,620,524 | $ 37,620,524 | $ 5,406,143 | $ 3,215,286 | $ 1,380,765 | $ - | $ 48,393,480 | $ 5,406,143 | | | | | | | | | $ 5.41 | | $ 5.41 |
| 221 | On | US 281 Military Highway - **PE** | 0.45 Mi E of Spur 600 | FM 2557 (Stewart Road) | RMA-1ab | 0220-01-023 | 0.94 | Widening to 4 lane divided with overpass at San Juan Rd | HCRMA | $ 14,594,604 | $ 14,594,604 | $ 2,529,228 | $ 616,079 | $ 774,041 | | $ 20,600,023 | $ 616,079 | | | | | | | | | $ 0.62 | | $ 0.62 |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data: Type of Improvement | Proposed Project Data: Jurisdiction | Total Project Cost: Construction Cost 2013 dollars | Total Project Cost: Letting Year Construction dollars | Total Project Cost: ROW cost (12% 2011 const cost) | Total Project Cost: Preliminary Engineering (4.9% 2011 const cost) | Total Project Cost: CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Total Project Cost: Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost: Total Project Cost | Total Project Cost: Year of Expenditure Dollars (YOE) | Funding Categories: Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 221 | On | US 281 Military Highway - **ROW** | 0.45 Mi E of Spur 600 | FM 2557 (Stewart Road) | RMA-1ab | 0220-01-023 | 0.94 | Widening to 4 lane divided with overpass at San Juan Rd | HCRMA | $ 14,594,604 | $ 14,594,604 | $ 2,529,228 | $ 616,079 | $ 774,041 | | $ 20,600,023 | $ 2,529,228 | | | | | | | | | $ 2.53 | | $ 2.53 |
| 221 | On | US 281 Military Highway | 0.45 Mi E of Spur 600 | FM 2557 (Stewart Road) | RMA-1ab | 0220-01-023 | 0.94 | Widening to 4 lane divided with overpass at San Juan Rd | HCRMA | $ 14,594,604 | $ 14,594,604 | $ 2,529,228 | $ 616,079 | $ 774,041 | | $ 20,600,023 | $ 17,454,716 | | | | | | | $ 5.60 | | $ 11.85 | | $ 17.45 |
| 246 | Off | BSIF Connector - **PE** | SP 29/Veterans Drive at the BSIF | US 281 | RMA-2 | 0921-02-337 | | Non-toll improvement being a local collector | HCRMA | $ 2,779,924 | $ 2,779,924 | $ 481,758 | $ 117,348 | $ 147,436 | $ - | $ 3,923,814 | $ 117,348 | | | | | | | | | $ 0.12 | | $ 0.12 |
| 246 | Off | BSIF Connector - **ROW** | SP 29/Veterans Drive at the BSIF | US 281 | RMA-2 | 0921-02-337 | | Non-toll improvement being a local collector | HCRMA | $ 2,779,924 | $ 2,779,924 | $ 481,758 | $ 117,348 | $ 147,436 | $ - | $ 3,923,814 | $ 481,758 | | | | | | | | | $ 0.48 | | $ 0.48 |
| 246 | Off | BSIF Connector | SP 29/Veterans Drive at the BSIF | US 281 | RMA-2 | 0921-02-337 | | Non-toll improvement being a local collector | HCRMA | $ 2,779,924 | $ 2,779,924 | $ 481,758 | $ 117,348 | $ 147,436 | $ - | $ 3,923,814 | $ 3,324,707 | | | | | | | | | $ 3.32 | | $ 3.32 |
| 247 | On | SH 1926 (23rd st) & Hackberry Ave | | | HC-310 | | 1 | Addition of North and South bound center turn lanes | McAllen | $ 81,000 | $ 81,000 | $ 16,000 | $ 3,969 | $ 4,050 | $ 5,265 | $ 115,306 | $ 86,265 | | | $ 0.09 | | | | | | | | $ 0.09 |
| 248 | On | SH 1926 (23rd st) & Kendlewood Ave | | | HC-311 | | 1 | Addition of North and South bound center turn lanes | McAllen | $ 89,000 | $ 89,000 | $ 16,000 | $ 4,361 | $ 4,450 | $ 5,785 | $ 125,114 | $ 94,785 | | | $ 0.09 | | | | | | | | $ 0.09 |
| 249 | On | SH 336 & US Business 83 | Intersection US Business 83 | 135ft S Intersection US Business 83 | HC-312 | | 0.025 | Addition of north bound right turn lane | McAllen | $ 73,200 | $ 73,200 | $ 31,000 | $ 3,587 | $ 3,660 | $ 4,758 | $ 120,743 | $ 77,958 | | | $ 0.08 | | | | | | | | $ 0.08 |
| 250 | On | SH 1926 (23rd st) & Ebony Ave | | | HC-313 | | 2 | Addition of east, north and south bound center turn lanes | McAllen | $ 132,600 | $ 132,600 | $ 21,000 | $ 6,497 | $ 6,630 | $ 8,619 | $ 183,567 | $ 141,219 | | | $ 0.14 | | | | | | | | $ 0.14 |
| 251 | On | SH 1926 (23rd st) & Jackson Ave | | | HC-314 | | 1 | Addition of North and South bound center turn lanes | McAllen | $ 109,500 | $ 109,500 | $ 31,000 | $ 5,366 | $ 5,475 | $ 7,118 | $ 165,248 | $ 116,618 | | | $ 0.12 | | | | | | | | $ 0.12 |
| 252 | Off | Dove Ave | 41st Street | Bentsen Rd | HC-315 | | 0.25 | 4 lane divided | McAllen | $ 1,404,225 | $ 1,404,225 | $ - | $ 68,807 | $ 70,211 | $ 91,275 | $ 1,721,580 | $ 1,495,500 | | | $ 1.50 | | | | | | | | $ 1.50 |
| | | | | | | | | | | | | | | | | | **$ 308,507,037** | | | **$ 6,310,775** | | | | | | | | |
| | | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | | | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | **FY 2016** | |
| 207 | Off | Anzalduas Int'l Port of Entry | Anzalduas Int'l Port of Entry | | HC-277 | 0921-02-303 | | Construction of Southbound Inspection Station | Analduas Int'l Bridge Board | $ 7,241,012 | $ 7,241,012 | $ - | $ - | $ - | $ - | $ 7,241,012 | $ 7,241,012 | | | | | | | $ 7.00 | | $ 0.24 | | $ 7.24 |
| 47 | On | FM 2220 (Ware Rd) | FM 1924 (Mile 3 N) | Mile 5 N (Auburn Ave) | HC-19b | 2094-01-038 | 2 | Widen to 6 Lane Divided | McAllen | $ 9,750,000 | $ 9,750,000 | $ 1,145,000 | $ 477,750 | $ 487,500 | $ 633,750 | $ 13,118,023 | $ 11,528,750 | $ 1.00 | | $ 5.59 | | | $ 0.41 | $ 3.53 | | $ 1.00 | | $ 11.53 |
| 22a | On | SH 336 (10th st) | Trenton Rd | SH 107 | HC-249a | 0621-01-100 | 2.8 | Medians with landscaping | McAllen | $ 1,725,000 | $ 1,725,000 | $ - | $ 84,525 | $ 129,375 | $ 120,750 | $ 2,166,600 | $ 1,845,750 | | | $ 1.22 | | | | | | $ 0.63 | | $ 1.85 |
| 25 | Off | SH 364 (La Homa) | SH 495 | FM 1924 (Mile 3 N) | HC-48b | 2966-01-009 | 2 | Widen to 4 Lane Urban Divided | Palmview | $ 7,750,000 | $ 7,750,000 | $ 2,930,494 | $ 379,750 | $ 387,500 | $ 503,750 | $ 12,431,994 | $ 8,253,750 | | | $ 8.25 | | | | | | | | $ 8.25 |
| 211 | Off | Inspiration Rd | 0.13m N of US 83 | 0.15m N of FM 1924 (Mile 3 N) | HC-282 | 0921-02-301 | 3.04 | Widen to 4 lane divided - curb & gutter section | Mission | $ 10,581,611 | $ 10,581,611 | $ 848,718 | $ 518,499 | $ 476,172 | $ 687,805 | $ 13,768,865 | $ 12,594,306 | | | $ 11.36 | | | $ 1.23 | | | | | $ 12.59 |
| 203a | On | SH 365 (Phase I) | US 281 Military Highway | FM 396 (Anzalduas Highway) | RMA-1aa | 3627-01-001 | 12.5 | A toll improvement being a 4 lane controlled access facility | HCRMA | $ 137,405,566 | $ 137,405,566 | $ 51,596,891 | $ 10,860,670 | $ 5,385,907 | $ - | $ 223,213,321 | $ 160,755,760 | | | | | | $ 112.06 | | | $ 48.70 | | $ 160.76 |
| 229 | On | SH 68 **ROW** | US 83 | FM 1925 | HC-295b | 3629-01-001 | 10 | Construct new 4 lane divided rural highway facility | TxDOT | $ 55,000,000 | $ 55,000,000 | $ 23,500,000 | $ 6,500,000 | $ 2,475,000 | $ 3,850,000 | $ 94,735,000 | $ 13,500,000 | | | | | | | | | 13.50 | | $ 13.50 |
| 229 | On | SH 68 | US 83 | FM 1925 | HC-295c | 3629-01-001 | 10 | Construct new 4 lane divided rural highway facility | TxDOT | $ 55,000,000 | $ 55,000,000 | $ 23,500,000 | $ 6,500,000 | $ 2,475,000 | $ 3,850,000 | $ 94,735,000 | $ 55,000,000 | | | | | | $ 55.00 | | | | | $ 55.00 |
| 241 | Off | City of Pharr Bicycle Accessible Improvement Project | Owassa Road | Military Highway | HC-307 | 0921-02-324 | 22 | Bicycle Accessible Improvements | Pharr | $ 700,150 | $ 700,150 | $ - | $ - | $ 105,023 | $ - | $ 805,173 | $ 805,173 | | | | | $ 0.64 | | | | $ 0.16 | | $ 0.81 |
| 242 | Off | Bentsen Road Hike & Bike Trail | SH 495 (Pecan Blvd) | Nolana Avenue | HC-308 | 0921-02-325 | 1.6 | Construction of Hike & Bike Trails | McAllen | $ 1,108,984 | $ 1,108,984 | $ - | $ - | $ 166,348 | $ - | $ 1,275,332 | $ 1,275,332 | | | | | $ 1.02 | | | | $ 0.26 | | $ 1.28 |
| 218b | On | US 83/US 281 Interchange | @ US 83 / US 281 Interchange | | HC-287b | 0039-17-175 | | Improvements at US 83/US 281 interchange | TxDOT | $ 10,093,556 | $ 10,093,556 | $ - | $ 494,584 | $ 454,210 | $ - | $ 11,668,151 | $ 3,608,182 | | | | | | | 3.61 | | | | $ 3.61 |
| | | | | | | | | | | | | | | | | | **$ 276,408,015** | | | **$ 28,068,358** | | | | | | | | |
| | | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | | | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | **FY 2017** | |
| 231 | On | Business 83 Outfall (Mercedes) | N of Business 83, near FM 2556 south to Floodway | | HC-297 | 0039-06-041 | | Improve drainage structures | TXDOT | $ 1,551,108 | $ 1,551,108 | $ - | $ 76,004 | $ 116,333 | $ 100,822 | $ 1,940,436 | $ 1,651,930 | $ 0.35 | | | | $ 1.30 | | | | | | $ 1.65 |
| 21 | On | Pharr Intl Bridge | At Pharr/Reynosa Intl bridge | | HC-231b | 0921-02-253 | | Improvements (ITS) at Pharr/Reynosa Intl bridge | Pharr | $ 1,372,462 | $ 1,372,462 | $ - | $ 67,251 | $ 102,935 | $ 96,072 | $ 1,723,813 | $ 1,372,462 | | | | | | | $ 1.03 | | $ 0.34 | | $ 1.37 |
| 192 | Off | 10th st | SH 107 | FM 1925 (Monte Cristo) | HC-79 | 0921-02-300 | 2.5 | Construct new 4 Lane | Edinburg / County | $ 9,687,500 | $ 10,075,000 | $ 750,000 | $ 493,675 | $ 453,375 | $ 654,875 | $ 13,051,575 | $ 11,933,250 | | | $ 11.53 | | | $ 0.40 | | | | | $ 11.93 |
| 236 | Off | Pharr Bridge | Pharr-Reynosa Int'l Bridge | US 281 | HC-302 | 0921-02-193 | | Improvements (Expansion) at Int'l Bridge | Pharr | $ 18,256,024 | $ 18,256,024 | $ - | $ 894,545 | $ 821,521 | $ 1,186,642 | $ 22,290,605 | $ 19,442,666 | | | | | | | 1.57 | | 17.87 | | $19.44 |
| 244 | Off | Donna Int'l Bridge | @ Donna Int'l Bridge | | HC-309 | 0921-02-333 | | Southbound Inspection Facility Improvements at Donna/Pharr Int'l Bridge | Donna / Pharr | $ 9,000,000 | $ 9,000,000 | $ - | $ 441,000 | $ 450,000 | $ 630,000 | $ 11,079,000 | $ 9,000,000 | | | | | | | 9.00 | | | | $ 9.00 |
| | | | | | | | | | | | | | | | | | **$ 43,400,308** | | | **$ 11,933,250** | | | | | | | | |
| | | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | | | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | **FY 2018** | |
| 27 | Off | Owassa | Jackson Rd | US 281 | HC-106 | 0921-02-296 | 1.21 | Widen to 4 Lane Divided | Pharr | $ 5,673,187 | $ 6,136,119 | $ 377,936 | $ 300,670 | $ 306,806 | $ 398,848 | $ 7,900,818 | $ 6,841,773 | | | $ 6.44 | | | $ 0.40 | | | | | $ 6.84 |
| 52 | On | FM 1925 (Monte Cristo rd) | Kenyon | FM 907 (Alamo Rd) | HC-10 | 1803-02-028 | 0.95 | Widen to 4 Lane Divided | Edinburg / County | $ 3,700,000 | $ 4,001,920 | $ 790,000 | $ 196,094 | $ 200,096 | $ 260,125 | $ 5,696,354 | $ 4,262,045 | | | $ 2.76 | | $ 1.50 | | | | | | $ 4.26 |
| 220 | Off | N Alamo Road Extension | FM 1925 0.5m North | | HC-289 | 0921-02-311 | 0.5 | Road Realignment | Edinburg / County | $ 650,000 | $ 703,040 | $ 200,000 | $ 34,449 | $ 52,728 | $ 49,213 | $ 1,083,018 | $ 804,981 | | | $ 0.80 | | | | | | | | $ 0.80 |
| | | | | | | | | | | | | | | | | | **$ 11,908,798** | | | **$ 10,408,799** | | | | | | | | |
| | | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | | | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | **FY 2019** | |
| 214 | Off | Liberty Blvd (Phase I) | US 83 | Mile 3 Rd | HC-284a | 0921-02-194 | 2.4 | Widen to 4 lanes with dedicated left turn lane | County | $ 8,400,000 | $ 9,448,858 | $ 484,210 | $ 462,994 | $ 472,443 | $ 614,176 | $ 12,068,509 | $ 11,019,686 | | | $ 10.47 | | | $ 0.40 | | $ 0.15 | | | $ 11.02 |
| | | | | | | | | | | | | | | | | | | | | **$ 10,870,772** | | | | | | | | |
| | | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | | | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | **FY 2020** | |
| 216 | Off | Mile 3 N (Phase I) | East Goodwin Road | Tom Gill Road | HC-286a | 0921-02-321 | 3.8 | Widen to 4 Lane Divided - Curb & Gutter Section | County | $ 8,453,684 | $ 9,889,615 | $ 1,186,754 | $ 484,591 | $ 494,481 | $ 642,825 | $ 13,311,421 | $ 12,213,674 | | | $ 11.81 | | | $ 0.40 | | | | | $ 12.21 |
| | | | | | | | | | | | | | | | | | | | | **$ 12,213,674** | | | | | | | | |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data | | Total Project Cost | | | | | | | | Funding Categories | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Type of Improvement | Jurisdiction | Construction Cost 2013 dollars | Letting Year Construction dollars | ROW cost (12% 2011 const cost) | Preliminary Engineering (4.9% 2011 const cost) | CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost | Year of Expenditure Dollars (YOE) | Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
| | | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | FY 2021 | |
| 37 | On | FM 907 (Alamo Rd) | Nolana | US 83 | HC-119 | 1586-01-069 | 2.34 | Widen to 4 Lane Divided | Alamo / County | $ 6,362,973 | $ 7,741,530 | $ - | $ 379,335 | $ - | $ 503,199 | $ 9,104,039 | $ 8,244,729 | | | $ 6.84 | | $ 1.00 | $ 0.40 | | | | | $ 8.24 |
| | | | | | | | | | | | | | | | | | | | | $ 7,244,729 | | | | | | | |
| | | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | FY 2022 | |
| 224 | On | FM 494 | FM 676 (Mile 5) | SH 107 | HC-292a | 0864-01-068 | 2 | Widen to 4 lane | County | $ 8,000,000 | $ 10,122,552 | $ 500,000 | $ 496,005 | $ - | $ 657,966 | $ 12,404,121 | $ 11,280,518 | | | $ 9.23 | | $ 2.05 | | | | | | $ 11.28 |
| 222 | On | FM 1925 | 10th St | McColl Rd | HC-290 | 1803-01-092 | 1.28 | Widen to 4 lane urban roadway with center turning lane | County | $ 6,115,000 | $ 7,737,426 | $ 632,954 | $ 379,134 | $ - | $ 502,933 | $ 9,732,167 | $ 8,873,312 | | | $ 8.87 | | | | | | | | $ 8.87 |
| | | | | | | | | | | | | | | | | | | | | $ 18,103,830 | | | | | | | |
| | | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | FY 2023 | |
| 70aa | On | FM 1925 | FM 907 (Alamo Rd) | Sharp Rd | HC-12aa | 1803-02-901 | 1.57 | Widen to 4 Lane Divided | County | $ 7,000,000 | $ 9,211,522 | $ 1,250,000 | $ 451,365 | $ 460,576 | $ 549,543 | $ 12,494,121 | $ 11,011,065 | | | $ 11.01 | | | | | | | | $ 11.01 |
| 70ab | On | Sharp Road Realignment | FM 1925 | 0.46m North | HC-12ab | | 0.46 | Road Realignment 2 lane rural roadway | County | $ 830,953 | $ 1,093,477 | $ 650,000 | $ 53,580 | $ 49,206 | $ 76,543 | $ 1,990,603 | $ 1,869,227 | | | $ 1.87 | | | | | | | | $ 1.87 |
| | | | | | | | | | | | | | | | | | | | | $ 12,880,292 | | | | | | | |
| | | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | FY 2024 | |
| 223 | Off | Dicker Road | Spur 115 (23rd St) | FM 2061 (Jackson Rd) | HC-291 | 0921-02-312 | 2.56 | Widen to 4 lane with continuous left turn | Mercedes / County | $ 12,700,000 | $ 17,380,827 | $ - | $ 1,270,000 | $ 635,000 | $ 825,500 | $ 20,898,727 | $ 18,841,327 | | | $ 18.84 | | | | | | | | $ 18.84 |
| | | | | | | | | | | | | | | | | | | | | $ 18,841,327 | | | | | | | |
| | | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | FY 2025 | |
| 217 | Off | Mile 3 N (Phase II) | Tom Gill Road | FM 2221 | HC-286b | 0921-02-332 | 2.5 | New Location 2 Lane Rural Roadway | County | $ 4,100,000 | $ 5,395,320 | $ 996,342 | $ 264,371 | $ 269,766 | $ 350,696 | $ 7,611,005 | $ 6,015,782 | | | $ 6.02 | | | | | | | | $ 6.02 |
| 35a | On | FM 493 (La Blanca) | Mile 10 N Rd | Mile 14 N Rd | HC-34a | | 4 | Widen to 4 Lane Divided | County | $ 11,356,800 | $ 14,944,774 | $ 1,362,816 | $ 732,294 | $ 672,515 | $ 971,410 | $ 19,610,385 | $ 15,916,184 | | | $ 6.80 | | | | | | | $ 9.11 | $ 15.92 |
| 43 | On | FM 676 (Mile 5 N) | SH 107 (Conway) | Taylor Rd | HC-117c | 1064-01-028 1064-01-027 | 3 | Widen to 4 Lane Divided | Alton / County | $ 6,705,000 | $ 8,823,323 | $ 804,600 | $ 432,343 | $ 441,166 | $ 573,516 | $ 11,621,993 | $ 8,823,323 | | | | | | | | | | $ 8.82 | $ 8.82 |
| 22b | On | SH 336 (10th st) | Trenton Rd | SH 107 | HC-249b | | 2.8 | Widen to 6 Lanes | McAllen | $ 7,290,000 | $ 9,593,143 | $ 874,800 | $ 470,064 | $ 479,657 | $ 623,554 | $ 12,635,993 | $ 9,593,143 | | | | | | | | | | $ 9.59 | $ 9.59 |
| 32 | Off | Mile 4 1/2 W Rd | US 83 | Mile 9 N Rd | HC-244 | | 0.8 | Widen to 4 Lane Divided | Weslaco | $ 1,788,000 | $ 2,352,886 | $ 214,560 | $ 115,291 | $ 117,644 | $ 152,938 | $ 3,099,198 | $ 2,352,886 | | | | | | | | | | $ 2.35 | $ 2.35 |
| | | | | | | | | | | | | | | | | | | | | $ 12,820,556 | | | | | | $ 29,880,761 | |
| | | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | FY 2026 - FY 2030 | |
| 23 | Off | Nolana Loop | FM 2220 (Ware Rd) | FM 1926 (23rd st) | HC-155a | | 1 | Widen to 6 Lane | McAllen | $ 2,445,000 | $ 3,346,151 | $ 1,099,198 | $ 163,961 | $ 167,308 | $ 217,500 | $ 5,201,580 | $ 3,730,959 | | | $ 3.73 | | | | | | | | $ 3.73 |
| 41 | Off | Bridge Ave | 10th St | Pike Blvd | HC-93 | | 1.3 | Widen to 4 Lane | Weslaco | $ 2,905,500 | $ 3,976,377 | $ 580,545 | $ 194,842 | $ 198,819 | $ 258,465 | $ 5,455,584 | $ 4,433,661 | | | $ 4.43 | | | | | | | | $ 4.43 |
| 102 | Off | Trenton Rd | US 281 | FM 1426 (Raul Longoria) | HC-177a | | 1.3 | Construct 4 Lane | County | $ 2,905,500 | $ 3,976,377 | $ 580,545 | $ 194,842 | $ 198,819 | $ 258,465 | $ 5,455,584 | $ 4,433,661 | | | $ 4.43 | | | | | | | | $ 4.43 |
| 116 | Off | E Yuma Ave | Jackson Rd | McColl Rd | HC-248 | | 0.6 | Widen to 4 Lane Urban with siphon | McAllen | $ 1,341,000 | $ 1,835,251 | $ 267,944 | $ 89,927 | $ 137,644 | $ 128,468 | $ 2,573,019 | $ 2,101,363 | | | $ 2.10 | | | | | | | | $ 2.10 |
| 86 | Off | Sprague Ave | Sugar Rd | SH 336 (N 10th St) | HC-170 | | 2.13 | Widen to 4 Lane | Edinburg | $ 4,760,550 | $ 6,515,141 | $ 951,200 | $ 319,242 | $ 325,757 | $ 423,484 | $ 8,938,763 | $ 7,264,383 | | | $ 7.26 | | | | | | | | $ 7.26 |
| 72 | On | FM 2220 (Ware Rd) | Mile 5 N ( Auburn Ave) | SH 107 | HC-19a | 2094-01-038 2094-01-039 | 2.5 | 6 Lanes Divided Urban Section | County | $ 11,500,000 | $ 15,738,544 | $ 4,100,000 | $ 771,189 | $ 708,234 | $ 1,023,005 | $ 23,316,762 | $ 17,469,784 | | | $ 17.47 | | | | | | | | $ 17.47 |
| 49c | Off | Nolana Loop | 0.25m E of FM 1423 | 0.25m E of FM 493 | HC-152c | 0921-02-169 | 2.8 | Widen to 4 Lane Divided | County | $ 3,271,911 | $ 4,477,836 | $ 392,629 | $ 219,414 | $ 223,892 | $ 291,059 | $ 5,882,456 | $ 4,992,787 | | | $ 4.99 | | | | | | | | $ 4.99 |
| 173 | Off | Taylor Rd | US 83 | Bus 83 | HC-256 | | 1 | Widen 4 lanes with left turn lane | Mission | $ 5,500,000 | $ 7,527,130 | $ 733,932 | $ 368,829 | $ 376,356 | $ 489,263 | $ 9,962,193 | $ 8,261,062 | | | $ 8.26 | | | | | | | | $ 8.26 |
| 40 | On | FM 676 (Mile 5 N) | SH 364 (La Homa Rd) | SH 107 (Conway) | HC-117b | 1064-01-028 1064-01-027 | 2.39 | Widen to 4 Lane Divided | Alton / County | $ 8,652,800 | $ 11,841,954 | $ 1,038,336 | $ 580,256 | $ 532,888 | $ 769,727 | $ 15,497,362 | $ 11,841,954 | | | $ 11.84 | | | | | | | | $ 11.84 |
| 13 | Off | Mile 5 N | Taylor Rd | FM 2220 | HC-144 | | 1 | Widen to 4 Lane Divided with siphon and boxes | McAllen | $ 2,235,000 | $ 3,058,752 | $ 367,050 | $ 149,879 | $ 152,938 | $ 198,819 | $ 4,117,080 | $ 3,058,752 | | | | | | | | | | $ 3.06 | $ 3.06 |
| 28 | Off | Trenton Rd | FM 1926 (23rd st) | SH 336 (10th St) | HC-253 | | 1 | Widen 6 lanes divided with landscaped median | McAllen | $ 2,445,000 | $ 3,346,151 | $ 401,538 | $ 163,961 | $ 167,308 | $ 217,500 | $ 4,503,920 | $ 3,346,151 | | | | | | | | | | $ 3.35 | $ 3.35 |
| 49a | Off | Nolana Loop | FM 1426 (Raul Longoria) | 0.25m E of FM 907 | HC-152a | 0921-02-169 | 2.25 | Widen to 4 Lane Divided | County | $ 3,816,526 | $ 5,223,179 | $ 457,983 | $ 255,936 | $ 261,159 | $ 339,507 | $ 6,861,601 | $ 5,223,179 | | | | | | | | | | $ 5.22 | $ 5.22 |
| 19 | On | FM 3461 (Nolana) | FM 2061 (McColl Rd) | US 281 | HC-113 | 1802-02-008 | 1.746 | Widen to 6 Lanes | TxDOT | $ 7,250,000 | $ 9,922,126 | $ 870,000 | $ 486,184 | $ 496,106 | $ 644,938 | $ 13,034,526 | $ 9,922,126 | | | | | | | | | | $ 9.92 | $ 9.92 |
| 49b | Off | Nolana Loop | 0.25m E of FM 907 | 0.25m E of FM 1423 | HC-152b | 0921-02-169 | 2.3 | Widen to 4 Lane Divided | County | $ 2,903,952 | $ 3,974,259 | $ 348,474 | $ 194,739 | $ 198,713 | $ 258,327 | $ 5,220,916 | $ 3,974,259 | | | | | | | | | | $ 3.97 | $ 3.97 |
| 63 | On | US 83 | 0.5 Mi E of Bus 83 | FM 1427 (Abram) | HC-178b | | 1.6 | Widen to 6 lanes | TXDOT | $ 3,912,000 | $ 5,353,842 | $ 469,440 | $ 262,338 | $ 267,692 | $ 348,000 | $ 7,033,250 | $ 5,353,842 | | | | | | | | | | $ 5.35 | $ 5.35 |
| 85 | Off | Hutto Rd | US 83 | Bus 83 | HC-125 | | 0.7 | Widen to 4 Lane | Donna | $ 1,564,500 | $ 2,141,126 | $ 187,740 | $ 104,915 | $ 107,056 | $ 139,173 | $ 2,812,761 | $ 2,141,126 | | | | | | | | | | $ 2.14 | $ 2.14 |
| 227 | On | US 83 La Joya Relief Route (Phase II) | 0.44m W FM 2221 | 0.44m E Liberty Blvd | HC-293 | | 3.74 | Construct Overpasses at FM 2221, Tom Gill Rd & Liberty Rd | TxDOT | $ 28,400,000 | $ 28,400,000 | $ - | $ 1,140,000 | $ 1,450,000 | $ - | $ 33,050,000 | $ 28,400,000 | | | | | | | | | | $ 28.40 | $ 28.40 |
| 24 | On | FM 495 | 2nd St (McAllen) | US 281 | HC-62a | | 3.9 | Widen to 6 lane divided | McAllen | $ 9,535,500 | $ 13,049,990 | $ 1,144,260 | $ 639,450 | $ 587,250 | $ 848,249 | $ 17,078,298 | $ 13,049,990 | | | | | | | | | | $ 13.05 | $ 13.05 |
| 35b | On | FM 493 (La Blanca) | Mile 14 N Rd | SH 107 | HC-34b | | 2.3 | Widen to 4 Lane Divided | County | $ 6,670,000 | $ 9,128,356 | $ 800,400 | $ 447,289 | $ 456,418 | $ 593,343 | $ 11,991,764 | $ 9,128,356 | | | | | | | | | | $ 9.13 | $ 9.13 |
| 49d | Off | Nolana Loop | 0.25m E of FM 493 | FM 88 | HC-152d | 0921-02-169 | 2.55 | Widen to 4 Lane Divided | County | $ 3,031,852 | $ 4,149,299 | $ 363,822 | $ 203,316 | $ 207,465 | $ 269,704 | $ 5,450,863 | $ 4,149,299 | | | | | | | | | | $ 4.15 | $ 4.15 |
| 29 | Off | 6th St (Weslaco) | Westgate Drive | Bus 83 | HC-83 | | 2.3 | Widen to 4 Lane | Weslaco | $ 5,140,500 | $ 7,035,129 | $ 616,860 | $ 344,721 | $ 351,756 | $ 457,283 | $ 9,241,928 | $ 7,035,129 | | | | | | | | | | $ 7.04 | $ 7.04 |
| 87 | Off | Border Ave | S 18th St (Mile 6 N) | Bus 83 | HC-92 | | 1.4 | Widen to 4 Lane | Weslaco | $ 3,129,000 | $ 4,282,253 | $ 572,965 | $ 209,830 | $ 214,113 | $ 278,346 | $ 5,823,007 | $ 4,774,712 | | | | | | | | | | $ 4.77 | $ 4.77 |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data: Type of Improvement | Proposed Project Data: Jurisdiction | Total Project Cost: Construction Cost 2013 dollars | Total Project Cost: Letting Year Construction dollars | Total Project Cost: ROW cost (12% 2011 const cost) | Total Project Cost: Preliminary Engineering (4.9% 2011 const cost) | Total Project Cost: CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Total Project Cost: Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost: Total Project Cost | Total Project Cost: Year of Expenditure Dollars (YOE) | Funding Categories: Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | Off | Airport Drive (Weslaco) | Bus 83 | US 83 | HC-85 | | 0.9 | Widen to 4 Lane | Weslaco | $ 2,011,500 | $ 2,752,877 | $ 241,380 | $ 134,891 | $ 137,644 | $ 178,937 | $ 3,616,407 | $ 2,752,877 | | | | | | | | | | $ 2.75 | $ 2.75 |
| 92 | Off | Sugar Rd | SH 107 | Schunior Ave | HC-171 | | 0.5 | Widen to 4 Lane | Edinburg | $ 1,117,500 | $ 1,529,376 | $ 223,286 | $ 74,939 | $ 114,703 | $ 107,056 | $ 2,144,182 | $ 1,529,376 | | | | | | | | | | $ 1.53 | $ 1.53 |
| 88 | On | FM 2062 (Bentsen Palm) | US 83 S | Bus 83 | HC-18 | | 0.85 | Widen to 4 Lane Divided | Palmview / County | $ 1,899,750 | $ 2,599,939 | $ 227,970 | $ 127,397 | $ 129,997 | $ 168,996 | $ 3,415,495 | $ 2,599,939 | | | | | | | | | | $ 2.60 | $ 2.60 |
| 45 | On | SP 115 (S 23rd St) | US 83 | FM 1016 (Military Hwy) | HC-51a | 1804-01-057 | 2.9 | Widen to 6 Lane Divided Urb | Hidalgo | $ 13,461,538 | $ 18,423,044 | $ 1,615,385 | $ 902,729 | $ 829,037 | $ 1,197,498 | $ 24,109,922 | $ 18,423,044 | | | | | | | | | | $ 18.42 | $ 18.42 |
| 31 | Off | Sioux Rd | I Rd | FM 1426 (Raul Longoria) | HC-167 | | 0.8 | Widen to 4 Lane | San Juan | $ 1,788,000 | $ 2,447,001 | $ 214,560 | $ 119,903 | $ 122,350 | $ 159,055 | $ 3,214,584 | $ 2,447,001 | | | | | | | | | | $ 2.45 | $ 2.45 |
| 39 | On | SH 107 (Conway) | FM 495 | FM 1924 (Mile 3 N) | HC-224 | 0528-01-085 | 2 | Widen to 6 lane divided REV 9/07 0528-01-085 | Mission | $ 4,890,000 | $ 6,692,303 | $ 586,800 | $ 327,923 | $ 334,615 | $ 435,000 | $ 8,791,563 | $ 6,692,303 | | | | | | | | | | $ 6.69 | $ 6.69 |
| 70b | On | FM 1925 | 3rd Street | FM 493 (La Blanca) | HC-12b | 1803-02-901 | 2.1 | Widen to 4 Lane Divided | County | $ 6,395,566 | $ 8,752,774 | $ - | $ 428,886 | $ 437,639 | $ 568,930 | $ 10,730,901 | $ 8,752,774 | | | | | | | | | | $ 8.75 | $ 8.75 |
| 262 | On | US 83 @ 2nd St | FM 2061 (McColl Rd) | SH 336 (10th St) | HC-325 | | 1.2 | Convert existing Underpass to diamond intersection Overpass | McAllen | $ 18,000,000 | $ 24,634,243 | $ 2,000,000 | $ 1,207,078 | $ 1,108,541 | $ 1,601,226 | $ 32,078,411 | $ 24,634,243 | | | | | | | | | | $ 24.63 | $ 24.63 |
| 77 | Off | Freddy Gonzalez | SH 336 (10th St) | FM 2061 (McColl Rd) | HC-120 | | 1.13 | Widen to 5 Lane with traffic street improvements | TxDOT | $ 4,215,587 | $ 5,769,322 | $ - | $ 282,697 | $ 288,466 | $ 375,006 | $ 7,073,189 | $ 5,769,322 | | | | | | | | | | $ 5.77 | $ 5.77 |
| 162 | Off | Paso del Norte | Bus 83 | 2nd St | HC-242 | | 0.3 | Widen to 4 Lane Divided | Weslaco | $ 670,500 | $ 917,626 | $ 80,460 | $ 44,964 | $ 68,822 | $ 64,234 | $ 1,232,998 | $ 917,626 | | | | | | | | | | $ 0.92 | $ 0.92 |
| 253 | Off | Oakland Ave | K-Center | Jackson Rd | HC-316 | | 0.2 | Add 4 lanes | McAllen | $ 271,519 | $ 371,592 | $ 262,794 | $ 18,208 | $ 27,869 | $ 26,011 | $ 729,514 | $ 371,592 | | | | | | | | | | $ 0.37 | $ 0.37 |
| 254 | On | FM 2220 (Ware) & FM 495 (Pecan) | 390ft W Intersection FM 2220 | 350ft E Intersection FM 2220 | HC-317 | | 0.16 | Addition of East & West bound right turn lanes on FM 495 | McAllen | $ 183,000 | $ 250,448 | $ - | $ 12,272 | $ 18,784 | $ 17,531 | $ 314,563 | $ 250,448 | | | | | | | | | | $ 0.25 | $ 0.25 |
| 255 | Off | Erie Ave | Ware Road (FM 2220) | Bentsen Rd | HC-318 | | 0.5 | 2 lane divided with bike lanes | McAllen | $ 2,139,377 | $ 2,927,885 | $ 1,404,000 | $ 143,466 | $ 146,394 | $ 190,313 | $ 4,993,587 | $ 2,927,885 | | | | | | | | | | $ 2.93 | $ 2.93 |
| 203b | On | SH 365 (Phase II) | FM 396 (Anzalduas Highway) | FM 1016 (Conway Rd) | RMA-1b | 3627-01-002 | | Toll improvement being a 4 lane controlled access facility | HCRMA | $ 37,620,524 | $ 51,486,285 | $ 5,406,143 | $ 3,215,286 | $ 1,380,765 | $ - | $ 62,259,241 | $ 53,637,812 | | | | | | | | | $ 53.64 | | $ 53.64 |
| 226 | On | SH 365 (Ultimate Construction) **PE** | US 281 Military Highway | FM 1016 (Conway Rd) | RMA-1c | | | Expansion from a 4-lane to 6-lane controlled access toll facility (constructing an additional 2-lanes) | HCRMA | $ 75,371,557 | $ 103,151,180 | $ - | $ 3,841,693 | $ 4,899,151 | $ - | $ 113,022,597 | $ 3,841,693 | | | | | | | | | $ 3.84 | | $ 3.84 |
| | | | | | | | | | | | | | | | | | | | | $ 64,529,613 | | | | | | $ 177,625,351 | |
| | | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | | | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** | **FY 2031 - FY 2035** |
| 57 | Off | Mile 10 North | Westgate (Mile 6 W) | FM 1015 | HC-264 | | 3 | Widen to 4 lanes - Urban | Weslaco | $ 6,705,000 | $ 11,164,318 | $ 1,629,972 | $ 547,052 | $ 502,394 | $ 725,681 | $ 15,261,604 | $ 12,392,393 | | | $ 12.39 | | | | | | | | $ 12.39 |
| 215 | Off | Liberty Blvd (Phase II) | Mile 3 Rd | FM 2221 | HC-284b | | 3.8 | Construct 2 lanes with shoulders | County | $ 7,600,000 | $ 12,654,559 | $ 1,847,545 | $ 620,073 | $ 569,455 | $ 822,546 | $ 17,298,761 | $ 15,894,105 | | | $ 15.89 | | | | | | | | $ 15.89 |
| 78 | Off | Mile 6 W Rd | Mile 11 N | SH 107 | HC-148b | 0921-02-168 | 5.5 | Widen to 4 Lane | Weslaco | $ 10,428,066 | $ 17,363,496 | $ 1,712,583 | $ 850,811 | $ 781,357 | $ 1,128,627 | $ 22,913,412 | $ 19,273,481 | | | $ 19.27 | | | | | | | | $ 19.27 |
| 259 | Off | East Eldora Rd (Segment I) | FM 1426 (Raul Longoria) | US 281 | HC-322 | | 1.7 | Divided Urban Section | Pharr/ San Juan | $ 8,300,000 | $ 13,820,110 | $ 1,800,000 | $ 677,185 | $ 621,905 | $ 898,307 | $ 18,674,354 | $ 14,718,417 | | | $ 14.72 | | | | | | | | $ 14.72 |
| 74b | Off | Mile 6 W Rd | Mile 9 N | Mile 11 N | HC-148bb | 0921-02-168 | 2 | Widen to 4 Lane | Weslaco | $ 4,474,588 | $ 7,450,518 | $ 536,951 | $ 365,075 | $ 372,526 | $ 484,284 | $ 9,671,286 | $ 7,934,802 | | | $ 7.93 | | | | | | | | $ 7.93 |
| 75 | Off | Schunior Ave | Sugar Rd | 4th St | HC-166 | | 0.52 | Widen to 4 Lane | Edinburg | $ 1,162,200 | $ 1,935,148 | $ 190,866 | $ 94,822 | $ 145,136 | $ 135,460 | $ 2,621,412 | $ 1,935,148 | | | | | | | | | | $ 1.94 | $ 1.94 |
| 90 | Off | Jackson Ave | S Bicentennial Ave | S 2nd St | HC-130 | | 0.85 | Widen to 4 Lane | McAllen | $ 1,899,750 | $ 3,163,223 | $ 227,970 | $ 154,998 | $ 158,161 | $ 205,610 | $ 4,106,082 | $ 3,163,223 | | | | | | | | | | $ 3.16 | $ 3.16 |
| 48 | On | SH 107 (Conway) | FM 1924 (Mile 3 N) | FM 676 (Mile 5 N) | HC-225 | 0528-01-086 | 2 | Widen to 6 lane divided REV 9/07 0528-01-086 | Mission | $ 4,890,000 | $ 8,142,209 | $ 586,800 | $ 398,968 | $ 407,110 | $ 529,244 | $ 10,569,149 | $ 8,142,209 | | | | | | | | | | $ 8.14 | $ 8.14 |
| 204 | On | FM 493 High Water Bridge | Southern IBWC Floodway Levee | Northern IBWC Floodway Levee | HC-275 | | 0.48 | High water bridge over the IBWC floodway along FM 493 | TxDOT | $ 12,200,000 | $ 20,313,897 | $ - | $ 995,381 | $ 914,125 | $ 1,320,403 | $ 24,803,268 | $ 20,313,897 | | | | | | | | | | $ 20.31 | $ 20.31 |
| 36b | On | SH 364 (La Homa) | FM 676 | FM 2221 | HC-182ab | 2966-01-011 | 2 | Construct 4 Lane Divided Urban Rev 5'07 2966-01-011 | Palmview | $ 4,470,000 | $ 7,442,879 | $ 536,400 | $ 364,701 | $ 372,144 | $ 483,787 | $ 9,661,369 | $ 7,442,879 | | | | | | | | | | $ 7.44 | $ 7.44 |
| 51 | On | FM 1925 | FM 493 (La Blanca) | FM 88 | HC-13 | | 2.7 | Widen to 4 Lane Divided | County | $ 6,034,500 | $ 10,047,886 | $ 724,140 | $ 492,346 | $ 452,155 | $ 653,113 | $ 12,992,609 | $ 10,047,886 | | | | | | | | | | $ 10.05 | $ 10.05 |
| 97 | On | FM 1925 | FM 88 E | FM 491 (Mile 1 W) | HC-14 | | 4 | Widen to 4 Lane Divided | County | $ 8,940,000 | $ 14,885,757 | $ 1,786,291 | $ 729,402 | $ 669,859 | $ 967,574 | $ 19,961,800 | $ 14,885,757 | | | | | | | | | | $ 14.89 | $ 14.89 |
| 42 | On | FM 907 (Alamo Rd) | SH 107 | Nolana | HC-40 | | 4.7 | Widen to 4 Lane Divided | County | $ 10,504,500 | $ 17,490,765 | $ 2,098,892 | $ 857,047 | $ 787,084 | $ 1,136,900 | $ 23,455,115 | $ 17,490,765 | | | | | | | | | | $ 17.49 | $ 17.49 |
| 104 | On | FM 676 (Mile 5 N) | FM 492 (Doffing) | SH 364 (La Homa Rd) | HC-117a | | 1.5 | Widen to 4 Lane Rev TIP 05'06 Revised Estimate | Alton / County | $ 3,352,500 | $ 5,582,159 | $ 669,859 | $ 273,526 | $ 279,108 | $ 362,840 | $ 7,513,586 | $ 5,582,159 | | | | | | | | | | $ 5.58 | $ 5.58 |
| 123 | Off | Taylor Rd | Bus 83 | Mile 2 N | HC-257 | | 2 | 4 Lane Divided Urban Section with 1 Bridge Widening and 1 Bridge Class Irrigation Siphon | Mission | $ 9,800,000 | $ 16,317,720 | $ 2,110,000 | $ 799,568 | $ 734,297 | $ 1,060,652 | $ 22,033,937 | $ 16,317,720 | | | | | | | | | | $ 16.32 | $ 16.32 |
| 243 | On | FM 494 | FM 1924 (Mile 3) | FM 676 (Mile 5) | HC-292b | 0864-01-069 | 2 | Widen to 4 lane | County | $ 8,000,000 | $ 13,320,588 | $ 500,000 | $ 652,709 | $ 599,426 | $ 865,838 | $ 16,764,438 | $ 13,320,588 | | | | | | | | | | $ 13.32 | $ 13.32 |
| 258 | Off | Westgate | Business 83 | Mile 5 N | HC-321 | | 2.5 | Widen to 4 lane divided | Weslaco | $ 12,507,079 | $ 20,825,206 | $ 1,500,849 | $ 1,020,435 | $ 937,134 | $ 1,353,638 | $ 26,928,425 | $ 20,825,206 | | | | | | | | | | $ 20.83 | $ 20.83 |
| 158 | On | Veterans SH 495 Extension | Abram Rd | La Homa (SH 364) | HC-50 | 0865-01-082 | 2.3 | 4 Lanes Divided Urban Section | Palmview / County | $ 10,350,000 | $ 17,233,511 | $ 1,300,000 | $ 844,442 | $ 775,508 | $ 1,120,178 | $ 22,342,117 | $ 17,233,511 | | | | | | | | | | $ 17.23 | $ 17.23 |
| 101 | Off | Mile 6 N (18th St) | FM 88 | Mile 2 W | HC-146 | | 3.2 | Widen to 4 Lane | Weslaco / Mercedes | $ 7,152,000 | $ 11,908,606 | $ 858,240 | $ 583,522 | $ 535,887 | $ 774,059 | $ 15,398,648 | $ 11,908,606 | | | | | | | | | | $ 11.91 | $ 11.91 |
| 226 | On | SH 365 (Ultimate Construction) | US 281 Military Highway | FM 1016 (Conway Rd) | RMA-1c | | | Expansion from a 4-lane to 6-lane controlled access toll facility (constructing an additional 2-lanes) | HCRMA | $ 75,371,557 | $ 75,371,557 | $ - | $ 3,841,693 | $ 4,899,151 | $ - | $ 85,242,974 | $ 81,401,281 | | | | | | | | | $ 81.40 | | $ 81.40 |
| 228 | On | US 83 La Joya Relief Route (Phase III) | 1.0m E FM 886 | 0.53m W Showers Rd | HC-294 | | 8.9 | Construct main lanes and widen/construct direct connectors | TxDOT | $ 56,600,000 | $ 56,600,000 | $ - | $ 2,260,000 | $ 2,880,000 | $ - | $ 65,850,000 | $ 56,600,000 | | | | | | | | | $ 56.60 | | $ 56.60 |
| | | | | | | | | | | | | | | | | | | | | $ 70,213,198 | | | | | | $ 168,609,554 | |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data: Type of Improvement | Proposed Project Data: Jurisdiction | Total Project Cost: Construction Cost 2013 dollars | Total Project Cost: Letting Year Construction dollars | Total Project Cost: ROW cost (12% 2011 const cost) | Total Project Cost: Preliminary Engineering (4.9% 2011 const cost) | Total Project Cost: CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Total Project Cost: Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost: Total Project Cost | Total Project Cost: Year of Expenditure Dollars (YOE) | Funding Categories: Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FY 2036 - FY 2040 | FY 2036 - FY 2040 | FY 2036 - FY 2040 | FY 2036 - FY 2040 | | | FY 2036 - FY 2040 | FY 2036 - FY 2040 | FY 2036 - FY 2040 | | | FY 2036 - FY 2040 | | | FY 2036 - FY 2040 | | FY 2036 - FY 2040 | | | FY 2036 - FY 2040 | | | | | | |
| 260 | Off | East Eldora Rd (Segment II) | FM 907 (Alamo Rd) | FM 1426 (Raul Longoria) | HC-323 | | 2 | Divided Urban Section | San Juan/ County | $ 10,100,000 | $ 20,460,747 | $ 2,100,000 | $ 1,002,577 | $ 920,734 | $ 1,329,949 | $ 27,082,572 | $ 21,790,695 | | | $ 21.79 | | | | | | | | $ 21.79 |
| 98 | On | FM 2220 (Ware Rd) | SH 107 | FM 1925 (Monte Cristo) | HC-20 | 2094-01-902 | 2.5 | 4 Lanes Divided Urban Section | County | $ 11,250,000 | $ 22,790,436 | $ 2,640,000 | $ 1,116,731 | $ 1,025,570 | $ 1,481,378 | $ 30,467,122 | $ 24,271,814 | | | $ 24.27 | | | | | | | | $ 24.27 |
| 240 | Off | Sioux Rd | Cesar Chavez Rd | I Road (Veterans Blvd) | HC-306 | | 2.1 | Divided Urban Section | San Juan/ County | $ 9,400,000 | $ 19,042,675 | $ 2,200,000 | $ 933,091 | $ 856,920 | $ 1,237,774 | $ 25,451,106 | $ 20,280,449 | | | $ 20.28 | | | | | | | | $ 20.28 |
| 256 | Off | 29th street | Oxford Ave | SH 107 | HC-319 | | 1.7 | 2 lane with center turn lane | McAllen | $ 3,750,000 | $ 7,596,812 | $ 500,000 | $ 372,244 | $ 379,841 | $ 493,793 | $ 9,813,691 | $ 8,090,605 | | | $ 7.09 | | | | | | | $ 1.00 | $ 8.09 |
| 106b | On | FM 88 | SH 107 | 0.2m N of FM 1925 | HC-39cb | 0698-02-043 | 1.65 | Widen to 4 Lane Divided | County | $ 6,865,000 | $ 13,907,230 | $ 823,800 | $ 681,454 | $ 625,825 | $ 903,970 | $ 17,804,528 | $ 13,907,230 | | | | | | | | | | $ 13.91 | $ 13.91 |
| 64 | Off | Alberta Rd | McColl Rd | US 281 | HC-87 | | 2.07 | Widen to 4 Lane | Edinburg | $ 4,626,450 | $ 9,372,339 | $ 759,794 | $ 459,245 | $ 468,617 | $ 609,202 | $ 12,250,281 | $ 9,372,339 | | | | | | | | | | $ 9.37 | $ 9.37 |
| 129a | Off | Abram Rd | Bus 83 | US Expressway 83 | HC-84a | | 1 | 4 Lane Divided Urban Section | County | $ 4,500,000 | $ 9,116,174 | $ 1,060,000 | $ 446,693 | $ 455,809 | $ 592,551 | $ 12,236,430 | $ 9,116,174 | | | | | | | | | | $ 9.12 | $ 9.12 |
| 257 | Off | Mile 5 N | FM 1015 | Westgate | HC-320 | | 2.9 | Widen to 4 lane divided | Weslaco | $ 15,417,426 | $ 31,232,876 | $ 1,850,091 | $ 1,530,411 | $ 1,405,479 | $ 2,810,959 | $ 40,766,255 | $ 31,232,876 | | | | | | | | | | $ 31.23 | $ 31.23 |
| 261 | Off | West Eldora Rd | FM 3662 (Jackson Rd) | US 281 | HC-324 | | 1.2 | Divided Urban Section | Pharr | $ 5,400,000 | $ 10,939,409 | $ 1,300,000 | $ 536,031 | $ 492,273 | $ 711,062 | $ 14,657,019 | $ 10,939,409 | | | | | | | | | | $ 10.94 | $ 10.94 |
| 263 | Off | Cesar Chavez Rd | Nolana Loop | Business 83 | HC-326 | | 2.8 | Divided Urban Section | San Juan/ Alamo/ County | $ 12,600,000 | $ 25,525,288 | $ 3,000,000 | $ 1,250,739 | $ 1,148,638 | $ 2,297,276 | $ 34,804,509 | $ 25,525,288 | | | | | | | | | | $ 25.53 | $ 25.53 |
| 73 | On | FM 1925 | FM 2220 (Ware Rd) | FM 2061 (McColl Rd) | HC-9 | 1803-01-900 | 3.5 | Widen to 4 Lane Divided 1803-01-900 | Edinburg | $ 7,822,500 | $ 15,846,950 | $ 938,700 | $ 776,501 | $ 713,113 | $ 1,030,052 | $ 20,287,826 | $ 15,846,950 | | | | | | | | | | $ 15.85 | $ 15.85 |
| 76 | On | FM 1015 | Mile 12 N Rd | SH 107 | HC-2 | 1228-03-900 | 4.5 | Widen to 4 Lane Divided 1228-03-900 | County | $ 8,600,000 | $ 17,422,022 | $ 1,032,000 | $ 853,679 | $ 783,991 | $ 1,132,431 | $ 22,304,289 | $ 17,422,022 | | | | | | | | | | $ 17.42 | $ 17.42 |
| 108 | On | FM 3072 (Dicker Rd) | S Cage Blvd | FM 907 (Alamo Rd) | HC-26 | | 4 | Widen to 4 Lane Divided | County / Pharr | $ 8,940,000 | $ 18,110,800 | $ 1,072,800 | $ 887,429 | $ 814,986 | $ 1,177,202 | $ 23,186,086 | $ 18,110,800 | | | | | | | | | | $ 18.11 | $ 18.11 |
| 171 | On | FM 1925 | FM 491 (Mile 1 W) | Cameron County Line | HC-15 | | 4.1 | Construct new 4 Lane Divided arterial | County | $ 9,163,500 | $ 18,563,570 | $ 1,099,620 | $ 909,615 | $ 835,361 | $ 1,206,632 | $ 23,765,739 | $ 18,563,570 | | | | | | | | | | $ 18.56 | $ 18.56 |
| 122 | On | FM 1015 | SH 107 | FM 1925 | HC-3 | | 1.5 | Widen to 4 Lane Divided | Edcouch | $ 3,116,500 | $ 6,313,457 | $ 402,300 | $ 309,359 | $ 315,673 | $ 410,375 | $ 8,142,598 | $ 6,313,457 | | | | | | | | | | $ 6.31 | $ 6.31 |
| | | | | | | | | | | | | | | | | | | | | $ 73,433,564 | | | | | | $ 177,350,115 |
| | | | | | | | | | | | | | | | | | | $ 1.35 | $ 60.24 | $ 354.23 | $ 2.63 | $ 5.85 | $ 202.70 | $ 57.77 | $ 7.08 | $ 448.22 | $ 553.47 |
| | | | | | | | | | | | | | | | | | | Cat 1 | Cat 3 -TMF | Cat 7 | Cat 9 | Cat 11 | Cat 12 | CBI | Earmark | Other Funds(Local, bonds) | Trends |
| | | UNFUNDED PROJECTS | UNFUNDED PROJECTS | UNFUNDED PROJECTS | UNFUNDED PROJECTS | | | UNFUNDED PROJECTS | UNFUNDED PROJECTS | UNFUNDED PROJECTS | | | UNFUNDED PROJECTS | | | UNFUNDED PROJECTS | | UNFUNDED PROJECTS | | | UNFUNDED PROJECTS | | | | | | |
| 46 | On | SH 107 w Overpass @ Schunior | US 281 East | East of FM 493 (La Blanca) | HC-227 | 0342-01-074 | 7.8 | 6 Lane Divided Urban with Overpass @ Schunior Rd | Edinburg / county | $ 78,000,000 | | $ 1,300,000 | $ 3,822,000 | $ 3,510,000 | $ 5,460,000 | $ 96,928,000 | | | | | | | | | | | $ - |
| 21 | On | Pharr Intl Bridge | At Pharr/Reynosa Intl bridge | | HC-231c | 0921-02-255 | | Improvements (cold storage) at Pharr/Reynosa Intl bridge | County | $ 352,000 | | $ 42,240 | $ 17,248 | $ 26,400 | $ 24,640 | $ 484,352 | | | | | | | | | | | $ - |
| 30 | Off | Trenton Rd | SH 336 (10th St) | FM 2061 (McColl Rd) | HC-252 | | 0.5 | Widen 6 lanes divided with landscaped median | Edinburg/ McAllen | $ 1,222,500 | | $ 146,700 | $ 59,903 | $ 91,688 | $ 85,575 | $ 1,682,160 | | | | | | | | | | | $ - |
| 44 | On | FM 907 (Alamo Rd) | FM 1925 (Monte Cristo) | SH 107 | HC-42 | | 2.5 | Widen to 4 Lanes | County | $ 5,587,500 | | $ 670,500 | $ 273,788 | $ 279,375 | $ 363,188 | $ 7,520,775 | | | | | | | | | | | $ - |
| 56 | On | US 83 | 0.25 Mi W of FM 2221 | FM 1427 | HC-178a | | 5.2 | Wided to 6 lanes | TXDOT | $ 12,714,000 | | $ 1,525,680 | $ 622,986 | $ 572,130 | $ 826,410 | $ 4,335,474 | | | | | | | | | | | $ - |
| 58 | Off | Bryan Rd | FM 676 (Mi 5 N) | FM 495 | HC-94 | | 4 | Widen to 4 Lane Divided | Alton/Palmhurst/Mission | $ 8,940,000 | | $ 1,072,800 | $ 438,060 | $ 447,000 | $ 581,100 | $ 12,033,240 | | | | | | | | | | | $ - |
| 61 | Off | Sioux Rd (La Vista Ave) | FM 2061 (McColl Rd) | US 281 | HC-168 | | 1.8 | Widen to 4 Lane | McAllen / Phr / County | $ 4,023,000 | | $ 482,760 | $ 197,127 | $ 201,150 | $ 261,495 | $ 5,414,958 | | | | | | | | | | | $ - |
| 62 | Off | Mile 17 N Rd | Mile 6 West | FM 491 | HC-139 | | 5.7 | Widen to 4 Lane | County | $ 12,739,500 | | $ 1,528,740 | $ 624,236 | $ 573,278 | $ 828,068 | $ 17,083,670 | | | | | | | | | | | $ - |
| 65 | Off | Pike Blvd | Mile 6 W (Westgate) | US 83 | HC-159 | | 1.9 | Widen to 4 Lane Divided | Weslaco | $ 4,246,500 | | $ 509,580 | $ 208,079 | $ 212,325 | $ 276,023 | $ 5,715,789 | | | | | | | | | | | $ - |
| 69 | On | SH 336 (10th st) | S 2nd St. | US 281 Military Hwy (widening of Bridge) | HC-47 | 0621-01-095 | 4.8 | Widen to 6 Lanes Divided 2966-01-009 | McAllen/Hidalgo/County | $ 11,736,000 | | $ 1,408,320 | $ 575,064 | $ 528,120 | $ 762,840 | $ 4,001,976 | | | | | | | | | | | $ - |
| 71 | Off | Daffodil Ave | Taylor Rd | FM 2220 (Ware Rd) | HC-102 | | 1.01 | Widen to 4 Lane | McAllen / Mission | $ 2,257,350 | | $ 270,882 | $ 110,610 | $ 112,868 | $ 146,728 | $ 3,038,393 | | | | | | | | | | | $ - |
| 89 | On | FM 495 | Conway Ave | FM 1926 (23rd Street) | HC-62b | | 5.1 | Widen to 6 lane divided | McAllen | $ 12,469,500 | | $ 1,496,340 | $ 611,006 | $ 561,128 | $ 810,518 | $ 16,721,600 | | | | | | | | | | | $ - |
| 91 | Off | FM 495 | FM 1423 (Val Verde) | FM 1015 | HC-44 | | 9 | Extend 2 Lane FM Road | County | $ 17,509,500 | | $ 2,101,140 | $ 857,966 | $ 787,928 | $ 1,138,118 | $ 23,480,240 | | | | | | | | | | | $ - |
| 93 | Off | Roosevelt (Mile 12 1/2 N rd) | FM 1423 | FM 88 | HC-160 | | 5.3 | Widen to 4 Lane | County | $ 11,845,500 | | $ 1,421,460 | $ 580,430 | $ 533,048 | $ 769,958 | $ 15,884,816 | | | | | | | | | | | $ - |
| 94 | Off | Wisconsin Rd | Main street | SH 336 (10th St) | HC-255 | | 0.385 | Construct new 4 Lanes Urban | McAllen | $ 860,475 | | $ 103,257 | $ 42,163 | $ 64,536 | $ 60,233 | $ 1,184,014 | | | | | | | | | | | $ - |
| 95 | Off | Cesar Chavez | FM 2128 (Schunior) | Sioux Rd | HC-100 | | 6.3 | Widen to 4 Lane | County | $ 14,080,500 | | $ 1,689,660 | $ 689,945 | $ 633,623 | $ 915,233 | $ 18,881,951 | | | | | | | | | | | $ - |
| 96 | Off | FM 492 | US 83 | FM 2221 | HC-121 | | 6.5 | Widen to 4 Lane | County | $ 14,527,500 | | $ 1,743,300 | $ 711,848 | $ 653,738 | $ 944,288 | $ 19,481,378 | | | | | | | | | | | $ - |
| 99 | On | FM 492 (Doffing) | FM 1924 (Mile 3 N) | FM 2221 | HC-30 | | 4 | Widen to 4 Lane Divided | Palmview | $ 8,940,000 | | $ 1,072,800 | $ 438,060 | $ 447,000 | $ 581,100 | $ 12,033,240 | | | | | | | | | | | $ - |
| 100 | Off | Violet Ave (Minnessota) | FM 2061 (McColl Rd) | US 281 | HC-180 | | 1.8 | Widen to 4 Lane | McAllen | $ 4,023,000 | | $ 482,760 | $ 197,127 | $ 201,150 | $ 261,495 | $ 5,414,958 | | | | | | | | | | | $ - |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data: Type of Improvement | Proposed Project Data: Jurisdiction | Total Project Cost: Construction Cost 2013 dollars | Total Project Cost: Letting Year Construction dollars | Total Project Cost: ROW cost (12% 2011 const cost) | Total Project Cost: Preliminary Engineering (4.9% 2011 const cost) | Total Project Cost: CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Total Project Cost: Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost: Total Project Cost | Total Project Cost: Year of Expenditure Dollars (YOE) | Funding Categories: Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103 | Off | Jackson Rd | FM 1925 (Monte Cristo) | Chapin Rd | HC-132 | | 1.5 | Widen to 4 Lane | Edinburg | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 105 | Off | Victoria Rd | Mile 10 N Rd | US 83 | HC-179 | | 1.5 | Widen to 4 Lane | Donna / county | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 107 | On | FM 2993 (N Conway) | FM 1925 (Monte Cristo) | SH 107 | HC-25 | | 3 | Widen to 4 Lane Rural | County | $ 6,705,000 | | $ 804,600 | $ 328,545 | $ 335,250 | $ 435,825 | $ 9,024,930 | | | | | | | | | | | | $ - |
| 109 | Off | Sugar Rd | FM 495 | Sam Houston Blvd | HC-174 | | 2 | Widen to 4 Lane Divided | Pharr | $ 4,470,000 | | $ 536,400 | $ 219,030 | $ 223,500 | $ 290,550 | $ 6,016,620 | | | | | | | | | | | | $ - |
| 110 | On | FM 491 (Base Line) | Mile 10 N Rd | SH 107 | HC-28 | | 6.5 | Widen to 4 Lane Divided | La Villa / county | $ 14,527,500 | | $ 1,743,300 | $ 711,848 | $ 653,738 | $ 944,288 | $ 19,481,378 | | | | | | | | | | | | $ - |
| 111 | On | FM 2221 | Jara Chinas | FM 492 (Doffing) | HC-21 | | 6.27 | Widen to 4 Lane Divided Rural | La Joya | $ 14,013,450 | | $ 1,681,614 | $ 686,659 | $ 630,605 | $ 910,874 | $ 18,792,036 | | | | | | | | | | | | $ - |
| 112 | Off | Daffodil Ave | FM 2220 (Ware Rd) | FM 1926 (23rd Street) | HC-81 | | 1 | Widen to 4 Lane | McAllen | $ 2,235,000 | | $ 268,200 | $ 109,515 | $ 111,750 | $ 145,275 | $ 3,008,310 | | | | | | | | | | | | $ - |
| 113 | On | FM 1925 | FM 2993 (N Conway) | FM 2220 (Ware Rd) | HC-11 | | 3.6 | Widen to 4 Lane Rural | County | $ 8,046,000 | | $ 965,520 | $ 394,254 | $ 402,300 | $ 522,990 | $ 10,829,916 | | | | | | | | | | | | $ - |
| 114 | Off | Hall Acres | 2nd St (McAllen) | S Cage Blvd | HC-123 | | 2.4 | Widen to 4 Lane | McAllen / Pharr | $ 5,364,000 | | $ 643,680 | $ 262,836 | $ 268,200 | $ 348,660 | $ 7,219,944 | | | | | | | | | | | | $ - |
| 115 | On | Military Hwy | S Cage Blvd | Mile 3 E - Cameron County Line | HC-55 | 0220-01-901 0220-01-902 0220-01-903 | 22.1 | Widen to 4 Lane Divided Rural 0220-01-901, 902 903; 0220-02-900; 0220-01-022 | County | $ 49,393,500 | | $ 5,927,220 | $ 2,420,282 | $ 2,222,708 | $ 4,445,415 | $ 67,471,521 | | | | | | | | | | | | $ - |
| 117 | Off | Owassa Rd | I road | Cesar Chavez | HC-156b | | 2.2 | Widen to 4 Lane | Phr/SJ/Co | $ 4,917,000 | | $ 590,040 | $ 240,933 | $ 245,850 | $ 319,605 | $ 6,618,282 | | | | | | | | | | | | $ - |
| 119 | On | FM 1425 | SH 107 | MILE 9 N | HC-6 | | 6 | Widen to 4 Lane Divided | County | $ 13,410,000 | | $ 1,609,200 | $ 657,090 | $ 603,450 | $ 871,650 | $ 17,982,810 | | | | | | | | | | | | $ - |
| 120 | On | FM 491 (Base Line) | SH 107 | FM 1925 (Monte Cristo) | HC-29 | | 1.5 | Widen to 4 Lane Divided | La Villa | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 121 | On | Goodwin Rd | US 83 | FM 1924 (Mile 3 N) | HC-31 | | 2.2 | Widen to 4 Lane | County | $ 4,917,000 | | $ 590,040 | $ 240,933 | $ 245,850 | $ 319,605 | $ 6,618,282 | | | | | | | | | | | | $ - |
| 124 | Off | Pleasantview Dr (Mile 3 1/2 W Rd) | Mile 5 N | Mile 9 N | HC-243 | | 4 | Widen to 4 Lane Divided | Weslaco | $ 8,940,000 | | $ 1,072,800 | $ 438,060 | $ 447,000 | $ 581,100 | $ 12,033,240 | | | | | | | | | | | | $ - |
| 125 | Off | Mile 11 N Rd | Mile 6 West | FM 491 | HC-137 | | 6 | Widen to 4 Lane | County | $ 13,410,000 | | $ 1,609,200 | $ 657,090 | $ 603,450 | $ 871,650 | $ 17,982,810 | | | | | | | | | | | | $ - |
| 126 | Off | Mile 6 1/2 W Rd | Mile 12 North | Mile 5 N Rd | HC-145 | | 7 | Widen to 4 Lane | Weslaco / County | $ 15,645,000 | | $ 1,877,400 | $ 766,605 | $ 704,025 | $ 1,016,925 | $ 20,979,945 | | | | | | | | | | | | $ - |
| 127 | Off | Owassa Rd | US 281 | I road | HC-156a | | 0.9 | Widen to 4 Lane | Phr/SJ/Co | $ 2,011,500 | | $ 241,380 | $ 98,564 | $ 100,575 | $ 130,748 | $ 2,707,479 | | | | | | | | | | | | $ - |
| 128 | Off | Tower Rd | US 83 | SH 107 | HC-176 | | 7.2 | Widen to 4 Lane | Alamo | $ 16,092,000 | | $ 1,931,040 | $ 788,508 | $ 724,140 | $ 1,045,980 | $ 21,579,372 | | | | | | | | | | | | $ - |
| 129b | Off | Abram Rd | US 83 | FM 2221 | HC-84b | | 6 | Widen to 4 Lane | Palmview / County | $ 13,410,000 | | $ 1,609,200 | $ 657,090 | $ 603,450 | $ 871,650 | $ 17,982,810 | | | | | | | | | | | | $ - |
| 130 | Off | Trenton Rd | FM 1426 (Raul Longoria) | FM 1423 (Val Verde) | HC-177b | | 4.3 | Construct 4 Lane | County | $ 9,610,500 | | $ 1,153,260 | $ 470,915 | $ 480,525 | $ 624,683 | $ 12,935,733 | | | | | | | | | | | | $ - |
| 131 | On | FM 1016 (S Conway) | US 83 | Military Hwy | HC-4 | | 2.15 | Widen to 6 Lanes | Mission / county | $ 5,256,750 | | $ 630,810 | $ 257,581 | $ 262,838 | $ 341,689 | $ 7,075,586 | | | | | | | | | | | | $ - |
| 132 | Off | Sugar Rd | Schunior Ave | FM 1925 | HC-172 | | 2 | Widen to 4 Lane | County | $ 4,470,000 | | $ 536,400 | $ 219,030 | $ 223,500 | $ 290,550 | $ 6,016,620 | | | | | | | | | | | | $ - |
| 134 | On | FM 907 (Alamo Rd) | Ridge Rd | Military Hwy | HC-41 | | 6 | Widen to 4 Lane Divided | County | $ 13,410,000 | | $ 1,609,200 | $ 657,090 | $ 603,450 | $ 871,650 | $ 17,982,810 | | | | | | | | | | | | $ - |
| 135 | Off | Wisconsin Rd | .25 miles E of 2nd St | US 281 | HC-182 | | 2.9 | Widen to 4 Lane | Edinburg | $ 6,481,500 | | $ 777,780 | $ 317,594 | $ 324,075 | $ 421,298 | $ 8,724,099 | | | | | | | | | | | | $ - |
| 136 | Off | Bentsen Palm Drive (FM 2062) | 1 Mile Line Rd | US 83 | HC-88 | | 0.2 | Widen to 4 Lane | Palmview | $ 447,000 | | $ 53,640 | $ 21,903 | $ 33,525 | $ 31,290 | $ 615,072 | | | | | | | | | | | | $ - |
| 137 | Off | MonMack | SH 107 | FM 1925 | HC-260 | | 2.5 | Widen to 4 lane | Edinburg | $ 5,587,500 | | $ 670,500 | $ 273,788 | $ 279,375 | $ 363,188 | $ 7,520,775 | | | | | | | | | | | | $ - |
| 138 | Off | 8th St | Mile 5 1/2 W Rd | Airport Dr | HC-247 | | 1.5 | Widen to 4 Lane Divided | Weslaco | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 139 | Off | Owassa Rd | Cesar Chavez | FM 1423 (Val Verde) | HC-157 | | 3 | Widen to 4 Lane | County | $ 6,705,000 | | $ 804,600 | $ 328,545 | $ 335,250 | $ 435,825 | $ 9,024,930 | | | | | | | | | | | | $ - |
| 140 | Off | Mile 12 N Rd | Mile 6 West | FM 1015 | HC-138 | | 3 | Widen to 4 Lane | County | $ 6,705,000 | | $ 804,600 | $ 328,545 | $ 335,250 | $ 435,825 | $ 9,024,930 | | | | | | | | | | | | $ - |
| 141 | Off | Los Ebanos Rd | FM 1924 (3 Mile N) | Bus 83 | HC-135 | | 3 | Widen to 4 Lane | Palmhurst/Mission/County | $ 6,705,000 | | $ 804,600 | $ 328,545 | $ 335,250 | $ 435,825 | $ 9,024,930 | | | | | | | | | | | | $ - |
| 142 | Off | Alberta Rd | I road | FM 1423 (Val Verde) | HC-86b | | 5.1 | Widen to 4 Lane | County | $ 11,398,500 | | $ 1,367,820 | $ 558,527 | $ 512,933 | $ 740,903 | $ 15,285,389 | | | | | | | | | | | | $ - |
| 143 | Off | Nebraska Ave (Alamo) | Cesar Chavez | Border Ave | HC-151 | | 2.5 | Widen to 4 Lane | Alamo | $ 5,587,500 | | $ 670,500 | $ 273,788 | $ 279,375 | $ 363,188 | $ 7,520,775 | | | | | | | | | | | | $ - |
| 144 | Off | Goodwin Rd | Bus 83 | FM 492 | HC-122 | | 1 | Widen to 4 Lane | County | $ 2,235,000 | | $ 268,200 | $ 109,515 | $ 111,750 | $ 145,275 | $ 3,008,310 | | | | | | | | | | | | $ - |
| 146 | On | FM 2062 (Bentsen Palm) | Bus 83 S | Bentsen State Park | HC-17 | | 2.7 | Widen to 4 Lane Divided | County | $ 6,034,500 | | $ 724,140 | $ 295,691 | $ 301,725 | $ 392,243 | $ 8,122,437 | | | | | | | | | | | | $ - |
| 147 | On | FM 491 (Base Line) | US 83 | Mile 10 N Rd | HC-43 | | 3 | Widen to 4 Lane Divided | Mercedes | $ 6,705,000 | | $ 804,600 | $ 328,545 | $ 335,250 | $ 435,825 | $ 9,024,930 | | | | | | | | | | | | $ - |
| 148 | On | FM 493 (La Blanca) | SH 107 | FM 1925 (Monte Cristo) | HC-33 | | 1.9 | Widen to 4 Lane Divided | La Blanca | $ 4,246,500 | | $ 509,580 | $ 208,079 | $ 212,325 | $ 276,023 | $ 5,715,789 | | | | | | | | | | | | $ - |
| 149 | On | FM 1425 | US 83 | Mile 9 N Rd | HC-5 | | 1.8 | Widen to 4 Lane Rural | County | $ 4,023,000 | | $ 482,760 | $ 197,127 | $ 201,150 | $ 261,495 | $ 5,414,958 | | | | | | | | | | | | $ - |
| 150 | Off | Seminary Rd | FM 1925 | FM 2812 (W of US 281) | HC-263 | | 2.85 | Widen to 4 lane | Edinburg | $ 6,369,750 | | $ 764,370 | $ 312,118 | $ 318,488 | $ 414,034 | $ 8,573,684 | | | | | | | | | | | | $ - |
| 151 | Off | Russell Rd | Bus 281 (Closner) | Doolittle Road | HC-262 | | 1.3 | Widen to 4 lane | Edinburg | $ 2,905,500 | | $ 348,660 | $ 142,370 | $ 145,275 | $ 188,858 | $ 3,910,803 | | | | | | | | | | | | $ - |
| 152 | Off | Doolittle Rd | FM 2128 (Richardson Road) | FM 1925 | HC-261 | | 2 | Widen to 4 lane | Edinburg | $ 4,470,000 | | $ 536,400 | $ 219,030 | $ 223,500 | $ 290,550 | $ 6,016,620 | | | | | | | | | | | | $ - |

# HIDALGO COUNTY METROPOLITAN PLANNING ORGANIZATION METROPOLITAN TRANSPORTATION PLAN PROJECT DATA

| Line Numbers | System Sort | Roadway | From | To | MTP# | CSJ # | Project Length (mi) | Proposed Project Data | | Total Project Cost | | | | | | | Funding Categories | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Type of Improvement | Jurisdiction | Construction Cost 2013 dollars | Letting Year Construction dollars | ROW cost (12% 2011 const cost) | Preliminary Engineering (4.9% 2011 const cost) | CE Cost (<$2 M 7.5%, $2-$10 M 5%, >$10 M 4.5% of 2011 const cost) | Contingencies (<$2M 7%, $2-$25 M 6.5%, $25-$50 M 9%, >$50M 7% of | Total Project Cost | Year of Expenditure Dollars (YOE) | Cat 1 Funding | Cat 3 - TMF | Cat 7 Funding (CE & Contingencies) | Cat 9 Funding | Cat 11 Funding | Cat 12 Funding | CBI - Eligible | Earmark Funding | Other Funds (Local, Bond, etc) | TRENDS - Innovative Financing | TOTAL |
| 153 | Off | Doolittle Rd | FM 1925 | FM 2812 | HC-227a | | 3.5 | Widen to 4 Lane Divided w/ Br | Edinburg / County | $ 7,822,500 | | $ 938,700 | $ 383,303 | $ 391,125 | $ 508,463 | $ 10,529,085 | | | | | | | | | | | | $ - |
| 154 | Off | Schunior Ave | MonMack Rd | Sugar Rd | HC-164 | | 1.5 | Widen to 4 Lane | Edinburg | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 155 | On | FM 2812 | US 281 | 2 mi E of US 281 | HC-24 | | 2 | Widen to 4 Lane with left turn lane | Edinburg | $ 6,000,000 | | $ 720,000 | $ 294,000 | $ 300,000 | $ 390,000 | $ 8,076,000 | | | | | | | | | | | | $ - |
| 157 | Off | FM 676 (Mile 5 N) | Jara Chinas | FM 492 | HC-143 | | 6.3 | Extend 2 Lane FM Road | County | $ 12,256,650 | | $ 1,470,798 | $ 600,576 | $ 551,549 | $ 796,682 | $ 16,436,168 | | | | | | | | | | | | $ - |
| 159 | On | SP 433 (Main St-Donna) | US 83 | Bus 83 | HC-169 | | 0.8 | Widen to 4 Lane Divided | Donna | $ 1,788,000 | | $ 214,560 | $ 87,612 | $ 134,100 | $ 125,160 | $ 2,460,288 | | | | | | | | | | | | $ - |
| 160 | Off | El Gato Rd | S Cage Blvd | FM 907 (Alamo Rd) | HC-124 | | 3.8 | Widen to 4 Lane | Pharr / San Juan | $ 8,493,000 | | $ 1,019,160 | $ 416,157 | $ 424,650 | $ 552,045 | $ 11,431,578 | | | | | | | | | | | | $ - |
| 161 | Off | Military Hwy | FM 494 (Shary Rd) | FM 1427 (Abram) | HC-149 | | 6 | Construct 4 Lane | Mission | $ 13,410,000 | | $ 1,609,200 | $ 657,090 | $ 603,450 | $ 871,650 | $ 17,982,810 | | | | | | | | | | | | $ - |
| 165 | Off | 28th St (Mile 5 1/2 N Rd) | S. Bridge St | FM 1015 | HC-246 | | 1.5 | Widen to 4 Lane Divided | Weslaco | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 166 | Off | Border Ave | Bus 83 | Mile 10 N Rd | HC-245 | | 2.6 | Widen to 4 Lane Divided | Weslaco | $ 5,811,000 | | $ 697,320 | $ 284,739 | $ 290,550 | $ 377,715 | $ 7,821,606 | | | | | | | | | | | | $ - |
| 167 | Off | Moore Field Rd | FM 2221 | US 83 | HC-150 | | 6.5 | Widen to 4 Lane | County | $ 14,527,500 | | $ 1,743,300 | $ 711,848 | $ 653,738 | $ 944,288 | $ 19,481,378 | | | | | | | | | | | | $ - |
| 168 | Off | Inspiration Rd | 2 Mile Line Rd | US 83 | HC-129 | | 2.9 | Widen to 4 Lane | Mission | $ 6,481,500 | | $ 777,780 | $ 317,594 | $ 324,075 | $ 421,298 | $ 8,724,099 | | | | | | | | | | | | $ - |
| 169 | Off | Delta Blvd | US 83 | Mile 9 N Rd | HC-226 | | 0.8 | Construct new 4 Lane | Weslaco | $ 1,788,000 | | $ 214,560 | $ 87,612 | $ 134,100 | $ 125,160 | $ 2,460,288 | | | | | | | | | | | | $ - |
| 170 | Off | Tower Rd | Bus 83 | Ridge Rd | HC-175 | | 0.75 | Widen to 4 Lane | Alamo | $ 1,676,250 | | $ 201,150 | $ 82,136 | $ 125,719 | $ 117,338 | $ 2,306,520 | | | | | | | | | | | | $ - |
| 172 | On | Jara Chinas | FM 2221 | US 83 | HC-23 | | 6.26 | Widen to 4 Lane Divided Rural | La Joya | $ 13,991,100 | | $ 1,678,932 | $ 685,564 | $ 629,600 | $ 909,422 | $ 18,762,065 | | | | | | | | | | | | $ - |
| 174 | Off | Russell Rd | Doolittle | FM 907 (Alamo Rd) | HC-161 | | 1.5 | Widen to 4 Lane | County | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 175 | Off | Wichita Ave | SH 336 (S 10th St) | 2nd St | HC-181 | | 0.6 | Widen to 4 Lane | McAllen | $ 1,341,000 | | $ 160,920 | $ 65,709 | $ 100,575 | $ 93,870 | $ 1,845,216 | | | | | | | | | | | | $ - |
| 176 | Off | Oxford (Hobbs) | Ware Rd | FM 1926 (Depot Rd) | HC-158 | | 1.2 | Construct New 4 Lane | McAllen | $ 2,682,000 | | $ 321,840 | $ 131,418 | $ 134,100 | $ 174,330 | $ 3,609,972 | | | | | | | | | | | | $ - |
| 177 | Off | Colbath Ave | FM 2220 | Taylor Rd | HC-101 | | 1 | Widen to 4 Lane | McAllen | $ 2,235,000 | | $ 268,200 | $ 109,515 | $ 111,750 | $ 145,275 | $ 3,008,310 | | | | | | | | | | | | $ - |
| 178 | Off | Mile 6 N (Mercedes) | FM 491 E to Mile 1 East | Mile 1 East | HC-78 | | 0.5 | Widen to 4 Lane | Mercedes | $ 1,117,500 | | $ 134,100 | $ 54,758 | $ 83,813 | $ 78,225 | $ 1,537,680 | | | | | | | | | | | | $ - |
| 179 | Off | Nolana Loop | FM 494 (Shary Rd) | Taylor Rd | HC-153 | | 0.5 | Construct New 4 Lane | McAllen / Palmhurst | $ 558,750 | | $ 67,050 | $ 27,379 | $ 41,906 | $ 39,113 | $ 768,840 | | | | | | | | | | | | $ - |
| 180 | Off | Bicentennial Blvd (Hoehn Rd) | Trenton Rd | SH 107 | HC-91 | | 2.9 | Construct New 4 Lane Rdwy | McAllen | $ 6,481,500 | | $ 777,780 | $ 317,594 | $ 324,075 | $ 421,298 | $ 8,724,099 | | | | | | | | | | | | $ - |
| 181 | On | FM 1427 | US 83 | Abram | HC-7 | | 4.5 | Widen to 4 Lane Divided | County | $ 10,057,500 | | $ 1,206,900 | $ 492,818 | $ 452,588 | $ 653,738 | $ 13,487,108 | | | | | | | | | | | | $ - |
| 182 | Off | Rooth Rd | Russell Rd | FM 1925 (Monte Cristo) | HC-251 | | 1 | Widen 4 lanes with left turn lane | McAllen | $ 2,235,000 | | $ 268,200 | $ 109,515 | $ 111,750 | $ 145,275 | $ 3,008,310 | | | | | | | | | | | | $ - |
| 183 | Off | Rooth Rd | SH 107 | Russell Rd | HC-250 | | 1.5 | Widen 4 lanes with left turn lane | McAllen | $ 3,352,500 | | $ 402,300 | $ 164,273 | $ 167,625 | $ 217,913 | $ 4,512,465 | | | | | | | | | | | | $ - |
| 184 | Off | Trenton Rd | FM 1423 (Val Verde) | FM 1015 | HC-178 | | 7.2 | Construct New 4 Lane Divided | County | $ 16,092,000 | | $ 1,931,040 | $ 788,508 | $ 724,140 | $ 1,045,980 | $ 21,579,372 | | | | | | | | | | | | $ - |
| 185 | Off | Mile 4 1/2 W Rd | SH 107 | Mile 9 N Rd | HC-142 | | 7.5 | Widen to 4 Lane | County | $ 16,762,500 | | $ 2,011,500 | $ 821,363 | $ 754,313 | $ 1,089,563 | $ 22,478,513 | | | | | | | | | | | | $ - |
| 186 | Off | Mile 1 East | Mile 11 North | US 83 | HC-136 | | 3.7 | Improve widen to 4 Lane | Mercedes | $ 8,269,500 | | $ 992,340 | $ 405,206 | $ 413,475 | $ 537,518 | $ 11,130,747 | | | | | | | | | | | | $ - |
| 187 | On | FM 1427 | Abram E & N | Bus 83 | HC-8 | | 2.1 | Widen to 4 Lane Divided | Peñitas / Mission | $ 4,693,500 | | $ 563,220 | $ 229,982 | $ 234,675 | $ 305,078 | $ 6,317,451 | | | | | | | | | | | | $ - |
| 188 | On | FM 2812 W | Seminary Rd | US 281 | HC-266 | | 1.2 | Construct new 4 lane | Edinburg | $ 2,682,000 | | $ 321,840 | $ 131,418 | $ 134,100 | $ 174,330 | $ 3,609,972 | | | | | | | | | | | | $ - |
| 189 | Off | Kennedy Ave | Taylor Rd | FM 2220 (Ware Rd) | HC-134 | | 1 | Construct New 4 Lane | McAllen | $ 2,235,000 | | $ 268,200 | $ 109,515 | $ 111,750 | $ 145,275 | $ 3,008,310 | | | | | | | | | | | | $ - |
| 190 | Off | I Rd | Rancho Blanco | Military Hwy | HC-127 | | 4.5 | Construct 2 Lane w/ Shoulders | Pharr / Co / SJ | $ 8,754,750 | | $ 1,050,570 | $ 428,983 | $ 437,738 | $ 569,059 | $ 11,783,894 | | | | | | | | | | | | $ - |
| 191 | Off | Inspiration Rd | US 83 | Military Hwy | HC-128 | | 3.1 | Widen to 4 Lane | Mission | $ 6,928,500 | | $ 831,420 | $ 339,497 | $ 346,425 | $ 450,353 | $ 9,325,761 | | | | | | | | | | | | $ - |
| 193 | Off | Alberta Rd | US 281 | I road | HC-86a | | 0.7 | Widen to 4 Lane | County | $ 1,564,500 | | $ 187,740 | $ 76,661 | $ 117,338 | $ 109,515 | $ 2,152,752 | | | | | | | | | | | | $ - |
| 194 | On | FM 493 (Salinas) | Champion St | Military Hwy (US281) | HC-32 | 0863-01-900 | 5.68 | Widen to 4 Lane | TxDOT | $ 12,000,000 | | $ 1,440,000 | $ 588,000 | $ 540,000 | $ 780,000 | $ 16,092,000 | | | | | | | | | | | | $ - |
| 196 | Off | Thomas Road | FM 2061 (McColl Rd) | FM 2557 (Stewart Rd) | HC-268 | | 3.95 | Construct 52 foot urban roadway with curb and gutter | County | $ 11,600,000 | | $ 1,392,000 | $ 568,400 | $ 580,000 | $ 812,000 | $ 15,532,400 | | | | | | | | | | | | $ - |
| | | | | | | | | | | **$ 2,660,300,132** | | | | | | **$ 4,232,969,618** | | | | | | | | | | | | |

**TEXAS TRANSPORTATION COMMISSION**

HIDALGO County

**MINUTE ORDER**



PHARR District

In HIDALGO COUNTY, local officials have requested the designation of the proposed Trade Corridor Connector Project as STATE HIGHWAY 365 along a new location from FM 1016, 1.7 miles south of US 83, eastward to FM 3072, 0.9 mile west of FM 2557, a distance of approximately 12.73 miles. The new route will enhance mobility in the area by providing a new east-west corridor.

Pursuant to Texas Transportation Code, §§201.103 and 221.001, the executive director recommends designating the proposed Trade Corridor Connector Project as SH 365 along a new location from FM 1016, 1.7 miles south of US 83, eastward to FM 3072, 0.9 mile west of FM 2557.

The Texas Transportation Commission (commission) finds that the designation of SH 365 will facilitate the flow of traffic, promote public safety, and maintain continuity of the state highway system and is necessary for the proper development and operation of the system.

IT IS THEREFORE ORDERED by the commission that SH 365 be designated along a new location from FM 1016, 1.7 miles south of US 83, eastward to FM 3072, 0.9 mile west of FM 2557, a distance of approximately 12.73 miles. In the event construction of the Trade Corridor Connector Project (SH 365) does not begin within 36 months of the date of this order, the order shall become null and void.

IT IS FURTHER ORDERED that if the project is developed by an entity other than the Texas Department of Transportation (department), the maintenance, control, and jurisdiction of the project will remain with the developing entity until the highway is opened to traffic as approved by the department.

Submitted and reviewed by:

James L. Randall

Director, Transportation Planning and Programming Division

Recommended by:

Executive Director

112250 APR 29 10

Minute Number | Date Passed

On February 25, 2010 by Minute Order 112156 the Texas Transportation Commission (commission) approved a program call for highway projects to be developed on the state highway system under a pass-through toll agreement (program call). The commission further determined that (i) monies available that can be allocated among all proposals selected under the program call will be limited to an estimated total of $300 million in Category 12 funds, and (ii) only the category of construction costs will be considered as eligible for reimbursement under the program call.

Pursuant to Minute Order 112156 and Title 43 Texas Administrative Code §§5.51-5.60 (rules), the Texas Department of Transportation (department) published in the Texas Register a notice designating a 60-day period commencing on March 12, 2010 for acceptance of proposals from both public and private entities for projects to be developed under the program call. The deadline for submitting proposals was May 11, 2010. Department staff evaluated the public entity proposals that were timely submitted under the program call using the items of consideration set forth in §5.55 of the rules and provided its analyses of the pass-through toll proposals to the commission.

In accordance with §222.104(b), Transportation Code, and §§5.54-5.55 of the rules, the commission granted preliminary approval on June 24, 2010 in Minute Order 112305 authorizing the department to negotiate the financial terms of a pass-through toll agreement (agreement) with each of those public entities whose proposals were selected by the commission in that minute order as providing the best value to the state. The agreements will provide for the payment of pass-through tolls to the selected public entities as reimbursement for the construction of facilities on the state highway system. A pass-through toll is a per-vehicle fee or a per-vehicle-mile fee that is determined by the number of vehicles using the facility.

In accordance with §5.58(b)(3)(A) of the rules, the commission finds that it is in the public interest to require all agreements negotiated with the selected public entities to contain a provision that limits reimbursement to the actual costs incurred by the public entity (actual cost provision). The actual cost provision will be based on the following concepts:

(1) The total reimbursement amount for each of the projects as set forth in Exhibit A represents all or a portion of the estimated cost of construction (department's proportional share). Payment of pass-through tolls will be limited to reimbursement of the department's proportional share of the actual cost of labor and materials required for construction of the project as determined by the low bid award of the construction contract (actual cost of construction), subject to the following two exceptions.

(A) The department will reimburse its proportional share of the amount by which the actual cost of construction exceeds the estimated cost of construction that was approved by the department for the same project (cost overrun). The department's total payment obligation for the project, however, will not exceed 110 percent of the estimated total reimbursement amount as set forth in Exhibit A.

(B) The department will reimburse to the public entity the amount by which the actual cost of construction is less than the estimated cost of construction that was approved by the department for the same project (cost underrun), up to a maximum of 10 percent of the estimated cost of construction, if the following conditions are met:

(i) the total of actual cost and underrun reimbursements by the department may not exceed the department's estimated total reimbursement amount as set forth in Exhibit A;

(ii) the amount of cost underrun received by the public entity will be expended on the same project as set forth in Exhibit A, or on other mutually acceptable state highway projects located in the public entity's jurisdiction;

(iii) the amount of cost underrun received by the public entity may be expended on the actual costs of an eligible project's environmental clearance and mitigation, right of way acquisition, land surveys, engineering, utility relocation, construction, construction engineering and inspection, and financing, but not on overhead or contingent profits; and

(iv) the public entity receives the department's prior consent for the expenditures.

(2) The reimbursement rate, the minimum reimbursement amount per year, and the maximum reimbursement amount per year as set forth in Exhibit A will be applicable regardless of the actual total reimbursement amount. The number of annual payments will be adjusted to reflect the total reimbursement amount as determined in accordance with paragraph (1).

(3) No change order to the construction plans or contract may be issued by the public entity without the department's prior written approval, if it would affect prior environmental approvals or significantly revise the scope of the project or the geometric design.

(4) Construction costs shall have the same meaning as described in the program call.

The department and each of the public entities identified in Exhibit A have agreed to a total reimbursement through pass-through tolls for construction of the projects, a reimbursement rate per vehicle or vehicle-mile, the minimum amount to be reimbursed in any year with all projects open to traffic, and the maximum amount per year as set forth in the exhibit. Each agreement will expire once the total amount of that agreement has been reimbursed. The projects will be authorized and reimbursed from Category 12, Strategic Priority funds.

In accordance with §5.57 of the rules, the commission finds that: (1) the projects serve the public interest and not merely a private interest; (2) the proposed pass-through agreements are in the best interest of the state; (3) the projects are compatible with existing and planned transportation facilities; and (4) the projects further state, regional, and local transportation plans, programs, policies, and goals.

Before the projects in the selected proposals are designed, developed, or constructed using funds administered by the department, the projects: (1) must be included in the department's Unified Transportation Program, thereby identifying committed funding for the project; (2) must be included in the department's Statewide Transportation Improvement Program; and (3) will be subject to any and all applicable planning and environmental processes and approvals as mandated by state and federal regulations regarding such matters.

IT IS THEREFORE ORDERED that the executive director or his designee is authorized to negotiate and execute a pass-through toll agreement with each of the public entities set forth in Exhibit A for the construction of their respective projects as identified in the exhibit, in accordance with the negotiated terms, the actual cost provision described in this minute order, and such other terms the department determines to be necessary, and to amend Category 12, Strategic Priority, of the 2010 Unified Transportation Program, approved by Minute Order 112237, dated April 29, 2010, to authorize the projects included in each executed agreement.

Submitted and reviewed by:

John A. Barbay P.E.

Assistant Executive Director for
Engineering Operations

Recommended by:

Executive Director

112391 AUG 26 10

Minute Number | Date Passed

**EXHIBIT A**
**2010 PASS-THROUGH TOLL PROGRAM CALL PROJECTS**

| District | County/City Name | Project Description | Total Reimbursement | Reimbursement Rate (per vehicle mile unless otherwise noted) | Minimum Reimbursement Amount per Year | Maximum Reimbursement Amount per Year | Region |
|---|---|---|---|---|---|---|---|
| WAC | City of Killeen | SH 195/SH 201 Interchange – Construct a new interchange from 0.68 miles south of the SH 195 /SH 201 interchange to 0.68 miles north of the SH 195/SH 201 interchange.<br><br>SH 201 Widening - Construct the two (2) eastbound lanes with a raised median from east of the Killeen/Ft. Hood Airport to just west of the SH 195/SH 201interchange. | $13,537,500 | $0.06 | $676,875 | $1,353,750 | NORTH |
| SAT | Bexar County | Loop 1604 from Lower Seguin Road to IH 10 East - Reconstruct and widen the existing two-lane configuration to a four-lane divided roadway. | $23,520,000 | $0.065 | $1,176,000 | $2,352,000 | SOUTH |
| LRD | Webb County | State Loop 20 (SL 20) from US 59 to south of the Tex-Mex/Kansas City Southern Railroad Overpass - Reconstruct and widen the existing four-lane arterial to six lanes with frontage roads, a raised center median, an overpass at Spur 400 (Clark Boulevard) with turnarounds, and the widening of the existing Tex-Mex/Kansas City Southern Railroad overpass. | $13,625,560 | $0.04 | $681,278 | $1,362,556 | SOUTH |
| FTW | City of Colleyville | SH 26 from just south of Cheek-Sparger Road to just north of Hall Johnson Road - Reconstruct from an existing five-lane asphalt section to a six-lane divided urban arterial facility with concrete pavement, and including intersection improvements. | $14,400,000 | $0.045 | $720,000 | $1,440,000 | NORTH |
| AUS | Williamson County | IH 35 Northbound Frontage Road (IH 35 NBFR) approximately from Westinghouse Road to SH 29 - Construct two and three lane frontage roads, entrance and exit ramps, a bridge overpass at San Gabriel River, a turnaround at RM 2243, and an at-grade railroad crossing. | $10,997,000 | $0.07 | $549,850 | $1,099,700 | SOUTH |

**EXHIBIT A**
**2010 PASS-THROUGH TOLL PROGRAM CALL PROJECTS**

| District | County/City Name | Project Description | Total Reimbursement | Reimbursement Rate (per vehicle mile unless otherwise noted) | Minimum Reimbursement Amount per Year | Maximum Reimbursement Amount per Year | Region |
|---|---|---|---|---|---|---|---|
| PHR | Cameron County Regional Mobility Authority | SH 32 (Segment 1) from US 77/83 to Paloma Blanca - Construct a non-tolled 6-lane curb and gutter divided roadway, and then transition to a 4-lane rural divided roadway.<br><br>SH 32 (Segment 2) from Paloma Blanca to SH 4 at the proposed Port of Brownsville Entrance Road - Construct a non-tolled, 4-lane rural divided roadway, and then transition to a 2-lane rural undivided roadway. | $34,500,000 | $0.0375 | $1,725,000 | $3,450,000 | SOUTH |
| AUS | City of Cedar Park | RM 1431 from west of FM 734 (Parmer Lane) to east of CR 175 (Sam Bass Road) - Reconstruct and widen from a four-lane rural section to six-lane urban divided section with a raised median, and a 6' wide sidewalk on the bridge section. | $13,600,000 | $0.035 | $680,000 | $1,360,000 | SOUTH |
| PHR | Hidalgo County Regional Mobility Authority | SH 365 (TCC) from FM 1016 (Conway Avenue) to FM 3072 (Dicker Road) – Construct a controlled access two-lane toll facility with additional passing lanes, a center barrier protection, multiple overpasses, and an underpass. | $70,000,000 | $0.40 | $3,500,000 | $7,000,000 | SOUTH |
| BMT | Chambers County | FM 1409 extension from FM 565 (north of IH 10) to FM 565 (south of IH 10) - Construct a two-lane rural undivided section on new alignment. | $20,132,601 | $0.25 | $1,006,630 | $2,013,260 | EAST |
| | | **Total =** | **$214,312,661** | | | | |

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Board of Directors**
**Dennis Burleson, Chairman**
**Michael Cano, Vice-Chairman**
**Ricardo Perez, Secretary/Treasurer**
**Joe Olivarez, Director**
**Forrest Runnels, Director**
**Alonzo Cantu, Director**
**R. David Guerra, Director**

June 1, 2012

Mario Jorge, P.E.
District Engineer – Pharr District
Texas Department of Transportation
600 West US 83 Expressway
Pharr, Texas 78577

RE: Pass Through Financing Program

Dear Mr. Jorge:

Recently, the Hidalgo County Regional Mobility Authority (the "Authority") adopted its 2012-2017 Strategic Plan (the "Plan"). Under this Plan, it is the Authority's intention to (i) focus on developing and constructing the Trade Corridor Connector (SH365), (ii) prepare other on-going projects (including the International Bridge Trade Connector, US281/Military Highway) to be "shovel ready", and (iii) restructure project jurisdiction to permit TxDOT to pursue certain projects (including US281 Overpass at FM 755 and US83 La Joya Relief Route).

The adoption of this Strategic Plan requires that the Authority request some revisions in the program and agreements previously undertaken by the Texas Department of Transportation ("TxDOT") and approved by the Texas Transportation Commission. Specifically, the Authority would like to consolidate its funding options in support of SH365 project. Additionally, the scope, limits and schedule of some of the projects have changed. Accordingly, we request the following actions to align the State's program and our TxDOT agreements with the Plan.

US 281 / Military Highway (CSJ: 0220-01-023; contract PT2010-014-01)
The Authority and the Commission entered into a Pass-Through Finance Agreement for this project on January 11, 2011, approved by Minute Order 112437. Pursuant to the Plan, it is the Authority's intention to consolidate this project with SH 365, complete the development phase (schematics, environmental and PS&E), acquisition of the necessary right-of-way, utility relocation for the project and construct the overpass as part of the SH 365 project.

With regard to US281/Military Highway, we request the following actions from TxDOT:

1. Transfer all approved Pass-Through Funding ($7,355,735) to the SH 365 Project
2. Terminate the Pass-Through Agreement with the Authority for US281/Military Highway
3. Allocate the $2,000,000 Category 10 CBI funds currently assigned for the overpass to the SH 365 project
4. Allocate the $3,600,000 Category 10 CBI funds currently assigned for the BSIF Connector, which is no longer needed, to the SH 365 project
5. Amend the agreement to allow the HCRMA flexibility to use CBI and Earmark funds for right-of-way and construction

US 281 Overpass at FM 755 (CSJ: 255-5-34; contract PT2011-011-01)

The Authority applied for Pass-Through financing for this project as part of the FY2011 Program Call. The Commission, by Minute Order 112755 approved a reimbursement, but no Pass-Through Agreement was ever executed. Rather, the funding for this project was incorporated into the $34,700,000 allocation offered for the La Joya Relief Route. Pursuant to the Plan, it is the Authority's intention not to participate in this project at this time due to limitations of the vehicle registration fee and the transfer of the La Joya Relief Route to TxDOT for completion.

With regard to the US 281 Overpass at FM 755, the Authority hereby withdraws its application for Pass-Through Funding and requests the following action from TxDOT:

1. Acceptance of withdrawal of application for Pass-Through Funding

US 83 La Joya Relief Route (CSJ: 0039-02-040)

The Authority applied for Pass-Through Funding and by Minute Order 112842 received a funding commitment from the State. Additional funding has also been identified by the state, but no agreement has been finalized for such funding. Pursuant to the Plan, it is the Authority's intention not to proceed with this project, with the understanding that TxDOT will move forward with the development of the project as a non-tolled, 4 lane divided and rural section. The Authority, therefore, desires to reassign the allocated Pass-Through Funds ($34,700,000) offered to the HCRMA for SH 365/Trade Corridor Connector.

With regard to the US83 La Joya Relief Route, the Authority requests the following action from TxDOT:

1. Assume responsibility for developing of the project
2. Transfer all committed Pass-Through Funding ($34,700,000) to the SH 365 Project

SH 365 (CSJ: 3627-01-001; contract PT2010-010-01)

The Authority and the Commission entered into a Pass-Through Finance Agreement for this project on January 11, 2011, approved by Minute Order 112391. Under this agreement, the Authority is responsible for project development, right-of-way acquisition, and construction, operation, and maintenance of the project. Pursuant to the Plan, the Authority intends to increase the scope of this project by expanding the limits from Spur 600 to FM 2557 (Stewart Road), including a four-lane facility from US 281 to FM 396 at a construction cost estimate of $139,000,000. Again, the Authority will construct the overpass at SH 365/US 281 as part of this project.

With regard to SH 365, we request the following actions from TxDOT:

1. Consolidate and move all approved and offered HCRMA Pass-Through Funding to this project, increasing the Pass-Through Funding from $70,000,000 to $112,055,735
2. $7,355,735 from US 281 Military Highway
3. $34,700,000 from US 83 La Joya Relief Route
4. Modify the on-system designation, Minute Order and Pass-Through Agreement to revise the construction start date to allow for a time extension. The requested construction start date is April 30, 2016.
5. Modify the Minute Order and Pass-Through Agreement to revise the terms (rate and minimum/maximum payments) of the Agreement and amend the Agreement to address funding, terms, and scope/limit changes
6. Consolidate and move the $2,000,000 in Category 10 CBI funding from US 281/Military Highway to SH 365
7. Consolidate and move the $3,600,000 in Category 10 CBI funding for BSIF Connector, which is no longer needed, to SH 365
8. Allow the $1,293,144 in Category 10 Earmark funds to remain with the SH 365 project

9. Amend the agreement to allow the HCRMA flexibility to use CBI and Earmark funds for right-of-way and construction

In addition, the Authority desires to designate its new Executive Director, Pilar Rodriguez, P.E., as the primary point of contact, with program manager Louis H. Jones as the secondary point of contact for this project.

Project sheets providing greater detail on scope and limit changes for SH 365 project are attached as exhibits hereto.

As always, we appreciate the leadership of TxDOT and the Pharr District Office in addressing mobility issues in Hidalgo County and look forward to a continued partnership with your office.

Respectfully,
**Hidalgo County Regional Mobility Authority**

Pilar Rodriguez, P.E.
Executive Director

cc: HCRMA Board of Directors
Hidalgo County Commissioners Court

**TEXAS TRANSPORTATION COMMISSION**

HIDALGO County

**MINUTE ORDER**



PHARR District

The Texas Transportation Commission (commission), by Minute Order 112250, dated April 29, 2010, designated the proposed Trade Corridor Connector Project as STATE HIGHWAY 365 in HIDALGO COUNTY along a new location from Farm to Market 1016, 1.7 miles south of US 83, eastward to FM 3072, 0.9 mile west of FM 2557, a distance of approximately 12.73 miles. The minute order also provided that the designation shall become null and void if construction of the Trade Corridor Connector Project does not begin within 36 months of the date of the minute order.

Subsequent to the April 29, 2010 minute order, the Hidalgo County Regional Mobility Authority (HCRMA) procured the services of a general engineering consultant, conducted traffic and revenue studies, and procured services for environmental studies, surveying and preliminary engineering for development of the Trade Corridor Connector Project. Although HCRMA is committed to expediting and completing development of the project, it is a complex endeavor and will not likely be ready to receive construction bids until fiscal year 2016. HCRMA's strategic plan for development of its overall system of projects also seeks to extend the limits of the project southward to US 281 (Military Highway). Accordingly, HCRMA and the department are recommending that Minute Order 112250 be amended.

The commission finds that amendment of Minute Order 112250 to extend the project limits and the deadline for beginning construction will facilitate the Trade Corridor Connector project, serves the public interest and is in the best interest of the state, is compatible with existing and planned transportation facilities, and serves to further state, regional and local transportation plans and goals.

IT IS THEREFORE ORDERED by the commission that SH 365 be designated along a new location from FM 1016, 1.7 miles south of US 83, eastward to FM 3072, approximately 0.9 mile west of FM 2557, and then southward to US 281 (Military Highway), a distance of approximately 14.31 miles. In the event construction of the Trade Corridor Connector Project (SH365) does not begin by August 31, 2016, the order shall become null and void.

IT IS FURTHER ORDERED that if the project is developed by an entity other than the Texas Department of Transportation (department), the maintenance, control, and jurisdiction of the project will remain with the developing entity until the highway is opened to traffic as approved by the department.

Submitted and reviewed by:

James L. Randall

Director, Transportation Planning and Programming Division

Recommended by:

Executive Director

113200 JUL 26 12

Minute Number | Date Passed

# MEMORANDUM

**TO:** Mario Jorge, P.E. **DATE:** February 8, 2013

**FROM:** William E. Knowles, P.E.

**SUBJECT:** Traffic Data
CSJ: 3627-01-001
SH 365 (Proposed):
From FM 1016
To US 281 (Military Road)

Hidalgo County

---

Attached are copies of schematics depicting 2016 and 2036 anticipated average daily traffic volumes and turning movements along SH 365 specified in your request. Also attached is a tabulation showing traffic analysis for highway design for the 2016 to 2036 twenty year period for the described limits of the route. Included is a tabulation showing data for use in air and noise analysis.

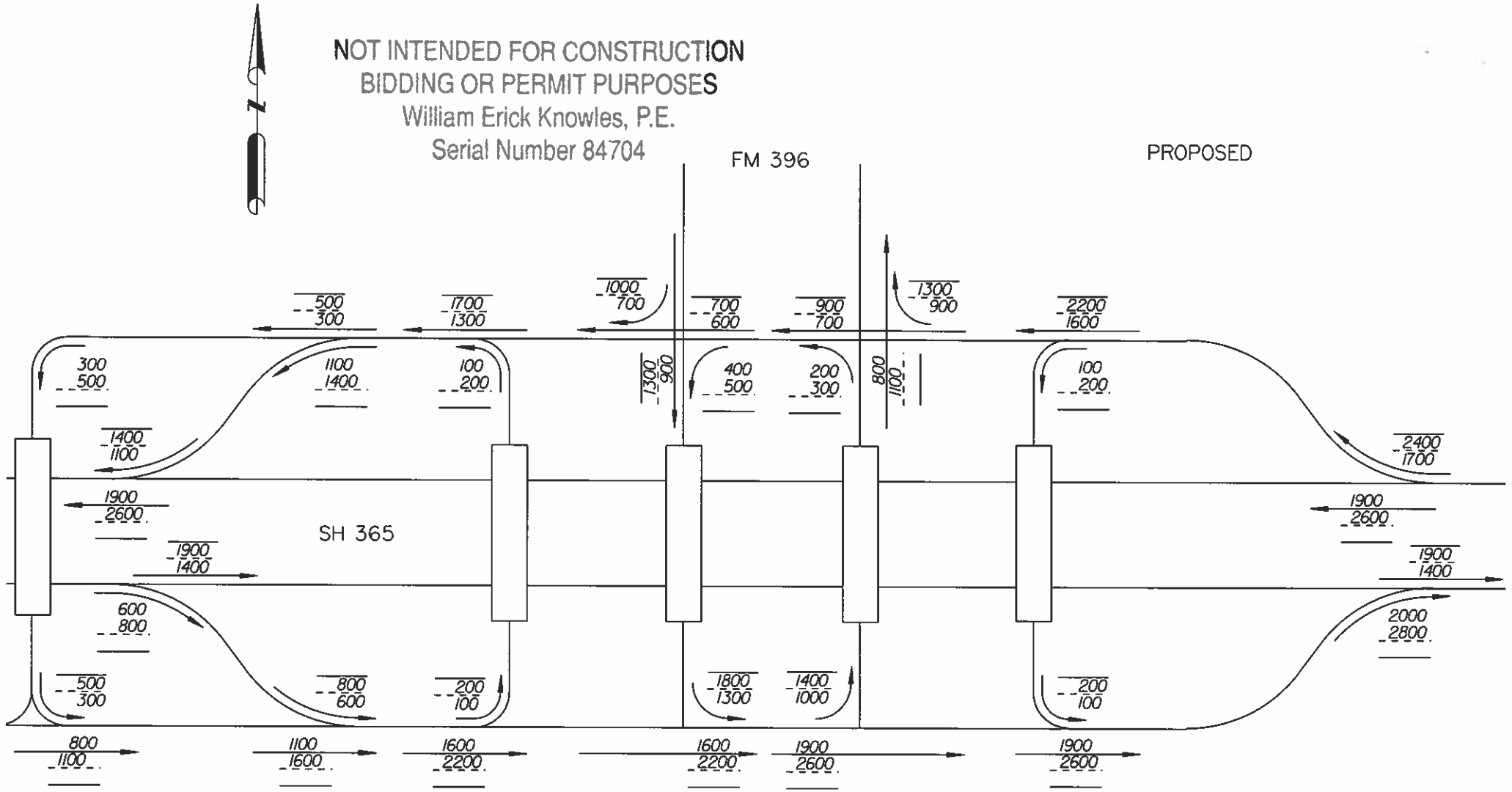
Please refer to your original memorandum dated August 29, 2012.

If you have any questions or need additional information, please contact Robert Williams at (512) 486-5145.

Attachments

cc: Carlos Peralez, P.E., Pharr District
Design Division

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704

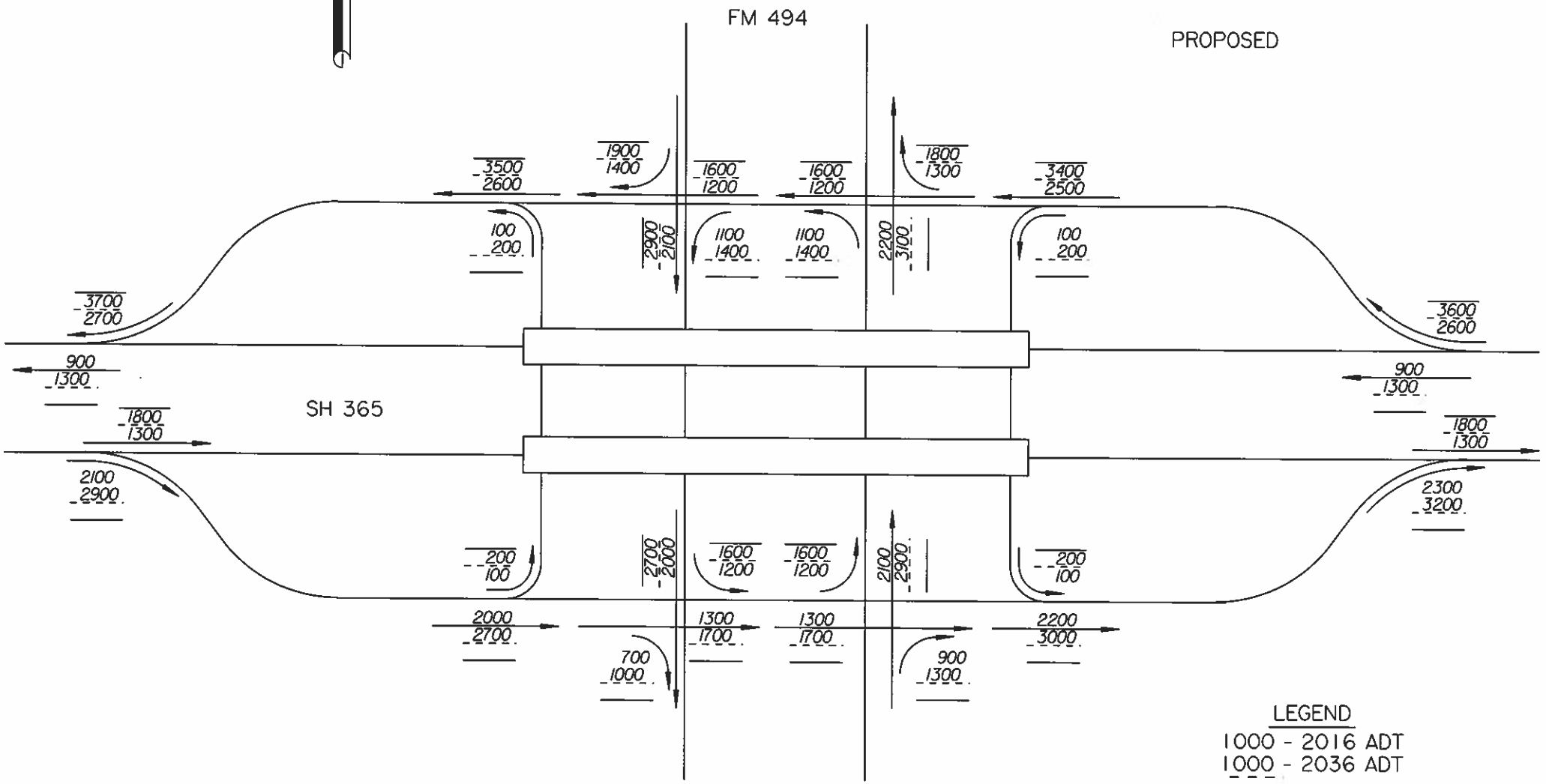



LEGEND
1000 - 2016 ADT
1000 - 2036 ADT

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

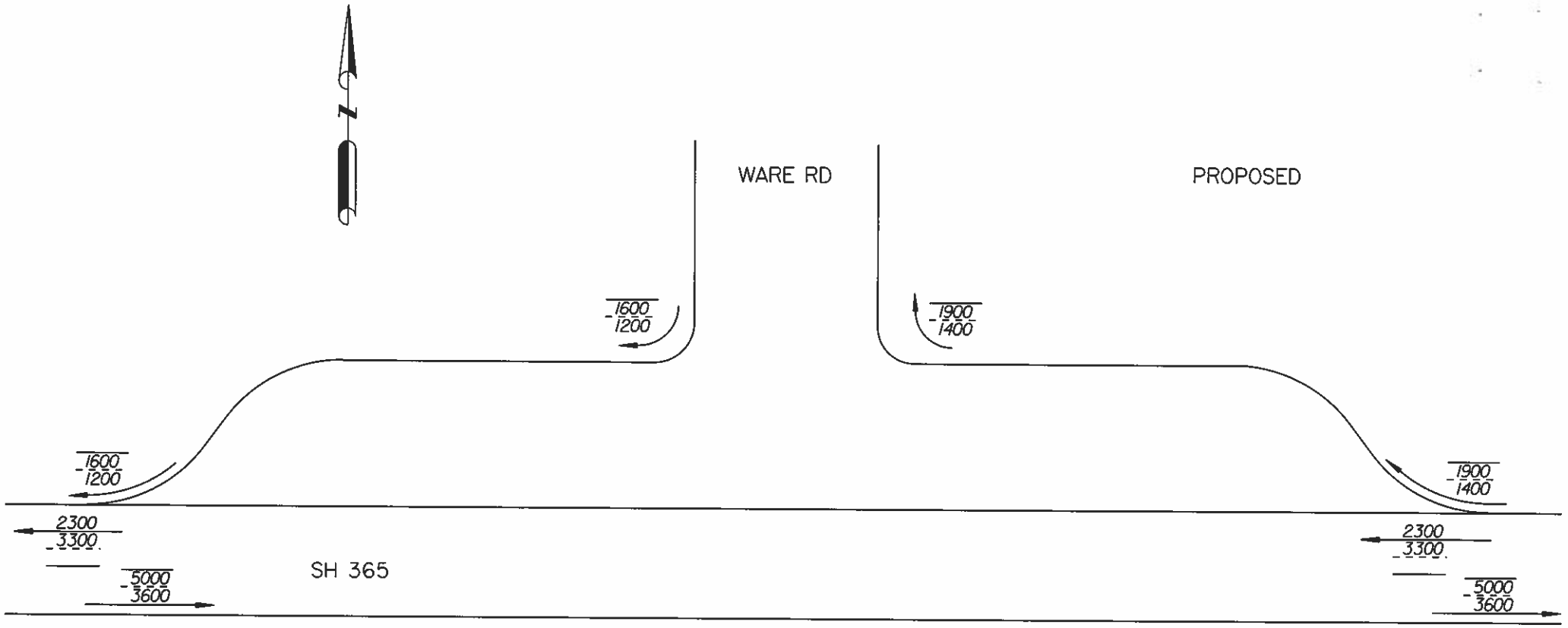
TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704




2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013



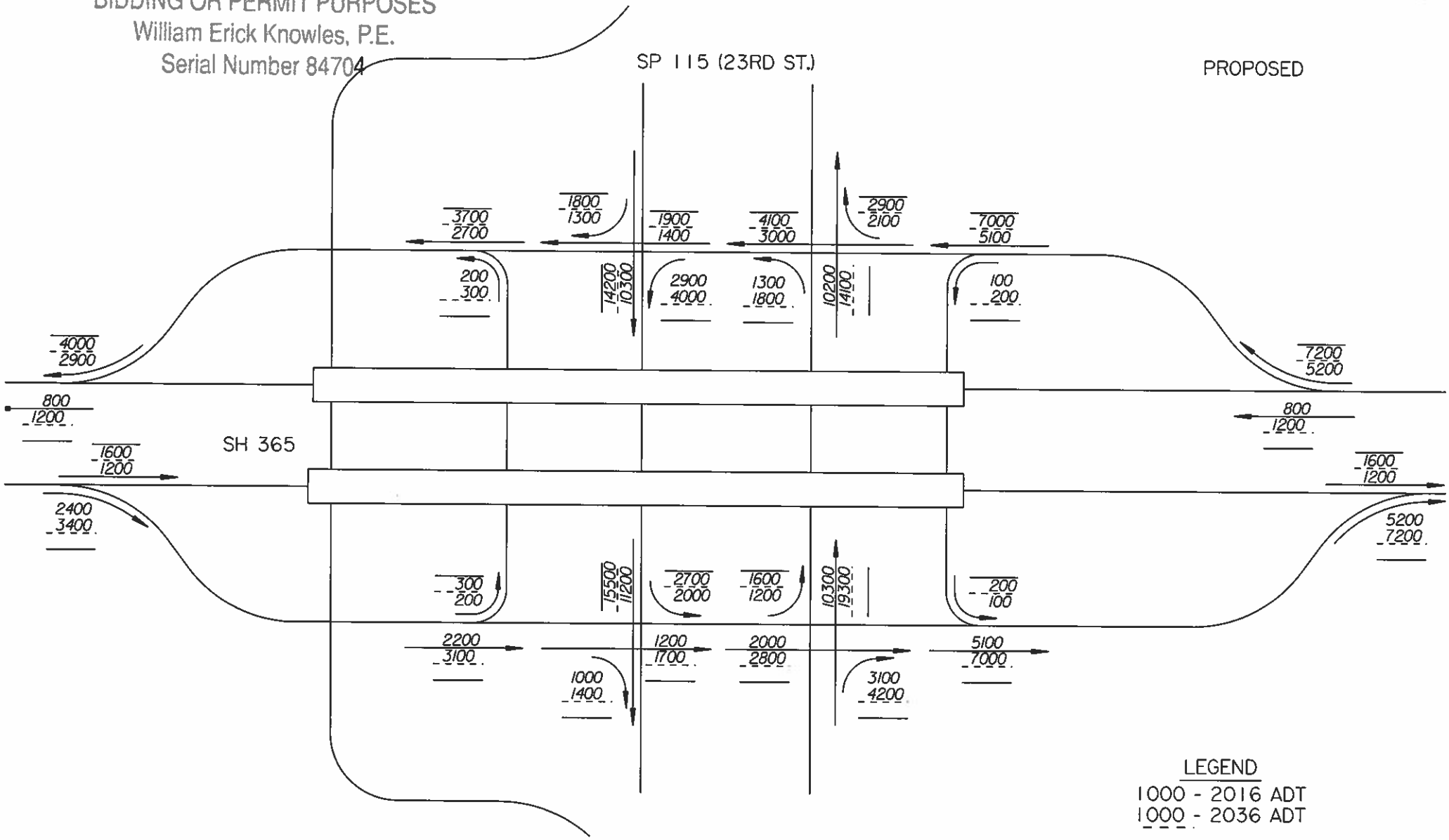

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704

LEGEND
1000 - 2016 ADT
1000 - 2036 ADT

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013

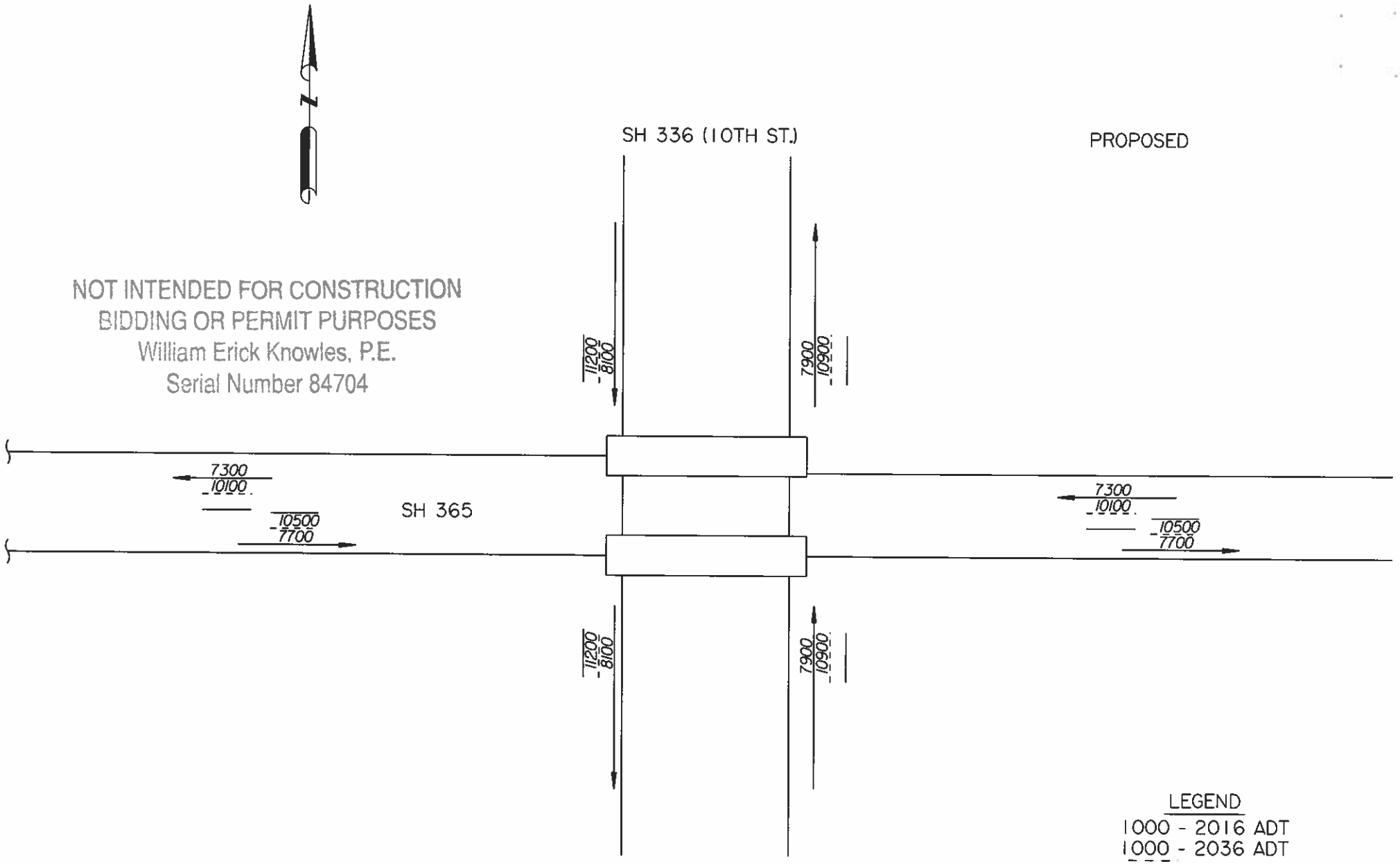
NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704




LEGEND
1000 - 2016 ADT
1000 - 2036 ADT

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

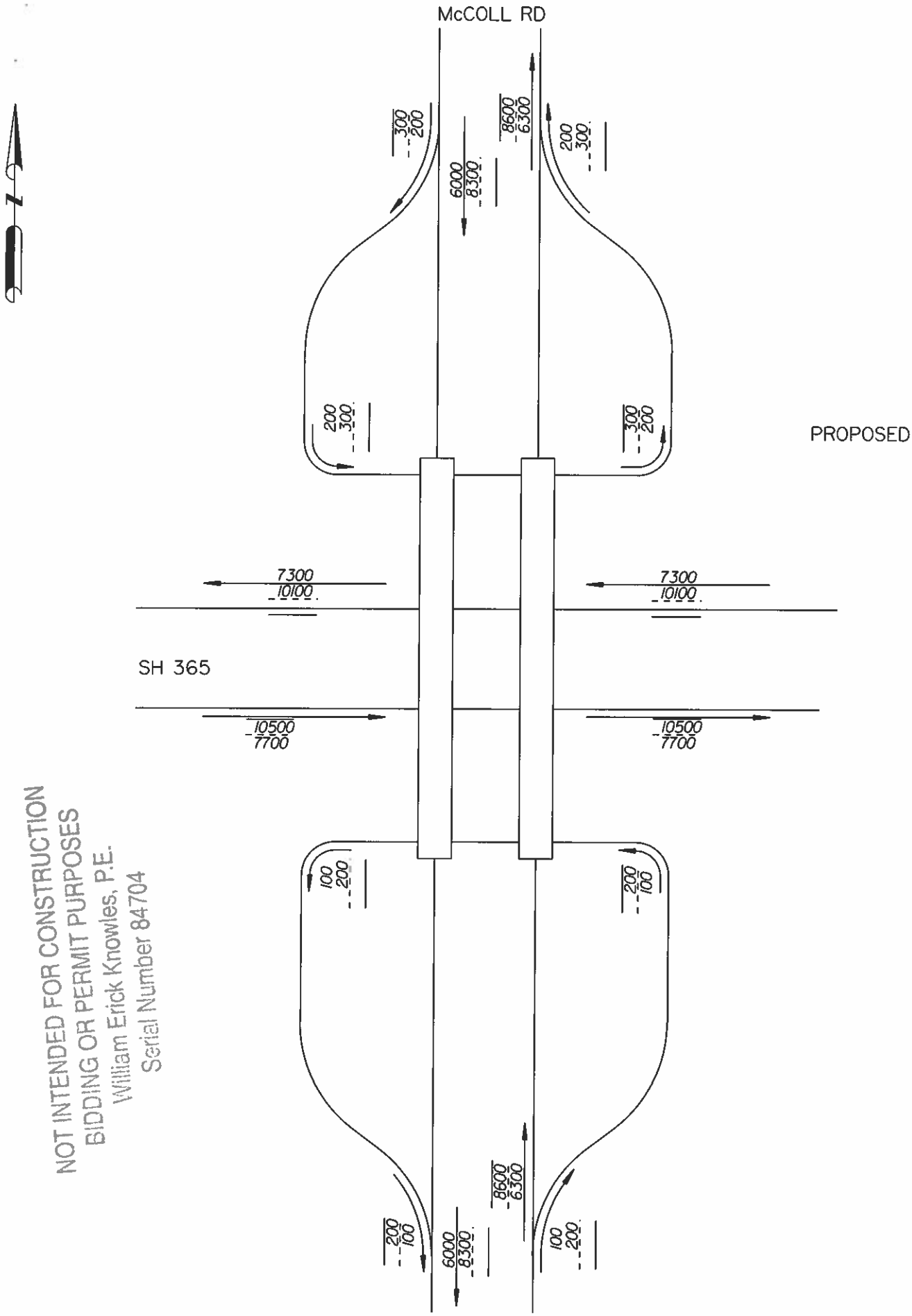
TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013




2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)

HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013



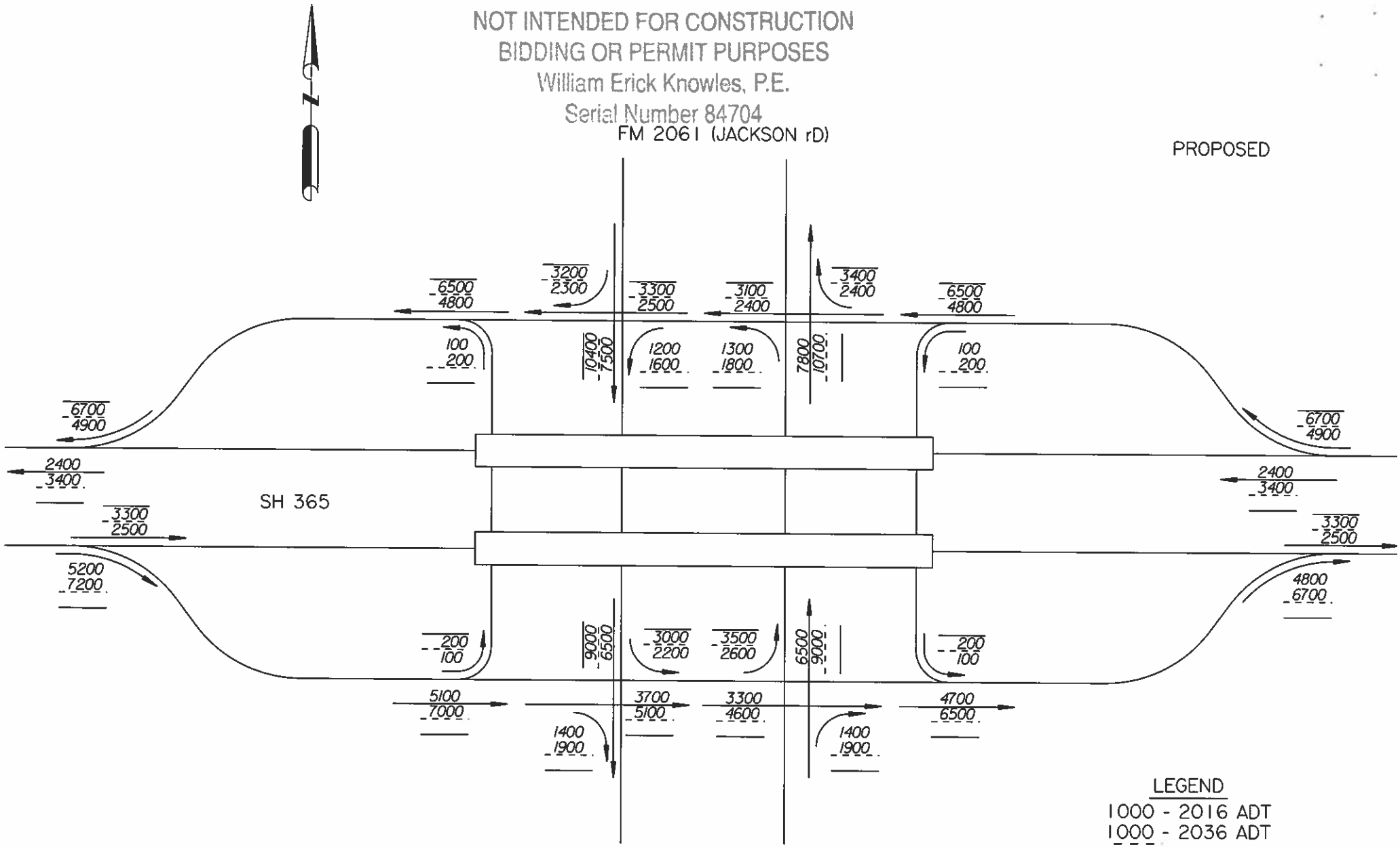

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)

HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704

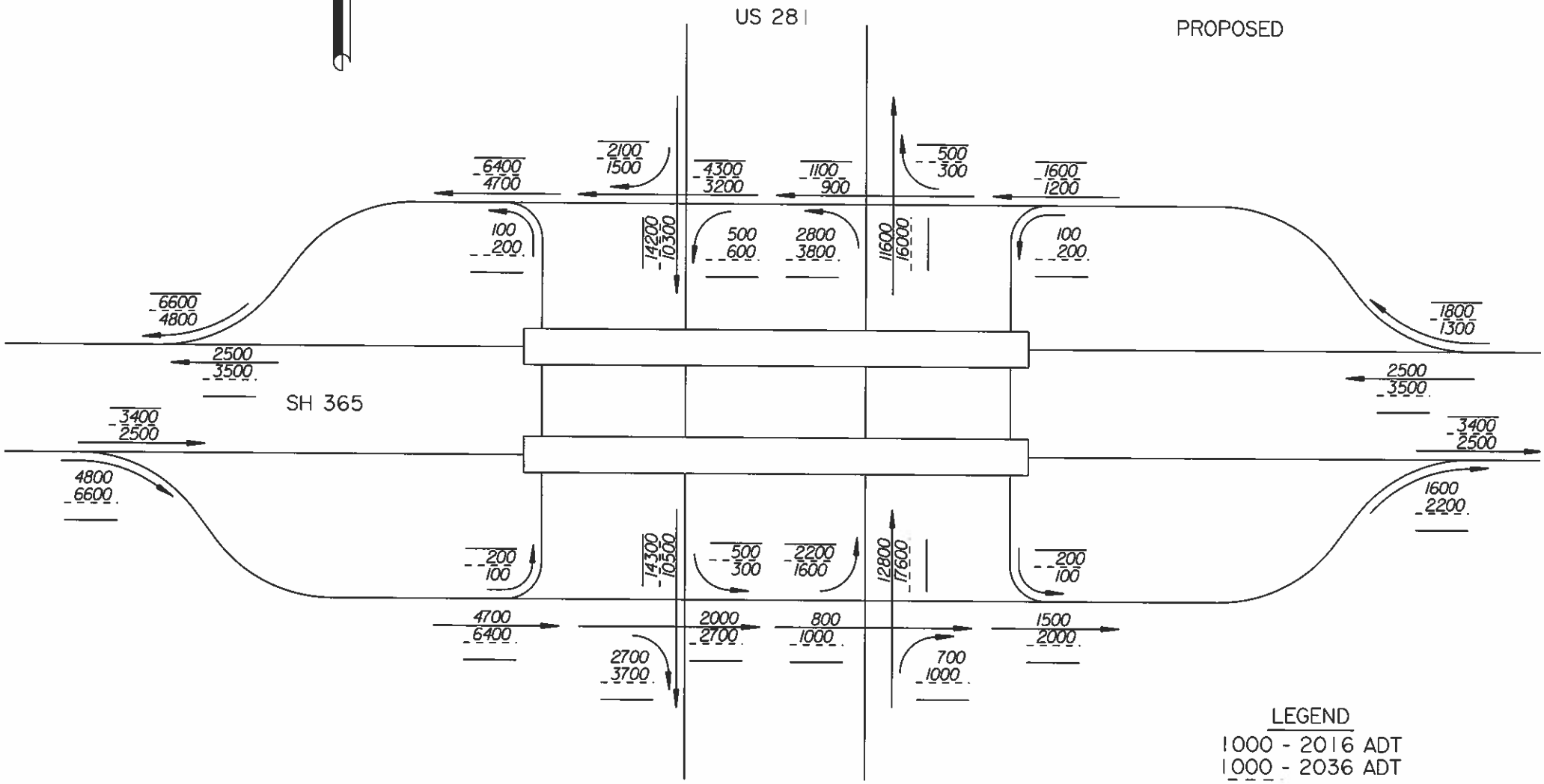



LEGEND
1000 - 2016 ADT
1000 - 2036 ADT

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013

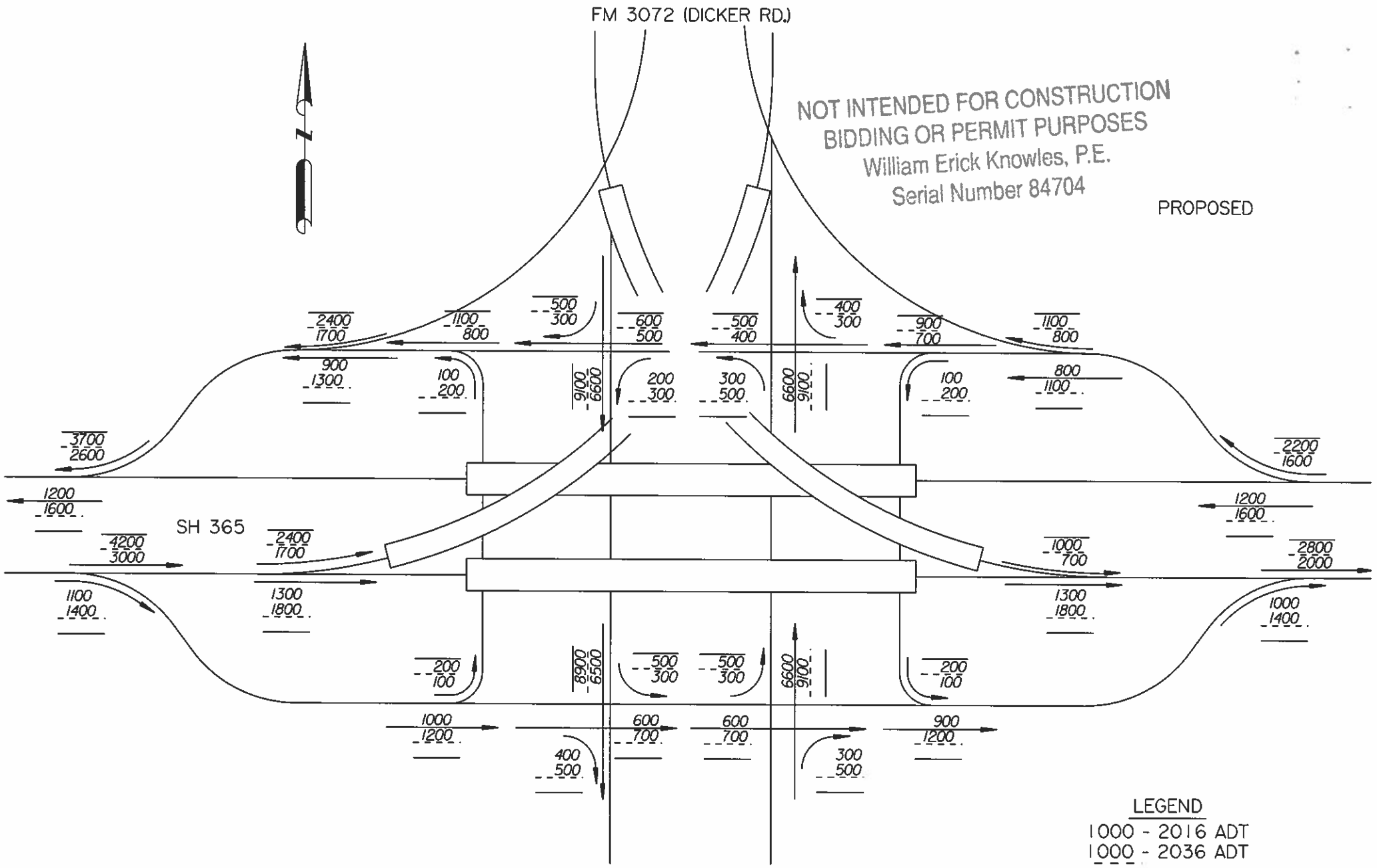
NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704




LEGEND
1000 - 2016 ADT
1000 - 2036 ADT

2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013




2016 AND 2036 ANTICIPATED AVERAGE DAILY TRAFFIC VOLUMES AND TURNING MOVEMENTS AT SPECIFIED POINTS ALONG SH 365 FROM FM 1016 TO US 281 (MILITARY ROAD)
HIDALGO COUNTY

TRANSPORTATION PLANNING DIVISION
JANUARY 31, 2013

# TRAFFIC ANALYSIS FOR HIGHWAY DESIGN

**Pharr District**

**February 1, 2013**

| Description of Location | Average Daily Traffic | | Base Year Dir Dist % | Base Year K Factor | Base Year Percent Trucks ADT | Base Year Percent Trucks DHV | ATHWLD | Percent Tandem Axles in ATHWLD | Total Number of Equivalent 18k Single Axle Load Applications One Direction Expected for a 20 Year Period (2016 to 2036) Flexible Pavement | S N | Rigid Pavement | SLAB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2036 | | | | | | | | | | |
| SH 365 Proposed<br><br>From FM 1016<br>To US 281 (Military Rd.)<br><br>Hidalgo County | 15,000 | 20,600 | 58 - 42 | 10.1 | 17.8 | 11.7 | 12,100 | 50 | 10,780,000 | 3 | 15,108,000 | 8" |

NOT INTENDED FOR CONSTRUCTION
BIDDING OR PERMIT PURPOSES
William Erick Knowles, P.E.
Serial Number 84704

**Data for Use in Air & Noise Analysis**

| Vehicle Class | Base Year % of ADT | Base Year % of DHV |
|---|---|---|
| **Light Duty** | 82.2 | 88.3 |
| **Medium Duty** | 4.7 | 3.1 |
| **Heavy Duty** | 13.1 | 8.6 |

# Memorandum

C&M Associates, Inc.

Tollway Towers North, Suite 870
15770 North Dallas Parkway
Dallas, TX 75248
Tel: 214-245-5300
Fax: 214-889-5049

**Shahram "Sam" Bohluli, Ph.D., P.E.**
Vice President/Project Manager
sbohluli@candm-associates.com

**Date:** January 4, 2013

**To:** Mr. Louis Jones, P.E.
Vice President
Dannenbaum Engineering
1109 Nolana Loop, Suite 208
McAllen, Texas 78504

**Subject:** Hidalgo Loop Intermediate Traffic and Revenue Study Update – Traffic Data for SH 365 Noise Analysis

---

This memorandum presents average weekday traffic volumes on SH 365 under tolled condition. These are submitted by C&M as requested by the client to assist in the noise analyses study for the project to be performed by others.

The provided volumes are based on Scenario-1 which assumes that only SH 365 will be constructed with an opening year of 2018. The section of SH 365 from Conway Ave. to FM 396 was assumed to open in 2028. The entire length of SH 365 would have two lanes each way. Design speed on SH 365 was assumed as 70 mph.

Please note the following before using the traffic volumes provided.

- These traffic volumes are based on C&M's travel demand model which models travel demand at macro level.
- This kind of model is not well calibrated for ramp volumes. It is reasonable to use the ramp volumes at planning level.
- The traffic information presented here must be used for noise analysis purposes only.
- Detailed operational analysis was not performed.
- All traffic volumes are rounded to the next hundreds.
- Traffic ramp up reduction factors are not included.
- Although the opening year of the project is 2018, the traffic volumes have been reported for 2020 model year to be conservative.

Average traffic data for SH 365 extracted from the travel demand model are presented below.

**K-factor:** The percentage of daily traffic occurring in the peak hour is 8.3%. The PM peak hour has the highest hourly volume during the day.

**Directional Distribution (D):** 58-42 in the peak hour.

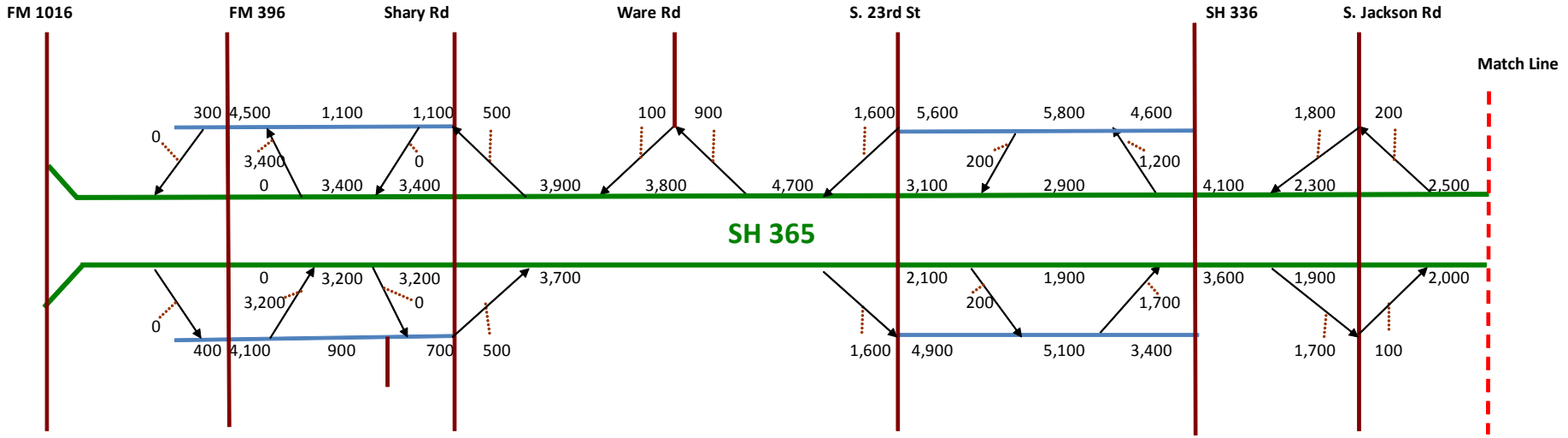
**Truck percentage:** Average truck percentage is about 20%. Trucks are defined here as commercial vehicles with more than four tires. C&M modeling process does not separate medium and heavy trucks. Such data can be obtained from TxDOT. Average number of axles for trucks is about 4.

Figure 1 and Figure 2 present average daily traffic on SH 365 for 2020 and 2035 model years.

Mr. Louis Jones, P.E.
Vice President
Dannenbaum Engineering

January 4, 2013

## 2020 Traffic Volumes




Notes:
1. Volumes west of FM 396 are zero because this section would not be open in 2020.

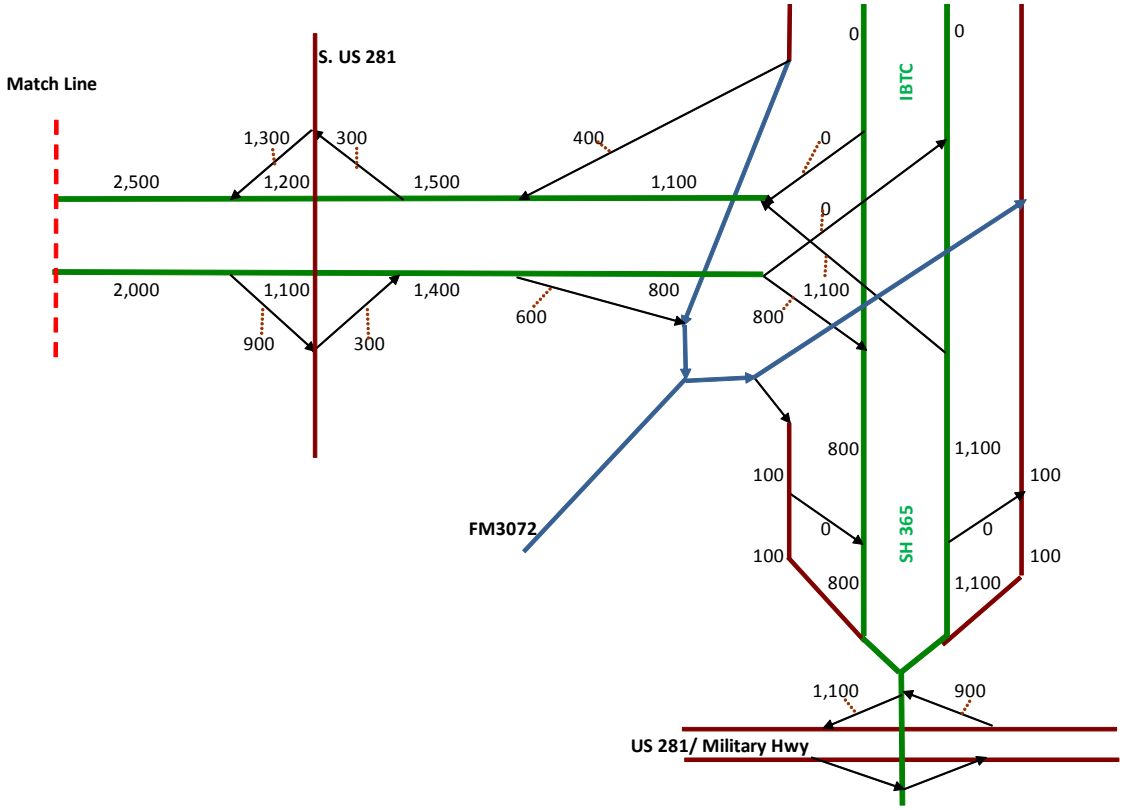
2. This traffic data is provided to HCRMA in response to a special request which is out of the scope of the traffic and revenue study. The end users may use this data at their own risk.

**Figure 1. 2020 ADT on SH 365**

Mr. Louis Jones, P.E.
Vice President
Dannenbaum Engineering

January 4, 2013

## 2020 Traffic Volumes




Notes:
1. This scenario assumes construction of SH 365 only. Hence the volumes on IBTC sections are shown zero.

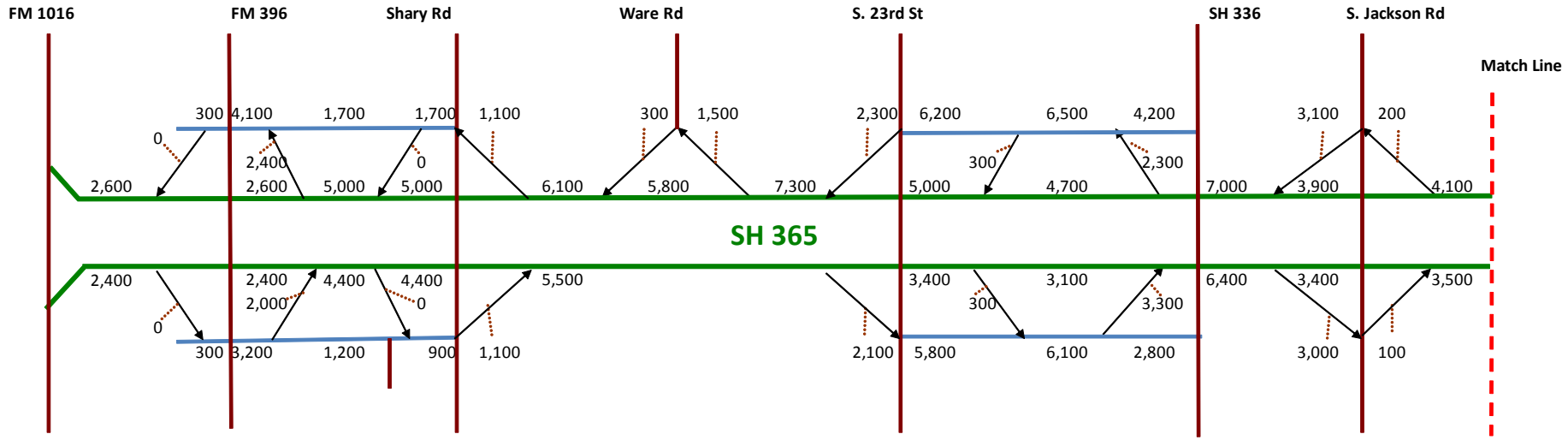
2. This traffic data is provided to HCRMA in response to a special request which is out of the scope of the traffic and revenue study. The end users may use this data at their own risk.

**Figure 1. 2020 ADT on SH 365 - Continued**

Mr. Louis Jones, P.E.
Vice President
Dannenbaum Engineering

January 4, 2013

## 2035 Traffic Volumes



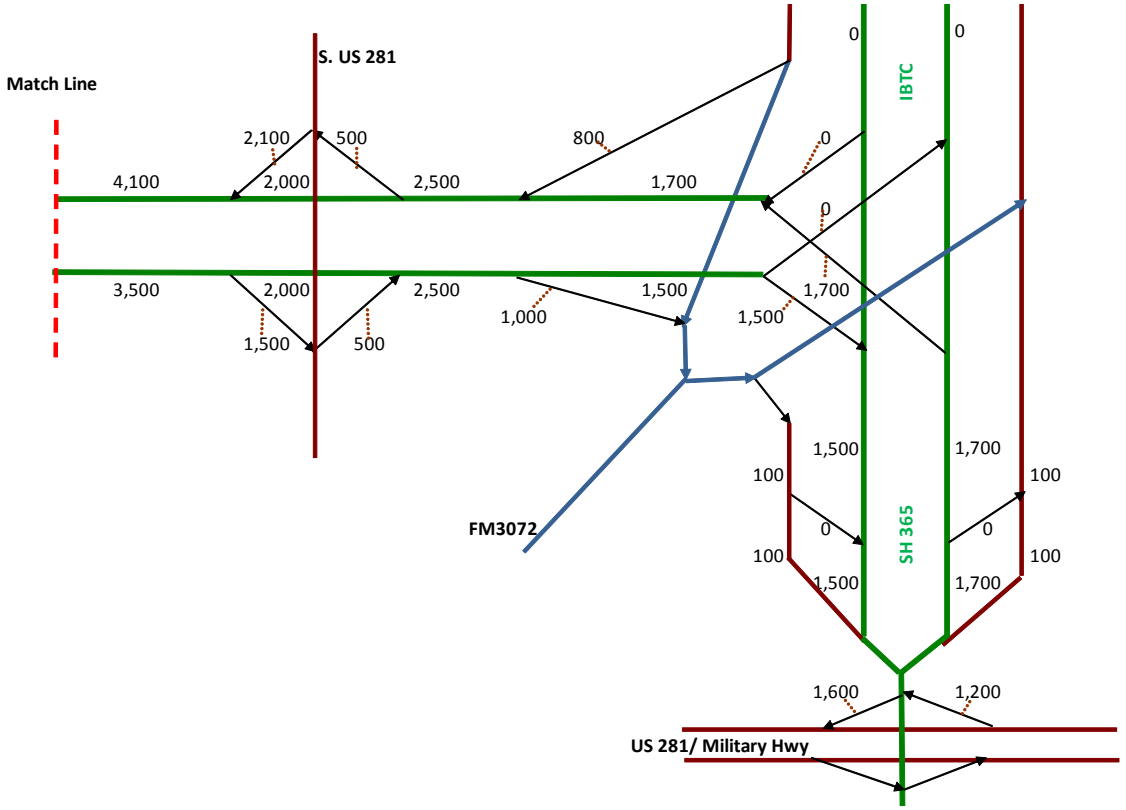

Notes:
1. This traffic data is provided to HCRMA in response to a special request which is out of the scope of the traffic and revenue study. The end users may use this data at their own risk.

**Figure 2. 2035 ADT on SH 365**

Mr. Louis Jones, P.E.
Vice President
Dannenbaum Engineering

January 4, 2013

## 2035 Traffic Volumes




Notes:
1. This scenario assumes construction of SH 365 only. Hence the volumes on IBTC sections are shown zero.

2. This traffic data is provided to HCRMA in response to a special request which is out of the scope of the traffic and revenue study. The end users may use this data at their own risk.

**Figure 2. 2035 ADT on SH 365 - Continued**

# APPENDIX B – PROJECT PLANS

SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

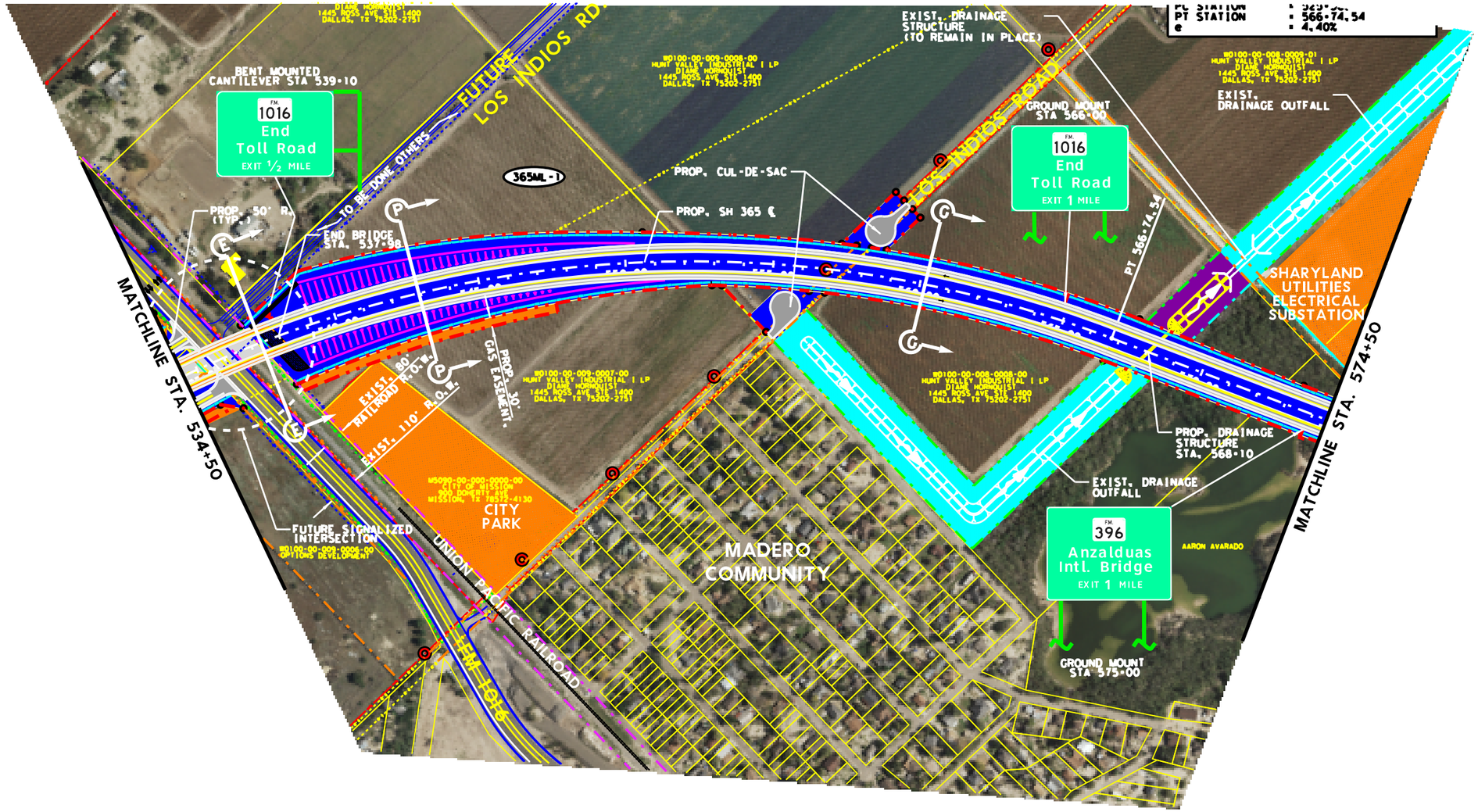
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 4
## SCHEMATIC
## STA. 509+25.00 TO STA. 534+50.00

SCALE: 1"= 400' SHEET 1 OF 26

| | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| DSN | 3627 | 01 | 001 | SH 365 |
| CK DSN | DIST | COUNTY | | SHEET NO. |
| DSN | PHR | HIDALGO | | 01 |
| CK DSN | | | | |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 11:35:27 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 1.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 4
# SCHEMATIC
## STA. 534+50.00 TO STA. 574+50.00

SCALE: 1"= 400' SHEET 2 OF 26

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 02 |

Dsn / Ck Dsn / Dwn / Ck Dwn / Trn / Ck Trn

DATE: 12/22/2014 11:38:09 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 2.dgn

SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

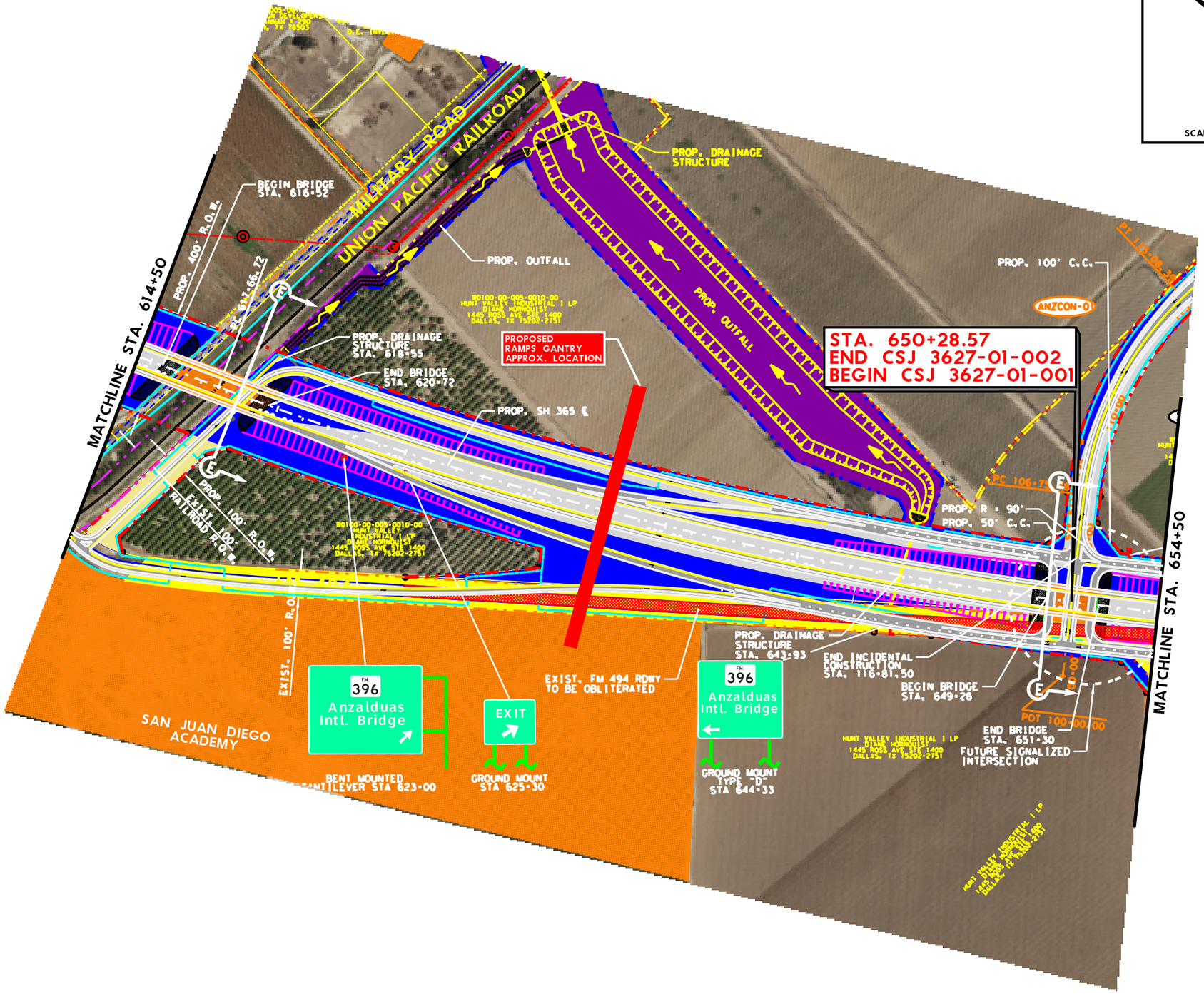
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 4
# SCHEMATIC
## STA. 574+50.00 TO STA. 614+50.00

SCALE: 1"= 400' SHEET 3 OF 26

| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 03 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 11:38:54 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 3.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

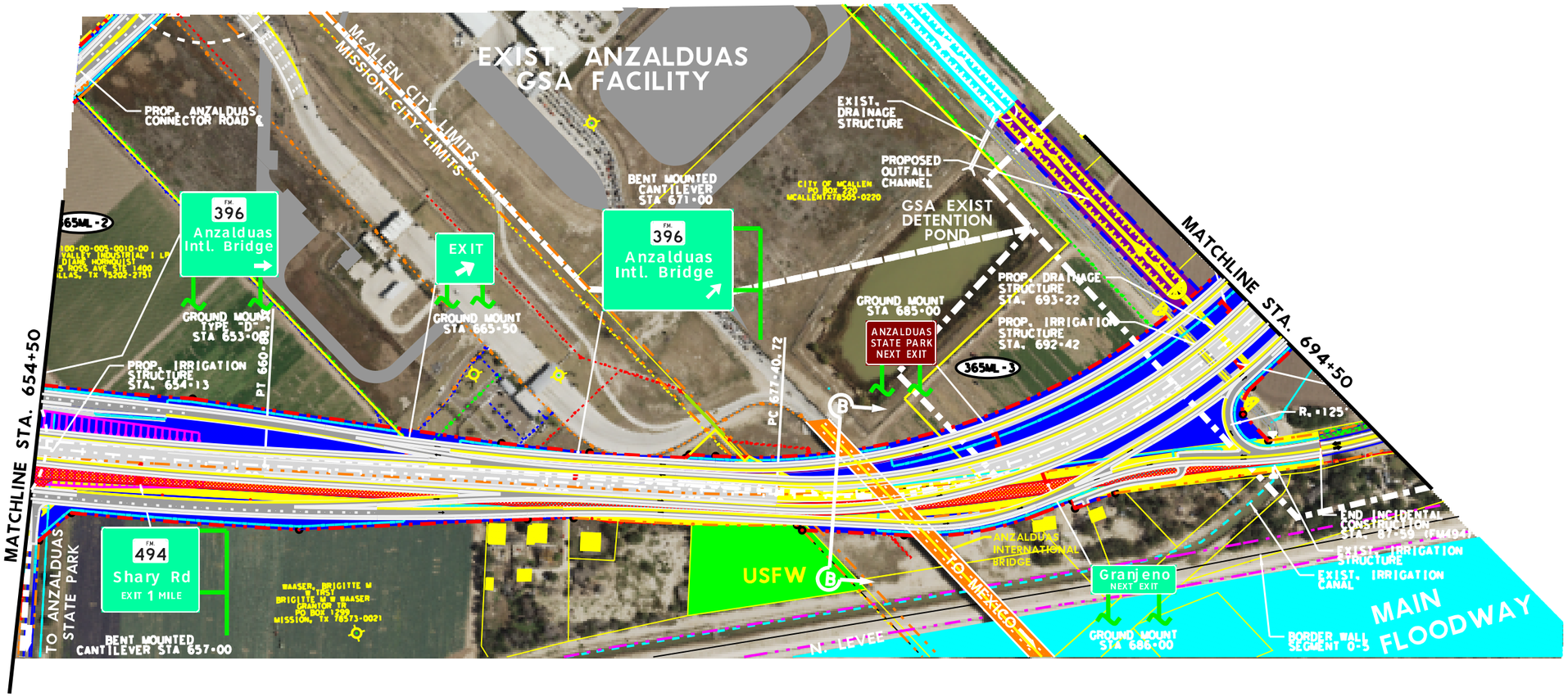
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 4
# SCHEMATIC
## STA. 614+50.00 TO STA. 654+50.00

SCALE: 1"= 400' SHEET 4 OF 26

| | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| DSN | 3627 | 01 | 001 | SH 365 |
| CK DSN | DIST | COUNTY | | SHEET NO. |
| DSN | PHR | HIDALGO | | 04 |
| CK DSN | | | | |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 1:39:43 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\vdrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 4.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

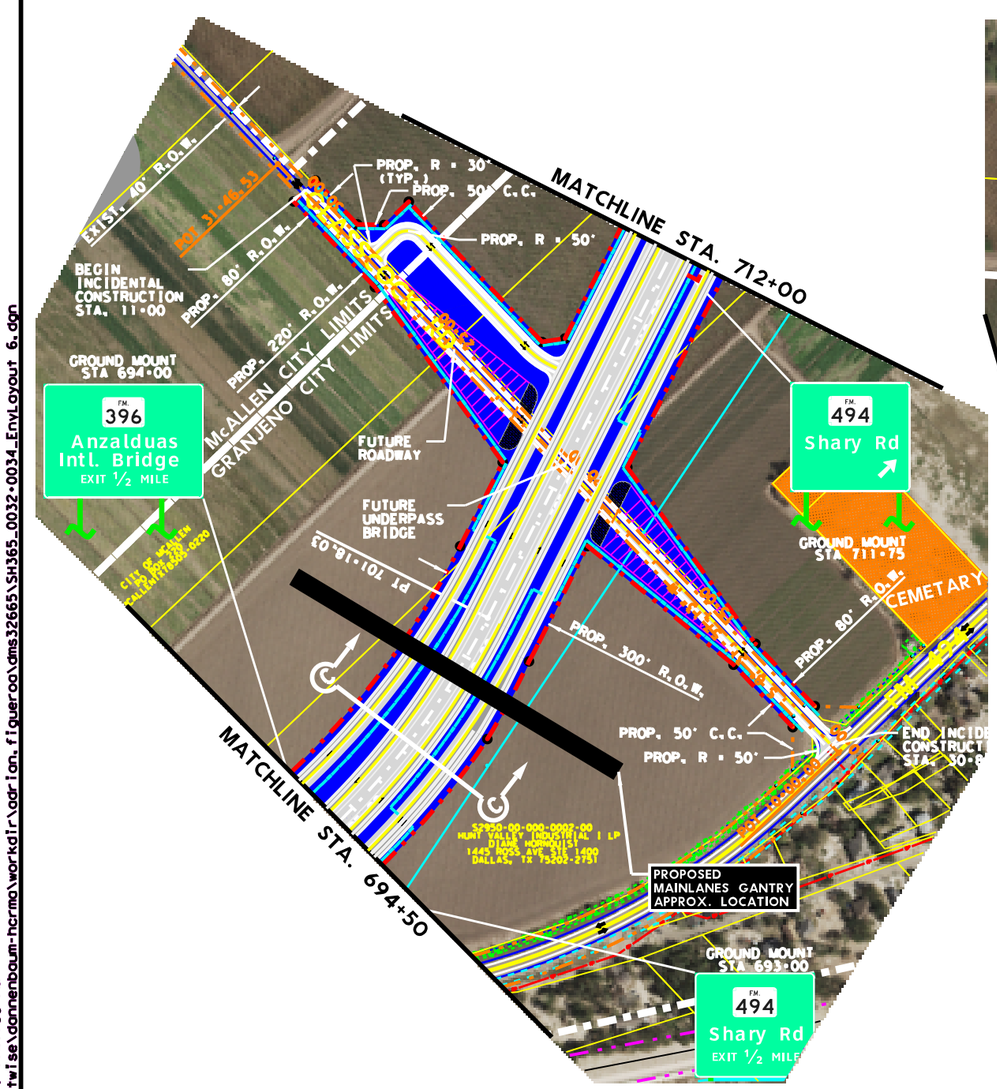
# SH 365
# SEGMENT 4
# SCHEMATIC
## STA. 654+50.00 TO STA. 694+50.00

SCALE: 1"= 400' SHEET 5 OF 26

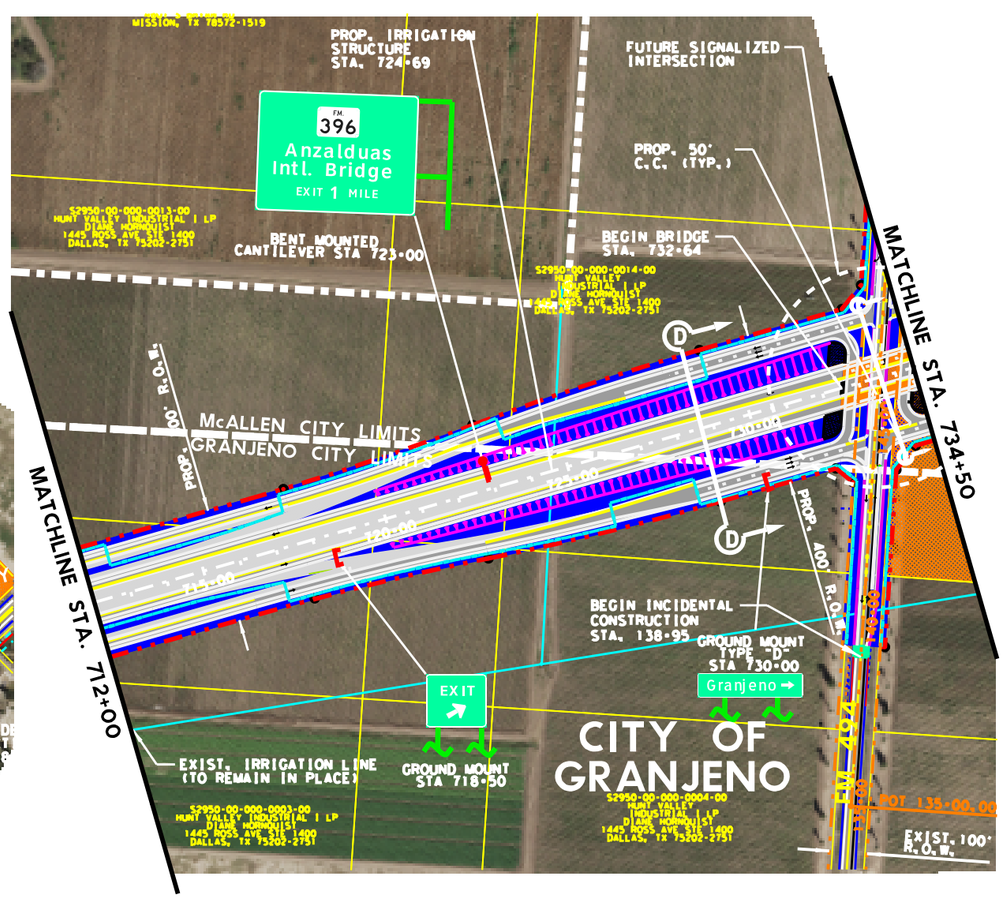
| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 05 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 1:40:21 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 5.dgn

SCALE 1" = 400'




SCALE 1" = 400'




## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

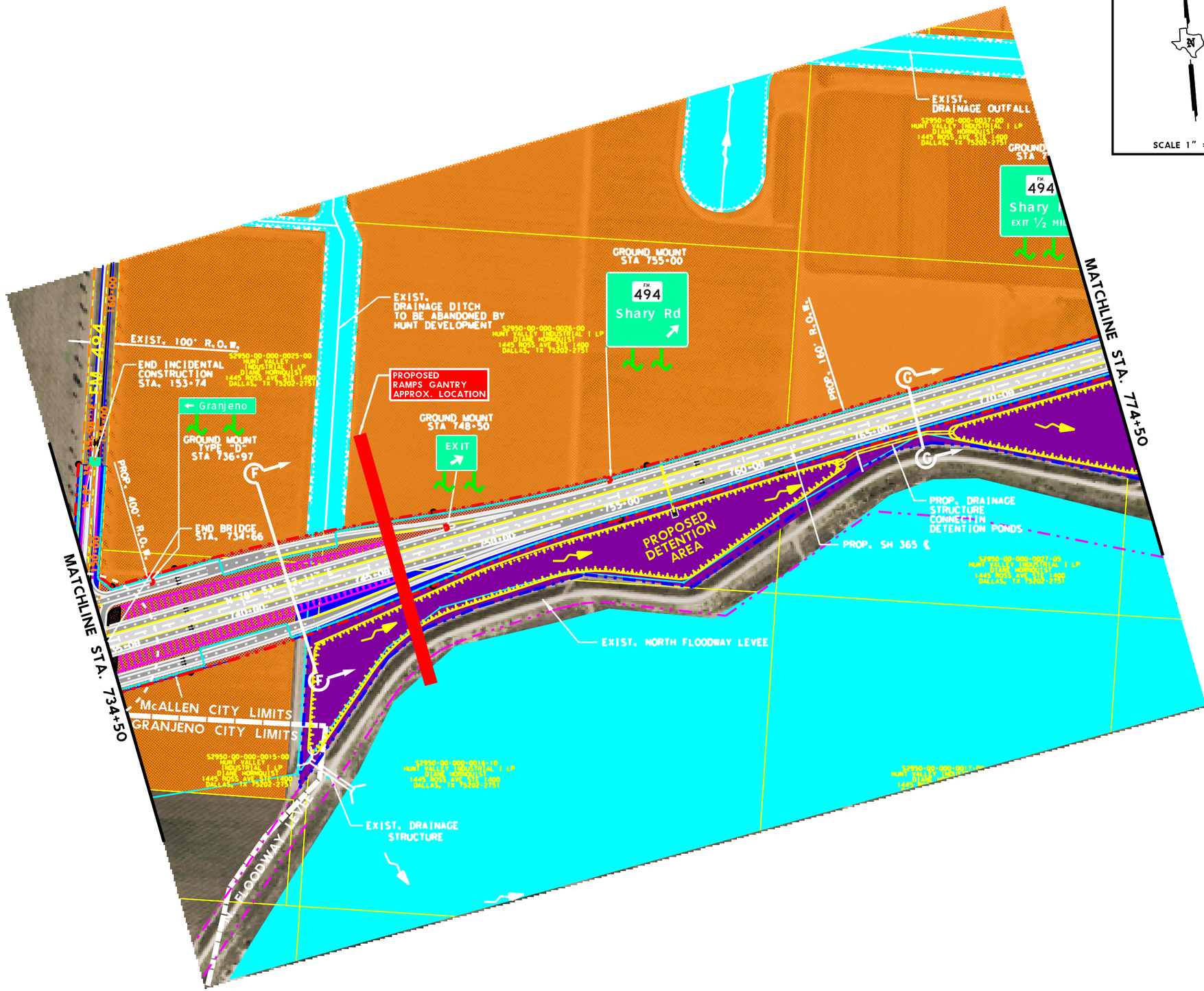
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 4 & 2
# SCHEMATIC
## STA. 694+50.00 TO STA. 734+50.00

SCALE: 1"= 400' SHEET 6 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DSN | | PHR | HIDALGO | | 06 |
| CK DSN | | | | | |
| TRF | | | | | |
| CK TRF | | | | | |

DATE: 12/22/2014 11:41:06 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 6.dgn




## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

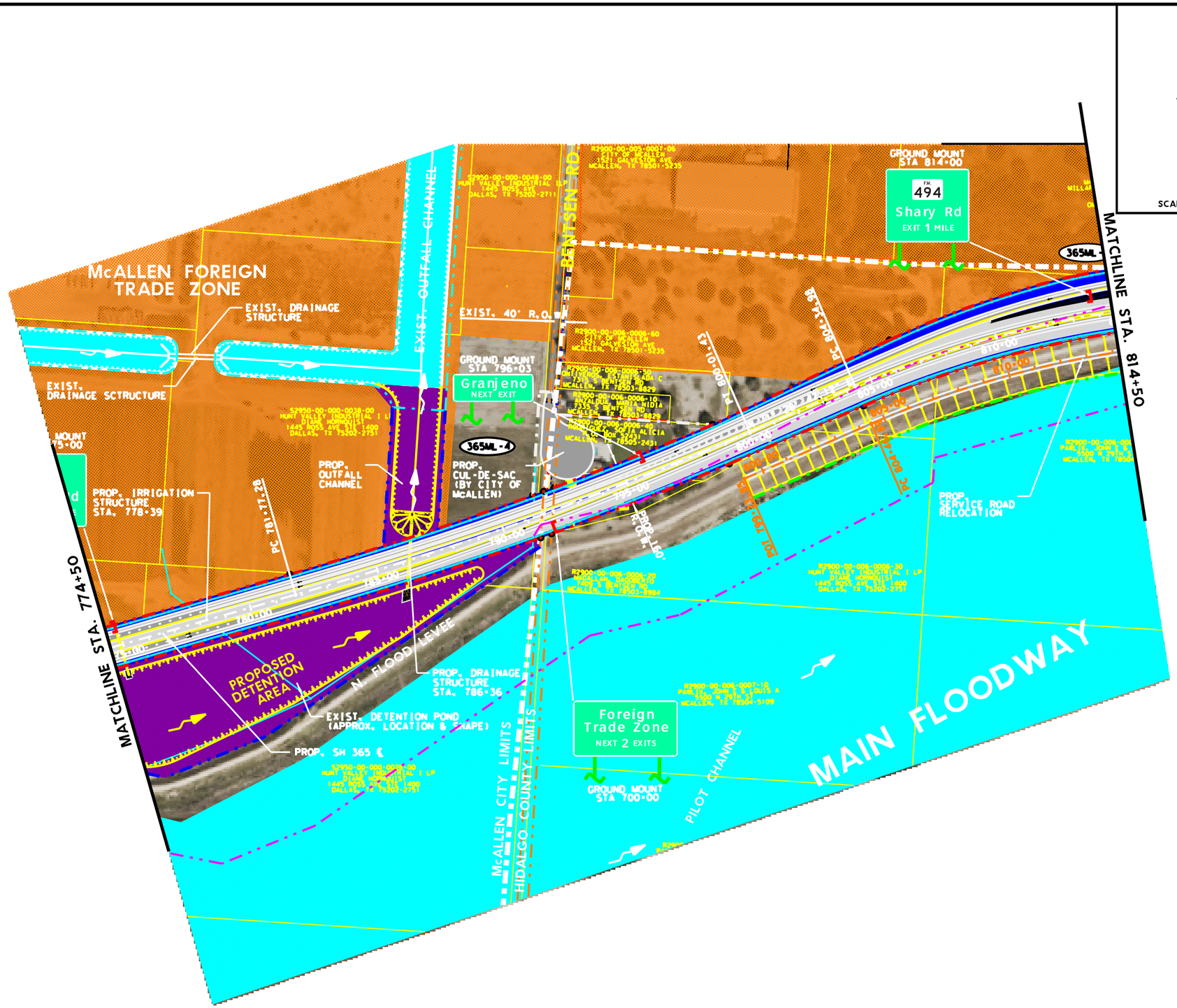
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 2
# SCHEMATIC
## STA. 734+50.00 TO STA. 774+50.00

SCALE: 1"= 400' SHEET 7 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DSN | | PHR | HIDALGO | | 07 |
| CK DSN | | | | | |
| TRF | | | | | |
| CK TRF | | | | | |

DATE: 12/22/2014 1:42:55 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 7.dgn




## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

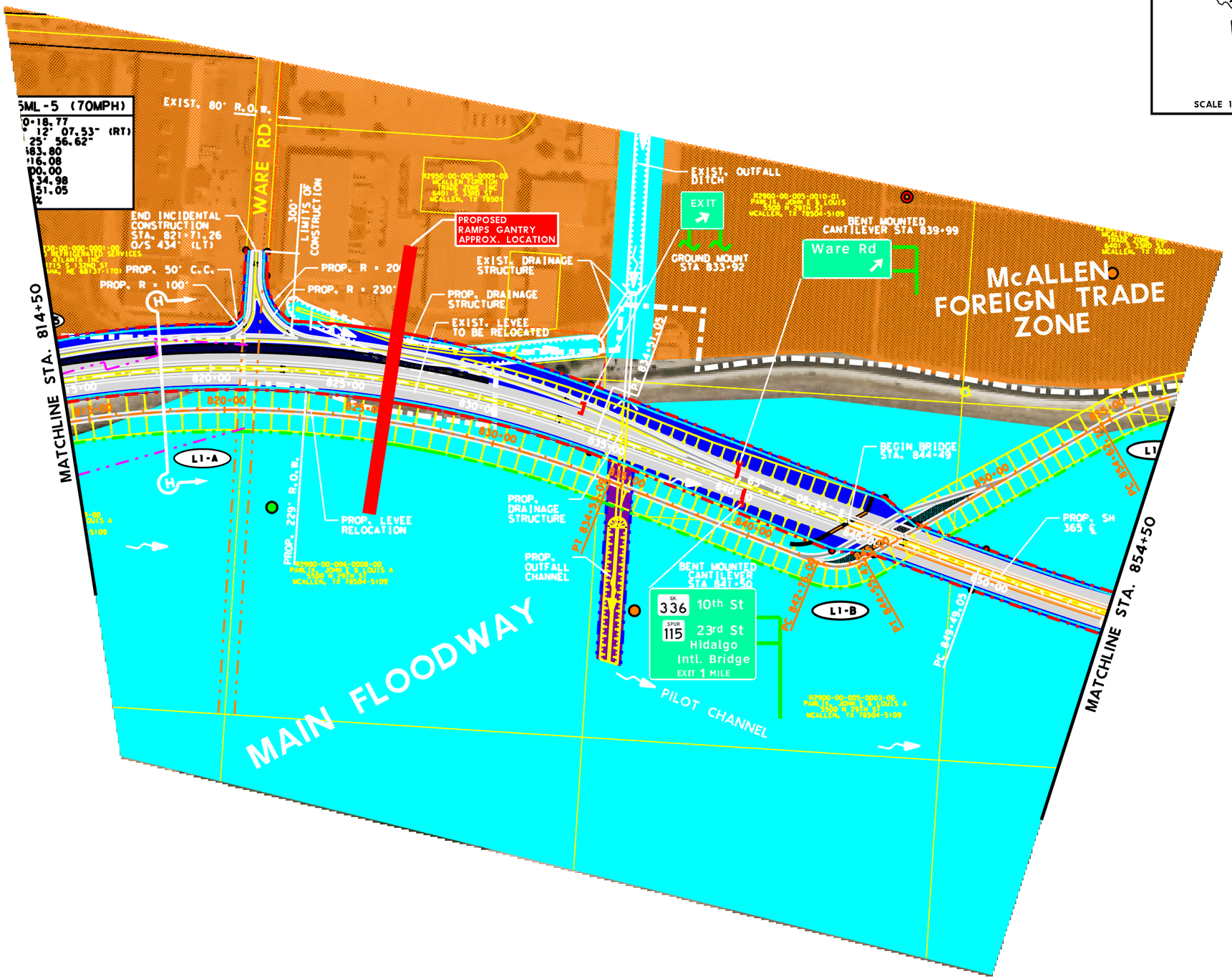
# SH 365
## SEGMENT 2
## SCHEMATIC
## STA. 774+50.00 TO STA. 814+50.00

SCALE: 1"= 400' SHEET 8 OF 26

| DSN | CK DSN | DRN | CK DRN | TRF | CK TRF |
|---|---|---|---|---|---|

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 08 |

DATE: 1/6/2015 8:29:12 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\ms32665\SH365_0032-0034_EnvLoyout 8.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

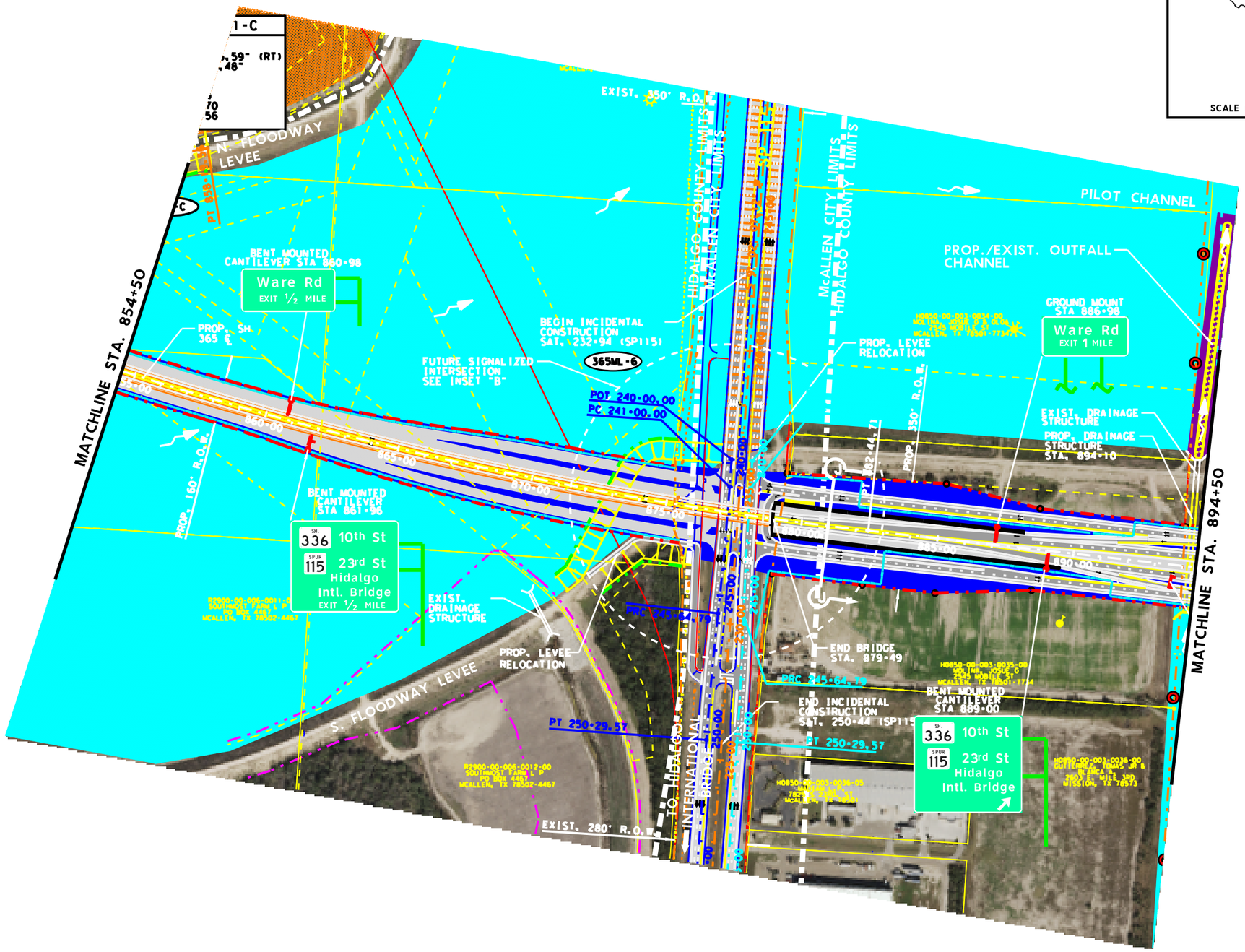
# SH 365
# SEGMENT 2
# SCHEMATIC
## STA. 814+50.00 TO STA. 854+50.00

SCALE: 1" = 400'

SHEET 9 OF 26

| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 09 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 1:44:09 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 9.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

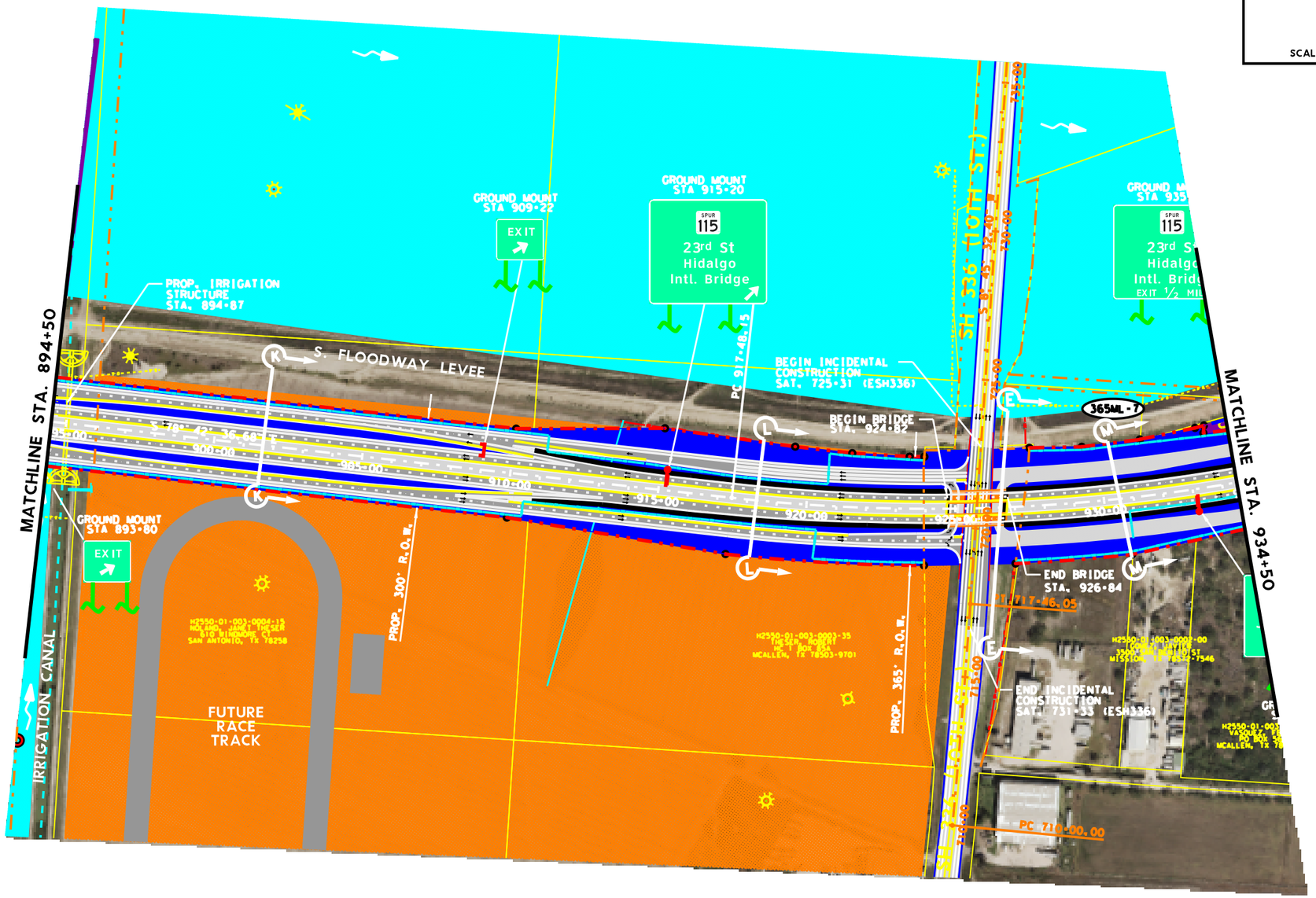
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 2
# SCHEMATIC
## STA. 854+50.00 TO STA. 894+50.00

SCALE: 1"= 400' SHEET 10 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DSN | | PHR | HIDALGO | | 10 |
| CK DSN | | | | | |
| TRF | | | | | |
| CK TRF | | | | | |

DATE: 12/22/2014 1:45:00 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 10.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

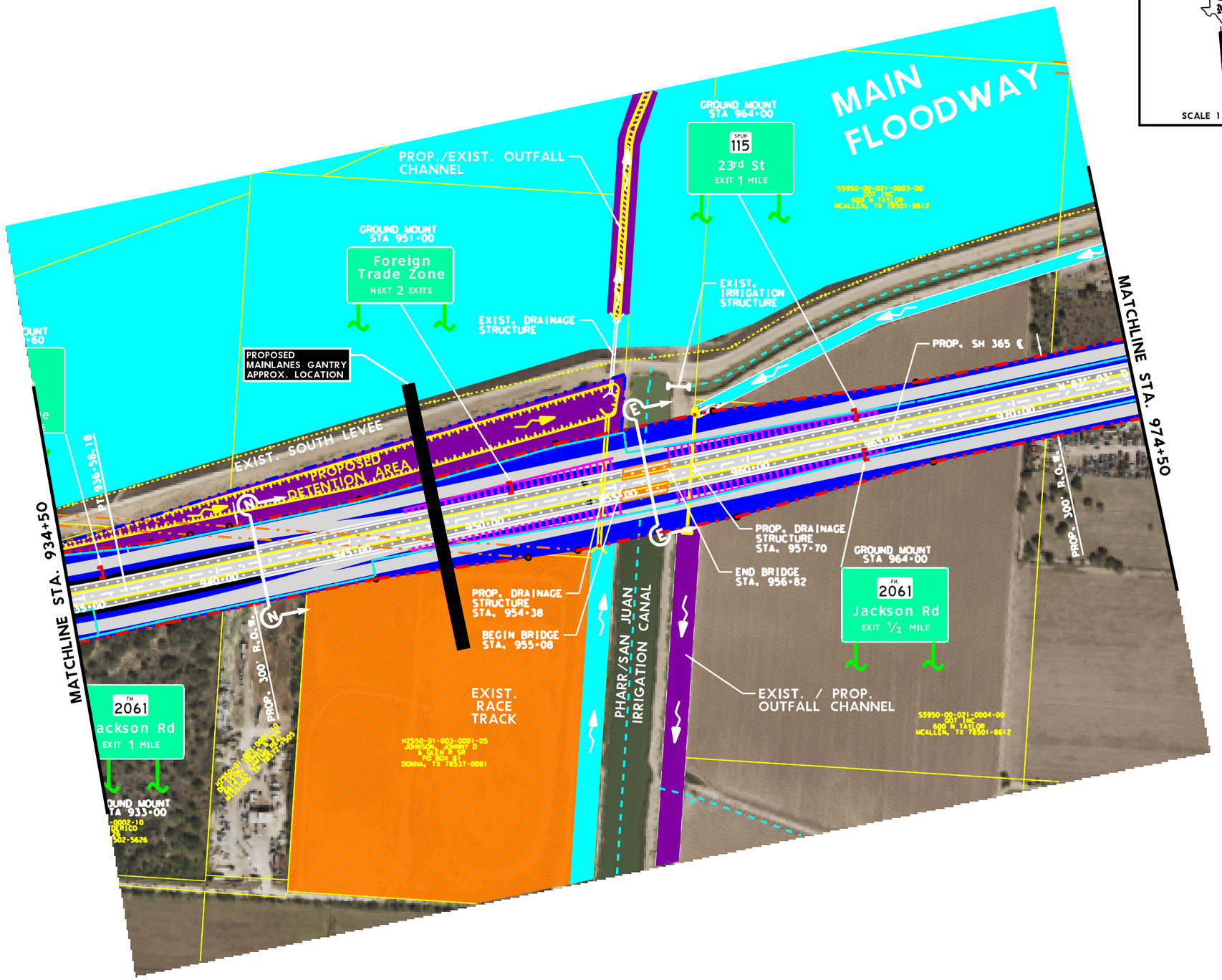
# SH 365
# SEGMENT 2
# SCHEMATIC
## STA. 894+50.00 TO STA. 934+50.00

SCALE: 1"= 400' SHEET 11 OF 26

| Dsn | Ck Dsn | Dsn | Ck Dsn | Trs | Ck Trs |
|---|---|---|---|---|---|

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 11 |

DATE: 12/22/2014 11:45:42 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 11.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

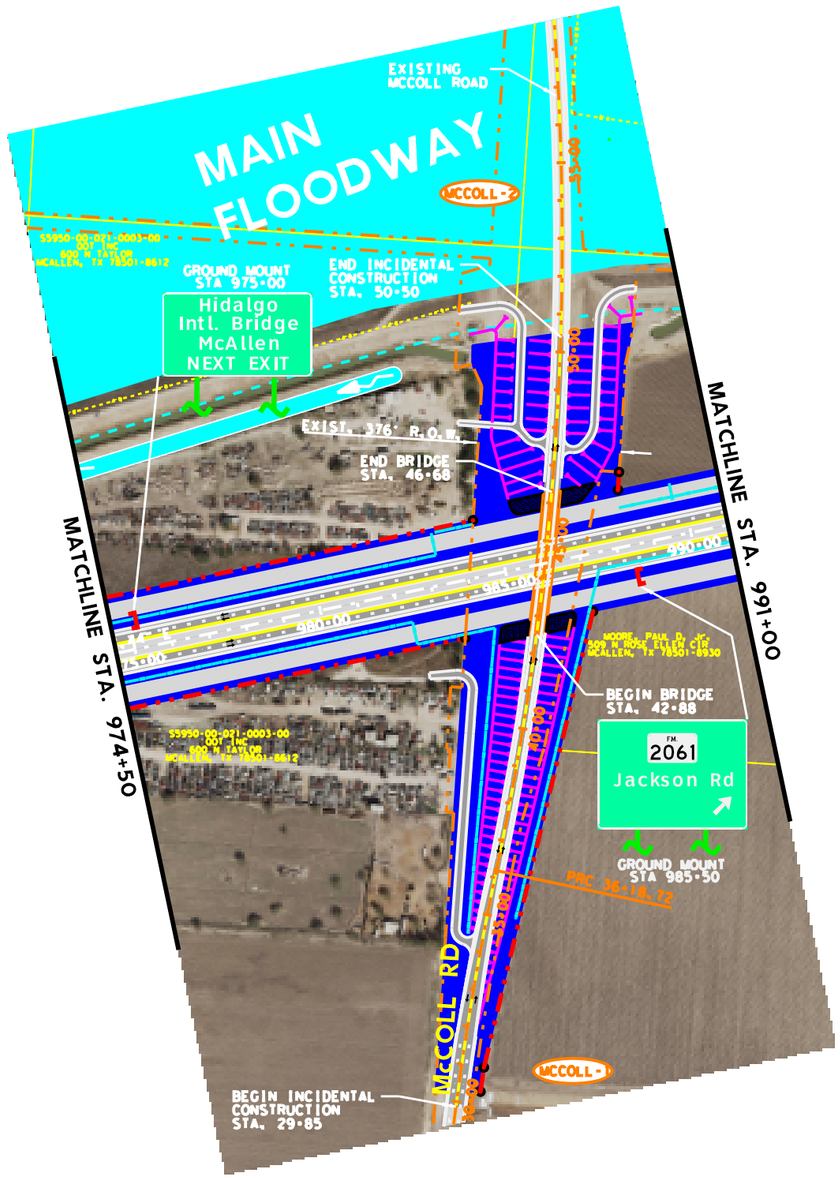
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 2
## SCHEMATIC
## STA. 934+50.00 TO STA. 974+50.00

SCALE: 1"= 400' SHEET 12 OF 26

| | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| DSN / CK DSN / DRN / CK DRN / TRF / CK TRF | 3627 | 01 | 001 | SH 365 |
| | DIST | COUNTY | | SHEET NO. |
| | PHR | HIDALGO | | 12 |

DATE: 12/22/2014 1:46:36 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrion.figueroa\dms32665\SH365_0032-0034_EnvLayout 12.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

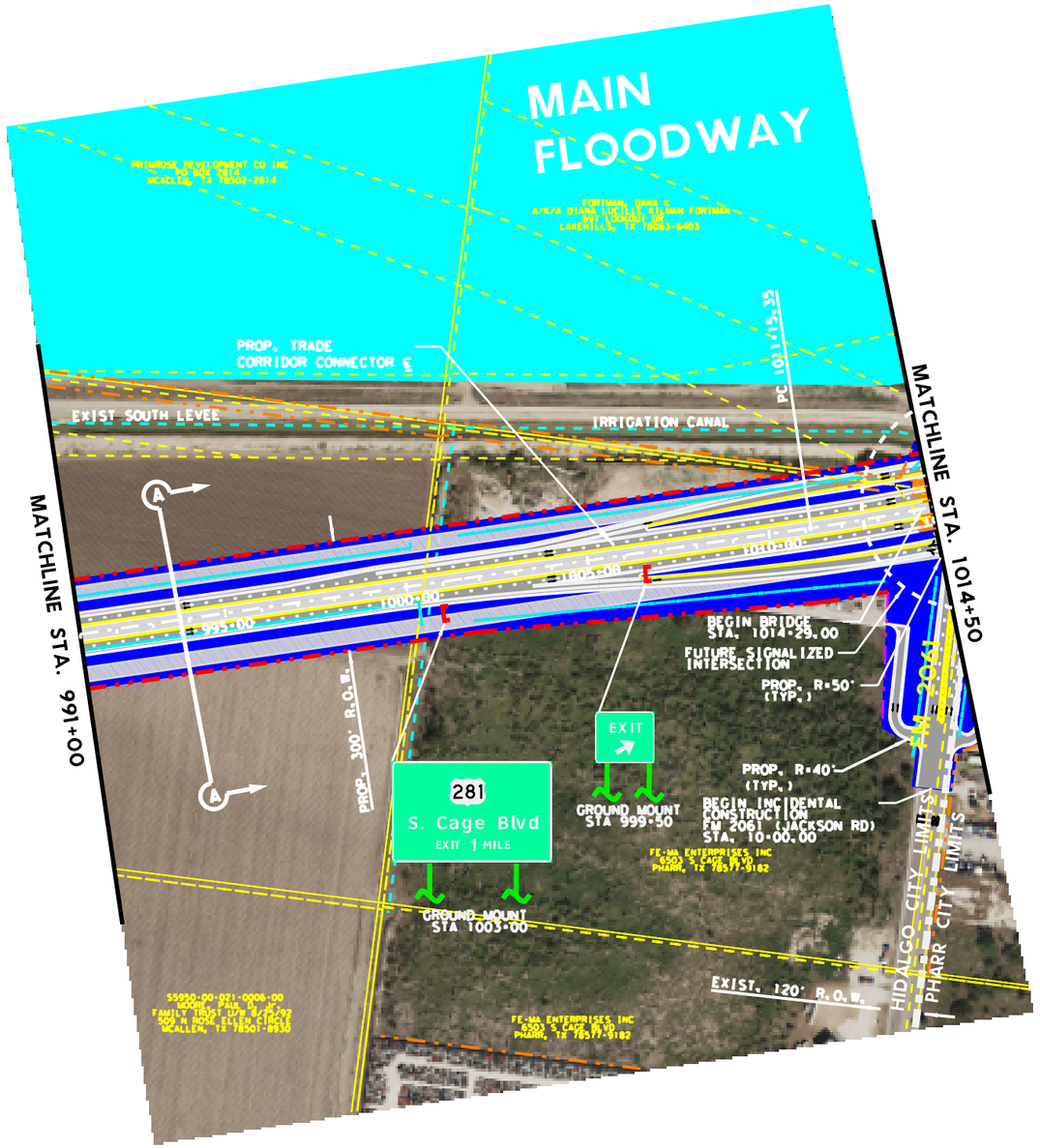
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 2
# SCHEMATIC
## STA. 974+50.00 TO STA. 991+00.00

SCALE: 1"= 400' SHEET 13 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DSN | | PHR | HIDALGO | | 13 |
| CK DSN | | | | | |
| TRF | | | | | |
| CK TRF | | | | | |

DATE: 12/22/2014 1:47:08 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32665\SH365_0032-0034_EnvLayout 13.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 1
# SCHEMATIC
## STA. 991+00.00 TO STA. 1014+50.00

SCALE: 1"= 400' SHEET 14 OF 26

| Dsn | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| Ck Dsn | | 3627 | 01 | 001 | SH 365 |
| Drn | | DIST | COUNTY | | SHEET NO. |
| Ck Drn | | PHR | HIDALGO | | 14 |
| Trn | | | | | |
| Ck Trn | | | | | |

DATE: 12/22/2014 11:48:08 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout01.dgn

SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

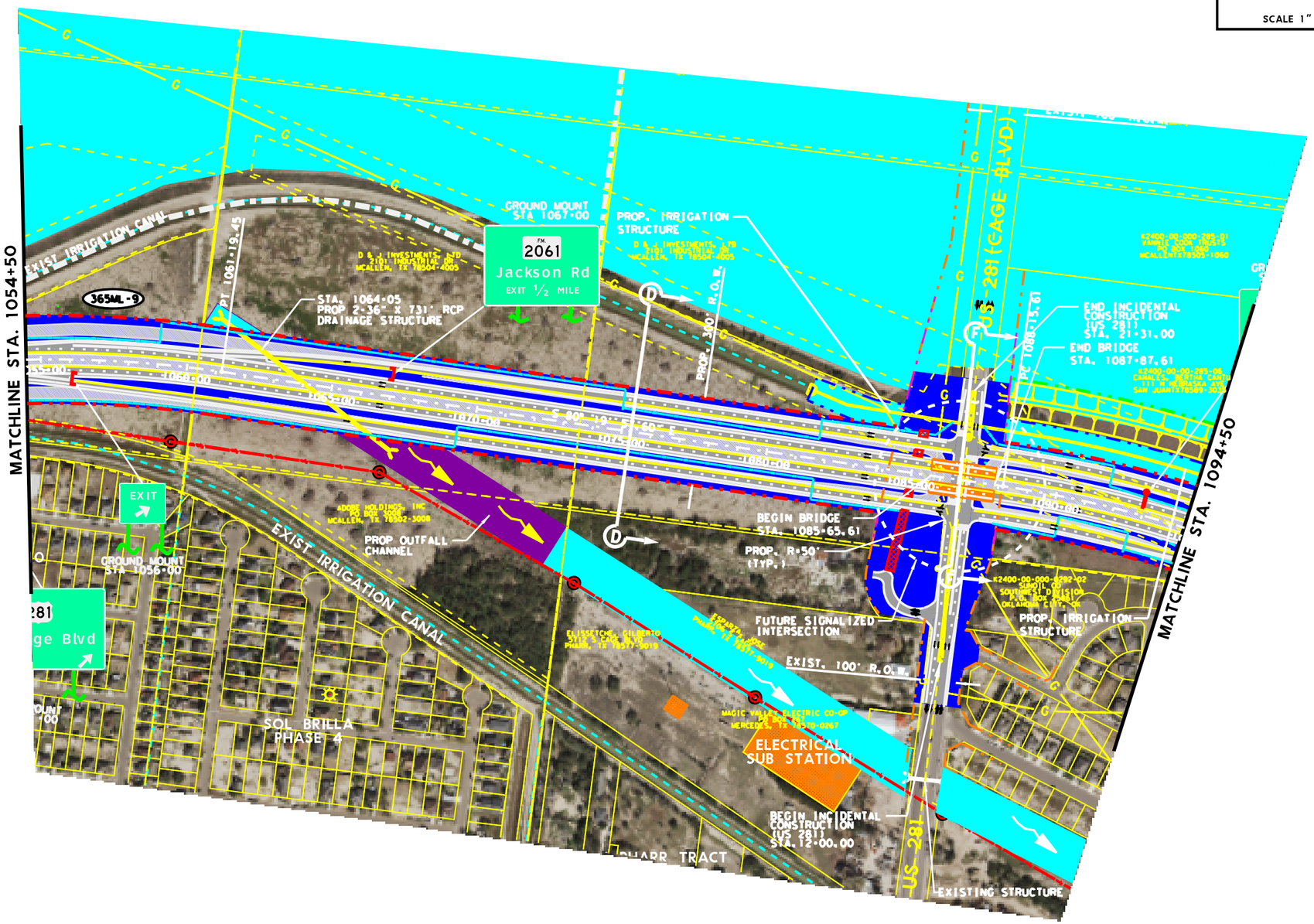
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1014+50.00 TO STA. 1054+50.00

SCALE: 1"= 400' SHEET 15 OF 26

| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 15 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 1:50:56 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout02.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 1
# SCHEMATIC
## STA. 1054+50.00 TO STA. 1094+50.00

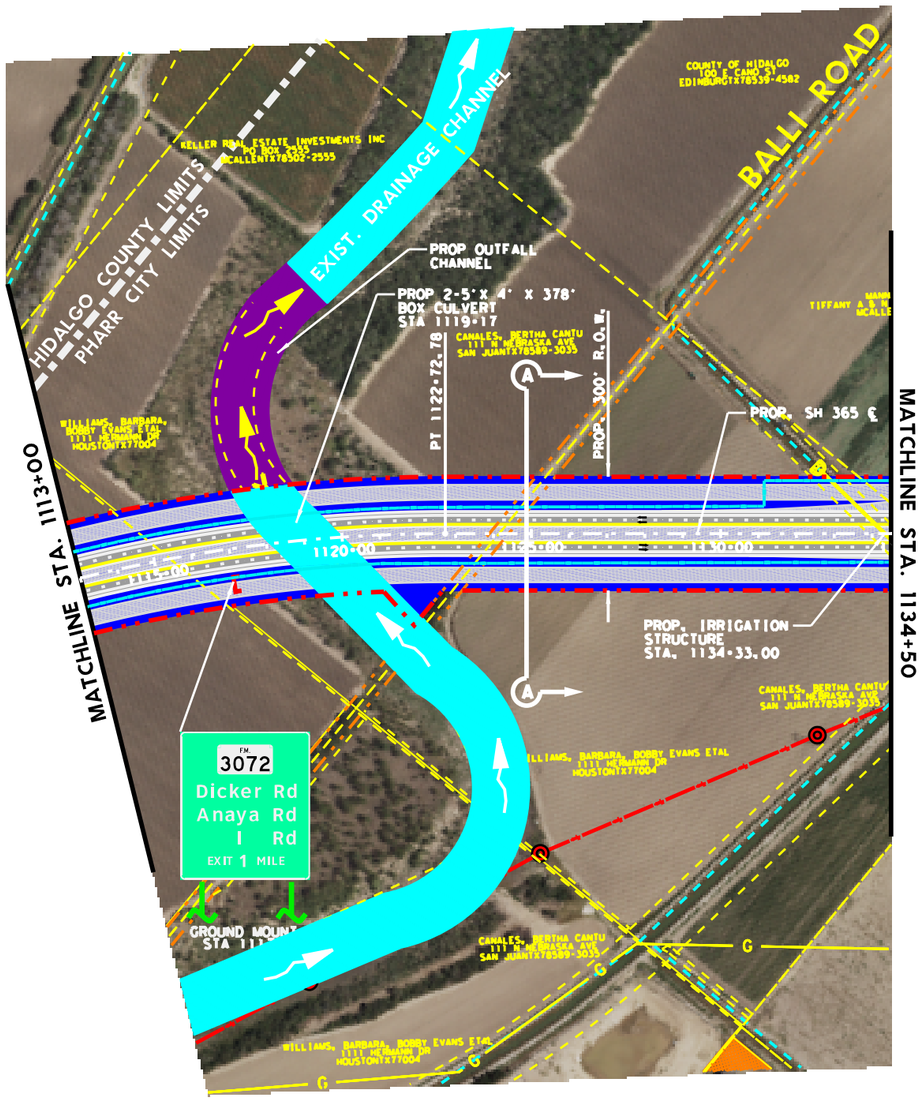
SCALE: 1"= 400' SHEET 16 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DWN | | 3627 | 01 | 001 | SH 365 |
| CK DWN | | DIST | COUNTY | | SHEET NO. |
| DWN | | PHR | HIDALGO | | 16 |
| CK DWN | | | | | |
| TRS | | | | | |
| CK TRS | | | | | |

DATE: 12/22/2014 11:52:01 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout03.dgn

SCALE 1" = 400'

SCALE 1" = 400'




## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

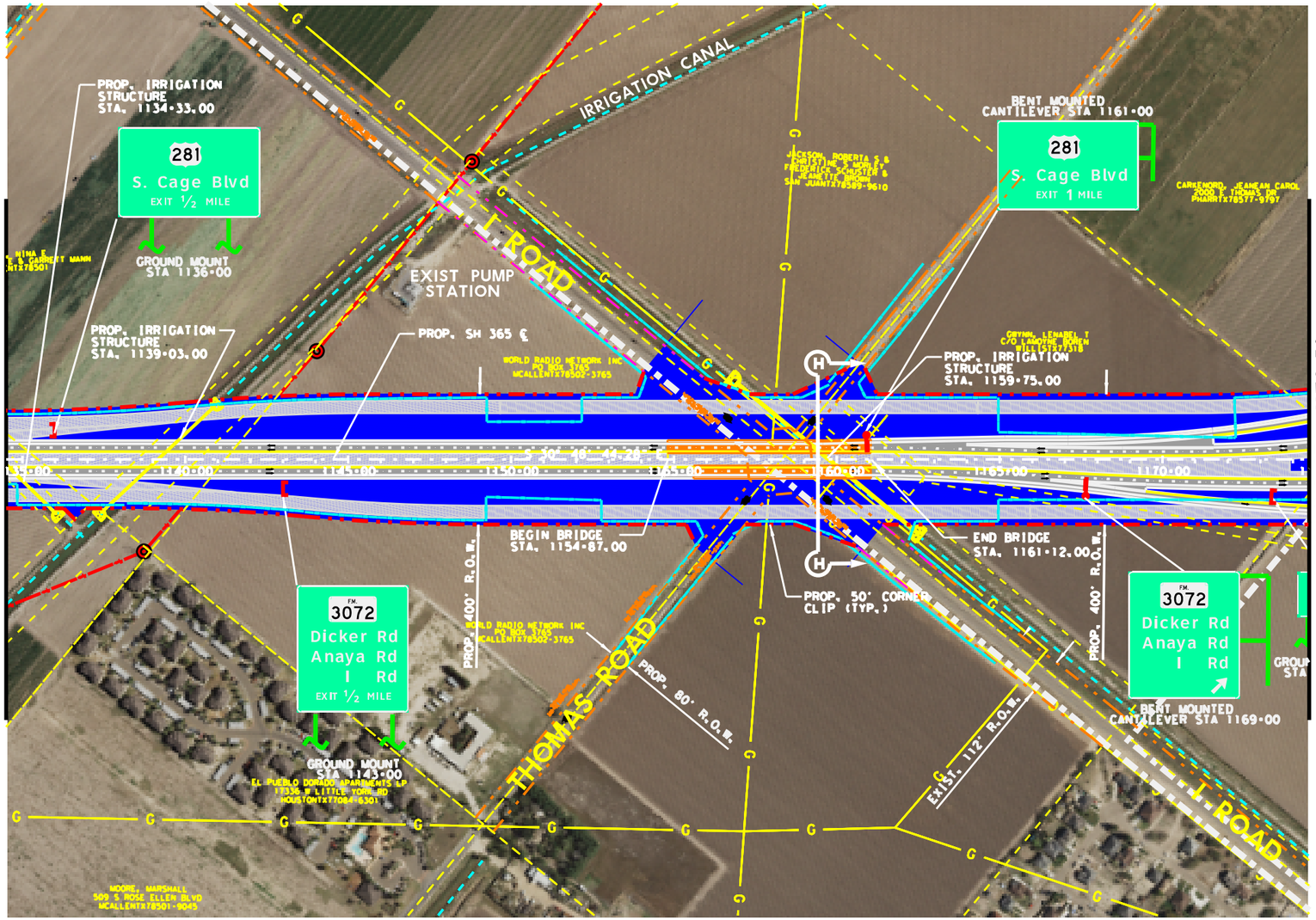
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1094+50.00 TO STA. 1134+50.00

SCALE: 1"= 400' SHEET 17 OF 26

| | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| DW | 3627 | 01 | 001 | SH 365 |
| CK DW | DIST | COUNTY | | SHEET NO. |
| DW | PHR | HIDALGO | | 17 |
| CK DW | | | | |
| TR | | | | |
| CK TR | | | | |

DATE: 12/22/2014 11:52:46 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout04.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

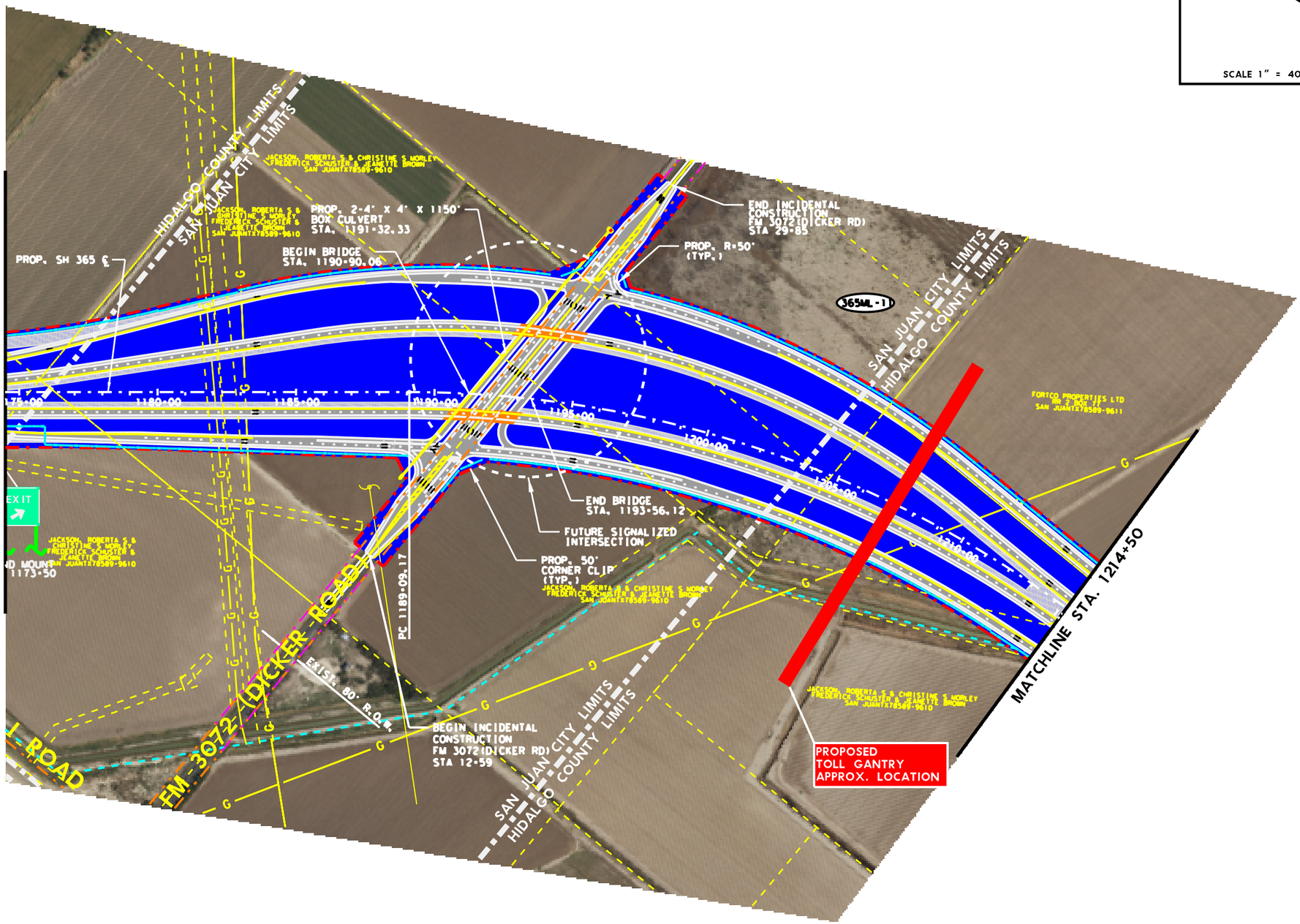
# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1134+50.00 TO STA. 1174+50.00

SCALE: 1"= 400'



| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 18 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 11:53:34 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout05.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1174+50.00 TO STA. 1214+50.00

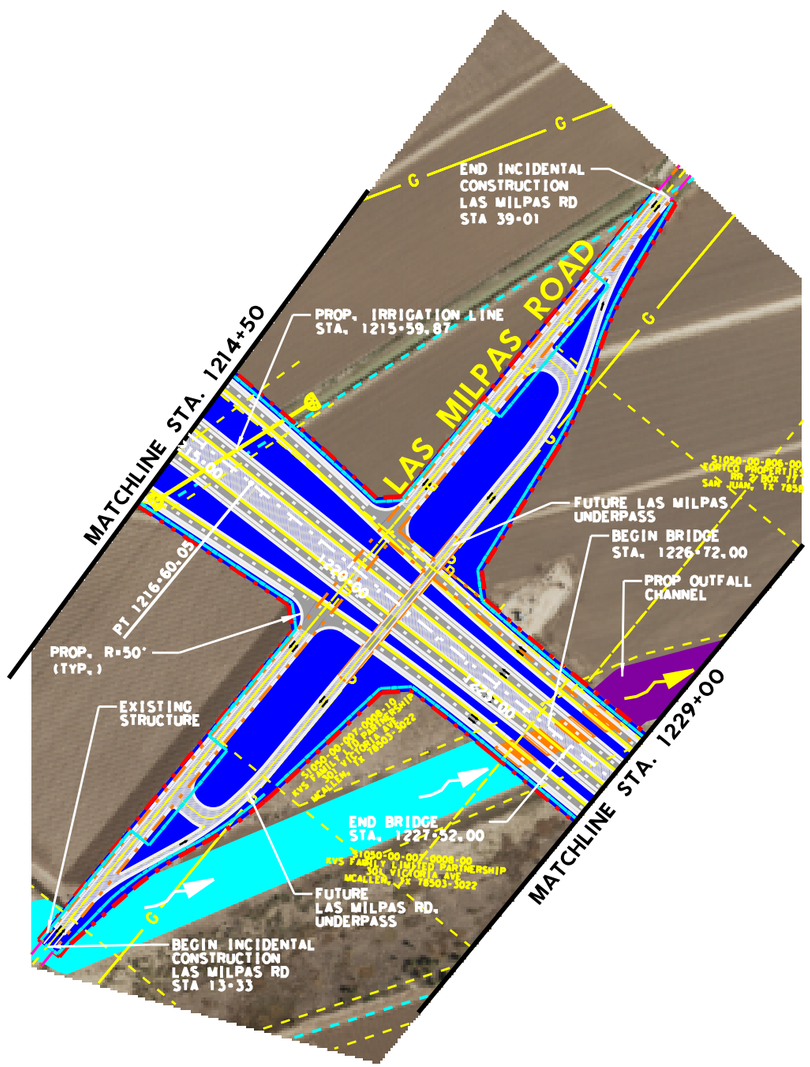
SCALE: 1"= 400' SHEET 19 OF 26

| DSN | CK DSN | DSN | CK DSN | TRF | CK TRF |
|---|---|---|---|---|---|

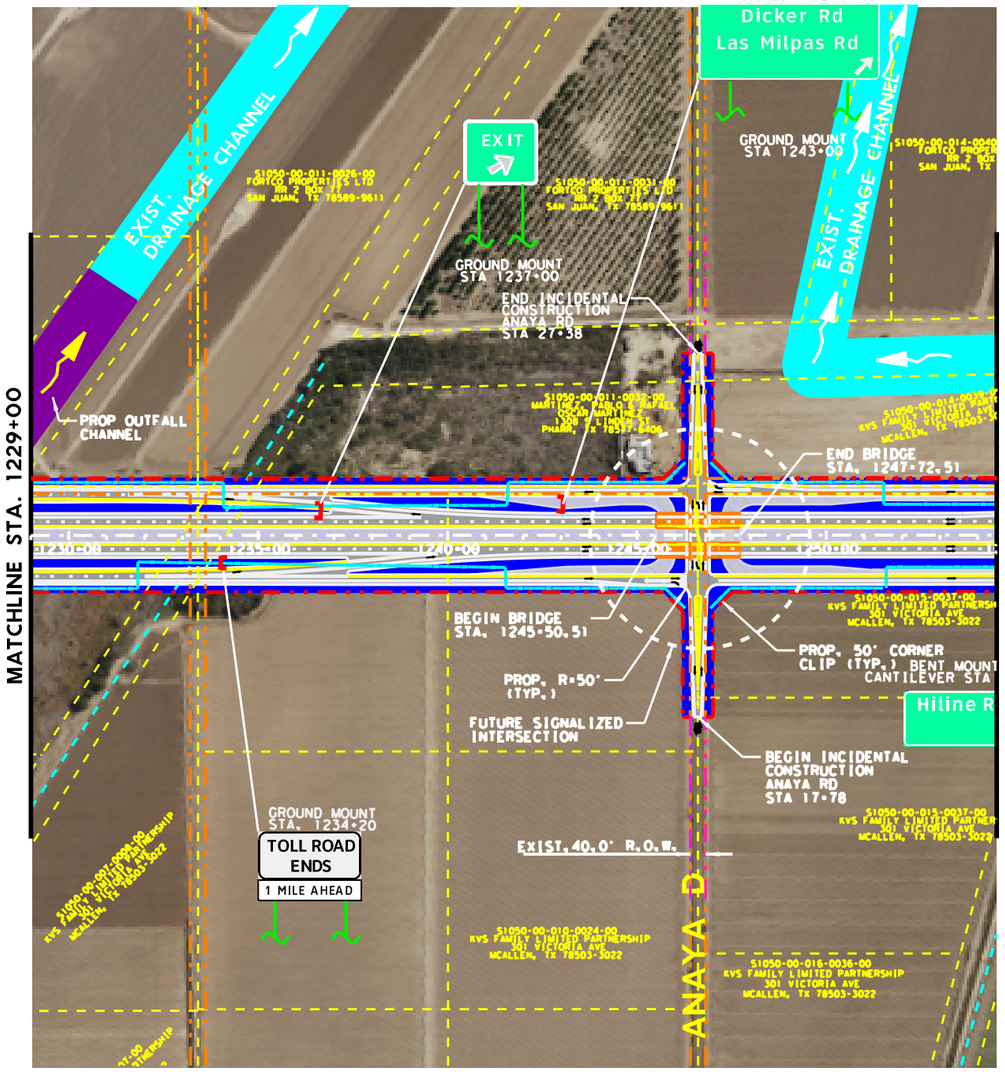
| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 19 |

DATE: 12/22/2014 11:54:05 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32664\SH365_0031_EnvLayout06.dgn

SCALE 1" = 400'




SCALE 1" = 400'




## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. # (DIAM INCH) GAS PIPELINE
- W — EXIST. # (DIAM INCH) WATER LINE
- SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

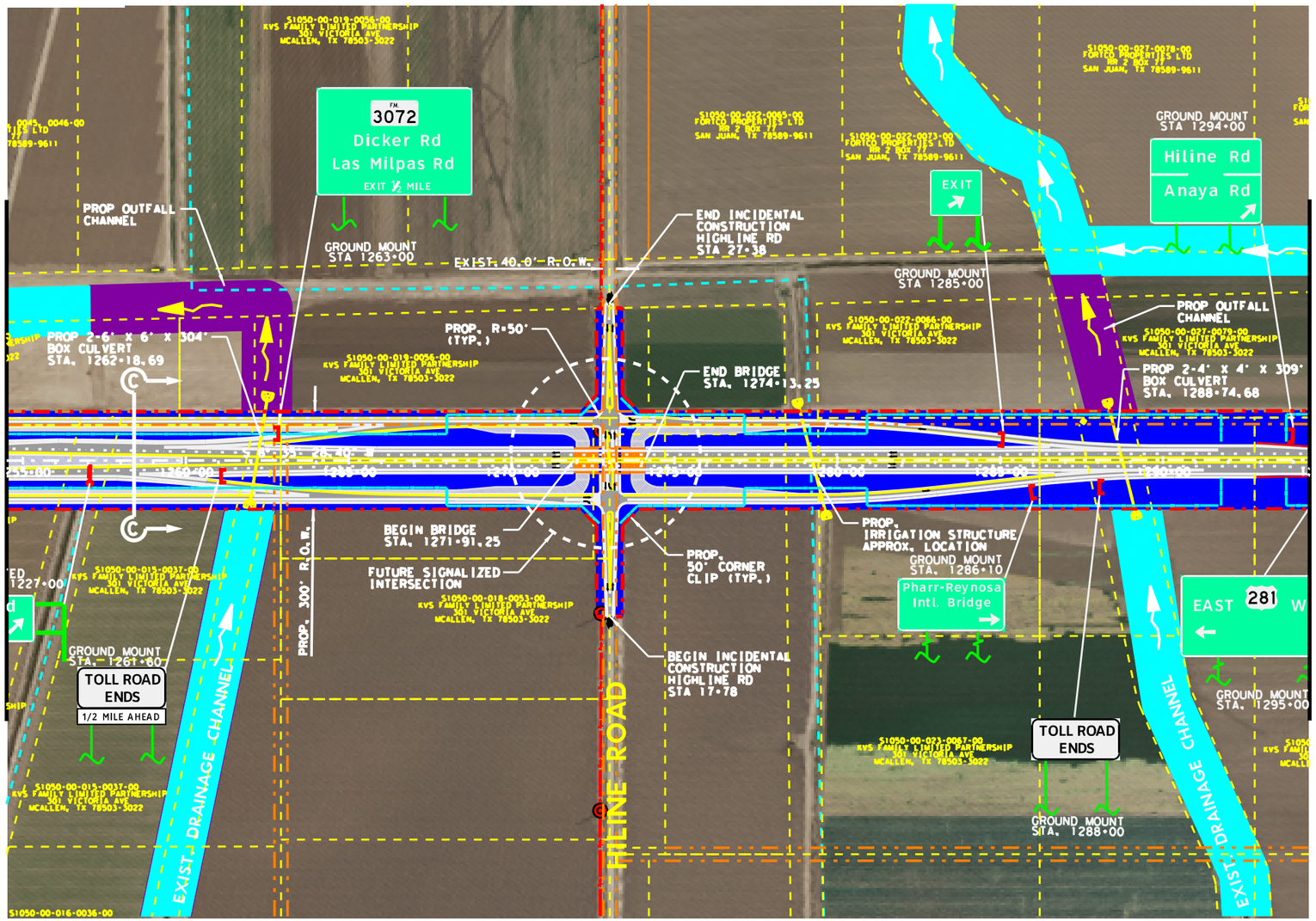
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1214+50.00 TO STA. 1254+50.00

SCALE: 1" = 400' SHEET 20 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DRN | | PHR | HIDALGO | | 20 |
| CK DRN | | | | | |
| TRS | | | | | |
| CK TRS | | | | | |

DATE: 12/22/2014 1:54:42 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrion.figueroa\dms32664\SH365_0031_EnvLayout07.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

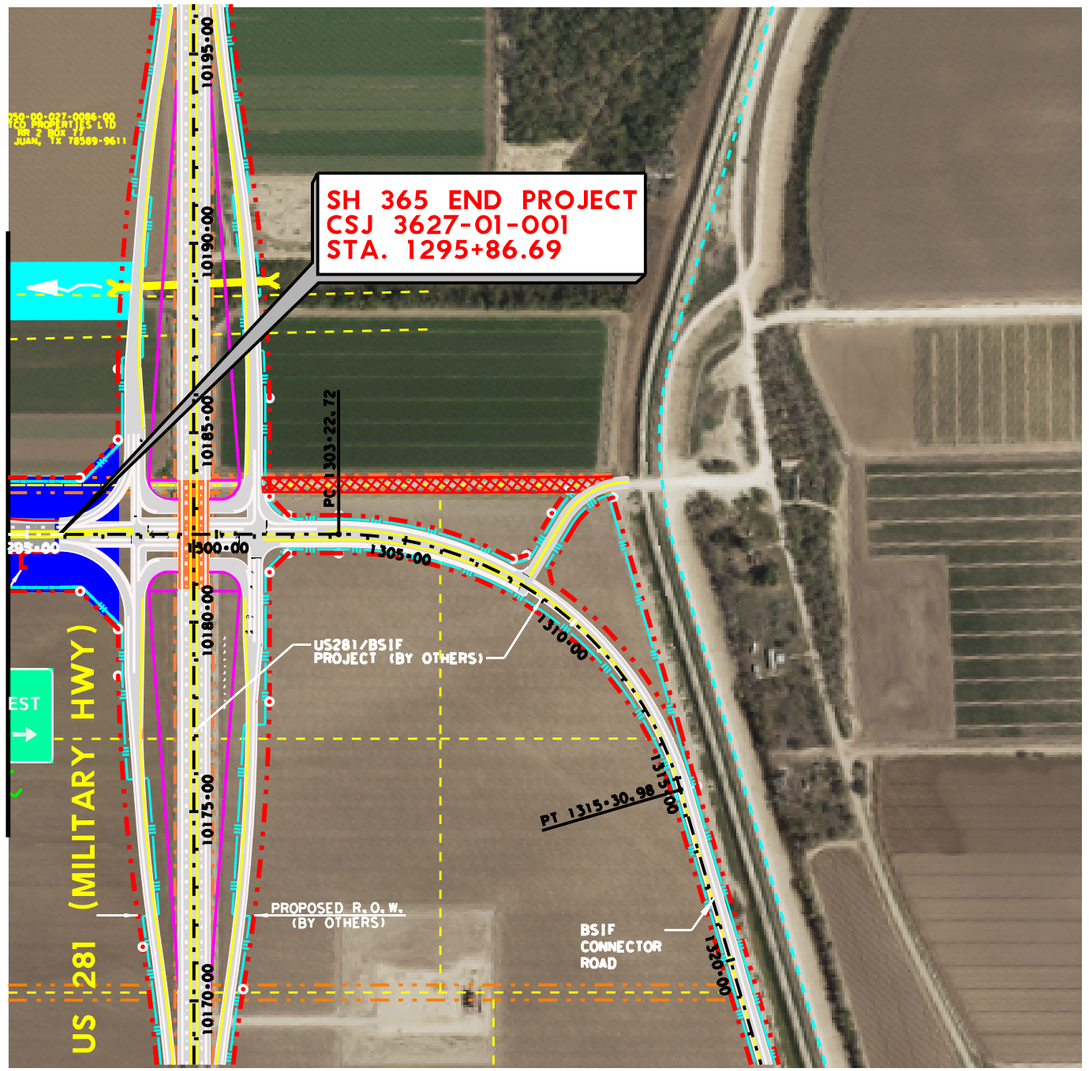
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
## SEGMENT 1
## SCHEMATIC
## STA. 1254+50.00 TO STA. 1294+50.00

SCALE: 1"= 400' SHEET 21 OF 26

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 21 |

DATE: 12/22/2014 11:55:18 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\ms32664\SH365_0031_EnvLayout08.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDEGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014 Texas Department of Transportation

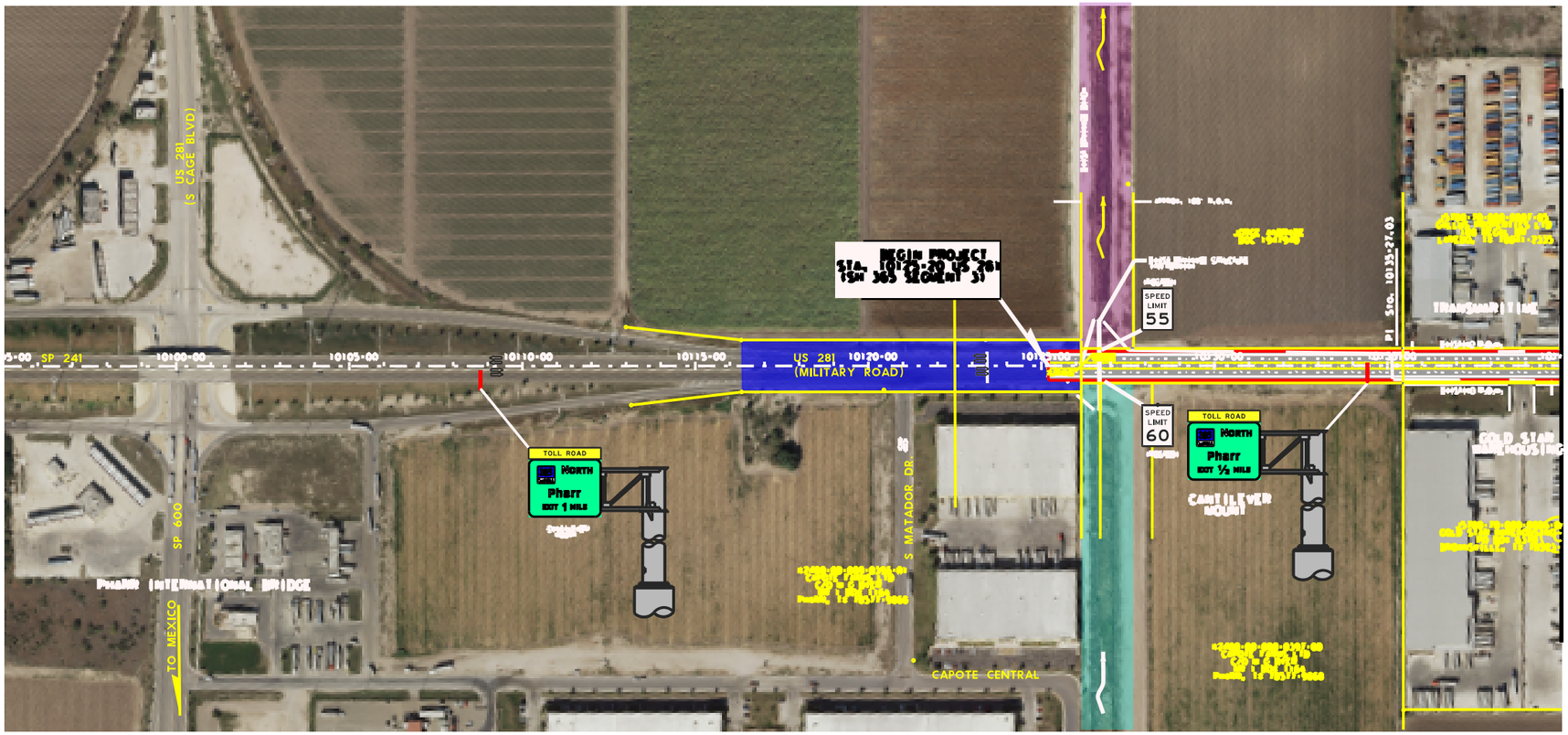
PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 1
# SCHEMATIC
## STA. 1294+50.00 TO STA. 1295+86.69

SCALE: 1"= 400' SHEET 22 OF 26

| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 22 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 11:55:57 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\ms32664\SH365_0031_EnvLayout09.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

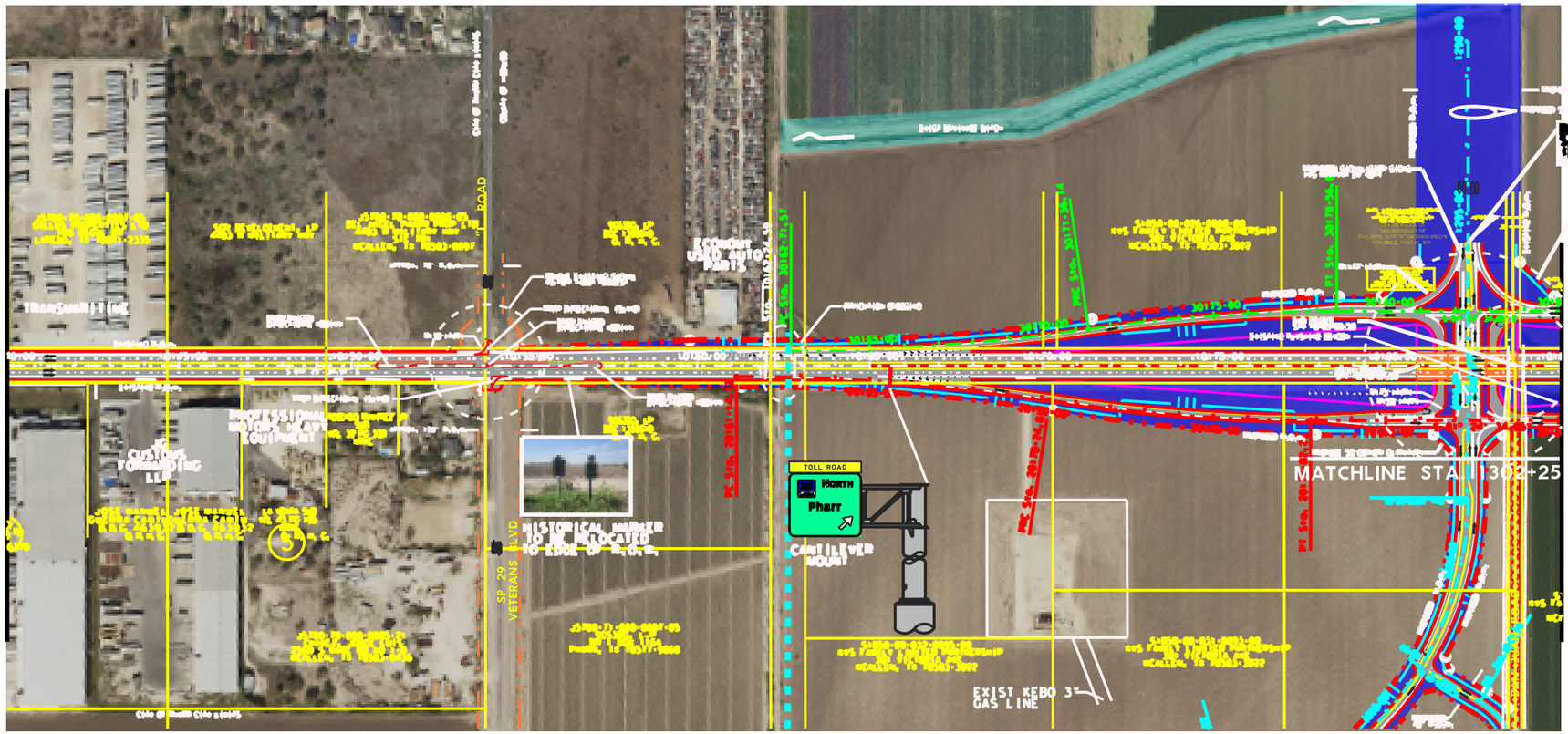
# SH 365
# SEGMENT 3
# SCHEMATIC
# STA. 10125+20 TO STA. 10140+02

SCALE: 1"= 400' SHEET 23 OF 26

| Des | Ck Des | Dsn | Ck Dsn | Trs | Ck Trs |
|---|---|---|---|---|---|

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 23 |

DATE: 12/22/2014 2:01:17 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32666\SH365_0033_EnvLayout01.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

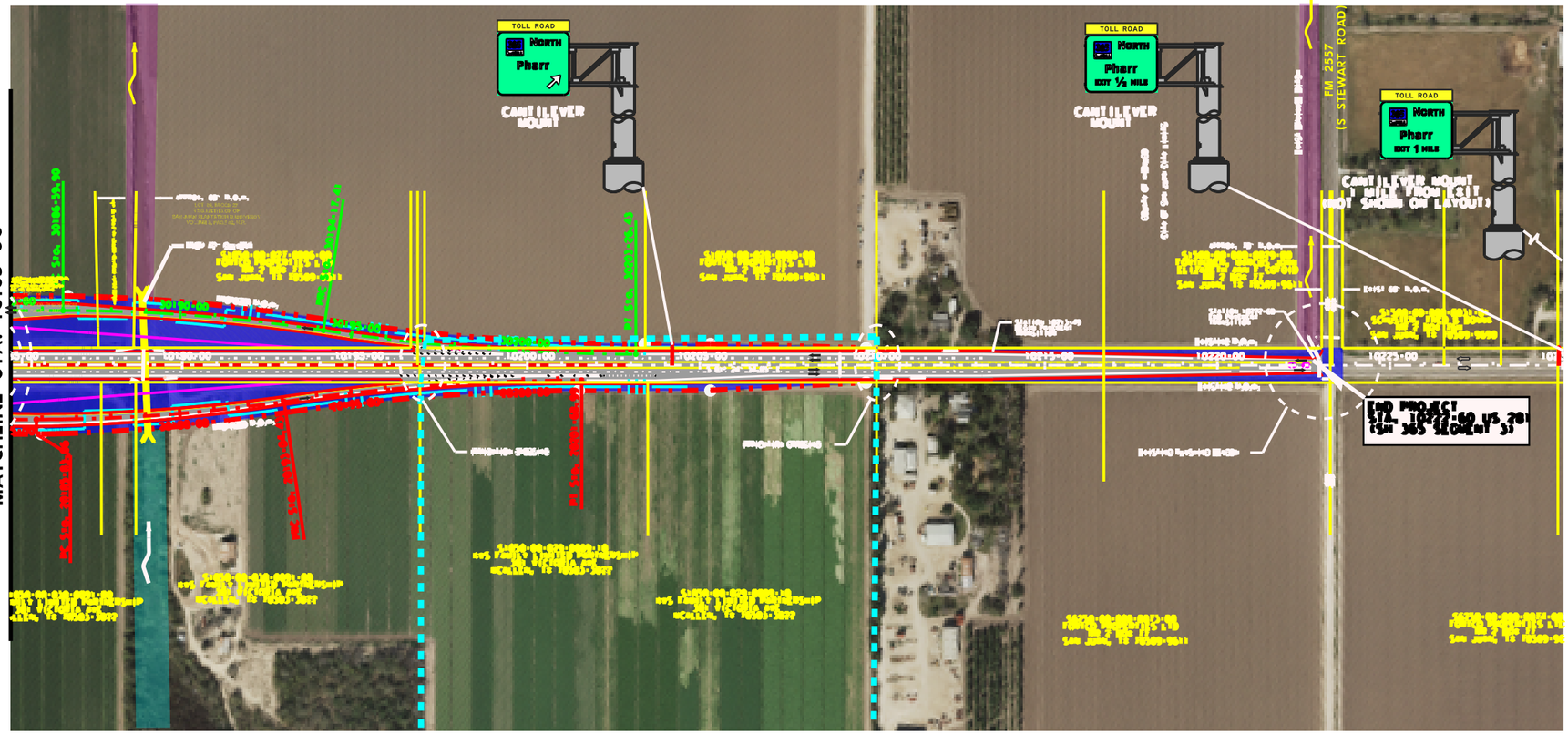
# SH 365
# SEGMENT 3
# SCHEMATIC
# STA. 10140+02 TO STA. 10185+00

SCALE: 1"= 400' SHEET 24 OF 26

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 3627 | 01 | 001 | SH 365 |
| DIST | COUNTY | | SHEET NO. |
| PHR | HIDALGO | | 24 |

DES
CK DES
DW
CK DW
TR
CK TR

DATE: 12/23/2014 10:48:01 AM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32666\SH365_0033_EnvLayout02.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- #G — EXIST. # (DIAM INCH) GAS PIPELINE
- #W — EXIST. # (DIAM INCH) WATER LINE
- #SS — EXIST. # (DIAM INCH) SANITARY SEWER LINE
- #FM — EXIST. # (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

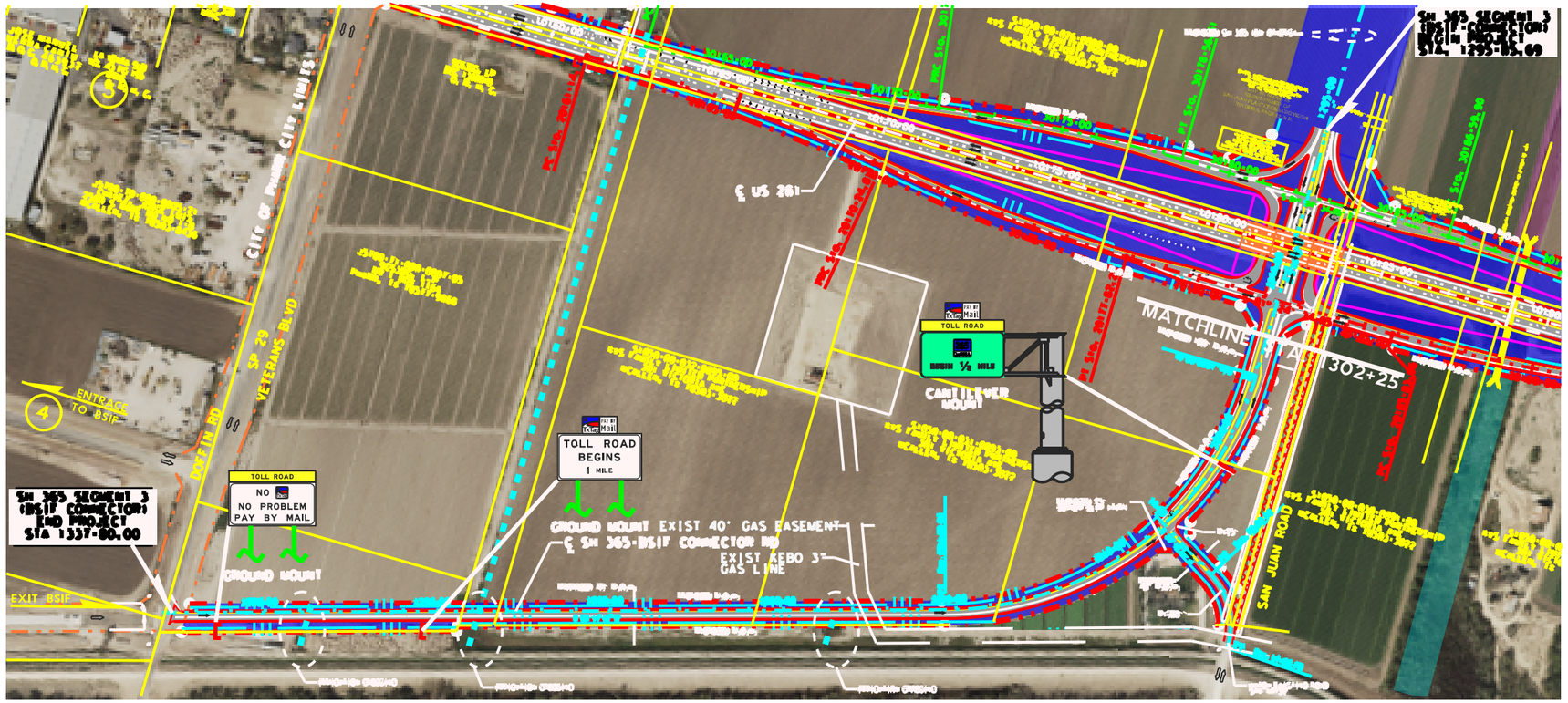
PROGRAM MANAGEMENT CONSULTANT
**DANNENBAUM**
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 3
# SCHEMATIC
## STA. 10185+00 TO STA. 10222+60

SCALE: 1"= 400' SHEET 25 OF 26

| DSN | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| CK DSN | 3627 | 01 | 001 | SH 365 |
| DSN | DIST | COUNTY | | SHEET NO. |
| CK DSN | PHR | HIDALGO | | 25 |
| TRF | | | | |
| CK TRF | | | | |

DATE: 12/22/2014 2:03:06 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32666\SH365_0033_EnvLayout03.dgn




SCALE 1" = 400'

## PLAN LEGEND

- CITY LIMITS
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING INTERNATIONAL LEVEE R.O.W.
- CONTROL OF ACCESS
- BEGIN/END R.O.W. TRANSITION
- PROPOSED RETAINING WALL
- PROPOSED TOE OF SLOPE
- PROPOSED GAS EASEMENT
- EXISTING ROADWAY (TO REMAIN)
- PROPOSED ROADWAY
- EXISTING BRIDGE (TO REMAIN)
- PROPOSED BRIDGE MAINLANES
- EXISTING DRAINAGE CHANNEL
- PROPOSED DRAINAGE CHANNEL
- EXISTING USFWS CORRIDOR/TRACT
- EXISTING FLOODWAY
- EXISTING CONSTRAINTS
- FUTURE PAVEMENT / ULTIMATE SECTION
- EXISTING ROAD TO BE OBLITERATED
- AREAS OF IMPACT
- PROPOSED RIPRAP
- PROPOSED R.O.W.
- PROPOSED MAINLANES GANTRY
- PROPOSED RAMPS GANTRY
- EXIST. DRAINAGE STRUCTURE/CHANNEL
- PROP. DRAINAGE STRUCTURE/CHANNEL
- EXIST. IRRIGATION STRUCTURE
- PROP. IRRIGATION STRUCTURE
- PROPOSED TRAFFIC
- EXISTING TRAFFIC
- PROPOSED DRAINAGE FLOW
- EXISTING DRAINAGE FLOW
- OP — EXIST. OVERHEAD ELECTRIC LINE
- P — EXIST. UNDERGROUND ELECTRIC LINE
- HVTL — EXIST. HIGH VOLTAGE TRANSMISSION LINE
- G — EXIST. ## (DIAM INCH) GAS PIPELINE
- W — EXIST. ## (DIAM INCH) WATER LINE
- SS — EXIST. ## (DIAM INCH) SANITARY SEWER LINE
- FM — EXIST. ## (DIAM INCH) FORCE MAIN SANITARY SEWER
- FOL — EXIST. UNDERGROUND FIBER OPTIC CABLE
- OC — EXIST. OVERHEAD CABLE
- T — EXIST. UNDERGROUND TELEPHONE LINE
- EXISTING IRRIGATION LINES
- DRY HOLE
- GAS WELL
- HORIZONTAL DRAIN HOLE
- OIL/GAS WELL
- PERMITTED LOCATION
- PLUGGED GAS WELL
- PLUGGED OIL WELL
- PLUGGED OIL/GAS WELL
- SHUT-IN WELL (GAS)
- SIDETRACK WELL SURFACE LOCATION

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

©2014
Texas Department of Transportation

PROGRAM MANAGEMENT CONSULTANT
DANNENBAUM
ENGINEERING CORPORATION
T.B.P.E. FIRM REGISTRATION #392
1109 NOLANA LOOP, STE 280 MCALLEN, TX 78504 (956) 682-3677

# SH 365
# SEGMENT 3
# SCHEMATIC
# STA. 1302+25 TO STA. 1337+80

SCALE: 1"= 400' SHEET 26 OF 26

| | | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|---|
| DSN | | 3627 | 01 | 001 | SH 365 |
| CK DSN | | DIST | COUNTY | | SHEET NO. |
| DSN | | PHR | HIDALGO | | 26 |
| CK DSN | | | | | |
| TRF | | | | | |
| CK TRF | | | | | |

DATE: 12/22/2014 2:57:36 PM
FILE: c:\projectwise\dannenbaum-hcrma\workdir\adrian.figueroa\dms32666\SH365_0033_EnvLayout04.dgn

# APPENDIX C – AGENCY COORDINATION

**Natural Resources Conservation Service**

**Texas Historical Commission**

**Texas Parks and Wildlife Department**

**U.S. Army Corps of Engineers**

**U.S. Fish and Wildlife Service**

# Natural Resources Conservation Service

United States Department of Agriculture
NRCS
Natural Resources Conservation Service

101 S. Main Street
Temple, TX 76501-6624
Phone: 254-742-9826
FAX: 254-742-9859

May 22, 2013

Atkins
1250 Wood Branch Park Drive
Suite 300
Houston, Texas 77079

Attention: Michael Dyke

Subject: LNU-Farmland Protection
Proposed SH 365 from FM 1016 to US 281Roadway Project
Hidalgo County, Texas

We have reviewed the information provided in your correspondence dated May 12, 2013 concerning the proposed roadway project in Hidalgo County, Texas. This review is part of the National Environmental Policy Act (NEPA) evaluation for Federal Highway Administration (FHWA). We have evaluated the proposed site as required by the Farmland Protection Policy Act (FPPA).

The proposed project does contain soils classified as Important Farmland Soils. We have completed Parts II, IV, and V of the Farmland Conversion Impact Rating for Corridor Type Projects (Form CPA-106). The relative value of farmland in Part V should be used in your calculation for Part VII.

To meet reporting requirements of section 1546 of the Act, 7 U.S.C 4207, and for data collection purposes, after your agency has made a final decision on a project in which one or more of the alternative sites contain farmland subject to the FPPA, NRCS is requesting a return copy of the (Form CPA-106), which indicates the final decision. We encourage the use of accepted erosion control methods during the construction of this project.

If you have any questions, please contact me at (254) 742-9854, Fax (254) 742-9859 or by email at drew.kinney@tx.usda.gov.

Sincerely,

Drew Kinney

Drew Kinney
NRCS GIS Specialist

Attachment

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

# FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

| | | |
|---|---|---|
| **PART I** *(To be completed by Federal Agency)* | 3. Date of Land Evaluation Request 3/8/13 | 4. Sheet 1 of 1 |
| 1. Name of Project HCRMA SH 365 from FM 1016 to US 281 | 5. Federal Agency Involved FHWA | |
| 2. Type of Project Linear Roadway Project | 6. County and State Hidalgo County, Texas | |

| | | |
|---|---|---|
| **PART II** *(To be completed by NRCS)* | 1. Date Request Received by NRCS 5-21-2013 | 2. Person Completing Form DREW KINNEY |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐ | 4. Acres Irrigated 177,478 | Average Farm Size 992 |
| 5. Major Crop(s) Grain Sorghum | 6. Farmable Land in Government Jurisdiction Acres: 639,936 % 64 | 7. Amount of Farmland As Defined in FPPA Acres: 521,634 % 52 |
| 8. Name Of Land Evaluation System Used LESA | 9. Name of Local Site Assessment System NA | 10. Date Land Evaluation Returned by NRCS 5-28-2013 |

| **PART III** *(To be completed by Federal Agency)* | Alternative Corridor For Segment | | | |
|---|---|---|---|---|
| | Corridor A | Corridor B | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | 623 | | | |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services | 0 | | | |
| C. Total Acres In Corridor | 623 | 0 | 0 | 0 |
| **PART IV** *(To be completed by NRCS) Land Evaluation Information* | | | | |
| A. Total Acres Prime And Unique Farmland | 362 | | | |
| B. Total Acres Statewide And Local Important Farmland | 234 | | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | 0.114 | | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | 33 | | | |
| **PART V** *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)* | 83 | | | |

| **PART VI** *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* | Maximum Points | | | | |
|---|---|---|---|---|---|
| 1. Area in Nonurban Use | 15 | 12 | | | |
| 2. Perimeter in Nonurban Use | 10 | 6 | | | |
| 3. Percent Of Corridor Being Farmed | 20 | 17 | | | |
| 4. Protection Provided By State And Local Government | 20 | 0 | | | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 9 | | | |
| 6. Creation Of Nonfarmable Farmland | 25 | 2 | | | |
| 7. Availability Of Farm Support Services | 5 | 5 | | | |
| 8. On-Farm Investments | 20 | 16 | | | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 1 | | | |
| 10. Compatibility With Existing Agricultural Use | 10 | 5 | | | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 73 | 0 | 0 | 0 |
| **PART VII** *(To be completed by Federal Agency)* | | | | | |
| Relative Value Of Farmland (From Part V) | 100 | | | | |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160 | 73 | 0 | 0 | 0 |
| **TOTAL POINTS** *(Total of above 2 lines)* | 260 | 73 | 0 | 0 | 0 |

| 1. Corridor Selected: | 2. Total Acres of Farmlands to be Converted by Project: | 3. Date Of Selection: | 4. Was A Local Site Assessment Used? |
|---|---|---|---|
| A | 212 | 11/16/12 | YES ☑ NO ☐ |

5. Reason For Selection:

**This is a linear roadway project where the majority of the roadway will be on new location. Due to the nature of the project at this time, only one alternative corridor exists.**

Signature of Person Completing this Part: Michael Dyke Michael Dyke DATE 03/12/2013

NOTE: Complete a form for each segment with more than one Alternate Corridor

United States Department of Agriculture
NRCS
Natural Resources Conservation Service

101 S. Main Street
Temple, TX 76501-6624
Phone: 254-742-9960
FAX: 254-742-9859

For Informational Purposes

To Whom It May Concern:

The official source for current soil survey information is Web Soil Survey at http://websoilsurvey.nrcs.usda.gov. Enclosed is a pamphlet about the website.

Farmland Classification maps can be obtained by following the steps below:

Delineate your area of interest (AOI) and create an AOI, or create an AOI from a zipped shape file. Go to the Soil Data Explorer tab, then the Suitability's and Limitations for Use tab, and then under the Land Classifications list of reports, run the Farmland Classification report. Print or save the report to a file, or add it to the shopping cart and produce a Custom Soil Resource Report to submit to us electronically, or print it out for mailing.

NRCS Farmland Policy Protection Act Form AD-1006 or NRCS-CPA-106 can be obtained at the following URL's respectively:
http://www.usda.gov/rus/water/ees/pdf/ad1006.pdf
http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045395.pdf

NRCS Conservation Easements for Texas can be obtained at the following URL to determine if your project overlaps with any conservation easements:
http://www.tx.nrcs.usda.gov/easements.html

NRCS Conservation Easements by state can be obtained at the following URL:http://datagateway.nrcs.usda.gov/GDGOrder.aspx

If you have any questions, please contact the Texas State Soil Scientist at (254) 742-9863.

ATKINS

**Atkins North America, Inc.**
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

**Telephone: +1.281.493.5100**
Fax: +1.281.493.1047

**www.atkinsglobal.com/northamerica**

March 12, 2013

VIA EMAIL: gabriel.cavazos@tx.usda.gov

Mr. Gabriel L. Cavazos
USDA-NRCS
2514 S Veterans Boulevard, Suite 2
Edinburg Service Center
Edinburg, Texas 78539-7026

PN 100020726

Dear Mr. Cavazos:

Re: Hidalgo County Regional Mobility Authority
State Highway (SH) 365 from FM 1016/Conway Avenue to US 281/Military Highway
Hidalgo County, Texas

The Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas. The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities. Please refer to the attached project location map and aerial-photo based map for a visual representation of the proposed project.

The proposed SH 365 would traverse 16.53 miles, generally paralleling the Rio Grande within a 160- to 300-foot right-of-way, expanding to 400 feet at identified overpass locations. The current land use of the proposed right-of-way and surrounding area is primarily agricultural land, unmaintained grassland, and developed land. The alignment as proposed was selected based on public involvement, engineering constraints, and meetings with stakeholders/property owners.

Atkins has been retained by the HCRMA to prepare an Environmental Assessment (EA) document for the proposed project. In accordance with the Farmland Protection Policy Act (FPPA) and because farmland is being converted to highway use, the land has to be scored using Form AD 1006 (Farmland Conversion Impact Rating). This letter is intended to serve as our coordination regarding the FPPA for the proposed project. Enclosed is a revised Conversion Impact Rating Form (Form NRCS-CPA-106) for your review.

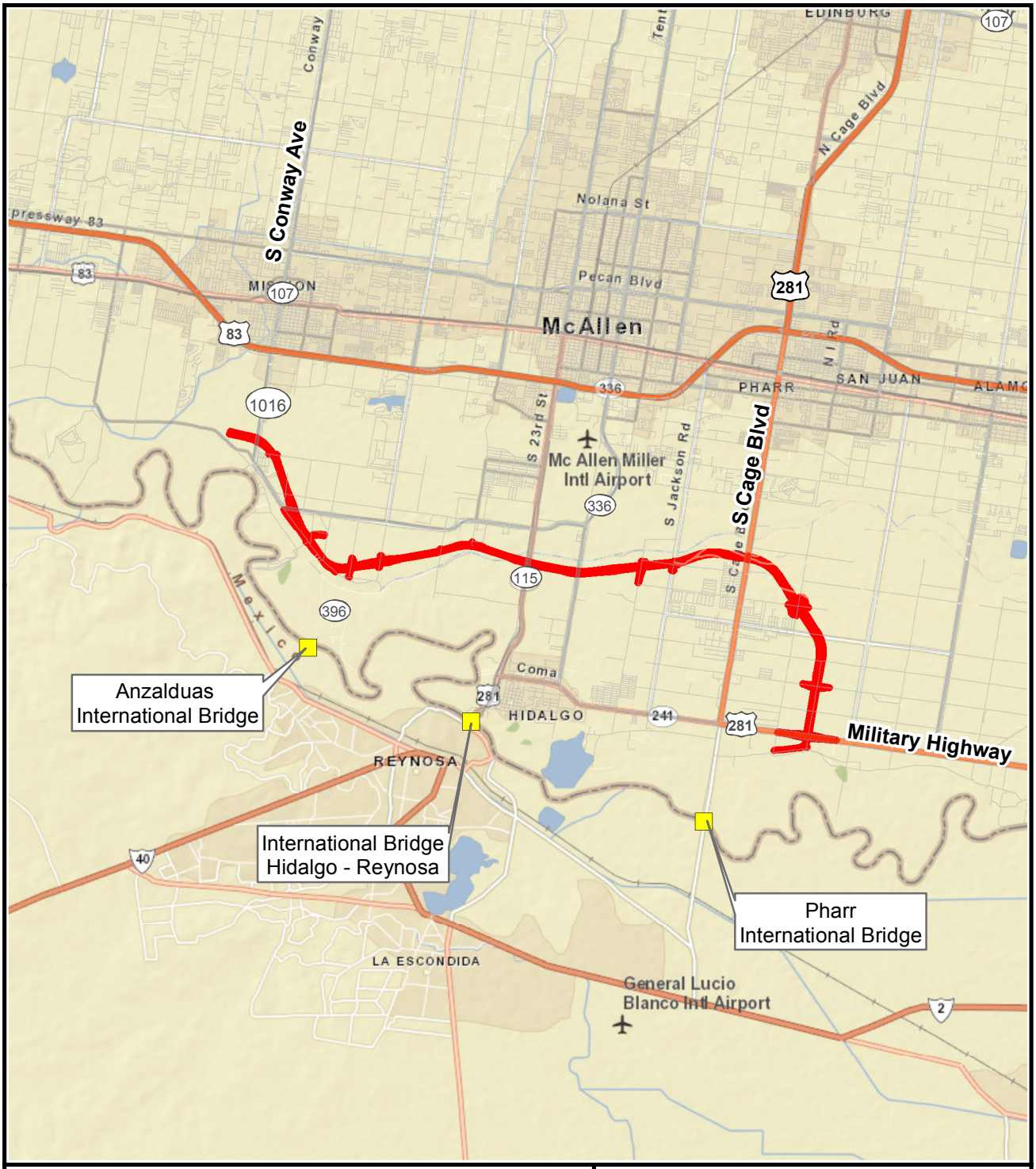
We appreciate your timely review of this project. If you have any questions or need additional information, please contact me at (281) 529-4156.

Very truly yours,

Michael Dyke

MD:SC
Enclosures

c: Pilar Rodriguez, P. E. (HCRMA Executive Director)
Louis Jones, P.E. (HCRMA Program Management Consultant)
Sharon G. Becca (Atkins)



N
W E
S

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

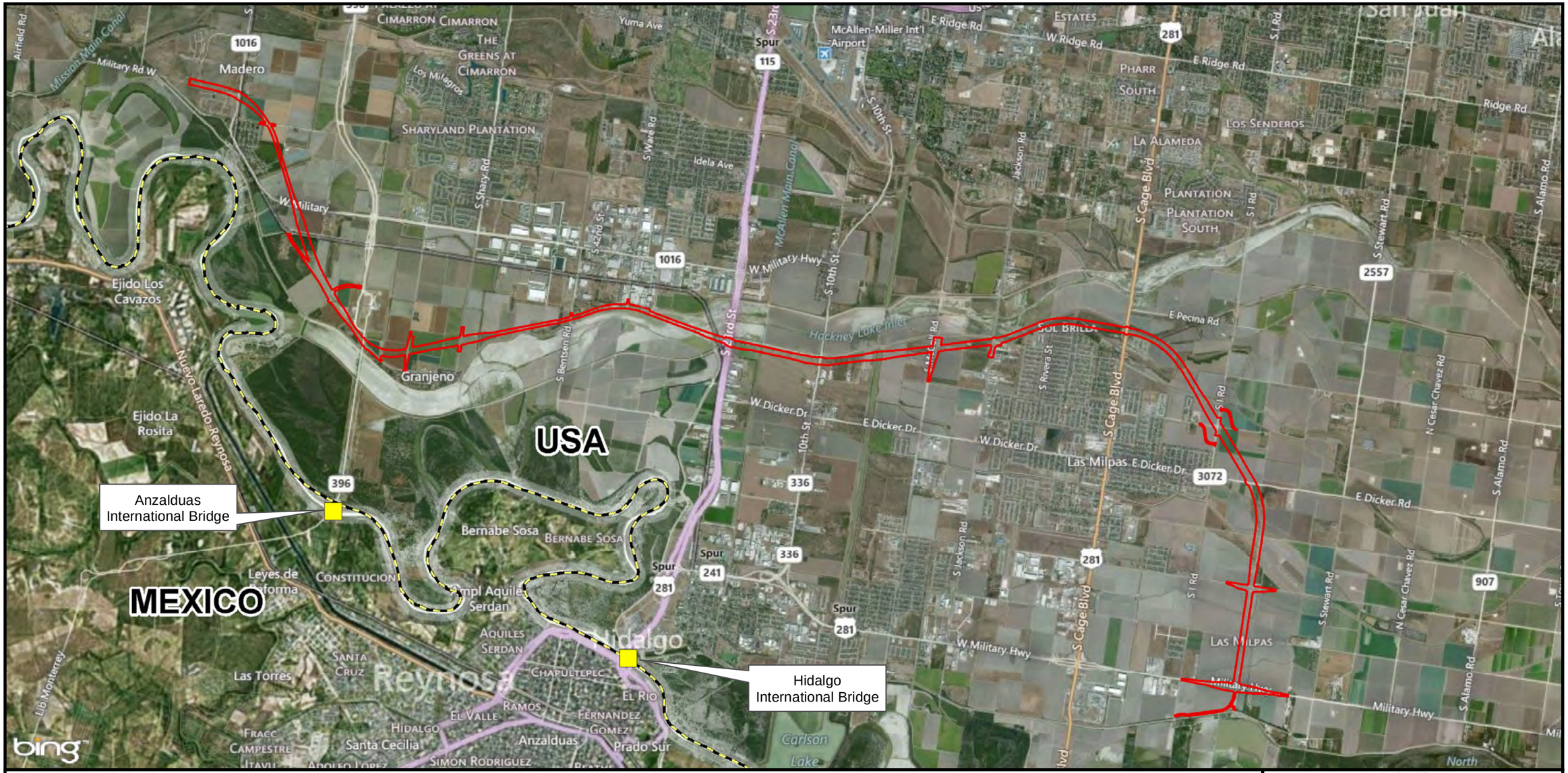
0 3 6 Miles

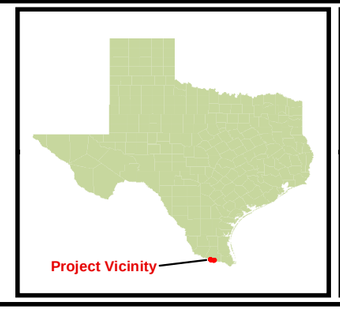
HIDALGO COUNTY RMA

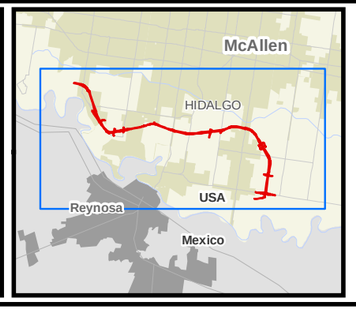
**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

| | |
|---|---|
| Prepared By: ATKINS/24002 | Scale:1 " = 3 miles |
| CSJs:3627-01-001, -002, & 0220-01-023 | Date: 12 Mar 2013 |
| File: N:\TRANS\100011499\projects\mxd\A_Vicinity_SH 365.mxd | |

Service Layer Credits: Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)




Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

SH 365 ROW
International Bridge
US/Mexico Border

0 1 2 Miles

**SH 365**
**From FM 1016/Conway Avenue**
**to US 281/Military Highway**
**Hidalgo County, Texas**

CSJs: 3627-01-001, -002 & 0220-01-023 | Date: 12 Mar 2013

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\NRCS Memo\AerialMap.mxd

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

# FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

| | | |
|---|---|---|
| **PART I** *(To be completed by Federal Agency)* | 3. Date of Land Evaluation Request 3/8/13 | 4. Sheet 1 of 1 |
| 1. Name of Project **HCRMA SH 365 from FM 1016 to US 281** | 5. Federal Agency Involved **FHWA** | |
| 2. Type of Project **Linear Roadway Project** | 6. County and State **Hidalgo County, Texas** | |
| **PART II** *(To be completed by NRCS)* | 1. Date Request Received by NRCS | 2. Person Completing Form |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐ | | 4. Acres Irrigated / Average Farm Size |
| 5. Major Crop(s) | 6. Farmable Land in Government Jurisdiction Acres: % | 7. Amount of Farmland As Defined in FPPA Acres: % |
| 8. Name Of Land Evaluation System Used | 9. Name of Local Site Assessment System | 10. Date Land Evaluation Returned by NRCS |

| **PART III** *(To be completed by Federal Agency)* | | Alternative Corridor For Segment | | | |
|---|---|---|---|---|---|
| | | Corridor A | Corridor B | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | | 623 | | | |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services | | 0 | | | |
| C. Total Acres In Corridor | | 623 | 0 | 0 | 0 |
| **PART IV** *(To be completed by NRCS) Land Evaluation Information* | | | | | |
| A. Total Acres Prime And Unique Farmland | | | | | |
| B. Total Acres Statewide And Local Important Farmland | | | | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | | | | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | | | | | |
| **PART V** *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)* | | | | | |
| **PART VI** *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* | Maximum Points | | | | |
| 1. Area in Nonurban Use | 15 | 12 | | | |
| 2. Perimeter in Nonurban Use | 10 | 6 | | | |
| 3. Percent Of Corridor Being Farmed | 20 | 17 | | | |
| 4. Protection Provided By State And Local Government | 20 | 0 | | | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 9 | | | |
| 6. Creation Of Nonfarmable Farmland | 25 | 2 | | | |
| 7. Availablility Of Farm Support Services | 5 | 5 | | | |
| 8. On-Farm Investments | 20 | 16 | | | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 1 | | | |
| 10. Compatibility With Existing Agricultural Use | 10 | 5 | | | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 73 | 0 | 0 | 0 |
| **PART VII** *(To be completed by Federal Agency)* | | | | | |
| Relative Value Of Farmland (From Part V) | 100 | | | | |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160 | 73 | 0 | 0 | 0 |
| **TOTAL POINTS** *(Total of above 2 lines)* | 260 | 73 | 0 | 0 | 0 |

| 1. Corridor Selected: | 2. Total Acres of Farmlands to be Converted by Project: | 3. Date Of Selection: | 4. Was A Local Site Assessment Used? |
|---|---|---|---|
| A | 212 | 11/16/12 | YES ☑ NO ☐ |

5. Reason For Selection:

**This is a linear roadway project where the majority of the roadway will be on new location. Due to the nature of the project at this time, only one alternative corridor exists.**

Signature of Person Completing this Part: Michael Dyke Michael Dyke DATE 03/12/2013

NOTE: Complete a form for each segment with more than one Alternate Corridor

United States Department of Agriculture
NRCS
Natural Resources Conservation Service

101 S. Main Street
Temple, TX 76501-6624
Phone: 254-742-9826
FAX: 254-742-9859

March 4, 2009

PBS&J
6504 Bridge Point Parkway, Suite 220.
Austin, Texas 78730-5091

Attention: Courtney Cox

Subject: LNU--Farmland Protection
Hidalgo County Regional Mobility Authority
Hidalgo County, Texas

We have reviewed the information provided concerning the Hidalgo Loop Section A in Hidalgo County, Texas, as outlined in your email of January 30, 2009. This is part of the National Environmental Policy Act (NEPA) evaluation for the Federal Highway Administration. We have evaluated the proposed area as required by the Farmland Protection Policy Act (FPPA).

The proposed project does contain soils classified as Important Farmland, and we have completed Parts II, IV, and V of the Farmland Conversion Impact Rating for Corridor Type Projects (form (NRCS-CPA-106) that you provided to us. The combined rating of the site is 142. The FPPA law states that sites with a rating less than 160 will need no further consideration. We urge the use of accepted erosion control methods during construction of the project.

We have attached the completed form CPA-106. Thank you for the resource materials you submitted to help in our evaluation. If you have any questions please call Micki Yoder at (254) 742-9826, Fax (254)-742-9859.

Sincerely,

Micki Yoder

Micki Yoder
State Resources Inventory Specialist

Enclosure

Signature of Federal agency representative completing this form: | Date:

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(REV.3-02)

# FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

| **PART I** *(To be completed by Federal Agency)* | 3. Date Of Land Evaluation Request: 1/30/09 | 4. Sheet 1 of 1 |
|---|---|---|
| 1. Name of Project: Hidalgo County Loop, Section A | 5. Federal Agency Involved: FHWA | |
| 2. Proposed Land Use: Linear Roadway Project | 6. County and State: Hidalgo County, Texas | |

| **PART II** *(To be completed by NRCS)* | 1. Date Request Received By NRCS 2/10/09 | 2. Person Completing Form: Micki Yoder |
|---|---|---|

| 3. Does the corridor contain prime, unique, statewide or local important farmland? YES ☒ NO ☐ *(If no, the FPPA does not apply - do not complete additional parts of this form)* | 4. Acres Irrigated 169,322 | Average Farm Size 336 |
|---|---|---|

| 5. Major Crop(s) | 6. Farmable Land In Government Jurisdiction | 7. Amount of Farmland As Defined in FPPA |
|---|---|---|
| Grain sorghum | Acres: 802,154 % 80 | Acres: 670,787 % 67 |

| 8. Name of Land Evaluation System Used | 9. Name of State or Local Site Assessment System | 10. Date Land Evaluation Returned by NRCS |
|---|---|---|
| LESA | NA | |

| **PART III** *(To be completed by Federal Agency)* | Alternative Corridor For Segment: Corridor A | Corridor B | Corridor C | Corridor d |
|---|---|---|---|---|
| A. Total Acres To Be Converted Directly | 857 | 0 | 0 | 0 |
| B. Total Acres To Be Converted Indirectly | 0 | 0 | 0 | 0 |
| C. Total Acres In Site | 857 | 0 | 0 | 0 |
| **PART IV** *(To be completed by NRCS)* Land Evaluation Information | | | | |
| A. Total Acres Prime And Unique Farmland | 418.7 | | | |
| B. Total Acres Statewide Important or Local Important Farmland | 34.35 | | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted 453.05/802,154= | 0.0006 | | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value 329,733/802,154= | 41 | | | |
| **PART V** (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points) | 69 | | | |

| **PART VI** *(To be completed by Federal Agency)* Corridor Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b & c. For Non-Corridor project use form AD-1006)* | Maximum Points | Corridor A | Corridor B | Corridor C | Corridor D |
|---|---|---|---|---|---|
| 1. Area In Non-urban Use | (15) | 12 | | | |
| 2. Perimeter In Non-urban Use | (10) | 6 | | | |
| 3. Percent Of Corridor Being Farmed | (20) | 17 | | | |
| 4. Protection Provided By State and Local Government | (20) | 0 | | | |
| 5. Size Of Present Farm Unit Compared To Average | (10) | 9 | | | |
| 6. Creation Of Non-farmable Farmland | (25) | 2 | | | |
| 7. Availability Of Farm Support Services | (5) | 5 | | | |
| 8. On-Farm Investments | (20) | 16 | | | |
| 9. Effects Of Conversion On Farm Support Services | (25) | 1 | | | |
| 10. Compatibility With Existing Agricultural Use | (10) | 5 | | | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 73 | 0 | 0 | 0 |
| **PART VII** *(To be completed by Federal Agency)* | | | | | |
| Relative Value Of Farmland *(From Part V)* | 100 | 69 | | | |
| Total Corridor Assessment *(From Part VI above or local site assessment)* | 160 | 73 | | | |
| **TOTAL POINTS** ***(Total of above 2 lines)*** | 260 | 142 | | | |

| 1. Corridor Selected: | 2. Total Acres of Farmlands to be Converted by Project: | 3. Date Of Selection | 4. Was A Local Site Assessment Used? YES ☒ NO ☐ |
|---|---|---|---|

5. Reason For Selection:

This is a linear roadway project where the majority of the roadway will be on new location. Due to the nature of this project at the present time, only one Alternative Corridor exists.

Signature of Federal agency representative completing this form: | Date:

PBS&J

*An employee-owned company*

January 30, 2009

Mr. Arturo Ibarra
NRCS-USDA
2514 S I RD, Suite 2
Edinburg Service Center
Edinburg Texas 78539-7026

PN 100002039

FILE COPY

Dear Mr. Ibarra:

Re: Hidalgo County Regional Mobility Authority
Hidalgo Loop Section A
Hidalgo County, Texas

PBS&J has been retained by the Hidalgo County Regional Mobility Authority to prepare an Environmental Assessment (EA) document for the above-referenced project. The Hidalgo County regional Mobility Authority proposes to construct a six-lane toll road that would form a 70-mile circumferential loop around Hidalgo County, Texas (Exhibit A). The purpose of the proposed Hidalgo loop is to relieve congestion and increase mobility on local and regional transportation facilities.

Section A of the Hidalgo loop, one of four proposed sections, would traverse approximately 19 miles, generally paralleling the Rio Grande River from U.S. Highway 281 to U.S. Highway 83 in Hidalgo County, Texas (Exhibits A and B). Section A would be constructed as a six-lane, controlled-access toll road within a 160- to 300-foot right-of-way, expanding to 400 feet at identified overpass locations. The current land use of the proposed right-of-way and surrounding area is a mixture of commercial, residential, and agricultural.

This letter is intended to serve as our initial coordination regarding the Farmland Protection Policy Act (FPPA) for the above-mentioned project. Enclosed is a completed Conversion Impact Rating Form (Form NRCS-CPA-106) for your review.

We appreciate your timely review of this project. If you have any questions or need additional information, please contact me at 281-529-4137.

Very truly yours,

Courtney Cox
Senior Scientist II

CC:SC
Enclosure

c: Sharon Becca - PBS&J
Heather Dusek - PBS&J

1250 Wood Branch Park Drive • Suite 300 • Houston, Texas 77079 • Telephone: 281.493.5100 • Fax: 281.493.1047 • www.pbsj.com

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

# FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

| | | |
|---|---|---|
| **PART I** *(To be completed by Federal Agency)* | 3. Date of Land Evaluation Request **1/30/09** | 4. Sheet 1 of **1** |
| 1. Name of Project **Hidalgo County Loop, Section A** | 5. Federal Agency Involved **FHWA** | |
| 2. Type of Project **Linear Roadway Project** | 6. County and State **Hidalgo County, Texas** | |
| **PART II** *(To be completed by NRCS)* | 1. Date Request Received by NRCS | 2. Person Completing Form |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐ | 4. Acres Irrigated | Average Farm Size |
| 5. Major Crop(s) | 6. Farmable Land in Government Jurisdiction Acres: % | 7. Amount of Farmland As Defined in FPPA Acres: % |
| 8. Name Of Land Evaluation System Used | 9. Name of Local Site Assessment System | 10. Date Land Evaluation Returned by NRCS |

| **PART III** *(To be completed by Federal Agency)* | Alternative Corridor For Segment | | | |
|---|---|---|---|---|
| | Corridor A | Corridor B | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | 857 | 0 | 0 | 0 |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services | 0 | 0 | 0 | 0 |
| C. Total Acres In Corridor | 857 | 0 | 0 | 0 |
| **PART IV** *(To be completed by NRCS) Land Evaluation Information* | | | | |
| A. Total Acres Prime And Unique Farmland | | | | |
| B. Total Acres Statewide And Local Important Farmland | | | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | | | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | | | | |
| **PART V** *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)* | | | | |

| **PART VI** *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* | Maximum Points | | | | |
|---|---|---|---|---|---|
| 1. Area in Nonurban Use | 15 | 12 | | | |
| 2. Perimeter in Nonurban Use | 10 | 6 | | | |
| 3. Percent Of Corridor Being Farmed | 20 | 17 | | | |
| 4. Protection Provided By State And Local Government | 20 | 0 | | | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 9 | | | |
| 6. Creation Of Nonfarmable Farmland | 25 | 2 | | | |
| 7. Availablility Of Farm Support Services | 5 | 5 | | | |
| 8. On-Farm Investments | 20 | 16 | | | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 1 | | | |
| 10. Compatibility With Existing Agricultural Use | 10 | 5 | | | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 73 | 0 | 0 | 0 |
| **PART VII** *(To be completed by Federal Agency)* | | | | | |
| Relative Value Of Farmland (From Part V) | 100 | | | | |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160 | 73 | 0 | 0 | 0 |
| **TOTAL POINTS** *(Total of above 2 lines)* | 260 | 73 | 0 | 0 | 0 |

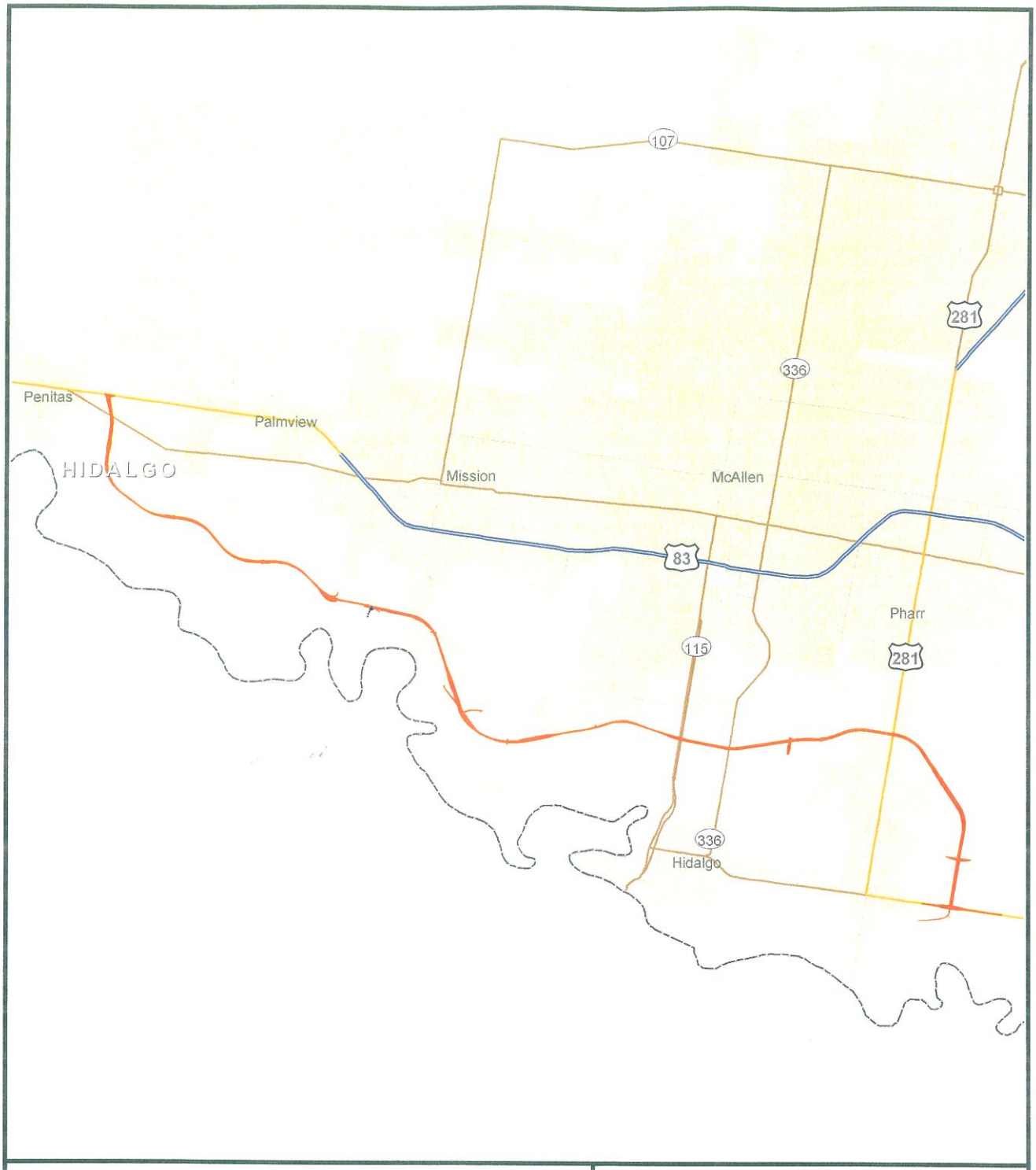
| 1. Corridor Selected: | 2. Total Acres of Farmlands to be Converted by Project: | 3. Date Of Selection: | 4. Was A Local Site Assessment Used? |
|---|---|---|---|
| **A** | **580** | **1/30/09** | YES ☑ NO ☐ |

5. Reason For Selection:

**This is a linear roadway project where the majority of the roadway will be on new location. Due to the nature of this project at the present time, only one Alternative Corridor exists.**

Signature of Person Completing this Part: DATE **1/30/09**

NOTE: Complete a form for each segment with more than one Alternate Corridor



Section A Alignment

N
W E
S

0 3 6 Miles

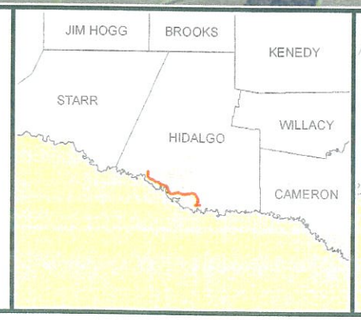
HIDALGO COUNTY RMA

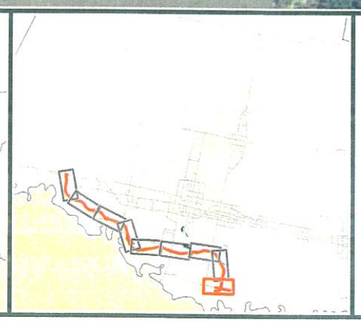
**Exhibit A**
**Project Vicinity Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Hidalgo County, Texas**

| | |
|---|---|
| Prepared By: PBS&J/19955 | Scale:1 " = 3 miles |
| Job No.: 100002039 | Date: January 28, 2009 |
| File: N:\ENV\100002039\projects\mxd\A_Vicinity_SecA | |

N
W E
S

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters



**Legend**

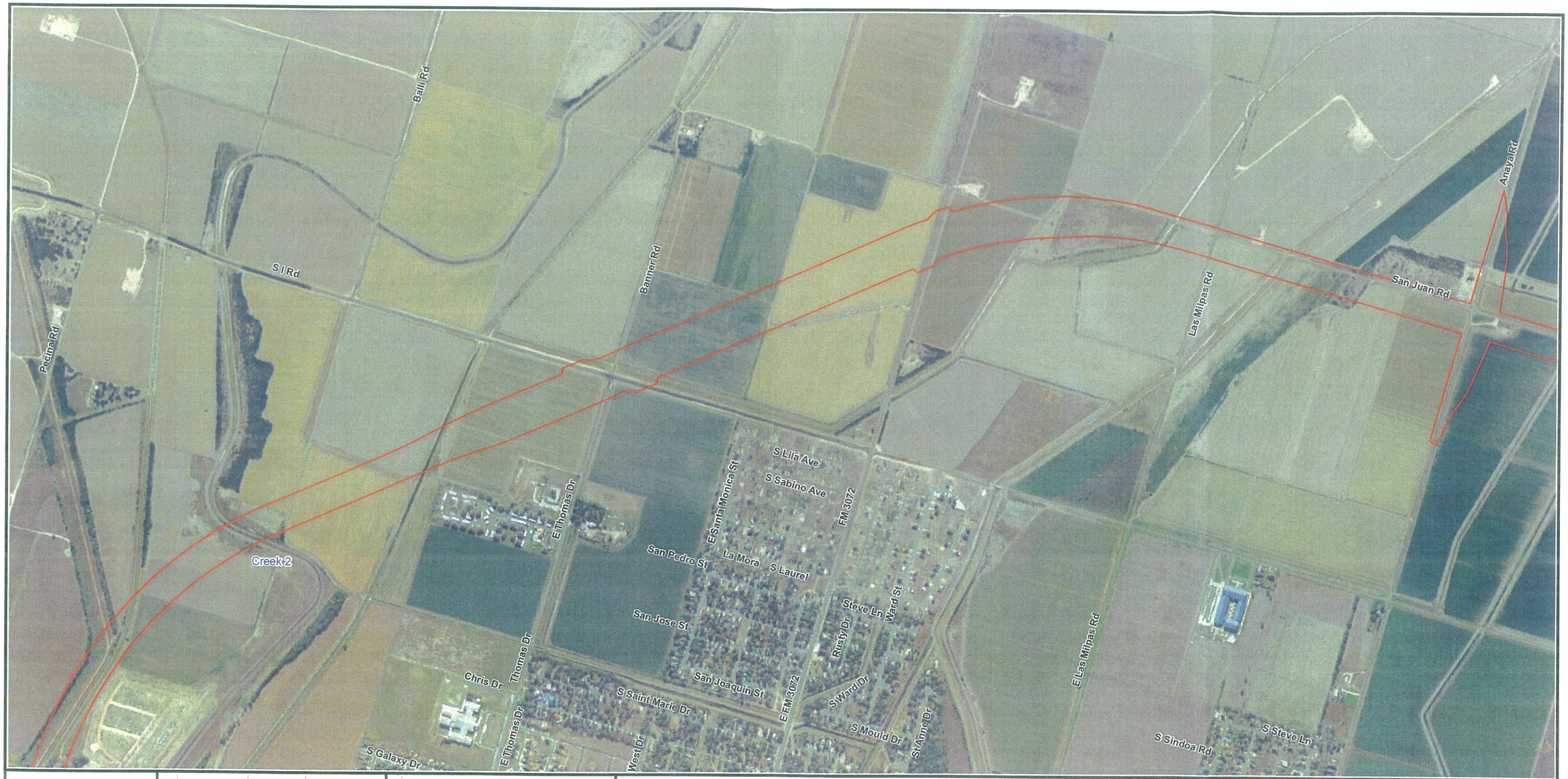
Section A ROW

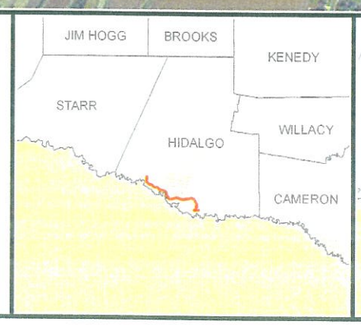
0 1,000 2,000 3,000 Feet

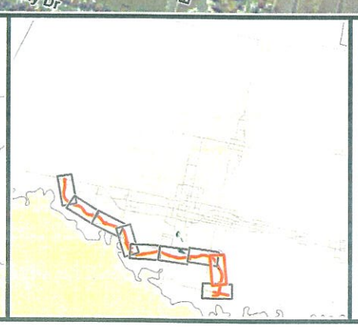
HIDALGO COUNTY RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**
**Sheet 1 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



N E S W

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

**Legend**

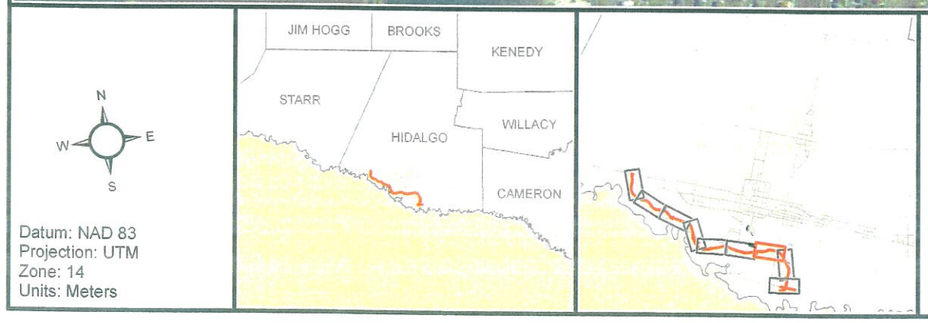
Section A ROW

0 1,000 2,000 3,000 Feet

HIDALGO COUNTY RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Pharr and Las Milpas Quadrangles**
**Hidalgo County, Texas**
**Sheet 2 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |






N
W E
S

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

**Legend**

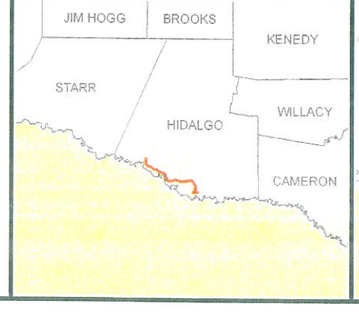
Section A ROW

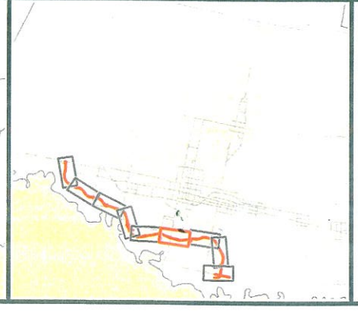
0 1,000 2,000 3,000 Feet

RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Pharr Quadrangle**
**Hidalgo County, Texas**
**Sheet 3 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\EN\V\100002039\projects\mxd\B_Location_SEC_A | |



N
W E
S

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

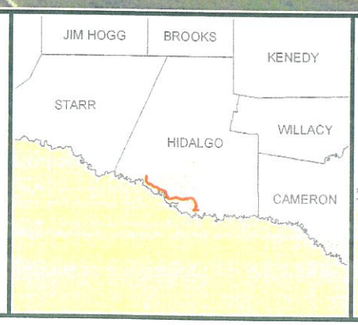
## Legend

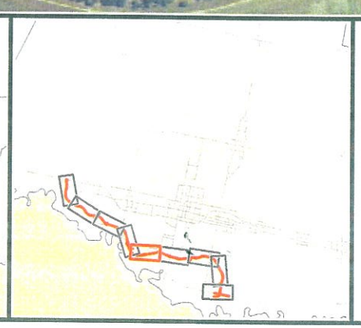
Section A ROW

0 1,000 2,000 3,000 Feet

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Pharr and Mission Quadrangles**
**Hidalgo County, Texas**
**Sheet 4 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



N
W E
S

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

**Legend**

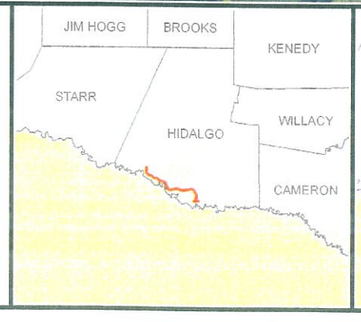
Section A ROW

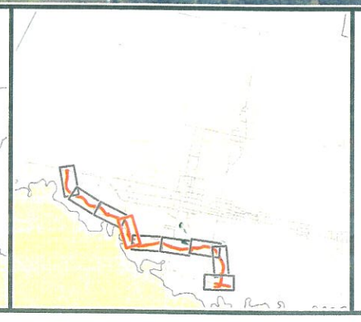
0 1,000 2,000 3,000 Feet

RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Mission Quadrangle**
**Hidalgo County, Texas**
**Sheet 5 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



N E S W

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

**Legend**

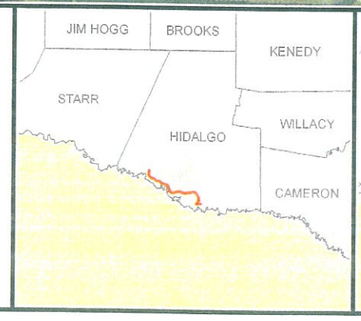
Section A ROW

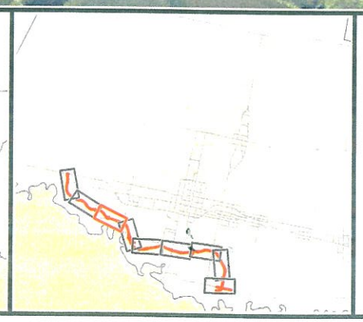
0 1,000 2,000 3,000 Feet

RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Mission Quadrangle**
**Hidalgo County, Texas**
**Sheet 6 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



N
E
W
S

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

## Legend

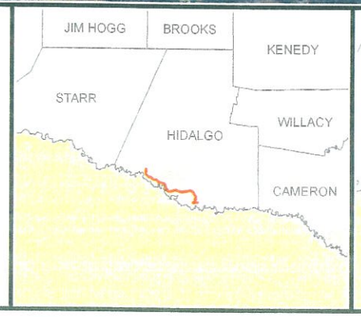
Section A ROW

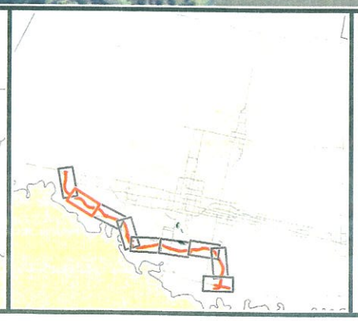
0 1,000 2,000 3,000 Feet

HIDALGO COUNTY RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**Mission Quadrangle**
**Hidalgo County, Texas**
**Sheet 7 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

## Legend

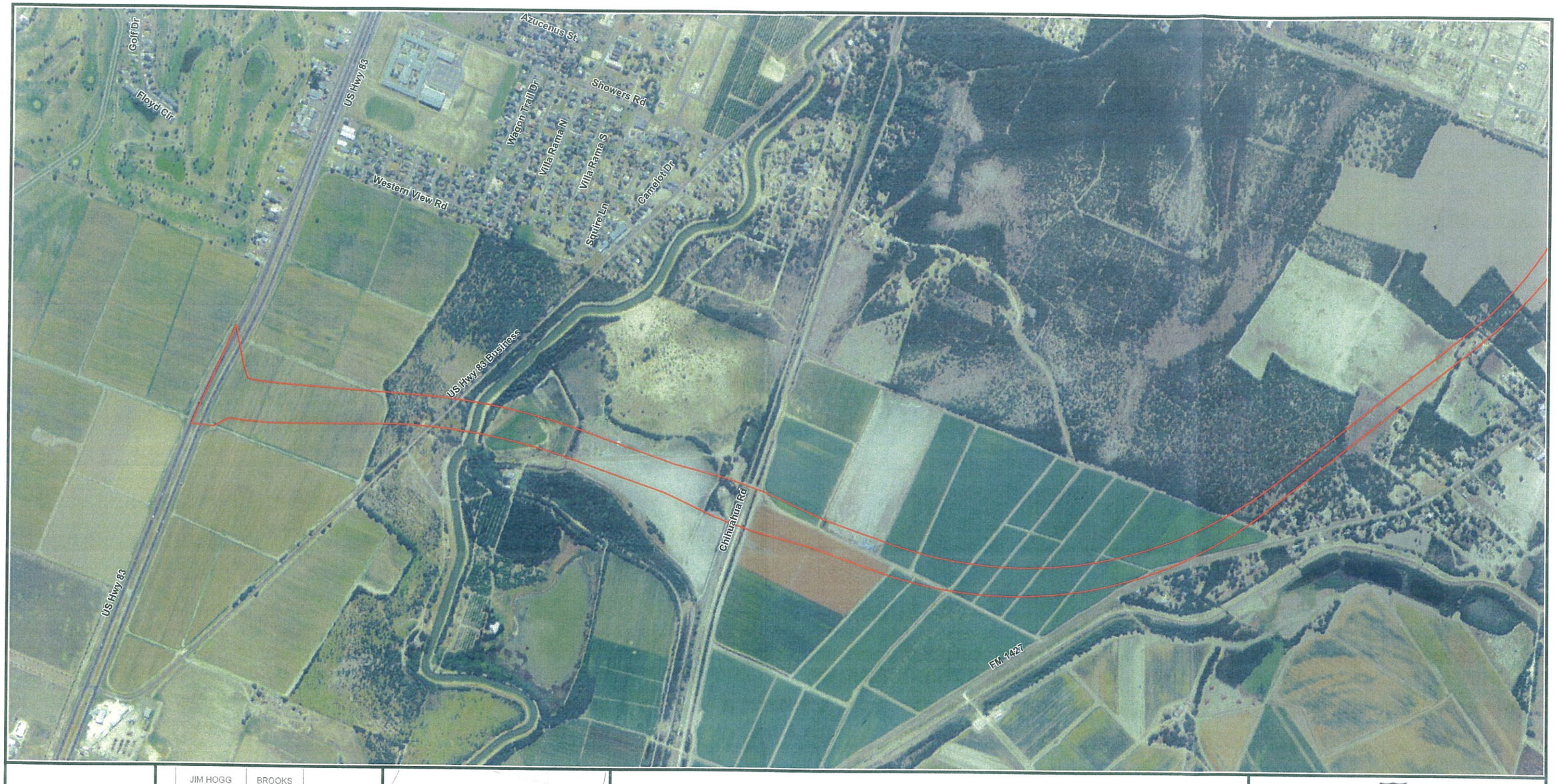
Section A ROW

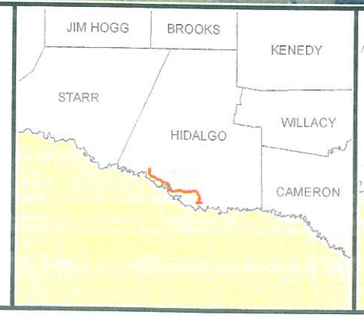
0 1,000 2,000 3,000 Feet

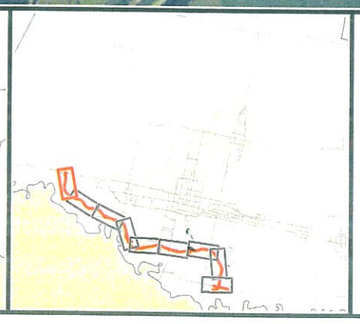
RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**La Joya Quadrangle**
**Hidalgo County, Texas**
**Sheet 8 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |



N E S W

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

**Legend**

Section A ROW

0 1,000 2,000 3,000 Feet

HIDALGO COUNTY RMA

**Exhibit B**
**Project Location Map**
**Hidalgo County Loop, Section A**
**Hidalgo County Regional Mobility Authority**
**La Joya Quadrangle**
**Hidalgo County, Texas**
**Sheet 9 of 9**

| | |
|---|---|
| Prepared By: PBS&J/19995 | Scale: 1" = 1000' |
| Job No.: 100002039 | Date: Jan 30, 2009 |
| File: N:\ENV\100002039\projects\mxd\B_Location_SEC_A | |

# Texas Historical Commission

Texas Department of Transportation®
DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

February 19, 2015

Section 106 Consultation/ Antiquities Code of Texas
Transmittal of Atkins Mitigation Plan; *Mitigation Plan for 7 Sites Along the Proposed State Highway 365 Corridor Hidalgo County, Texas,* Pharr District,
CSJ: 3627-01-001 and 0921-02-172

Ms. Pat Mercado-Allinger,
Division of Archeology, Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Dear Ms. Mercado-Allinger:

The above proposed project will be undertaken with state and federal funds. As required by the First Amended Programmatic Agreement and the Memorandum of Understanding with your agency, we are continuing consultation with your office on this project and are enclosing for your review and processing a draft mitigation plan recently compiled by Atkins Inc. on behalf of the Hidalgo County Regional Mobility Authority (HCRMA) for the undertaking.

A TxDOT archeologist has reviewed the mitigation plan by Atkins which covers the above listed SH 365 project in Hidalgo County, Texas. Based on the results of an archeological survey of the project area under TAC Permit 5124, seven sites 41HG249-255 are considered eligible for listing to the NRHP (36 CFR 60.4) and for designation as SALs (13 TAC 26.8). The project sponsor, the HCRMA, has chosen avoidance by burial per the specifications provided in Texas Historical Commission (THC) CRM News and Views article: *Intentional Burial of Sites as a Preservation Tool* (May, 1999) as well as project specific consultation with THC by TxDOT. As such, TxDOT concurs that the mitigation plan submitted by Atkins is sufficient to mitigate adverse effects to sites 41HG249-255 and adheres to the aforementioned specifications per CRM News and Views 1999. In addition, the mitigation plan provides for on-site monitoring of the burial of each site during construction. **A copy of the mitigation plan is attached.**

**TxDOT seeks THC concurrence that:**

1. The mitigation plan submitted by Atkins addressing the burial of sites 41HG249, 250, 251, 252, 253, 254, and 255 is sufficient to mitigate and avoid adverse effects to those sites as shown in the schematic design plans. Monitoring of the project will be conducted through the entire construction phase in those site areas to ensure compliance.

2. We are forwarding the draft for your review. TxDOT finds the mitigation plan acceptable as a draft and pending any review comments from your office, we request your concurrence that:

   A. The plan meets the burial standards as specified in Texas Historical Commission CRM News and Views 1999 article: *Intentional Burial of Sites as a Preservation Tool.*

   B. THC concurs that the minor deviations to the 2 meter-fill standard at the proposed levy locations on sites 41HG253 and 254 are acceptable and sufficient to mitigate adverse effects.

   C. Atkins will submit a monitoring permit to THC via TxDOT.

   D. With implementation of the mitigation plan, the proposed project will have no adverse effect on Archeological Historic Properties.

In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area will cease and TxDOT archeological staff will be contacted to initiate post-review discovery procedures under the provisions of the PA and the Memorandum of Understanding between TxDOT and the THC.

Thank you for your consideration of this matter. If you have any questions regarding this report, please contact me at 416-2647. Thank you for your consideration in this matter.

Sincerely,

Christopher Ringstaff, Archeological Studies Program
Environmental Affairs Division

Cc w/attachment: Robin Gelston, TxDOT Pharr District Environmental Coordinator; Mike Chavez, ENV-PD; Christopher Ringstaff ENV-Arch TxDOT; ENV Arch Project File

cc w/o attachments: ECOS Scan

Concurrence By:

Mark H. [illegible]

*for:* Mark Wolfe, Executive Director and SHPO
Texas Historical Commission

2-26-15
Date

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

**From:** Chris Ringstaff [mailto:Chris.Ringstaff@txdot.gov]
**Sent:** Tuesday, February 10, 2015 10:14 AM
**To:** Eric Davila; Robin Gelston
**Cc:** Maria Cottagoma; Melba Schaus; Norma Garza; Becca, Sharon G; Kim Johnson (kjohnson@blantonassociates.com)
**Subject:** RE: SH 365 Sites 41HG253 and 41HG254

All,

After careful review of the project schematics along with aerial photo and topographic basemaps during our prior meeting, Mark Denton gave us verbal approval of the proposed mitigation and asked that we transmit the plan. In particular, we carefully scrutinized the areas at sites 41HG253 and 254. Although tapering fill in those areas would leave the levee margin of the sites deficient of the full 2 meter fill, the nature of the undertaking at those locations (levee fill as opposed to fill and roadway construction) would be an acceptable deviation sufficient to mitigate adverse effects. That and considering the scope of the entire burial plan, the THC as well as TxDOT consider it a well-designed, good faith effort albeit contingent upon monitoring to achieve the desired execution. I will touch briefly on this below.

To address Sharon's points as provided in the thread:

1. Data recovery investigations will not be required within the APE where a lesser amount than 2 meters of fill occurs (i.e., less than 2-m over portions of the sites, including those that contain features) and

2. the fill amounts proposed at these locations (and illustrated in the attached figures) are sufficient to mitigate adverse effects.

**This is correct, THC concurs with both of these statements as I have explained in the preceding paragraph.**

My suggestion is that the plan be submitted per the THCs suggestion. As for my previous comment on monitoring, the successful execution of the plan will rely on careful and diligent monitoring of the undertaking, as provided by the plan, to make sure no inadvertent construction impacts befall the sites in question.

Hope this was helpful.

Chris

Christopher Ringstaff
Staff Archeologist
Environmental Affairs Division
Archeological Studies Branch
118 E Riverside Dr
Austin Tx, 78704

512-416-2647

**From:** Eric Davila [mailto:Eric.Davila@dannenbaum.com]
**Sent:** Monday, February 09, 2015 4:50 PM
**To:** Chris Ringstaff; Robin Gelston
**Cc:** Maria Cottagoma; Melba Schaus; Norma Garza; Sharon G Becca (Sharon.Becca@atkinsglobal.com); Kim Johnson (kjohnson@blantonassociates.com)
**Subject:** RE: SH 365 Sites 41HG253 and 41HG254

Good afternoon Chris,

To follow up with your email from Friday January 30, 2015 (attached) there are a few areas we'd like to discuss so that finalize the plan. The attachment and message string below outlines the specifics of what we'd like to cover with you over email, and if needed, over a possible call. Please let us know how you'd like to proceed and thanks for all your help.

Best regards,

Eric Davila, PE, CFM
DANNENBAUM ENGINEERING

**From:** Becca, Sharon G [mailto:Sharon.Becca@atkinsglobal.com]
**Sent:** Friday, February 06, 2015 2:30 PM
**To:** Eric Davila; Kim Johnson; Analy Diaz; Andrea Burden (andrea.burden@blantonassociates.com)
**Cc:** Galindo, Mary J; Charles Frederick (charlesthegeoarchaeologist@gmail.com)
**Subject:** SH 365 Sites 41HG253 and 41HG254

Hello Eric, please find the email and attachment to be sent to TxDOT regarding the subject sites.

Hi Chris,

We have a question on the mitigation plan before submittal - subsequent to our 1/27/15 teleconference, Mary Jo took a look at the schematics to double check on two sites. From the schematics that were presented that day, she created the attached figures 100 and 104 to illustrate the relationship between the features at sites 41HG253 and 41HG254 and the areas of the sites that will be covered by less than 2 meters of in-kind fill. Also attached are other figures for the same sites, including profiles and sections. As illustrated, portions of the two NRHP-eligible sites within the APE that will be covered by less than 2 meters of in-kind fill coincide with the locations of prehistoric cultural features (see descriptions below). You may have already noticed these areas, but we just wanted to be sure we had a chance to highlight them in more detail before we submit the mitigation plan.

Site 41HG253

Feature 3 in Trench 39.3 at site 41HG253 is situated beneath the juncture of the IBWC levee and the roadway ROW (Figure 100). Feature 3 is an elongated pit that cut across the trench floor from northeast

to southwest and ranged from about 70 to 100 cm wide. The matrix in the pit is darker colored than the surrounding soil and contains burned earth and charcoal. The angle proposed for the juncture of the IBWC levee with the roadway edge is steep and may affect the conveyance of water across the site, potentially resulting in elevated moisture content at this location.

Site 41HG254

Features 1 and 2 in Trench 40.0 and Feature 5 in Trench 40.4 at site 41HG254 are situated beneath the portion of the IBWC levee where the minimum fill requirement will not be met. Feature 1 is a possible post or in situ burned tree root in east trench wall, while Feature 2 is a dense burned clay ball scatter in the east trench wall. This scatter consisted of 30 clay ball fragments along a 3-m section of the trench. One of these burned clay balls was radiocarbon dated and yielded an age of 3710±30 years B.P. (Beta-370067). Feature 5 is a series of six discrete clusters of Rabdotus shells amid a very light scatter of burned earth, most likely representing discrete depositions, along with a trace of burned earth and charcoal, and a light scatter of burned earth, charcoal and snails.

As a result of your discussions with THC and concurrence between TxDOT ENV and THC representatives regarding the mitigation plan, it is our understanding that:

1. Data recovery investigations will not be required within the APE where a lesser amount than 2 meters of fill occurs (i.e., less than 2-m over portions of the sites, including those that contain features) and

2. the fill amounts proposed at these locations (and illustrated in the attached figures) are sufficient to mitigate adverse effects.

Please let us know if you concur; however, if you would like to discuss in more detail please let us know and we can set up a conference call with the entire team.

Thanks,

**Sharon G. Becca, PMP**

Project Manager, Transportation Planning

**ATKINS**

75 years of design, engineering and project management excellence

6504 Bridge Point Parkway, Suite 200, Austin, Texas, 78730 | Direct: +1 (512) 342 3332 | Tel: +1 (512) 327 6840 | Fax: +1 (512) 327 2453 |

**From:** Chris Ringstaff
**Sent:** Wednesday, November 12, 2014 10:37 AM
**To:** Mike Chavez; Robin Gelston
**Subject:** SH 365 Mitigation

Mike and Robin,

Based on recent e-mails I have been copied on there appears to be some confusion on the mitigation of the seven NRHP eligible sites within the presently proposed APE. Let me clarify that our role in the consultation and review process and where the process currently stands.

Per the Survey Report Transmittal dated 9/23/2014, THC has agreed to either option: mitigation through data recovery excavations or avoidance via burial. In my prior comments on the SH365 Interim report sent to the Pharr District 5/5/2014, I specify TxDOT's meeting with THC on 5/1/2014 in which they provided the requirements for burial:

*3. To clarify the requirements for proposed avoidance by capping, TxDOT met with the Texas Historical Commission on 5/1/2014. As detailed by Mark Denton, the capping of a site will require 2 meters of in-kind fill (i.e., clay over clay, loam over loam, sand over sand)* ***not including the road base and overlying roadway material****. The sterile over burden is added as part of the two meter total. The table below details the approximate amount of fill that will be required by site per the data presented in the survey report.*

| ***Site Number*** | ***Depth of Cultural Deposits (Centimeters Below Surface: cmbs)*** | ***In-kind capping fill required by THC (in meters: m)*** |
|---|---|---|
| *41HG249* | *40 cmbs* | *1.60 m (5.3 ft)* |
| *41HG250* | *40 cmbs* | *1.60 m (5.3 ft)* |
| *41HG251* | *35 cmbs* | *1.65 m (5.4 ft)* |
| *41HG252* | *53 cmbs* | *1.47 m (4.8 ft)* |
| *41HG253* | *70 cmbs* | *1.30 m (4.3 ft)* |
| *41HG254* | *50 cmbs* | *1.50 m (4.9 ft)* |
| *41HG255* | *35 cmbs* | *1.65 m (5.4 ft)* |

At this point either option is viable and it is the decision of the project sponsor which course of action they chose.

Let me know if I you have additional questions.

Chris

Christopher Ringstaff
Staff Archeologist
Environmental Affairs Division
Archeological Studies Branch
118 E Riverside Dr
Austin Tx, 78704
512-416-2647

# MEMO

November 5, 2014

**To:** 850 File, Various Road Projects, Various CSJs, Various Districts

**From:** Scott Pletka, Ph.D.

**Subject:** Internal review under the First Amended Programmatic Agreement Among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings (PA-TU), and internal review under the Memorandum of Understanding (MOU) Between the Texas Historical Commission and the Texas Department of Transportation

---

Listed below, are the projects reviewed internally by qualified TxDOT archeologists from 10/30/14 to 11/05/14. These projects either do not warrant survey as a result of a low probability of encountering archeological historic properties and State Archeological Landmarks, or the projects were inspected by survey or impact evaluation and do not warrant further work. As provided under the PA-TU, consultation with the Texas State Historic Preservation Officer is not necessary for these undertakings. As provided under the MOU, the proposed projects do not require individual coordination with the Texas Historical Commission.

| CSJ | DISTRICT | ROADWAY | WORK PERFORMED |
|---|---|---|---|
| 0095-02-102<br>2374-04-126 | Dallas | US 80 | No Survey |
| 0315-02-047 | Bryan | SH 90 | No Survey |
| 0245-02-031 | Tyler | SH 64 | No Survey |
| 0245-19-027 | Tyler | SH 64 | No Survey |
| 0312-02-016 | Dallas | FM 51 | No Survey |
| 0596-02-039 | Dallas | FM 66 | No Survey |
| 0908-12-022 | Abilene | US 87 | No Survey |
| 0915-12-536 | San Antonio | Bicycle Stands | No Survey |
| 3627-01-001 | Pharr | SH 365 | No Survey |
| | | | |

Signature _____ Date: 11 / 05 / 2014

For FHWA and TxDOT

cc: ECOS Data Entry; PD; ENV_ARC: PA File *Table Template for Weekly List Memo.doc*

Back To List

Properties ★ Details

## Archeology Background Study Details

### Documentation of Project Setting

1. Does the project conform to a type agreed (per Appendix 3 of PA-TU) to pose no potential to affect historic properties? No

2. Geologic Atlas of Texas map or PALM or soils maps examined. Yes

3. Texas Archeological Sites Atlas map examined for sites within one kilometer of the project area. Yes

4. Historical information examined. Check all that apply. Yes

**Resources Used During the Initial Assessment**

☑ Topographic map(s) ☑ Soil map(s) ☑ Road map(s) ☐ As-built plans ☐ Other

If other selected, please identify:

5. Aerial images or project area images (e.g., Google Maps with Street View) examined.

### Analysis of Project Setting

6. Have archeological sites been identified within the area of potential effects (APE) or within 150 feet of the APE? Yes

Comments:

7. Do cemeteries occur within the APE or within 25 feet of the APE? No

Comments:

8. Do Holocene-age deposits mapped on Geologic Atlas of Texas or PALM or soils maps occur within the APE? Yes

Comments:

9. Does the APE cross a waterway with the potential for shipwrecks? No

Comments:

10. Is the APE within 500 feet of a historically reliable water source? No

Comments:

11. Does the APE include a wetland or frequently flooded area? No

Comments:

12. Does the Atlas map or other information (enter comment) show that occupation typically occurs on particular landform or landforms that the APE does not contain? No

Comments:

13. Have all settings that may have been favorable for occupation been subject to previous disturbances? Check all that apply. Yes

**Previous Disturbances Identified During the Initial Assessment**

☐ Previous road construction and maintenance ☐ Installation of utilities
☑ Modern land use practices like plowing and brush clearing ☑ Urban and/or suburban development
☐ Erosion and scouring by natural processes ☐ Other

If other selected, please identify:

**14. Have the majority of the settings with high potential for archeological sites within the APE been previously surveyed?** No

**Comments:**

---

**Conclusions**

**15. Have previous investigations covered a sufficient proportion of the APE to conclude that the APE is unlikely to contain archeological sites or cemeteries?** Yes

**Comments:**

**16. Has the APE been sufficiently disturbed that any prehistoric archeological sites would lack the integrity to address important questions? Any such sites would lack integrity of (check all that apply):**

**Integrity Issues Identified During the Initial Assessment**

☑ Location ☐ Design ☑ Materials ☑ Association ☐ Other

**If other selected, please identify:**

**17. Has the APE been sufficiently disturbed that any historic-era archeological deposits would lack sufficient integrity to address important questions? Any such sites would lack integrity of (check all that apply):**

**Integrity Issues Identified During the Initial Assessment**

☑ Location ☑ Design ☑ Materials ☑ Association ☑ Other

**If other selected, please identify:**

**18. Does historic research show that historic-era archeological deposits, cemeteries, and shipwrecks are not likely to occur within the APE?** No

**Comments:**

**19. Does the project area occur in a setting that was not conducive to human occupation and activity?** No

**Comments:**

**20. Will the project adversely affect archeological sites or cemeteries?** No

**Comments:**

To Specify: The proposed additional ROW covered by this background study, NOT the entirety of the SH 365 APE.

**Last Updated By:** Chris W Ringstaff **Last Updated Date:** 11/03/2014 02:17:38

Texas Department of Transportation®
DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

September 23, 2014

Section 106 Consultation/ Antiquities Code of Texas
Transmittal of Atkins Survey Report; *Results of Archeological Survey of the Proposed Hidalgo Loop Sections A and C, the International Bridge Trade Corridor, and State Highway 365 Projects Hidalgo County, Texas.*
Pharr District, CSJ: 3627-01-001 (5124), 0921-02-172 (5125), 0921-02-202 (5683)
THC Antiquities Permit Nos.: 5124, 5125, 5683

Ms. Pat Mercado-Allinger,
Division of Archeology, Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Dear Ms. Mercado-Allinger:

The above proposed project will be undertaken with state and federal funds. As required by the First Amended Programmatic Agreement (PA, 2005) and the Memorandum of Understanding with your agency, we are continuing consultation with your office on this project and are enclosing for your review and processing a draft report of an archeological survey recently conducted by TxDOT for the undertaking.

A TxDOT archeologist has reviewed the report by Atkins which covers three permits that cover three portions of an interconnected project. For clarity, TxDOT will present the comments below by permit number and a report of investigation is enclosed.

**TxDOT seeks THC concurrence that**:

**Permit 5124 (SH 365 Section A, csj: 3627-01-001)**

1. TxDOT concurs that Atkins conducted a good faith effort survey under TAC 5124 to access the potential to affect archeological historic properties (36 CFR Part 800.16(1) or State Archeological Landmarks (13 TAC 26.12). A total of nine sites were recorded in the project area by Atkins under Permit 5124. No previously recorded sites are located in the Project Area.

The nine sites recorded under Permit 5124 include 41HG223, 41HG224, and 41HG249-41HG255. Sites 41HG249, 250, 251, 252, 253, 254, and 255 are considered eligible for listing to the NRHP (36 CFR 60.4) or for designation as a SAL (13 TAC 26.8) and will require avoidance or mitigation. The remaining two sites 41HG223 and 41HG224, lack sufficient integrity of location, association, and materials (36CFR60.4) to be able to address important questions of prehistory or history and no further archeological investigations are warranted in those areas.

2. Since the survey was conducted under an individual THC Antiquities Permit, we are forwarding the draft for your review and processing in partial fulfillment of THC Antiquities Permit No. 5124. TxDOT finds the report acceptable as a draft and pending any final report review comments from your office, we request your concurrence that the report may proceed toward production. A mitigation and/or avoidance plan for the eligible sites listed above will be forthcoming.

**Permit 5125 (SH 365 Section C, csj: 0921-02-172)**

1. TxDOT concurs that Atkins conducted a good faith effort survey under TAC 5125 to access the potential to affect archeological historic properties (36 CFR Part 800.16(1) or State Archeological Landmarks (13 TAC 26.12). A total of four sites were recorded in the project area by Atkins under Permit 5125 and included 41HG226, 41HG227, 41HG228, and 41HG229. Revisits to five previously recorded sites, 41HG146, 41HG147, 41HG201, 41HG203, and 41HG204, were conducted in the course of the survey.

Assessments of previously recorded sites 41HG146, 41HG147, 41HG201, 41HG203, and 41HG204 were not completed due to cancellation of the project, designated Section C, examined under permit 5125. If the Section C Project is revived in the future, based on the results of the completed portion of Atkins survey 41HG226, 41HG227 and 41HG229 are not considered eligible for listing to the NRHP (36 CFR 60.4) or for designation as a SAL (13 TAC 26.8) lack sufficient integrity of location, association, and materials (36CFR60.4) to be able to address important questions of prehistory or history and no further archeological investigations are warranted in those areas. Atkins made no determination on site 41HG228.

2. Due to cancellation of the project, only 333 acres of the approximately 1,182 acre project area was examined under Permit 5125as outlined in the attached report. TxDOT requests your concurrence to revise permit 5125 to the 303 acres examined and the remaining 849 acres be excluded considering project cancellation. Submitted shapefiles for completion of this permit should accurately reflect this alteration.

3. Since the survey was conducted under an individual THC Antiquities Permit, we are forwarding the draft for your review and processing in partial fulfillment of THC Antiquities Permit No. 5125. TxDOT finds the report acceptable as a draft and pending any final report review comments from your office, we request your concurrence that the report may proceed toward production.

**Permit 5683 (IBTC, csj: 0921-02-202)**

1. TxDOT concurs that Atkins conducted a good faith effort survey under TAC 5683 to access the potential to affect archeological historic properties (36 CFR Part 800.16(1) or State Archeological Landmarks (13 TAC 26.12). A total of two sites were recorded in the project area by Atkins under Permit 5683. The two sites include 41HG224 and 41HG227 are not considered eligible for listing to the NRHP (36 CFR 60.4) or for designation as a

SAL (13 TAC 26.8) and lack sufficient integrity of location, association, and materials (36CFR60.4) to be able to address important questions of prehistory or history. No further archeological investigations are warranted in those areas.

2. Despite ROE constraints, TxDOT has conducted a good faith effort within the 677.7 acres of the 688.7 APE assessed in the attached report. TxDOT requests your concurrence to revise permit 6552 to the 677.7 acres examined and the remaining inaccessible 11 acres be examined under a separate Texas Antiquities Permit. Submitted shapefiles for completion of this permit should accurately reflect this alteration.

3. Since the survey was conducted under an individual THC Antiquities Permit, we are forwarding the draft for your review and processing in partial fulfillment of THC Antiquities Permit No. 5683. TxDOT finds the report acceptable as a draft and pending any final report review comments from your office, we request your concurrence that the report may proceed toward production and that it provides sufficient documentation that the proposed undertaking will have no effect on an archeological historic properties or State Archeological Landmarks.

In the event that unanticipated archeological deposits are encountered during construction, work in the immediate area will cease and TxDOT archeological staff will be contacted to initiate post-review discovery procedures under the provisions of the PA (2005) and the Memorandum of Understanding between TxDOT and the THC.

Thank you for your consideration of this matter. If you have any questions regarding this report, please contact me at 416-2647. Thank you for your consideration in this matter.

Sincerely,

Christopher Ringstaff, Archeological Studies Program
Environmental Affairs Division

Cc w/attachment: Robin Gelston, TxDOT Pharr District Environmental Coordinator; Mike Chavez, ENV-PD; Christopher Ringstaff ENV-Arch TxDOT; ENV Arch Project File

cc w/o attachments: ECOS Scan

Concurrence By:

Mark Wolfe

*for:* Mark Wolfe, Executive Director and SHPO
Texas Historical Commission

10-3-14
Date

ATKINS

**Atkins North America, Inc.**
6504 Bridge Point Parkway, Suite 200
Austin, Texas 78730

**Telephone: +1.512.327.6840**
Fax: +1.512.327.2453

**www.atkinsglobal.com/northamerica**

Document No. 140023
Job No. 100020726

# VOLUME 1

# RESULTS OF ARCHEOLOGICAL SURVEY OF THE PROPOSED HIDALGO LOOP SECTIONS A AND C, THE INTERNATIONAL BRIDGE TRADE CORRIDOR, AND STATE HIGHWAY 365 PROJECTS HIDALGO COUNTY, TEXAS

**TEXAS DEPARTMENT OF TRANSPORTATION, PHARR DISTRICT**
**TEXAS ANTIQUITIES PERMIT NOS. 5124, 5125, AND 5683**

**CSJ NOS. 0921-02-172, 0921-02-202, 3627-01-001, 3627-01-002, 0220-01-023, 0921-02-285, 0921-02-908, 0921-02-142**

Prepared for:

Hidalgo County Regional Mobility Authority
510 S. Pleasantview Drive
Weslaco, Texas 78596

DRAFT REPORT ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 10-3-14
Track#

Prepared by:

Atkins
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

Principal Investigator:
Andrea Stahman Burden, M.A., RPA

Report Authors:
Andrea Stahman Burden
Charles Frederick, Ph.D.
Amy McWhorter
C. Russ Shortes
Melanie Nichols
Robert Rowe
Michael Nash

September 2014

ATKINS

**Atkins North America, Inc.**
6504 Bridge Point Parkway, Suite 200
Austin, Texas 78730

**Telephone: +1.512.327.6840**
Fax: +1.512.327.2453

**www.atkinsglobal.com/northamerica**

Document No. 140023
Job No. 100020726

# VOLUME 2

# RESULTS OF ARCHEOLOGICAL SURVEY OF THE PROPOSED HIDALGO LOOP SECTIONS A AND C, THE INTERNATIONAL BRIDGE TRADE CORRIDOR, AND STATE HIGHWAY 365 PROJECTS HIDALGO COUNTY, TEXAS

## TEXAS DEPARTMENT OF TRANSPORTATION, PHARR DISTRICT

## TEXAS ANTIQUITIES PERMIT NOS. 5124, 5125, AND 5683

## CSJ NOS. 0921-02-172, 0921-02-202, 3627-01-001, 3627-01-002, 0220-01-023, 0921-02-285, 0921-02-908, 0921-02-142

Prepared for:

Hidalgo County Regional Mobility Authority
510 S. Pleasantview Drive
Weslaco, Texas 78596

DRAFT REPORT ACCEPTABLE
by Mark H. Wolfe
for Mark Wolfe
Executive Director, THC
Date 10-3-14
Track#

Prepared by:

Atkins
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730

Principal Investigator:
Andrea Stahman Burden, M.A., RPA

Report Authors:
Andrea Stahman Burden
Charles Frederick, Ph.D.
Amy McWhorter
C. Russ Shortes
Melanie Nichols
Robert Rowe

September 2014

rcvd 8/28/14

Texas Department of Transportation®
DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

August 14, 2014

SECTION 106: Determination of Eligibility and Effects

Hidalgo County, Pharr District
CSJ# 3627-01-001, -002 and 0220-01-023

**Proposed SH 365 from FM 1016/Conway Avenue to US 281/Military Highway**

Ms. Linda Henderson
Division of Architecture
Texas Historical Commission
Austin, Texas 78711

Dear Ms. Henderson:

In accordance with 36 CFR 800.5 and the First Amended Programmatic Agreement Regarding the Implementation of Transportation Undertakings (PA-TU), we are continuing Section 106 consultation for the above referenced project, which will be carried out with Federal funding. We request agency review regarding the National Register of Historic Places (NRHP) eligibility of properties located in the project's area of potential effects, and effects posed by the project.

## Introduction

The Texas Department of Transportation (TxDOT) initially coordinated this project with your office in letters dated June 20, 2013 and January 16, 2014 (see attached letters). Since that time, design changes to the project resulted in a second addendum to the original historic resources survey report (attached). The design changes (see attached report for detail) resulted in minor changes to the APE, and more irrigation resources (property #35) were identified. Further, seven additional historic-age resources were identified in the APE.

## Determinations of National Register Eligibility

*Properties determined eligible for NRHP listing*

TxDOT reasserts its findings through application of the Criteria of Eligibility for listing in the National Register of Historic Places stated in our letter of June 20 2013.

| Property # | Name/Location | NRHP Criterion |
|---|---|---|
| 13A | Saint Peter's Novitiate/FM 494 and Old Military Rd, SE corner | Listed -contributing to La Lomita historic district– A & C |
| 23A | Granjeno Cemetery/West of Granjeno Village on the north side of FM 494 | Eligible- A, consideration D |
| 35 | Louisiana-Rio Grande Canal Company Irrigation System/HCID #2/throughout APE | Listed – A & C |
| 41A | Eli Jackson Cemetery/South I Road at Doffin Road, NE corner | Eligible- A, consideration D |

An additional resource of property #35, (35CO, a concrete standpipe) was found in the APE for the redesigned project. It is not a character-defining resource of property #35.

*Properties determined not eligible for NRHP listing:*

The seven additional properties discovered during the 2014 HRSR Addendum #2 survey consist of residential, commercial and industrial property types. The properties neither individually or collectively appear to meet the criteria for NRHP inclusion due to lack of significance and/or architectural integrity. Furthermore, there are no significant concentrations of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development to form significant historic district within or adjacent to the project APE.

**Determination of Effects**

As per its eligibility determinations, TxDOT determined project effects upon the following historic property:

The additional component (Resource 35CO, a concrete standpipe) of the NRHP-listed HCID #2 recorded during the current survey effort is located approximately 1000 feet south of the proposed SH 365 ROW and approximately 550 feet southwest of the proposed ROW along the existing E. Dicker Road/FM 3072 on a parcel which extends into the proposed project's APE. As such, the proposed project will have **no effect** to this component of the district.

**Cumulative and Indirect Effects**

TxDOT also asserts that the proposed undertaking would have no reasonably foreseeable adverse effects that may occur later in time, be farther removed in

distance, or be cumulative. Any growth pressures that may or may not exist near the property are already in place and the replacement or moving of resources would not increase the likelihood that this property's integrity will be diminished. Furthermore, the proposed project would not adversely impact the property's ability to convey its historical significance or impair its current function. The proposed project therefore would not pose indirect or cumulative adverse effects to the historic property.

**Conclusion**

Pursuant to Stipulation VI "Undertakings with Potential to Cause Effects" of the PA-TU, TxDOT Historians determined that the proposed project would have **no effect** to the historic property.

TxDOT historians have determined that there are **four historic properties present** in the project APE. None of the properties are adversely affected by the proposed project. In accordance with 36 CFR 800 and the PA-TU, I hereby request your signed concurrence with these findings of eligibility and effect.

We look forward to further consultation with your staff and hope to maintain a partnership that will foster effective and responsible solutions for improving transportation, safety and mobility in the state of Texas. Thank you for your cooperation in this federal review process. If you have any questions or comments concerning these evaluations, please call me at (512) 416-2611.

Sincerely,

Renee Benn
Historic Preservation Specialist,
Texas Department of Transportation

Attachments

cc: Bruce Jensen, Supervisor, Historic Studies, initial: BDJ

**CONCUR:**
-Four eligible/listed historic properties in the APE (13A, 23A, 35, 41A)
-No adverse effect to historic properties

NAME: _____ DATE: 22 Sept. 14
*for* Mark Wolfe, State Historic Preservation Officer

Texas Department of Transportation®
DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

October 4, 2013

Section 106 Consultation/ Antiquities Code of Texas
Transmittal of Atkins Second Research Design Amendment for TAC Permit No. 5124: Proposed State Highway 365 Hidalgo County, Texas.
Pharr District, CSJ: 3627-01-001, 3627-01-002, and 0220-01-023
THC Antiquities Permit No.: 5124

Pat Mercado-Allinger
Division of Archeology, Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711

Dear Ms. Mercado-Allinger:

The above proposed project will be undertaken with state and federal funds. As required by the First Amended Programmatic Agreement (PA, 2005) and the Memorandum of Understanding with your agency, we are continuing consultation with your office on this project and are enclosing for your review and processing a draft report of an archeological survey recently conducted by Atkins for the undertaking. Atkins conducted the Intensive Archeological Survey on behalf of Hidalgo County Regional Mobility Authority (HCRMA). A copy of the revised research design is enclosed.

**A TxDOT archeologist has reviewed the revised research design by Atkins and seeks THC concurrence that:**

**The revised research design for permit 5124 addresses the deficiencies defined in the transmittal of the draft report *Results of Archeological Survey of the Proposed Hidalgo Loop Sections A and C, the International Bridge Trade Corridor, and State Highway 365 Projects Hidalgo County, Texas.* Per TxDOT's recommendation, Atkins will be conducting additional subsurface testing in the defined High Probability Areas. Once work is complete, a revised draft report with the above referenced information will be submitted to TxDOT.**

Thank you for your consideration of this matter. If you have any questions regarding the survey report, please contact Andrea Stahman Burden at (512) 327-6840. If you have any other questions or have need of further information, please contact me at 416-2647. Thank you for your consideration in this matter.

Sincerely,

Christopher Ringstaff, Archeological Studies Program
Environmental Affairs Division



OUR GOALS
MAINTAIN A SAFE SYSTEM • ADDRESS CONGESTION • CONNECT TEXAS COMMUNITIES • BEST IN CLASS STATE AGENCY

*An Equal Opportunity Employer*

Section 106 Consultation/ Antiquities Code of Texas
Transmittal of Atkins Second Research Design Amendment for TAC Permit No. 5124:
Proposed State Highway 365 Hidalgo County, Texas.
Pharr District, CSJ: 3627-01-001, 3627-01-002, and 0220-01-023
THC Antiquities Permit No.: 5124

Concurrence By:

10-4-13

*for:* Mark Wolfe, Executive Director and SHPO — Date
Texas Historical Commission

Cc w/attachment: Robin Gelston, TxDOT Pharr District Environmental Coordinator; Mike Chavez, ENV-PD; Christopher Ringstaff ENV-Arch TxDOT; ENV Arch Project File

**ATTACHED COMMENTS FOR:**

27 June 2013

Renée Benn
Historian
Historical Studies Branch
Environmental Affairs Division
Texas Department of Transportation
125 E. 11th Street
Austin, Texas 78701

*Re: Project review under Section 106 of the National Historic Preservation Act of 1966*
*Proposed SH 365 from FM1016/Conway Avenue to US 281/Military Highway, Hidalgo County, Texas (Pharr District; CSJ#s 3627-01-001, -002, and 0220-01-023)*

Dear Ms. Benn,

Thank you for submitting information to us about the above-referenced project. This letter serves as official comment from Texas' State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC).

THC staff led by Linda Henderson reviewed the materials, which includes both reconnaissance- and intensive-level historic resources survey documentation along the proposed facility. Through application of the National Register of Historic Places (NRHP) Criteria for Eligibility, THC staff concurs with your recommendations for the majority of the resources surveyed with a few exceptions and clarifications:

- Resource 27—Without more historical information about these buildings, we cannot evaluate them for potential significance under Criterion A. Because there appears to be minimal intrusion at this location, the project may not warrant additional investigation.
- Resources 41A-F—Because of the significance of the Eli Jackson-associated property, THC has determined that these resources comprise an eligible historic district, with the two cemeteries and the chapel as contributing resources. The properties are significant under Criterion A for Social History and Ethnic Heritage. Additional research confirmed the resources' important history, with a period of significance from circa 1857 through the middle 20th century.

In addition to confirming the already NRHP-listed resources you have noted—Resources 13A-G within the NRHP-listed La Lomita Historic District, as well as the components associated with Resource 35, the Louisiana-Rio Grande Canal/Hidalgo County Irrigation District No. 2, we also concur with your determination that the Granjeno Cemetery is NRHP eligible. We concur that the remaining resources surveyed are not NRHP eligible.

Thank you again for your coordination with our office under Section 106 and your efforts to identify and protect the state's irreplaceable historic resources. For any questions about this review, please contact us: linda.henderson@thc.state.tx.us or 512/463-5851.

Sincerely,

Linda Henderson, Historian
For:
Mark Wolfe, State Historic Preservation Officer

## Standards of Uniformity for Individual Antiquities Permit Applications

CSJ 0921-02-172 Hwy/County/Dist HIDALGO LOOP

Consultant PBS&J Reviewed by C. RINGSTAFF

| # | Criterion | Meets criterion? Yes / No / N/A | |
|---|---|---|---|
| | **Administrative Requirements (for Permits Produced under District Contracts; To Be Verified by District)** | | |
| i | District has provided Segment ID, CSJ, and function code (or equivalent if the project is not a construction project) against which the time for review and coordination can be charged. | NA | |
| ii | Project information is submitted more than six months prior to approval of NEPA document. | N/A | |
| | **Project Description** | | |
| 1 | Submission includes a map of the project area on a USGS 7.5' quadrangle or equivalent if a 7.5' quadrangle is unavailable. | ✓ | |
| 2 | The project description clearly identifies the project type and any associated elements. | ✓ | |
| 3 | The project description identifies the area of potential effects (APE) in three dimensions, including the project limits, width, acreage, and depth of impacts. The description of the APE identifies the maximum depth of impacts from the project, referring to project plans or to typical impacts for this class of project. | No | *1 |
| 4 | The project description notes whether the project includes any new right of way, easements, or project-specific locations; describes the location of any such features; and quantifies their area | ✓ | |
| 5 | Clearly reproducible layouts are attached; layouts show the existing and proposed right of way boundaries and easements. | ✓? | *2 |
| 6 | Clearly reproducible profiles are attached. | N/A | |
| 7 | Clearly reproducible typical sections are attached. | N/A | |
| | **Background Information** | | |
| 8 | The permit scope of work includes description of the project area's topography, soils, and geology. The scope of work references soil survey maps and geological maps for the entire area to be surveyed or indicates that none are published for the area to be surveyed. | YES | |
| 9 | The permit scope of work includes discussion of previous work and sites within one kilometer of the project area with explicit reference to review of TARL files, THC Archeological Sites Atlas maps, and other utilized sources. The scope of work explicitly indicates the trinomials of sites or the absence of sites within one kilometer. | YES | |
| 10 | The permit scope of work includes a description of existing disturbances in the project area that affect identification, evaluation, or data recovery efforts. Determine these disturbances from soils maps, Digital Ortho Quads, available photographs, and other materials provided by the project sponsor. | YES | |
| | **Research Design** | | |
| 11 | Based on the background information, the scope of work summarizes expectations for location, type, and integrity of archeological finds within the APE. Typically, the integrity of archeological sites is characterized by their integrity of location, design, materials, and association. | YES | |
| 12 | The scope of work identifies the type of work to be undertaken, conforming to one of the categories of archeological investigation listed in 13 TAC 26.20 and defined in 13 TAC 26.5. | No | *3 |
| 13 | The scope of work includes a clear statement of the methods that will be employed during all phases of work, following guidance on the preparation of appropriate research designs in 13 TAC 26.21(d). | YES | |
| 14 | The scope of work defines the areas to be investigated, whether 100 percent of the area of potential effects shall be investigated or some subset thereof. | No | *4 |
| 15 | For investigations where artifact collection is proposed, the scope of work clearly states whether the land on which the work is conducted is "privately owned" or "publicly owned" or contains both privately and publicly owned land. The scope of work identifies the land owners, including public and private owners. | No | *5 |
| 16 | The scope of work explicitly details the sampling intensity. Sampling intensity comprises such factors as transect spacing, sample intervals along a transect, unit density, unit sizes, screen size. and sediment sample volumes. | YES | |
| 17 | The scope of work explicitly justifies these methods with reference to details of the project background information and/or appropriate middle-level theory, demonstrating the adequacy of the methods. For testing and data recovery projects, this justification should explain how the methods will provide data that could address important questions of prehistory or history and identifies such questions. | YES | |
| 18 | The scope of work states that the methods will comply with applicable standards as defined or referenced in 13 TAC 26.20 and THC policy (such as THC's policy on survey-level historic sites background documentation) or that the resulting report will provide explicit. plausible justification for deviation from these standards. | NO | *6 |



* SEE COMMENTS PG 2

## Standards of Uniformity for Individual Antiquities Permit Applications

| | | |
|---|---|---|
| 19 | The scope of work specifies an artifact collection policy. The application specifies that artifacts will not be collected from private land without explicit written transfer of ownership to the State. No eligibility testing and data recovery projects can be undertaken on private land without explicit written transfer of ownership or artifacts to the State. | No SEE #5 |
| 20 | The scope of work specifies a curation plan, including the intended curation facility and a commitment to prepare collections for curation according to the curation facility's standards for collection preparation. | No " " |
| | **Reporting Requirements** | |
| 21 | The scope of work specifies that the resulting report will meet the reporting standards of 13 TAC 26.24, including satisfaction of the Council of Texas Archeologists (CTA) reporting guidelines. | YES |
| 22 | The scope of work specifies that the resulting report will include a discussion of the results of the field investigations. | YES |
| 23 | For survey, testing, and monitoring projects, the scope of work notes that the report's discussion will include a list of sites identified, the ownership of the land on which the sites lie, each sites' recommended eligibility for inclusion in the National Register and formal designation as a State Archeological Landmark, and the appropriate criteria under which the sites were evaluated. The scope of work notes that site forms will be submitted to TARL and that trinomials will be obtained. The scope of work notes that the report will also include recommendations for further work or no further work with appropriate justifications based on the requirements of 13 TAC 26.20 and defined in 13 TAC 26.5. | YES |
| 24 | For data recovery projects, the scope of work notes that the report's discussion will address how the project results contribute to an understanding of important issues of prehistory or history. The scope of work also specifies a public outreach program for such projects. | N/A |
| 25 | The scope of work specifies that the report will indicate which excavations units were placed on public land and private land, and identify artifacts collected from public land and private land. | N/A |
| 26 | The scope of work specifies that four copies of the draft report will be submitted for review by TxDOT and THC. | YES |
| 27 | The scope of work specifies that at least 25 paper copies of the final report (24 bound copies and one unbound copy) and two electronic copies (CD's with the electronic document in tagged PDF format) will be submitted to TxDOT. Twenty of these paper copies (19 bound copies and one unbound copy) and one of the CD's will go to the THC. | " |

ENV Staff Reviewer Signature Date

Comments:

1. NEED VERTICAL APE BASED ON SCHEMATICS
2. ARE THERE CONSTRUCTION EASEMENTS THAT WILL INCREASE THE OVERALL APE
3. SPECIFY INTENSIVE ARCHEOLOGICAL SURVEY
4. AREAS DISTURBED BY INDUSTRY AND URBAN/SUBURBAN DEVELOPMENT WILL, OF COURSE, NOT REQUIRE SHOVEL TESTING BUT SHOULD BE PHOTO DOCUMENTED.
5. STATE COLLECTION POLICY AND LAND OWNERSHIP
6. SHOVEL TEST ACROSS HOLOCENE ALLUVIUM SHOULD CONFORM TO MINIMUM STANDARDS (16/mi.) EDIT 3rd SENTENCE OF PEDESTRIAN SURVEY SECTION ACCORDINGLY.

# HCRMA

## HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

510 South Pleasantview Drive, Weslaco, Texas 78596
Phone: 956-969-5822 Fax: 956-969-5821

Dennis Burleson
Chairman

Michael Cano
Vice-Chairman

Joe Olivarez
Secretary/Treasurer

Ricardo Perez
Board Member

David Guerra
Board Member

Alonzo Cantu
Board Member

Forrest Runnels
Board Member

August 26, 2011

Kim Barker
Project Reviewer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Re: *Project review under Section 106 of the National Historic Preservation Act of 1966*
*Proposed International Bridge Trade Corridor, Hidalgo County*
*USACE/106 (see also THC Track# 201110941, #201103787)*

Dear Ms. Barker,

This correspondence is in response to your letter dated June 28, 2011 requesting additional information to facilitate coordination of the above referenced project. At this time, the Hidalgo County Regional Mobility Authority (HCRMA) has not yet selected an Engineer to complete final design for the proposed International Bridge Trade Corridor (IBTC). Therefore, design details for the proposed work on the National Register-listed Louisiana-Rio Grande Canal Company Irrigation System (Hidalgo County Irrigation District No. 2) are not yet available. Once the HCRMA selects an Engineer, and final design commences, the requested information will be forwarded to the Texas Historical Commission for further coordination and consultation.

Sincerely,

Hidalgo County RMA

Dennis Burleson
Chairman

xc: Sharon Becca (Atkins [formerly PBS&J] Project Manager)
Amy McWhorter (Atkins Historian)

June 28, 2011

Michael R. Chavez
Project Archeologist
PBS&J
6504 Bridge Point Parkway
Austin, TX 78730

Re: *Project review under Section 106 of the National Historic Preservation Act of 1966*
*Proposed International Trade Bridge Corridor, Hidalgo County*
*USACE/106 (see also THC Track #201110941, #201103787)*

Dear Mr. Chavez:

We are writing to follow-up on the above referenced project. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

In our letter of December 2, 2010, we requested additional information in order to complete our review and determine the effect of the proposed work on the NR-listed Louisiana-Rio Grande Canal Company Irrigation System, which is now part of the Hidalgo County Irrigation District No. 2. Specifically, we requested the following:

- Description of the treatment of the proposed road at the intersection of historic canals
- Drawings showing the proposed road crossings at the listed canals

We would like to resolve the above referenced project and ask that you submit the requested information and/or contact our office at your convenience.

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 federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Officer

cc: Adela Ortega, Chair, Hidalgo County Historical Commission

MW/KB

PBS&J

An employee-owned company

RECEIVED
MAR 30 2011
TEXAS HISTORICAL COMMISSION

March 30, 2011

Mark Denton
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

**Re:** ***Project review under Section 106 of the National Historic Preservation Act of 1966 proposed International Trade Bridge Corridor, Hidalgo County USACE/106 (THC Track #201103787)***

Dear Mr. Denton:

On October 25, 2010, the Texas Historical Commission (THC) concurred with PBS&J's recommendations in the September 16, 2010 *Draft Cultural Resources Survey Report* and further clarified in a October 22, 2010 letter, that the proposed Hidalgo County Regional Mobility Authority (HCRMA) International Trade Bridge Corridor (IBTC) project area in Hidalgo County, Texas be cleared to proceed from an archeological standpoint with the exception of outstanding trench locations, inaccessible inundated parcels, and inundated Temp Site 2 location (now 41HG237). In addition, further consultation with the THC was recommended regarding the components of the NRHP-listed irrigation system located within the proposed IBTC right of way. The archeological investigations were subsequently addressed in the *Final Draft Cultural Resources Survey Report,* which was submitted to the THC on November 5, 2010. Consequently, THC issued their concurrence on December 2, 2010 for these additional archeological investigations and the necessity for further consultation with regards to the NRHP-listed irrigation system crossings.

Based on the additional archeological investigations addressed in the November 5, 2010 Final Draft report, site 41HG237 does not appear to be eligible for NRHP inclusion, the geoarchaeological trenching did not encounter any archeological material or features, and no additional sites were recorded within the IBTC project area. PBS&J is therefore requesting confirmation of the December 2, 2010 THC concurrence of the archeological resources survey with the understanding that further consultation is needed for the NRHP-listed irrigation system crossings.

In conclusion, PBS&J recommends that no further archeological investigations of the proposed IBTC project area are needed and no further consultation is required with the THC for archeological resources. However, if previously undiscovered archeological remains are discovered during construction, work in the area will cease and the THC will be consulted.

Once final design is complete, PBS&J will provide the treatment for the proposed road at the intersection of historic canals and drawings showing the proposed road crossings at the applicable canals for THC's review.

Sincerely,

Michael R. Chavez
Project Archaeologist
512-372-1226

CONCUR
by _____
for Mark Wolfe
Executive Director, THC
Date 4-6-11
Track# _____

PBS&J

an **Atkins** company

Document No. 100154
PBS&J Job No. 100011499

# A CULTURAL RESOURCES SURVEY OF THE PROPOSED HIDALGO INTERNATIONAL BRIDGE TRADE CORRIDOR HIDALGO COUNTY, TEXAS

## TEXAS ANTIQUITIES PERMIT NO. 5683

Prepared for:

Hidalgo County Regional Mobility Authority
510 S. Pleasantview Drive
Weslaco, Texas 78596

DRAFT REPORT ACCEPTABLE
by
for Mark Wolfe
Executive Director, THC
Date 4-6-11
Track#

Prepared by:

PBS&J
6504 Bridge Point Parkway
Suite 200
Austin, Texas 78730


Principal Investigator:
Robert Rogers

Report Authors:
Michael R. Chavez
Robert Rowe
Amy McWhorter
Robert Rogers


November 2010

December 2, 2010

Michael R. Chavez
Project Archeologist
PBS&J
6504 Bridge Point Parkway
Austin, TX 78730

Re: *Project review under Section 106 of the National Historic Preservation Act of 1966*
*Proposed International Trade Bridge Corridor, Hidalgo County*
*USACE/106 (THC Track #201103787)*

Dear Mr. Chavez:

Thank you for your correspondence describing the above referenced project which was received on November 5, 2010. This letter serves as comment on the proposed undertaking from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Kim Barker and Linda Henderson, has completed its review of the project documentation provided. We concur with your determinations of eligibility as outlined in the report entitled "A Cultural Resources Survey of the Proposed Hidalgo International Bridge Trade Corridor."

It is our understanding that the proposed project consists of the construction of a maximum six-lane tolled highway spanning approximately 14.7 miles. The proposed highway extends from US 83 at a location approximately .5 miles east of FM 1423 to US 281 at San Juan Road and to FM 493 at a location approximately 1.5 miles north of US 281. The associated Right of Way (ROW) will range between 160 and 400 feet in width, the larger being at overpass locations. Portions of the proposed highway are within the defunct Hidalgo Loop project area. The current project, intended to address border-crossing traffic on the local street network and connectivity to the freeway system and local freight facilities, consists of three components: Trade Corridor Connector, US 83 Connector, and International Bridge Trade Connector. Your submission is limited to the International Bridge Trade Connector, the only component not receiving federal funding. This component is subject to Section 106 due to an Army Corps of Engineers Section 404 permit.

The boundaries of the International Bridge Trade Connector component are partly within the National Register of Historic Places-listed Louisiana-Rio Grande Canal Company Irrigation System, now part of the Hidalgo County Irrigation District No. 2. Twelve canals contributing to this historic district were identified in your report as within the Area of Potential Effects (APE). No other eligible or contributing resources are within the APE. The information provided is insufficient to concur with your determination of no effect to these contributing resources. Please provide the following information so that we may complete our review:

- Description of the treatment of the proposed road at the intersection of historic canals
- Drawings showing the proposed road crossings at the listed canals

We understand that this information is forthcoming as stated in a letter dated October 22, 2010 from Hidalgo County Regional Mobility Authority.

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 federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Kim Barker at 512/463-8952.**

Sincerely,

Kim Barker, Project Reviewer
for: Mark Wolfe, State Historic Preservation Officer

cc: Adela Ortega, Chair, Hidalgo County Historical Commission

MW/KB

# HCRMA

## HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

510 South Pleasantview Drive, Weslaco, Texas 78596
Phone: 956-969-5822 Fax: 956-969-5821

Dennis Burleson
Chairman

Rick Perez
Vice-Chairman

Ramiro E. Salazar
Secretary/Treasurer

Joe Olivarez
Board Member

Juan Maldonado
Board Member

Ricardo Perez
Board Member

Michael G. Cano
Board Member

October 22, 2010

Mark Denton and Linda Henderson
Texas Historical Commission
1511 Colorado
Austin, TX 78701

RECEIVED
OCT 25 2010
TEXAS HISTORICAL COMMISSION

Re: HCRMA International Bridge Trade Corridor (IBTC) Project
Request for Concurrence

Dear Mr. Denton and Ms. Henderson:

This correspondence is in reference to your recent review of cultural resource studies under the Antiquities Code of Texas and National Historic Preservation Act, Antiquities Permit #5683, for the Hidalgo International Bridge Trade Corridor (IBTC) Project. The purpose of this letter is to:

1. Inform you of recent project limit changes due to changes in project funding
2. Provide additional documentation regarding potential project impacts to the NRHP-listed Hidalgo County Irrigation District #2 (HCID #2), including our commitment to adhere to the recommendations of PBS&J historians regarding preservation and protection of the associated canals and to continue to coordinate with your office regarding these resources during the ongoing planning process.
3. Request concurrence that the remainder of the project with the exception of the outstanding trench locations, inaccessible inundated parcel, and inundated Temp Site 2 location has been cleared to proceed from an archeological standpoint.

With regard to the project limit changes, the original project limits, as presented in the September IBTC Cultural Resources Survey Draft report, extended from US 83 Expressway (0.5 mile east of FM 1423) to approximately 1.0 mile east of Spur 600, and to FM 493, approximately 1.5 miles north of US 281 (Military Highway), a length of approximately 15.4 miles (Figure 1). Recently, it has been decided that two elements within the limits of the original project should be treated separately from the proposed IBTC, and they will be further developed as an independent project. Therefore, the proposed US 281 overpass at San Juan Road and the Border Safety Inspection Facility (BSIF) connector will move forward as a stand-alone project (Figure 2).

As a result, the portion of the project that included the proposed US 281 overpass

right of way (ROW), located along US 281 approximately 0.5 mile east and 0.6 mile west of the US 281/San Juan Road intersection, and the BSIF connector ROW, located approximately 0.2 mile south and approximately 0.6 mile southwest of the US 281/San Juan Road intersection, are no longer part of the proposed IBTC project. These areas require no further consideration as a part of the current review process under Antiquities Permit #5683 (see Figure 2).

These changes result in a 73.2-acre reduction in the area of proposed new ROW and an associated reduction in impacts for the IBTC project. The new limits of the project extend from US 83 Expressway (0.5 mile east of FM 1423) to the intersection of San Juan Road and US 281 (Military Highway), and to FM 493, approximately 1.5 miles north of US 281 (Military Highway), a length of approximately 14.7 miles (Figure 3). As a result of the project limit reductions, five historic-age nonarcheological resources are now no longer within the APE of the proposed IBTC project. These include three irrigation resources (Sites 08Z, 08AA, and 08BB), a drainage ditch (Site 05), and an Official State Historic Marker commemorating the Jackson Ranch Church (Site 06). Discussion of these sites will be removed from the updated cultural resources survey report. No recorded archeological sites were located within this area.

Secondly, the HCRMA commits to the following with regard to the components of the NRHP-listed irrigation system located within the proposed ROW of the IBTC project (see Figure 4):

1. The HCRMA will continue coordination with the THC as the project advances in planning stages regarding areas where the IBTC intersects contributing components of the NRHP-listed HCID#2.
2. Generally, in any areas where the canal crosses an existing roadway via a nonhistoric-age drainage culvert or bridge, the bridge or drainage culvert may require replacement or expansion. The HCRMA commits to coordinate regarding these replacements and expansions to ensure that they will not adversely impact any of the NRHP-listed canals.
3. In areas where the proposed IBTC will cross contributing canals where an existing bridge or culvert is not in place, the HCRMA proposes to span the canals and will not place any piers or other structures within the canal banks.

As more detailed plans become available regarding proposed roadway construction at the contributing elements of the NRHP-listed irrigation system, these plans will be made available to the THC, and the HCRMA will consult with the THC to avoid adverse impacts to the listed irrigation system. The attached map depicts the location of the standpipes, a well, and irrigation canals associated with the NRHP-listed irrigation system in relation to the proposed IBTC ROW (See Figure 4). The final cultural resources survey report will include the requested updates to the resource documentation forms and resource location maps with regard to the irrigation resources as requested in the October 16, 2010 review letter received from your office.

Finally, the HCRMA requests concurrence that no further archeological investigations are needed with the exception of the outstanding trench locations,

inaccessible parcel, and inundated Temp Site 2 location (see Figure 5). In addition, HCRMA is requesting concurrence that construction is cleared to proceed with regard to archeological resources aside from the locations outlined above. The additional investigations at these locations will include:

4. Geoarchaeological trenching investigations in high probability areas where the vertical APE is substantially deeper than accessible by shovel testing
5. Evaluation and recommendations regarding Temp Site 2 pending site recordation once the area is no longer flooded
6. Further investigations of the inaccessible parcel near the La Cruz Resaca once permissible access is received

The results of the additional investigations will be included in a revised version of the cultural resources survey report and will be submitted for your review. Figure 6 (attached) depicts all shovel test locations excavated during the January 15 - 30, 2009 and July 22 - 29, 2010 archeological field survey efforts. Please contact us if you require any further documentation or have any questions regarding the IBTC project.

CONCUR
by
for Mark Wolfe
Executive Director, THC
Date 25 October 2010
Track#

Sincerely,

Hidalgo County RMA

Godfrey Garza, Jr., CFM
Administrative and Managerial Consultant

xc: Mike Chavez (PBS&J)
Sharon Becca (PBS&J)

Attachments

# Texas Parks and Wildlife Department

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Board of Directors**
**Dennis Burleson, Chairman**
**Michael Cano, Vice-Chairman**
**Ricardo Perez, Secretary/Treasurer**
**Forrest Runnels, Director**
**Alonzo Cantu, Director**
**R. David Guerra, Director**
**Josue Reyes, Director**

Mr. Russell Hooten
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: Hidalgo Regional Mobility Authority
State Highway (SH) 365 from FM 1016/Conway Avenue to US 281/Military Highway
Hidalgo County, Texas
TPWD Project # ERCS-6299
CSJ 3627-01-001

Dear Mr. Hooten:

The Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane, divided, controlled-access toll facility from Farm-to-Marked Road (FM) 1016 Conway Avenue east to U.S. Highway (US) 281/Military highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas. The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities. On July 29, The Texas Parks and Wildlife Department (TPWD) Wildlife Habitat Assessment Program provided comments and recommendations for the proposed project. TPWD recommendations are listed below in italic font with the HCRMA response provided directly beneath in standard font.

***TPWD Recommendation #1:*** *TPWD appreciates that contractors would be informed of the potential to encounter state-listed species in the project area and would be instructed to avoid harming or harassing individuals encountered. TPWD recommends the best management practices, design measures and recommendations provided by Atkins that would assist in avoiding and/or minimizing potential impacts to state-listed species should be incorporated into project plans and implemented during construction. In addition to informing the contractors that there is a potential to encounter state-listed species or species of concern in the project area during construction, contractors should be made aware there is a no "take" provision for the incidental take of state-listed species.*

**HCRMA Response #1:** The HCRMA will incorporate the following best management practices, design measures, and recommendations as recommended by TPWD and noted in the report, *Biological Evaluation, State Highway 365 from FM 1016/Conway Avenue to US 281/Military Highway FM 1016 to US 281/Military Highway, Hidalgo County, Texas* dated April 2013:

- Existing palm trees will be avoided to the maximum extent practicable.
- Various construction practices, such as the spanning of streams, ditches, wetlands, and irrigation canals, will be implemented where practicable along with the implementation of best management practices for sediment control and avoidance of fill discharge into potential habitats to minimize impacts to various listed species.
- The HCRMA will provide pre-construction education for contractors that will include an explanation of the State and Federal laws protecting listed species and descriptions and photographs of listed species that may be found within the project area. Workers will be instructed not to harass or handle these species, if encountered.

- The HCRMA will attempt to initiate construction outside of the typical nesting season for migratory bird species in Texas from March 15 to August 15. If the nesting period cannot be avoided, pre-construction nest surveys will be conducted to ensure nesting birds are not impacted by construction of the proposed project.

***TPWD Recommendation #2:*** *Suitable habitat for state-listed amphibians occurs in the project area. As stated in the environmental document, explosive breeding activity is triggered by rainfall events in most of the state-listed frog species in the Rio Grande Valley. Therefore, the best method to determine the presence/absence of a species in an area is to conduct audio transect surveys in the project area following rainfall events. Following a rainfall event and as close to the construction start date as possible, TPWD recommends audio transect surveys be conducted in the project area to determine presence/absence of state-listed frogs in the area. Additional information regarding monitoring frogs in Texas is available from the Texas Nature Trackers: Texas amphibian Watch Program available online at:*

*http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_nature_trackers/amphibian_watch/*

*Additionally, spanning water crossings rather than installing culverts and implementing best management*

**HCRMA Response #2:** As noted above in HCRMA Response #1, The HCRMA will provide pre-construction education for contractors that will include information and photographs for listed amphibian species. Workers will be instructed not to harass or handle these species, if encountered.

***TPWD Recommendation #3:*** *TPWD recommends the ultimate phase of the project be designed to avoid or minimize incorporating structures in the roadway that would create permanent movement barriers for wildlife such as the Texas tortoise. Collisions with vehicles is a leading cause of mortality for the Texas tortoise. The use of concrete barriers in the middle of the roadway can create barriers that leave tortoises and other wildlife stranded in the middle of the road. If continuous concrete structures are proposed for the project, TPWD recommends incorporating openings or gaps at intervals to allow small, less mobile species to potentially escape.*

**HCRMA Response #3:** The HCRMA anticipates that concrete barriers would be utilized in the ultimate phase of the project where necessary for public safety, particularly at bridges and overpasses. If concrete barriers are determined necessary in areas with the potential to obstruct wildlife travel patterns, the HCRMA will consider measures that could allow small, less mobile species to pass through the roadway unobstructed.

***TPWD Recommendation #4:*** *The environmental document provided to TPWD for review of the current project did not contain important information necessary to fully evaluate potential adverse impacts upon natural resources in the area (e.g., vegetation impacts were not quantified). TPWD requests to be provided with a copy of the Draft EA for review when it is completed.*

**HCRMA Response #4:** The purpose of the Biological Evaluation submitted to TPWD on May 21, 2013 and this correspondence is to fulfill requirements in accordance with Provision (4)(A)(ii) of the Memorandum of Agreement (MOA) between TxDOT and the TPWD; therefore, as requested, provided below are the approximate calculations for impacts to vegetation communities. The HCRMA evaluated vegetation communities impacted by the proposed project. **Table 1** below provides a summary of land use/land cover identified within the proposed project right-of-way. The proposed project would result in the direct conversion of approximately 496.18 acres of vegetation to transportation right-of-way. These impacts will be minimized where practicable.

**Table 1: Summary of Land Use/Land Cover Type Identified within the Proposed ROW**

| Land Use/Land Cover Type | Total Acreage |
|---|---|
| Cropland | 212.98 |
| Upland Pasture | 225.79 |
| Forest/Mesquite Shrub | 49.05 |
| Wetland | 8.36 |
| Total Vegetation Impacted | 496.18 |
| | |
| Developed | 114.66 |
| Waterbodies (Ditch, Canal, Pond) | 12.18 |
| **Total Land Use/Land Cover Impacts** | **623.02** |

Thank you for your time and attention to this project. If you have any questions or require additional information, please contact me.

Sincerely,
**Hidalgo County Regional Mobility Authority**

Pilar Rodriguez, P.E.
Executive Director

**118 South Cage Boulevard, 4th Floor, Pharr, Texas 78577**
**PO Box 1766**
**(956) 402-4762**
**www.hcrma.net**

RECEIVED - TXDOT
AUG 0 1 2013
ENVIRONMENTAL AFFAIRS

TEXAS PARKS & WILDLIFE

Life's better outside.®

Commissioners

T. Dan Friedkin
Chairman
Houston

Ralph H. Duggins
Vice-Chairman
Fort Worth

Antonio Falcon, M.D.
Rio Grande City

Karen J. Hixon
San Antonio

Dan Allen Hughes, Jr.
Beeville

Bill Jones
Austin

Margaret Martin
Boerne

S. Reed Morian
Houston

Dick Scott
Wimberley

Lee M. Bass
Chairman-Emeritus
Fort Worth

Carter P. Smith
Executive Director

July 29, 2013

Andrew Blair
Texas Department of Transportation
Dewitt C. Greer State Highway Building
125 E. 11th Street
Austin, TX 78701

RE: Proposed SH 365 from FM 1016/Conway Avenue to US 281/Military Highway, Hidalgo County, Texas
CSJ 3627-01-001

Dear Mr. Blair:

This letter is in response to your request for review of the environmental document prepared by Atkins for the Hidalgo County Regional Mobility Authority (HCRMA) and the Texas Department of Transportation (TxDOT) for the proposed road construction project referenced above.

Please be aware that a written response to a TPWD recommendation or informational comment received by a state governmental agency may be required by state law. For further guidance, please see the Texas Parks and Wildlife Code, §12.0011, which can be found online at http://www.statutes.legis.state.tx.us/Docs/PW/htm/PW.12.htm#12.0011. For tracking purposes, please refer to TPWD project number **ERCS-6299** in any return correspondence regarding this project.

## Project Description

The HCRMA in cooperation with TxDOT proposes to construct a controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway in Hidalgo County, Texas. The project would initially be developed to provide a four-lane roadway divided by a grassy median. The ultimate facility would consist of six travel lanes divided by a concrete barrier. The project also includes non-tolled improvements along US 281 from 0.45 miles east of Spur (SP) 600 to FM 2557/Stewart Road.

The project would be constructed in two phases. Phase I would include constructing a 13.4-mile toll facility from FM 396/Bryan Road to US 281, a new grade separated interchange at the SH 365/US281 intersection, and a non-tolled facility from 0.45 miles east of SP 600 to FM 2557/Stewart Road. Phase II would include constructing a 3.13-mile toll facility from FM 1016/Conway Avenue to FM 396/Bryan Road.

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.state.tx.us

Approximately 642 acres of additional ROW would be required to construct the new roadway.

Texas Parks and Wildlife Department (TPWD) staff reviewed the information provided and offer the following comments.

## State Regulations

*Parks and Wildlife Code*

State law prohibits any take (incidental or otherwise) of state-listed species. Laws and regulations pertaining to state-listed endangered or threatened animals are contained in Chapters 67 and 68 of the Texas Parks and Wildlife (TPW) Code; laws pertaining to endangered or threatened plants are contained in Chapter 88 of the TPW Code. There are penalties, which may include fines and/or jail time in addition to payment of restitution values, associated with take of state-listed species. Please see "Laws and Regulations Applicable to TPWD Review" at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/laws.phtml.

The project is located in a general area that is known for its wildlife diversity. While the majority of the project is located through areas that provide only marginal habitat for wildlife, small patches of habitat or linear features (e.g., canals) may provide stepping stone patches and/or connective corridors between higher quality habitat areas for wildlife to use. Due to the project's location being in or near undeveloped property and land managed specifically for wildlife, TPWD agrees with the assessment stated in the environmental document that the project area contains suitable habitat in which a number of state-listed species or species of concern could occur. Numerous state-listed species and species of concern have been documented in the project area. The environmental document states that the state-listed species could potentially be impacted by the project.

> **Recommendation:** TPWD appreciates that contractors would be informed of the potential to encounter state-listed species in the project area and would be instructed to avoid harming or harassing individuals encountered. TPWD recommends the best management practices, design measures and recommendations provided by Atkins that would assist in avoiding and/or minimizing potential impacts to state-listed species should be incorporated into project plans and implemented during construction.

In addition to informing contractors that there is a potential to encounter state-listed species or species of concern in the project area during construction, contractors should be made aware that there is no "take" provision for the incidental take of state-listed species.

Suitable habitat for state-listed amphibians occurs in the project area. There was no indication if specific surveys for state-listed amphibians were conducted in the project corridor prior to preparing the environmental document. If so, survey methodology was not provided.

**Recommendation:** As stated in the environmental document, explosive breeding activity is triggered by rainfall events in most of the state-listed frog species in the Rio Grande Valley. Therefore, the best method to determine the presence/absence of a species in an area is to conduct audio transect surveys in the project area following rainfall events. Following a rainfall event and as close to the construction start date as possible, TPWD recommends audio transect surveys be conducted in the project area to determine presence/absence of state-listed frogs in the area. Additional information regarding monitoring frogs in Texas is available from the Texas Nature Trackers: Texas Amphibian Watch Program available online at:
http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_nature_trackers/amphibian_watch/

Additionally, spanning water crossing rather than installing culverts and implementing best management practices to prevent or minimize erosion or sedimentation impacts would minimize potential impacts to state-listed amphibians.

The ultimate facility would consist of a six lane roadway divided with a concrete barrier.

**Recommendation:** TPWD recommends the ultimate phase of the project be designed to avoid or minimize incorporating structures in the roadway that would create permanent movement barriers for wildlife such as the Texas tortoise. Collisions with vehicles is a leading cause of mortality for the Texas tortoise. The use of concrete barriers in the middle of the roadway can create barriers that leave tortoises and other wildlife stranded in the middle of the road. If continuous concrete structures are proposed

for the project, TPWD recommends incorporating opening or gaps at intervals to allow small, less mobile species to potentially escape.

**Project Documentation**

The Atkins project cover sheet indicates that the current environmental report was prepared prior to the submittal of a Draft Environmental Assessment (EA) for the project.

**Recommendation:** The environmental document provided to TPWD for review of the current project did not contain important information necessary to fully evaluate potential adverse impacts upon natural resources in the area (e.g., vegetation impacts were not quantified). TPWD requests to be provided with a copy of the Draft EA for review when it is completed.

TPWD appreciates the opportunity to review and comment on the proposed project. If you have any questions, please contact me at russell.hooten@tpwd.texas.gov or (361) 825-3240.

Sincerely,

Russell Hooten
Wildlife Habitat Assessment Program
Wildlife Division

/rh 6299

Texas Department of Transportation®
DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

May 21, 2013

Environmental Document Coordination
CSJ: 3627-01-001
Highway: SH 365
From: FM 1016 To: US 281
Hidalgo County; District: Pharr

Ms. Kathy Boydston
Texas Parks and Wildlife Department
Wildlife Division – Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744

Dear Ms. Boydston:

Consistent with the Memorandum of Understanding signed by our two agencies, attached is a copy of the environmental document covering the subject project for your review and comment. Any comments you may have on this document will assist the Texas Department of Transportation (Department) in ensuring that the Department's projects are sensitive to the natural resources of the state. Please include the above CSJ number in your correspondence.

Please submit any comments you may have within 30 days from the date of this letter. If you do not have any comments on the document, please sign and date the bottom of this letter and return a copy to the Environmental Affairs Division. If no response is received after the 45 days have expired, we will proceed with project development. If you have any questions regarding this project please contact Robin Gelston, the Environmental Coordinator of the Pharr District at 956-702-6130 or at robin.gelston@txdot.gov.

Sincerely,

Andrew Blair
Ecological Resources Branch
Environmental Affairs Division

Enclosure

☐ NO COMMENT: _____
Wildlife Habitat Assessment Program

DATE: _____

# U.S. Army Corps of Engineers

ATKINS

**Atkins North America, Inc.**
101 Summit Avenue, Suite 1014
Ft. Worth, Texas 76102

**Telephone: +1.817.810.0149**
Fax: +1.817.870.3699

**www.atkinsglobal.com/northamerica**

March 4, 2014

Mr. Nicholas Laskowski
U.S. Army Corps of Engineers, Galveston District
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318

PN 100020726

Dear Mr. Laskowski:

Re: SWG-2013-00175
Request for PJD Modification of Wetland and Waterbody Crossings
Hidalgo County Regional Mobility Authority
Proposed State Highway 365 Roadway Project
Hidalgo County, Texas

Atkins North America, Inc. (Atkins) has been contracted by Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, to obtain environmental clearances/permits for the proposed State Highway (SH) 365 Roadway Project (Project). The proposed Project consists of construction of a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas. Logical termini for the proposed project are from FM 1016/Conway Avenue to US 281/Military Highway. The proposed project would initially be developed as a four-lane divided controlled access toll facility divided by a grassy median with rights-of-way (ROW) reserved for future widening for the ultimate facility when necessary. The ultimate facility would consist of six travel lanes divided by a concrete barrier. On January 3, 2014, the United States Army Corps of Engineers issued preliminary jurisdictional delineation (PJD) verification for the State Highway 365 Roadway Project in Hidalgo County, Texas (USACE Permit No. SWG-2013-00175). Subsequent to the initial PJD request, and per the request of the HCRMA and TxDOT Pharr District, the project limits were expanded due to a shift in alignment and levee relocation (Attachment 1, Figure 1).

This letter is intended to document the wetland determination efforts for the expanded project limits conducted by Atkins on November 19 and 20, 2013. Attachment 1, Figures 2 and 3, depict the potential waters of the U.S. delineated within the revised project limits. Therefore, on behalf of HCRMA and TxDOT, Atkins is submitting this modification request to the existing PJD to disclose the shifted project limits and to document additional potential waters of the U.S., including wetlands located within the shifted review area for the project subject to USACE jurisdiction under Section 404 of the Clean Water Act (CWA). In addition, AOI's #3, #6, and #8 previously identified by the USACE as potentially jurisdictional aquatic resources, were revisited and the results of those surveys provided herein.

A revised USACE Preliminary Jurisdictional Determination Form and waters upload sheet are provided in Attachment 2, both in hard copy and digital formats. The waters upload sheet lists all wetlands and waterbodies identified in the existing SH 365 PJD, plus additional features identified in association with the shifted project limits (indicated in bold type) that would be considered potential waters of the U.S. subject to USACE jurisdiction under Section 404 of the CWA. Features no longer within the shifted project limits and/or area calculations that were altered due to the shift remain in Table 1 below in strikethrough format. Area calculations (in acres) consist of the entire area of the feature as depicted within the project limits and do not reflect construction impacts to those features.

**Table 1: Wetlands and Other Waters of the U.S. within the Proposed ROW**

| Map ID (Figures 2 & 3) | Classification | Acreage | | Jurisdiction |
|---|---|---|---|---|
| | | Wetland | Open Water | |
| **Jurisdictional Wetlands and Waterbodies** | | | | |
| CRK 2 | Tributary to La Cruz Resaca | -- | 0.34 | §404 |
| Ditch 1 | Tributary to La Cruz Resaca | -- | ~~0.19~~ **0.38** | §404 |
| Ditch 2 | USIBWC Floodway Pilot Channel | -- | ~~1.75~~ **1.85** | §404 |
| Ditch 3 | Tributary to La Cruz Resaca | -- | ~~0.24~~ **0.60** | §404 |
| Ditch 4 | Tributary to La Cruz Resaca | -- | 0.21 | §404 |
| Ditch 5 | Tributary to La Cruz Resaca | -- | ~~1.18~~ **1.22** | §404 |
| Ditch 5A | Drainage Canal South of Las Milpas Road | -- | 0.28 | §404 |
| WET 2 | PEM Wetland | ~~0.83~~ **1.44** | -- | §404 |
| WET 3A | PEM Wetland | ~~5.04~~ **8.48** | -- | §404 |
| **WET 7** | **PEM Wetland** | **6.11** | **--** | **§404** |
| **WET AOI6** | **PEM Wetland** | **3.21** | **--** | **§404** |
| **Potentially Jurisdictional** | | ~~8.25~~ **19.24** | ~~4.19~~ **4.88** | |
| **Non–Jurisdictional Wetlands and Waterbodies** | | | | |
| ~~Canal 1~~ | ~~Irrigation Feature~~ | ~~--~~ | ~~0.14~~ | ~~None~~ |
| Canal 1A | Irrigation Feature | | 0.14 | None |
| Canal 1-1 | Irrigation Feature | -- | 0.57 | None |

| Map ID (Figures 2 & 3) | Classification | Acreage | | Jurisdiction |
|---|---|---|---|---|
| | | Wetland | Open Water | |
| Canal 1-2 | Irrigation Feature | -- | 1.26 | None |
| Canal 1-3 | Irrigation Feature | -- | 1.20 | None |
| Canal 2 | Pharr San Juan Irrigation Canal | -- | 1.45 | None |
| Canal 3 | Irrigation Feature | -- | ~~0.25~~ **0.29** | None |
| Canal 6 | Irrigation Feature | -- | 0.39 | None |
| Canal P1 | Irrigation Feature | -- | 0.31 | None |
| Ditch 2A | Irrigation Feature | -- | 0.34 | None |
| Ditch 2B | Irrigation Feature | -- | 0.34 | None |
| Ditch 3A | Irrigation Feature | -- | 0.21 | None |
| Ditch 4A | Irrigation Feature | -- | 0.18 | None |
| Ditch 6 | Irrigation Feature | -- | 0.24 | None |
| ~~Ditch 6A~~ | ~~Irrigation Feature~~ | ~~--~~ | ~~0.04~~ | ~~None~~ |
| Ditch 7 | Irrigation Feature | -- | 0.18 | None |
| Ditch 7A | Irrigation Feature | -- | 0.04 | None |
| Ditch 8A | Irrigation Feature | -- | 0.08 | None |
| Ditch 9A | Irrigation Feature | -- | 0.13 | None |
| Ditch 10 | Irrigation Feature | -- | 0.32 | None |
| Ditch 10A | Irrigation Feature | -- | 0.01 | None |
| Ditch 11 | Irrigation Feature | -- | 0.05 | None |
| Ditch 11-1 | Irrigation Feature | -- | 0.52 | None |
| Ditch 11A | Irrigation Feature | -- | 0.17 | None |
| Ditch 16 | Irrigation Feature | -- | 0.31 | None |

| Map ID (Figures 2 & 3) | Classification | Acreage | | Jurisdiction |
|---|---|---|---|---|
| | | Wetland | Open Water | |
| Ditch 18 | Irrigation Feature | -- | 0.34 | None |
| Ditch 19 | Irrigation Feature | -- | 0.15 | None |
| Ditch P1 | Irrigation Feature | -- | 0.17 | None |
| Pond 1 | Open Water | -- | 0.13 | None |
| WET 3 | PSS Wetland | 0.02 | -- | None |
| WET 4 | PSS Wetland | 0.42 | -- | None |
| WET 5 | PSS Wetland | 0.10 | -- | None |
| WET 6 | PEM Wetland | 0.15 | -- | None |
| **Potentially Non-Jurisdictional** | | **0.69** | **9.52** | |
| **Total Waters and Wetlands** | | **~~15.88~~ 19.93** | **~~13.71~~ 14.4** | |

Field surveys identified the presence of 19.93 acres of wetlands (8.25 original survey) and 14.4 acres (13.71 original survey) of open water in the form of a pond, irrigation ditches, and irrigation canals within the proposed ROW.

The following features addressed on chronological order from west to east along the proposed project alignment were updated, added, or removed resulting from route shifts and/or corridor expansions:

WET 6 is a palustrine emergent (PEM) wetland located within the area revisited at AOI #3. WET 6 is located on the margin of POND 1, a man-made isolated pond that appears to be an excavated pit determined by the USACE to be non-jurisdictional. The HCRMA agrees with the determination that POND 1 is isolated; however, HCRMA disagrees that WET 6 should be subject to USACE jurisdiction under Section 404 of the Clean Water Act because it is present resulting from excavation of the gravel pit, now POND 1, and because it was created wholly within an upland area. HCRMA requests that the USACE reconsider this feature as non-jurisdictional.

Ditch 5, Ditch 2, Ditch 3, and Ditch 1 are man-made drainage ditches within the USIBWC Main Floodway that were expanded due to an alignment shift. Each of these features was determined subject to USACE jurisdiction under Section 404 of the CWA. Atkins is requesting that the limits of these features be extended as shown within the expanded project limits.

WET 3A and WET 2 are PEM wetlands located within the USIBWC Main Floodway that were expanded due to an alignment shift. Both of these features were determined subject to USACE jurisdiction under

Section 404 of the CWA. Atkins is requesting that the limits of these features be extended as shown within the expanded project limits.

WET 7 is a newly recorded PEM wetland located within the expanded project limits in the USIBWC Main Floodway. HCRMA requests verification that this feature is subject to USACE jurisdiction under Section 404 of the Clean Water Act.

WET 1 is a PEM wetland subject to USACE jurisdiction under Section 404 of the CWA; however, due to the alignment shift, this feature is no longer within the limits of the proposed project.

WET AOI #6 is a PEM wetland located within the USIBWC Main Floodway within AOI #6. HCRMA requests verification of the field delineated wetland boundary for this AOI.

DP #6 is a data point recorded within an upland area exhibiting a darkened signature on the aerial photo. This area did not meet the criteria to be classified as a wetland and is included on the map for documentation purposes (Attachment 2, Data Sheet DP #6).

AOI #8 was revisited and examined as part of the field survey effort. Hydrophytic vegetation was present at this location in the form of a uniform stand of giant cane (*Arundo donax*); however, the area was lacking both hydric soil and hydrology typical of a wetland (Attachment 2, Data Sheet AOI #8). Additionally, the area immediately to the north, east, and south was investigated and no evidence of a hydrologic connection to downstream aquatic resources were found; therefore, this location is not subject to Section 404 jurisdiction.

Two non-jurisdicional linear waterbodies, Canal 1 and Ditch 6A, previously determined non-jurisdictional by the USACE are no longer within the ROW due to the alignment shift.

On behalf of HCRMA and TxDOT, Atkins is submitting this request for reverification of the existing PJD to include the shifted project limits and revisited AOI's and associated potential waters of the U.S. located therein. Please contact me at (281) 529-4156 or michael.c.dyke@atkinsglobal.com if you have questions or require additional information.

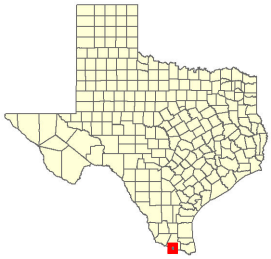
Very truly yours,

Michael Dyke
Project Manager, Environment West

c: Pilar Rodriguez, P. E. - HCRMA Executive Director
Louis Jones, P.E. - HCRMA Program Management Consultant
Sharon G. Becca - Atkins

# Attachment 1

# Figures



N
W E
S

0 3 6 Miles

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

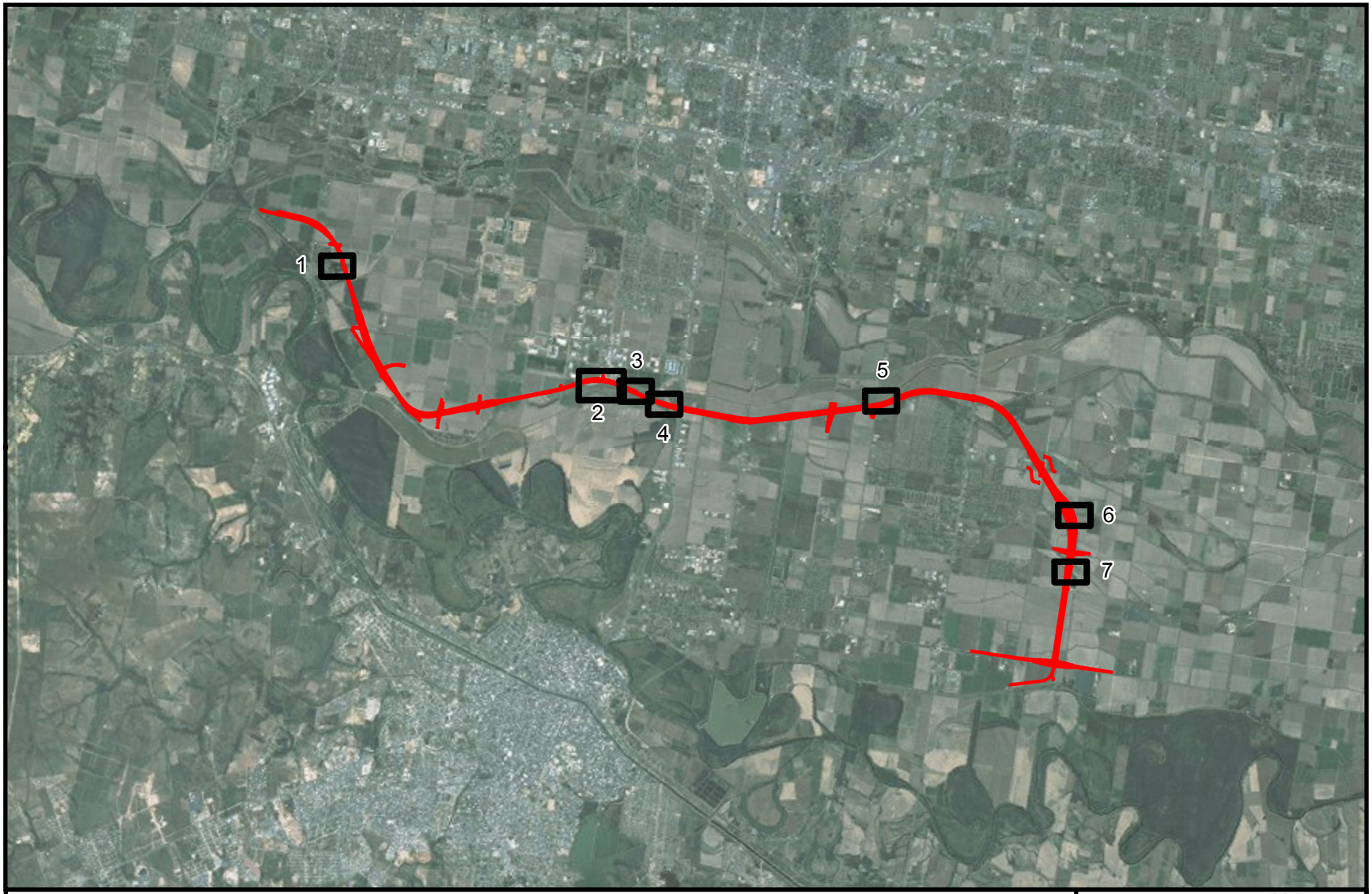
ATKINS

RMA

**Project Location Map**
State Highway 365
From FM 1016
to US 281/Military Highway
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale:1 in = 3 miles |
| Job No.: 100020726 | Date: January 28, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




Proposed ROW

Sheet Index

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

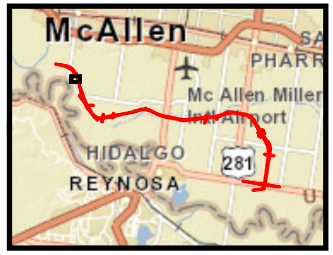
0 1 2 Miles

Base Map: ESRI and its data suppliers, (c) 2013

ATKINS

**Figure 2**
Wetland Delineation Map
State Highway 365
From FM 1016
to US 281/Military Highway
Index
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 in = 2 miles |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 28, 2014 |
| R:\100020726\USACE Modification Request\GIS | |




| Soil Unit Name | Symbol |
|---|---|
| Pits, borrow | 45 |
| Reynosa silty clay loam, 0 to 1 percent slopes | 55 |
| Runn silty clay | 64 |
| Water | W |

Proposed ROW
Levee Relocation
IBWC Floodway
100 Year Floodplain
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 125 250 Feet

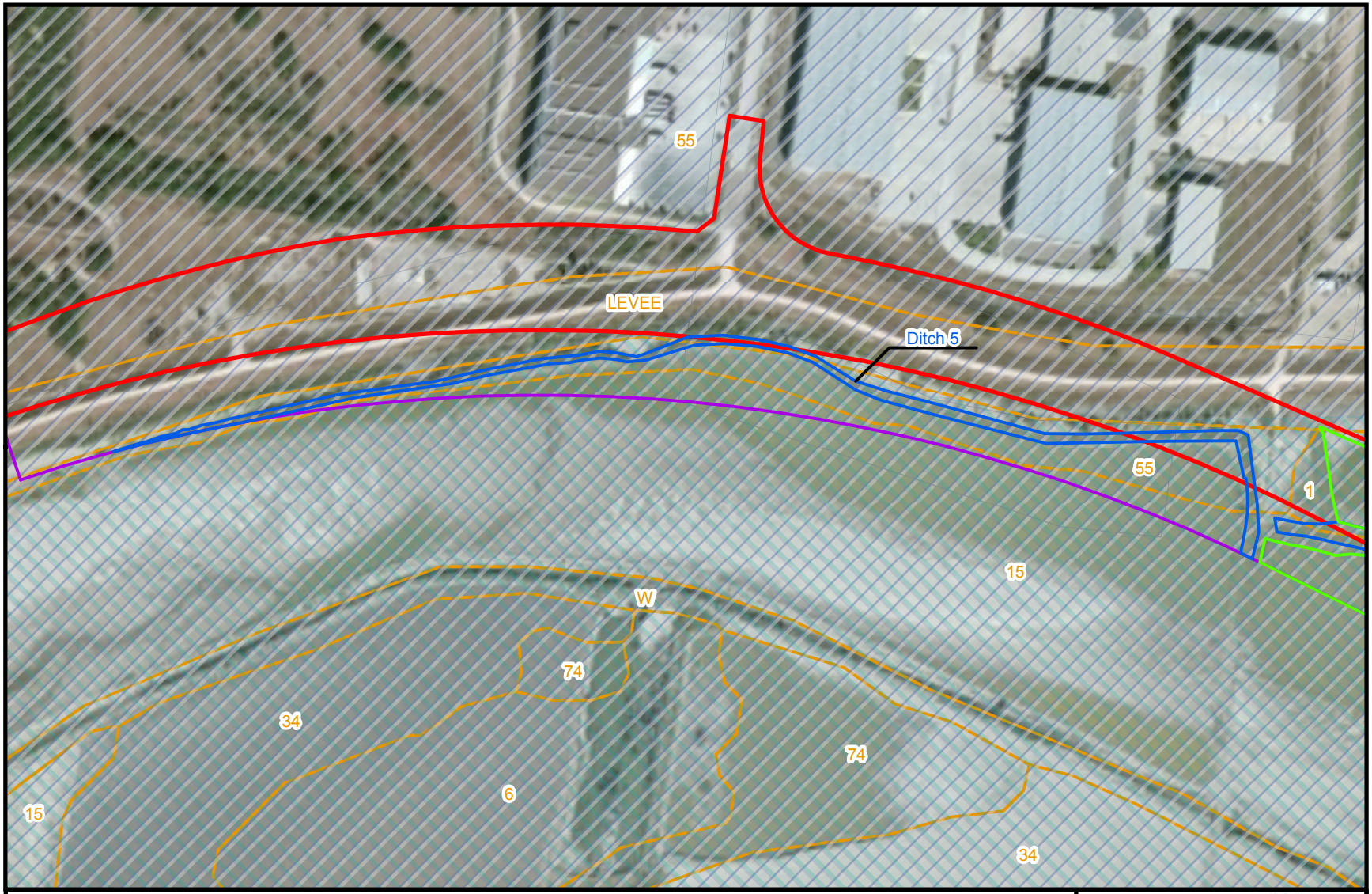
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

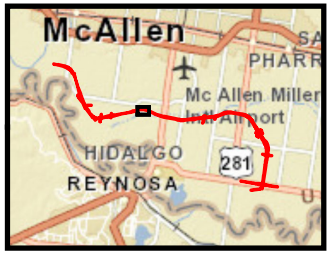
ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 1 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 250 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Camargo silty clay loam | 6 |
| Grulla clay | 15 |
| Matamoros silty clay | 34 |
| Reynosa silty clay loam, 0 to 1 percent slopes | 55 |
| Zalla silt loam | 74 |
| Levee | LEVEE |

Proposed ROW
Levee Relocation
IBWC Floodway
100 Year Floodplain
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 175 350 Feet

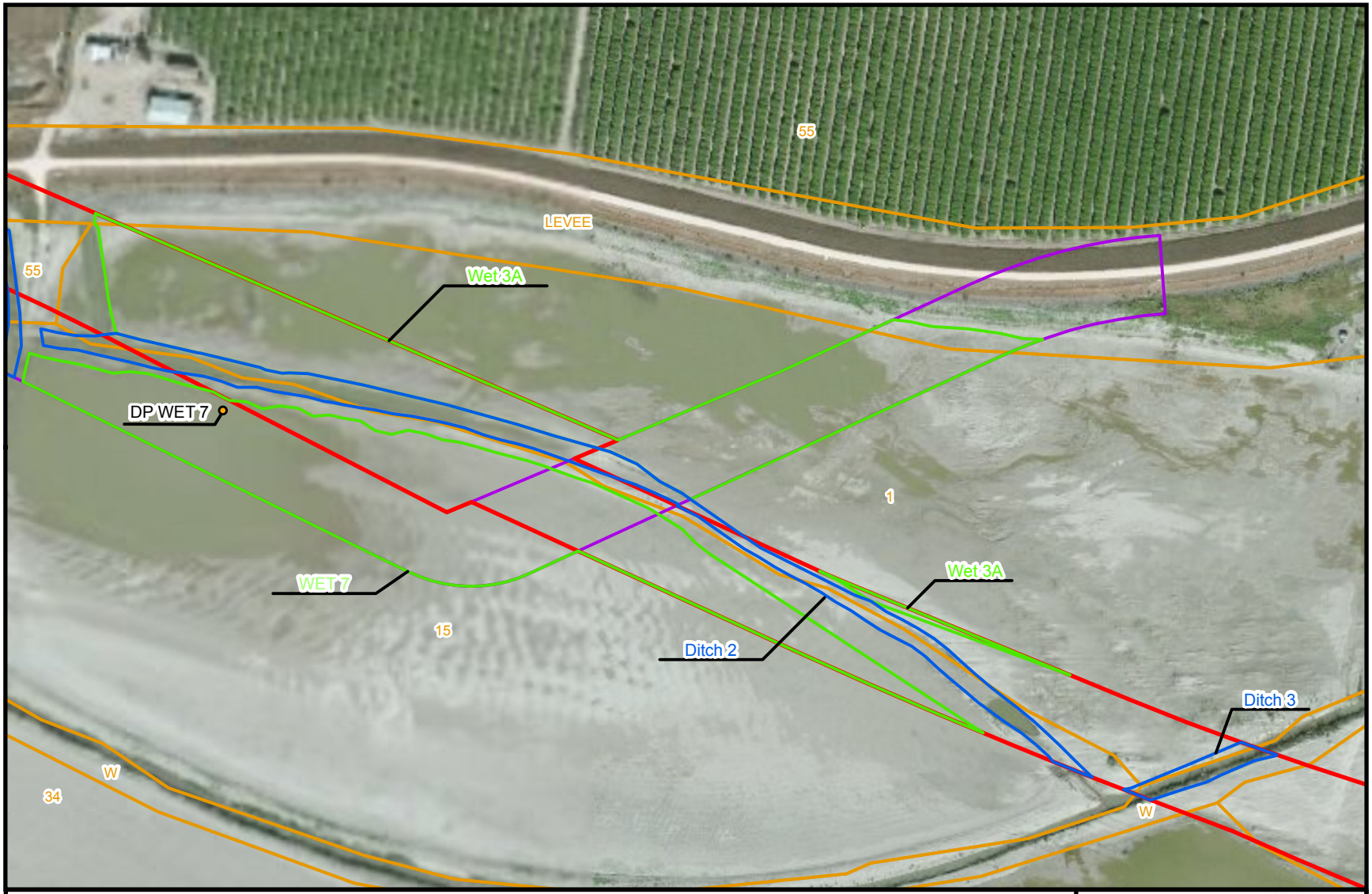
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

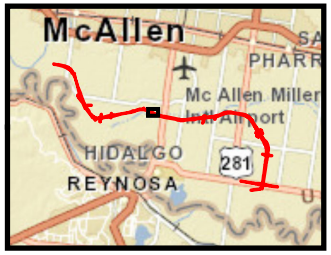
ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 2 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 350 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Arents, loamy | 1 |
| Grulla clay | 15 |
| Matamoros silty clay | 34 |
| Reynosa silty clay loam, saline, 0 to 1 percent slopes | 56 |
| Levee | LEVEE |
| Water | W |
| | |

Proposed ROW
Levee Relocation
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 150 300 Feet

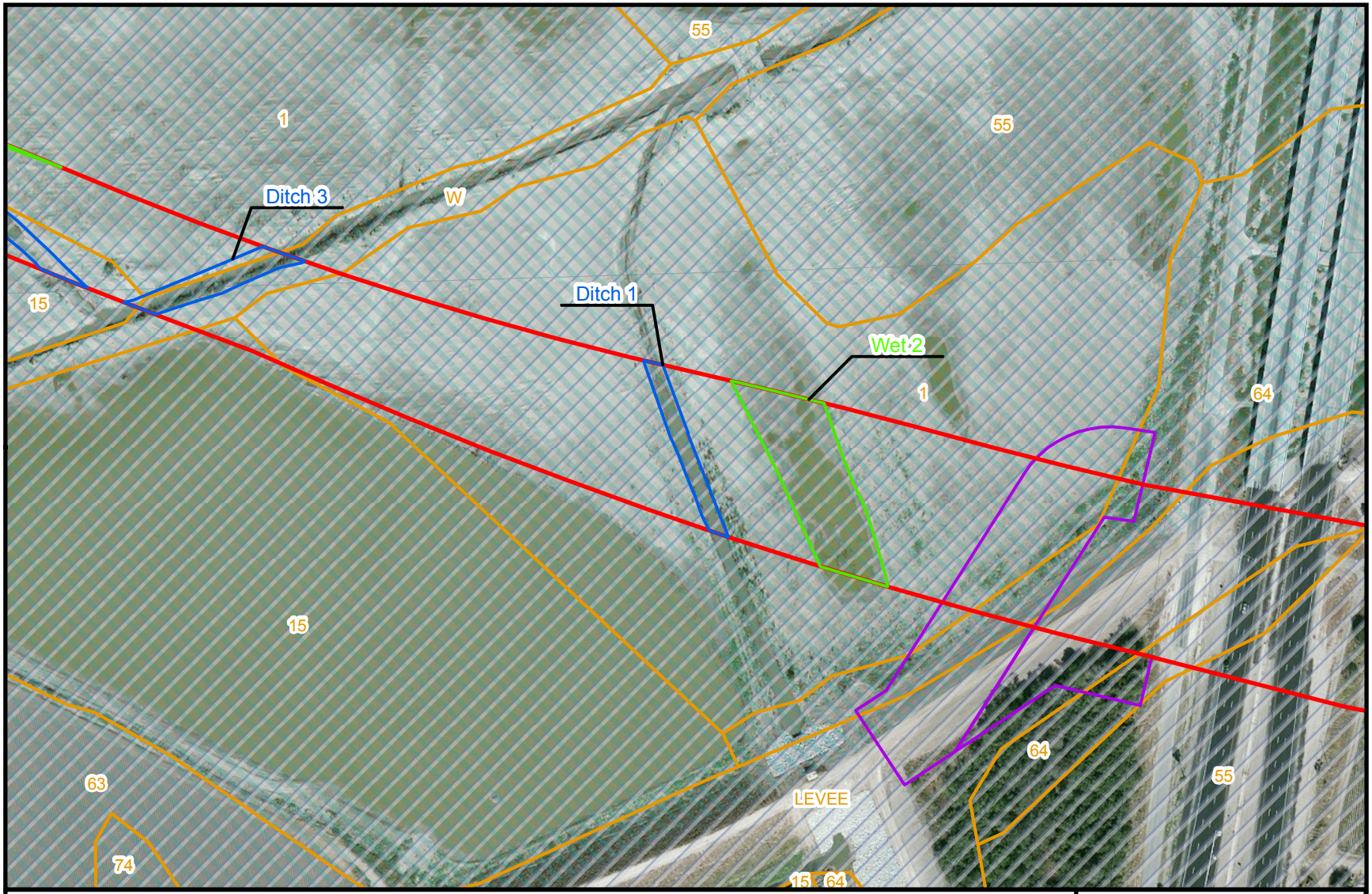
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

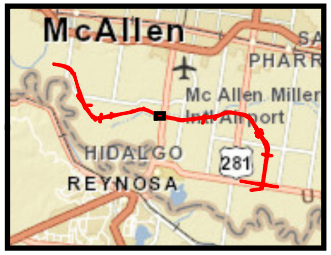
ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 3 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 295 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Arents, loamy | 1 |
| Grulla clay | 15 |
| Reynosa silty clay loam, 0 to 1 percent slopes | 55 |
| Rio Grande silty clay loam | 63 |
| Runn silty clay | 64 |
| Zalla silt loam | 74 |
| Water | W |

Proposed ROW
Levee Relocation
NRCS Soils
100 Year Floodplain
IBWC Floodway
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 125 250 Feet

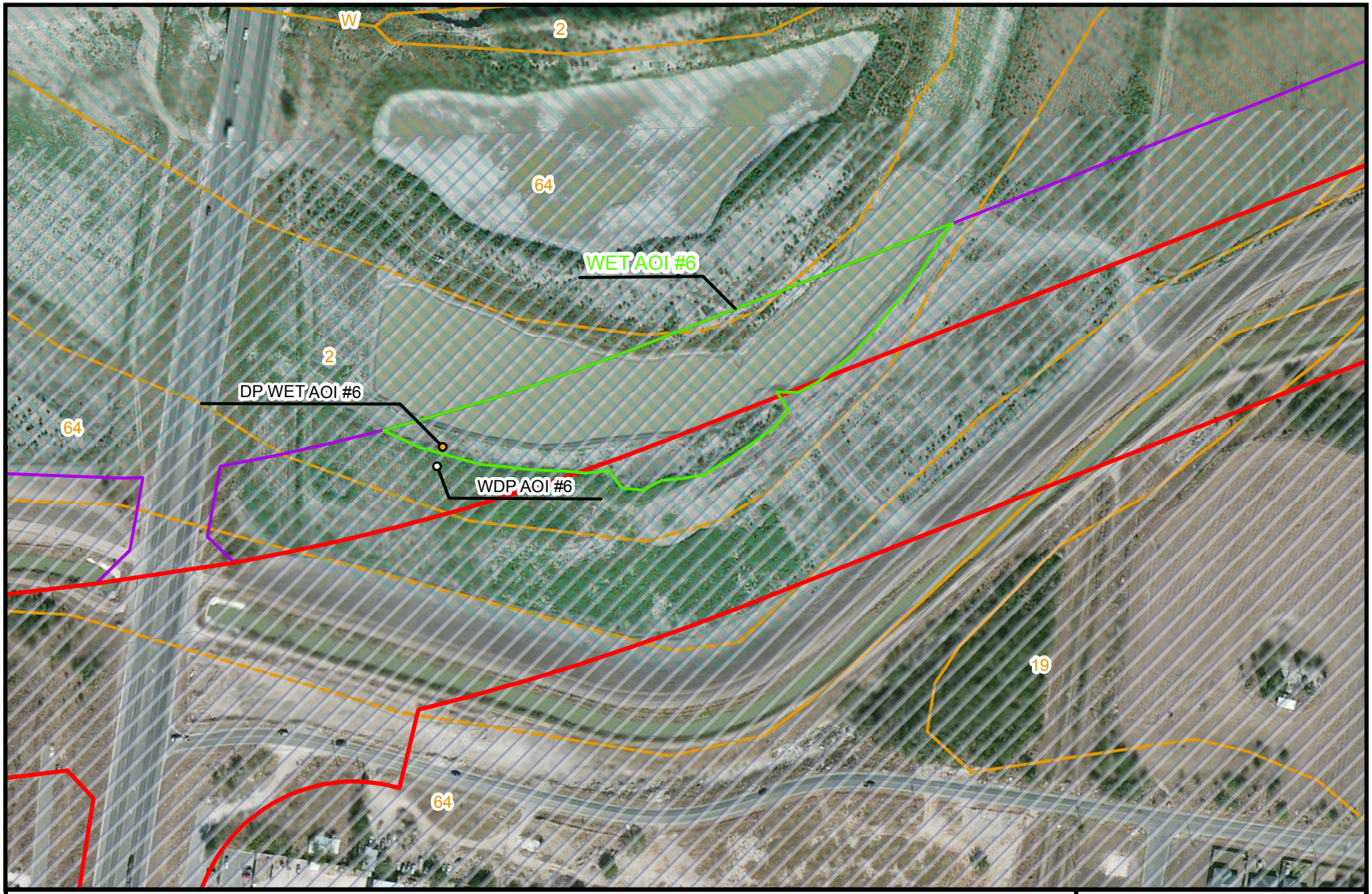
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

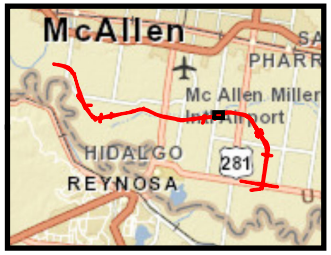
ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 4 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 250 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Benito clay | 2 |
| Harlingen clay | 19 |
| Harlingen clay, saline | 20 |

Proposed ROW
Levee Relocation
IBWC Floodway
100 Year Floodplain
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 125 250 Feet

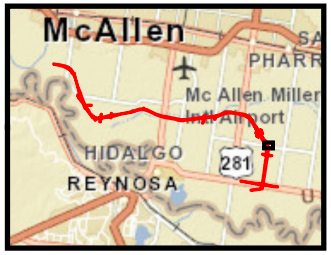
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 5 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 250 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Benito clay | 2 |
| Harlingen clay | 19 |
| Harlingen clay, saline | 20 |

Proposed ROW
Levee Relocation
IBWC Floodway
100 Year Floodplain
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 125 250 Feet

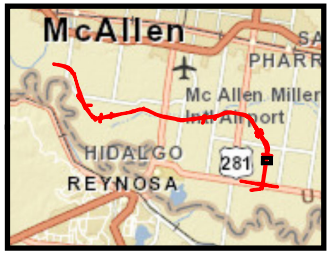
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 6 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 250 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




| Soil Unit Name | Symbol |
|---|---|
| Harlingen clay | 19 |
| Harlingen clay, saline | 20 |

Proposed ROW
Levee Relocation
IBWC Floodway
100 Year Floodplain
NRCS Soils
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

0 125 250 Feet

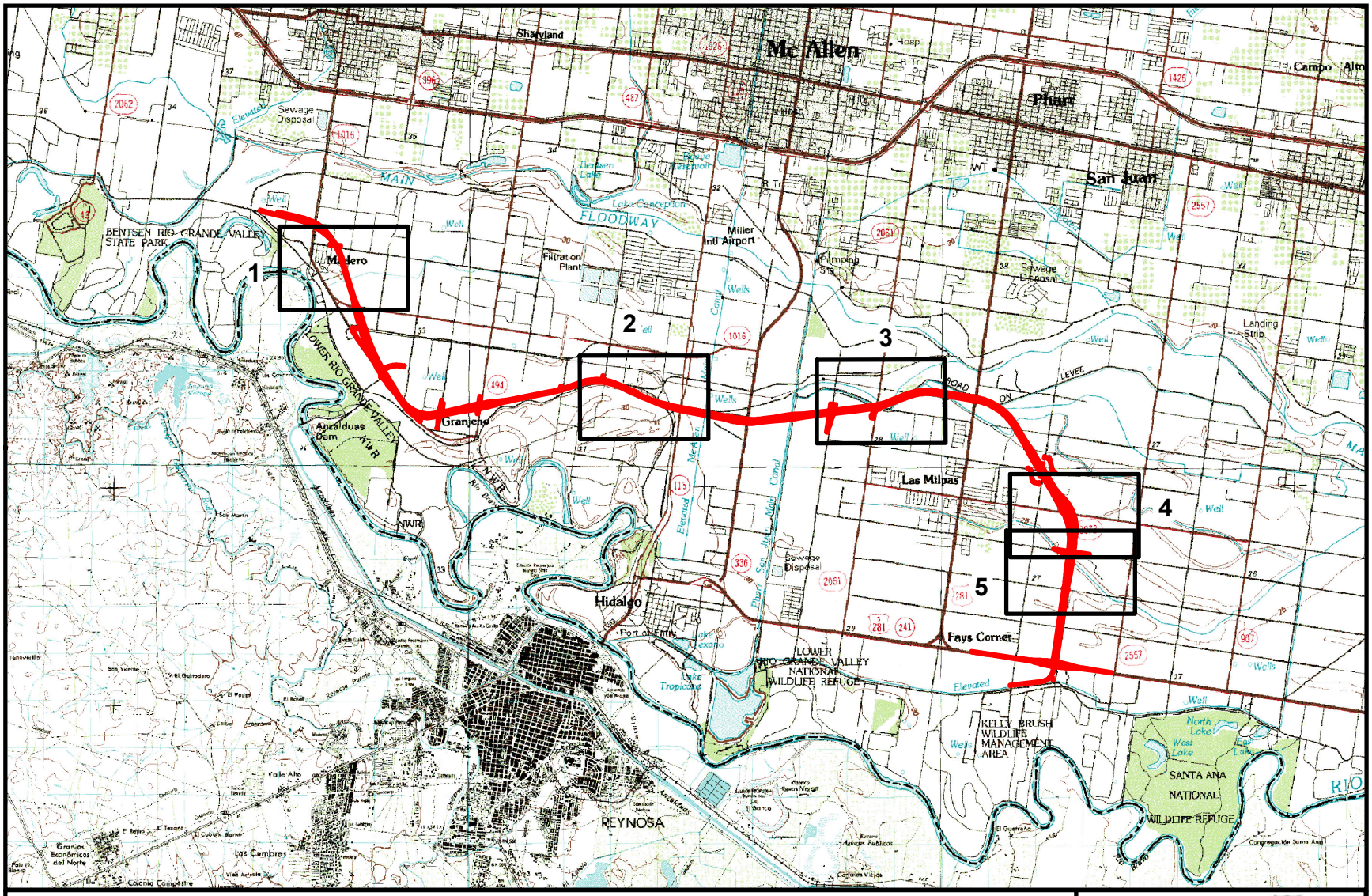
Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

ATKINS

**Figure 2**
Wetland Delineation Aerial Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 7 of 7
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 250 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




Proposed ROW

Sheet Index

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

0 1 2 Miles

Base Map: ESRI and its data suppliers, (c) 2013

ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Index
Pharr Quadrangle
Hidalgo County, Texas

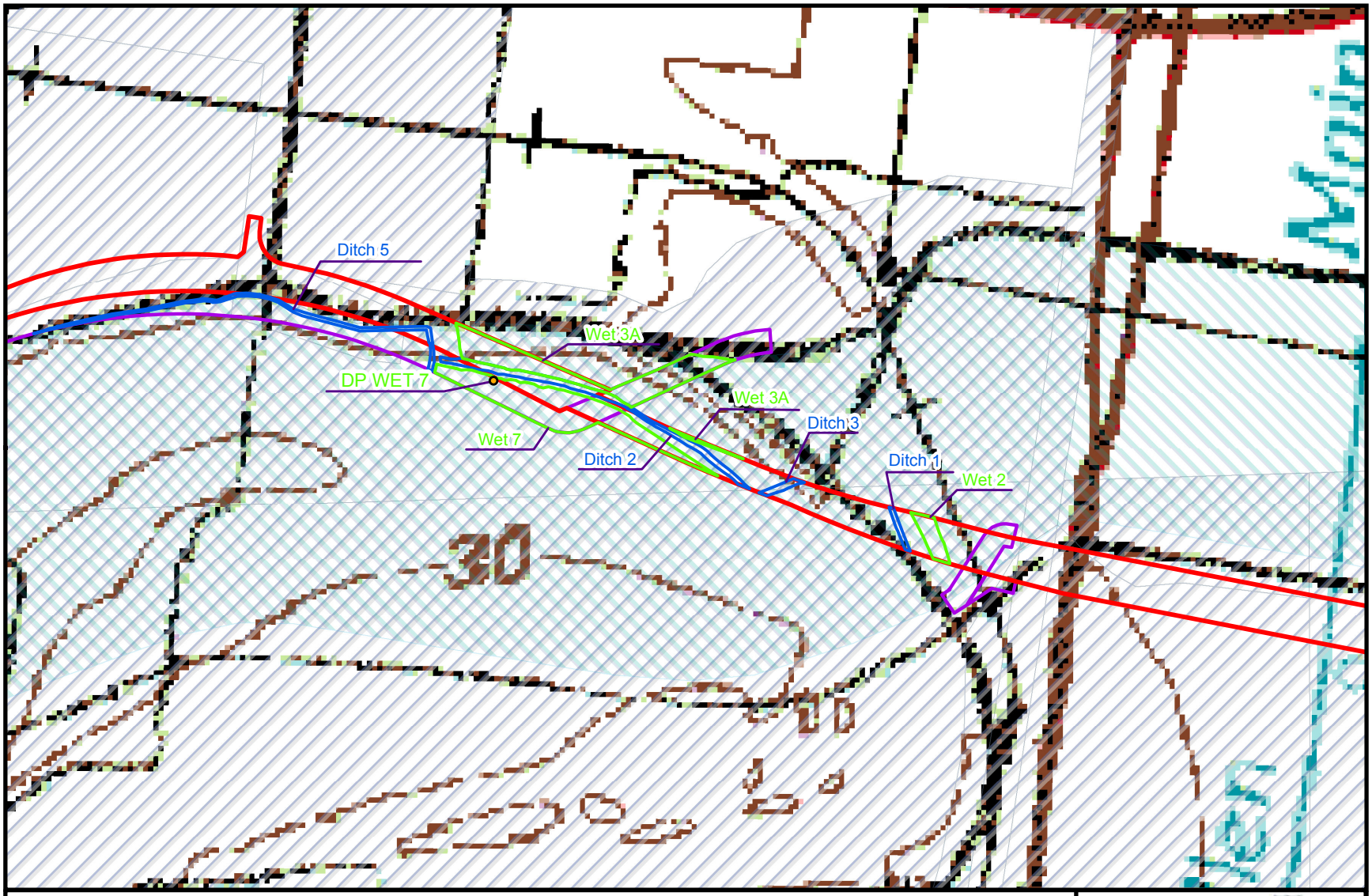
| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch equals 2 miles |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 1 of 5
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 1,000 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013



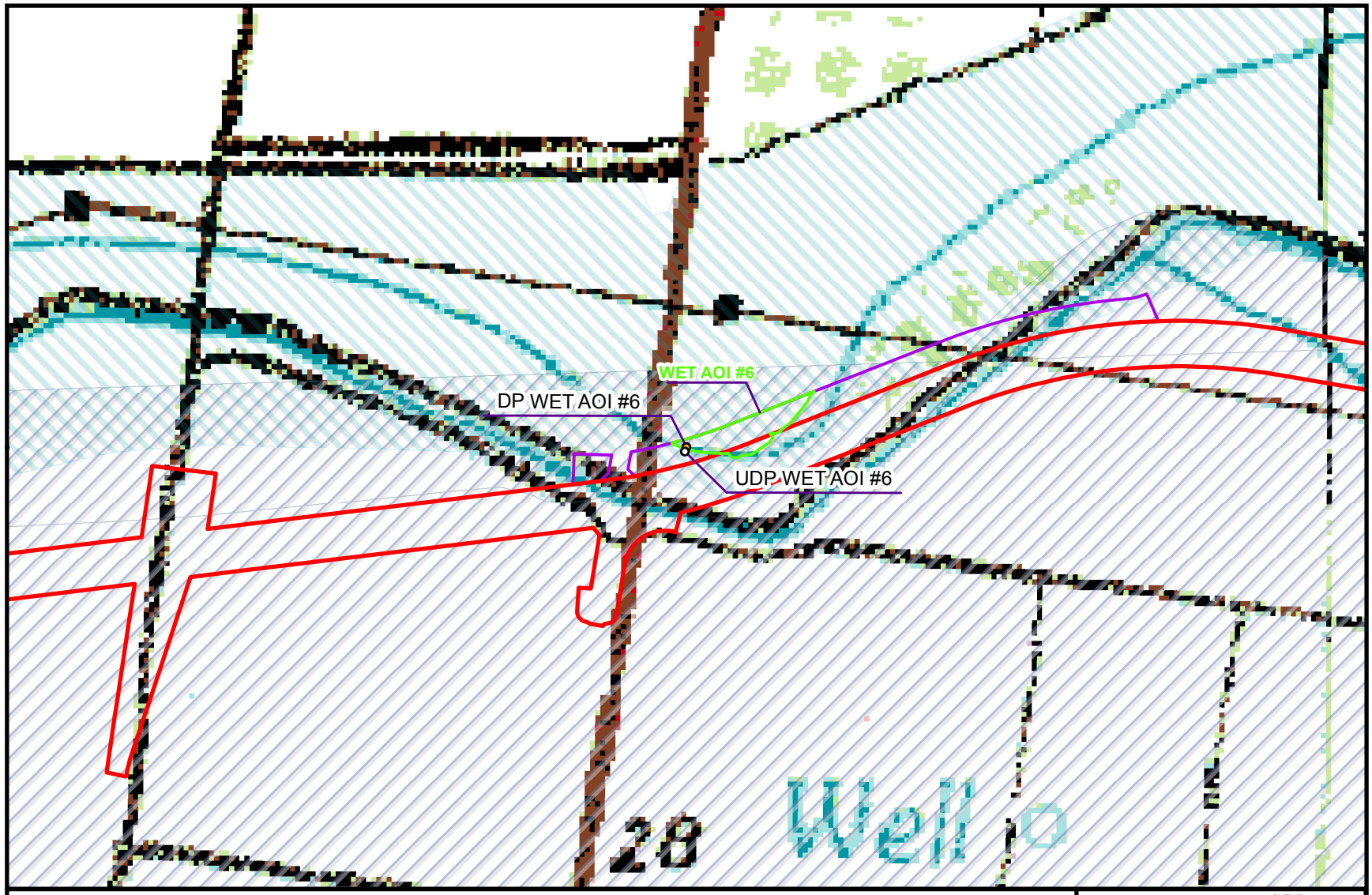

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

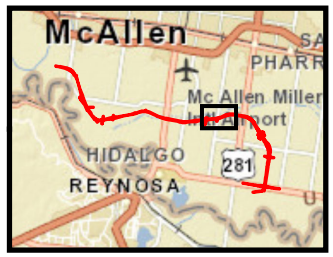
ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 2 of 5
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 1,000 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

Proposed ROW
Levee Relocation
100 Year Floodplain
IBWC Floodway
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

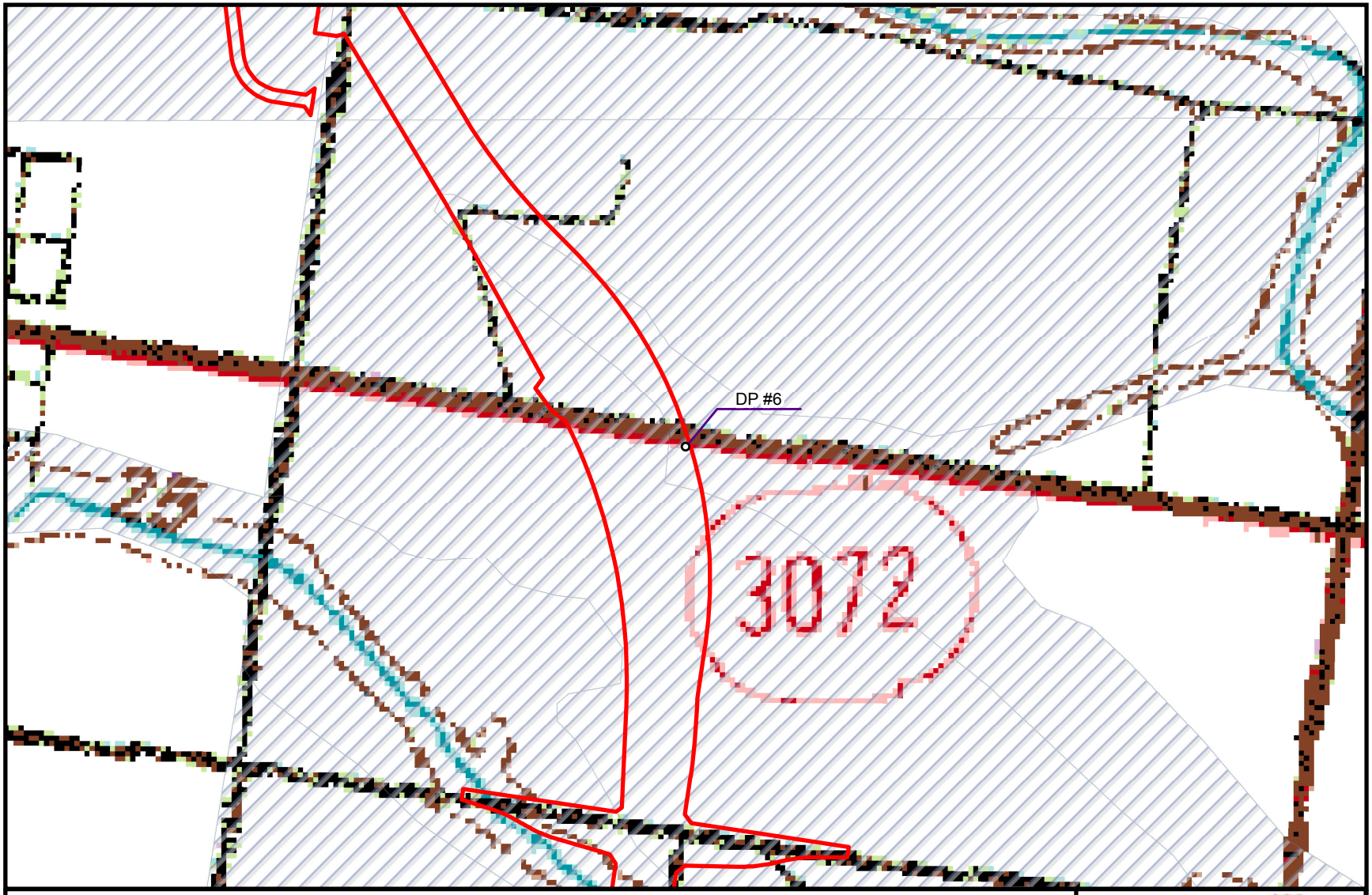
0 500 1,000 Feet

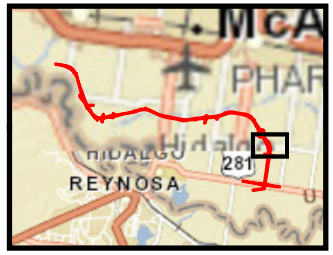
ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 3 of 5
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 1,000 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

Proposed ROW
Levee Relocation
100 Year Floodplain
IBWC Floodway
Upland Data Point
Wetland Data Point
Ditch/Canal/Steam/Creek
PEM Wetland
Pond

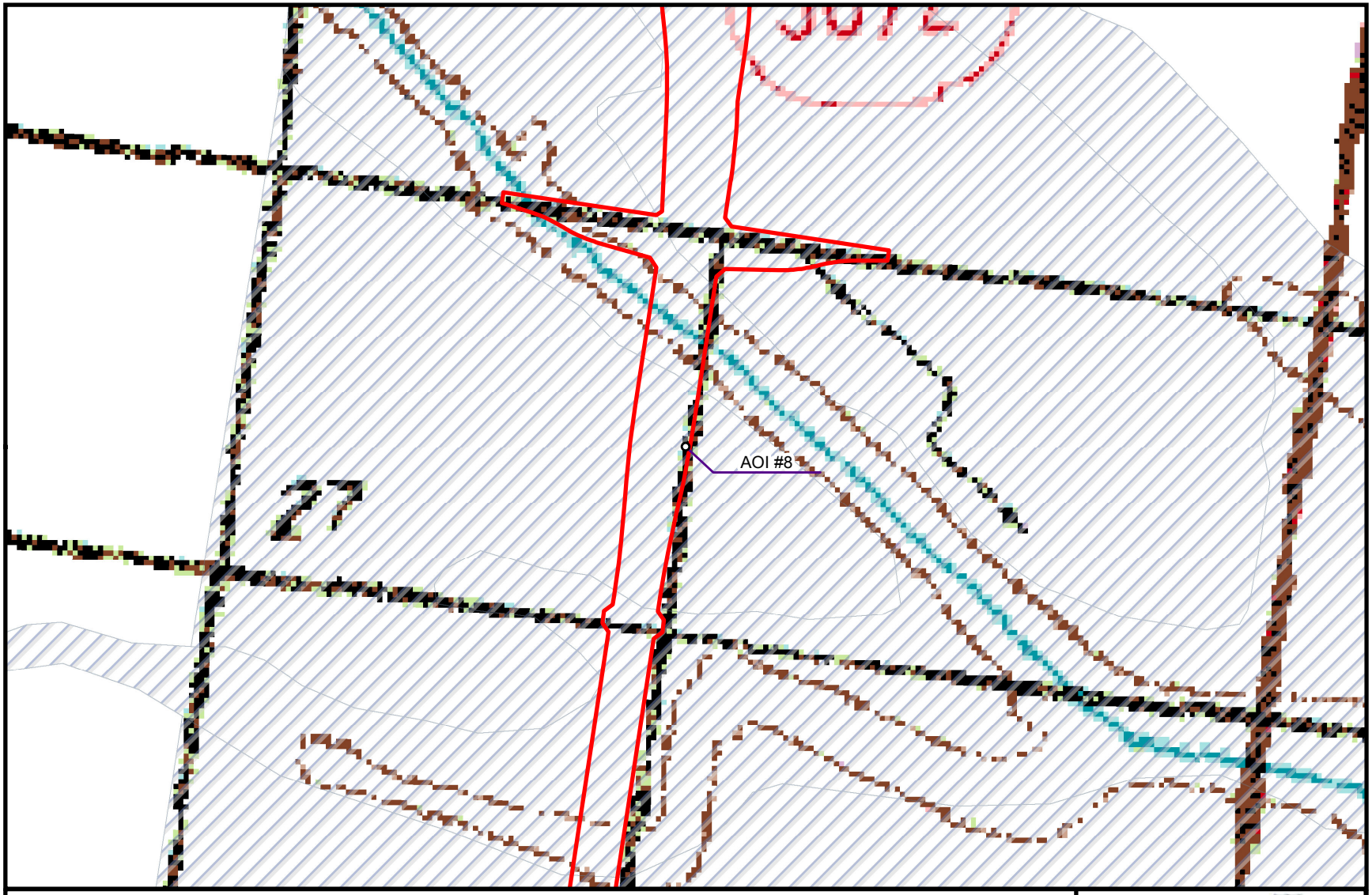
0 500 1,000 Feet

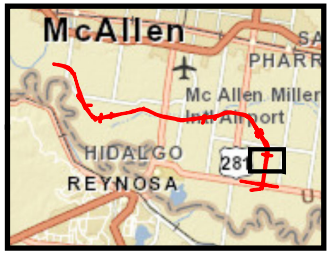
ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 4 of 5
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 1,000 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013




Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

- Proposed ROW
- Levee Relocation
- 100 Year Floodplain
- IBWC Floodway
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Steam/Creek
- PEM Wetland
- Pond

0 500 1,000 Feet

ATKINS

**Figure 3**
Wetland Delineation Topo Map
State Highway 365
From FM 1016
to US 281/Military Highway
Sheet 5 of 5
Pharr Quadrangle
Hidalgo County, Texas

| | |
|---|---|
| Prepared By: ATKINS/25667 | Scale: 1 inch = 1,000 feet |
| CSJ No.: 3627-01-001, 3627-01-002, 0220-01-023 | Date: January 31, 2014 |
| R:\100020726\USACE Modification Request\GIS | |

Base Map: ESRI and its data suppliers, (c) 2013

# Attachment 2

# Wetland Determination Data Forms

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 City/County: Hidalgo County Sampling Date: 11.20.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 6

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Pond Margin Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR I Lat: 26.167234 Long: -98.326523 Datum: NAD 83

Soil Map Unit Name: Water NWI classification: PUSCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 X No ____ | **Is the Sampled Area within a Wetland?** Yes X No ____ |
| Hydric Soil Present? | Yes X No ____ | |
| Wetland Hydrology Present? | Yes X No ____ | |

Remarks: Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Typha latifolia* | 100 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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 X No ____

Remarks: This data point did contain hydrophytic vegetation.

## SOIL

Sampling Point: DP WET 6

**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 | 2.5 YR 6/2 | 85 | 7.5 YR 3/4 | 15 | C | M | Loam | |
| 6-16+ | 2.5 YR 6/1 | 60 | 2.5 Y 5/4 | 15 | C | M | Sandy Loam | |
| | 5 Y 4/1 | 25 | | | | | Sandy Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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)
- X 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils at this data point were indicative of hydric conditions.

.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

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

Water Table Present? Yes X No ___ Depth (inches): 6 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0 in

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 City/County: Hidalgo County Sampling Date: 11.20.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET 6

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR): LRR I Lat: 26.167167 Long: -98.326392 Datum: NAD 83

Soil Map Unit Name: Pits, borrow NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 ____ No X | |
| Wetland Hydrology Present? | Yes ____ No X | |

Remarks: Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Prosopis glandulosa* | 20 | YES | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 20 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | = Total Cover | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Opuntia engelmanni* | 10 | NO | UPL |
| 2. *Helianthus annuus* | 70 | YES | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 20

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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: This data point did not contain hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET 6

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-16 | 5 YR 4/4 | 50 | | | | | Loam | Mixed soil profile |
| | 2.5 Y 7/2 | 50 | | | | | Fine Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: Mixed soil profile. The soils at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 365 City/County: Hidalgo County Sampling Date: 11.20.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 7

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR I Lat: 26.143555 Long: -98.266644 Datum: NAD 83

Soil Map Unit Name: Grulla clay NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 X No ____ | **Is the Sampled Area within a Wetland?** Yes X No ____ |
| Hydric Soil Present? | Yes X No ____ | |
| Wetland Hydrology Present? | Yes X No ____ | |

Remarks: Loacted within the IBWC Floodway. Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 0 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. *Tamarix chinensis* | 25 | YES | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 25 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Panicum virgatum* | 10 | NO | FAC |
| 2. *Echinochloa colona* | 75 | YES | FACW |
| 3. *Rhynchospora corniculata* | 5 | NO | OBL |
| 4. *Helianthus annuus* | 5 | NO | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 95 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 5

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____ | x 1 = ____ |
| FACW species ____ | x 2 = ____ |
| FAC species ____ | x 3 = ____ |
| FACU species ____ | x 4 = ____ |
| UPL species ____ | x 5 = ____ |
| Column Totals: ____ (A) | ____ (B) |

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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 X No ____

Remarks: This data point did contain hydrophytic vegetation

## SOIL

Sampling Point: DP WET 7

**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 | 10 YR 4/2 | 95 | 10 YR 4/6 | 5 | C | M/PL | Sandy loam | |
| 6-16 | 10 YR 5/2 | 95 | 10 YR 5/6 | 5 | C | M | Sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils at this data point were indicative of hydric conditions.

.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- X 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)
- X 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)**
- X 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 X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 City/County: Hidalgo County Sampling Date: 11.19.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET AOI #6

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Levee Local relief (concave, convex, none): Concave Slope (%):

Subregion (LRR): LRR I Lat: 26.141403 Long: -98.212528 Datum: NAD 83

Soil Map Unit Name: Benito clay 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 X No | **Is the Sampled Area within a Wetland?** Yes X No |
| Hydric Soil Present? | Yes X No | |
| Wetland Hydrology Present? | Yes X No | |

Remarks: Data point taken within an excavated basin within the IBWC Floodway. Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Cyperus articulatus* | 70 | YES | OBL |
| 2. *Bothriochloa ischaemum* var. *songarica* | 10 | NO | UPL |
| 3. *Paspalum floridanum* | 5 | NO | FACW |
| 4. *Helianthus annuus* | 5 | NO | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 95 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 10

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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 X No

Remarks: This data point did contain hydrophytic vegetation.

## SOIL

Sampling Point: DP WET AOI #6

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10 YR 4/1 | 100 | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- __X__ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes __X__ No _____

Remarks: Hydric soil indicator poorly developed because recently excavated soils. The soils at this data point were indicative of hydric conditions meeting conditions 1,2,3, and 4b4 of the Problematic hydric soils procedures of Section 5 – Difficult Wetland Situations in the Great Plains.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- __X__ 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)

- __X__ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No __X__ Depth (inches): _____

Water Table Present? Yes _____ No __X__ Depth (inches): _____

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

**Wetland Hydrology Present?** Yes __X__ No _____

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 City/County: Hidalgo County Sampling Date: 11.19.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET AOI#6

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Floodway Local relief (concave, convex, none): Convex Slope (%):

Subregion (LRR): LRR I Lat: 26.141314 Long: -98.212559 Datum: NAD 83

Soil Map Unit Name: Benito clay NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 ____ No X | |
| Wetland Hydrology Present? | Yes ____ No X | |

Remarks: Data point taken upland within the IBWC Floodway. Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Bothriochloa ischaemum* var. *songarica* | 45 | YES | UPL |
| 2. *Panicum coloratum* | 45 | YES | FAC |
| 3. *Iva angustifolia* | 4 | NO | UPL |
| 4. *Helianthus annuus* | 1 | NO | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 45 | x 3 = | 135 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 49 | x 5 = | 245 |
| Column Totals: | 94 (A) | | 380 (B) |

Prevalence Index = B/A = 4.04

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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: This data point did not contain hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET AOI#6

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10 YR 4/1 | | | | | | Loam | |
| 2-12 | 10 YR 4/2 | | | | | | Loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils at this data point were not indicative of hydric conditions.

.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: State Highway 365 City/County: Hidalgo County Sampling Date: 11.19.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP #6

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR I Lat: 26.1194 Long: -98.1715 Datum: NAD 83

Soil Map Unit Name: Harlingen clay, saline NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 X No ____ | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ No X | |
| Wetland Hydrology Present? | Yes ____ No X | |

Remarks: Data point taken at lowest point in expanded ROW. Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Batis maritima* | 60 | Yes | OBL |
| 2. *Salsola kali* | 10 | NO | FACU |
| 3. *Bothriochloa ischaemum* var. *songarica* | 5 | NO | UPL |
| 4. *Panicum coloratum* | 5 | NO | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80% = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 20

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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 X No ____

Remarks: This data point did contained a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP #6

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10 YR 4/1 | 100 | | | | | Loamy clay | |
| 2-16 | 10 YR 4/1 | 100 | | | | | Clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils at this data point were not indicative of hydric conditions.

.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Area is a small depressional area within an upland pasture. Observations suggest that localized depression would hold water for small amounts of time following rain events but would not persist for long periods during the growing season. No outflows to potential WOUS present. Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 City/County: Hidalgo County Sampling Date: 11.19.2013

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: AOI #8

Investigator(s): Mike Dyke/Christina Jones Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR I Lat: 26.108611 Long: -98.172424 Datum: NAD 83

Soil Map Unit Name: Harlingen clay NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (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 X No ____ | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ No X | |
| Wetland Hydrology Present? | Yes ____ No X | |

Remarks: Rainfall for the month of October 2013 was 0.02 inches while the historical average for the month of October is 2.76 inches which constitutes lower than average rainfall prior to observation at this location. This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-feet) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-feet) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-feet) | | | |
| 1. *Phragmites australis* | 100 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-feet) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum ____

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Test 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 X No ____

Remarks: This data point contained a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: AOI #8

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10 YR 4/2 | 100 | | | | | Loam | |
| 6-14 | 10 YR 5/3 | 100 | | | | | Sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils at this data point were not indicative of hydric conditions.

.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: No potential drainages from AOI #8 could reach a waterbody. Wetland hydrology was not observed at this data point.

**DEPARTMENT OF THE ARMY**
GALVESTON DISTRICT, CORPS OF ENGINEERS
CORPUS CHRISTI REGULATORY FIELD OFFICE
5151 FLYNN PARKWAY, SUITE 306
COPRUS CHRISTI, TEXAS 78411-4318

January 3, 2014

REPLY TO
ATTENTION OF:

Corpus Christi Regulatory Field Office

SUBJECT: Preliminary Jurisdictional Determination- SWG-2013-00175

Michael Dyke
Atkins North America
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

Dear Mr. Dyke:

This letter is in reference to your February 27, 2013 request for a jurisdictional determination for the proposed State Highway 365 roadway project on behalf of the Hidalgo County Regional Mobility Authority and the Texas Department of Transportation Pharr District. On March 6, 2013 we were notified that you preferred the project be processed as a preliminary jurisdictional determination. The proposed project consists of a six-lane, divided, controlled access toll facility from Farm to Market (FM) 1016/Conway Avenue to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas.

We find that the proposed State Highway 365 project right of way does contain 11.78 acres of aquatic resources, specifically, 2.43 acres of surface water tributaries and 9.35 acres of wetlands. Maps of the project site and aquatic resources are included in 8 sheets. Wetlands, under normal circumstances, exhibit wetland hydrology, a predominance of hydrophytic vegetation, and contain hydric soils as identified utilizing the Atlantic and Gulf Coast Plain Regional supplement (version 2.0) to the 1987 Corps of Engineers Wetland Delineation Manual. Computation of impacts made on the basis of this preliminary jurisdictional determination will treat all waters of the United States that would be affected in any way by any activity on the site as if they are jurisdictional waters of the United States. **As such, all waters of the United States are subject to Section 404 of the Clean Water Act and will require a Department of the Army permit prior to any discharge of dredged and or fill material into any surface tributary.**

This jurisdictional determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in this request. This jurisdictional determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program

participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This preliminary jurisdictional determination is valid for 5 years from the date of this letter, unless new information warrants a revision prior to the expiration date. An approved jurisdictional determination can be requested at any time. If you have any questions concerning this matter, please reference file number **SWG-2013-00175** and contact Mr. Nicholas Laskowski at the letterhead above or at 361-814-5847 ext. 1007. To assist us in improving our service to you, please complete the survey found at http://per2.nwp.usace.army.mil/survey.html and/or if you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you.

Sincerely,

Nicholas Laskowski, Acting Supervisor
Corpus Christi Regulatory Field Office

Enclosures

# SWG-2013-00175 - PJD Map - Overview Panel

SWG-2013-00175
Sheet 1 of 8

Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 0.75 1.5 3 Miles

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 1



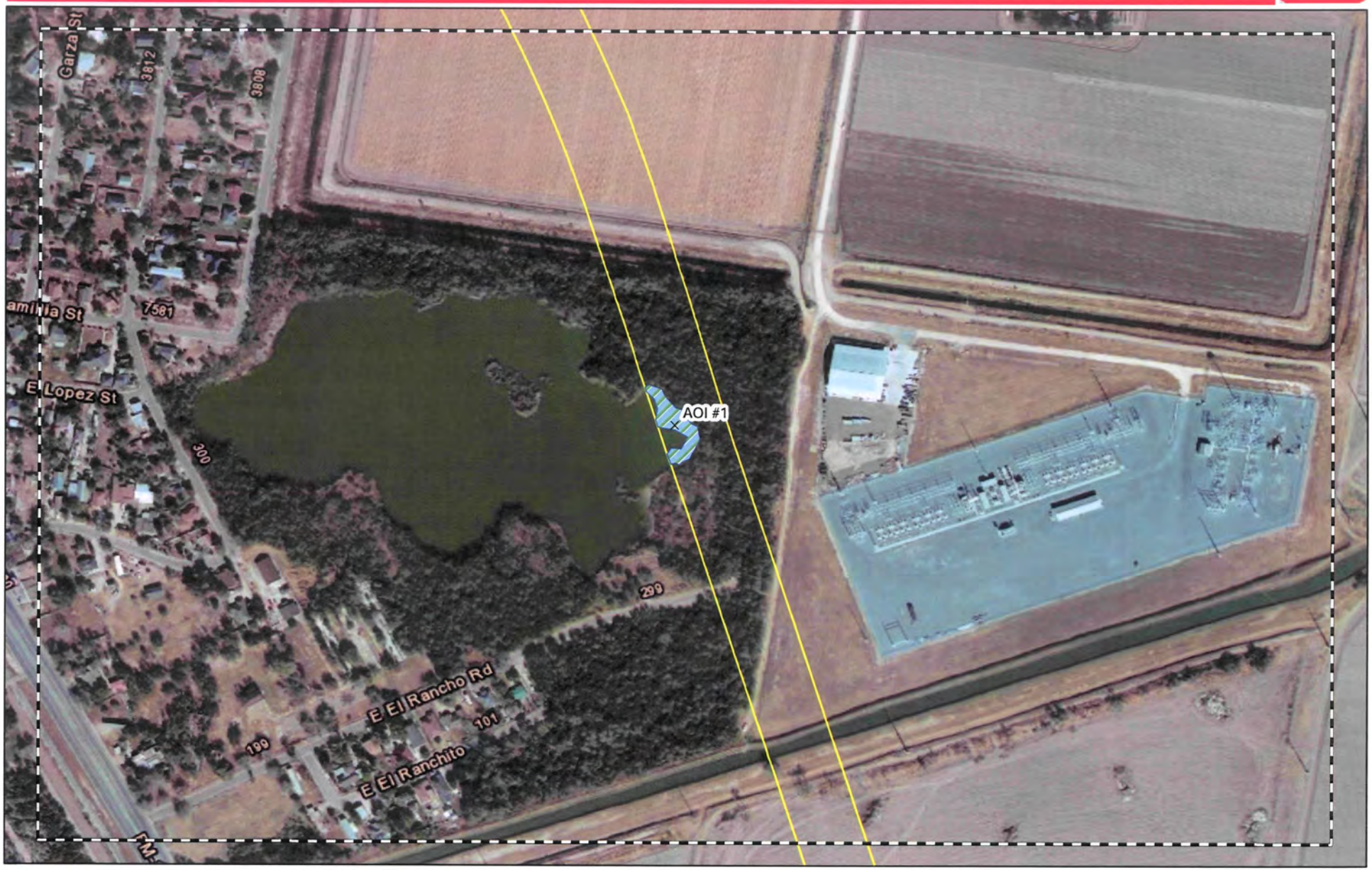



Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700 Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 2



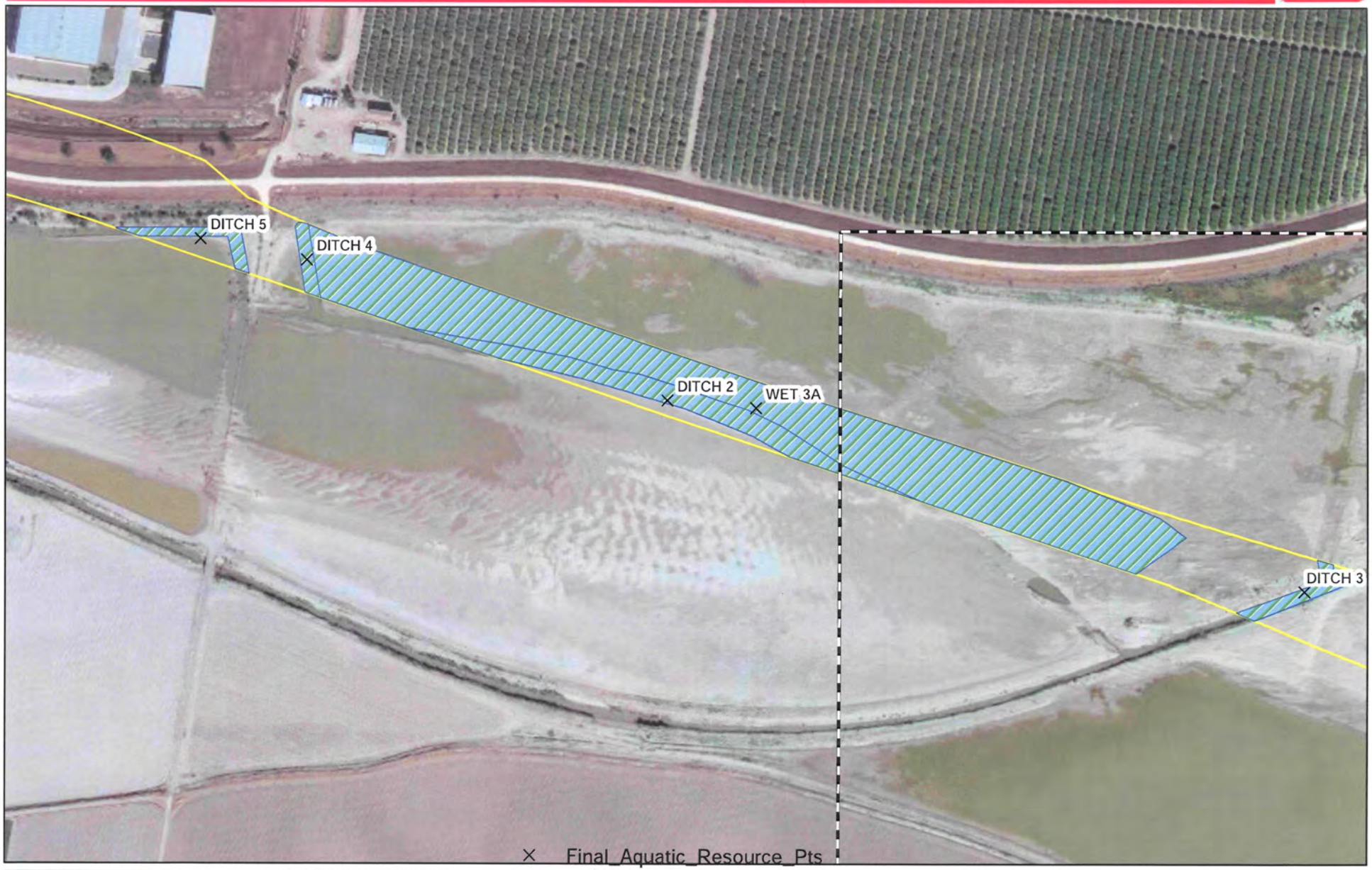



Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700 Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 3



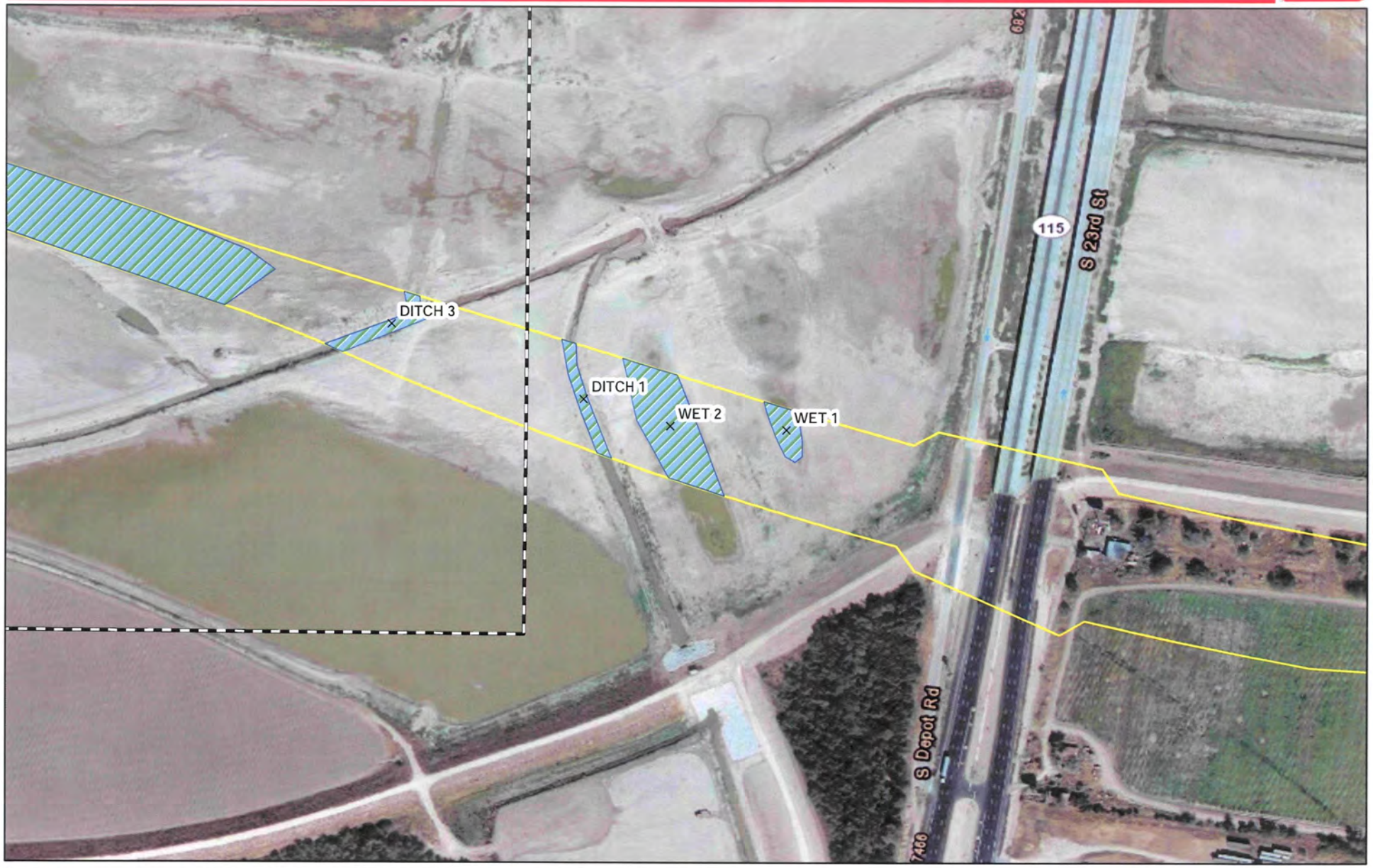



Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700
Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 4

Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700
Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 5



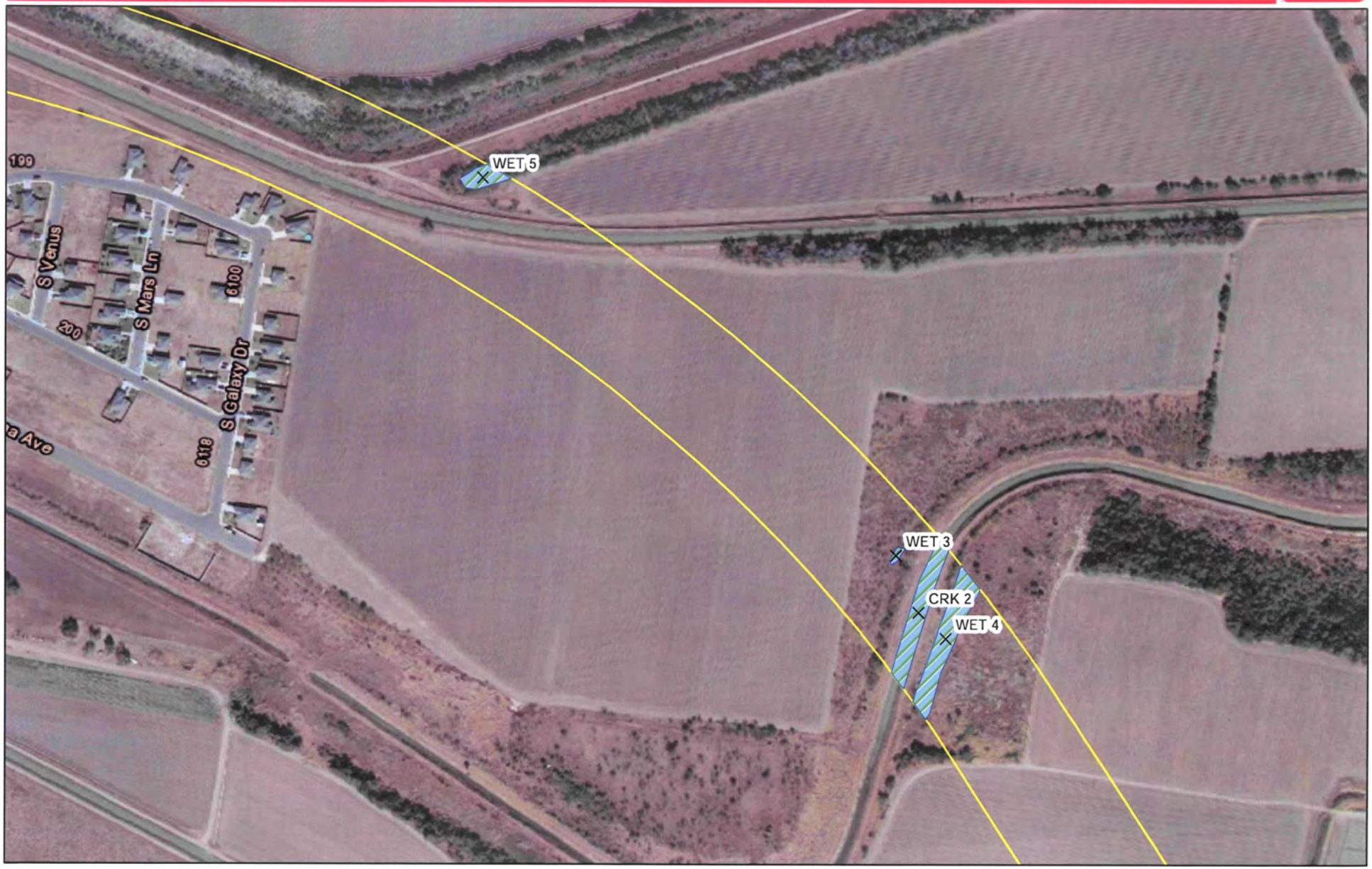



Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700 Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 6

Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700
Feet

N
W E
S

# SWG-2013-00175 - PJD Map - Panel 7

Image Source: ESRI Microsoft Aerial
Dated: 12/10/2010
Created by: NAL
Date: 27-Jun-2013

Aquatic Resources
State Highway 35 ROW
Panel Sheet

0 175 350 700 Feet

N
W E
S

**ATTACHMENT**

**PRELIMINARY JURISDICTIONAL DETERMINATION FORM**

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD):** 27-Jun-2013

**B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:**
Mr. Michael Dyke
Atkins North America, Inc.
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Galveston District, Hidalgo County Regional Mobility Authority, SWG-2013-00175

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: (USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: Texas County: Hidalgo Nearest City: McAllen
Center coordinates of site: Lat. °, Long.
Universal Transverse Mercator: Zone N, mE, mN
Name of nearest waterbody: La Cruz Resaca

Identify (estimate) amount of waters in the review area:
Non-wetland waters: 2.43-acres.
Cowardin Class: Riverine
Stream Flow: Perennial, intermittent, ephemeral
Wetlands: 9.35 acres.
Cowardin Class: PEM, PSS

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: N/A
Non-Tidal: N/A

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

☒ Office (Desk) Determination. Date: 27-Jun-2013

☐ Field Determination. Date(s):

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply** - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:.

☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- ☐ Office concurs with data sheets/delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps: .

☐ Corps navigable waters' study: .

☒ U.S. Geological Survey Hydrologic Atlas: .

- ☒ USGS NHD data.
- ☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:

☐ USDA Natural Resources Conservation Service Soil Survey. Citation:.

☒ National wetlands inventory map(s). Cite name: USFWS NWI Online.

☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): ESRI Microsoft aerial dated 12/10/2010, Google Earth aerials dated: 3/2/2013, 12/25/2010, 1/31/2009, 12/31/2008, 03/31/2008

or ☐ Other (Name & Date): .

☐ Previous determination(s).

☐ Other information (please specify):.

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

8/13/13

Signature and date of
Regulatory Project Manager
(REQUIRED)

8/6/13

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining
the signature is impracticable)

**SWG-2013-00175 - Preliminary Jurisdictional Determination**

Hidalgo County Regional Mobility Authority - HWY 365 Project

| Aquatic Resource | Acreage | Cowardin | Latitude | Longitude | Type |
|---|---|---|---|---|---|
| SWG-2013-00175 - AOI #1 | 0.23 | PSS | 26.167492 | -98.326536 | Non-Sec. 10 wetland |
| SWG-2013-00175 - AOI #3 | 0.63 | PEM | 26.141434 | -98.211150 | Non-Sec. 10 wetland |
| SWG-2013-00175 - AOI #8 | 0.14 | PSS | 26.108458 | -98.172463 | Non-Sec. 10 wetland |
| SWG-2013-00175 - CRK2 | 0.34 | Riverine | 26.137425 | -98.184691 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 1 | 0.20 | Riverine | 26.141354 | -98.258694 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 2 | 1.14 | Riverine | 26.143289 | -98.264749 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 3 | 0.25 | Riverine | 26.141900 | -98.260104 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 4 | 0.15 | Riverine | 26.144310 | -98.267407 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 5 | 0.22 | Riverine | 26.144463 | -98.268185 | Non-Sec. 10 water |
| SWG-2013-00175 - DITCH 9A | 0.13 | Riverine | 26.094009 | -98.175417 | Non-Sec. 10 water |
| SWG-2013-00175 - WET 1 | 0.20 | PEM | 26.141130 | -98.257194 | Non-Sec. 10 wetland |
| SWG-2013-00175 - WET 2 | 0.95 | PEM | 26.141158 | -98.258046 | Non-Sec. 10 wetland |
| SWG-2013-00175 - WET 3 | 0.02 | PEM | 26.137841 | -98.184853 | Non-Sec. 10 wetland |
| SWG-2013-00175 - WET 3A | 6.66 | PEM | 26.143235 | -98.264105 | Non-Sec. 10 wetland |
| SWG-2013-00175 - WET 4 | 0.42 | PEM | 26.137236 | -98.184492 | Non-Sec. 10 wetland |
| SWG-2013-00175 - WET 5 | 0.10 | PEM | 26.140583 | -98.187893 | Non-Sec. 10 wetland |
| **Total** | **9.35** | **Wetland** | | | |
| **Total** | **2.43** | **Waters** | | | |
| **TOTAL** | **11.78** | **Waters of the US** | | | |

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applicant: Hidalgo Co. Regional Mobility Authority | File Number: **SWG-2013-00175** | Date: **03 Jan 2014** |
|---|---|---|

| Attached is: | | See Section below |
|---|---|---|
| | INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission) | A |
| | PROFFERED PERMIT (Standard Permit or Letter of Permission) | B |
| | PERMIT DENIAL | C |
| | APPROVED JURISDICTIONAL DETERMINATION | D |
| X | PRELIMINARY JURISDICTIONAL DETERMINATION | E |

SECTION I – The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved jurisdictional determination (JD) or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

## SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

## POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Mr. Nicholas Laskowski
Team Leader, Project Manager
CESWG-PE-RCC
U.S. Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
361-814-5847 ext. 1007; FAX: 361-814-5912

If you only have questions regarding the appeal process you may also contact:

Mr. Elliott Carman
Regulatory Appeal Review Officer
Southwestern Division USACE (CESWD-PD-O)
1100 Commerce Street, Suite 831
Dallas, Texas 75242-1731
Telephone: 469-487-7061; FAX: 469-487-7199

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|---|---|---|
| _____ Signature of appellant or authorized agent. | | |

ATKINS

**Atkins North America, Inc.**
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

**Telephone: +1.281.493.5100**
Fax: +1.281.493.1047

**www.atkinsglobal.com/northamerica**

April 24, 2013

VIA E-MAIL

Mr. Nicholas Laskowski
United States Army Corps of Engineers
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318

PN 100020726

Dear Mr. Laskowski:

Re: SWG-2013-00175
Request for Jurisdictional Determination of Wetland and Waterbody Crossings
Hidalgo County Regional Mobility Authority
Proposed State Highway 365 Roadway Project
Hidalgo County, Texas

Atkins North America, Inc. (Atkins) has been contracted by Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Department of Transportation (TxDOT) Pharr District, to obtain environmental clearances/permits for the proposed State Highway (SH) 365 Roadway Project (Project). The proposed Project consists of construction of a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas. On behalf of HCRMA, Atkins submitted a request for jurisdictional determination of wetland and waterbody crossings for the proposed Project on February 27, 2013. Subsequent to this submittal, the USACE issued a project number (SWG-2013-00175) and a request for information in an e-mail received on March 27, 2013. Specifically, the USACE requested information regarding presentation of sampling points on maps, potential wetlands/waters based on USACE desktop review, and jurisdiction of four ditches. Atkins addresses each USACE inquiry below with the USACE request in italics followed by a response in regular type.

*Comment 1: Your delineation map does not show the name of the sample points on the maps.*

Atkins collected a large number of data points for this Project within largely uniform upland areas, e.g., cropland and pastures. As a result, data forms for the majority of these locations were not submitted with the original Wetland Delineation Report in an effort to minimize paperwork. Only data forms for wetlands and associated upland areas were included in the Preliminary Jurisdictional request. Atkins is providing wetland determination data forms collected during field investigations for individual areas of interest (AOI) as specified below in Attachment A.

*Comment 2: We (USACE) have completed the desktop review of the proposed SH 365 project area. There are several areas that are not captured on the delineation maps that "appear" to be wetlands/ waters. Either the areas will need to be designated as aquatic resources or data needs to be supplied that states the contrary.*

These AOI's are summarized below:

1. *Low area by lake, darker tonal pattern on CIR (26.167540, −98.326382):*

   Atkins collected a lone data point (UDP 1) in the mesquite scrub habitat surrounding POND 1, which is a pond created within a soil borrow pit at that location. The pond is situated within an upland area that did not exhibit a surface connection to potential waters of the U.S. subject to USACE jurisdiction under Section 404 of the Clean Water Act. Based on this assessment, it is Atkins' opinion that both POND 1 and any fringe wetlands that may be present at the rim of the pond would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area, a wetland determination data form prepared for UDP 1, and a representative photograph from UDP 1.

2. *Low area with darker tonal pattern (26.143436, −98.282080).*

   Atkins collected a lone data point (UDP 2) in a fallow crop field west of this AOI. Subsequent to field investigations, a ditch was constructed in AOI 2. The ditch is situated within an upland area that did not exhibit a surface connection to potential waters of the U.S. subject to USACE jurisdiction under Section 404 of the Clean Water Act. Based on this assessment, it is Atkins' opinion that the ditch constructed within AOI 2 would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area, a wetland determination data form prepared for UDP 2, and a representative photograph of UDP 2.

3. *Within floodway, vegetation difference (26.141495, −98.210812).*

   Atkins completed field investigations for this AOI in February of 2009, and collected a lone data point (UDP 3) in a fallow crop field approximately 300 feet to the east of AOI 3. According to observations made at that time, no suspected wetland areas were observed. Subsequent to field investigations, significant construction activities have occurred at AOI 3. Please refer to Attachment A for aerial and topographic maps depicting this area and a wetland determination data form prepared for UDP 3.

4. *Darker tonal patterns (26.116602, −98.172052).*

   AOI 4 is situated within a cropland area observed in a fallow field state during field investigations. Adjacent canals were determined to be non-jurisdictional per the USACE determination received for the International Bridge Trade Corridor (IBTC) Project (SWG-2010-00573) provided for reference in Attachment B. Based on the previous USACE determination, it is Atkins' opinion that AOI 4 would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area.

5. *Darker tonal patterns (26.114728, −98.172336).*

   AOI 5 is situated within a cropland area observed in a fallow field state during field investigations. Adjacent canals were determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B. Based on the previous USACE determination, it is Atkins' opinion that AOI 5 would not be subject to USACE jurisdiction under

Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area.

6. *Darker tonal patterns (26.111332, −98.172641).*

   AOI 6 is situated within a cropland area observed in a fallow field state during field investigations. Adjacent canals were determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG--2010--00573) provided for reference in Attachment B. Based on the previous USACE determination, it is Atkins' opinion that AOI 6 would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area.

7. *Darker tonal patterns (26.109377, −98.173270).*

   AOI 7 is situated within an upland pasture area as verified during field investigations. Although the Las Milpas 7.5-minute USGS topographic quadrangle map depicts an elevated irrigation canal structure at this location, no evidence was found in this area on the west side of San Juan Road. Adjacent canals were determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B. Based on the previous USACE determination, it is Atkins' opinion that AOI 7 would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area.

8. *Darker green area (26.108410, −98.172477).*

   AOI 8 is situated within a depressional area bordering an irrigated crop field. Although the Las Milpas 7.5-minute topographic quadrangle map depicts an elevated irrigation canal structure at this location, the canal is no longer present. Giant cane (*Arundo donax*) is present within the depressional area indicating soil moisture favorable for wetland conditions; however, this is believed to be the result of man-induced conditions caused by the abandonment of the elevated irrigation canal depicted on the topographic maps along with overflow from the adjacent irrigated field. Adjacent canals were determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B. Based on the previous USACE determination, it is Atkins' opinion that the depressional area within AOI 8 would not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Please refer to Attachment A for aerial and topographic maps depicting this area.

*Comment 3: Based upon review of historical USGS topographical maps, the following ditches appear to be historically part of a surface tributary system that may have been straightened.*

1. *Ditch 6.*

   Ditch 6 is a man-made irrigation ditch within upland cropland communities north of the IBWC Main Floodway and east of South Shary Road. This feature is not depicted in the Mission 7.5-minute USGS topographic quadrangle map, and based on its straight configuration between cropland fields and lack of topographic features indicating previous channel incision, it is not believed to be a part of the natural historic stream system in Hidalgo County. Based on information available to Atkins, this feature is not believed to be subject to USACE jurisdiction under Section 404 of the Clean Water Act.

2. *Ditch 8A.*

   Ditch 8A was determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B.

3. *Ditch 9A.*

   Ditch 9A was determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B. Under the IBTC determination, Ditch 9A was formerly referred to as Ditch A14. The name was subsequently changed for this Project to avoid duplicate naming.

4. *Ditch 11A.*

   Ditch 11A was determined to be non-jurisdictional per the IBTC jurisdictional determination letter (SWG-2010-00573) provided for reference in Attachment B. Under the IBTC determination, Ditch 11A was referred to as Ditch 3. The name was subsequently changed for this Project to avoid duplicate naming.

On behalf of HCRMA, Atkins requests that the USACE re-initiate the PCN review process for USACE Project Number SWG-2013-00175 based on the information provided within this submittal.

Thank you for your assistance with this Project. If you have any questions or require additional information, please contact me.

Very truly yours,

Michael Dyke
Project Manager

MD:SC
Enclosures: Attachment A – Project Maps, Wetland Determination Data Forms, and Representative Photos
Attachment B – USACE Determination of Jurisdiction (SWG-2010-00175)

c: Pilar Rodriguez, P. E. - HCRMA Executive Director
Louis Jones, P.E. - HCRMA Program Management Consultant
Sharon G. Becca - Atkins

# Attachment A

# Project Maps
# Wetland Determination Data Forms
# Representative Photos

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

| Soil Unit Name | Symbol |
|---|---|
| RUNN SILTY CLAY | 64 |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| PITS, BORROW | 45 |
| WATER | W |

- Areas of Interest
- Proposed ROW
- NRCS Soils
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

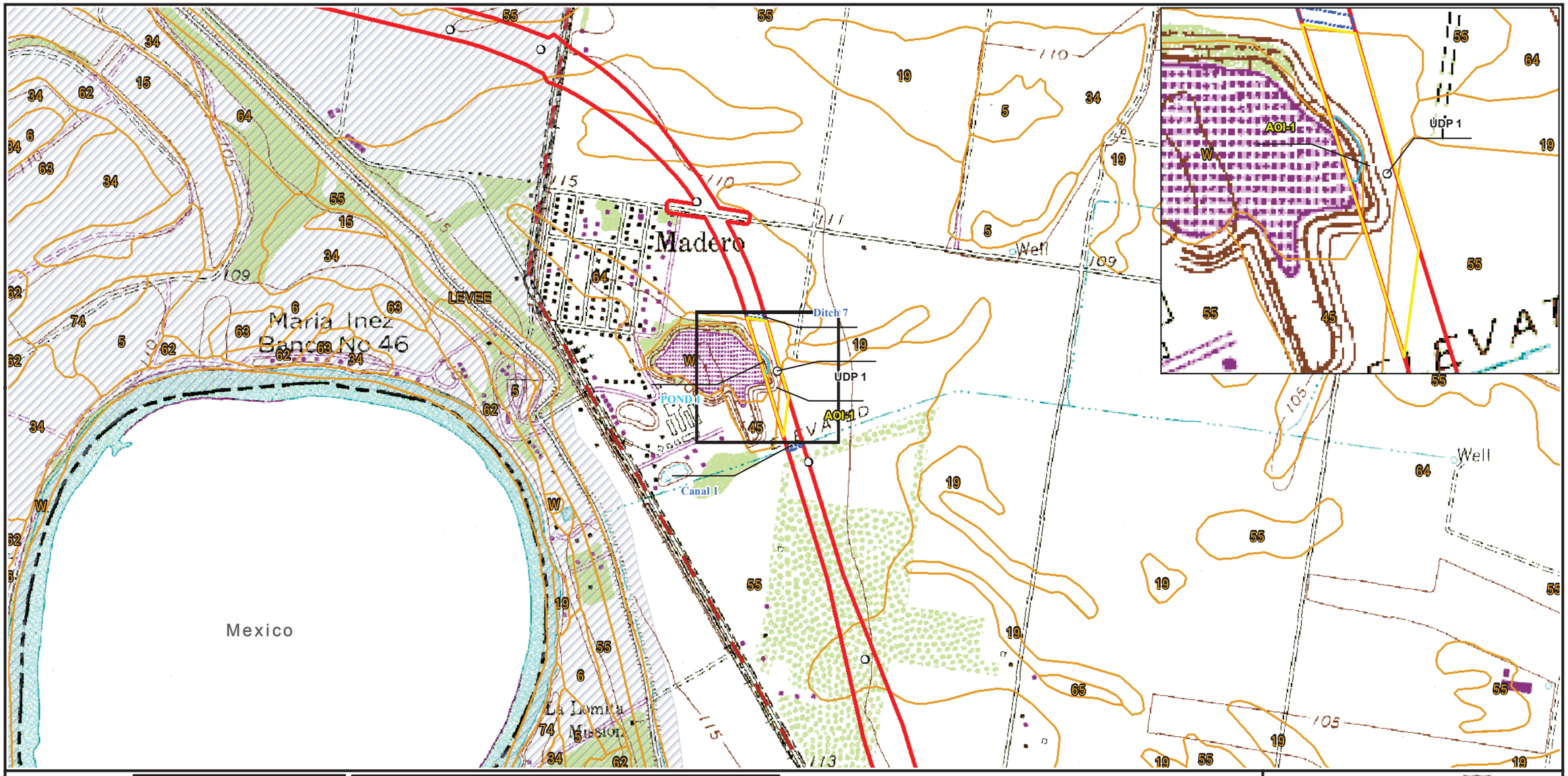
0 1,000 2,000 3,000 Feet

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 1 of 4**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| RUNN SILTY CLAY | 64 |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| PITS, BORROW | 45 |
| WATER | W |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 1 of 4**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: Copyright© 2013 National Geographic Society, i-cubed

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 Roadway Project City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP 1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.16724 Long: -98.326145 Datum: NAD 83

Soil Map Unit Name: Pits, Borrow (45) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland. Please refer to Exhibit B for the location of UDP 1.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Prosopis glandulosa* | 30 | Y | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 30 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. *Celtis pallida* | 40 | Y | UPL |
| 2. *Prosopis glandulosa* | 30 | Y | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 70 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 100

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP 1

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 3/2 | 100 | | | | | L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

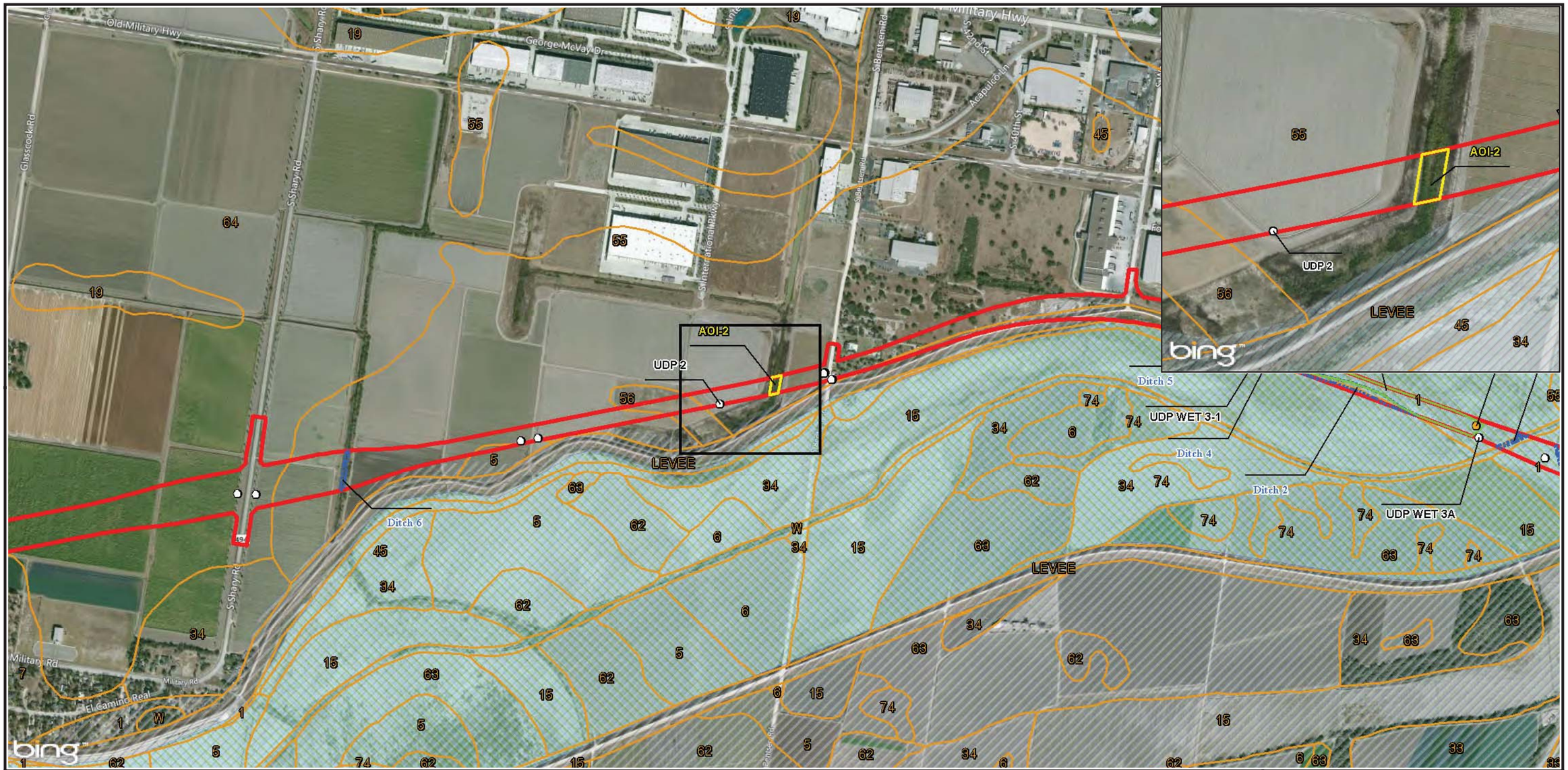
Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology indicators were not observed present at this data point.

**STATE HIGHWAY 365**
**FROM FM 1016/CONWAY AVENUE TO US 281/MILITARY HIGHWAY**
**Hidalgo County, Texas**
**Representative Photographs – UDP 1**




| Soil Unit Name | Symbol |
|---|---|
| LEVEE | LEVEE |
| WATER | W |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| ARENTS, LOAMY | 1 |
| GRULLA CLAY | 15 |
| RUNN SILTY CLAY | 64 |
| RUNN SILTY CLAY, SALINE | 65 |
| HARLINGEN CLAY | 19 |
| REYNOSA SILTY CLAY LOAM, SALINE, 0 TO 1 PERCENT SLOPES | 56 |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

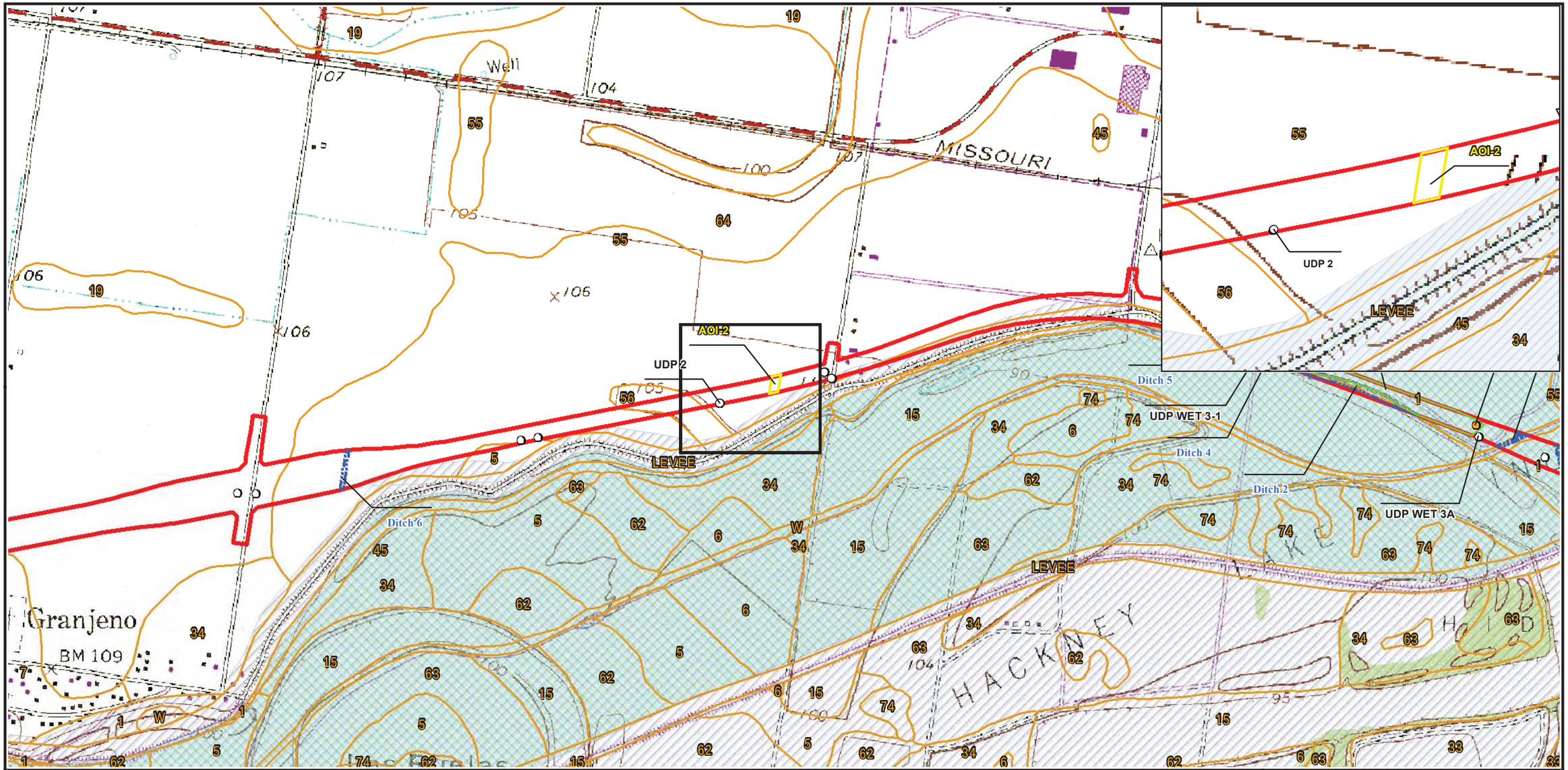
Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 2 of 4**
**Mission and Pharr Quadrangles**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND




| Soil Unit Name | Symbol |
|---|---|
| LEVEE | LEVEE |
| WATER | W |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| ARENTS, LOAMY | 1 |
| GRULLA CLAY | 15 |
| RUNN SILTY CLAY | 64 |
| RUNN SILTY CLAY, SALINE | 65 |
| HARLINGEN CLAY | 19 |
| REYNOSA SILTY CLAY LOAM, SALINE, 0 TO 1 PERCENT SLOPES | 56 |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 2 of 4**
**Mission and Pharr Quadrangles**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 Roadway Project City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP 2

Investigator(s): R. Salazar / A. Orlando Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.142926 Long: -98.283743 Datum: NAD 83

Soil Map Unit Name: Reynosa silty clay loam, 0 to 1 percent slopes (55) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland. Please refer to Exhibit B for the location of UDP 2.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 100

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): _____ (A)

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

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

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: Vegetation not observed at this data point. Location within tilled agricultural fields.

## SOIL

Sampling Point: UDP 2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 4/3 | 100 | | | | | L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

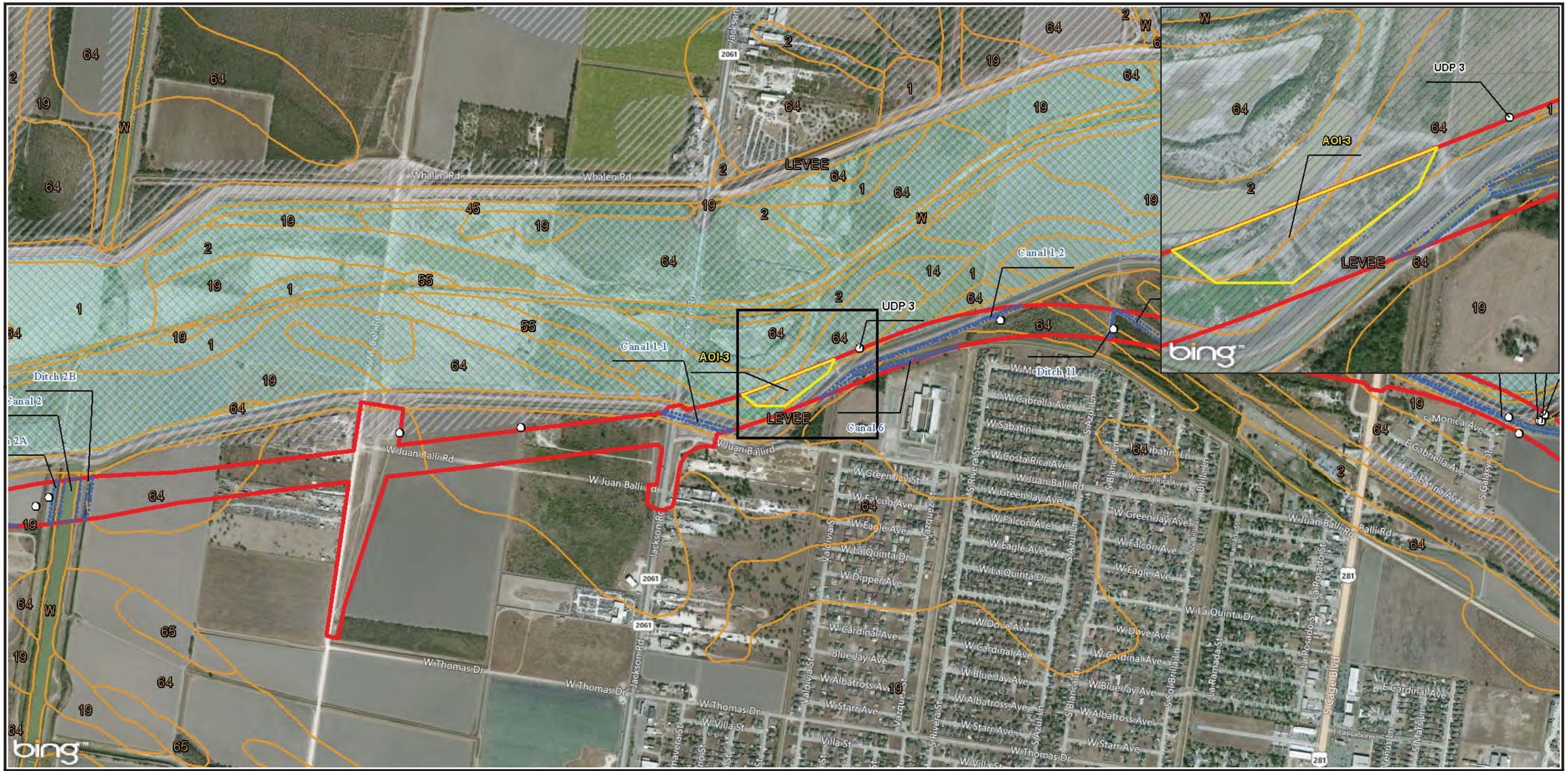
Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology indicators not observed present at this data point.

**STATE HIGHWAY 365**
**FROM FM 1016/CONWAY AVENUE TO US 281/MILITARY HIGHWAY**
**Hidalgo County, Texas**
**Representative Photographs – UDP 2**



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

| Soil Unit Name | Symbol |
|---|---|
| BENITO CLAY | 2 |
| LEVEE | LEVEE |
| ARENTS, LOAMY | 1 |
| RUNN SILTY CLAY | 64 |
| HARLINGEN CLAY | 19 |
| WATER | W |

- Areas of Interest
- Proposed ROW
- NRCS Soils
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

RMA

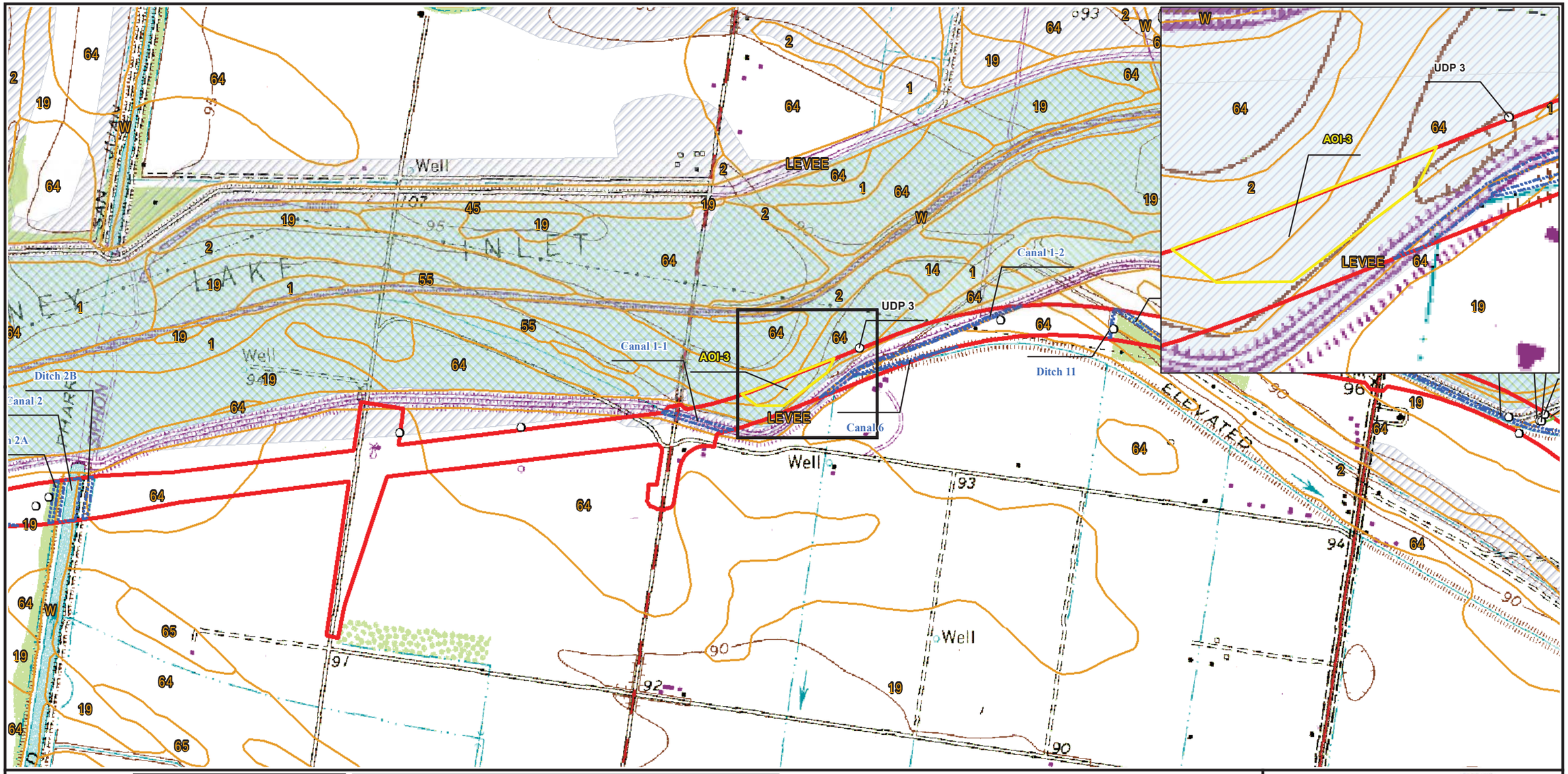
**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 3 of 4**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Apr 22, 2013

File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| BENITO CLAY | 2 |
| LEVEE | LEVEE |
| ARENTS, LOAMY | 1 |
| RUNN SILTY CLAY | 64 |
| HARLINGEN CLAY | 19 |
| WATER | W |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

RMA

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 3 of 4**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Apr 22, 2013

File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365 Roadway Project City/County: Hidalgo County Sampling Date: 2.19.09

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP 3

Investigator(s): C. Cox / J. Marshall Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): Southwest Plateaus and Plains Range and Cotton Region Lat: 26.142506 Long: -98.208392 Datum: NAD 83

Soil Map Unit Name: Runn Silty Clay (64) NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point does not meet the criteria to be considered a wetland. Please refer to Exhibit B for the location of UDP 3.

### VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| Tree Stratum (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15-ft. radius) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| Herb Stratum (Plot size: 5-ft. radius) | | | |
| 1. *Dichanthium anulatum* | 70 | Y | UPL |
| 2. *Helianthus annuus* | 25 | Y | FAC |
| 3. *Cardiospermum halicacabum* | 20 | N | FAC |
| 4. *Ambrosia psilostachya* | 5 | N | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 120 = Total Cover | | |
| Woody Vine Stratum (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: | |
|---|---|---|
| OBL species _____ | x 1 = | _____ |
| FACW species _____ | x 2 = | _____ |
| FAC species _____ | x 3 = | _____ |
| FACU species _____ | x 4 = | _____ |
| UPL species _____ | x 5 = | _____ |
| Column Totals: _____ | (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

_____ Dominance Test is >50%

_____ Prevalence Test is ≤3.0[1]

_____ 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: This data point does not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP 3

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/3 | 100 | | | | | SL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

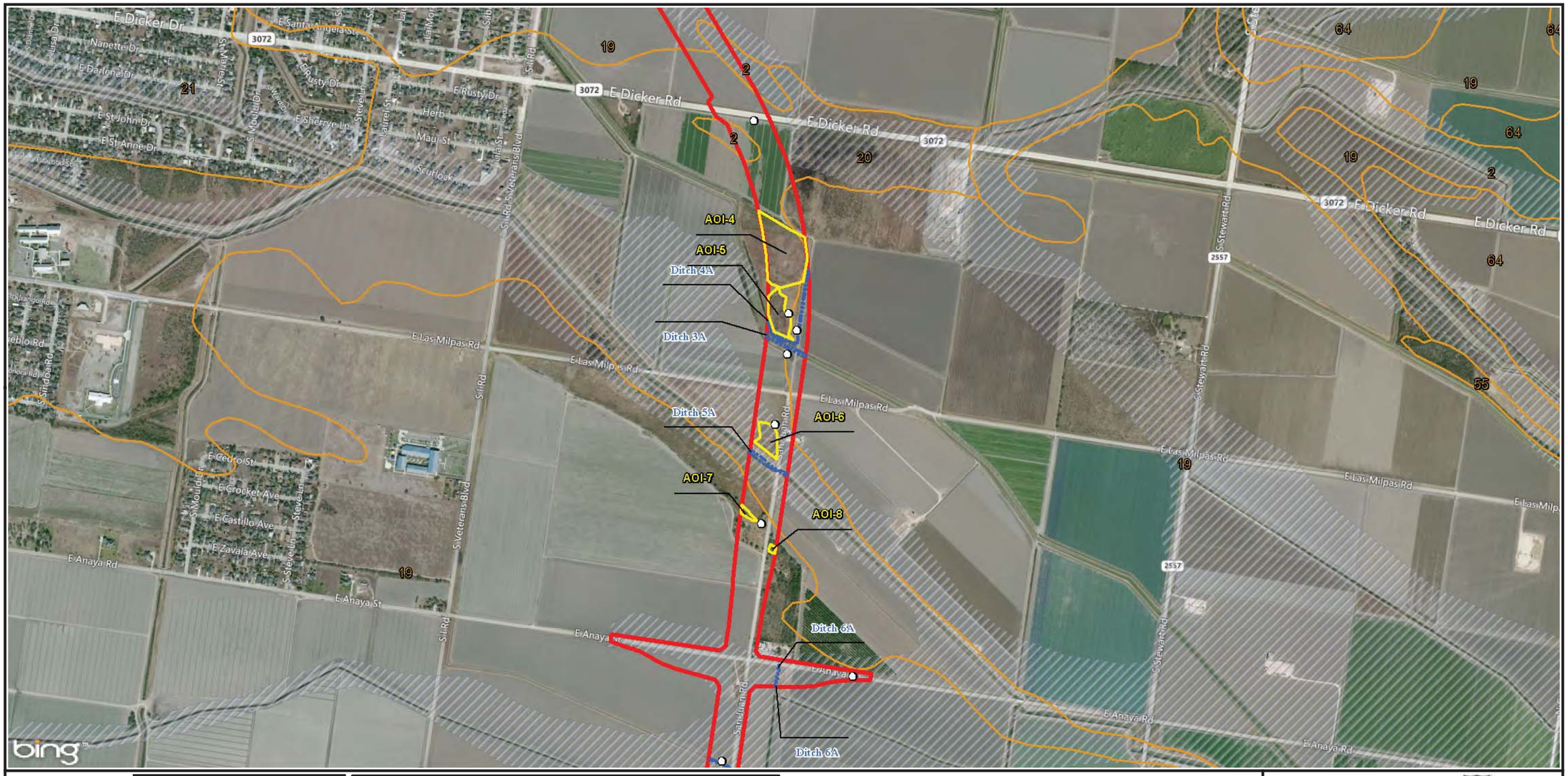
Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

Based on the 10-year and historical rainfall averages reported by the USDA - NRCS (http://www.wcc.nrcs.usda.gov/climate/wetlands.html for historical data) in Hidalgo County, Texas, the project site does not exhibit typical climatic/hydrologic conditions. For the month of November, the 10-year-average rainfall is reported at 0.69 inches and the historical average is reported at 1.18 inches; 0.05 inches of rainfall was recorded in Hidalgo County for January 2008 (http://webgis.tamu.edu/default.aspx).



| Soil Unit Name | Symbol |
|---|---|
| HARLINGEN CLAY | 19 |
| HARLINGEN CLAY, SALINE | 20 |
| BENITO CLAY | 2 |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

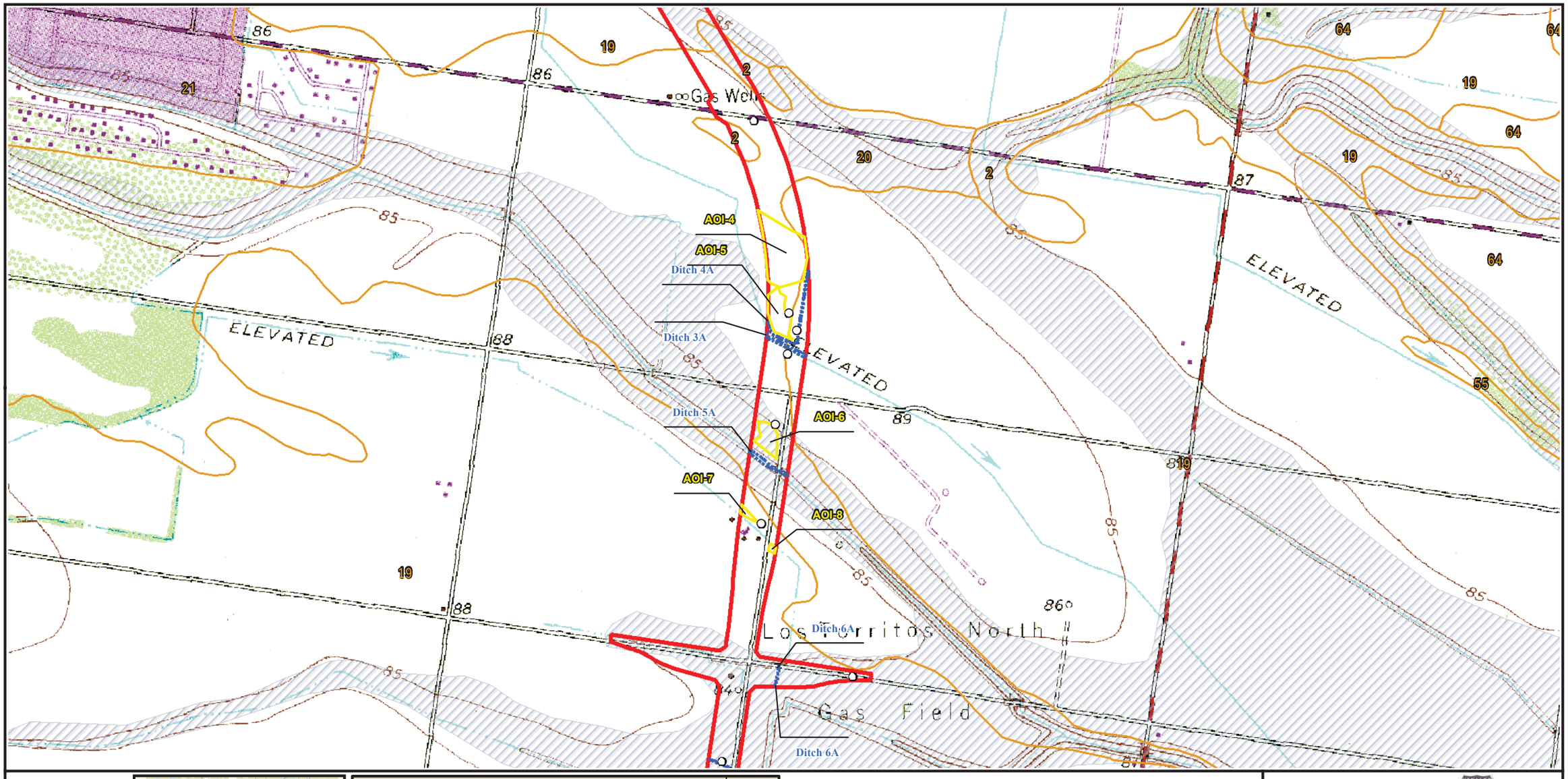
Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 4 of 4**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| HARLINGEN CLAY | 19 |
| HARLINGEN CLAY, SALINE | 20 |
| BENITO CLAY | 2 |

Areas of Interest
Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 4 of 4**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Apr 22, 2013
File:N:\TRANS\100011499\projects\mxd\B_USACE_Review.mxd

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
© 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND

# Attachment B

# USACE Determination of Jurisdiction
# SWG-2010-00175

## Dyke, Michael C

**From:** Laskowski, Nicholas A SWG [Nicholas.A.Laskowski@usace.army.mil]
**Sent:** Wednesday, March 27, 2013 11:58 AM
**To:** Dyke, Michael C
**Subject:** Desktop Review of HCRMA, Proposed SH 365 - SWG-2013-00175(UNCLASSIFIED)
**Attachments:** SWG-2013-00175 USACE Shapefiles.zip

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Classification: UNCLASSIFIED
Caveats: NONE

Michael,

Your delineation map does not show the name of the sample points on the maps.

We have completed the desktop review of the proposed SH 365 project area. There are several areas that are not captured on the delineation maps that "appear" to be wetlands/waters. Either the areas will need to be designated as aquatic resources or data needs to be supplied that states the contrary.

These areas are (also see attached shapefile):
1) Low are by lake, darker tonal pattern on CIR - 26.167540, -98.326382
2) Low area with darker tonal pattern - 26.143436, -98.282080
3) Within floodway, vegetation difference - 26.141495, -98.210812
4) Darker tonal patterns - 26.116602, -98.172052
5) Darker tonal patterns - 26.114728, -98.172336
6) Darker tonal patterns - 26.111332, -98.172641
7) Darker tonal patterns - 26.109377, -98.173270
8) Darker green area - 26.108410, -98.172477

Based upon review of historical USGS topo maps the following ditches appear to historically part of a surface tributary system that may have been straightened.
1) Ditch 6
2) Ditch 8A
3) Ditch 9A
4) Ditch 11A

If you have any questions please feel free to contact me at the numbers listed below or via email.

Regards,
Nick

Nicholas A. Laskowski P.G., PWS
Team Lead/ Project Manager
US Army Corps of Engineers
Galveston District
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
Phone: (361)-814-5847 ext. 1007
Fax: (361)-814-5912

"To assist us in improving our service to you, please complete the survey found at http://per2.nwp.usace.army.mil/survey.html <http://per2.nwp.usace.army.mil/survey.html> and/or if you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you."

Classification: UNCLASSIFIED
Caveats: NONE

_____
The IS team in Atkins has scanned this email and any attachments for viruses and other threats; however no technology can be guaranteed to detect all threats. Always exercise caution before acting on the content of an email and before opening attachments or following links contained within the email.

## Dyke, Michael C

**From:** Trant, Angela SWG [Angela.Trant@usace.army.mil]
**Sent:** Thursday, February 28, 2013 2:31 PM
**To:** Dyke, Michael C
**Cc:** Laskowski, Nicholas A SWG
**Subject:** Hidalgo County Regional Mobility Authority, St Hwy 365 RoadwayProject (UNCLASSIFIED)

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

**Categories:** Red Category

Classification: UNCLASSIFIED
Caveats: NONE

This project has been given the tracking number SWG-2013-00175 and has been assigned to Nicholas Laskowski.

Please be advised that applications received in this office are assigned on a first-come, first-served basis. Once the application is assigned, please allow the project manager time to review your application. He will contact you if further information is required.

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

Thank you.

US Army Corps of Engineers
Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, TX 78411-4318
361-814-5847 phone
361-814-5912 fax

To assist us in improving our service to you, please complete the survey found at
http://per2.nwp.usace.army.mil/survey.html

Classification: UNCLASSIFIED
Caveats: NONE

The IS team in Atkins has scanned this email and any attachments for viruses and other threats; however no technology can be guaranteed to detect all threats. Always exercise caution before acting on the content of an email and before opening attachments or following links contained within the email.

ATKINS

**Atkins North America, Inc.**
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079
**Telephone: +1.281.493.5100**
Fax: +1.281.493.1047
**www.atkinsglobal.com/northamerica**

February 27, 2013

Mr. Lloyd Mullins
U.S. Army Corps of Engineers
Corps Christi Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

PN 100020726

Dear Mr. Mullins:

Re: Request for Jurisdictional Determination of Wetland and Waterbody Crossings
Hidalgo County Regional Mobility Authority
Proposed State Highway 365 Roadway Project
Hidalgo County, Texas

Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Steward Road in Hidalgo County, Texas (Appendix A, Exhibit A). The proposed project is known as State Highway 365 (SH 365). The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities.

The SH 365 proposed right-of-way (ROW) would traverse approximately 16.53 miles, generally paralleling the Rio Grande River within a 160- to 300-foot ROW, expanding to 400 feet at identified overpass locations.

On behalf of HCRMA, Atkins requests a jurisdictional determination for the wetland and waterbody features listed below.

Potentially Jurisdictional Wetlands and Open Waters

Field surveys conducted in October 2008, February 2009, and May 2010, and supplemented by desktop surveys utilizing current aerial photography in January 2013, identified the presence three palustrine emergent (PEM) wetlands within the proposed ROW that are potentially subject to Section 404 jurisdiction. Additionally, three palustrine scrub-shrub (PSS) wetlands are not considered potentially subject to Section 404 jurisdiction. Please refer to Table 1 for a listing of these features. For detailed descriptions of these features, please refer to the enclosed wetland delineation report (Attachment A), which includes aerial- and topographic-based wetland delineation maps.

Potentially Jurisdictional Waterbodies

Field surveys conducted in October 2008, February 2009, and May 2010, and supplemented by desktop surveys utilizing current aerial photography in January 2013, identified the presence of one creek and six irrigation ditches within the proposed ROW that are potentially subject to Section 404 jurisdiction. Please refer to Table 2 for a listing of these waterbodies. In addition, multiple raised irrigation canals and man-made drainage ditches were crossed by the proposed ROW that are not considered potentially subject to Section 404 jurisdiction. For detailed descriptions of these features, please refer to the enclosed wetland delineation report (Attachment A), which includes aerial- and topographic-based Wetland Delineation Maps.

**Table 1: Potentially Jurisdictional Wetlands and Open Waters Identified Within the Proposed SH 365 ROW Hidalgo County, Texas**

| Wetland | Map Sheet | Atkins Field Classification[1] | Potential Jurisdiction | Acres |
|---|---|---|---|---|
| WET 1 | 4 | PEM | §404 | 0.20 |
| WET 2 | 4 | PEM | §404 | 0.95 |
| WET 3 | 6 | PSS | None | 0.02 |
| WET 3A | 4 | PEM | §404 | 0.67 |
| WET 4 | 6 | PSS | None | 0.42 |
| WET 5 | 6 | PSS | None | 0.10 |
| | | | **Total Wetlands** | 8.36 |
| | | | **Potentially Non-Jurisdictional** | 0.54 |
| | | | **Potentially Jurisdictional** | 7.82 |

1 Atkins Field and National Wetland Inventory Wetland Classifications are based upon Cowardin Classifications (Cowardin, et al., 1979).
PSS = palustrine scrub-shrub; PEM = palustrine emergent

**Table 2: Potentially Jurisdictional Waterbodies Identified Within the Proposed SH 365 ROW Hidalgo County, Texas**

| Field ID | Map Sheet | Waterbody[1] | Stream Classification | Acres |
|---|---|---|---|---|
| CRK 2 | 6 | Tributary to La Cruz Resaca | Intermittent[2] | 0.34 |
| Ditch 1[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.20 |
| Ditch 2[1] | 4 | USIBWC Floodway Pilot Channel | Ephemeral | 1.15 |
| Ditch 3[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.25 |
| Ditch 4[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.15 |
| Ditch 5[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.22 |
| Ditch 5A | 7 | Drainage Canal South of Las Milpas Road | Ephemeral | 0.28 |
| | | | **Total** | 2.59 |

1 Feature is within the USIBWC Main Floodway.
2 Waterbody names are as depicted on U.S. Geological Survey 7.5-minute topographic maps or as designated in the field.
3 Intermittent flow is highly dependent on pumped irrigation water.

Please contact me if you have any questions or need additional information.

Very truly yours,

Michael Dyke

MD:SC
Enclosure: Attachment A – Wetland Delineation Report

c: Pilar Rodriguez, P. E. - HCRMA Executive Director
Louis Jones, P.E. - HCRMA Program Management Consultant
Sharon G. Becca - Atkins

.

# Attachment A

# SH 365 Wetland Delineation Report

Atkins Project No. 100020726
Document No. 13H004

# WETLAND DELINEATION FOR THE PROPOSED STATE HIGHWAY 365 FROM FM 1016 TO US 281/MILITARY HIGHWAY HIDALGO COUNTY, TEXAS

CSJ's: 3627-01-001, 3627-01-002, and 0220-01-023

**Prepared for:**

Hidalgo County Regional Mobility Authority
118 S. Cage Boulevard
Pharr, Texas 78577

**Prepared by:**

Atkins
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

February 2013

Plan Design Enable

# Table of Contents

**Page**

**Acronyms and Abbreviations** ..... iii

**1.0 INTRODUCTION** ..... 1-1

1.1 PROJECT OVERVIEW ..... 1-1

**2.0 METHODS** ..... 2-1

**3.0 RESULTS** ..... 3-1

3.1 SITE DESCRIPTION ..... 3-1

3.2 VEGETATION ..... 3-1

3.2.1 Upland Pasture ..... 3-1

3.2.2 Cropland ..... 3-1

3.2.3 Mesquite Shrub ..... 3-2

3.2.4 Wetlands ..... 3-2

3.3 SOILS ..... 3-2

3.4 HYDROLOGY ..... 3-4

3.5 WETLANDS AND OTHER WATERS OF THE U.S. WITHIN THE PROPOSED ROW ..... 3-5

3.5.1 Wetland Crossings ..... 3-5

3.5.2 Stream Crossings ..... 3-6

3.5.3 Potentially Non-Jurisdictional Waters ..... 3-7

**4.0 CONCLUSIONS** ..... 4-1

**5.0 REFERENCES** ..... 5-1

**Tables**

Table 1 Wetlands Identified Within the SH 365 Proposed ROW, Hidalgo County, Texas ..... 3-6

Table 2 Potentially Jurisdictional Waterbodies Identified Within the SH 365 Proposed ROW, Hidalgo County, Texas ..... 3-7

Table 3 Potentially Non-Jurisdictional Waterbodies Identified Within the Proposed SH 365 ROW, Hidalgo County, Texas ..... 3-8

**Appendices**

Appendix A Exhibits

Exhibit A: Project Location Map

Exhibit B: Wetland Delineation Map (on Aerial Photography)

Exhibit C: Wetland Delineation Map (on Topographic Map)

Appendix B Site Photographs

Appendix C Wetland Data Forms

# Acronyms and Abbreviations

| | |
|---|---|
| CWA | Clean Water Act |
| DGPS | differentially-corrected global positioning system |
| FM | Farm-to-Market Road |
| HCRMA | Hidalgo County Regional Mobility Authority |
| NRCS | Natural Resources Conservation Service |
| OHWM | ordinary high water mark |
| PEM | palustrine emergent |
| PSS | palustrine scrub-shrub |
| ROE | right-of-entry |
| ROW | right-of-way |
| RPW | relatively permanent water |
| SH | State Highway |
| TNW | traditional navigable waterway |
| TxDOT | Texas Department of Transportation |
| U.S. | United States |
| US | U.S. Highway |
| USACE | U.S. Army Corps of Engineers |
| USIBWC | United States International Boundary and Water Commission |

# 1.0 Introduction

## 1.1 Project Overview

Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Steward Road in Hidalgo County, Texas (Appendix A, Exhibit A). The proposed project is known as State Highway 365 (SH 365). The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities.

The proposed project would traverse 16.53 miles, generally paralleling the Rio Grande River within a 160- to 300-foot right-of-way (ROW), expanding to 400 feet at identified overpass locations.

This report presents the results of wetland delineations for the proposed project. This delineation was conducted by Atkins on behalf of HCRMA and TxDOT Pharr District. The purpose of this investigation is to determine the location and extent of any waters of the United States (U.S.), including wetlands, within the proposed ROW that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Galveston District, pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act.

The wetland delineation for the proposed project was initiated in October 2008 for former HCRMA projects that followed the SH 365 alignment. Field surveys were conducted initially between October 2008 and February 2009; however, right-of-entry (ROE) access was not available for all parcels within the proposed ROW. For those areas that were initially denied access, field surveys were completed in May 2010. Modifications to the SH 365 alignment were reviewed in January 2013 utilizing data from the prior field surveys, supplemented by desktop survey where the SH 365 alignment modifications deviated slightly from the previously-surveyed alignments. Additional field surveys were deemed unnecessary since the project deviations occurred primarily within upland areas. Minimal extensions of previously-collected features for areas where the revised project route deviated from the previously-surveyed project ROW were completed by desktop using a combination of existing field data and aerial imagery.

# 2.0 Methods

A formal wetland delineation was conducted for the proposed project in order to determine the location and acreages of waters of the U.S., including wetlands, subject to USACE jurisdiction under Section 404 of the CWA and/or Section 10 of the Rivers and Harbors Act. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE, 2010) were used for identifying potential wetlands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

Field surveys were conducted by qualified field ecologists in October 2008 and February 2009, and were completed in May 2010. Those surveys were supplemented in January 2013 by desktop surveys utilizing current aerial photography to extend the limits of previously-collected features to the current project limits. During the field surveys, ecologists established data point locations based on soil mapping information, aerial photograph "signatures," and vegetative community changes. Vegetation, hydrology, and soils were evaluated and recorded in the field at each wetland and upland data point. Reference data points were also collected. Wetland determination data forms were prepared for all upland data points and wetland data points associated with mapped wetlands as depicted and labeled on the Wetland Delineation Maps (Exhibits B and C in Appendix A). All plant species were recorded at each data point by visually estimating the percentage of areal cover of each plant species (Correll and Johnston, 1996; Cowardin, 1979; Gould, 1975; and Vines, 1990) in each stratum. To determine if the composition of the dominant plant community satisfied the hydrophytic vegetation parameter, the indicator status of dominant plant species occurring at each station was obtained from the U.S. Fish & Wildlife Service *National List of Plant Species That Occur in Wetlands: South Plains (Region 6)* (Reed, 1988). Direct observation of inundation, saturation, and other indicators of wetland hydrology (i.e., water marks, drift lines, oxidized rhizospheres, sediment deposits, water-stained leaves, and drainage patterns in wetlands) were used to determine if the wetland hydrology parameter was satisfied. Soils at each data point were evaluated and described noting the depth, horizon, matrix color, mottle colors (if any), mottle abundance and contrast, texture, concretions, and structure. The moist matrix color and moist mottle color of the soil were determined utilizing the *Munsell Soil Color Chart* (Kollmorgan Instruments Corporation, 2000).

The boundary of each potential water of the U.S. (including jurisdictional and non-jurisdictional wetlands) was determined through combined observation, correlation, and aerial photo-interpretation, in conjunction with field results regarding hydrophytic vegetation, indicators of wetland hydrology, and the presence of hydric soil indicator data collected at each of the sampling points. All coordinates and boundaries were mapped with a differentially-corrected global positioning system (DGPS) using a Trimble GeoXT GPS receiver and post-processed to sub-meter accuracy. The points, lines, and polygons were downloaded into ArcView™ Geographic Information System software for creating maps of the soil stations and wetland boundaries. The USACE (Galveston District) Standard Operating Procedures for recording jurisdictional delineations using GPS (USACE, 2003) were used during this wetland delineation.

# 3.0 Results

## 3.1 Site Description

The proposed project traverses an urban to rural setting amid upland pasture, cropland, mesquite shrub, palustrine emergent (PEM) wetland, and palustrine scrub-shrub (PSS) wetland areas. The proposed project would consist of a six-lane, divided, controlled-access toll facility from FM 1016/Conway Avenue east to US 281/Military Highway. Non-toll improvements are also proposed along US 281/Military Highway from 0.45 miles east of Spur 600 to FM 2557/Steward Road in Hidalgo County, Texas. The proposed ROW would generally be 300 feet, narrowing to a minimum of 160 feet and a maximum of 400 feet. The proposed project would require the purchase of approximately 615 acres of ROW mainly from private land owners.

The vegetation communities in the area support maintained and unmaintained pasture, cropland, and mesquite shrub areas. The vegetation communities, which are based on *The Vegetation Types of Texas* (McMahan, et al, 1984), are discussed in the following section. Representative photos of each vegetation community are presented in Appendix B.

## 3.2 Vegetation

### 3.2.1 Upland Pasture

Upland pasture vegetation refers to grasses or other vegetation species that are eaten as food by grazing animals. The upland pasture vegetation community consists of Guinea grass (*Panicum maximum*), buffel grass (*Cenchrus ciliaris*), Bermuda grass (*Cynodon dactylon*), whorled dropseed (*Sporobolus pyramidatus*), retama (*Parkinsonia aculeata*), tumbleweed (*Salsola tragus*), Gray's feverfew (*Parthenium confertum*), balloon vine (*Cardiospermum dissectum*), red prickly poppy (*Argemone sanguinea*), grain sorghum (*Sorghum bicolor*), Johnson grass (*Sorghum halepense*), jungle-rice (*Echinochloa colona*), Kleberg bluestem (*Dichanthium annulatum*), common sunflower (*Helianthus annuus*), Texas gourd (*Cucurbita texana*), Asian crabgrass (*Digitaria bicornis*), bushy seaside tansy (*Borrichia frutescens*), and dallis grass (*Paspalum dilatatum*). This vegetation community was identified within pastureland, fallow agricultural fields, and areas cleared for development.

### 3.2.2 Cropland

Cropland vegetation refers to cultivated cover crops or row crops providing food and/or fiber for either man or domestic animals. The vegetation present within the cropland vegetation community consists of Palmer's pigweed (*Amaranthus palmeri*), corn (*Zea mays*), spotted spurge (*Euphorbia maculata*), orange tree (*Citrus sinensis*), grapefruit tree (*Citrus paradisi*), sugarcane (*Saccharum officinarum*), cabbage (*Brassica oleracea*), false ragweed (*Parthenium hysterophorus*), Berlandier's nettlespurge (*Jatropha cathartica*), hog potato (*Hoffmanseggia glauca*), sleepy morning (*Waltheria americana*), Klein grass (*Panicum coloratum*), purple threeawn (*Aristida purpurea*), Bermuda grass, Kleberg bluestem, grain sorghum, Johnson grass, Texas gourd, jungle-rice, and Guinea grass.

### 3.2.3 Mesquite Shrub

Mesquite shrub vegetation refers to areas dominated by mesquite and other species of young trees and shrubs. The mesquite shrub vegetation community consists of huisache (*Acacia minuta*), twisted acacia (*Acacia schaffneri*), honey mesquite (*Prosopis glandulosa*), granjeño (*Celtis pallida*), western ragweed (*Ambrosia psilostachya*), prickly pear (*Opuntia engelmannii*), hogwort (*Croton capitatus*), lotebush (*Ziziphus obtusifolia*), cotton morning glory (*Ipomoea trichocarpa*), calico bush (*Lantana urticoides*), whorled dropseed, Palmer's pigweed, buffel grass, Guinea grass, retama, jungle-rice, and Kleberg bluestem. The mesquite shrub vegetation community consists of 25 percent or higher dominance of woody species greater than 3 inches diameter at breast height.

### 3.2.4 Wetlands

The PEM wetland vegetation communities identified within the proposed ROW consist of broad-leaf cattail (*Typha latifolia*), vasey grass (*Paspalum urvillei*), maiden-cane (*Panicum hemitomon*), and bushy seaside tansy.

The PSS wetland vegetation communities identified within the proposed ROW consist of black willow (*Salix nigra*), retama, southern cattail (*Typha domingensis*), and jungle-rice.

## 3.3 Soils

According to the *Soil Survey of Hidalgo County, Texas* (NRCS, 1981), 10 different soil mapping units are located within the proposed ROW. These soils consist of Arents loamy (1); Benito clay (2); Camargo silt loam (5); Cameron silty clay (7); Grulla clay (15); Harlingen clay (19); Harlingen clay, saline (20); Reynosa silty clay loam, 0 to 1 percent slopes (55); Reynosa silty clay loam, saline, 0 to 1 percent slopes (56); Runn silty clay (64); and Runn silty clay, saline (65) (NRCS, 1981). The *Soil Survey of Hidalgo County, Texas*, and Soil Data Mart were used to describe the soil types (NRCS, 1981 and 2011) below. The soil map unit symbol depicted in parentheses for each soil described below corresponds with the symbols displayed on the Wetland Delineation maps (Appendix A, Exhibit B). Two of the soils within the proposed ROW, Benito clay (2) and Grulla clay (15), occur on the National Hydric Soils List (NRCS, 2011).

Arents loamy (1) consists of deep, nearly level soils on uplands. These soils are in areas that were formerly low places and have been filled by land leveling for irrigation. Slopes are mostly less than 0.5 percent but range from 0 to 1 percent. These soils are mixed by land leveling and are deposited in layers of 24 to 60 inches. These soils are moderately well drained, and surface runoff is slow. Permeability is moderately slow and the available water capacity is medium. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Benito clay (2) consists of deep, nearly level saline soil in depressional areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but can range from 0 to 1 percent. Typically, the surface layer is gray clay about 56 inches thick with intersecting slickensides in the lower part. The next layer, extending from 56 to 65 inches, is light gray clay. This soil is calcareous throughout. This soil is poorly drained. Surface runoff is ponded and permeability is very slow. The available water capacity is low. This soil is

used for improved pasture. Some areas are used for irrigated cropland. This mapping unit is listed as hydric on the National Hydric Soils List (NRCS, 2011).

Camargo silt loam (5) consists of deep, nearly level soil on the active floodplain of the Rio Grande. Slopes range from 0 to 1 percent. Areas are small and irregular in shape and range from 10 to 30 acres. The surface layer is light brownish-gray silt loam about 8 inches thick. The next layer, from 8 to 20 inches, is grayish-brown silty clay loam. The next layer, from 20 to 50 inches, is silt loam that is light brownish-gray in the upper part and pale brown in the lower. The soil is well drained. Surface runoff is slow and permeability is moderate. The available water capacity is high. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Cameron silty clay (7) consists of deep, nearly level soil found on ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. The surface layer is usually dark grayish-brown silty clay about 18 inches thick. The next layer is brown silty clay from 18 to 30 inches thick. The next layer from 30 to 65 inches is a pale brown silt loam. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is slow and permeability is moderately slow. The available water capacity is high. This soil is mainly used as irrigated cropland. A few areas are used as pastureland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Grulla clay (15) consists of deep, nearly level soil in partly-filled resacas or oxbows on the active floodplain of the Rio Grande. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Areas are long and narrow in shape and rarely exceed 50 acres. Typically, the surface layer is grayish-brown clay about 7 inches thick. The next layer, to a depth of 25 inches, is light brownish-gray clay. The next layer, to 47 inches, is grayish-brown clay. The next layer, to 59 inches, is an old buried surface layer that is gray clay. This soil is somewhat poorly drained. Surface runoff is ponded. Permeability is very slow. The available water capacity is medium. This mapping unit is listed as hydric on the National Hydric Soils List (NRCS, 2011).

Harlingen clay (19) consists of deep, nearly level soil on broad areas of ancient stream terraces. Slopes are mainly less than .05 percent but range from 0 to 1 percent. Typically, the surface layer is grayish-brown clay about 18 inches thick. The next layer, from 18 to 72 inches, is brown clay that has many intersecting slickenslides. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is very slow. Permeability is very slow. The available water capacity is low. This soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Harlingen clay, saline (20), consists of deep, nearly level saline soil on broad areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown clay about 16 inches thick. The next layer from 16 to 65 inches is saline, brown clay that has many intersecting slickensides. The soil is calcareous throughout. This soil is moderately well drained. Surface runoff is very slow. Permeability is very slow and the available water capacity is very low. This soil is moderately saline to strongly saline as a result of over-irrigation and evaporation of slightly saline water. This soil is used mostly as irrigated cropland and pasture; however, a few areas are idle. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Reynosa silty clay loam, 0 to 1 percent slopes (55), consists of deep, nearly level soils in areas of ancient stream terraces. Slopes range from 0 to 1 percent, and areas are irregular in shape and range from 20 to 100 acres. Typically, the surface layer is grayish-brown silty clay loam about 15 inches thick. The next layer, from 15 to 48 inches, is light brownish-gray silty clay loam. The layer extending from 48 to 65 inches is pale brown silt loam. This soil is well drained. Surface runoff is slow and permeability is moderate. The available water capacity is high. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Reynosa silty clay loam, saline, 0 to 1 percent slopes (56), consists of deep, nearly level saline soils in areas of ancient stream terraces. Slopes range from 0 to 1 percent and areas are irregular in shape and range from 10 to 75 acres. Typically, the surface layer is saline, grayish-brown silty clay loam about 12 inches thick. The next layer, from 12 to 37 inches, is saline, light brownish-gray silty clay loam. The layer extending from 37 to 65 inches is saline, light brownish-gray silty clay loam. This soil is well drained. Surface runoff is slow, and permeability is moderate. The available water capacity is low. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Runn silty clay (64) consists of deep, nearly level soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is dark grayish-brown, silty clay about 18 inches thick. The next layer, from 18 to 38 inches, is light brownish-gray silty clay. The next layer, from 38 to 55 inches, is pale brown silty clay. The layer extending from 55 to 65 inches is pale brown silty clay loam. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is high. This Runn soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

Runn silty clay, saline (65), consists of deep, nearly level saline soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown, silty clay about 16 inches thick. The next layer, from 16 to 54 inches, is saline, brown, silty clay. The layer extending from 54 to 65 inches is saline, light brown, silty clay. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is low. This Runn soil is used almost entirely as irrigated cropland or pastureland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2011).

## 3.4 Hydrology

The proposed project traverses seven channelized streams, six wetlands, 27 irrigation features, and one pond. An area is called a "wetland" if it meets the three technical criteria listed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010).

Saturation and surface water are primary indicators of the potential jurisdictional wetland areas within the proposed ROW. Oxidized rhizospheres on living roots and depressional topography features were also predominant hydrology indicators observed during the field survey. A complete description of the hydrology indicators observed at each sampling point is provided on wetland data forms in Appendix C. Technical descriptions of wetland hydrology indicators can be found in the *Corps of Engineers Wetlands*

*Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010)

## 3.5 Wetlands and Other Waters of the U.S. Within the Proposed ROW

Seven channelized streams and three PEM wetlands within the proposed ROW are potentially subject to Section 404 jurisdiction and require jurisdictional verification by the USACE. Three PSS wetlands, one pond, and 27 irrigation features located within the proposed ROW did not exhibit a significant nexus to a relatively permanent water (RPW) or traditional navigable waterway (TNW), and thus are not subject to Section 404 jurisdiction.

### 3.5.1 Wetland Crossings

Table 1 presents specific information relevant to the potential jurisdiction of wetlands within the proposed ROW. The locations of these wetlands and other waters of the U.S. are depicted on the Wetland Delineation Layout on aerial and topographic maps (Appendix A, Exhibits B and C).

Wetland (WET) 1 (0.20 acre); WET 2 (0.95 acre); and WET 3A (6.67 acres) are PEM wetlands located within the United States International Boundary and Water Commission (USIBWC) Main Floodway. These wetlands are within the 100-year floodplain and are directly abutting waters of the U.S. that exhibit a significant nexus to a TNW as defined by the *Jurisdictional Determination Form Instructional Guide Book* (USACE, 2007). Therefore, these wetlands are potentially subject to Section 404 jurisdiction.

WET 3 consists of 0.02 acre of PSS wetland. WET 3 is not located within the 100-year floodplain and does not exhibit a significant nexus to a TNW. This wetland is located adjacent to a historical tributary of La Cruz Resaca (CRK 2) that was modified to serve as an irrigation ditch. WET 3 formed as a result of the berm created during construction of the ditch; it is separated from the ditch by the berm, and no surface connection is present based on observations in the field. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

WET 4 consists of 0.42 acre of PSS wetland. A portion of this wetland is located within the 100-year floodplain; however, it does not exhibit a significant nexus to a TNW. This wetland is located adjacent to a historical tributary of La Cruz Resaca (CRK 2) that was modified to serve as an irrigation ditch. WET 4 formed as a result of the berm created during construction of the ditch; it is separated from the ditch by the berm, and no surface connection is present based on observations in the field. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

WET 5 consists of 0.10 acre of PSS wetland. WET 5 is not located within the 100-year floodplain and does not exhibit a significant nexus to a TNW. This wetland is located adjacent to an irrigation ditch but is separated by a berm that was created as a result of modifications to the ditch. Therefore, this wetland is considered isolated and is not subject to Section 404 jurisdiction.

Representative photographs of the wetlands and other waters of the U.S. are provided in Appendix B.

**Table 1**
**Wetlands Identified Within the SH 365 Proposed ROW**
**Hidalgo County, Texas**

| Wetland | Map Sheet | Atkins Field Classification[1] | Potential Jurisdiction | Acres |
|---|---|---|---|---|
| WET 1 | 4 | PEM | §404 | 0.20 |
| WET 2 | 4 | PEM | §404 | 0.95 |
| WET 3 | 6 | PSS | None | 0.02 |
| WET 3A | 4 | PEM | §404 | 6.67 |
| WET 4 | 6 | PSS | None | 0.42 |
| WET 5 | 6 | PSS | None | 0.10 |
| | | | **Total Wetlands** | 8.36 |
| | | | **Potentially Non-Jurisdictional** | 0.54 |
| | | | **Potentially Jurisdictional** | 7.82 |

1 Atkins Field and National Wetland Inventory Wetland Classifications are based upon Cowardin Classifications (Cowardin, et al, 1979). PSS = palustrine scrub-shrub; PEM = palustrine emergent

## 3.5.2 Stream Crossings

The proposed project crosses seven waterways that are potentially subject to Section 404 jurisdiction. Table 2 presents specific information relevant to the potential jurisdiction of waters of the U.S. within the proposed ROW. Locations of these waterways are depicted on the Wetland Delineation Layout (Appendix A, Exhibits B and C). These waterways include intermittent and ephemeral streams that have been channelized to improve drainage. During the field survey, ordinary high water marks (OHWM) limits were determined based on water lines, channel incision, and changes in vegetation.

Creek (CRK) 2 and Ditch 5A (Drainage Canal South of Las Milpas Road) are historical tributaries of La Cruz Resaca and the Sardinas Resaca that have been modified to serve as irrigation ditches. La Cruz Resaca continues east beyond the proposed ROW into a system of impoundments within the north floodway, and discharges into a pilot channel east to the Arroyo Colorado, which connects to the Laguna Madre, which connects to the Gulf of Mexico. Therefore, these features are potentially subject to Section 404 jurisdiction.

Ditch 1, Ditch 2 (USIBWC Floodway Pilot Channel), Ditch 3, Ditch 4, and Ditch 5 are man-made drainage ditches within the USIBWC Main Floodway. The Anzalduas Dam diverts water from the Rio Grande River, a TNW, into the USIBWC Main Floodway, and into these ditches. During flood events, water from all these ditches has the potential to drain into La Cruz Resaca. Additionally, water from DITCH 2 (USIBWC Floodway Pilot Channel) has the potential to drain into Laguna Madre. La Cruz Resaca continues east beyond the proposed ROW into a system of impoundments within the north floodway, and discharges into a pilot channel east to the Arroyo Colorado, which connects to the Laguna Madre, which connects to the Gulf of Mexico. Therefore, these ditches are potentially subject to Section 404 jurisdiction.

Representative photographs of the waters of the U.S. are provided in Appendix B.

**Table 2**
**Potentially Jurisdictional Waterbodies Identified**
**Within the SH 365 Proposed ROW**
**Hidalgo County, Texas**

| Field ID[1] | Map Sheet | Waterbody[2] | Stream Classification | Acres |
|---|---|---|---|---|
| CRK 2 | 6 | Tributary to La Cruz Resaca | Intermittent[3] | 0.34 |
| Ditch 1[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.20 |
| Ditch 2[1] | 4 | USIBWC Floodway Pilot Channel | Ephemeral | 1.15 |
| Ditch 3[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.25 |
| Ditch 4[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.15 |
| Ditch 5[1] | 4 | Tributary to La Cruz Resaca | Ephemeral | 0.22 |
| Ditch 5A | 7 | Drainage Canal South of Las Milpas Road | Ephemeral | 0.28 |
| | | | **Total** | 2.59 |

1 Feature is within the USIBWC Main Floodway.
2 Waterbody names are as depicted on U.S. Geological Survey 7.5-minute topographic maps or as designated in the field.
3 Intermittent flow is highly dependent on pumped irrigation water.

### 3.5.3 Potentially Non-Jurisdictional Waters

Table 3 presents specific information relevant to the non-jurisdictional waterbodies and one pond within the proposed ROW. The locations of these features are depicted on the Wetland Delineation Layout (Appendix A, Exhibits B and C). The proposed project crosses 27 upland drainage ditches/canals and one man-made, isolated pond. Features identified as ditches consist of excavated channels within uplands. Features identified as canals consist of raised irrigation channels constructed above-grade within uplands and maintained by the Hidalgo County Irrigation Districts. Water is supplied to the raised irrigation canals by a series of pumps that draw water from the Rio Grande River. The water is then diverted to smaller irrigation ditches to irrigate cropland. These canals and ditches were created in uplands and do not drain to a traditional navigable waterway. Therefore, these canals are not subject to Section 404 jurisdiction.

Additionally, one man-made isolated pond (POND 1) was identified and mapped during field surveys. This feature appears to be an excavated pit and does not exhibit a significant nexus to a TNW. Therefore, this pond is not subject to Section 404 jurisdiction.

Representative photographs of these features are provided in Appendix B.

**Table 3**
**Potentially Non-Jurisdictional Waterbodies**
**Identified Within the Proposed SH 365 ROW**
**Hidalgo County, Texas**

| Field ID[1,2] | Map Sheet | Waterbody | Acres |
|---|---|---|---|
| Canal 1 | 2 | Irrigation Feature | 0.14 |
| Canal 1-1 | 5 | Irrigation Feature | 0.57 |
| Canal 1-2 | 5 | Irrigation Feature | 1.26 |
| Canal 1-3 | 6 | Irrigation Feature | 1.20 |
| Canal 2 | 5 | Pharr San Juan Irrigation Canal | 1.45 |
| Canal 3 | 4 | Irrigation Feature | 0.29 |
| Canal 6 | 5 | Irrigation Feature | 0.39 |
| Canal P1 | 6 | Irrigation Feature | 0.31 |
| Ditch 6 | 3 | Irrigation Feature | 0.24 |
| Ditch 7 | 1,2 | Irrigation Feature | 0.07 |
| Ditch 10 | 6 | Irrigation Feature | 0.32 |
| Ditch 11 | 5 | Irrigation Feature | 0.05 |
| Ditch 11-1 | 5 | Irrigation Feature | 0.52 |
| Ditch 16 | 5 | Irrigation Feature | 0.31 |
| Ditch 18 | 6 | Irrigation Feature | 0.34 |
| Ditch 19 | 6 | Irrigation Feature | 0.15 |
| Ditch 2A | 5 | Irrigation Feature | 0.34 |
| Ditch 2B | 5 | Irrigation Feature | 0.34 |
| Ditch 3A | 7 | Irrigation Feature | 0.21 |
| Ditch 4A | 7 | Irrigation Feature | 0.18 |
| Ditch 6A | 8 | Irrigation Feature | 0.04 |
| Ditch 7A | 8 | Irrigation Feature | 0.04 |
| Ditch 8A | 8 | Irrigation Feature | 0.08 |
| Ditch 9A | 8 | Irrigation Feature | 0.13 |
| Ditch 10A | 8 | Irrigation Feature | 0.01 |
| Ditch 11A | 8 | Irrigation Feature | 0.17 |
| Ditch P1 | 6 | Irrigation Feature | 0.17 |
| Pond 1 | 2 | Open Water Pond | 0.27 |
| | | **Total** | 9.59 |

1 Features identified as ditches consist of excavated channels within uplands. Features identified as canals consist of raised irrigation channels constructed above-grade within uplands. Since these potentially non-jurisdictional features are man-made structures constructed entirely within uplands, they cannot be classified as streams.

2 Pond features excavated wholly within an upland area would not be considered a potentially jurisdictional waterway.

# 4.0 Conclusions

Seven channelized streams, three PEM wetlands, three PSS wetlands, 27 upland irrigation ditches/ canals, and one pond were identified within the proposed ROW. The total acreage of wetlands and waters of the U.S. within the proposed ROW is 20.54 acres, of which 7.82 acres of wetlands and 2.59 acres of open water are considered potentially jurisdictional waters of the U.S. subject to verification by the USACE. Man-made irrigation canals, ditches, and ponds created in uplands and draining only uplands into cropland are not considered potentially jurisdictional.

These acreages are based on the current federal regulations for wetlands and waters of the U.S. Since only the USACE Galveston District can make jurisdictional determinations, they should be contacted to verify this wetland delineation and to discuss permit options prior to any construction activities within jurisdictional areas.

# 5.0 References

Correll, D. S., and M. C. Johnston. 1996. Manual of the Vascular Plants of Texas. University of Texas at Dallas.

Cowardin, L. M., et al, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior. U.S. Government Printing Office, Washington, D.C.

Environmental Laboratory. 1987. U.S. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Gould, Frank W. 1975. The Grasses of Texas. Texas A&M University Press, College Station, Texas.

Kollmorgan Instruments Corporation. 2000. Munsell Soil Color Charts. New Windsor, New York.

McMahan, C., R. Frye, and K. Brown. 1984. The Vegetation Types of Texas. Texas Parks & Wildlife Department, Austin, Texas.

Natural Resources Conservation Service (NRCS). 1981. Soil Conservation Service (SCS), U.S. Department of Agriculture. 1981. Soil Survey of Hidalgo County, Texas.

_____. 2011 Soil Data Mart of Hidalgo County, Texas.

Reed, P. B., Jr. 1988. National List of Plant Species That Occur in Wetlands: South Plains (Region 6). U.S. Fish and Wildlife Service Biological Report 88 (26.6).

U.S. Army Corps of Engineers. 2003. SWG – Standard Operating Procedures (SOP); Recording Jurisdictional Delineations Using Global Positioning Systems (GPS). Available at http://www.swg.usace.army.mil/Portals/26/docs/regulatory/Wetlands/GPS%20SOF.pdf.

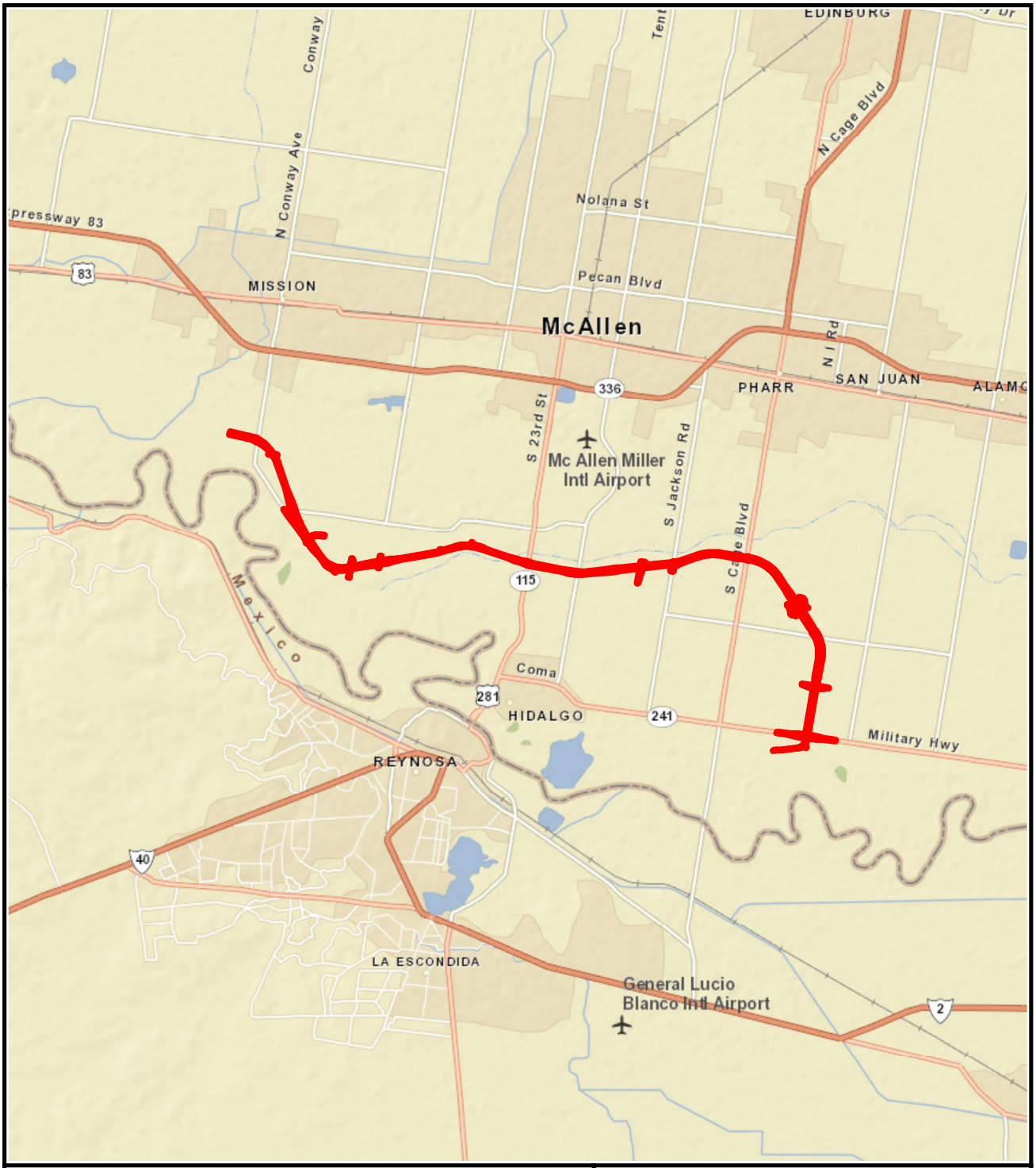
_____. 2007. *Jurisdictional Determination Form Instructional Guide Book,* 60 pp.

_____. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Great Plains Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. Vicksburg, MS: U.S. Army Engineers Research and Development Center.

Vines, R. A. 1990. Trees, Shrubs, and Woody Vines of the Southwest, seventh printing, University of Austin Press, Austin. 1,104 pp.

# Appendix A

# Exhibits



N
W E
S

Datum: NAD 1983
Projection: Texas State Plane
Zone: South
Units: US Feet

0 3 6 Miles

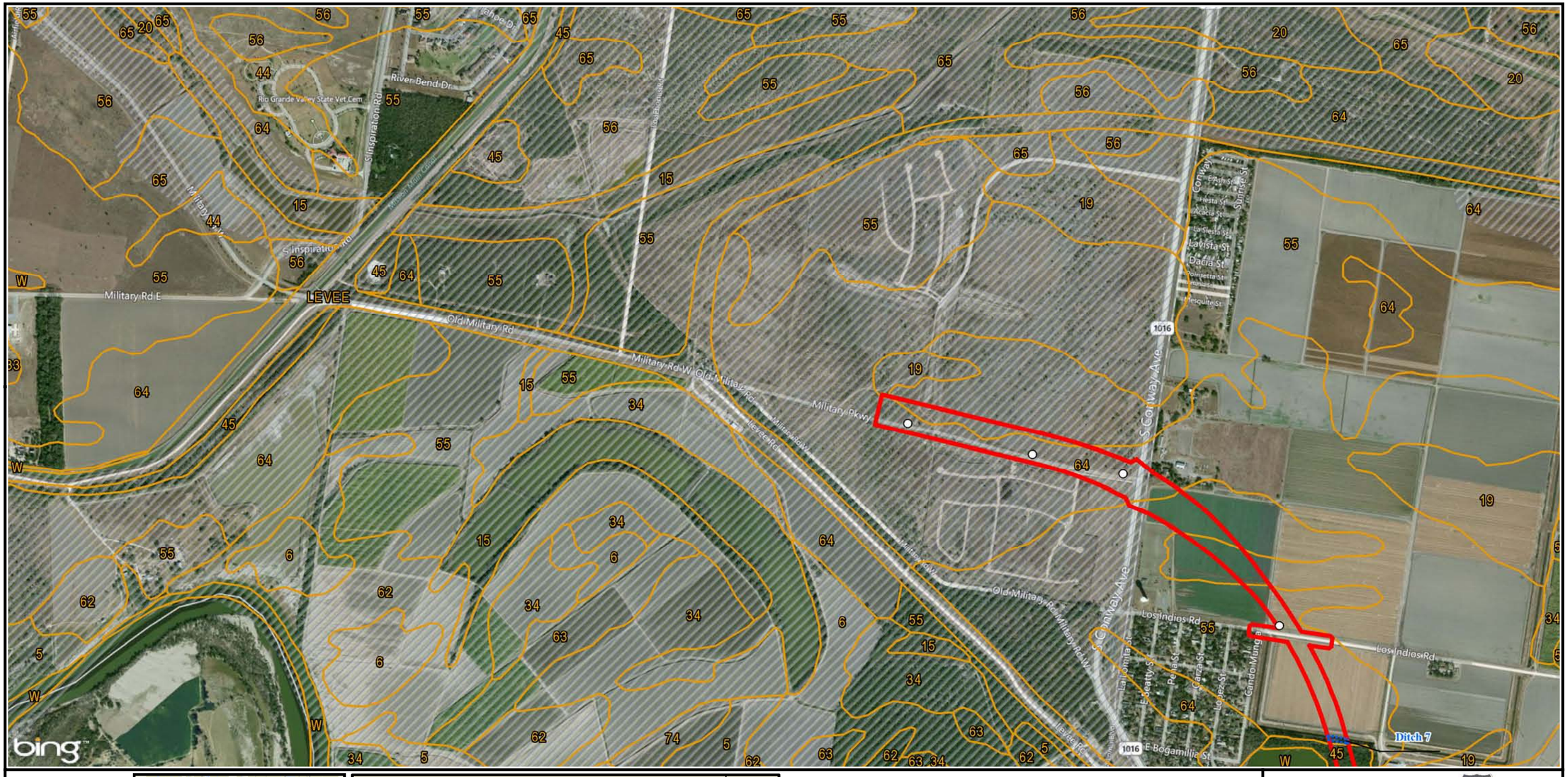
ATKINS

RMA

**Project Location Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Hidalgo County, Texas**

| | |
|---|---|
| Prepared By: ATKINS/24002 | Scale:1 " = 3 miles |
| CSJ No: 3627-01-001, 3627-01-002, 0220-01-023 | Date: Jan 23, 2013 |
| File: N:\TRANS\100011499\projects\mxd\A_Vicinity_SH 365.mxd | |

Service Layer Credits: Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)



| Soil Unit Name | Symbol |
|---|---|
| RUNN SILTY CLAY | 64 |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| HARLINGEN CLAY | 19 |
| PITS, BORROW | 45 |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

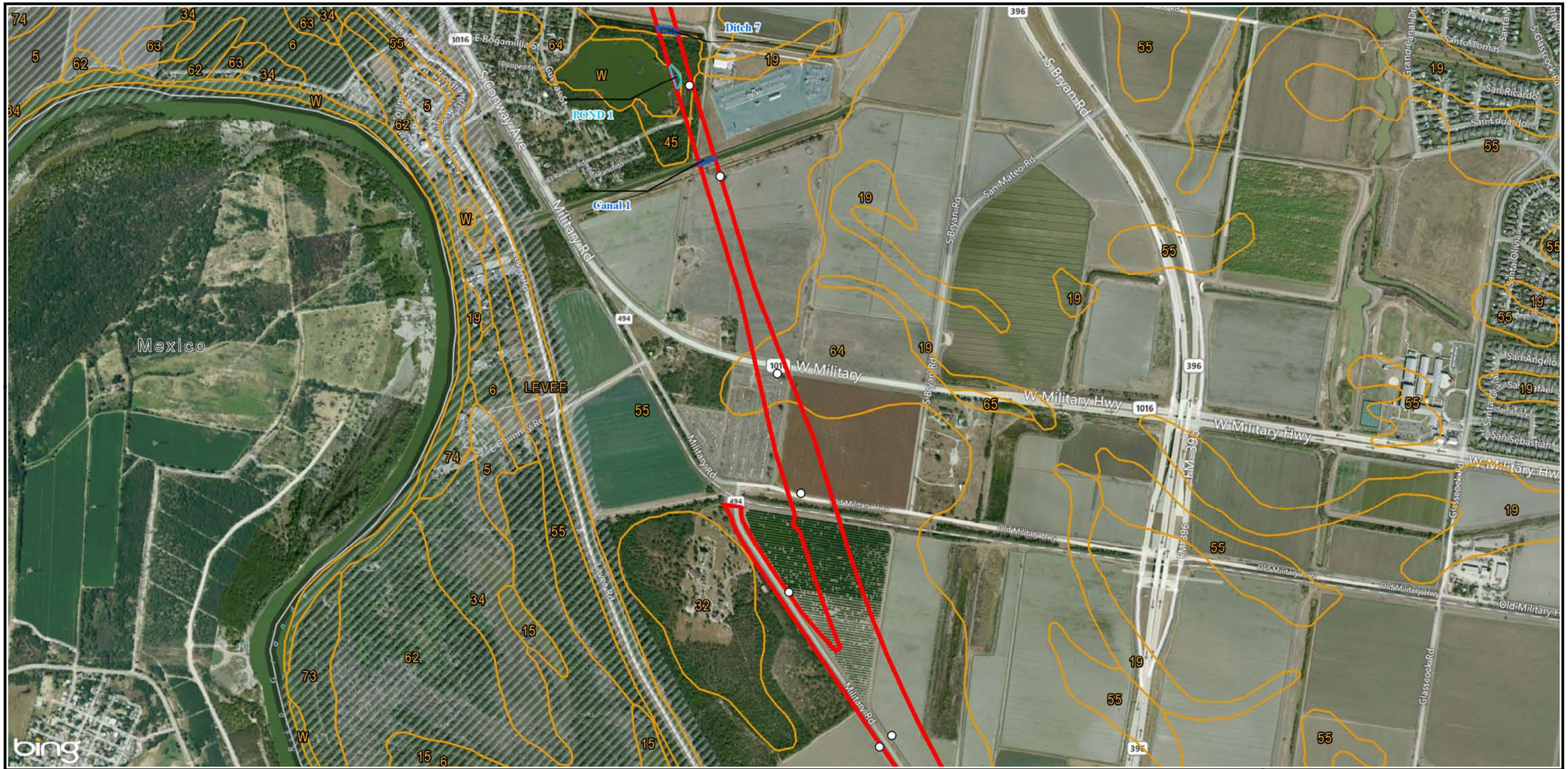
HIDALGO COUNTY RMA

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 1 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND




| Soil Unit Name | Symbol |
|---|---|
| RUNN SILTY CLAY | 64 |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| PITS, BORROW | 45 |
| WATER | W |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

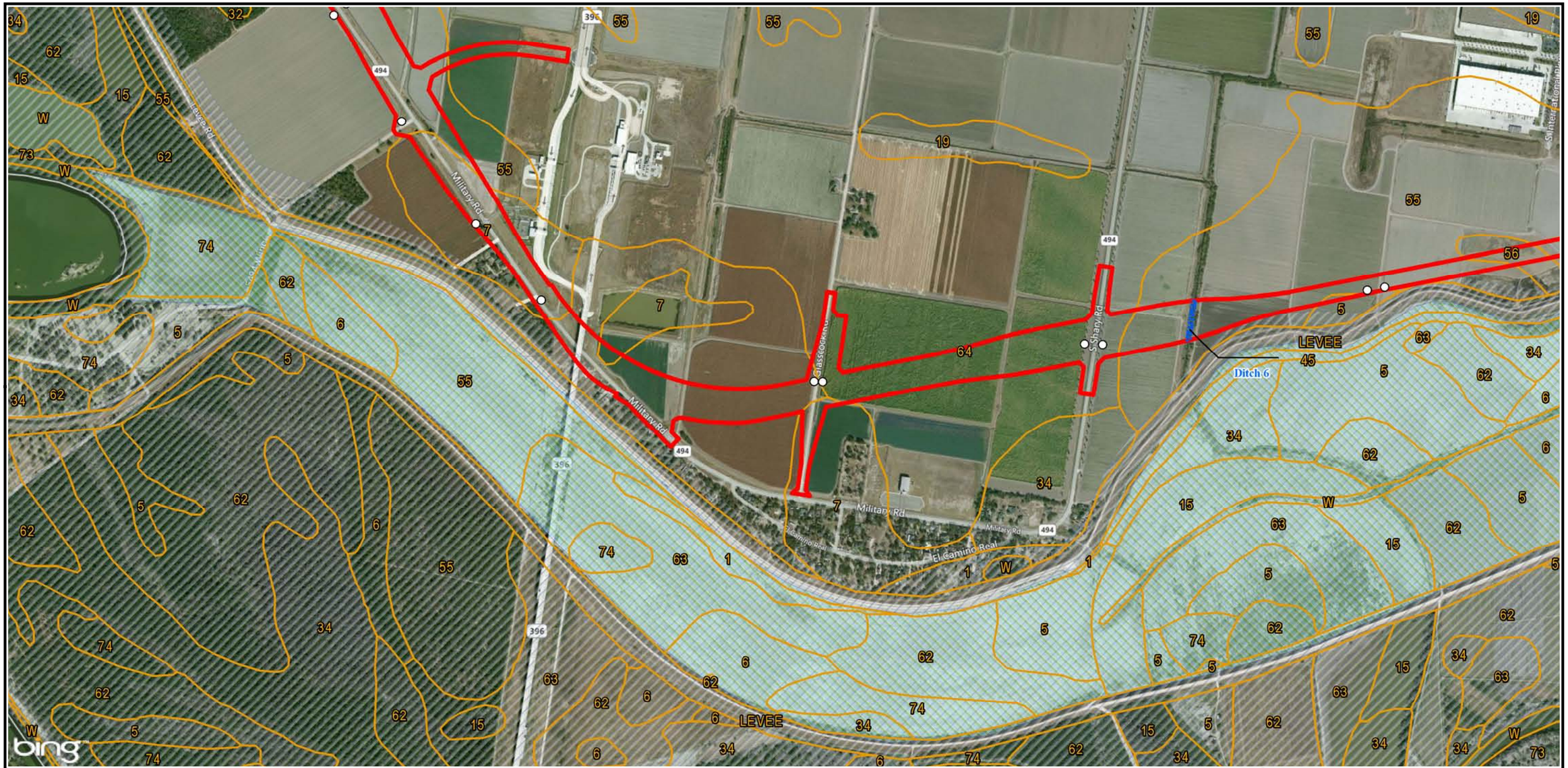
ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 2 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND




| Soil Unit Name | Symbol |
|---|---|
| RUNN SILTY CLAY | 64 |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| CAMERON SILTY CLAY | 7 |
| REYNOSA SILTY CLAY LOAM, SALINE, 0 TO 1 PERCENT SLOPES | 56 |
| CAMARGO SILT LOAM | 5 |
| REYNOSA SILTY CLAY LOAM, SALINE, 0 TO 1 PERCENT SLOPES | 56 |

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- NRCS Soils
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

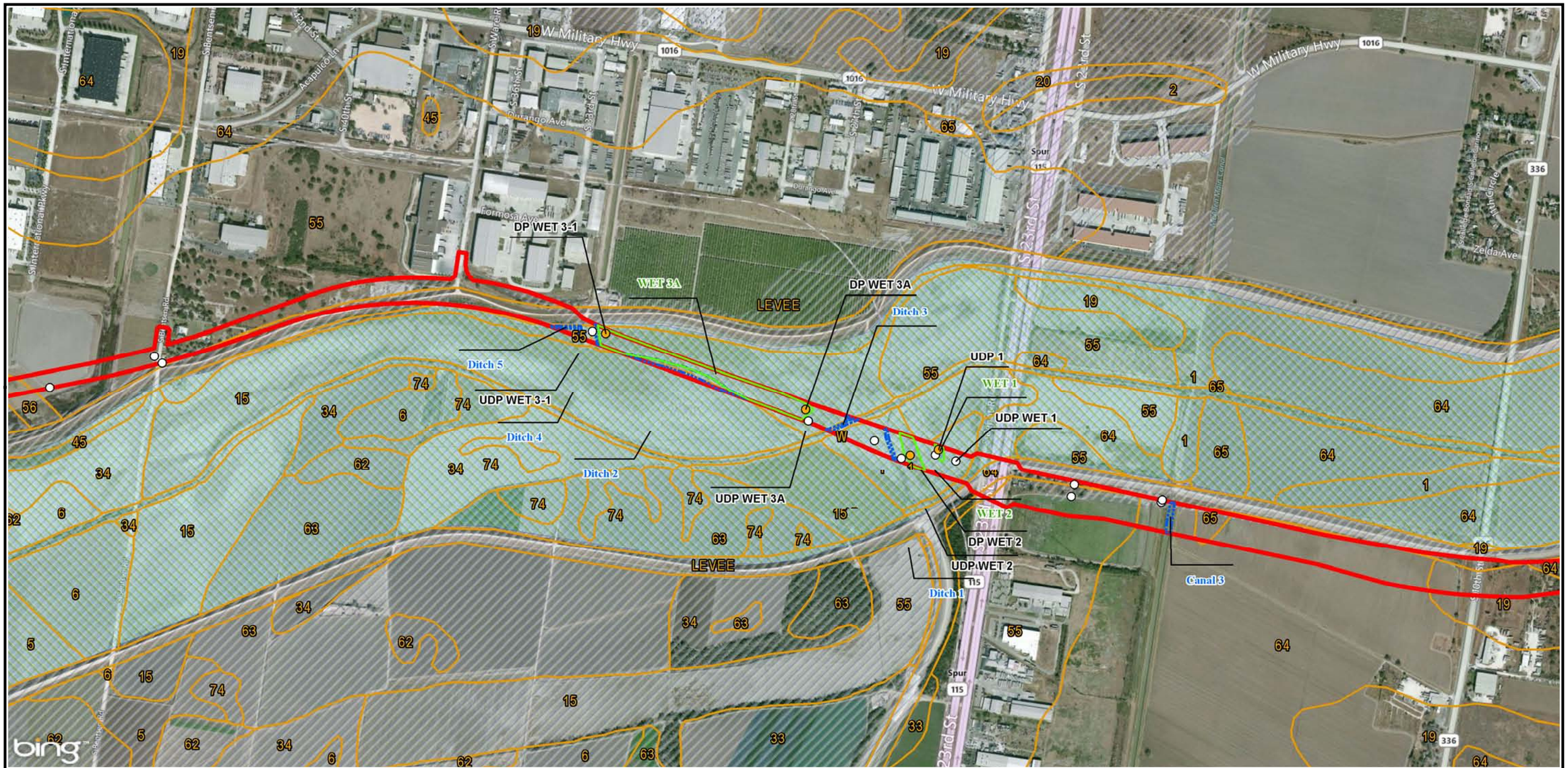
**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 3 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| LEVEE | LEVEE |
| WATER | W |
| REYNOSA SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES | 55 |
| ARENTS, LOAMY | 1 |
| GRULLA CLAY | 15 |
| RUNN SILTY CLAY | 64 |
| RUNN SILTY CLAY, SALINE | 65 |
| HARLINGEN CLAY | 19 |
| REYNOSA SILTY CLAY LOAM, SALINE, 0 TO 1 PERCENT SLOPES | 56 |

- Proposed ROW
- NRCS Soils
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

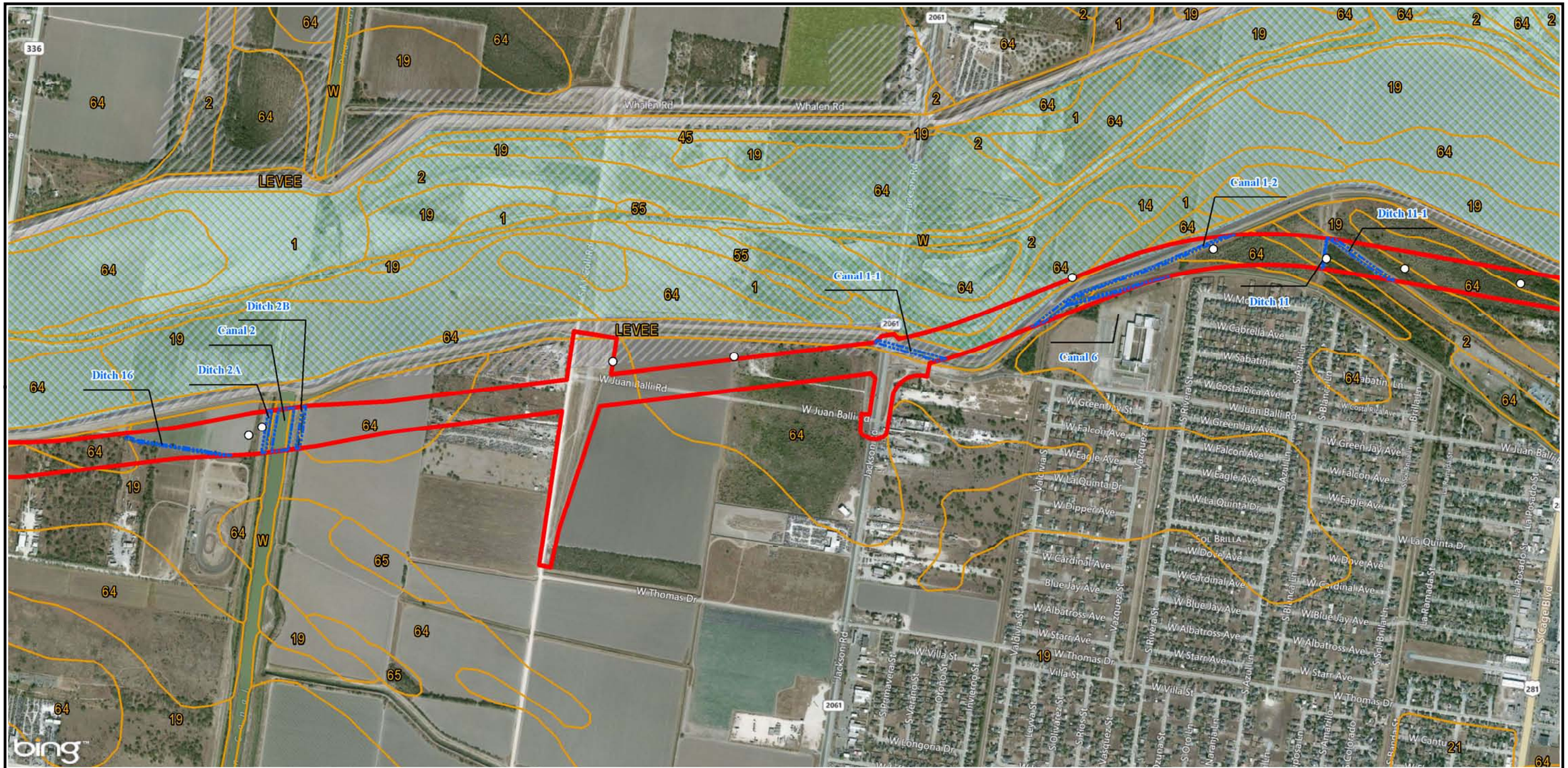
ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 4 of 8**
**Mission and Pharr Quadrangles**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023 | Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| BENITO CLAY | 2 |
| LEVEE | LEVEE |
| ARENTS, LOAMY | 1 |
| RUNN SILTY CLAY | 64 |
| HARLINGEN CLAY | 19 |
| WATER | W |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

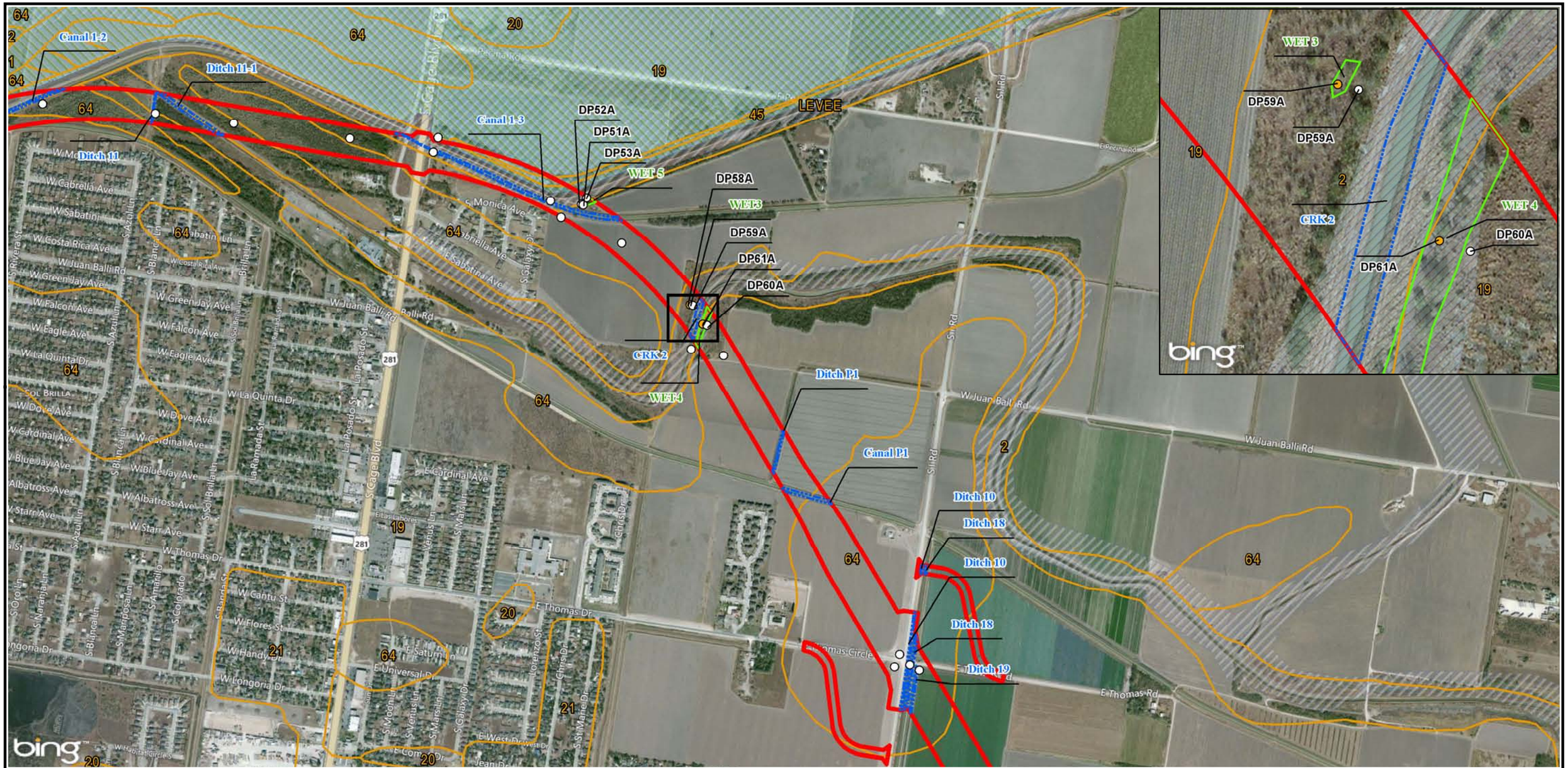
ATKINS

**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 5 of 8**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023
Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND




| Soil Unit Name | Symbol |
|---|---|
| HARLINGEN CLAY | 19 |
| PITS, BORROW | 45 |
| LEVEE | LEVEE |
| RUNN SILTY CLAY | 64 |
| BENITO CLAY | 2 |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

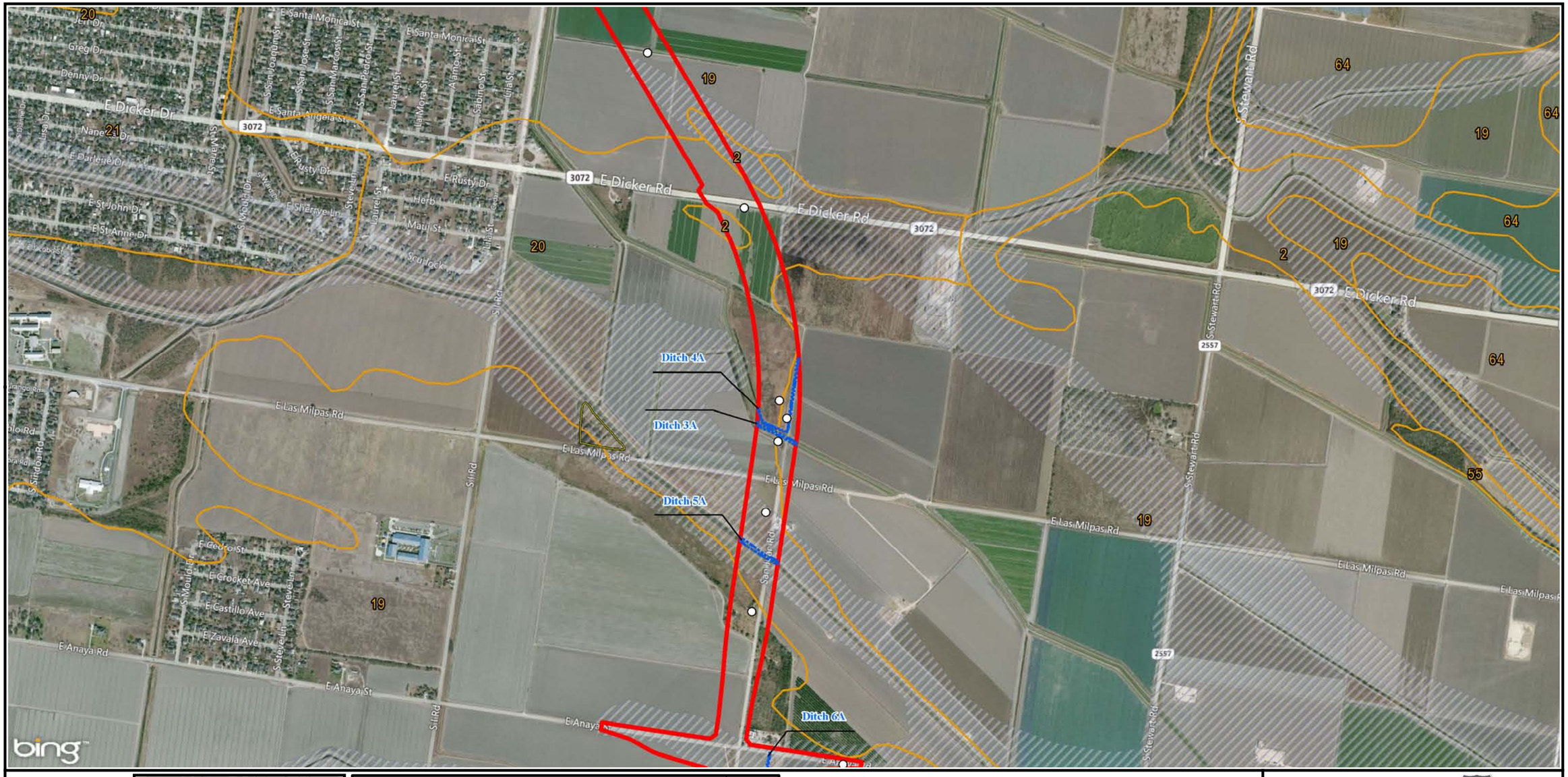
**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 6 of 8**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| HARLINGEN CLAY | 19 |
| HARLINGEN CLAY, SALINE | 20 |
| BENITO CLAY | 2 |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

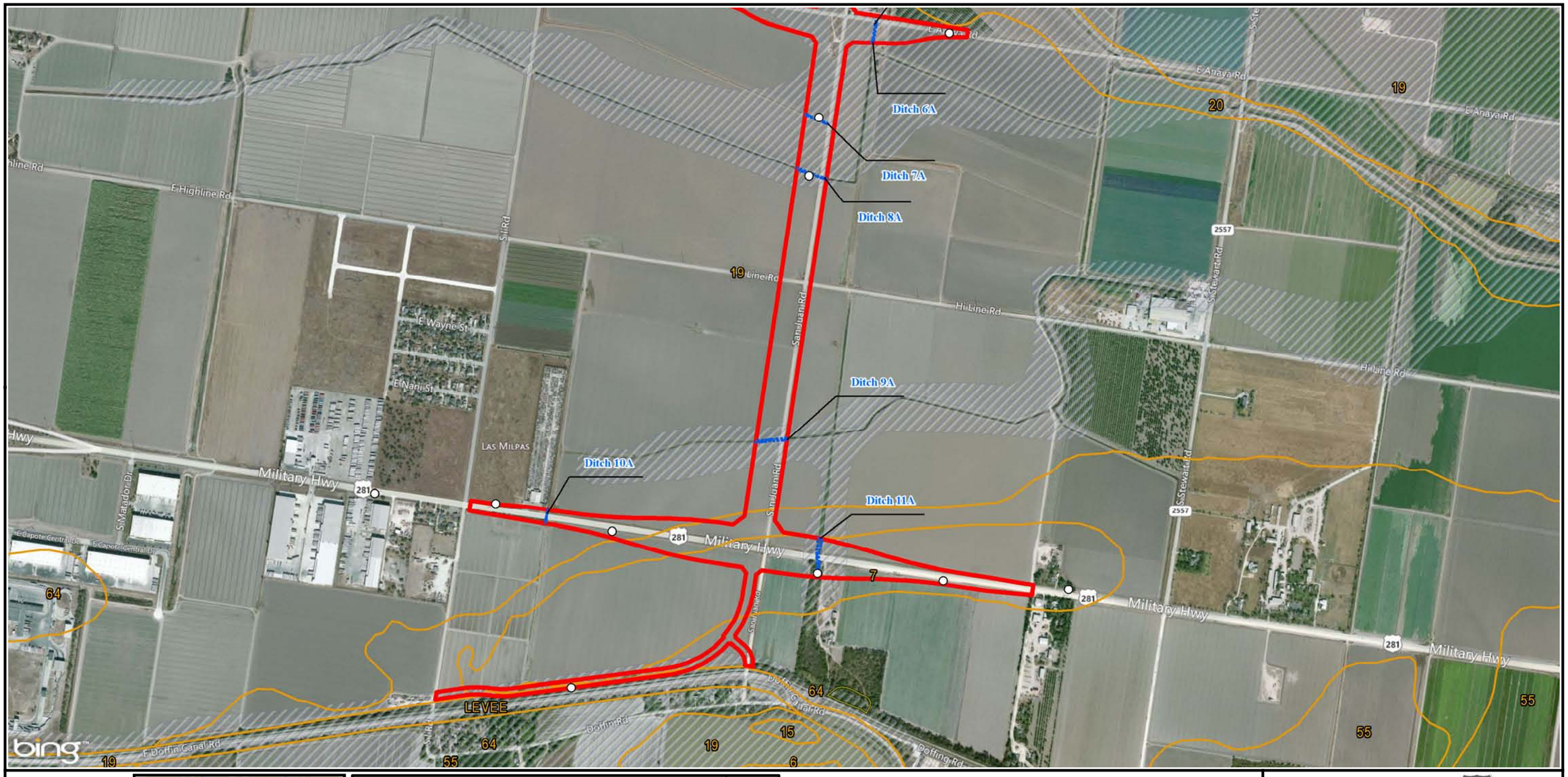
**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 7 of 8**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



| Soil Unit Name | Symbol |
|---|---|
| LEVEE | LEVEE |
| HARLINGEN CLAY | 19 |
| RUNN SILTY CLAY | 64 |
| CAMERON SILTY CLAY | 7 |

Proposed ROW
NRCS Soils
100 Year Floodplain
IBWC Floodway
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Wetland
Pond

0 1,000 2,000 3,000 Feet

Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

ATKINS

RMA

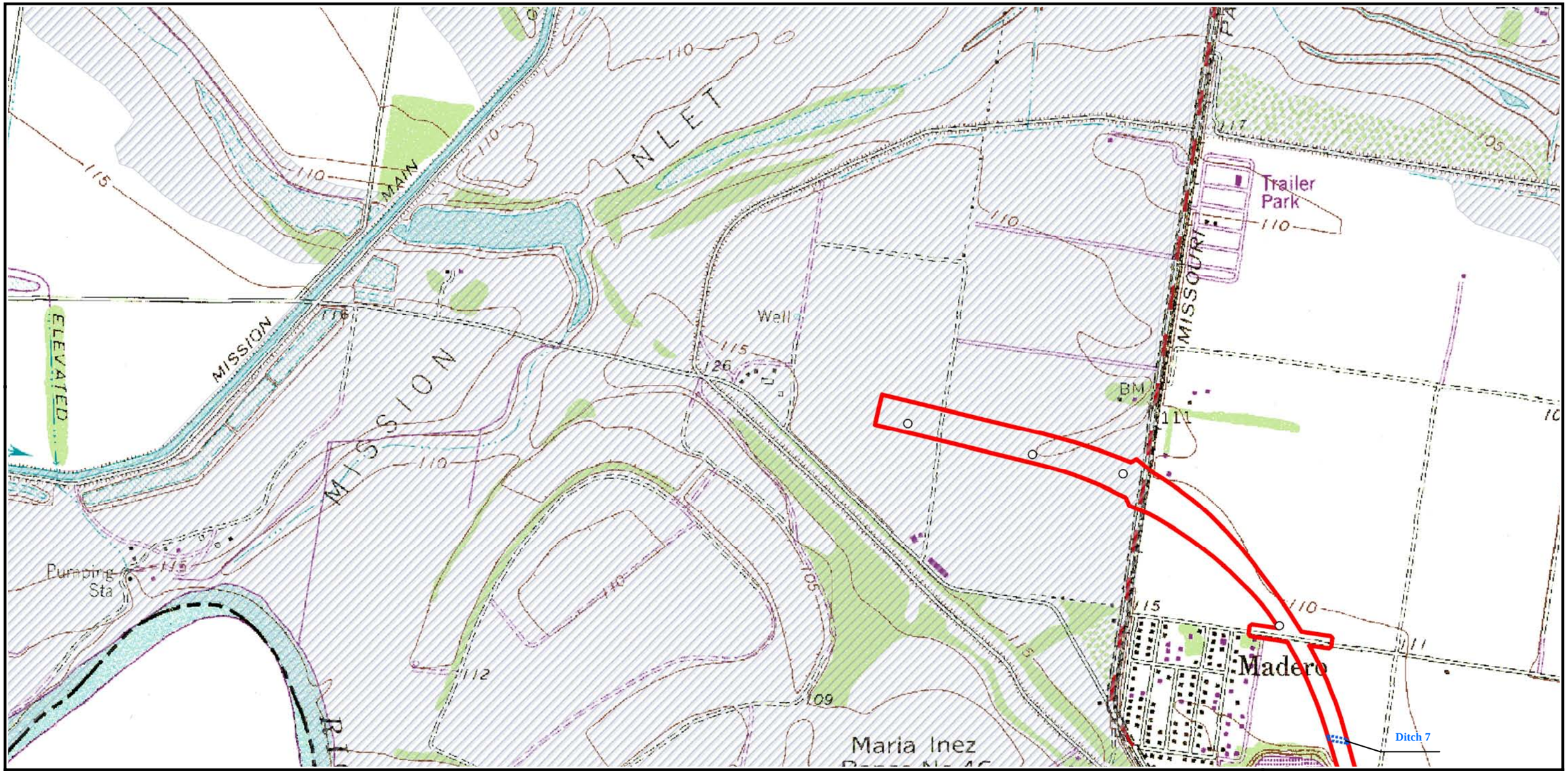
**Exhibit B**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 8 of 8**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File:N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_aerial.mxd

Service Layer Credits: © 2010 DigitalGlobe Image courtesy of USGS © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND
© 2010 DigitalGlobe © 2010 GeoEye © 2013 Microsoft Corporation ImagePatch.com © 2010 NAVTEQ © AND



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

RMA

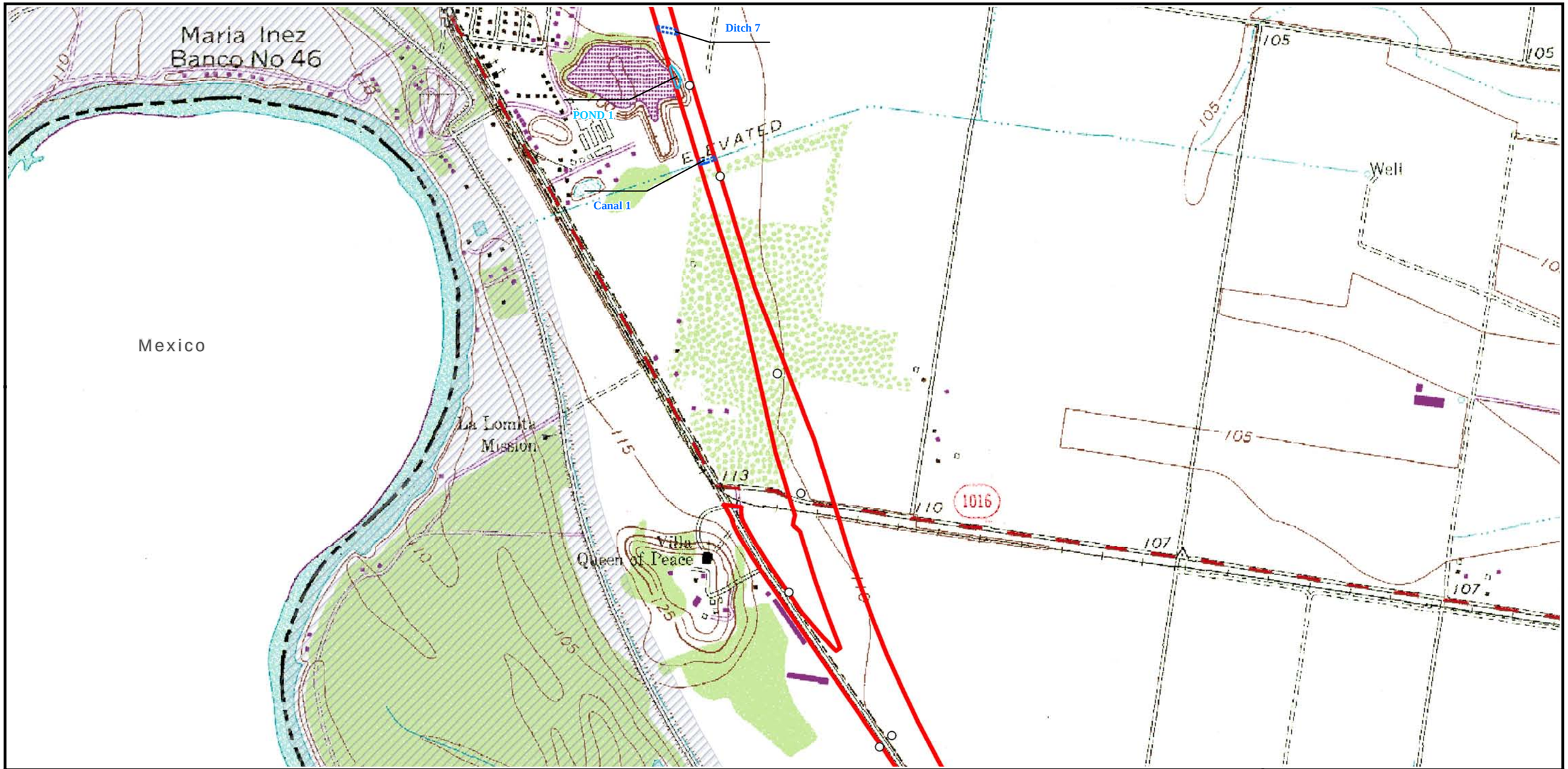
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 1 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright:© 2011 National Geographic Society, i-cubed



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

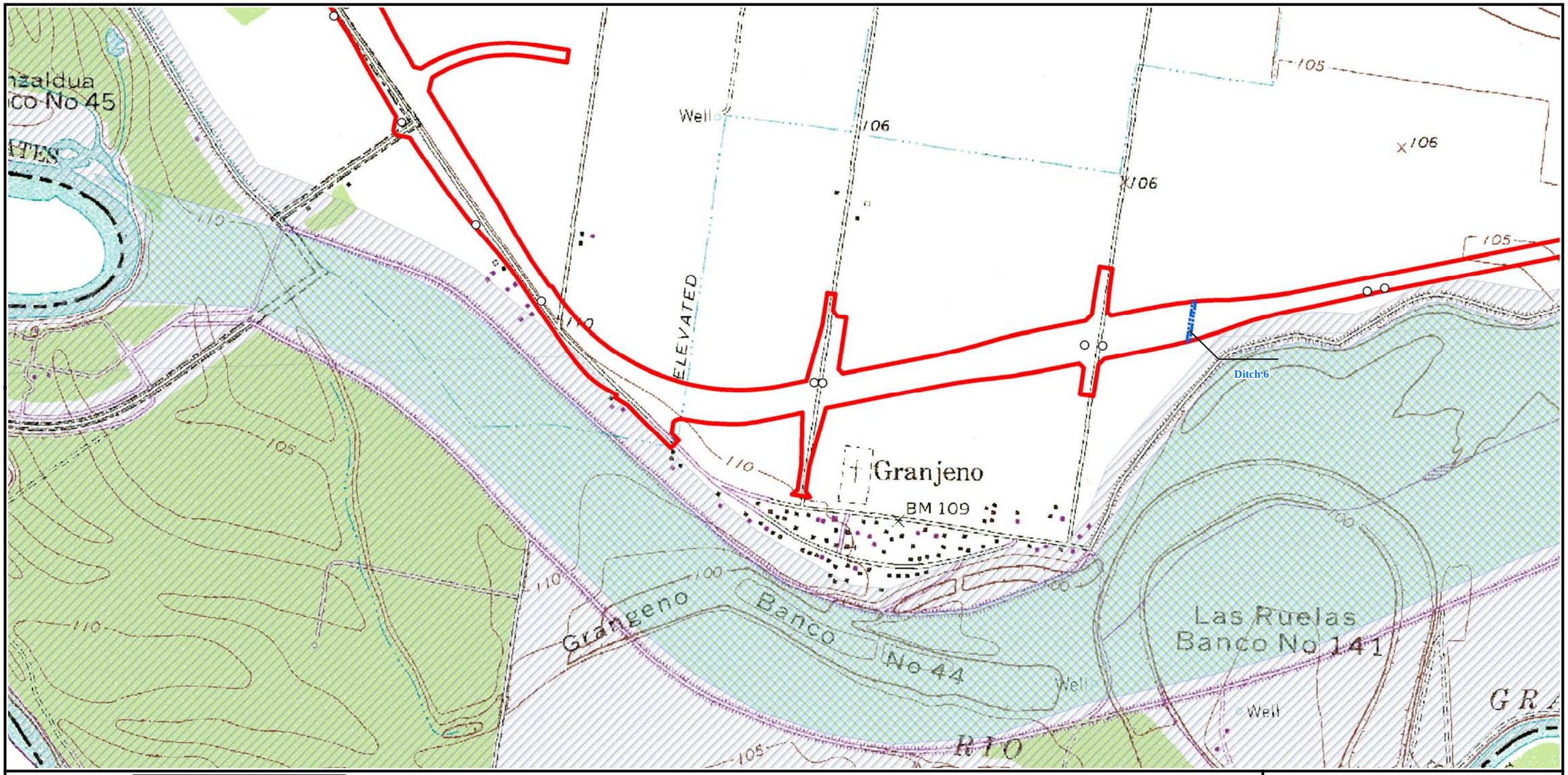
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 2 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright:© 2011 National Geographic Society, i-cubed



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

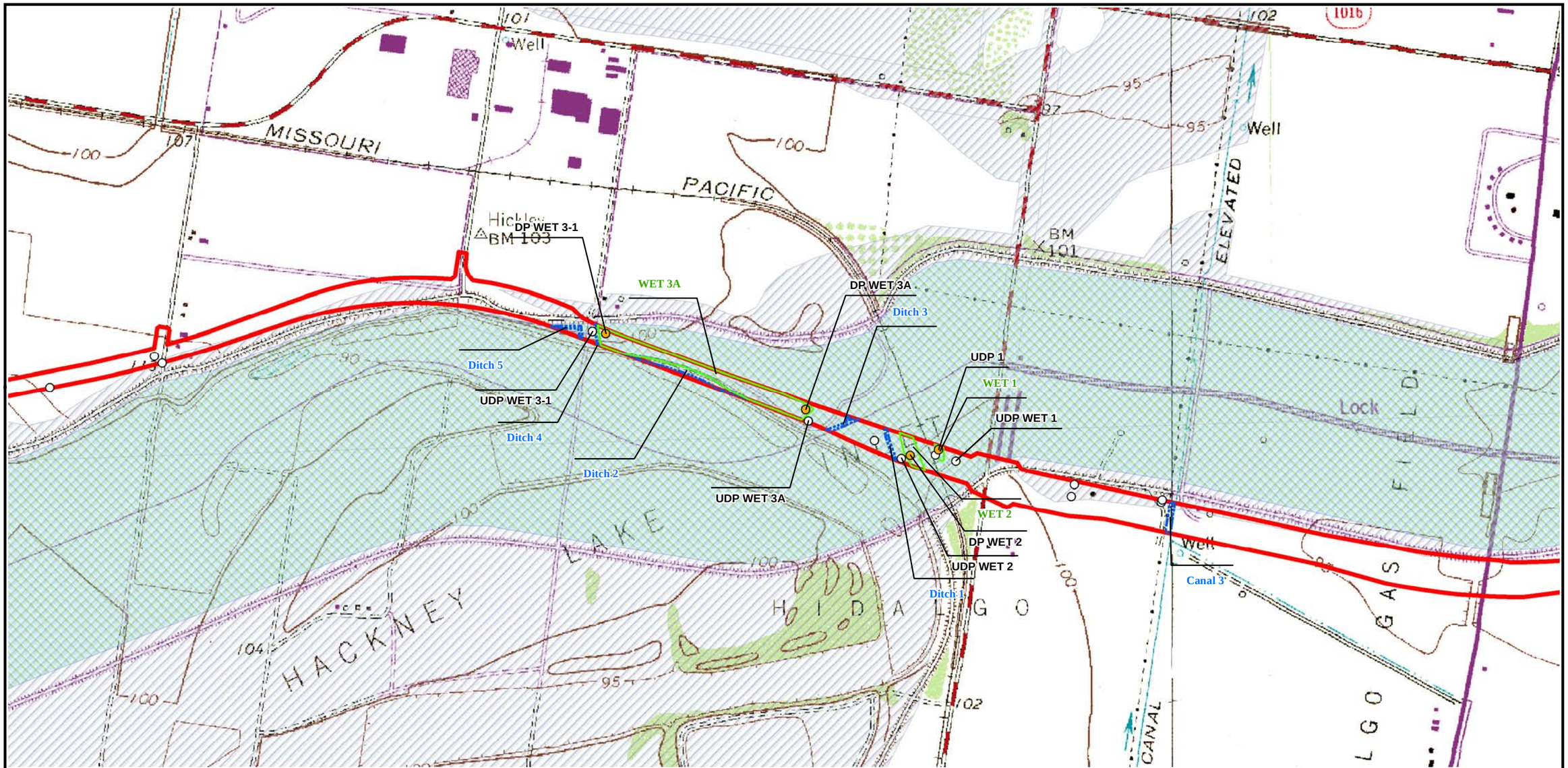
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 3 of 8**
**Mission Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright© 2011 National Geographic Society, i-cubed




Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

Service Layer Credits: Copyright© 2011 National Geographic Society, i-cubed

ATKINS

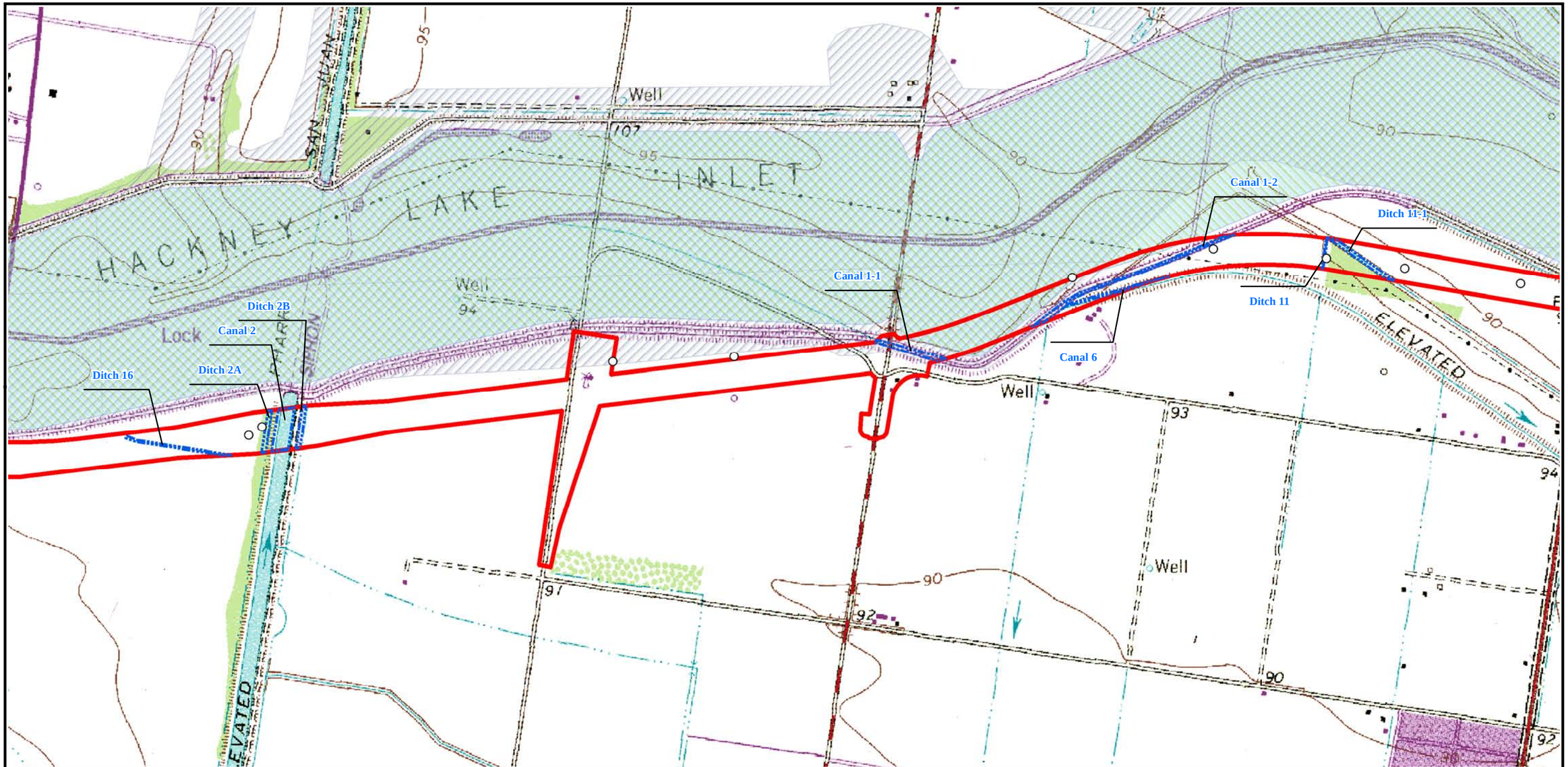
RMA

**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 4 of 8**
**Mission and Pharr Quadrangles**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

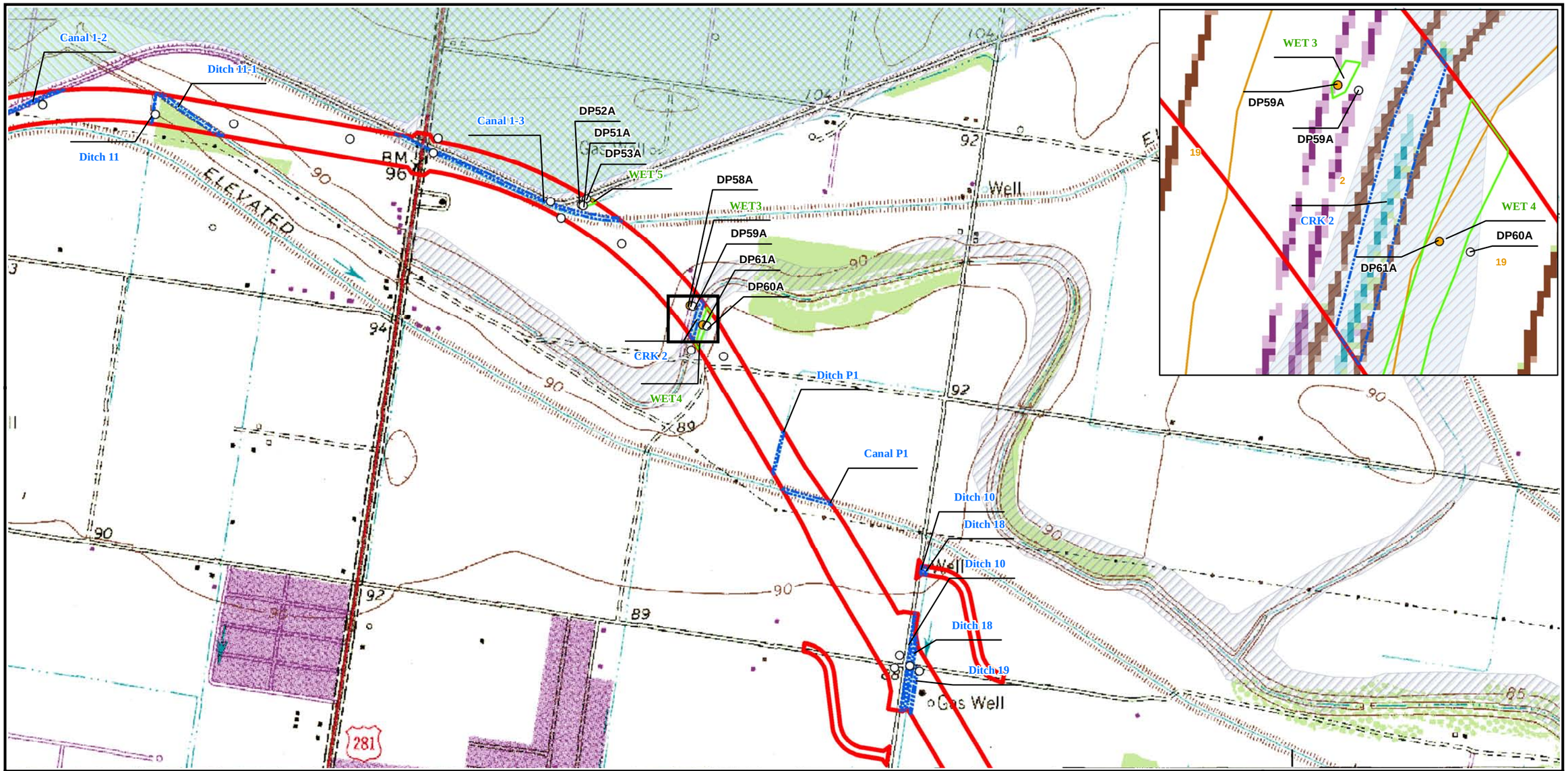
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 5 of 8**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright:© 2011 National Geographic Society, i-cubed



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

RMA

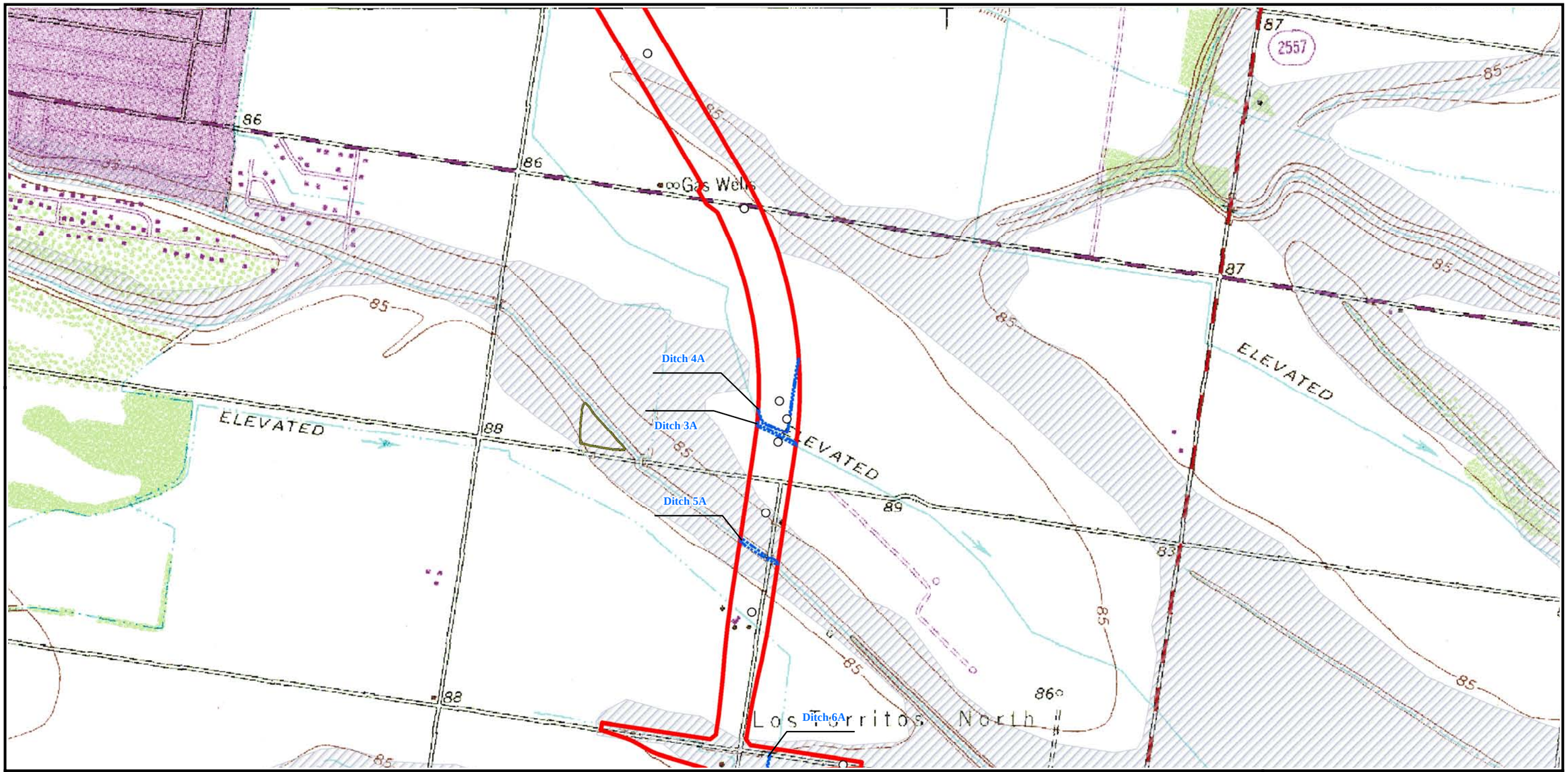
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 6 of 8**
**Pharr Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright© 2011 National Geographic Society, i-cubed



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

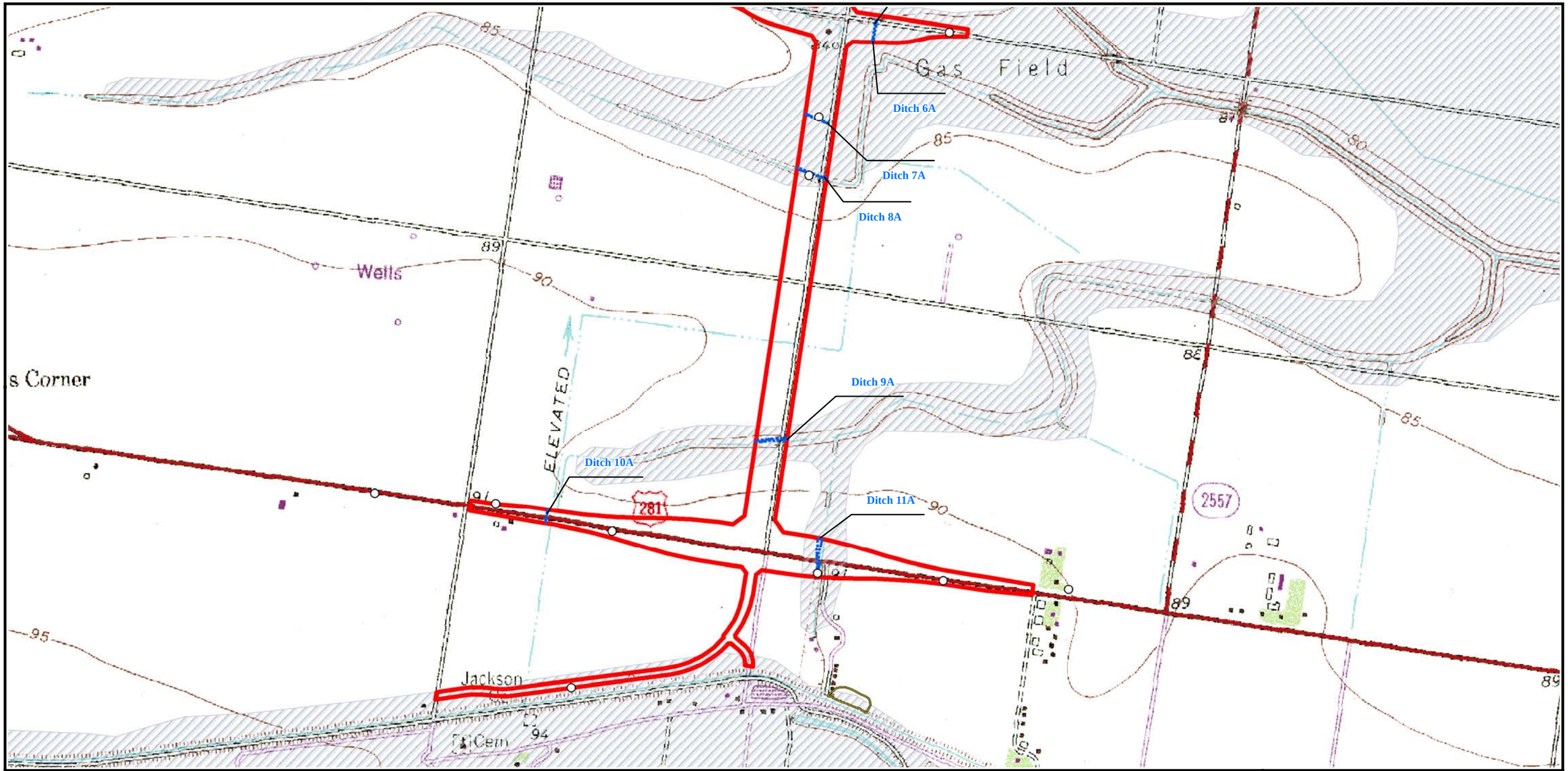
**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 7 of 8**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright:© 2011 National Geographic Society, i-cubed



Datum: NAD 83
Projection: UTM
Zone: 14
Units: Meters

- Proposed ROW
- 100 Year Floodplain
- IBWC Floodway
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Wetland
- Pond

0 1,000 2,000 3,000 Feet

ATKINS

**Exhibit C**
**Wetland Delineation Map**
**State Highway 365**
**From FM 1016**
**to US 281/Military Highway**
**Sheet 8 of 8**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

CSJ No: 3627-01-001, 3627-01-002, 0220-01-023

Date: Feb 06, 2013

File: N:\TRANS\100011499\projects\mxd\B_Exhibit_B_wetlands_soils_topo.mxd

Service Layer Credits: Copyright:© 2011 National Geographic Society, i-cubed

# Appendix B

# Site Photographs

**STATE HIGHWAY 365**
**FROM FM 1016 TO US 281/MILITARY HIGHWAY**
**Hidalgo County, Texas**
**Representative Photographs**

**Photo 1:** Representative view of upland pasture within the proposed project area.

**Photo 2:** Representative view of cropland within the proposed project area.

**Photo 3:** Representative view of upland mesquite scrub within the proposed project area.

**Photo 4:** Representative view of a PEM wetland (WET 1) within the proposed project area.

**Photo 5:** Representative view of a PSS wetland (WET 5) within the proposed project area.

**Photo 6:** Representative view of an irrigation canal (Canal 1-1) within the proposed project area.

**Photo 7:** Representative view of a potentially jurisdictional irrigation ditch (Ditch 2) within the proposed project area.

# Appendix C

# Wetland Data Forms

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET 1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.140896 Long: -98.256718 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Paspalum notatum* | 35 | Y | FAC |
| 2. *Schizachyrium scoparium* | 20 | Y | FACU+ |
| 3. *Helianthus annuus* | 5 | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 60 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 40

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET 1

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 7.5YR 4/3 | 100 | | | | | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Trade Corridor Connector (TCC) City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.141188 Long: -98.257232 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 X No _____<br>Hydric Soil Present? Yes X No _____<br>Wetland Hydrology Present? Yes X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Typha latifolia* | 20 | Y | OBL |
| 2. *Paspalum urvillei* | 15 | Y | FAC |
| 3. *Borrichia frutescens* | 10 | Y | FACW+ |
| 4. *Scirpus robustus* | 10 | Y | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 55 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 45

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP WET 1

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 6/2 | 98 | 10YR 5/6 | 2 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X 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 X Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 2

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 2

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.141062 Long: -98.258077 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 X No _____<br>Hydric Soil Present? Yes X No _____<br>Wetland Hydrology Present? Yes X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ | = Total Cover | |
| **Sapling/Shrub Stratum (Plot size: 15-ft)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ | = Total Cover | |
| **Herb Stratum (Plot size: 5-ft)** | | | |
| 1. *Paspalum urvillei* | 20 | Y | FAC |
| 2. *Typha latifolia* | 15 | Y | OBL |
| 3. *Borrichia frutescens* | 15 | Y | FACW+ |
| 4. *Ambrosia artemisiifolia* | 3 | N | FACU- |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 53 | = Total Cover | |
| **Woody Vine Stratum (Plot size: 30-ft)** | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 47

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP WET 2

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 5/2 | 98 | 10YR 5/8 | 2 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ___ 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)
- X Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X 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 X Depth (inches): _____

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

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

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET 2

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.140979 Long: -98.258341 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15-ft)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum (Plot size: 5-ft)** | | | |
| 1. *Schizachyrium scoparium* | 35 | Y | FACU+ |
| 2. *Cynodon dactylon* | 15 | Y | FACU+ |
| 3. *Borrichia frutescens* | 15 | Y | FACW+ |
| 4. *Prosopis juliflora* | 5 | N | FACU- |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 70 = Total Cover | | |
| **Woody Vine Stratum (Plot size: 30-ft)** | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 30

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET 2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 7.5YR 4/3 | 100 | | | | | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 3A

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.142277 Long: -98.261188 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |
| Hydric Soil Present? | Yes X No _____ | |
| Wetland Hydrology Present? | Yes X No _____ | |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Panicum hemitomon* | 25 | Y | OBL |
| 2. *Borrichia frutescens* | 20 | Y | FACW+ |
| 3. *Axonopus affinis* | 5 | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 50 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 50

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP WET 3A

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 5/1 | 97 | 10YR 5/8 | 3 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- X 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 X Depth (inches): _____

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 2

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET 3A

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.141997 Long: -98.261114 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 X No _____ | **Is the Sampled Area within a Wetland?** Yes _____ No X |
| Hydric Soil Present? | Yes _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Schizachyrium scoparium* | 15 | Y | FACU+ |
| 2. *Helianthus annuus* | 15 | Y | FAC |
| 3. *Borrichia frutescens* | 15 | Y | FACW+ |
| 4. *Ambrosia artemisiifolia* | 5 | N | FACU- |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 50 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 50

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET 3A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 5/2 | 100 | | | | | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET 3-1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.144347 Long: -98.267157 Datum: NAD 83

Soil Map Unit Name: Arents, loamy (1) 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 X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |
| Hydric Soil Present? | Yes X No _____ | |
| Wetland Hydrology Present? | Yes X No _____ | |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Cynodon dactylon* | 20 | Y | FACU+ |
| 2. *Borrichia frutescens* | 20 | Y | FACW+ |
| 3. *Parkinsonia aculeata* | 10 | Y | FACW- |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 50 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 50

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP WET 3-1

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 4/1 | 98 | 10YR 5/6 | 2 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X 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)
- X 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)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)
- ___ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

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

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 1

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo Sampling Date: 5.27.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET 3-1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.144405 Long: -98.267554 Datum: NAD 83

Soil Map Unit Name: Reynosa silty clay loam, 0 to 1 percent slopes (55) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Schizachyrium scoparium* | 25 | Y | FACU+ |
| 2. *Helianthus annuus* | 10 | Y | FAC |
| 3. *Borrichia frutescens* | 10 | Y | FACW+ |
| 4. *Ambrosia artemisiifolia* | 10 | Y | FACU- |
| 5. *Sorghum halepense* | 5 | N | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 60 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 40

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET 3-1

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 4/3 | 100 | | | | | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 51A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.140503 Long: -98.188061 Datum: NAD 83

Soil Map Unit Name: Harlingen Clay (19) 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 X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |
| Hydric Soil Present? | Yes X No _____ | |
| Wetland Hydrology Present? | Yes X No _____ | |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft. radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Celtis laevigata* | 20 | Y | FAC |
| 2. *Ehretia anacua* | 10 | Y | UPL |
| 3. | | | |
| 4. | | | |
| | 30 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft. radius) | | | |
| 1. *Acacia minuta* | 10 | Y | UPL |
| 2. *Parkinsonia aculeata* | 20 | Y | FACW- |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 30 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Echinochloa colonum* | 100 | Y | FACW- |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

_____ Prevalence Test is ≤3.0[1]

_____ 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 51A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/1 | 100 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- X Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

This soil is considered hydric under the 1987 USACE Wetland Delineation Manual hydric soil indicator "Low Chroma."

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 X No ___ Depth (inches): 2

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 52A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.140525 Long: -98.188117 Datum: NAD 83

Soil Map Unit Name: Harlingen Clay (19) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft. radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Ehretia anacua* | 20 | Y | UPL |
| 2. *Celtis laevigata* | 30 | Y | FAC |
| 3. | | | |
| 4. | | | |
| | 50 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft. radius) | | | |
| 1. *Parkinsonia aculeata* | 25 | Y | FACW- |
| 2. *Acacia smallii* | 10 | Y | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Panicum maximum* | 80 | Y | FAC- |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 20

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

_____ Dominance Test is >50%

_____ Prevalence Test is ≤3.0[1]

_____ 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: This data point does not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 52A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/1 | 100 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 53A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.140694 Long: -98.187958 Datum: NAD 83

Soil Map Unit Name: Harlingen Clay (19) 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 ____ No X | |
| Wetland Hydrology Present? | Yes ____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft. radius) | | | |
| 1. *Acacia smallii* | 5 | Y | FACU |
| 2. *Parkinsonia aculeata* | 5 | Y | FACW- |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Cenchrus ciliaris* | 80 | Y | UPL |
| 2. *Panicum maximum* | 20 | N | FAC- |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

____ Dominance Test is >50%

____ Prevalence Test is ≤3.0[1]

____ 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: This data point does not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 53A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/2 | 75 | | | | | SiC | |
| | 10YR 5/3 | 25 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 58A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.137817 Long: -98.184877 Datum: NAD 83

Soil Map Unit Name: Benito Clay (2) 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 X No _____<br>Hydric Soil Present? Yes X No _____<br>Wetland Hydrology Present? Yes X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft. radius) | | | |
| 1. *Parkinsonia aculeata* | 20 | Y | FACW- |
| 2. *Acacia schaffneri* | 5 | Y | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 25 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Echinochloa colonum* | 50 | Y | FACW- |
| 2. *Dichanthium annulatum* | 20 | Y | UPL |
| 3. *Ipomoea trichocarpa* | 10 | N | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 20

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species 70 | x 2 = 140 |
| FAC species 10 | x 3 = 30 |
| FACU species _____ | x 4 = _____ |
| UPL species 25 | x 5 = 125 |
| Column Totals: 105 (A) | 295 (B) |

Prevalence Index = B/A = 2.8

**Hydrophytic Vegetation Indicators:**

_____ Dominance Test is >50%

X Prevalence Test is ≤3.0[1]

_____ 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 58A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/1 | 100 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- X Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

This soil is considered hydric under the 1987 USACE Wetland Delineation Manual hydric soil indicator "Low Chroma."

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- X 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 59A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.137800 Long: -98.184800 Datum: NAD 83

Soil Map Unit Name: Benito Clay (2) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft. radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Prosopis glandulosa* | 40 | Y | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 40 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft radius) | | | |
| 1. *Parkinsonia aculeata* | 10 | Y | FACW- |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Dichanthium annulatum* | 90 | Y | UPL |
| 2. *Lantana urticoides* | 10 | N | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | | = Total Cover | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

_____ Dominance Test is >50%

_____ Prevalence Test is ≤3.0[1]

_____ 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: This data point does not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 59A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/1 | 40 | | | | | SiC | |
| | 10YR 4/2 | 60 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: SH 365/Trade Corridor Connector City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 60A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.137291 Long: -98.184500 Datum: NAD 83

Soil Map Unit Name: Harlingen Clay (19) 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 X No _____<br>Hydric Soil Present? Yes X No _____<br>Wetland Hydrology Present? Yes X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft. radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 20 | Y | FACW+ |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | 20 | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ | = Total Cover | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Typha domingensis* | 50 | Y | OBL |
| 2. *Cyperus virens* | 30 | Y | FACW |
| 3. *Cyperus rotundus* | 20 | Y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | _____ | = Total Cover | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

X Dominance Test is >50%

_____ Prevalence Test is ≤3.0[1]

_____ 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 60A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/1 | 100 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- X Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

This soil is considered hydric under the 1987 USACE Wetland Delineation Manual hydric soil indicator "Low Chroma."

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 8

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Trade Corridor Connector (TCC) City/County: Hidalgo County Sampling Date: 10/16/2008

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP 61A

Investigator(s): C. Cox / C. Hinojosa Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.137256 Long: -98.184385 Datum: NAD 83

Soil Map Unit Name: Harlingen Clay (19) 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft. radius) | | | |
| 1. *Dichanthium annulatum* | 70 | Y | UPL |
| 2. *Cynodon dactylon* | 20 | Y | FACU+ |
| 3. *Cyperus virens* | 5 | N | FACW |
| 4. *Helianthus annuus* | 5 | N | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 100 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum 0

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC−): 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

____ Dominance Test is >50%

____ Prevalence Test is ≤3.0[1]

____ 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: This data point does not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP 61A

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 20 | 10YR 4/2 | 95 | | | | | SiC | |
| | 10YR 3/1 | 5 | | | | | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

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

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

Remarks: Wetland hydrology was not observed at this data point.

**DEPARTMENT OF THE ARMY**
**GALVESTON DISTRICT, CORPS OF ENGINEERS**
**Corpus Christi Regulatory Field Office**
**5151 Flynn Parkway, Suite 306**
**Corpus Christi, Texas 78411-4318**

August 3, 2010

**REPLY TO ATTENTION OF:**

Corpus Christi Regulatory Field Office

SUBJECT: Permit Application No. SWG-2010-00573; Determination of Jurisdiction on Waters of the U.S.

PBS&J
ATTN: Michael Dyke
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

Dear Mr. Dyke:

This letter is in regard to your recent request on behalf of the Hidalgo County Regional Mobility Authority (HCRMA) that we conduct a Department of the Army jurisdictional determination on waters potentially affected by the HCRMA highway project. The project is a proposal to construct a six-lane, divided, controlled-access, ultimate section facility that would begin at the intersection of U.S. Highway 281 and San Juan Road and continue northeast to U.S. Highway 83, approximately 0.5 miles east of Farm-to-Market Road 1423 in Hidalgo County, Texas.

We concur that the following waters are jurisdictional under Section 404 of the Clean Water Act, as stated in your letter dated June 24, 2010: The wetland identified as WET A2, the open water ponds identified as Ponds A1, A2 and A3, and the water courses identified as Ditch 5A, Ditch A20, Ditch A11, Ditch A10, Canal A5, Ditch A5, and Creek 1 respectively.

We do not concur with your determination on the following as being potentially jurisdictional and do not claim jurisdiction on the following waters: Ditch 3, Ditch A14, and Ditch 8A.

Additionally, we do concur with your determination that the following waters are not jurisdictional and do not claim jurisdiction on the following waters: Ditch 2, Ditch 5, Ditch 6, Ditch 3A, Ditch A13, Canal A9, Ditch A12, Canal A8, Canal A7, Ditch A8, Canal A6, Ditch A9, Ditch A7, Ditch A6, Canal A18, Ditch A17, Canal A17, Ditch A4, Ditch A18, Canal A12, Ditch A3, Ditch A2, Canal A3, Canal A4, Canal A2, Ditch A1, and Canal A1.

This approved determination is valid for 5 years from the date of this letter unless new information warrants a revision of the determination prior to the expiration date. Please reference determination number **SWG-2010-00573** in future correspondence pertaining to this subject. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a combined Notification of

Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Southwestern Division Office at the following address:

Elliott N. Carman, Appeal Review Officer
Southwestern Division, CESWD-CMO-E
1100 Commerce Street, Room 8E9
Dallas, Texas 75242-0216

Telephone: 469-487-7037; FAX: 469-487-7199

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by October 4, 2010.

It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If you have any questions concerning this determination, please contact Matthew Kimmel at the letterhead address or by telephone at 361-814-5847.

Sincerely,

Lloyd Mullins
Supervisor, Corpus Christi Regulatory Field Office

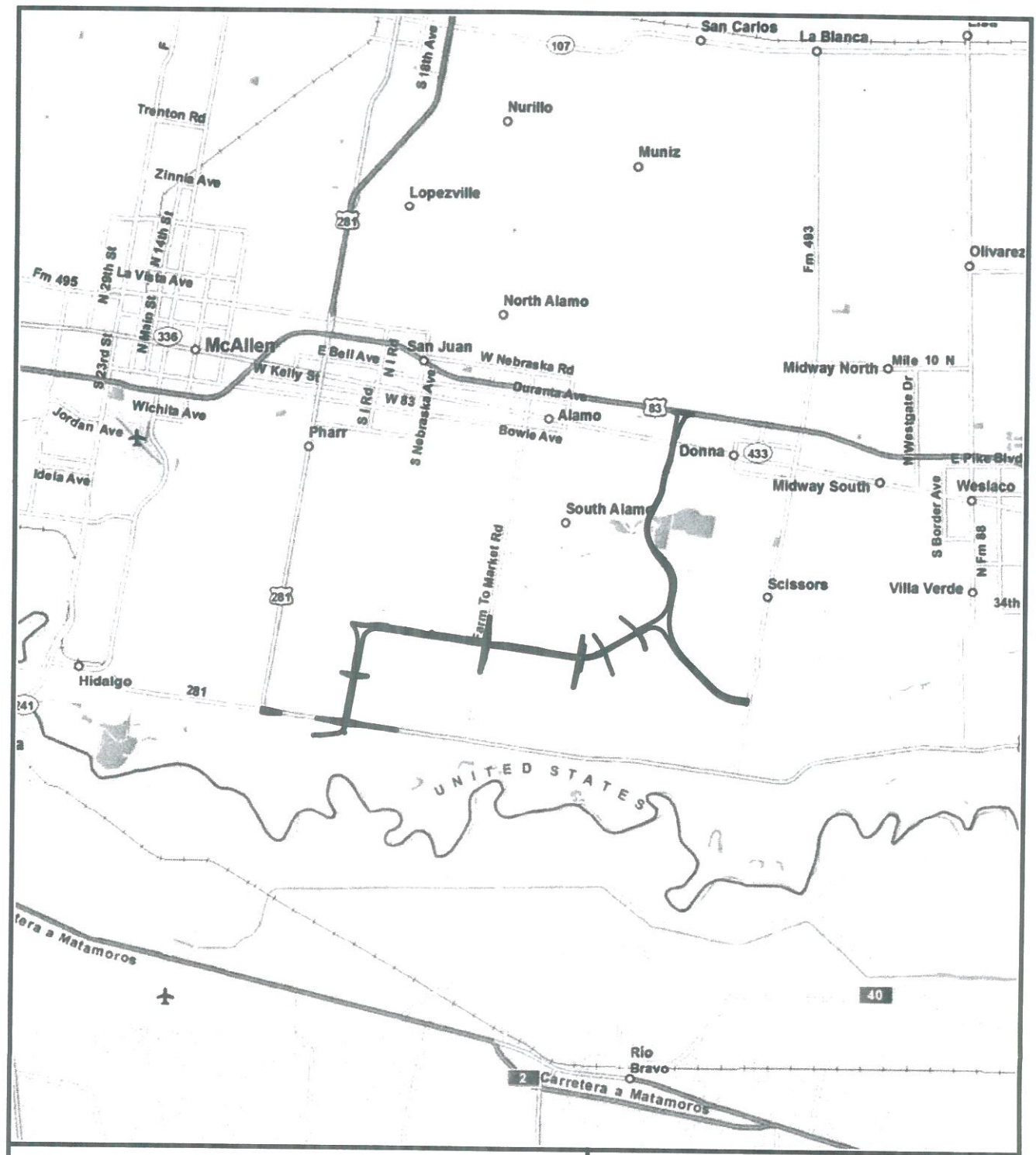
Enclosures

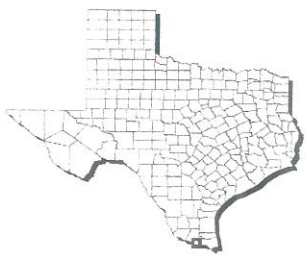
Copy Furnished:

Godfrey Garza, Jr., Hidalgo County Regional Mobility Authority
510 S. Pleasantview Drive, Weslaco, Texas 78596

To assist us in improving our service to you, please complete the survey found at
http://per2.nwp.usace.army.mil/survey.html

JUN 2 8 2010



Corridor ROW

N
W E
S

0 3 6 Miles

PBSJ

**Exhibit A**
**Project Location Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Hidalgo County, Texas**

| | |
|---|---|
| Prepared By: PBS&J/19955 | Scale:1 " = 3 miles |
| Job No.: 100011519 | Date: June 17, 2010 |
| File: N:\ENV\100002039\prj\mxd\vicinity\SecB\A_Vicinity_IBTC | |

Permit SWG-2010-00573
Project Area Location

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applicant: Hidalgo County RMA | | File Number: SWG-2010-00573 | Date: 3 AUG 2010 |
|---|---|---|---|
| Attached is: | | | See Section below |
| | INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission) | | A |
| | PROFFERED PERMIT (Standard Permit or Letter of Permission) | | B |
| | PERMIT DENIAL | | C |
| X | APPROVED JURISDICTIONAL DETERMINATION | | D |
| | PRELIMINARY JURISDICTIONAL DETERMINATION | | E |

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved jurisdictional determination (JD) or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

## SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

## POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
Lloyd Mullins, Supervisor
U.S. Army Corps of Engineers, CESWG-PE-RCC
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
Telephone 361-814-5847; FAX 361-814-5912

If you only have questions regarding the appeal process you may also contact:
Elliott N. Carman, Appeal Review Officer
CESWD-ETO-R, 1100 Commerce Street
Dallas, Texas 75242-0216
Telephone: 469-487-7037; FAX: 469-487-7199
Email: Elliott.N.Carman@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|---|---|---|
| _____<br>Signature of appellant or authorized agent. | | |

PBS&J®

*An employee-owned company*

June 24, 2010

Mr. Lloyd Mullins
U.S. Army Corps of Engineers
Corpus Christi Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411

PN 100011519

Dear Mr. Mullins:

Re: Request for Jurisdictional Determination of Wetland and Waterbody Crossings
Hidalgo County Regional Mobility Authority
Proposed International Bridge Trade Corridor Roadway Project
Hidalgo County, Texas

Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane, divided, controlled-access, ultimate section facility that would begin at the intersection of U.S. Highway (US) 281 and San Juan Road and continue northeast to US 83, approximately 0.5 mile east of Farm-to-Market Road 1423 in Hidalgo County (please see Attachment A for a project location map). The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities.

The International Bridge Trade Corridor (IBTC) would traverse approximately 15 miles, generally paralleling the Rio Grande River within a 160- to 300-foot right-of-way (ROW), expanding to 400 feet at identified overpass locations. On behalf of HCRMA, PBS&J requests a jurisdictional determination for the wetland and waterbody features listed below.

Potentially Jurisdictional Wetlands and Open Waters

Field surveys conducted in May 2010 identified the presence of 1 palustrine scrub-shrub (PSS) wetland and 3 open waters (ponds) within the proposed ROW that are potentially subject to Section 404 jurisdiction. Please refer to Table 1 below for a listing of these features. For detailed descriptions of these features, please refer to the enclosed wetland delineation report (Attachment A), which includes aerial- and topographic- based wetland delineation maps.

Potentially Jurisdictional Waterbodies

Field surveys conducted in May 2010 identified the presence of one creek, one irrigation canal, and eight irrigation ditches within the proposed ROW that are potentially subject to Section 404 jurisdiction. Please refer to Table 2 below for a listing of these waterbodies. For detailed descriptions of these features, please refer to the enclosed wetland delineation report (Attachment A), which includes aerial- and topographic-based Wetland Delineation Maps.

**Table 1**
**Potentially Jurisdictional Wetlands and Open Waters Identified Within the International Bridge Trade Corridor Roadway Project Hidalgo County, Texas**

| Wetland | PBS&J Field Classification[1] | Connection to Waters of the U.S. | Acres |
|---|---|---|---|
| **Potentially Jurisdictional Wetlands and Ponds** | | | |
| WET A2 | PSS | Tributary to La Cruz Resaca | 0.09 |
| Pond A1 | Open Water | Donna Reservoir Pond | 1.52 |
| Pond A2 | Open Water | Donna Reservoir Pond | 0.35 |
| Pond A3 | Open Water | Donna Reservoir Pond | 0.37 |
| | | **Total** | 2.33 |

1 PBS&J Field and National Wetland Inventory Wetland Classifications are based upon Cowardin Classifications (Cowardin, et al, 1979).
PSS = palustrine scrub-shrub

**Table 2**
**Potentially Jurisdictional Waterbodies Identified Within the International Bridge Trade Corridor Roadway Project Hidalgo County, Texas**

| Field ID | Waterbody[1] | Stream Classification | Acres |
|---|---|---|---|
| Ditch 3 | Tributary to La Cruz Resaca | Intermittent[2] | 0.19 |
| Ditch A14 | Tributary to La Cruz Resaca | Intermittent[2] | 0.05 |
| Ditch 8A | Tributary to La Cruz Resaca | Intermittent[2] | 0.10 |
| Ditch 5A | Tributary to La Cruz Resaca | Intermittent[2] | 0.24 |
| Ditch A20 | Tributary to La Cruz Resaca | Intermittent[2] | 0.02 |
| Ditch A11 | Tributary to La Cruz Resaca | Intermittent[2] | 1.68 |
| Ditch A10 | Tributary to La Cruz Resaca | Intermittent[2] | 0.28 |
| Canal A5 | Tributary to La Cruz Resaca | Intermittent[2] | 0.55 |
| Ditch A5 | Tributary to La Cruz Resaca | Intermittent[2] | 0.19 |
| Creek 1 | La Cruz Resaca | Perennial[3] | 0.18 |
| | | **Total** | 3.48 |

1 Waterbody names are as depicted on U.S. Geological Survey 7.5-minute topographic maps or as designated in the field.
2 Intermittent flow is highly dependent on pumped irrigation water.
3 The waterbody is depicted on topographic maps as a perennial stream; however, in the absence of pumped irrigation water, flow would likely be intermittent.

Please contact me if you have any questions or need additional information.

Very truly yours,

PBS&J

for

Michael Dyke
Associate Project Manager

MD:SC
Enclosure: Attachment A – Wetland Delineation Report

c: Godfrey Garza, Jr. - Hidalgo County Regional Mobility Authority
Sharon Becca - PBS&J

# Attachment A

# Wetland Delineation Report

PBS&J Project No. 100011519
Document No. 10H026

# WETLAND DELINEATION FOR THE PROPOSED INTERNATIONAL BRIDGE TRADE CORRIDOR ROADWAY PROJECT HIDALGO COUNTY, TEXAS

**Prepared for:**

Hidalgo County Regional Mobility Authority
510 S. Pleasantview Drive
Weslaco, Texas 78596

**Prepared by:**

PBS&J
1250 Wood Branch Park Drive, Suite 300
Houston, Texas 77079

June 2010

# Contents


Page

**Acronyms and Abbreviations** ..... iv

**1.0 INTRODUCTION** ..... 1-1

1.1 INTERNATIONAL BRIDGE TRADE CORRIDOR OVERVIEW ..... 1-1

**2.0 METHODS** ..... 2-1

**3.0 RESULTS** ..... 3-1

3.1 SITE DESCRIPTION ..... 3-1

3.2 VEGETATION ..... 3-1

3.2.1 Upland Pasture ..... 3-1

3.2.2 Cropland ..... 3-1

3.2.3 Mesquite Shrub ..... 3-2

3.2.4 Wetland ..... 3-2

3.3 SOILS ..... 3-2

3.3.1 Hidalgo County Soils ..... 3-2

3.4 HYDROLOGY ..... 3-4

3.5 WETLANDS AND OTHER WATERS OF THE U.S. WITHIN THE PROPOSED PROJECT AREA ..... 3-5

3.5.1 Wetland and Open Water Crossings ..... 3-5

3.5.1.1 Stream Crossings ..... 3-6

3.5.2 Potentially Non-Jurisdictional Wetlands and Waters ..... 3-7

3.5.3 Non-Regulated Features ..... 3-8

**4.0 CONCLUSIONS** ..... 4-1

**5.0 REFERENCES** ..... 5-1


**Tables**


Table 1 Potentially Jurisdictional Wetlands and Open Waters Identified Within the International Bridge Trade Corridor Roadway Project, Hidalgo County, Texas ..... 3-5

Table 2 Potentially Jurisdictional Waterbodies Identified Within the International Bridge Trade Corridor Roadway Project, Hidalgo County, Texas ..... 3-7

Table 3 Potentially Non-Jurisdictional Waterbodies Identified Within the International Bridge Trade Corridor Roadway Project, Hidalgo County, Texas ..... 3-8

**Exhibits**

Exhibit A Project Location Map
Exhibit B Wetland Delineation Layout – Aerial Photographs
Exhibit C Wetland Delineation Layout – Topographic Maps

**Appendices**

Appendix A Site Photographs
Appendix B Wetland Data Forms

## Acronyms and Abbreviations

| | |
|---|---|
| CWA | Clean Water Act |
| DGPS | differentially-corrected global positioning system |
| FEMA | Federal Emergency Management Agency |
| HCRMA | Hidalgo County Regional Mobility Authority |
| IBTC | International Bridge Trade Corridor |
| NRCS | Natural Resources Conservation Service |
| OHWM | ordinary high water mark |
| PSS | palustrine scrub-shrub |
| ROW | right-of-way |
| RPW | relatively permanent water |
| TxDOT | Texas Department of Transportation |
| U.S. | United States |
| US | U.S. Highway |
| USACE | U.S. Army Corps of Engineers |

# 1.0 INTRODUCTION

## 1.1 INTERNATIONAL BRIDGE TRADE CORRIDOR OVERVIEW

Hidalgo County Regional Mobility Authority ("HCRMA"), in cooperation with the Texas Department of Transportation ("TxDOT") Pharr District, proposes to construct a six-lane, divided, controlled-access, ultimate section facility that would begin at the intersection of U.S. Highway ("US") 281 and San Juan Road and continue northeast to US 83, approximately 0.5 mile east of Farm-to-Market Road 1423 in Hidalgo County (Exhibit A). The purpose of the proposed project is to relieve congestion and increase mobility on local and regional transportation facilities.

The International Bridge Trade Corridor ("IBTC") would traverse approximately 15 miles, generally paralleling the Rio Grande River within a 160- to 300-foot right-of-way ("ROW"), expanding to 400 feet at identified overpass locations.

This report presents the results of a wetland delineation for the proposed IBTC. This delineation was conducted by PBS&J on behalf of HCRMA and TxDOT, Pharr District. The purpose of this investigation is to determine the location and extent of any waters of the United States ("U.S."), including wetlands, within the proposed roadway project area that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers ("USACE"), Galveston District, pursuant to Section 404 of the Clean Water Act ("CWA") and Section 10 of the Rivers and Harbors Act. The wetland delineation for the proposed roadway project was initiated in May 2010.

# 2.0 METHODS

A formal wetland delineation was conducted for the project in May 2010 in order to determine the location and acreages of waters of the U.S., including wetlands, subject to USACE jurisdiction under Section 404 of the CWA and/or Section 10 of the Rivers and Harbors Act. The *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010) were used for identifying potential wetlands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

During the detailed field surveys, ecologists established data point locations based on soil mapping information, aerial photograph "signatures," and vegetative community changes. Vegetation, hydrology, and soils were evaluated and recorded in the field at each wetland and upland data point. Reference data points were also collected; however, data sheets were only recorded for wetlands. All plant species were recorded at each data point by visually estimating the percentage of areal cover of each plant species (Correll and Johnston, 1996; Cowardin, 1979; Gould, 1975; and Vines, 1990) in each stratum. To determine if the composition of the dominant plant community satisfied the hydrophytic vegetation parameter, the indicator status of dominant plant species occurring at each station was obtained from the U.S. Fish and Wildlife Service *National List of Plant Species That Occur in Wetlands: South Plains (Region 6)*. Direct observation of inundation, saturation, and other indicators of wetland hydrology (i.e., water marks, drift lines, oxidized rhizospheres, sediment deposits, water-stained leaves, and drainage patterns in wetlands) was used to determine if the wetland hydrology parameter was satisfied. Soils at each data point were evaluated and described noting the depth, horizon, matrix color, mottle colors (if any), mottle abundance and contrast, texture, concretions, and structure. The moist matrix color and moist mottle color of the soil were determined utilizing the *Munsell Soil Color Chart* (Kollmorgan Instruments Corporation, 2000).

The boundary for each potential water of the U.S. (including jurisdictional and non-jurisdictional wetlands) was determined through combined observation, correlation, and aerial photo interpretation, in conjunction with field results regarding hydrophytic vegetation, indicators of wetland hydrology, and the presence of hydric soil indicator data collected at each of the sampling points. All coordinates and boundaries were mapped with a differentially-corrected global positioning system ("DGPS") using a Trimble GeoXT GPS receiver and post-processed to sub-meter accuracy. The points, lines, and polygons were downloaded into ArcView™ Geographic Information System software for creating maps of the soil stations and wetland boundaries. The USACE SWG (Galveston District) Standard Operating Procedures for recording jurisdictional delineations using GPS were used during this wetland delineation.

# 3.0 RESULTS

## 3.1 SITE DESCRIPTION

The proposed roadway project traverses an urban to rural setting amid upland pasture, cropland, mesquite shrub, and palustrine scrub-shrub ("PSS") wetland areas. The IBTC would be constructed to facilitate a six-lane, divided, controlled-access, ultimate section. The vegetation communities in the area support maintained and unmaintained grassland, cropland, and mesquite shrub areas. The vegetation communities, which are based on *The Vegetation Types of Texas* (McMahan, et al, 1984), are discussed in the following section. Representative photos of each vegetation community are presented in Appendix A.

## 3.2 VEGETATION

### 3.2.1 Upland Pasture

Upland pasture vegetation refers to grasses or other vegetation species that are eaten as food by grazing animals. The upland pasture vegetation community consists of Guinea grass (*Panicum maximum*), buffel grass (*Cenchrus Ciliaris*), Bermuda grass (*Cynodon dactylon*), whorled dropseed (*Sporobolus pyramidatus*), retama (*Parkinsonia aculeata*), tumbleweed (*Salsola tragus*), Gray's feverfew (*Parthenium confertum*), balloon vine (*Cardiospermum dissectum*), red prickly poppy (*Argomone sanguinea*), grain sorghum (*Sorghum bicolor*), Johnson grass (*Sorghum halepense*), jungle-rice (*Echinochloa colona*), Kleberg bluestem (*Dichanthium annulatum*), common sunflower (*Helianthus annuus*), Texas gourd (*Cucurbita texana*), Asian crabgrass (*Digitaria bicornis*), bushy seaside tansy (*Borrichia frutescens*), and dallis grass (*Paspalum dilatatum*). This vegetation community was identified within pastureland, the Main Canal floodway, fallow agricultural fields, and areas cleared for development.

### 3.2.2 Cropland

Cropland vegetation refers to cultivated cover crops or row crops providing food and/or fiber for either man or domestic animals. The vegetation present within the cropland vegetation community consists of grain sorghum, Johnson grass, Palmer's pigweed (*Amaranthus palmeri*), Kleberg bluestem, corn (*Zea Mays*), Bermuda grass, spotted spurge (*Euphorbia maculata*), jungle-rice, orange tree (*Citrus sinensis*), grapefruit tree (*Citrus paradisi*), sugarcane (*Saccharum officinarum*), Texas gourd, cabbage (*Brassica oleracea*), false ragweed (*Parthenium hysterophorus*), Berlandier's nettlespurge (*Jatropha cathartica*), hog potato (*Hoffmanseggia glauca*), sleepy morning (*Waltheria americana*), Klein grass (*Panicum coloratum*), purple threeawn (*Aristida purpurea*), and Guinea grass.

### 3.2.3 Mesquite Shrub

Mesquite shrub vegetation refers to areas dominated by mesquite and other species of young trees and shrubs. The mesquite shrub vegetation community consists of huisache (*Acacia minuta*), twisted acacia (*Acacia schaffneri*), retama, honey mesquite (*Prosopis glandulosa*), granjeno (*Celtis pallida*), prickly pear (*Opuntia engelmannii*), hogwort (*Croton capitatus*), lotebush (*Ziziphus Obtusifolia*), whorled dropseed, Palmer's pigweed, buffel grass, western ragweed (*Ambrosia psilostachya*), Guinea grass, jungle-rice, Kleberg bluestem, cotton morning glory (*Ipomoea trichocarpa*), and calico bush (*Lantana urticoides*). The mesquite shrub vegetation community consists of 25 percent or higher dominance of woody species greater than 3 inches diameter at breast height.

### 3.2.4 Wetland

The PSS wetland vegetation community consists of Texas paloverde (*Parkinsonia texana*), retama, black willow (*Salix nigra*), and California bulrush. This vegetation community was identified between two levees in a naturalized channel associated with the IBTC floodway. This wetland was formed from the siltation of a tributary irrigation ditch to La Cruz Resaca.

## 3.3 SOILS

Soil descriptions within the proposed roadway project area are located on pages 16, 19, 27, 28, 31, 33, and 54 of the Hidalgo County Soil Survey (Natural Resources Conservation Service ["NRCS"], 1981). Digital soil data has been overlaid on the Wetland Delineation Layout (Exhibit B). The soil types that occur within the proposed project area are described below.

### 3.3.1 Hidalgo County Soils

According to the *Soil Survey of Hidalgo County, Texas*, eight different soil mapping units are located within the proposed project area. These soils consist of Benito clay (2); Cameron silty clay (7); Harlingen clay (19); Harlingen clay, saline (20); Hidalgo fine sandy clay loam, 0 to 1 percent slopes (25), Hidalgo sandy loam, 0 to 1 percent slopes (28); Runn silty clay (64); and Runn silty clay, saline (65) (NRCS, 1981). The *Soil Survey of Hidalgo County, Texas*, and Soil Data Mart were used to describe the soil types (NRCS, 1981 and 2010).

Benito clay (2) consists of deep, nearly level saline soil in depressional areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but can range from 0 to 1 percent. Typically, the surface layer is gray clay about 56 inches thick with intersecting slickensides in the lower part. The next layer extending from 56 to 65 inches is light gray clay. This soil is calcareous throughout. This soil is poorly drained. Surface runoff is ponded and permeability is very slow. The available water capacity is low. This soil is used for improved pasture. Some areas are used for irrigated cropland. A few areas are idle. This mapping unit is listed as hydric on the National Hydric Soils List (NRCS, 2010).

Cameron silty clay (7) consists of deep, nearly level soil found on ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. The surface layer is usually dark grayish-brown silty clay about 18 inches thick. The nest layer is brown silty clay from 18 to 30 inches thick. The next layer from 30 to 65 inches is a pale brown silt loam. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is slow and permeability us moderately slow. The available water capacity is high. This soil is mainly used as irrigated cropland. A few areas are used as pastureland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Harlingen clay (19) consists of deep, nearly level soil on broad areas of ancient stream terraces. Slopes are mainly less than .05 percent but range from 0 to 1 percent. Typically, the surface layer is grayish-brown clay about 18 inches thick. The next layer from 18 to 72 inches is brown clay that has many intersecting slickenslides. The soil is calcareous throughout. The soil is moderately well drained. Surface runoff is very slow. Permeability is very slow. The available water capacity is low. This soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Harlingen clay, saline (20), consists of deep, nearly level saline soil on broad areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown clay about 16 inches thick. The next layer from 16 to 65 inches is saline, brown clay that has many intersecting slickensides. The soil is calcareous throughout. This soil is moderately well drained. Surface runoff is very slow. Permeability is very slow and the available water capacity is very low. This soil is moderately saline to strongly saline as a result of over-irrigation and evaporation of slightly saline water. This soil is used mostly as irrigated cropland and pasture; however, a few areas are idle. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Hidalgo fine sandy loam, 0 to 1 percent slopes (25) consists of deep, nearly level soil on convex uplands. Typically, the surface layer is dark grayish-brown fine sandy loam about 15 inches thick. The upper part of the subsoil, from 15 to 30 inches, is brown sandy clay loam. The lower part, from 30 to 39 inches, is pale brown sandy clay loam. The layer extending from 39 to 72 inches is very pale brown sandy clay loam. The soil is calcareous throughout. This soil is well drained and surface runoff is slow. Permeability is moderate and the available water capacity is medium. This soil is used mostly as irrigated and non-irrigated cropland and for citrus. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Hidalgo sandy clay loam, 0 to 1 percent slopes (28) consists of deep, nearly level soil on convex uplands. Typically, the surface layer is a dark grayish-brown sandy clay loam about 17 inches thick. The next layer, from 17 to 28 inches, is brown sandy clay loam. The next layer, from 28 to 30 inches, is pale brown clay loam. The layer extending from 38 to 80 inches is very pale brown sandy clay loam. The soil is calcareous throughout. This soil is well drained and surface runoff is slow. Permeability is moderate

and the available water capacity is high. This Hidalgo soil is mostly used as irrigated and non-irrigated cropland and for citrus. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Runn silty clay (64) consists of deep nearly level soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is dark grayish-brown, silty clay about 18 inches thick. The next layer, from 18 to 38 inches, is light brownish-gray silty clay. The next layer, from 38 to 55 inches, is pale brown silty clay. The layer extending from 55 to 65 inches is pale brown silty clay loam. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is high. This Runn soil is used almost entirely as irrigated cropland. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

Runn silty clay, saline (65), consists of deep, nearly level saline soil in areas of ancient stream terraces. Slopes are mainly less than 0.5 percent but range from 0 to 1 percent. Typically, the surface layer is saline, grayish-brown, silty clay about 16 inches thick. The next layer, from 16 to 54 inches, is saline, brown, silty clay. The layer extending from 54 to 65 inches is saline, light brown, silty clay. The soil is calcareous throughout. This soil is moderately well drained and surface runoff is slow. Permeability is slow and the available water capacity is low. This Runn soil is used almost entirely as irrigated cropland or pastureland. A few areas are idle. This mapping unit does not occur on the National Hydric Soils List (NRCS, 2010).

## 3.4 HYDROLOGY

The proposed roadway project area traverses 35 irrigation features, one stream (La Cruz Resaca) one wetland, and three ponds. An area is called a "wetland" if it meets the three technical criteria listed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010).

Saturation and surface water are primary indicators of the potential jurisdictional wetland area within the proposed project area. Oxidized rhizospheres on living roots and depressional topography features were also predominant hydrology indicators observed during the field survey. A complete description of the hydrology indicators observed at each sampling point is provided on wetland data forms in Appendix B. Technical descriptions of wetland hydrology indicators can be found in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010)

## 3.5 WETLANDS AND OTHER WATERS OF THE U.S. WITHIN THE PROPOSED PROJECT AREA

One natural stream (La Cruz Resaca), nine channelized streams, one PSS wetland, and three open-water reservoirs located within the proposed project area exhibit a potential significant nexus to a relatively permanent water ("RPW") and are potentially subject to Section 404 jurisdiction. Twenty-six irrigation features located within the proposed project area did not exhibit a significant nexus to an RPW, and thus are not subject to Section 404 jurisdiction.

### 3.5.1 Wetland and Open Water Crossings

Wetland (Wet A2) is a PSS wetland located within a relict irrigation ditch that exhibits a direct connection to La Cruz Resaca and is located entirely within the 100-year floodplain. The relict irrigation ditch did not appear to be maintained, and as a result appears to have naturally converted into a wetland. La Cruz Resaca is considered to be a water of the U.S. Therefore, this wetland is potentially subject to Section 404 jurisdiction.

Pond A1, Pond A2, and Pond A3 are impoundments of a historic natural tributary to La Cruz Resaca, and are part of the Donna Reservoir. Therefore, these features are potentially subject to Section 404 jurisdiction.

Table 1 presents specific information relevant to the potential jurisdiction of wetlands and open waters within the proposed project area. The locations of these wetlands and other waters of the U.S. are depicted on the Wetland Delineation Layout (Exhibits B and C). Representative photographs of the wetlands and other waters of the U.S. are provided in Appendix A.

**Table 1**
**Potentially Jurisdictional Wetlands and Open Waters Identified Within the International Bridge Trade Corridor Roadway Project**
**Hidalgo County, Texas**

| Wetland | PBS&J Field Classification[1] | Connection to Waters of the U.S. | Acres |
|---|---|---|---|
| **Potentially Jurisdictional Wetlands and Ponds** | | | |
| WET A2 | PSS | Tributary to La Cruz Resaca | 0.09 |
| Pond A1 | Open Water | Donna Reservoir Pond | 1.52 |
| Pond A2 | Open Water | Donna Reservoir Pond | 0.35 |
| Pond A3 | Open Water | Donna Reservoir Pond | 0.37 |
| | | **Total** | 2.33 |

1 PBS&J Field and National Wetland Inventory Wetland Classifications are based upon Cowardin Classifications (Cowardin, et al, 1979).
PSS = palustrine scrub-shrub

#### 3.5.1.1 Stream Crossings

The proposed project crosses 10 waterways that are potentially subject to Section 404 jurisdiction. Locations of these waterways are depicted on the Wetland Delineation Layout (Exhibits B and C). These waterways include intermittent and perennial natural riverine systems that have been channelized to improve drainage. During the field survey, ordinary high water marks ("OHWM") limits were determined based on water lines, channel incision, and changes in vegetation.

La Cruz Resaca is a natural perennial stream intersected by the proposed project. The perennial flow of this stream is supplemented by pumped irrigation water; however, in the absence of pumped irrigation water, flow would likely be intermittent. La Cruz Resaca continues east beyond the proposed project area into a system of impoundments within the north floodway, and discharges into a pilot channel east to the Arroyo Colorado, which connects to the Laguna Madre, which connects to the Gulf of Mexico. The banks of this stream have been channelized and support an herbaceous community of spiny aster (*Aster spinosus*, FACW-), California bulrush (*Scirpus californicus*, OBL), honey mesquite, and yellow bluestem (*Bothriochloa ischaemum*, UPL). The observed OHWM within the proposed project area averages approximately 30 feet in width. The stream segment of La Cruz Resaca within the proposed project area was observed to be consistent with the characteristics of an RPW. Therefore, this feature is potentially subject to Section 404 jurisdiction.

Ditch A20 and Ditch A11 are potential historic tributaries of La Cruz Resaca that have been modified (deepened and widened) to serve as irrigation ditches. Review of historic aerial imagery, topographic maps, and soil series types in the Soil Survey of Hidalgo County (1981) suggest that these ditches are located in a historic linear formation of hydric soil within the bounds of terrace formations. These characteristics are indicative of the historic formation of a natural channel at these locations. These ditches are dependent on pumped irrigation water for their observed flow; however, during flood events, water from these ditches has the potential to drain downstream and affect the water quality of La Cruz Resaca, and ultimately Laguna Madre. Therefore, these waterways are potentially subject to Section 404 jurisdiction.

Ditch 3, Ditch A14, Ditch 8A, Ditch 5A, Ditch A10, and Canal A5 are man-made irrigation ditches that act as tributaries to La Cruz Resaca. Review of topographic maps, soil series types within and adjacent to the channels, and historic aerial imagery in the Soil Survey of Hidalgo County (1981) does not indicate the historic formation of a natural channel at these locations; however, due to their position within the center of the Federal Emergency Management Agency ("FEMA") 100-year floodplain and low topographic position, it is possible that these features may have been created from a previously existing natural tributary channel. These ditches are dependent on pumped irrigation water for their observed flow. However, during flood events, water from these ditches has the potential to drain downstream and

affect the water quality of La Cruz Resaca, and ultimately Laguna Madre. Therefore, these waterways are potentially subject to Section 404 jurisdiction.

Ditch A5 is a potential historic tributary of La Cruz Resaca that has been modified (deepened and widened) to serve as an irrigation ditch. This ditch is dependent on pumped irrigation water for the observed flow; however, during flood events, water from Ditch A5 has the potential to drain downstream and affect the water quality of La Cruz Resaca, and ultimately Laguna Madre. Therefore, this waterway is potentially subject to Section 404 jurisdiction.

Table 2 presents specific information relevant to the potential jurisdiction of waters of the U.S. within the proposed project area. The locations of these waters of the U.S. are depicted on the Wetland Delineation Layout (Exhibits B and C). Representative photographs of the waters of the U.S. are provided in Appendix A.

**Table 2**
**Potentially Jurisdictional Waterbodies Identified Within the International Bridge Trade Corridor Roadway Project Hidalgo County, Texas**

| Field ID | Waterbody[1] | Stream Classification | Acres |
|---|---|---|---|
| Ditch 3 | Tributary to La Cruz Resaca | Intermittent[2] | 0.19 |
| Ditch A14 | Tributary to La Cruz Resaca | Intermittent[2] | 0.05 |
| Ditch 8A | Tributary to La Cruz Resaca | Intermittent[2] | 0.10 |
| Ditch 5A | Tributary to La Cruz Resaca | Intermittent[2] | 0.24 |
| Ditch A20 | Tributary to La Cruz Resaca | Intermittent[2] | 0.02 |
| Ditch A11 | Tributary to La Cruz Resaca | Intermittent[2] | 1.68 |
| Ditch A10 | Tributary to La Cruz Resaca | Intermittent[2] | 0.28 |
| Canal A5 | Tributary to La Cruz Resaca | Intermittent[2] | 0.55 |
| Ditch A5 | Tributary to La Cruz Resaca | Intermittent[2] | 0.19 |
| Creek 1 | La Cruz Resaca | Perennial[3] | 0.18 |
| | | **Total** | 3.48 |

1 Waterbody names are as depicted on U.S. Geological Survey 7.5-minute topographic maps or as designated in the field.
2 Intermittent flow is highly dependent on pumped irrigation water.
3 The waterbody is depicted on topographic maps as a perennial stream; however, in the absence of pumped irrigation water, flow would likely be intermittent.

### 3.5.2 Potentially Non-Jurisdictional Wetlands and Waters

The proposed project crosses 26 upland drainage ditches. The following presents the specific information relevant to these non-jurisdictional wetlands and waters of the U.S. within the proposed project area.

### 3.5.3 Non-Regulated Features

The proposed project crosses 26 upland drainage ditches/canals. Features identified as ditches consist of excavated channels within uplands. Features identified as canals consist of raised irrigation channels constructed above-grade within uplands and maintained by the Hidalgo County Irrigation Districts. Water is supplied to the raised irrigation canals by a series of pumps that draw water from the Rio Grande River. The water is then diverted to smaller irrigation ditches to irrigate cropland. These canals and ditches were created in uplands and do not drain to a traditional navigable waterway. Therefore, these canals are not subject to Section 404 jurisdiction.

Table 3 presents specific information relevant to the non-jurisdictional waterbodies within the proposed project area. The locations of these features are depicted on the Wetland Delineation Layout (Exhibits B and C). Representative photographs of these features are provided in Appendix A.

**Table 3**
**Potentially Non-Jurisdictional Waterbodies Identified Within the International Bridge Trade Corridor Roadway Project Hidalgo County, Texas**

| Field ID[1] | Waterbody | Stream Classification | Acres |
|---|---|---|---|
| Ditch 2 | Irrigation Feature | N/A[2] | 0.004 |
| Ditch 5 | Irrigation Feature | N/A[2] | 0.04 |
| Ditch 6 | Irrigation Feature | N/A[2] | 0.04 |
| Ditch 3A | Irrigation Feature | N/A[2] | 0.23 |
| Ditch A13 | Irrigation Feature | N/A[2] | 0.02 |
| Canal A9 | Irrigation Feature | N/A[2] | 0.16 |
| Ditch A12 | Irrigation Feature | N/A[2] | 0.01 |
| Canal A8 | Irrigation Feature | N/A[2] | 0.83 |
| Canal A7 | Irrigation Feature | N/A[2] | 0.07 |
| Ditch A8 | Irrigation Feature | N/A[2] | 0.19 |
| Canal A6 | Irrigation Feature | N/A[2] | 0.58 |
| Ditch A9 | Irrigation Feature | N/A[2] | 0.07 |
| Ditch A7 | Irrigation Feature | N/A[2] | 0.13 |
| Ditch A6 | Irrigation Feature | N/A[2] | 2.27 |
| Canal A18 | Irrigation Feature | N/A[2] | 0.44 |
| Ditch A17 | Irrigation Feature | N/A[2] | 0.42 |
| Canal A17 | Irrigation Feature | N/A[2] | 0.31 |
| Ditch A4 | Irrigation Feature | N/A[2] | 0.34 |
| Ditch A18 | Irrigation Feature | N/A[2] | 0.05 |
| Canal A12 | Irrigation Feature | N/A[2] | 0.26 |
| Ditch A3 | Irrigation Feature | N/A[2] | 0.04 |

| Field ID[1] | Waterbody | Stream Classification | Acres |
|---|---|---|---|
| Ditch A2 | Irrigation Feature | N/A[2] | 0.95 |
| Canal A3 | Irrigation Feature | N/A[2] | 1.36 |
| Canal A4 | Irrigation Feature | N/A[2] | 0.01 |
| Canal A2 | Irrigation Feature | N/A[2] | 0.03 |
| Ditch A1 | Irrigation Feature | N/A[2] | 0.07 |
| Canal A1 | Irrigation Feature | N/A[2] | 0.45 |
| | | **Total** | 9.374 |

1 Features indentified as ditches consist of excavated channels within uplands. Features identified as canals consist of raised irrigation channels constructed above-grade within upland.

2 Potentially non-jurisdictional features included within this table are man-made structures constructed entirely within an upland and thus cannot be classified as streams.

# 4.0 CONCLUSIONS

One natural perennial stream crossing, nine modified tributaries, one PSS wetland, three ponds, and twenty-six upland irrigation ditches and canals were identified within the proposed project area. The total acreage of wetlands and waters within the proposed project area is 15.184 acres, of which 5.81 acres are considered potentially jurisdictional waters of the U.S. Man-made irrigation canals and ditches created in uplands and draining only uplands into cropland are not considered potentially jurisdictional.

These acreages are based on the current federal regulations for wetlands and waters of the U.S. The USACE Galveston District can only make jurisdictional determinations and should be contacted to verify this wetland delineation and to discuss permit options prior to any construction activities within jurisdictional areas.

## 5.0 REFERENCES


Correll, D. S., and M. C. Johnston. 1996. Manual of the Vascular Plants of Texas. University of Texas at Dallas.

Cowardin, L. M., et al, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior. U.S. Government Printing Office, Washington, D.C.

Environmental Laboratory. 1987. U.S. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Gould, Frank W. 1975. The Grasses of Texas. Texas A&M University Press, College Station, Texas.

Kollmorgan Instruments Corporation. 2000. Munsell Soil Color Charts. New Windsor, New York.

McMahan, Craig, R. Frye, and K. Brown. 1984. The Vegetation Types of Texas. Texas Parks and Wildlife Department, Austin, Texas.

Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture. 2010. Soil Data Mart of Hidalgo County, Texas.

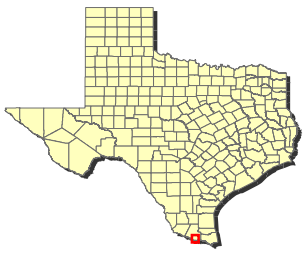
_____, Soil Conservation Service (SCS), U.S. Department of Agriculture. 1981. Soil Survey of Hidalgo County, Texas.

U.S. Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Great Plains Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. Vicksburg, MS: U.S. Army Engineers Research and Development Center.

Vines, R. A. 1990. Trees, Shrubs, and Woody Vines of the Southwest, seventh printing, University of Austin Press, Austin. 1,104 pp.

# Exhibit A

# Project Location Map



Corridor ROW

N
W E
S

0 3 6 Miles

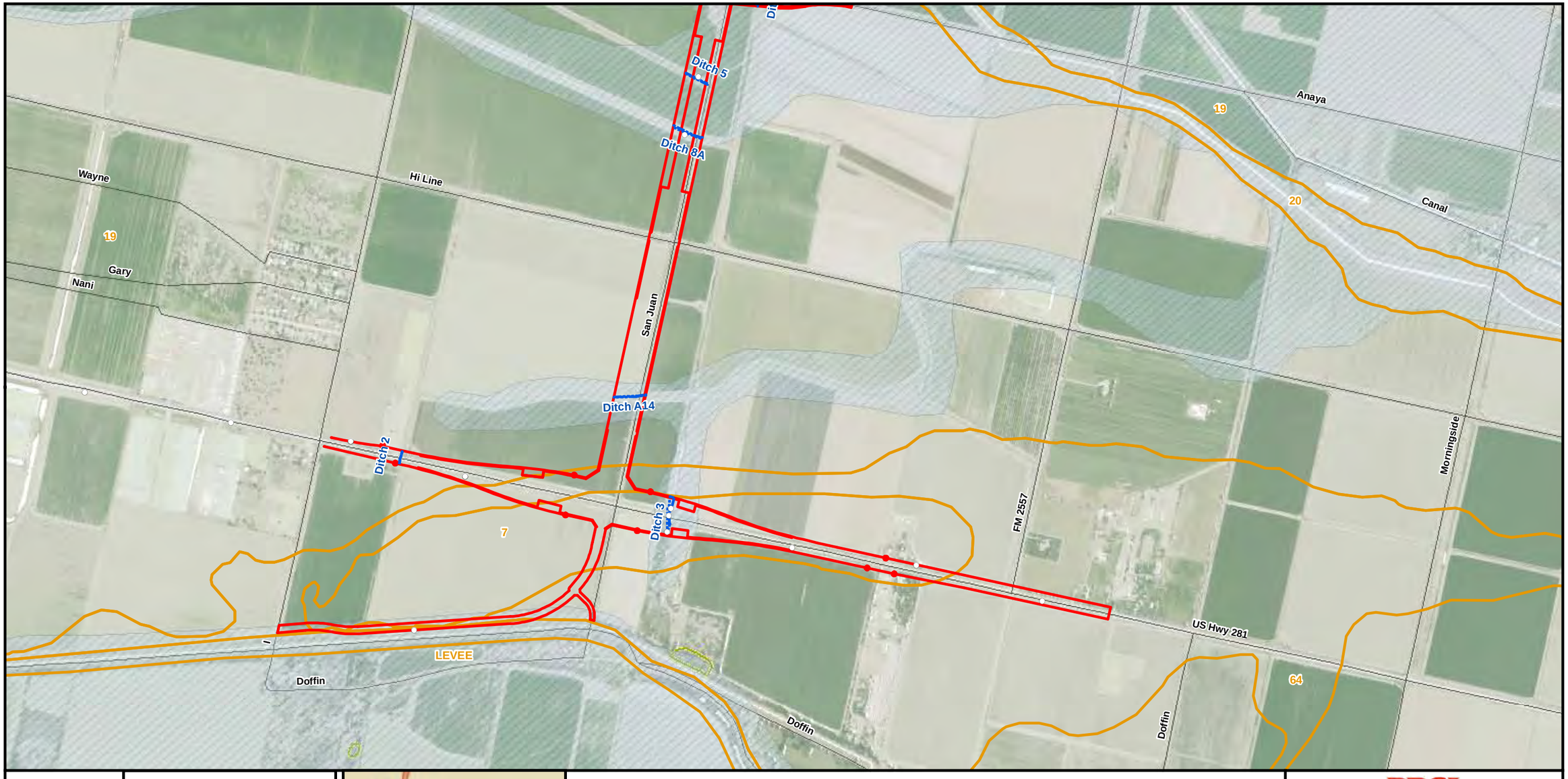
PBS&J

**Exhibit A**
**Project Location Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Hidalgo County, Texas**

| | |
|---|---|
| Prepared By: PBS&J/19955 | Scale:1 " = 3 miles |
| Job No.: 100011519 | Date: June 17, 2010 |
| File: N:\ENV\100002039\prj\mxd\vicinity\SecB\A_Vicinity_IBTC | |

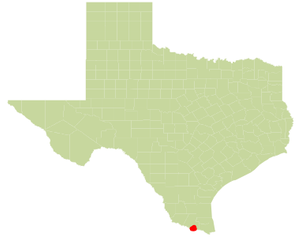
# Exhibit B

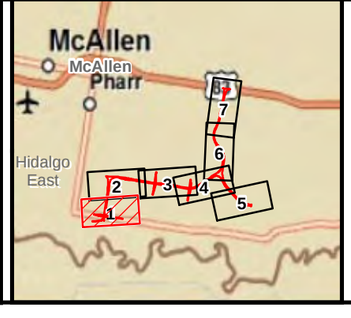
# Wetland Delineation Layout
# Aerial Photographs




N
W E
S

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet






| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

- Corridor ROW
- Floodplain 100yr
- NRCS Soils
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Open Water
- Wetland

0 500 1,000 2,000 Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

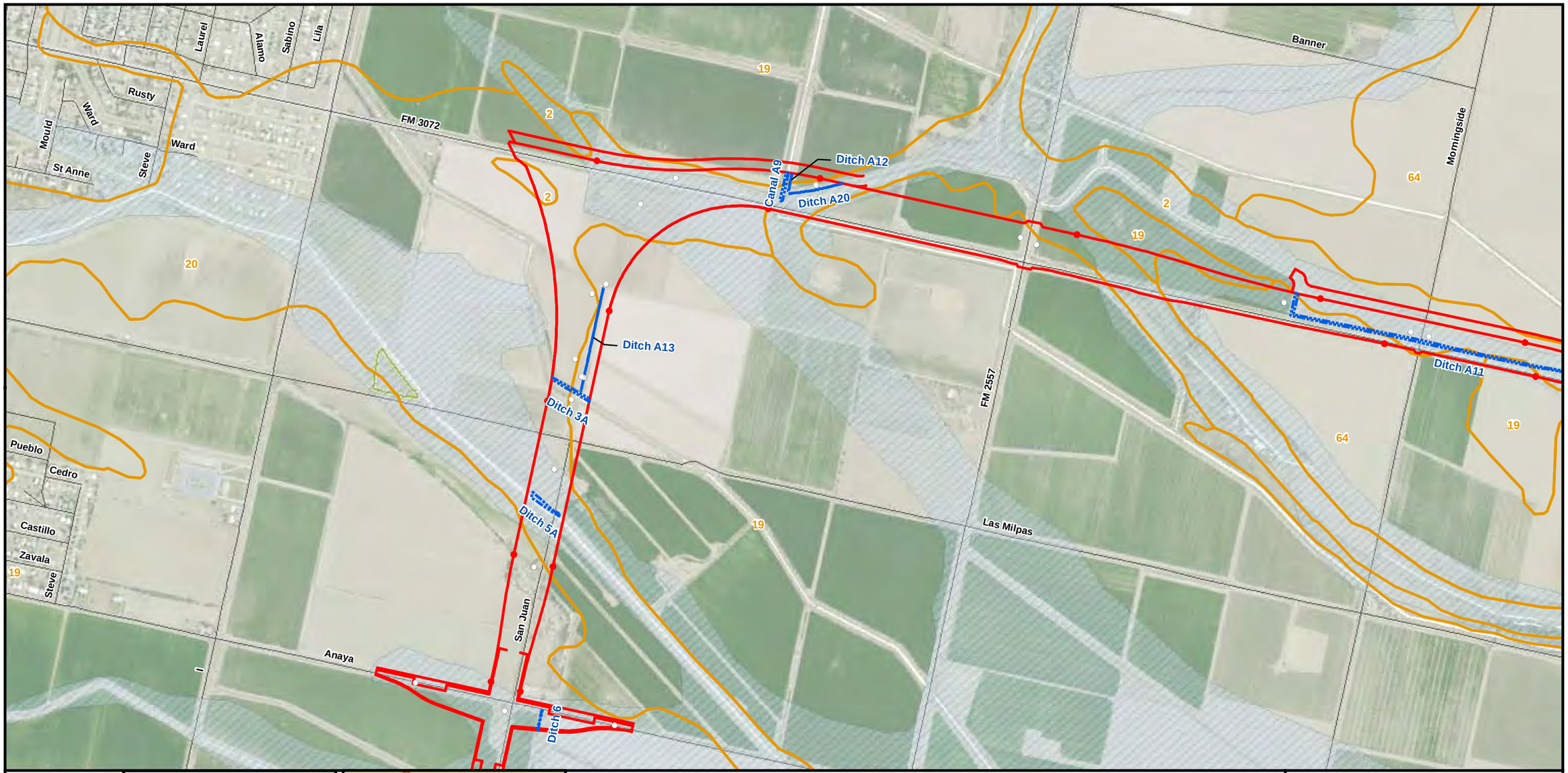
**Las Milpas Quadrangle**

**Hidalgo County, Texas**

**Sheet 1 of 7**

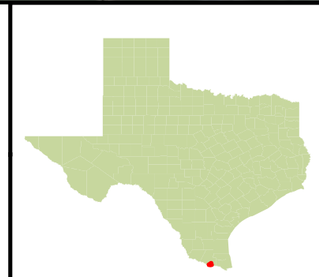
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

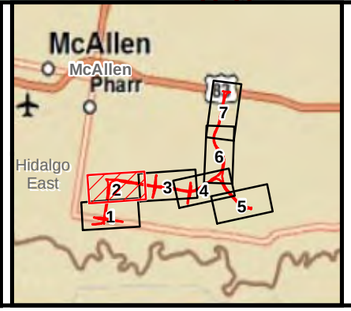
N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




N
W E
S

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet






| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

Corridor ROW
Floodplain 100yr
NRCS Soils
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000
Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

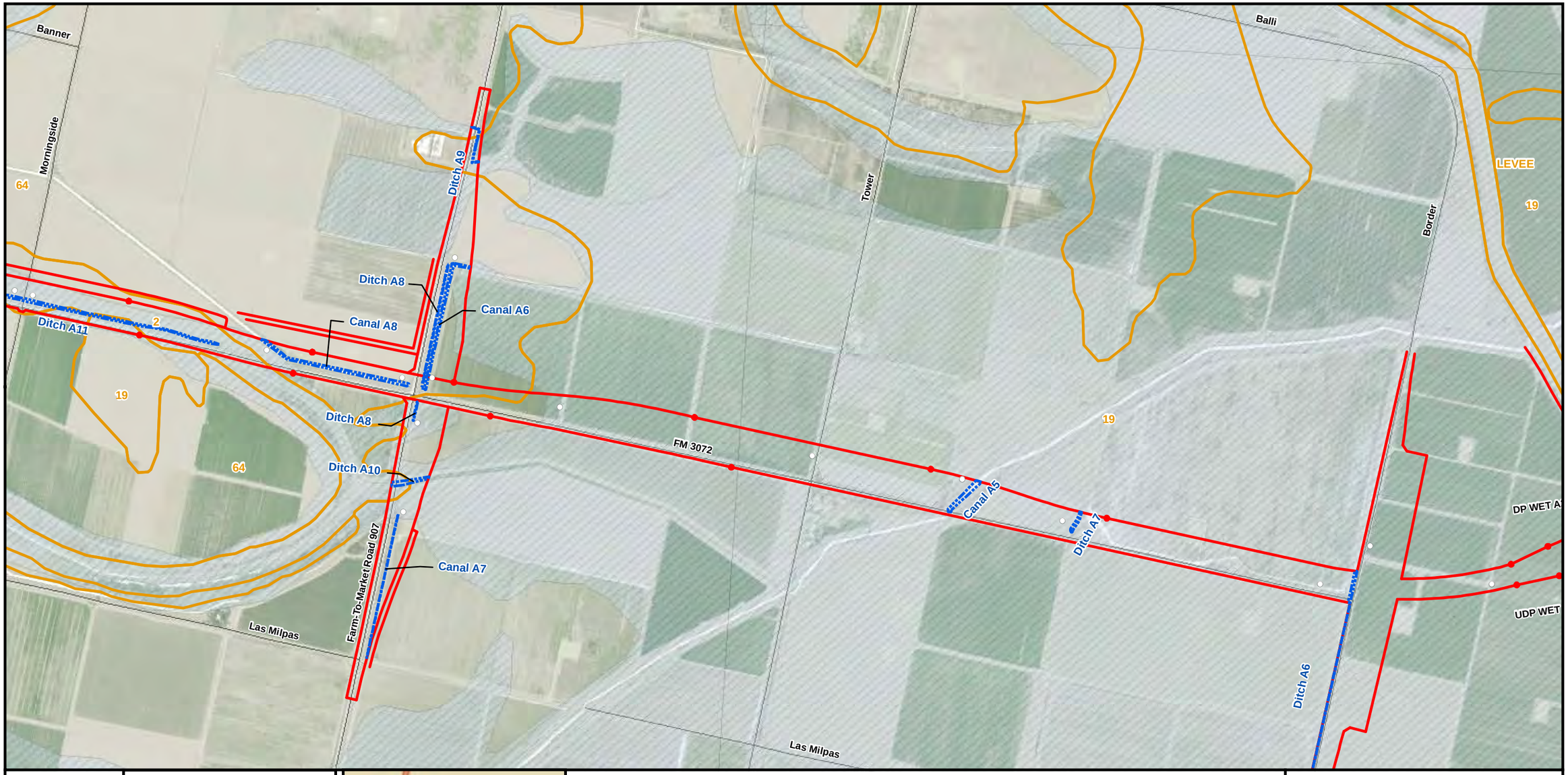
**Las Milpas Quadrangle**

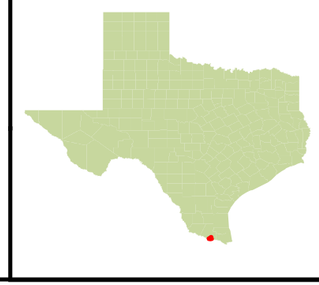
**Hidalgo County, Texas**

**Sheet 2 of 7**

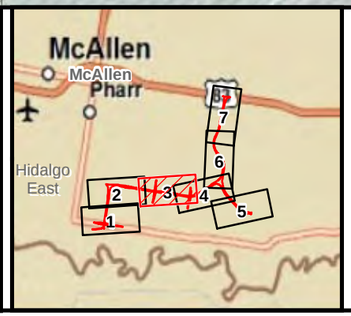
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet




| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

- Corridor ROW
- Floodplain 100yr
- NRCS Soils
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Open Water
- Wetland

0 500 1,000 2,000 Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

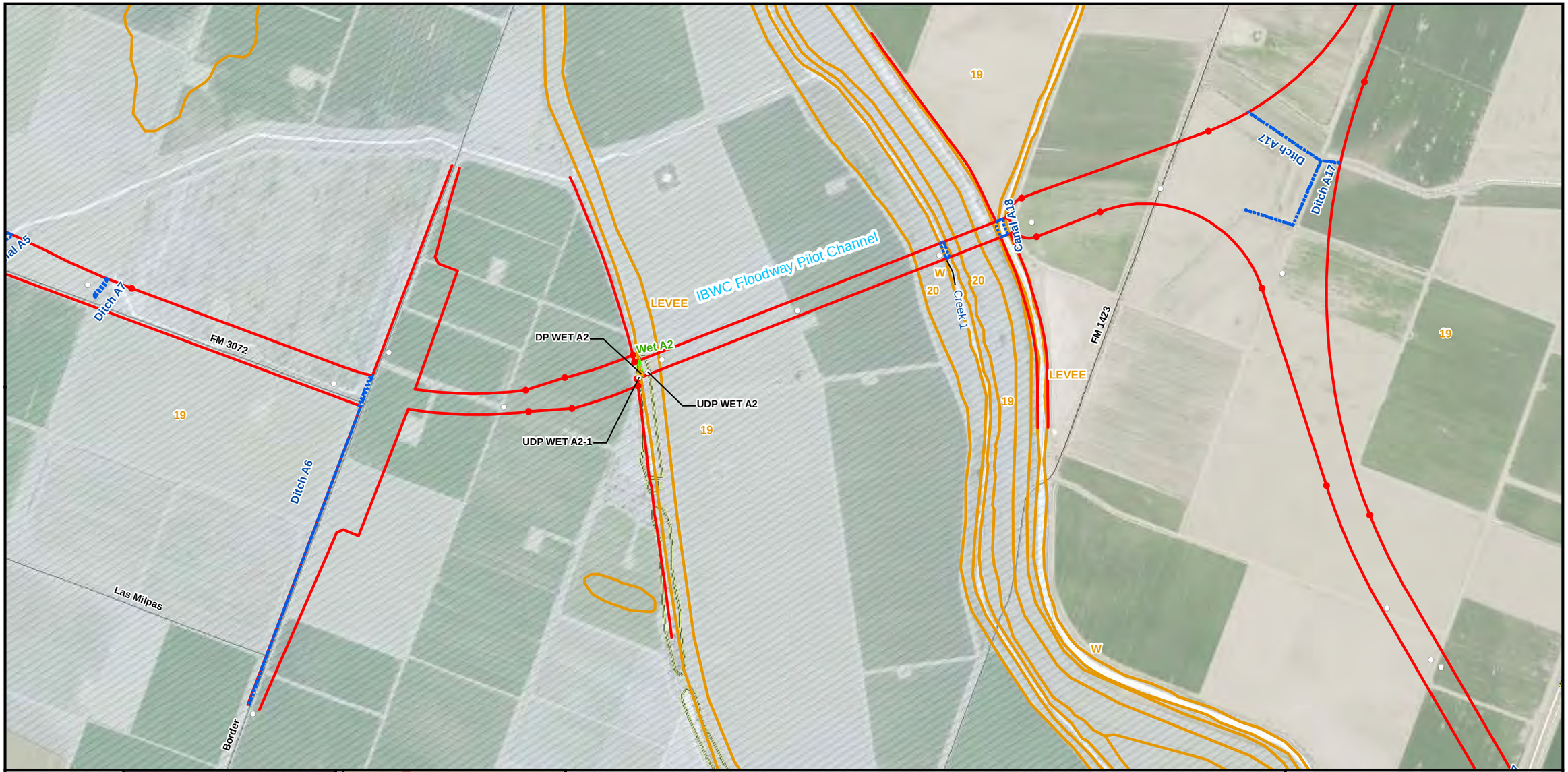
**Las Milpas & San Juan SE Quadrangles**

**Hidalgo County, Texas**

**Sheet 3 of 7**

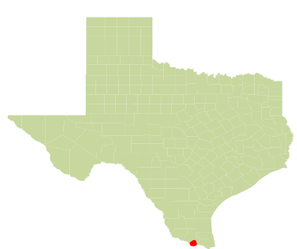
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

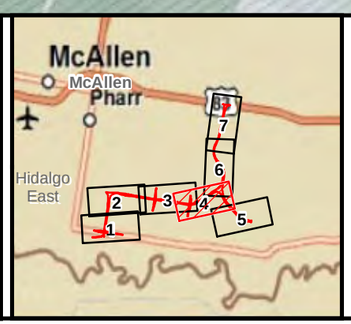
N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




N
W E
S

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet






| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

- Corridor ROW
- Floodplain 100yr
- NRCS Soils
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Open Water
- Wetland

0 500 1,000 2,000 Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

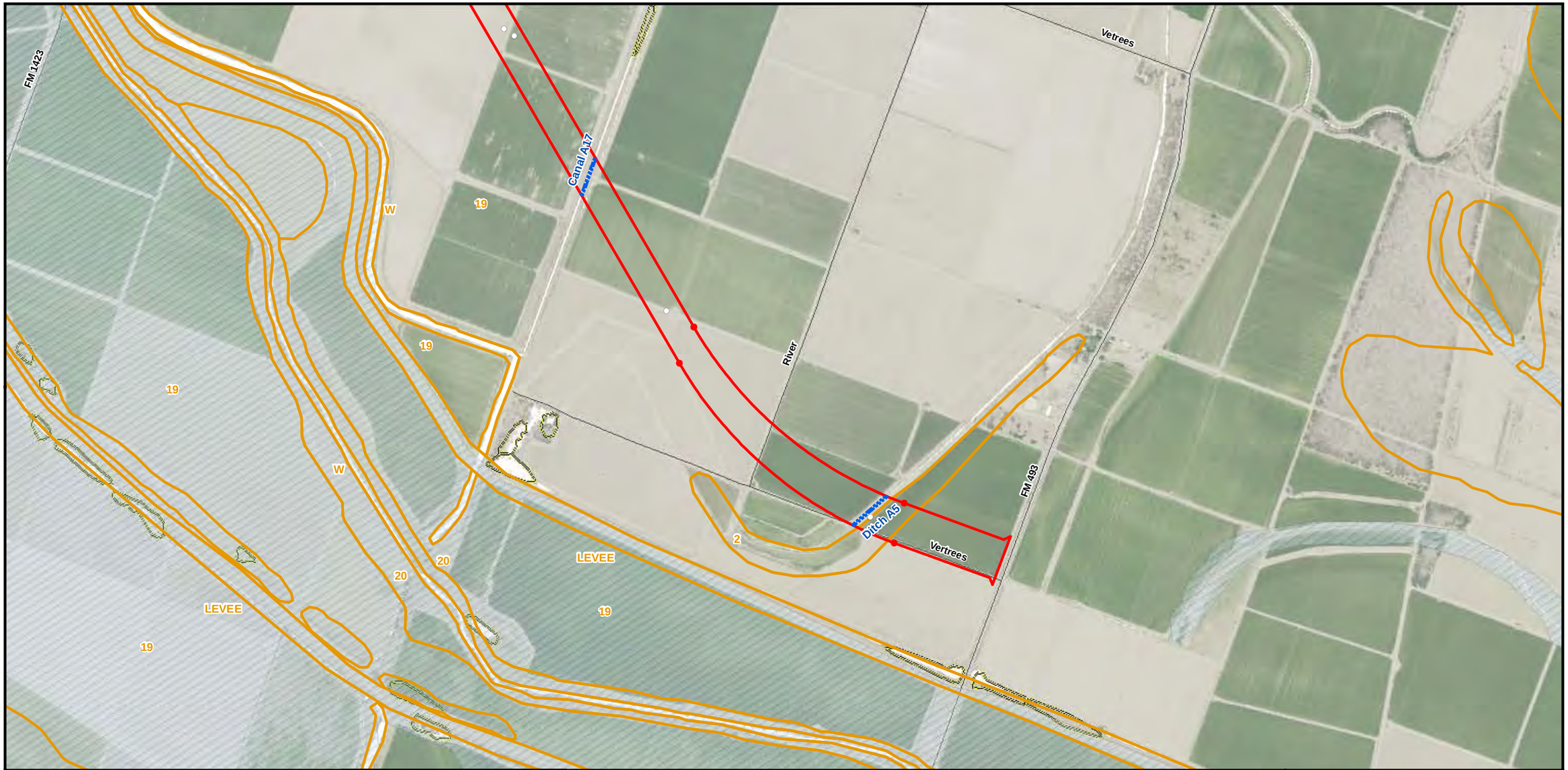
**San Juan SE Quadrangle**

**Hidalgo County, Texas**

**Sheet 4 of 7**

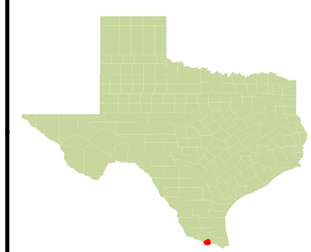
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

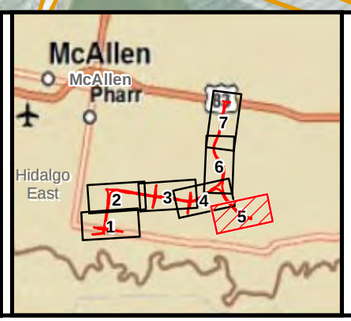
N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




N
W E
S

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet






| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

Corridor ROW
Floodplain 100yr
NRCS Soils
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

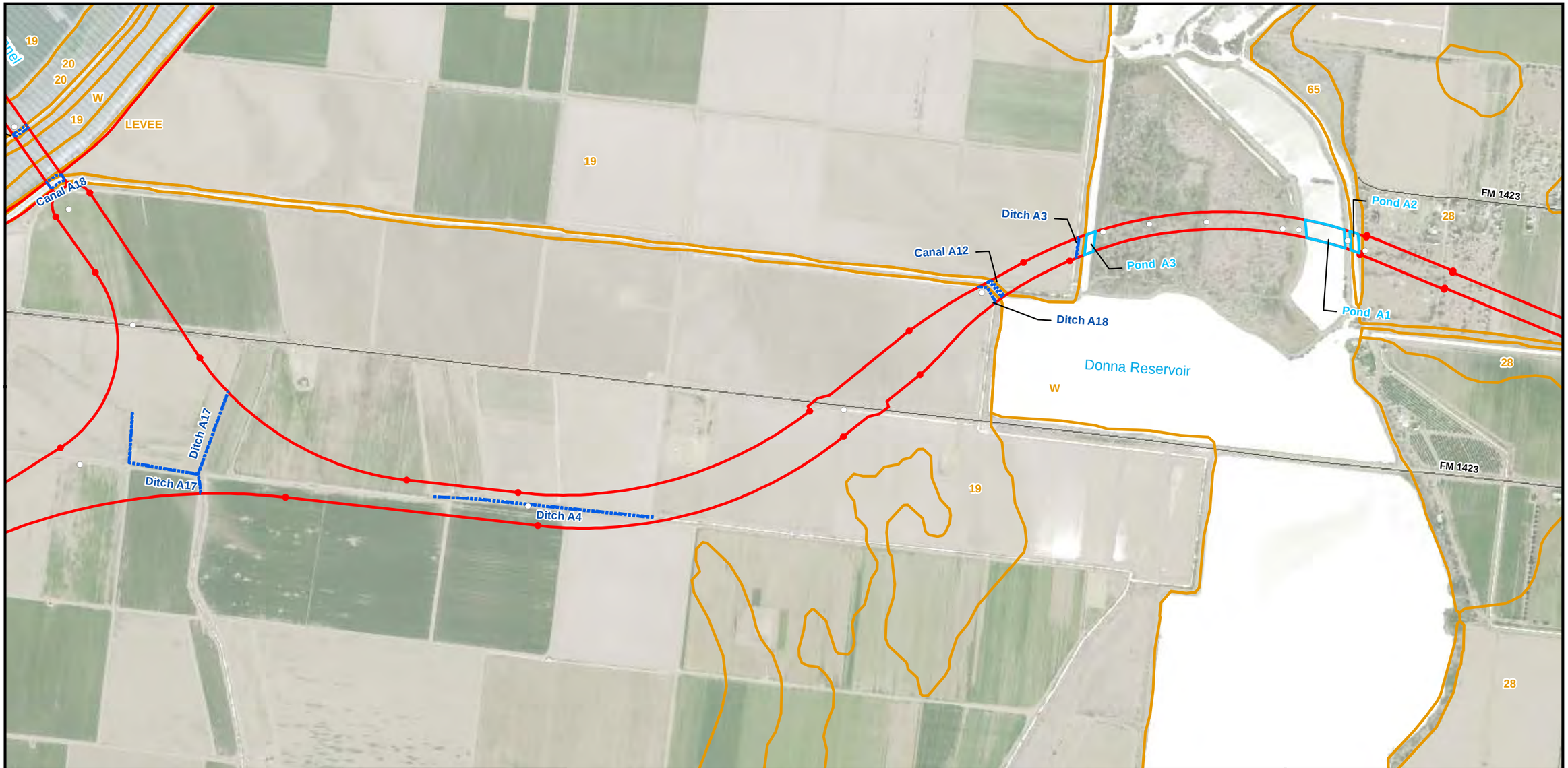
0 500 1,000 2,000 Feet

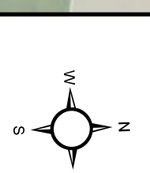
PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**San Juan SE Quadrangle**
**Hidalgo County, Texas**
**Sheet 5 of 7**

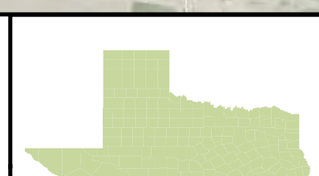
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet



| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

Corridor ROW
Floodplain 100yr
NRCS Soils
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

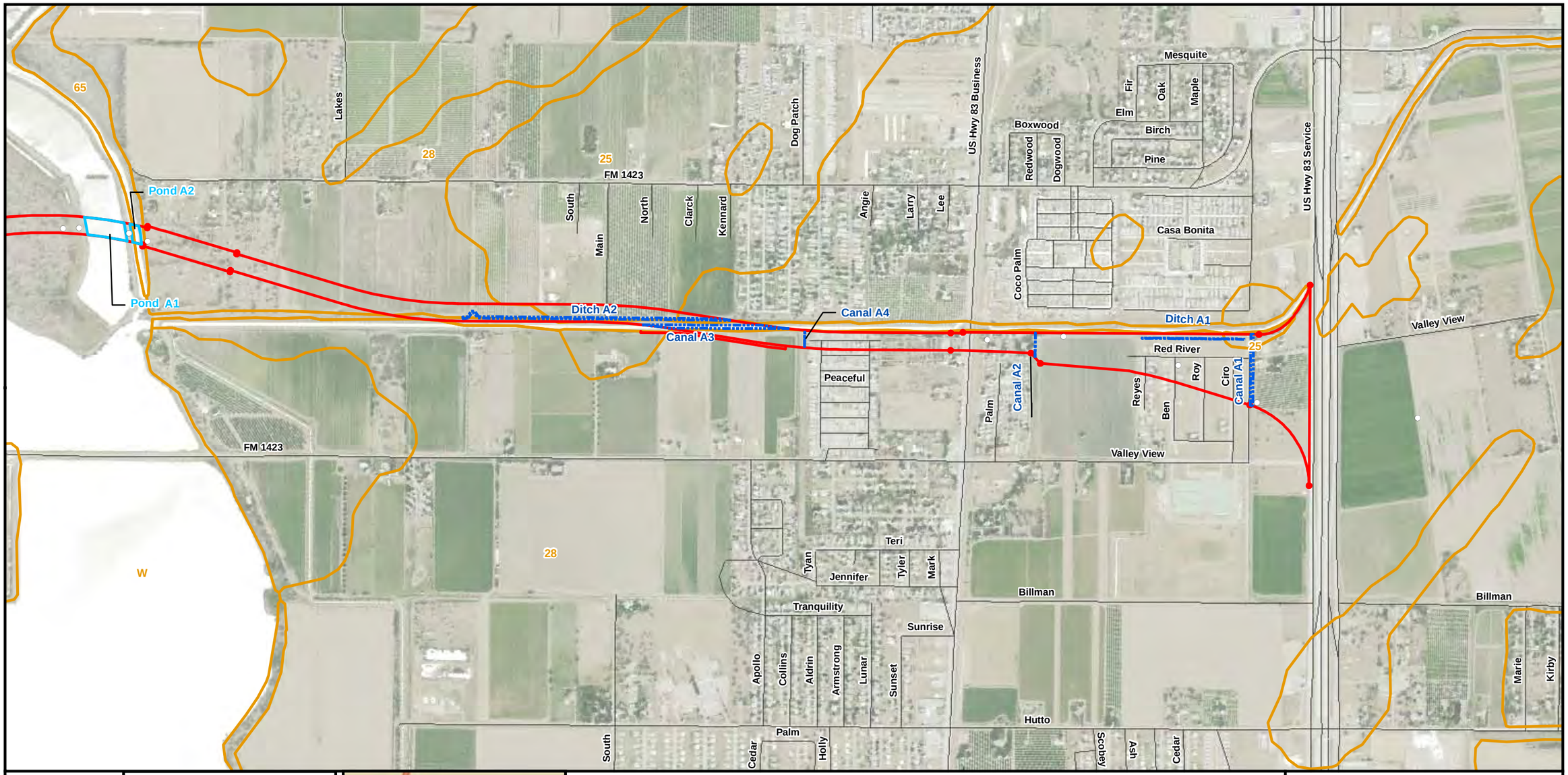
**Donna Quadrangle**

**Hidalgo County, Texas**

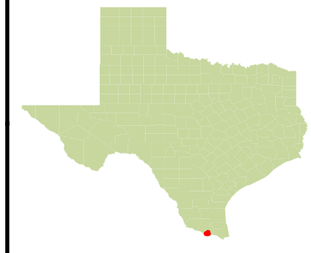
**Sheet 6 of 7**

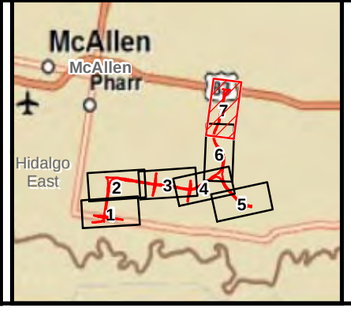
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland




Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet






| MUSYM | Soil Name |
|---|---|
| 2 | BENITO CLAY |
| 7 | CAMERON SILTY CLAY |
| 19 | HARLINGEN CLAY |
| 20 | HARLINGEN CLAY, SALINE |
| 25 | HIDALGO FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES |
| 28 | HIDALGO SANDY CLAY LOAM, 0 TO 1 PERCENT SLOPES |
| 64 | RUNN SILTY CLAY |
| 65 | RUNN SILTY CLAY, SALINE |

- Corridor ROW
- Floodplain 100yr
- NRCS Soils
- National Wetlands Inventory
- Upland Data Point
- Wetland Data Point
- Ditch/Canal/Stream/Creek
- Open Water
- Wetland

0 500 1,000 2,000 Feet

PBS&J

**Exhibit B**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**

**Donna Quadrangle**

**Hidalgo County, Texas**

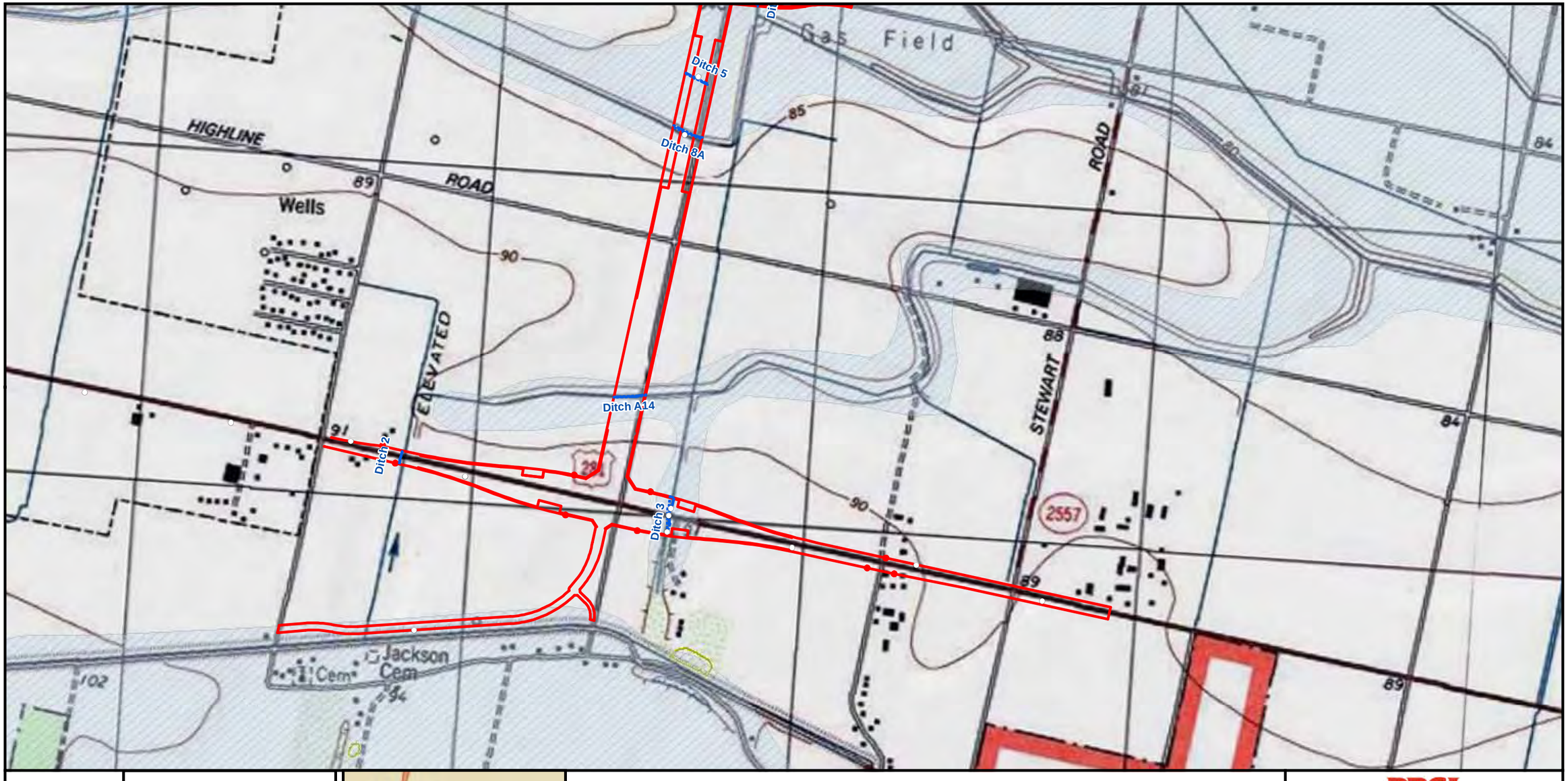
**Sheet 7 of 7**

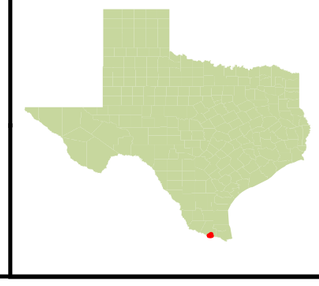
| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 25, 2010 |

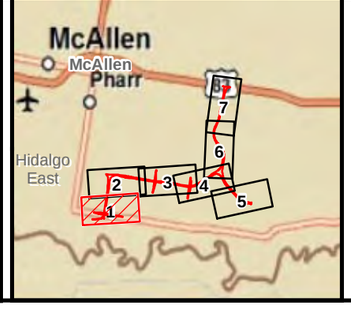
N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland

# Exhibit C

# Wetland Delineation Layout Topographic Maps






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

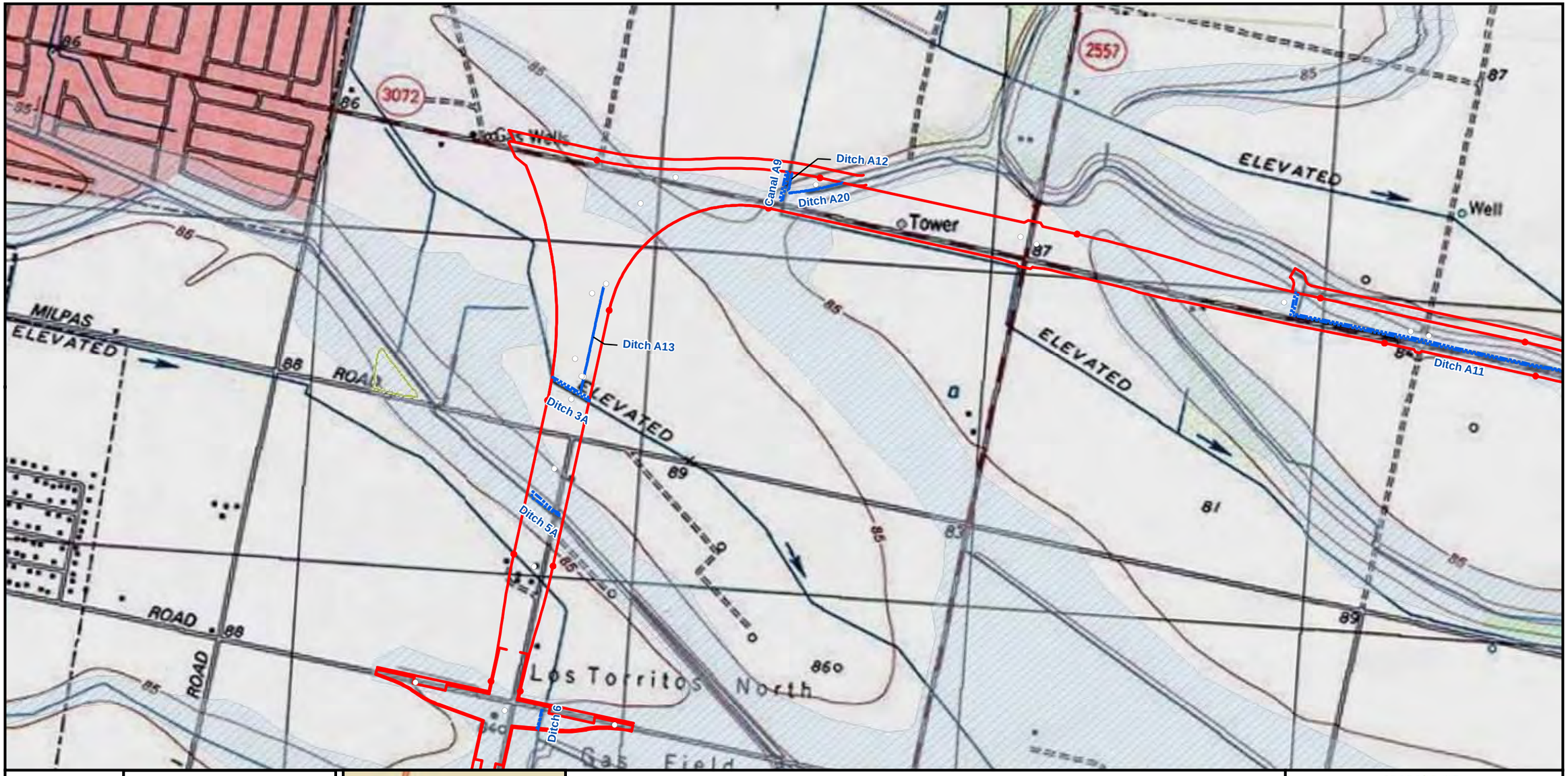
PBS&J

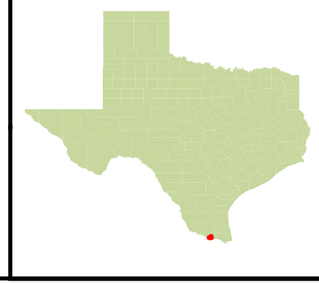
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

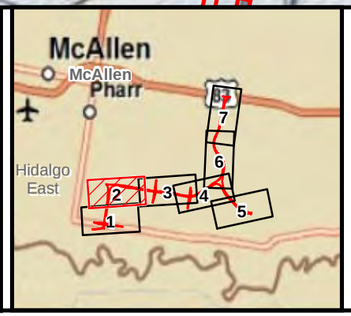
**Sheet 1 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

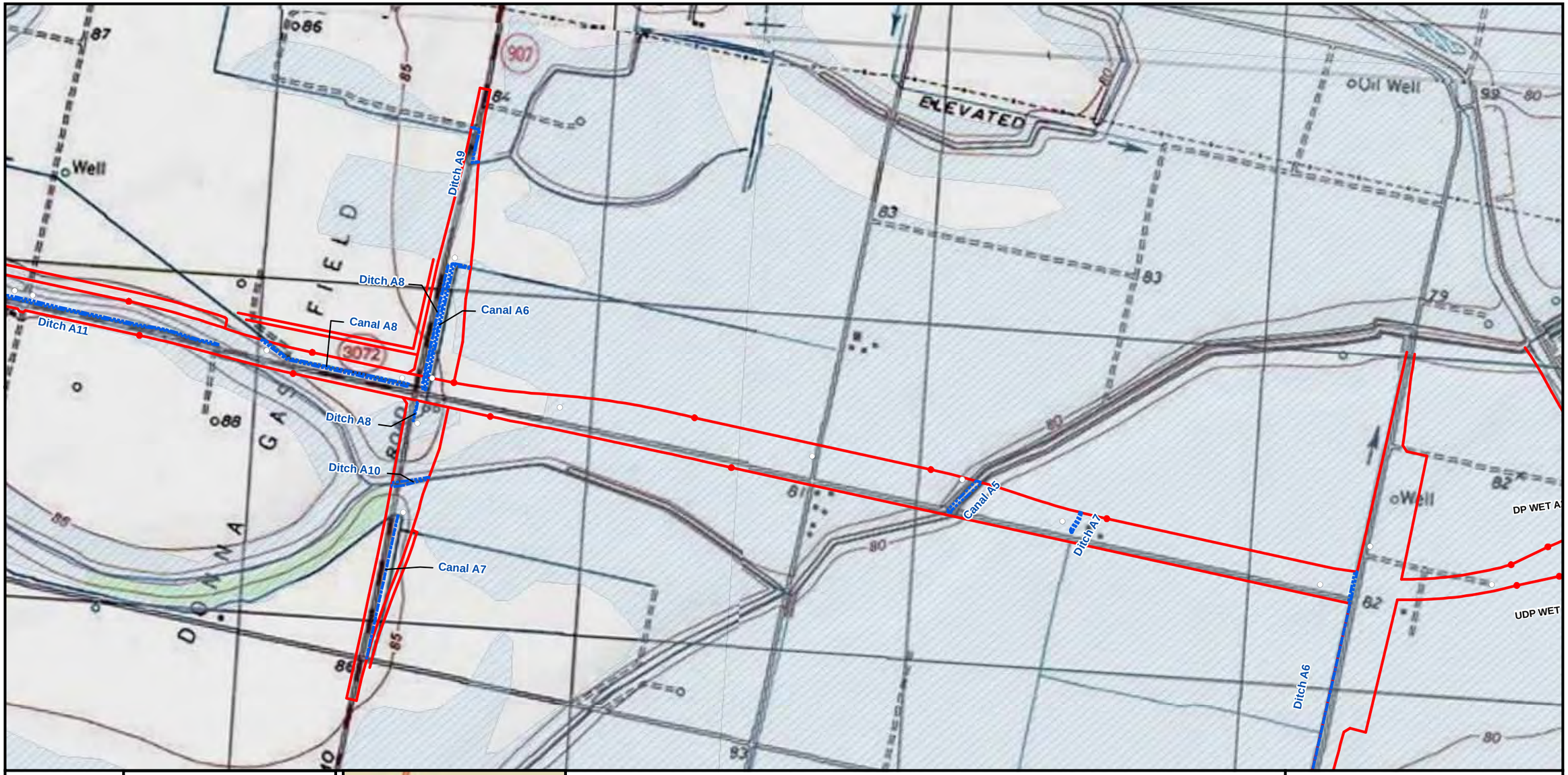
PBS&J

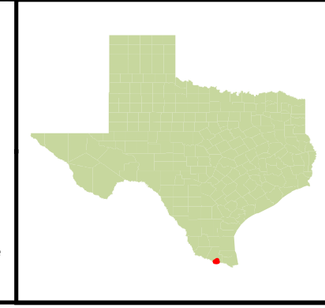
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Las Milpas Quadrangle**
**Hidalgo County, Texas**

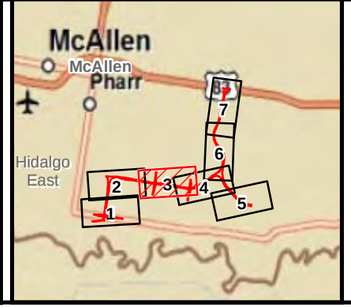
**Sheet 2 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

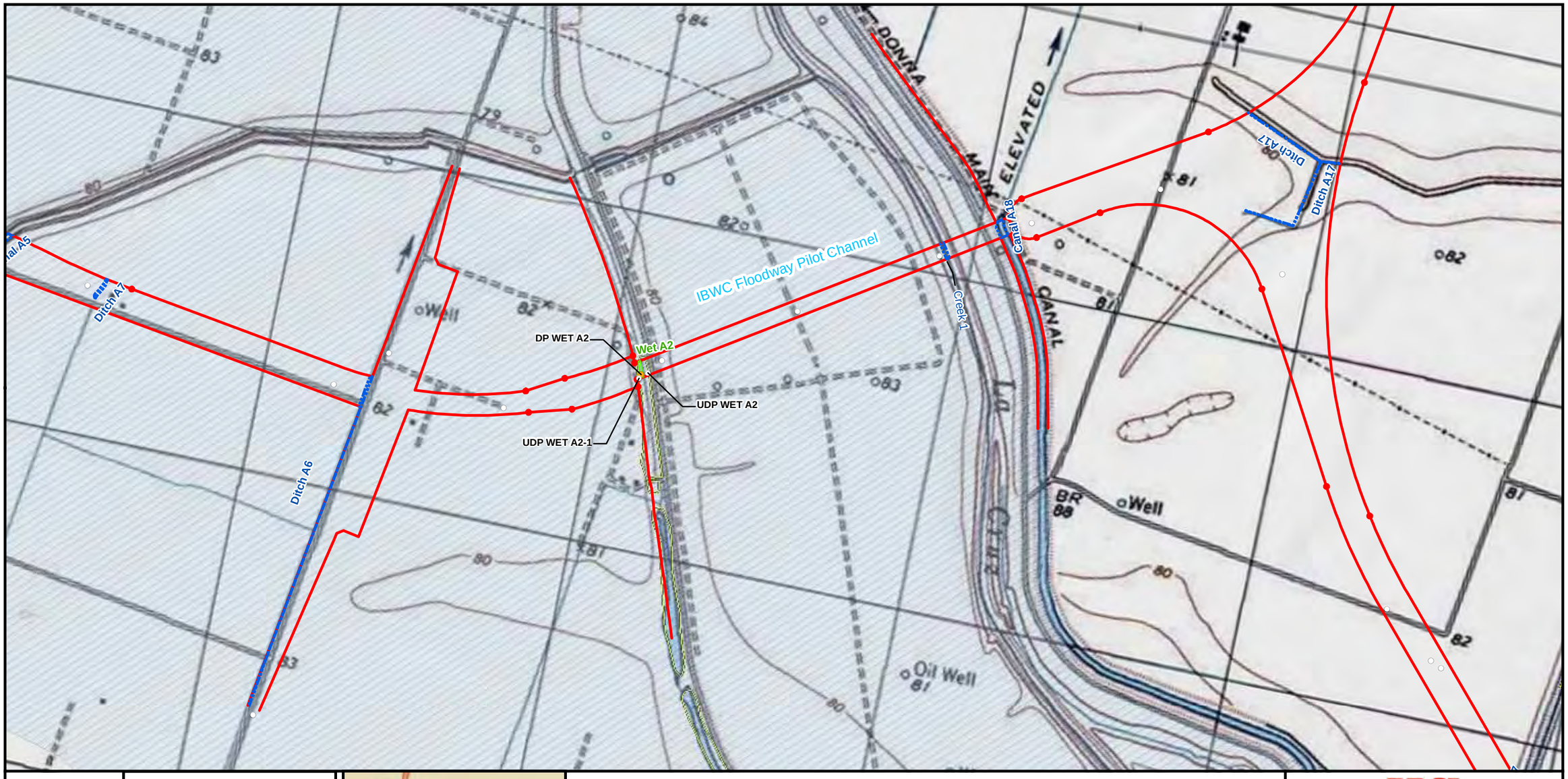
PBS&J

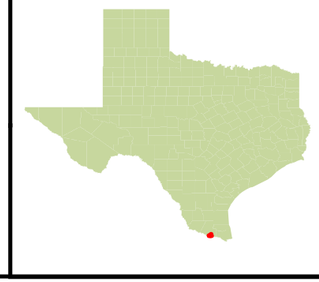
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Las Milpas & San Juan SE Quadrangles**
**Hidalgo County, Texas**

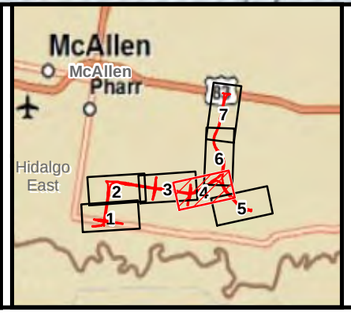
**Sheet 3 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

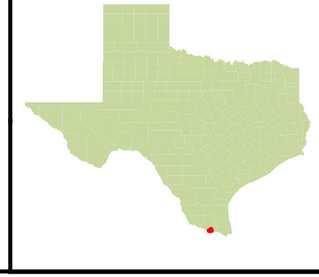
PBS&J

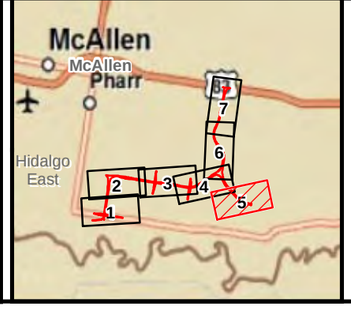
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**San Juan SE Quadrangle**
**Hidalgo County, Texas**

**Sheet 4 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

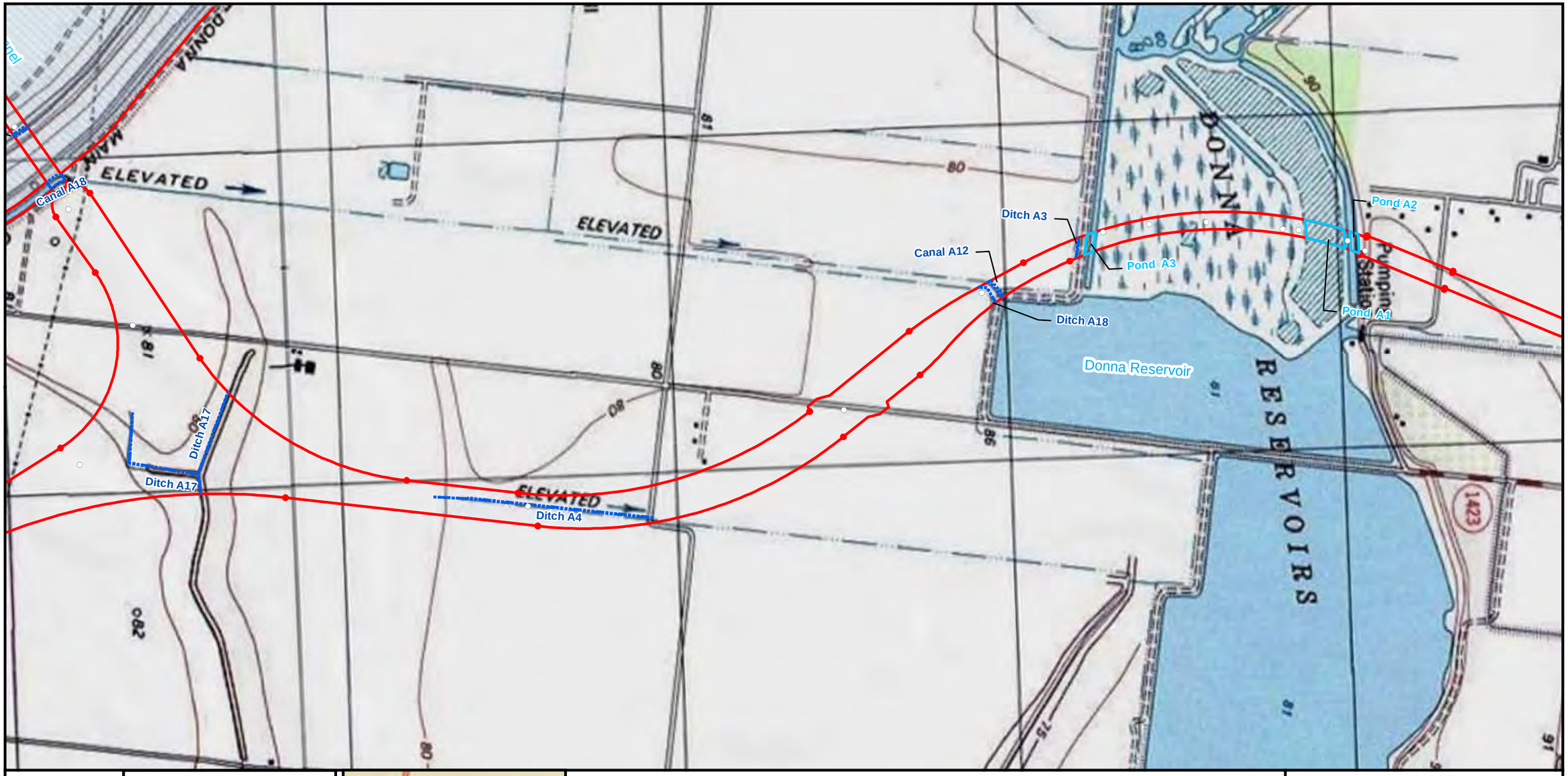
PBS&J

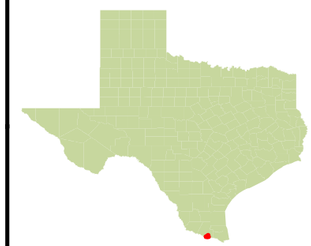
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**San Juan SE Quadrangle**
**Hidalgo County, Texas**

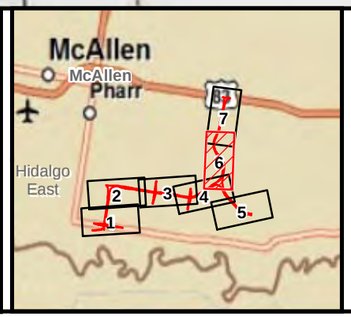
**Sheet 5 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

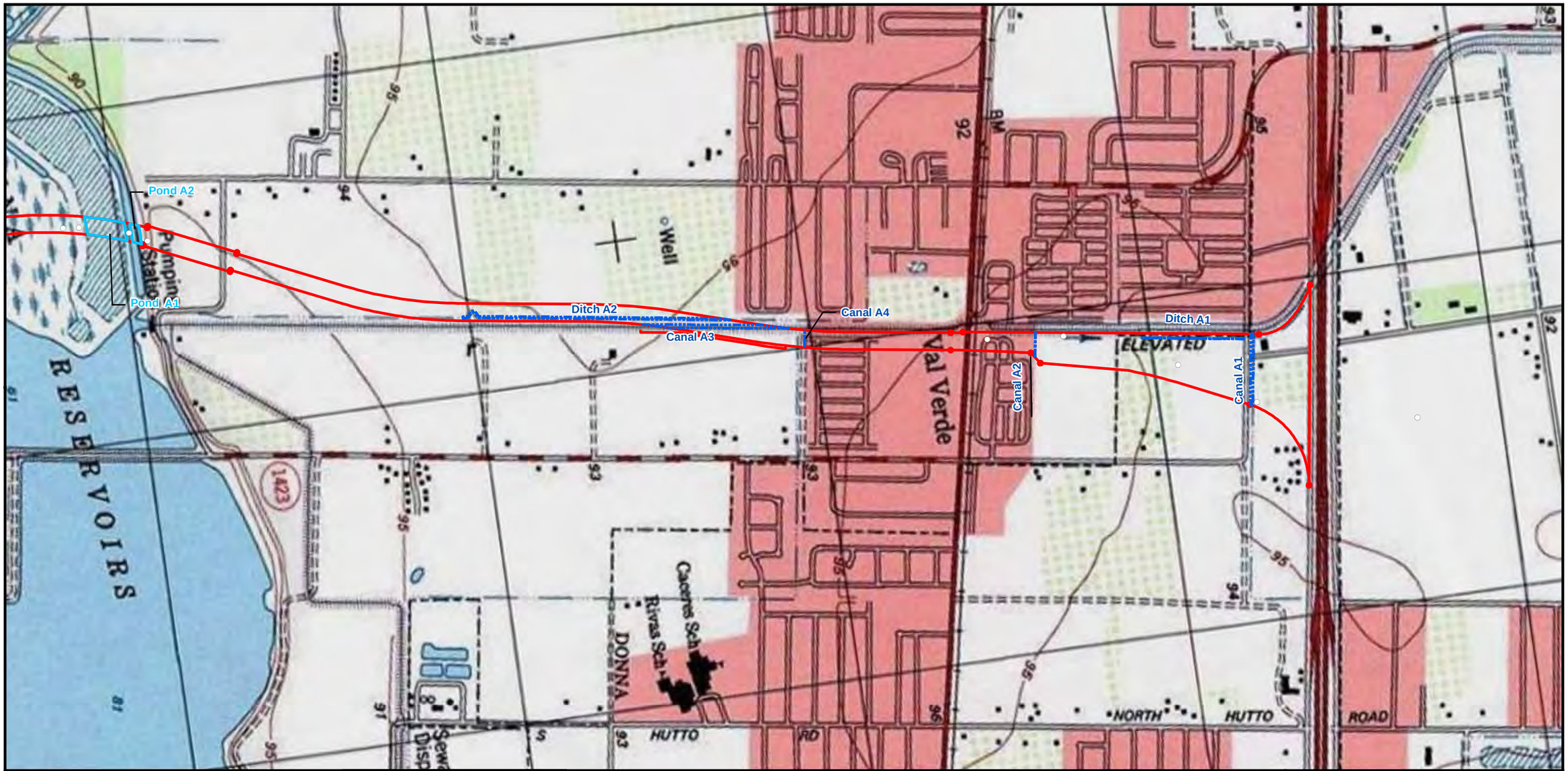
Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

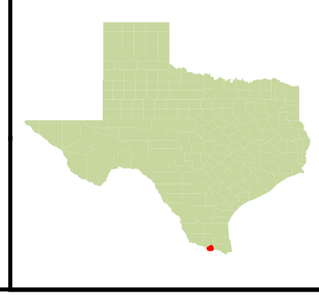
PBS&J

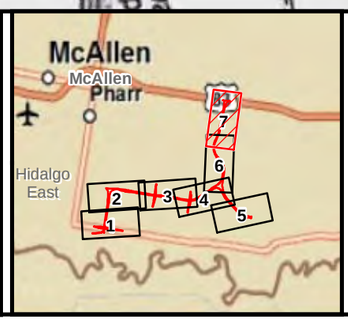
**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Donna Quadrangle**
**Hidalgo County, Texas**
**Sheet 6 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland






Corridor ROW
Floodplain 100yr
National Wetlands Inventory
Upland Data Point
Wetland Data Point
Ditch/Canal/Stream/Creek
Open Water
Wetland

0 500 1,000 2,000 Feet

Datum: NAD 83
Projection: State Plane
Zone: Texas South
Units: Feet

PBS&J

**Exhibit C**
**Wetland Delineation Map**
**International Bridge Trade Corridor (IBTC)**
**Roadway Project**
**Donna Quadrangle**
**Hidalgo County, Texas**

**Sheet 7 of 7**

| | |
|---|---|
| Prepared By : PBS&J/19955 | Scale :1 " = 1,000 ' |
| Job No.: 100011519 | Date : Jun 23, 2010 |

N:\ENV\100002039\projects\mxd\Wetland\SecB\SecB_Wetland

# Appendix A

# Site Photographs

**International Bridge Trade Corridor (IBTC) Roadway Project**
**Hidalgo County, Texas**
**Representative Photographs**

**Photo 1:** Representative view of cropland within the proposed project area.

**Photo 2:** Representative view of upland mesquite scrub within the proposed project area.

**Photo 3:** Representative view of upland pasture within the proposed project area.

**Photo 4:** Representative view of the PSS wetland (WET A2) within the proposed project area.

**Photo 5:** Representative view of a raised irrigation canal (Canal A1) within the proposed project area.

**Photo 6:** Representative view of a potentially jurisdictional irrigation ditch (Ditch A11) within the proposed project area.

**Photo 7:** Representative view of a potentially non-jurisdictional irrigation ditch (Ditch A9) within the proposed project area.

**Photo 8:** Representative view of La Cruz Resaca (Creek 1) within the proposed project area.

**Photo 9:** Representative view of the Donna Reservoir (Pond A1) within the proposed project area.

# Appendix B

# Wetland Data Forms

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: International Bridge Trade Corridor (IBTC) City/County: Hidalgo Sampling Date: 5.25.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: DP WET A2

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.113142 Long: -98.098780 Datum: NAD 83

Soil Map Unit Name: Levee 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 X No _____ | **Is the Sampled Area within a Wetland?** Yes X No _____ |
| Hydric Soil Present? | Yes X No _____ | |
| Wetland Hydrology Present? | Yes X No _____ | |

Remarks: This data point meets the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. *Parkinsonia texana* | 20 | Y | UPL |
| 2. *Parkinsonia aculeata* | 10 | Y | FACW- |
| 3. *Salix nigra* | 10 | Y | FACW+ |
| 4. | | | |
| 5. | | | |
| | 40 = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Scirpus californicus* | 20 | Y | OBL |
| 2. *Salix nigra* | 10 | Y | FACW+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 30 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum 70

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC–): 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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 X No _____

Remarks: This data point contains a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: DP WET A2

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 5/1 | 98 | 10YR 5/6 | 2 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ___ 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**)
- ___ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ___ Dark Surface (S7) (**LRR G**)
- ___ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X 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 X No ___ Depth (inches): 1

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

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

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

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

Remarks: Wetland hydrology was observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: International Bridge Trade Corridor (IBTC) City/County: Hidalgo Sampling Date: 5.25.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET A2

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.113222 Long: -98.098596 Datum: NAD 83

Soil Map Unit Name: Levee 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 _____ No X | |
| Wetland Hydrology Present? | Yes _____ No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15-ft) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 5-ft) | | | |
| 1. *Cynodon dactylon* | 35 | Y | FACU+ |
| 2. *Sorghum halepense* | 20 | Y | FACU |
| 3. Croton texensis | 10 | N | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 65 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30-ft) | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 35

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC–): 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET A2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 4/3 | 100 | | | | | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ____ No __X__

Remarks: The soils observed at this data point were not indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)

- __X__ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No __X__ Depth (inches): _____

Water Table Present? Yes ____ No __X__ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No __X__ Depth (inches): _____

**Wetland Hydrology Present?** Yes ____ No __X__

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

Remarks: Wetland hydrology was not observed at this data point.

## WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: International Bridge Trade Corridor (IBTC) City/County: Hidalgo Sampling Date: 5.25.10

Applicant/Owner: Hidalgo County Regional Mobility Authority State: TX Sampling Point: UDP WET A2-1

Investigator(s): R. Salazar / A. Orlando Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1%

Subregion (LRR): Southwest Plateaus & Plains (LRRI) Lat: 26.113028 Long: -98.098814 Datum: NAD 83

Soil Map Unit Name: Levee 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 _____ | No X | |

Remarks: This data point did not meet the criteria to be considered a wetland.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30-ft) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15-ft)** | | | |
| 1. *Parkinsonia aculeata* | 5 | Y | FACW- |
| 2. *Parkinsonia texana* | 5 | Y | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 10 = Total Cover | | |
| **Herb Stratum (Plot size: 5-ft)** | | | |
| 1. *Sorghum halepense* | 20 | Y | FACU |
| 2. *Acacia rigidula* | 15 | Y | UPL |
| 3. *Solidago canadensis* | 10 | Y | FACU+ |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 45 = Total Cover | | |
| **Woody Vine Stratum (Plot size: 30-ft)** | | | |
| 1. | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum 55

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species | x 1 = |
| FACW species | x 2 = |
| FAC species | x 3 = |
| FACU species | x 4 = |
| UPL species | x 5 = |
| Column Totals: (A) | (B) |

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Test 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: This data point did not contain a predominance of hydrophytic vegetation.

## SOIL

Sampling Point: UDP WET A2-1

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 – 16 | 10YR 4/2 | 98 | 10YR 5/8 | 2 | C | M | CL | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[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**)
- ____ 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**)
- ____ Coast Prairie Redox (A16) (**LRR F, G, H**)
- ____ Dark Surface (S7) (**LRR G**)
- ____ High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- ____ Reduced Vertic (F18)
- ____ Red Parent Material (TF2)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

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

Remarks: The soils observed at this data point were indicative of hydric conditions.

## HYDROLOGY

**Wetland Hydrology Indicators:**

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

- ____ 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)
- ____ Geomorphic Position (D2)
- ____ FAC-Neutral Test (D5)
- ____ Frost-Heave Hummocks (D7) (**LRR F**)

**Field Observations:**

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

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

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

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

Remarks: Wetland hydrology was not observed at this data point.

# U.S. Fish and Wildlife Service

**United States Department of the Interior**
**FISH AND WILDLIFE SERVICE**
Texas Coastal Ecological Services Field Office
Phone: (956) 784-7560 Fax: (956) 787-8338
3325 Green Jay Rd
Alamo, TX 78516

October 17, 2014

Pilar Rodriguez, PE,
HCRMA Executive Director
118 South Cage Boulevard
P.O. Box1766
Pharr, TX 78577

Consultation No. 02ETCC00-2015-I-0183

Dear Mr. Rodriguez:

Thank you for your October 15, 2014, letter about the effects of the proposed construction of SH 365 on federally listed species in Hidalgo County, Texas. Your project was also evaluated with respect to wetlands and other important fish and wildlife resources.

We understand that The Hidalgo County Regional Mobility Authority (HCRMA), Texas Department of Transportation (TxDOT) and Federal Highway Administration (FHWA), propose to construct a six-lane, divided, controlled access toll facility from Farm-to-Market Road (FM) 1016/ Conway Avenue east to U.S. Highway 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Steward Road. The proposed project would run 16.53 miles paralleling the Rio Grande in a 160 to 400 foot right-of-way. Based on this, a "No Effect" determination for the ocelot and jaguarundi was made by your agency. The Service does not provide concurrence for "no effect" determinations, but by making a determination we believe the agency complied with Section 7(a)(2) of the Endangered Species Act of 1973, as amended.

As communicated in meetings between the HCRMA and U. S. Fish and Wildlife Service (Service) on July 29, 2014, the SH 365 Project overlaps the proposed Hidalgo Loop-Section A Project, which was initially coordinated with us in June 2008 and March of 2009. Modifications were made to the Hidalgo Loop-Section A alignment to remove the portion west of FM 1016, and to make minor shifts in the alignment due to design requirements. The Service is very concerned about a potential ocelot and jaguarundi migration route between two refuge properties within the northwestern portion of Hidalgo Loop-Section A alignment. The migration route is along an unnamed tributary and associated riparian zone which provided a natural wildlife corridor between two parcels of the Lower Rio Grande Valley National Wildlife Refuge south of Palmview. HCRMA has redesigned the original Hidalgo Loop and has excluded the Section A alignment so the new road now will not go through the wildlife corridor section. This area will not be impacted and there will be no need for a wildlife crossing since this section is to be left out of the new road construction.

Regarding other important fish and wildlife resources, please keep in mind that many bird species protected under the Migratory Bird Treaty Act nest in these areas. As the Federal agency responsible for the protection of migratory birds, the Service recommends that any disturbance to vegetation associated

with this project avoid the general March through August nesting period. If it cannot be avoided, please have a biologist trained in bird identification survey the areas proposed for disturbance in order to avoid inadvertent destruction of nests, eggs, etc.

We appreciate the opportunity to provide pre-planning information. If we can be of further assistance, please contact Ernesto Reyes at the above letterhead and telephone number.

Sincerely,

E. Dawn Gardiner

for Edith Erfling
Field Supervisor

cc:
Field Supervisor, U.S. Fish and Wildlife Service, Corpus Christi, TX
Bryan Winton, LRGVNWR, Alamo, TX

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Board of Directors**
Rance G. Sweeten, Chairman
Josue Reyes, Vice Chairman
Ricardo Perez, Secretary/Treasurer
Michael Cano, Director
Forrest Runnels, Director
Alonzo Cantu, Director
R. David Guerra, Director

U.S. Fish and Wildlife Service
Alamo Ecological Service Sub-Office
3325 Green Jay Rd
Alamo, Texas 78516

**Attn:** **Ernesto Reyes, U.S. Fish and Wildlife Service, Texas DOI State Border Coordinator**
**Ref:** **Informal Section 7 Consultation for the State Highway 365 Project (CSJ Numbers: 3627-01-001, 3627-01-002, and 0220-01-023), formerly the Hidalgo Loop - Section A located in Hidalgo County, Texas**
**Subject:** **Hidalgo County Regional Mobility Authority SH 365 Project**

Dear Mr. Reyes,

The Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) and Federal Highway Administration (FHWA), proposes to construct a six-lane, divided, controlled-access toll facility from Farm-to-Market Road (FM) 1016/Conway Avenue east to U.S. Highway (US) 281/Military Highway, including non-toll improvements along US 281/Military Highway from 0.45 mile east of Spur 600 to FM 2557/Stewart Road in Hidalgo County, Texas. The proposed SH 365 Project, would traverse 16.53 miles, generally paralleling the Rio Grande within a 160 to 300 foot right-of-way (ROW), expanding to 400 feet at identified overpass locations.

As communicated in a meeting between the HCRMA and United States Fish and Wildlife Service (USFWS) on July 29, 2014, the SH 365 Project was developed from and lies within the limits of the previously proposed Hidalgo Loop - Section A Project, which was initially coordinated with the USFWS in June 2008 and March 2009 (see Attachment B). As discussed, modifications were made to the Hidalgo Loop - Section A alignment which included the removal of the portion to the west of FM 1016, and minor shifts in the alignment due to design requirements. Please refer to Attachment A, Figure 1 for a depiction of the Hidalgo Loop - Section A alignment versus the currently proposed SH 365 alignment.

A key element of the original communications for the proposed project in 2009 centered on a potential ocelot (Leopardus pardalis) and/or jaguarundi (Herpailurus yaguaroundi cacomitli) migration route between two USFWS refuge properties within the northwestern portion of Hidalgo Loop – Section A alignment. More specifically, the migration route was situated along unnamed tributary and associated riparian zone consisting of mesquite woods which provided a natural wildlife corridor between two parcels of the Lower Rio Grande

**118 South Cage Boulevard, 4th Floor**
**PO Box 1766**
**Pharr, Texas 78577**
**(956) 402-4762**
**www.hcrma.net**

Valley National Wildlife Refuge (NWR) south of Palmview. As discussed during the July 29, 2014 meeting, HCRMA is seeking written documentation from the USFWS that the referenced wildlife corridor is not crossed by the SH 365 Project; consequently, since no habitat capable of supporting populations of ocelot/jaguarundi or migration corridors connecting such habitats are present within the proposed SH 365 ROW, a determination of "no effect" is appropriate for the ocelot and jaguarundi. Please refer to Attachment B, Correspondence for a copy of the previously submitted consultation for Hidalgo Loop - Section A.

We appreciate your timely review of this project. If you agree with the assessment above, please sign and date the space provide below for your concurrence. If you have any questions or need additional information, please contact me at (956) 402-4762.

Sincerely,
**Hidalgo County Regional Mobility Authority**

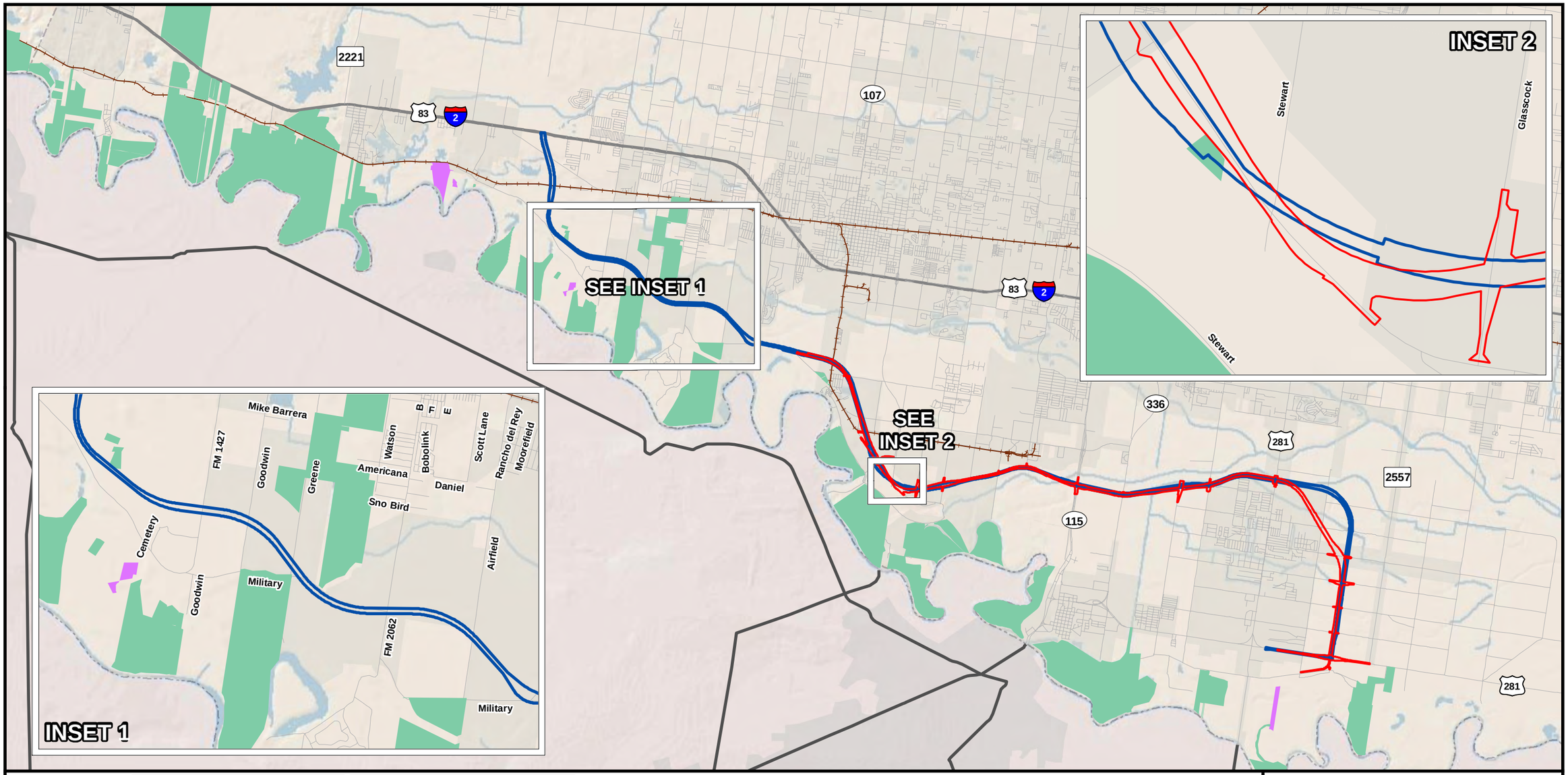
Pilar Rodriguez, P.E.
HCRMA Executive Director
Enclosures: PDF

cc: Pilar Rodriguez, PE, Executive Director
Louis H. Jones, PE, Program Manager
Sharon G. Becca (Atkins)

**CONCURRENCE:**
UNITED STATES FISH AND WILDLIFE SERVICE

_____ _____
Authorized Signature Date

**118 South Cage Boulevard, 4th Floor**
**PO Box 1766**
**Pharr, Texas 78577**
**(956) 402-4762**
**www.hcrma.net**



N

0 1 2
Miles

Datum: NAD 83
Projection: UTM
Zone: 14N
Units: Meters

- Proposed SH 365 ROW
- Proposed Hidalgo Loop – Section A Preferred Alternative
- Las Palomas Wildlife Management Area - Lower Rio Grande Valley Units
- Lower Rio Grande Valley National Wildlife Refuge

HCRMA
HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

**Figure 1**
**Project Location**
**Proposed Section A**
**& SH 365**
**Hidalgo County, Texas**

CSJs: 3627-01-001, 3627-01-002, 0921-02-337, & 0220-01-023

Date: 31 Jul 2014

N:\Clients\G_H\Hidalgo_Co_RMA\100020726\geo\figs\USFWS Map 20140709\01_ProjectLocation.mxd

# HCRMA

## HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY

510 South Pleasantview Drive, Weslaco, Texas 78596
956-969-5822
956-969-5821 fax

Dennis Burleson,
Chairman

Rick Perez
Vice-Chairman

Ramiro E. Salazar
Secretary/Treasurer

Joe Olivarez
Board Member

Ramon Garcia
Board Member

Ruben Serna
Board Member

Ricardo Perez
Board Member

March 26, 2009

Mr. Ernesto Reyes
U.S. Fish and Wildlife Service
Ecological Services
Route 2, Box 202A
Alamo, Texas 78516

Dear Mr. Reyes:

Re: Hidalgo County Regional Mobility Authority Informal Section 7 Consultation
Hidalgo Loop, Section A, from US 83, 0.59 miles east of BUS 83, to the US 281/SP 600 intersection (CSJ 0921-02-172)
Hidalgo County, Texas

The Hidalgo County Regional Mobility Authority (HCRMA), in cooperation with the Texas Department of Transportation (TxDOT) Pharr District, proposes to construct a six-lane divided controlled access ultimate section facility from US 83, 0.59 miles east of Business 83 (BUS 83) near Peñitas, easterly, to the US 281/Spur (SP) 600 intersection in Hidalgo County (Exhibit A). This project, one of four, is part of a system of projects collectively referred to as the Hidalgo Loop (Exhibit B). The purpose of the proposed Hidalgo Loop is to relieve congestion and increase mobility on local and regional transportation facilities.

Section A of the Hidalgo Loop would traverse approximately 25 miles, generally paralleling the Rio Grande River within a 160- to 300-foot right-of-way (ROW), expanding to 400 feet at identified overpass locations.

The proposed ROW within Section A is located within the Lower Rio Grande Valley and the Lower Rio Grande Alluvial Floodplain ecoregions. Vegetation communities identified within the project area include mesquite brush, mesquite shrub, mesquite woods, cropland, unmaintained grassland, palustrine emergent (PEM) wetland, palustrine scrub-shrub (PSS) wetland, palustrine forested (PFO) wetland, and maintained grassland (Exhibit C). Photographs of the vegetation communities within the proposed ROW are shown in Exhibit D.

Ecologists reviewed the Texas Parks and Wildlife Department's (TPWD) Natural Diversity Database (NDD) to identify previously recorded occurrences of both state

and federal threatened/endangered species within the vicinity of the project area. The United States Fish and Wildlife Service (USFWS) and TPWD threatened and endangered species county lists were also reviewed (USFWS and TPWD, 2008). Based on the review of the NDD, there are documented occurrences of the Gray Hawk (*Asturina nitida*), Texas tortoise *(Gopherus berlandieri)*, Walker's manioc (*Manihot walkerae*), Indigo snake (*Drymarchon corais*), Rose-throated becard (*Pachyramphus aglaiae*), River goby (*Awaous banana*), Black-spotted Newt (*Notophthalmus meridionalis*), Sheep frog (*Hypopachus variolosus),* South Texas siren (large form), Jaguarundi (*Herpailurus yaguarond*), and Ocelot (*Leopardus pardalis*) within the proposed ROW or within 1.5 miles of the proposed ROW.
The proposed ROW was assessed by a qualified biologist for the presence of threatened and endangered species and potential threatened and endangered species habitat between October 2008 and February 2009. No threatened and endangered species were observed during field surveys; however, habitat supporting the following federally threatened and endangered species is located within the vicinity of the proposed ROW: jaguarundi (*Herpailurus yaguarond*), ocelot (*Leopardus pardalis)*, star cactus (*Astrophytum asterias*), and Walker's manioc (*Manihot walkerae*). Occurrences of these species are unlikely due to habitat fragmentation caused by the high degree of urbanization and cropland conversion that surrounds the project area. Habitat fragmentation within the project area limits the likelihood of the species being present or affected by the project.

The ocelot and jaguarundi inhabit thick, thorny shrublands in South Texas. The mesquite brush habitat provides potential habitat for the jaguarundi and ocelot. These habitats are extremely fragmented due to surrounding urban development and cropland conversion. The majority of the proposed ROW follows existing roadways and would not fragment existing undisturbed habitat. During the initial consultation meeting with the USFWS on June 20, 2008, the USFWS indicated specific concern for a potential ocelot migration route between two USFWS refuge properties located adjacent to the proposed ROW within the northern portion of the project area. An unnamed tributary and associated riparian zone consisting of mesquite woods provide a natural wildlife corridor between the two refuge properties. In response to the USFWS's concern, the HCRMA proposes to bridge the unnamed tributary and establish a conservation easement along the length of the tributary between the two properties, creating a permanent wildlife migration corridor for the ocelot and other mammals migrating between the properties. The proposed project is not likely to adversely affect the ocelot or jaguarundi.

Walker's manioc has the potential to be found on the periphery of native brush found on sandy loam soils. Walker's manioc grows in dense stands of native brush or in small openings. On the sites where it is found, Walker's manioc grows in areas that are somewhat shaded and relatively moist compared with the surrounding environment. The mesquite brush habitat may provide potential habitat for Walkers manioc. This species was not observed during field investigations. The proposed project would have a minimal affect on mesquite brush habitat (approximately 6.3 acres). Therefore, the proposed project is not likely to adversely affect this species.
The Star cactus can occupy gentle slopes and flats on grasslands or shrub lands in

sparsely vegetated areas. They are found in saline clays or loam soils at low elevations. The mesquite shrub and unmaintained grassland habitats may provide potential habitat for the Star cactus. However, this species was not observed during field investigations and no known occurrences have been recoded within 1.5 miles of the proposed ROW. Therefore, the proposed project is not likely to adversely affect this species.

The HCRMA would avoid, minimize, and mitigate impacts for the acres of potential threatened and endangered species habitat as well as other waters of the U.S. identified within the proposed ROW, as required by Section 404 of the Clean Water Act. The proposed impacts are not anticipated to risk the continued existence of the threatened and endangered species that may occur within the vicinity of the project.

Based on the proposed project impacts, a determination of "not likely to adversely affect" for the proposed activities was concluded. PBS&J is requesting your review of the proposed project and concurrence that the proposed project is "not likely to adversely affect" federally threatened and endangered species.

If you have any questions or need additional information, please contact Courtney E. Cox with PBS&J at (281) 529-4137.

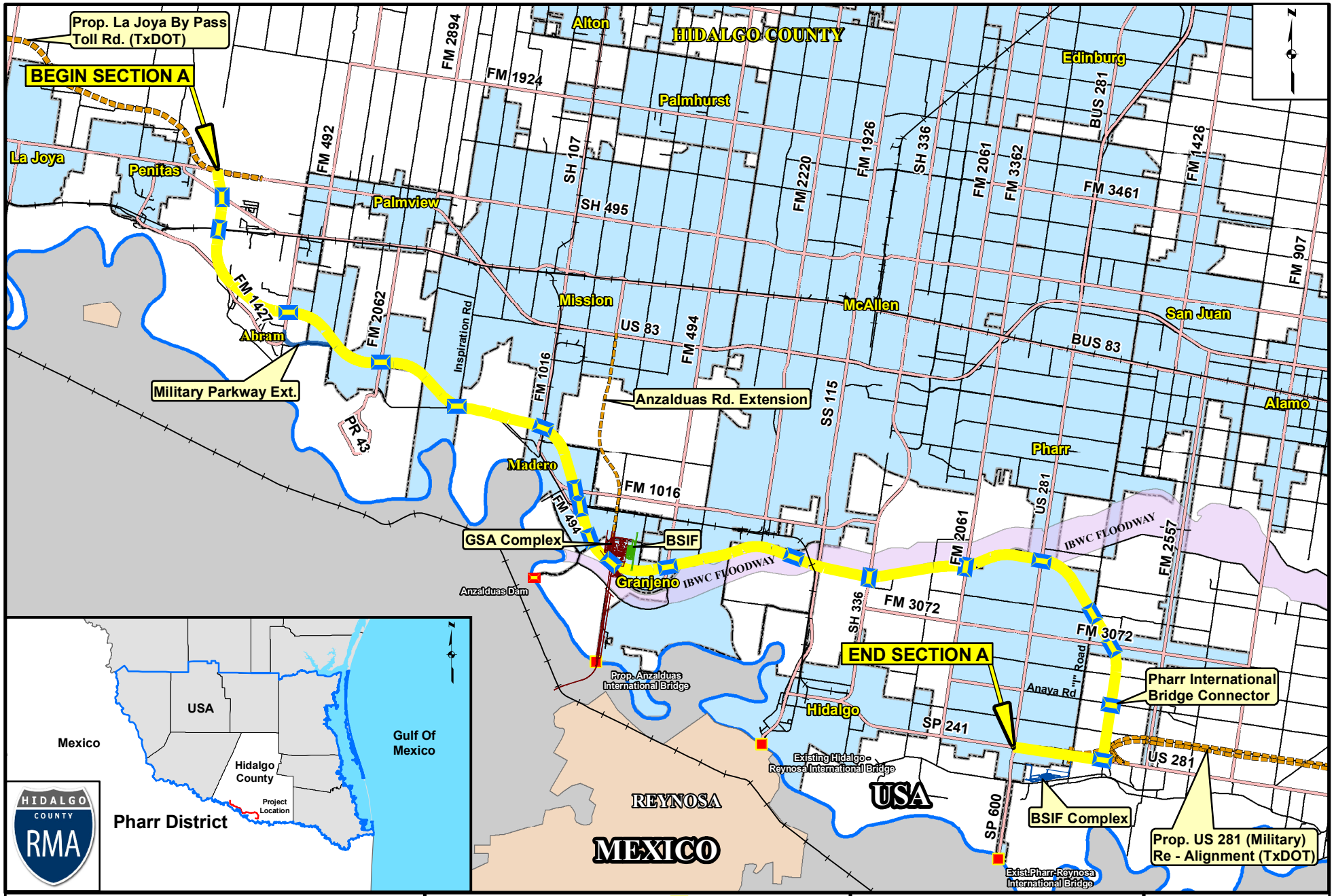
Very truly yours,

Hidalgo County Regional Mobility Authority

Dennis Burleson
Chairman,

CEC:SC
Enclosure: Exhibit A - Project Vicinity Map
Exhibit B - Hidalgo Loop Project Location Map
Exhibit C - Vegetation and Habitat Map
Exhibit D - Site Photographs

cc: Norma Garza (TxDOT Pharr District)
Juan Alcazar (TxDOT Pharr District)
Robin Gelston (TxDOT Pharr District)
Sharon Becca (PBS&J)
Courtney Cox (PBS&J)




# SECTION A
# PROJECT LOCATION MAP

From US 83, 0.59 mi E. of Bus 83
to US 281/SP 600 at the Pharr Int'l Bridge
Approx: 24.47 mi
CSJ: 0921-02-172

**LEGEND**

- Section A
- State Roads
- Streets
- Railroad
- City Limits
- Int'l Bridges
- Anzalduas Dam
- Proposed TxDOT Projects
- Proposed Overpass/ Underpass

Source(s): TNRIS & Hidalgo Appraisal District

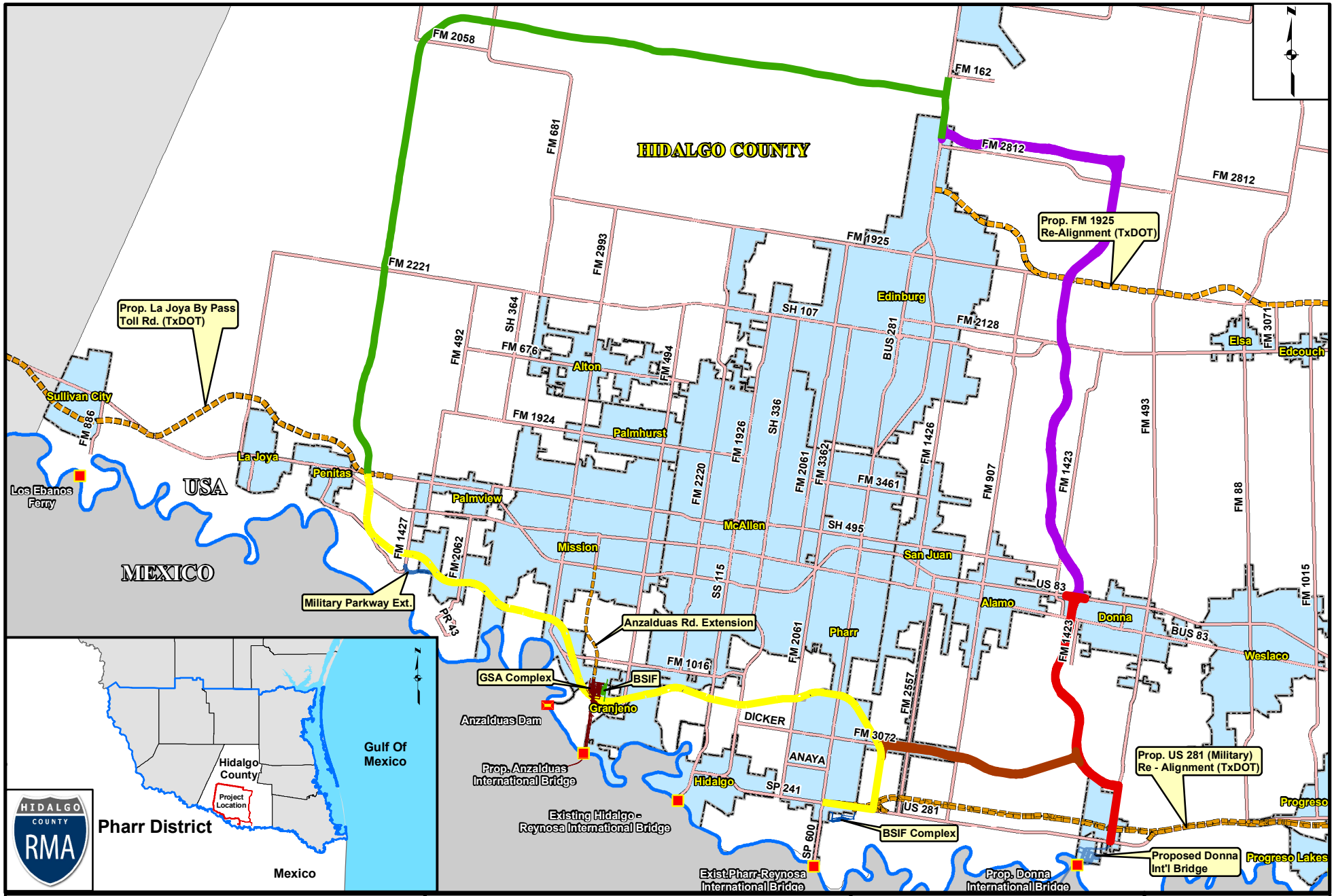
12,000 6,000 0 12,000
Feet

1 inch = 12,000 feet

Date: 31 October 2008

**Exhibit A**

G:\RMA EA MAPS\RMA SECTION A LOCATION Figure 1Location.mxd




# HIDALGO LOOP PROJECT LOCATION MAP

**LEGEND**

- Section "A"
- Section "A3"
- Section "B"
- Section "C"
- Section "D"
- State Roads
- Proposed TxDOT Projects
- City Limits
- Int'l Bridges

Source(s): TNRIS & Hidalgo Appraisal District

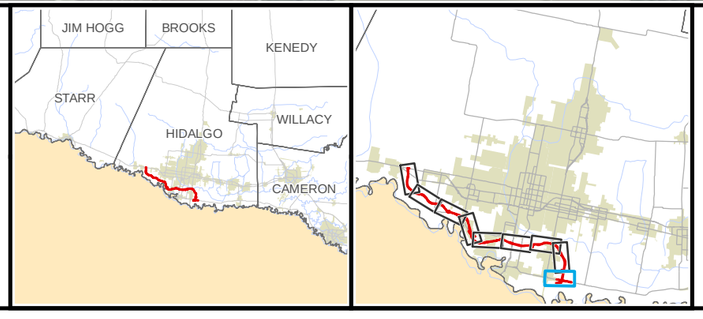
21,000 10,500 0 21,000
Feet

1 inch = 21,000 feet

Date: 25 March 2009

**Exhibit B**

G:\RMA EA MAPS\RMA SECTION C LOCATION Figure 2Location.mxd






N
W E
S

Aerial: RODS, 2007
Field Data: PBS&J 2008-09

| | | |
|---|---|---|
| Section A ROW | Mesquite Shrub | PEM Wetland |
| Cropland | Mesquite Woods | PFO Wetland |
| Disturbed | Retama Shrub | PSS Wetland |
| Maintained Grassland | Riparian | Pond |
| Mesquite Brush | Unmaintained Grassland | Ditch/Canal/Stream/Creek |

0 1,000 2,000 3,000 Feet

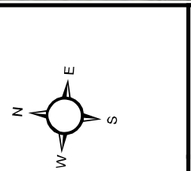
RMA

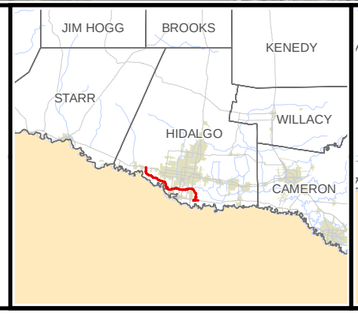
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

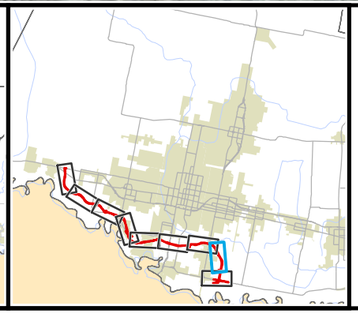
**Las Milpas Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 1 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

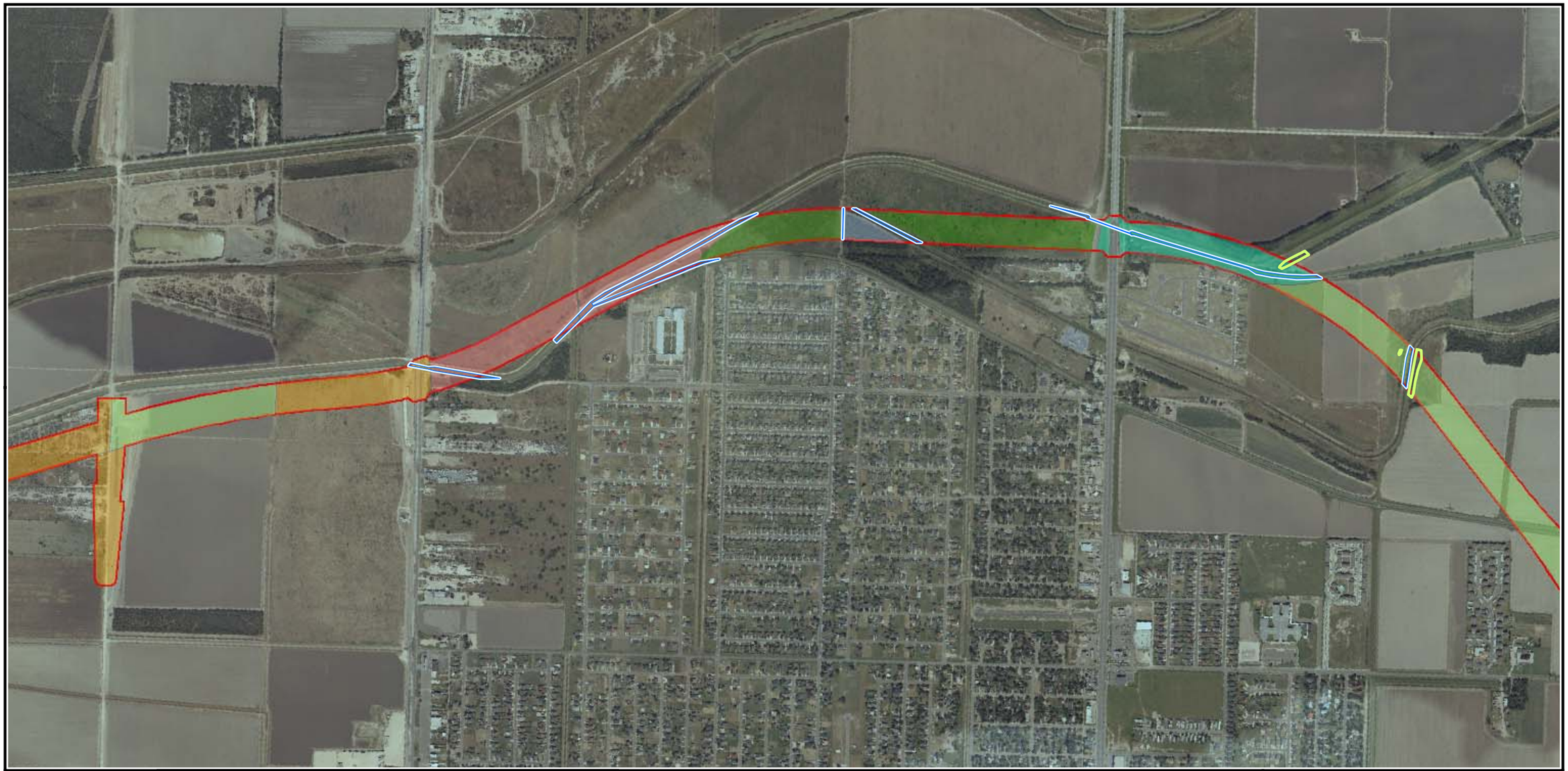
0 1,000 2,000 3,000 Feet

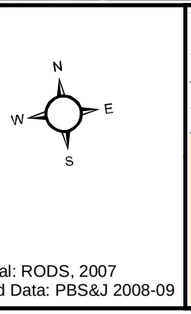
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

**Pharr and Las Milpas Quadrangles**

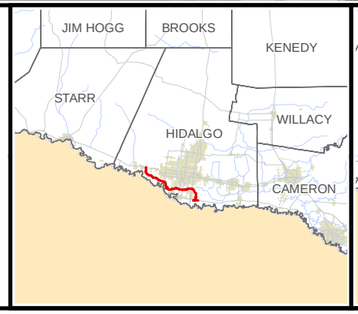
**Hidalgo County, Texas**

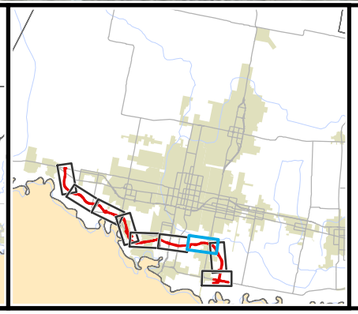
| | |
|---|---|
| Sheet 2 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |






Aerial: RODS, 2007
Field Data: PBS&J 2008-09



| | | |
|---|---|---|
| Section A ROW | Mesquite Shrub | PEM Wetland |
| Cropland | Mesquite Woods | PFO Wetland |
| Disturbed | Retama Shrub | PSS Wetland |
| Maintained Grassland | Riparian | Pond |
| Mesquite Brush | Unmaintained Grassland | Ditch/Canal/Stream/Creek |

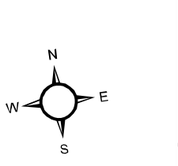
0 1,000 2,000 3,000 Feet

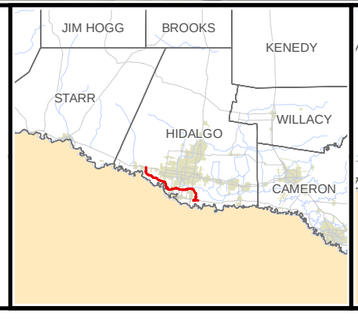
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

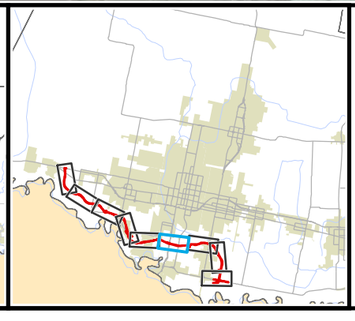
**Pharr Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 3 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

0 1,000 2,000 3,000 Feet

**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

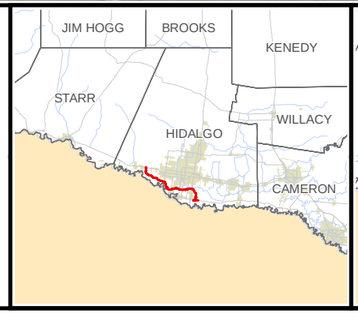
**Pharr and Mission Quadrangles**

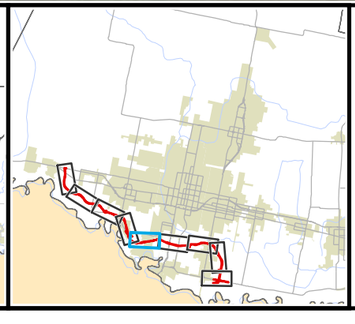
**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 4 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |

N
W E
S

Aerial: RODS, 2007
Field Data: PBS&J 2008-09



- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

0 1,000 2,000 3,000 Feet

RMA

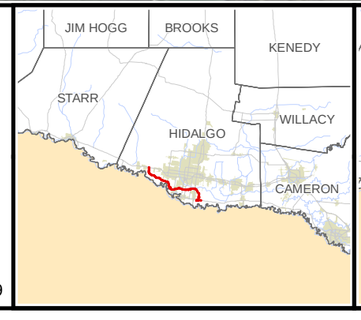
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

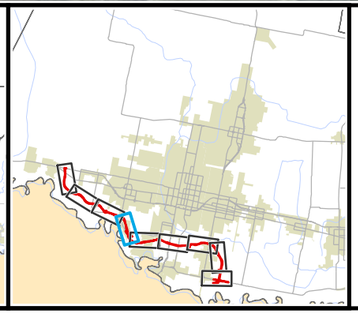
**Mission Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 5 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |

POND 1



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

| | | |
|---|---|---|
| Section A ROW | Mesquite Shrub | PEM Wetland |
| Cropland | Mesquite Woods | PFO Wetland |
| Disturbed | Retama Shrub | PSS Wetland |
| Maintained Grassland | Riparian | Pond |
| Mesquite Brush | Unmaintained Grassland | Ditch/Canal/Stream/Creek |

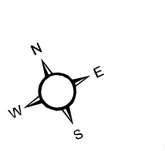
0 1,000 2,000 3,000 Feet

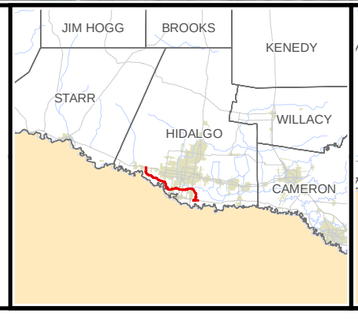
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

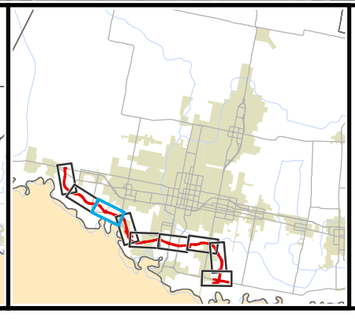
**Mission Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 6 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

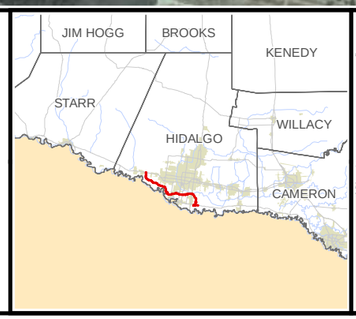
0 1,000 2,000 3,000 Feet

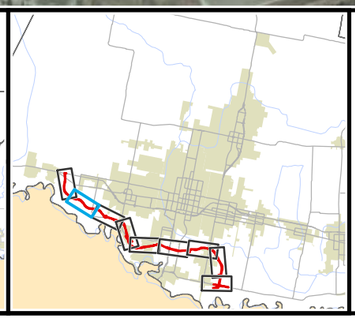
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

**Mission Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 7 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

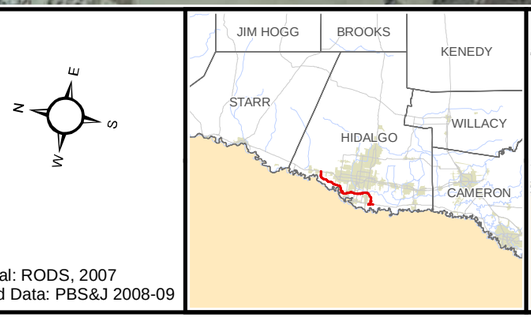
0 1,000 2,000 3,000 Feet

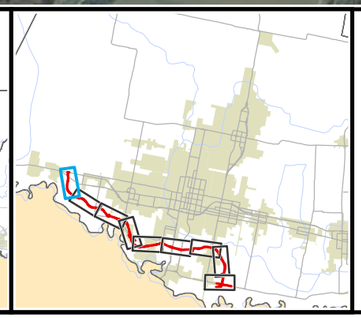
**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

**La Joya Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 8 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |



Aerial: RODS, 2007
Field Data: PBS&J 2008-09

- Section A ROW
- Cropland
- Disturbed
- Maintained Grassland
- Mesquite Brush
- Mesquite Shrub
- Mesquite Woods
- Retama Shrub
- Riparian
- Unmaintained Grassland
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ditch/Canal/Stream/Creek

0 1,000 2,000 3,000 Feet

**Exhibit C**
**Vegetation/ Habitat Map**
**Hidalgo Loop, Section A**
**From US 83 (0.59 mile east of Business 83)**
**to US 281/SP 600 Intersection**

**La Joya Quadrangle**

**Hidalgo County, Texas**

| | |
|---|---|
| Sheet 9 of 9 | Scale: 1" = 1000' |
| CSJ No.: 0921-02-172 | Date: Mar 19, 2009 |
| File: ENV\100002039\proj\mxd\Landuse\B_Sec_A_LANDUSE_ltr | |

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 1 — Typical view palustrine emergent wetland vegetation community.

Photograph 2 — Typical view of palustrine scrub-shrub wetland vegetation community.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 3 — Typical view of palustrine forested wetland vegetation community.

Photograph 4 — View facing north of Creek 1 and riparian zone.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 5 — Typical view of agricultural ditches crossed by the proposed ROW.

Photograph 6 — Typical view of irrigation canals crossed by the proposed ROW.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 7 — Typical view of unmaintained grassland vegetation community.

Photograph 8 — Typical view of mesquite brush vegetation community.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 9 — Typical view of maintained grassland vegetation community.

Photograph 10 — Typical view of mesquite shrub vegetation community.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 11 — Typical view of cropland vegetation community.

Photograph 12 — Typical view of the retama shrub vegetation community.

# Exhibit D – Site Photographs
# Hidalgo Loop, Section A

Photograph 13 — Typical view of the mesquite woods vegetation community.

# Meeting Minutes

## Hidalgo Loop USFWS Coordination Meeting

| | |
|---|---|
| **Date:** | June 20, 2008 |
| **Time:** | 11:00 am |
| **Location:** | USFWS Santa Ana Wildlife Refuge |
| **Attendees:** | Ernesto Reyes (USFWS), Bryan Winton (USFWS), Brunilda Fuentes Capozello (USFWS), Gerry Pate (HCRB), David Hoth (HCRB), Courtney Cox (PBS&J) |

A meeting with the U.S. Fish and Wildlife Service (USFWS) was held at the Santa Ana Wildlife Refuge to discuss the Hidalgo Loop Project and solicit input from USFWS. The purpose of the meeting was to discuss the portion of the project within Section A that crosses between two USFWS owned tracts and known ocelot habitat. The following items were discussed:

1. Mr. Gerry Pate of Hidalgo County Road Builders (HCRB) provided an overview of the proposed project that included a project description and purpose of the project. Alignment maps were presented that showed the area of concern. The land between the two USFWS parcels is the proposed Bentsen Development site, but is currently undeveloped and crop land. Mr. Pate stated that the project would not impact the USFWS tracts.

2. USFWS was asked to point out other potential areas of concern within the entire project area. Mr. Winton of the USFWS pointed out a 2 acre tract in Granjeno near Stewart Road that was not included on the alignment maps. Mr. Winton indicated that he would email the location of the tract to David Hoth.

3. Ms. Fuentes Capozello suggested that the ocelots use the drainage ditch running between the two USFWS tracts as a corridor when migrating north or south.

4. Mr. Ernesto Reyes asked the width of the proposed ROW within this area. Mr. Pate indicated that the ROW varies from 160-300 feet.

5. Mr. Reyes suggested that a bridge be constructed over the drainage ditch and a protective easement be secured along the ditch to ensure long-term preservation of the corridor and future safety for the ocelot.

6. Ms. Fuentes Capozello pointed out that currently the only bridge allowing for ocelot crossing in the Lower Rio Grande Valley is on State Highway (SH) 48 in Cameron County.

7. USFWS did not have any other areas of concern for the proposed project.

8. HCRB, USFWS, and PBS&J visited the portion of the project area traversing the ocelot corridor.

9. Mr. Reyes confirmed that a bridge be constructed over the corridor rather than construct culverts due to the width of the ROW. Mammals will most likely not cross through culverts that are 160 feet or greater in length; therefore, a bridge is a better choice for ensuring the safety of the migrating ocelots. Mr. Reyes also stated that a protective easement be delineated along the drainage ditch. Mr. Reyes stated that the U.S. Forest Service suggests a minimum boundary of 66 feet on each side of the ditch. In addition, Mr. Reyes suggested constructing fences along the easement boundary at the intersection with the roadway to keep the mammals within the easement and from wandering onto the roadway.

10. David Hoth asked Mr. Reyes to provide HCRB with a preferred bridge height and width and easement width.

Summary of USFWS Preferences for the Wildlife Corridor Crossing

- Construct a bridge over the wildlife corridor instead of culverts.
- Secure a protective easement along the drainage ditch running between the two USFWS tracts.
- Construct fences along the easement boundary at the intersection with the roadway.
- Mr. Winton to email the location of the 2 acre tract in Granjeno near Stewart Road to HCRB.

PROP. 200' R.O.W.

HIDALGO COUNTY LIMITS

MISSION CITY LIMITS

PROPOSED OVERPASS

BENTSEN PROPERTIES

PALM LTD

WORLD BIRDING CENTER

EXIST. LEVEE R.O.W.

USFWS

L & G Engineering
Consulting Engineers
2100 W. Expressway 83
Mercedes, TX. 78570
Phone : (956) 565-9813
Fax : (956) 565-9018

# Meeting Summary Report

**PROJECT:** Hidalgo County Loop Segment "A" - stakeholder meeting and San Jose Ranch Road

**L&G JOB NO.:**

**SUBJECT:** Project Meeting for Schematic Development with USFW

**CLIENT:** HCRMA/ HCRB

**LOCATION:** Santa Ana Wildlife Refuge Office

**DATE:** February 6, 2008

**ATTENDEES:** Ernesto Reyes, Brunilda Fuentes, Velma Garcia, Robert Macheska, Gus Lopez

**DISCUSSION:** *The following is our understanding of the subject matter covered in this meeting. If this differs with your understanding, please notify us.*

## 9:30 a.m. MEETING

### Hidalgo Loop Alternatives:

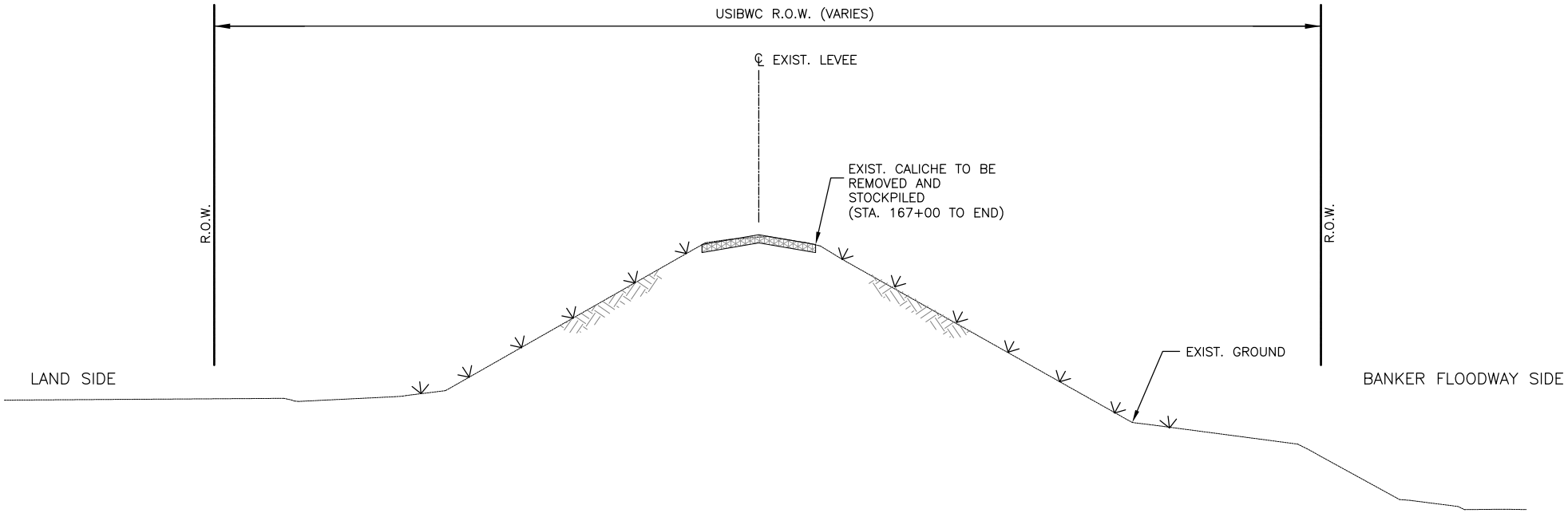
- *The selection of each route and the current developed optional alignments was explained by Gus Lopez*
- *The original alignment (feucha color) shown as developed by the Hidalgo County Route Study.*
- *They would prefer any of the alignments further north from the USFW areas. Noise is an issue.*
- *They believe the nature Conservancy will have a problem with the alignments as indicated. Velma asked if they were protected. The answer was: NO; however, they can easily transfer the land to USFW and become protected.*
- *They also have a problem with the alignment going between the two UDFW tracks just East of Bates road. We indicated that the red route is utilizing 150' of existing ROW dedicated by the County years ago for the Military Road alignment. The other potential alignment "green route" bisects the existing track and would require mitigation.*
- *They do not like the green route, and recommend that the red route would consider a structure for animals to connect and travel between the tracts. They would like to acquire a small corridor between the tracts. However, that land presently is owned by the Bentsen palm Development corporation.*
- *The area near the Diocese just south of the canal and close to the Anzalduas State Park, they feel the proximity of the road could have some impact to the wildlife due to the noise it could be created by the truck corridor.*
- *The rest of the project to the east of Anzalduas moves away from their areas and do not present any problems.*

### San Jose Ranch Road Project:

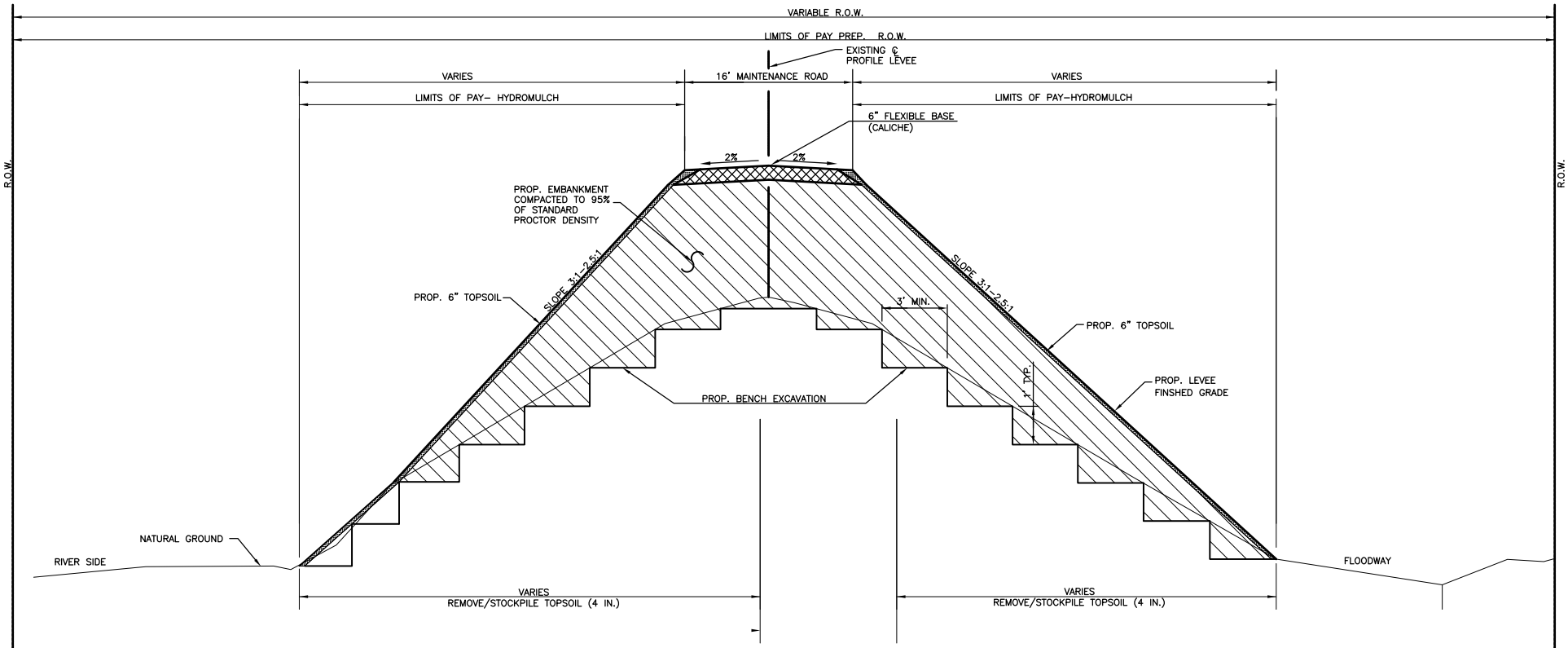
- *The selection of each route and the current developed optional alignments was explained by Gus Lopez and Velma Garcia. Utilizing the existing 40 to 50' ROW is important to the County. This route connects Sam Houston to Oscar Williams and to FM 509.*
- *They indicated that the small ditch with brush bear the Resaca could be an animal corridor and needs to be protected. We indicated that a structure currently crosses the road and a new one will most likely be placed which will allow the animals to continue utilizing this area by the Resaca.*
- *The large undisturbed area West of Oscar Williams will have a proposed bridge structure due to the size of the canal, and will permit wildlife to continue crossing below the proposed structure.*
- *A field visit has been programmed for Monday February 11th to go thru the project and review those areas of concern. Velma and Robert will be going with Ernesto and Brunilda to visit the site.*
- *Velma requested that we need at least a verbal OK to continue with the schematic process.*

**DISTRIBUTION:**

# APPENDIX D – TYPICAL SECTIONS
## Levee Reconstruction

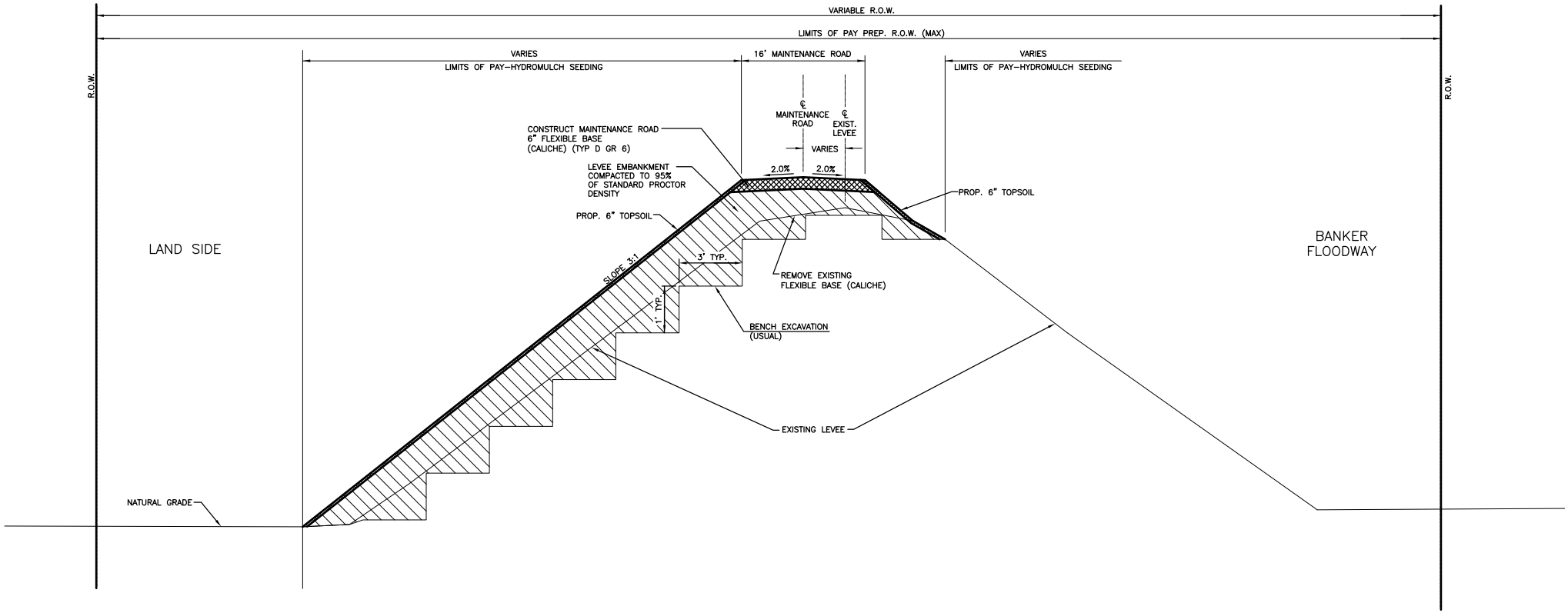



**EXISTING TYPICAL SECTION**
**STA. 93+53 TO STA. 253+06.00**
SCALE: N.T.S.



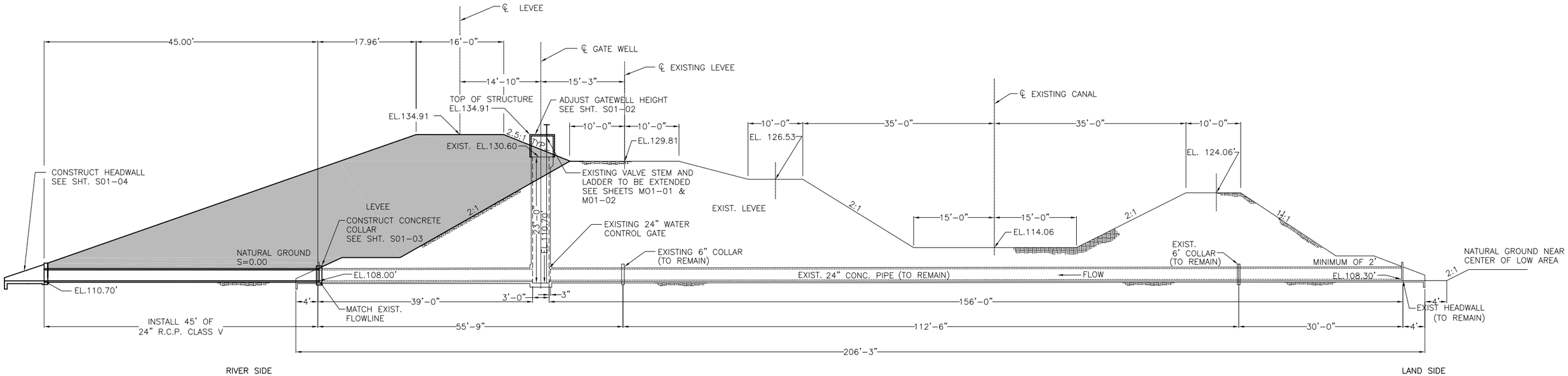

# PROPOSED TYPICAL SECTION

SCALE: N.T.S.
STA. 0+00 TO 24+00
STA. 38+00 TO 87+00
STA. 97+00 TO 118+00
STA. 124+00 TO 146+00




## PROPOSED TYPICAL SECTION
## STA. 167+00.00 TO STA. 253+06.00

SCALE: N.T.S.


℄ LEVEE
45.00'
17.96'
16'-0"
℄ GATE WELL
℄ EXISTING LEVEE
14'-10"
15'-3"
TOP OF STRUCTURE
EL.134.91
ADJUST GATEWELL HEIGHT
SEE SHT. S01-02
EL.134.91
10'-0"
10'-0"
2.5:1 TYP.
EXIST. EL.130.60
EL.129.81
℄ EXISTING CANAL
10'-0"
35'-0"
35'-0"
10'-0"
EL. 126.53
EL. 124.06'
CONSTRUCT HEADWALL
SEE SHT. S01-04
EXISTING VALVE STEM AND
LADDER TO BE EXTENDED
SEE SHEETS M01-01 &
M01-02
LEVEE
2:1
CONSTRUCT CONCRETE
COLLAR
SEE SHT. S01-03
EXIST. LEVEE
2:1
15'-0"
15'-0"
2:1
1:1
EXISTING 24" WATER
CONTROL GATE
23'-0"
EL.110.70
EL.114.06
NATURAL GROUND
S=0.00
EXISTING 6" COLLAR
(TO REMAIN)
EXIST.
6' COLLAR
(TO REMAIN)
MINIMUM OF 2'
NATURAL GROUND NEAR
CENTER OF LOW AREA
EL.108.00'
EXIST. 24" CONC. PIPE (TO REMAIN)
FLOW
EL.108.30'
2:1
EL.110.70'
4'
39'-0"
3'-0"
3"
156'-0"
4'
MATCH EXIST.
FLOWLINE
EXIST HEADWALL
(TO REMAIN)
INSTALL 45' OF
24" R.C.P. CLASS V
55'-9"
112'-6"
30'-0"
4'
206'-3"
RIVER SIDE
LAND SIDE

# APPENDIX E – AREA PLANS AND MAPS

**Hidalgo County Thoroughfare Plan**

**City of Mission Zoning Map**

**City of Mission Future Land Use Map**

**City of McAllen Future Land Use Plan**

**City of McAllen Thoroughfare Plan**

**City of Pharr Future Land Use Map**

**City of San Juan, Pharr ETJ Map**

# Hidalgo County Thoroughfare Plan

Hidalgo County
Metropolitan Planning Organization
510 South Pleasantview Drive
Weslaco, TX 78596

www.hcmpo.org

Approved by Transportation Policy Committee on February 20, 2014
Approved by County Commissioner's Court on March 11, 2014
Printed on August 25, 2014

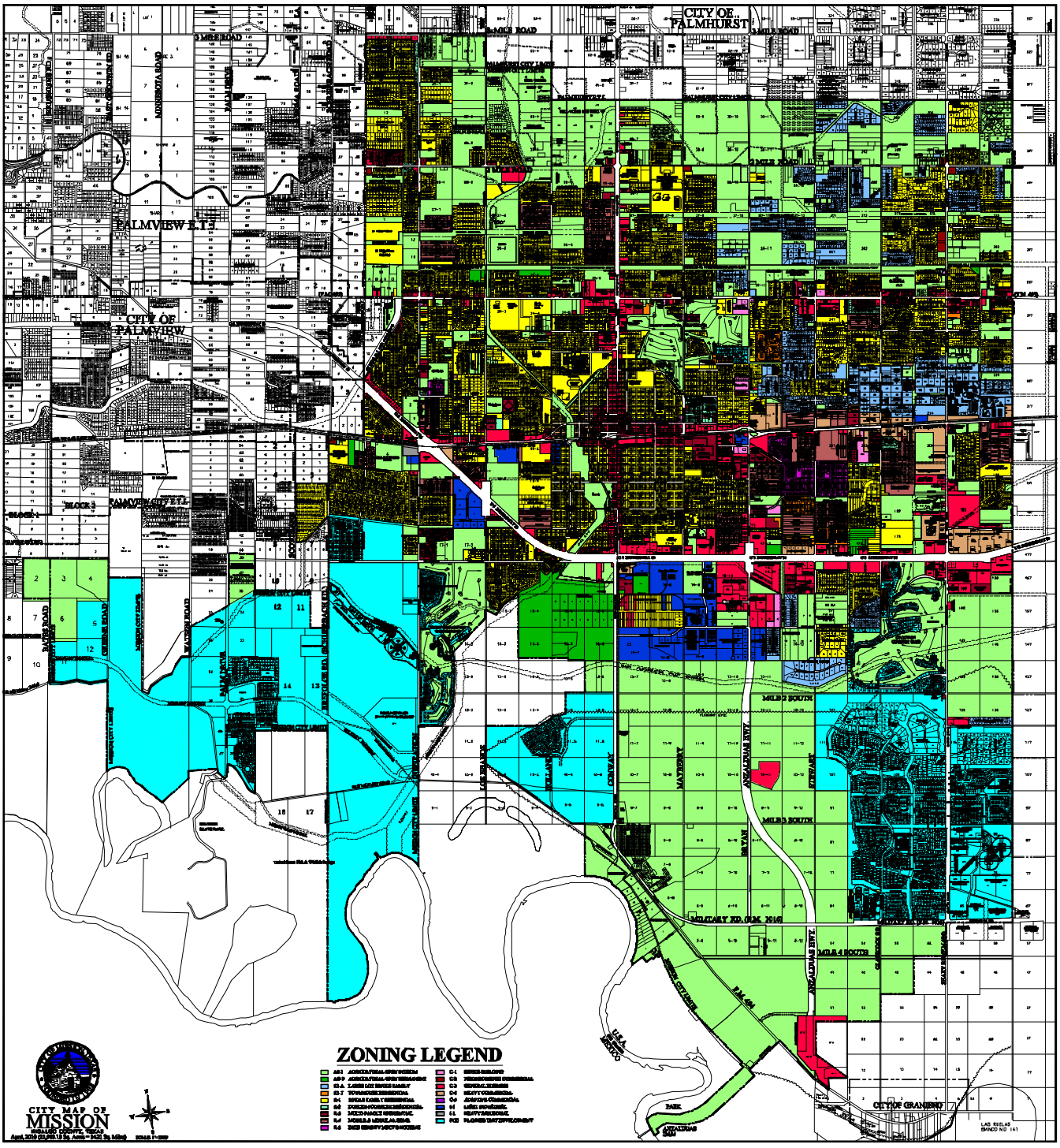
## Legend

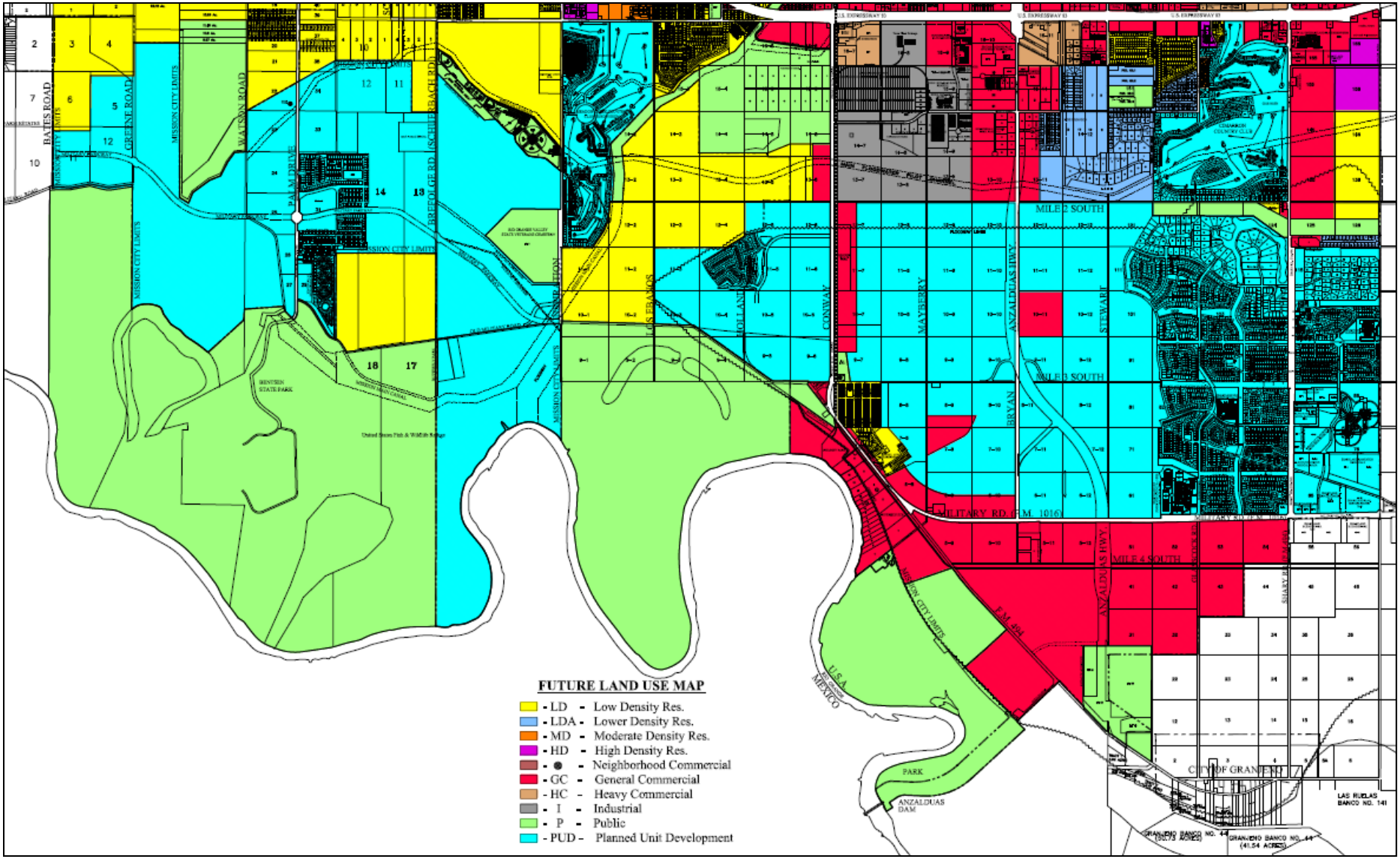
- Existing Expressway 350'
- Existing High Speed Principal Arterial 150'
- Existing Principal Arterial 120'
- Existing Minor Arterial 100'
- Existing Collector 80'
- Expansion Expressway 350'
- Expansion High Speed Principal Arterial 150'
- Expansion Principal Arterial 120'
- Expansion Minor Arterial 100'
- Expansion Collector 80'
- New Facility Expressway 350'
- New Facility High Speed Principal Arterial 150'
- New Facility Principal Arterial 120'
- New Facility Minor Arterial 100'
- New Facility Collector 80'
- New Facility Hidalgo County Loop 350'
- MAB

0 2 4 8 12 16 Miles

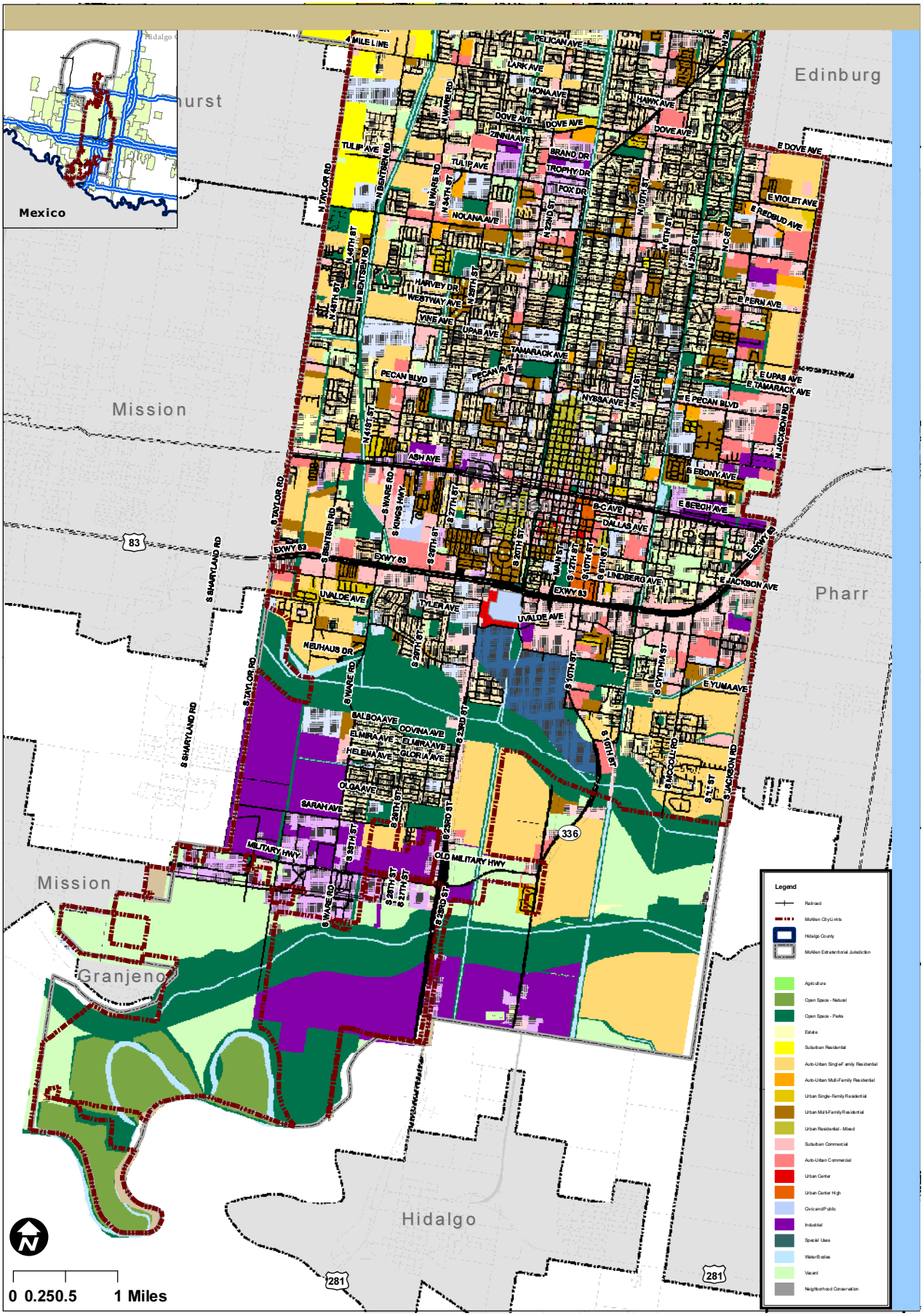
N

Printed: 10/8/2014


CITY OF PALMHURST
CITY OF PALMVIEW
PALMVIEW E.T.J.
MILE 2 SOUTH
MILE 3 SOUTH
MILE 4 SOUTH
CITY OF GRANJENO
ZONING LEGEND
CITY MAP OF MISSION
HIDALGO COUNTY, TEXAS




Mission, TX – Future Land Use



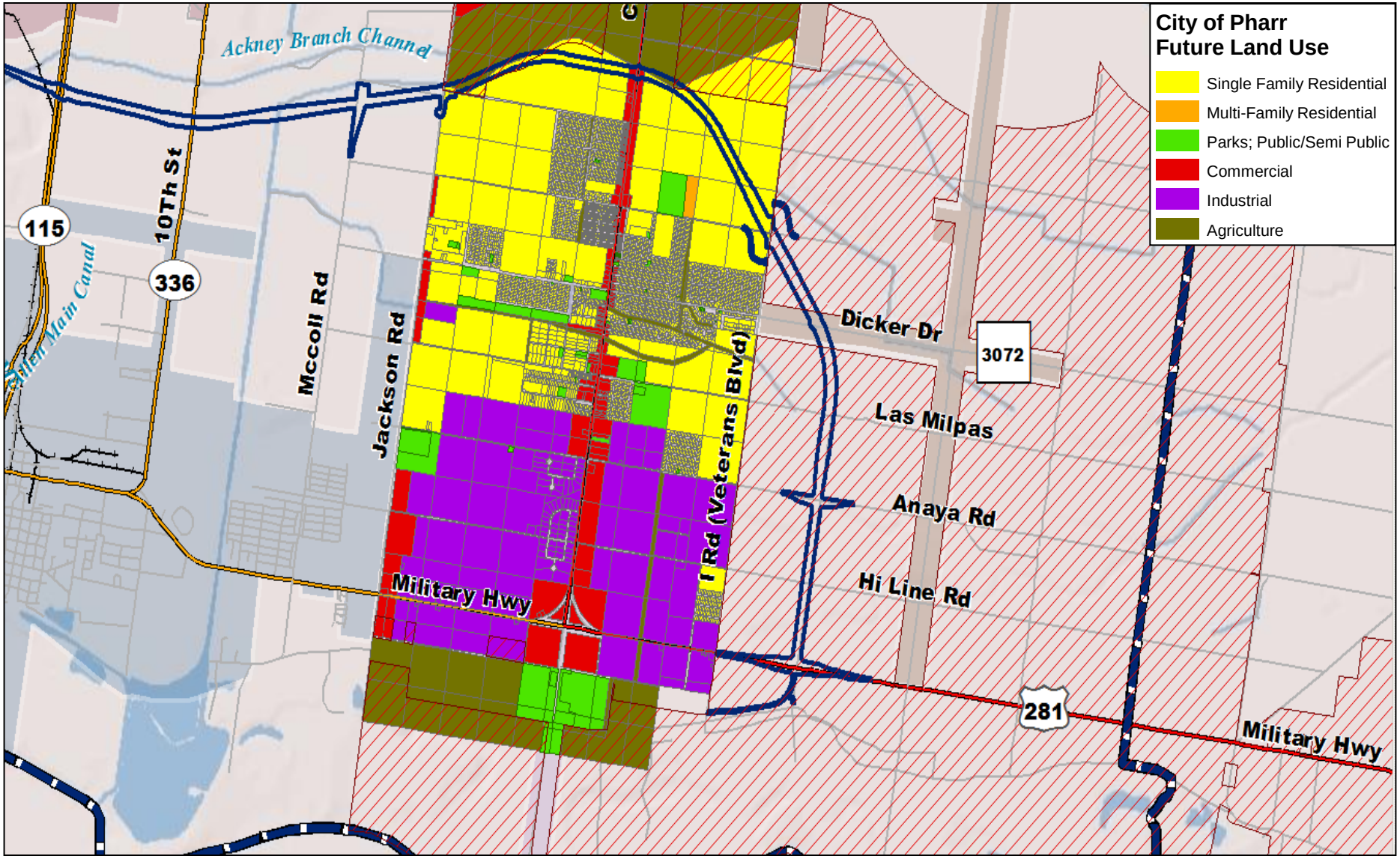

5.1.2

## Future Land Use Plan

Foresight McAllen Comprehensive Plan

July 2007

Figure 4.2
Thoroughfare Plan
Revised
February 23, 2009




Pharr, TX – Future Land Use

# San Juan, Pharr ETJ Map