APPENDIX IID

WETLANDS

APPENDIX IID1
WETLANDS EVALUATION

City of Edinburg Landfill Expansion Project

Wetlands Evaluation

Prepared For:

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NEI Project No. 9323

July 2015

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EXECUTIVE SUMMARY

Naismith Engineering, Inc. (NEI) conducted a desktop review, site inspection, preliminary habitat characterization, and wetland delineation for the City of Edinburg (City) Municipal Solid Waste Landfill (MSWLF) expansion project site which is located in Hidalgo County, Texas. This report specifically addresses NEI's findings relative to wetlands. This information will be used to support the City's MSWLF permit amendment application to expand its existing landfill operation. A large majority of the project site is currently comprised of agricultural fields with a limited amount of woodlands along the site's eastern boundary. Several areas occurring within the project site were evaluated for wetland characteristics. Only one small area (PW-4) was preliminarily determined on November 17, 2014, to be a wetland based upon field evaluations of the site's soil, hydrology, and vegetation. A wetland delineation was performed on February 6, 2015 to confirm these findings and determine the wetland's boundaries. PW-4 is a small (0.358-acre) isolated wetland located in the middle of a plowed agricultural field surrounded by other disturbed properties. Based upon the isolated nature of this small wetland, the lack of a significant nexus to naviagable or interstate waters, and previous determinations by the U.S. Army Corps of Engineers (USACE) that small, isolated wetlands in the area are not jurisdictional, NEI does not consider PW-4 to be subject to USACE jurisdiction.

1. Introduction

Naismith Engineering, Inc. (NEI) was retained by Golder Associates, Inc. on behalf of the City of Edinburg to support the preparation of a Texas Commission on Environmental Quality (TCEQ) municipal solid waste landfill (MSWLF) permit amendment application to expand the City's existing landfill operation. A desktop review and two site evaluations were performed to determine if wetlands were located within the expansion project site. This report specifically addresses NEI's findings regarding assessments that were performed throughout the proposed expansion area relative to potential wetlands.

1.1 Project Location

The Edinburg Landfill Expansion project is located in Hidalgo County, Texas approximately 6 miles north of the City of Edinburg (see Exhibit 1A). The project's general coordinates are longitude 26.396915 and latitude -98.121069. The City of Edinburg recently purchased additional land (the project site) that may be used to expand its existing MSWLF (see Exhibit 1B). These new parcels of land, which are located immediately adjacent to the existing landfill facility, were evaluated for potential wetlands. The existing landfill facility was evaluated for potential wetlands during previous permitting activities.

1.2 Project Purpose

The purpose of this wetlands evaluation was to determine if wetlands are located within the Edinburg Landfill Expansion project site. TCEQ regulations restrict the development of MSWLF facilities in wetlands. 30 TAC §330.553 states:

(a) Municipal solid waste storage or processing facilities shall not be located in wetlands unless the owner or operator makes each of the demonstrations identified in subsection (b)(1) - (5) of this section.
(b) New municipal solid waste landfill units, lateral expansions, and material recovery operations from a landfill shall not be located in wetlands, unless the owner or operator makes each of the demonstrations identified in paragraphs (1) - (5) of this subsection to the executive director. The owner or operator shall submit the demonstrations with a permit application, a permit major amendment application, or a registration application, as appropriate. The demonstration shall become part of the operating record once approved.
(1) Where applicable under Clean Water Act, §404 or applicable state wetlands laws, the presumption that a practicable alternative to the proposed landfill or recovery operation is available that does not involve wetlands shall be clearly rebutted.
(2) The construction and operation of the municipal solid waste landfill unit or recovery operation shall not:
(A) cause or contribute to violations of any applicable state water quality standard;
(B) violate any applicable toxic effluent standard or prohibition under the Clean Water Act, §307;
(C) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

(D) violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

(3) The municipal solid waste landfill unit or recovery operation shall not cause or contribute to significant degradation of wetlands. The owner/operator shall demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors:

(A) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit;

(B) erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit;

(C) the volume and chemical nature of the waste managed in the landfill unit;

(D) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(E) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(F) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under Clean Water Act, §404 or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (1) of this subsection, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands).

(5) Sufficient information shall be made available to the executive director to make a reasonable determination with respect to these demonstrations.

There are several definitions of wetlands, but all refer to the three required conditions that must be present; sufficient hydrology, hydric soils, and a prevalence of hydrophytic plants. Federal regulations define wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3 (b) and 40 CFR 230.3(t)) (see also Texas Water Code, Chapter 11, Subchapter J).

2 Desktop Review for Potential Wetlands

The desktop review was performed using previously developed and publicly available information. A number of tools were used during the desktop review to evaluate the project site relative to potential wetlands and other hydrologic features including a review of the Web Soil Survey maps for Hidalgo County (see Exhibit 2), FEMA floodplain maps (see Exhibit 3), National Hydrography Dataset (NHD) maps (see Exhibit 4) and National Wetland Inventory maps (NWI) (see Exhibits 5A and 5B).

2.1 Surface Soils

According to the Bureau of Economic Geology's Geology of Texas maps, the primary geologic formations exposed at the project site surface are Cenozoic. The geologic formations at the project location include the Goliad formation from the Tertiary Period and the Lissie formation

from the Quaternary Period. The soil associations at the project site include the Hebbronville-Delmita-Delfina-Comitas and Willacy-Hargill-Delfina associations.

The Web Soil Survey (WSS), developed by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) provides soil data (such as hydric soils status) and other information produced by the National Cooperative Soil Survey (see Exhibit 2). According to the WSS, 95.3% of the project site is comprised of non-hydric soils, 2.5% of the project site is predominantly non-hydric soils, and 2.2% of the project site is comprised of hydric soils.

Soils occurring throughout the project site are almost exclusively comprised of fine sandy loams, loamy fine sands, and sandy loams. Rio clay loams do occur within the project site; however, are limited to isolated areas along northern sections of the site and are classified as predominantly hydric soils.

One small area within the project site (PW-4) is classified by the WSS as "W" which denotes "water". According to the WSS web site, "W" is not a hydric soil classification, but is a miscellaneous area (which consists of large streams, rivers, ponds, lakes, reservoirs, ocean, bays, lagoons, and human made water bodies) and is unsuited for most non-aquatic uses.

2.2 FEMA Floodplains

TCEQ regulations also govern the proximity of new MSWLF units relative to floodplains. These regulations prohibit new MSWLF units from being developed in the 100-year (regulatory) "floodway" as defined by the Federal Emergency Management Administration (FEMA), and restrict the development of new MSWLF units in the "floodplain" unless the facility is designed to avoid restricting the flow and to prevent washout during a 100-year storm event or the facility receives a conditional letter of map amendment from FEMA.

According to recent FEMA floodplain maps, the project site contains two areas that are located within the 1% Annual Chance Flood Zone (Zone A) (see Exhibit 3). Zone A is defined as special flood hazard areas that are subject to inundation by the 1% annual chance flood. The 1% annual chance flood (100-year flood), which is also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. One of the mapped floodplain areas is situated along the northeast property line. The second floodplain area is located along the site's northwest boundary. Both of the floodplain areas (depicted on Exhibit 3) are located in plowed and/or fallow agricultural fields.

2.3 National Hydrography Dataset

The NHD is a living resource developed by the U.S. Department of the Interior's U.S. Geological Survey (USGS) that contains lines portraying streams and other surface hydrologic features. These lines are broken up into shorter segments stretching from confluence to confluence. The segments are linked together to make it possible to trace the flow of water across the landscape.

NHD maps were consulted and it appears that the nearest NHD-mapped hydrologic feature is Santa Cruz Irrigation Canal located approximately 1,734 feet south-southeast of the project site. This canal conveys irrigation water from Lake Edinburg, located approximately 9,617 feet west-

southwest of the project site, for agriculture south of the City's MSWLF and C&D (construction and demolition) landfill.

2.4 National Wetlands Inventory

NWI maps, which are developed and maintained by the U.S. Fish and Wildlife Service, provide geospatially referenced information on the status, extent, characteristics, and functions of wetland, riparian, deep water, and related aquatic habitats in priority areas. It should be noted that NWI maps are not intended to determine whether wetlands are jurisdictional under the USACE; only that a wetland may occur in a particular area.

According to the most recent NWI maps (see Exhibit 5A), NWI-mapped wetlands do not occur within the project boundary. These recent wetland maps show the nearest NWI-mapped wetland located approximately 0.40 miles northeast of the project site. This small off-site wetland (PEM1Jx) is classified as being a freshwater emergent (vegetated) wetland characterized as having a persistent plant community. This particular wetland is also classified as excavated and intermittently flooded. Additional NWI-mapped wetlands (PUSAx) are located approximately 0.56 miles west-northwest and 0.68 miles south of the project site. These small freshwater ponds are classified as excavated and temporarily flooded wetlands with unconsolidated shorelines.

An older, 1989 NWI map was also consulted. According to the 1989 NWI map, there are two small NWI-mapped wetlands in the project vicinity (see Exhibit 5B); however, these two wetlands are not depicted on the recent NWI map (see Exhibit 5A). One of these mapped wetlands is located within the adjacent landfill site and the other is located within the proposed expansion area (project site). The 1989 NWI-mapped wetland located within the project site is discussed in Section 3.2 and is herein referred to as PW-4. Both wetlands were classified as PUSAx, or palustrine, unconsolidated shore, temporarily flooded, and excavated. The NWI-mapped wetland located within the adjacent landfill no longer exists due to ongoing landfill operations. Previous USACE wetland determinations for the adjacent landfill (1995 and 2001) concurred with findings that the landfill site did not contain areas that were subject to USACE jurisdiction (see Section 4.2).

2.5 Hydrology Study

The USGS National Elevation Dataset (approximately 3-meter resolution) was used to determine existing drainage basins and surface water flow patterns within the project areas that contain potential wetland features. The study results indicated that the source of hydrology at PW-4 is stormwater sheet flow drainage from approximately 34 acres of the surrounding cultivated field.

Historic aerial photography (Google Earth) was also reviewed for the past 20 years which revealed that PW-4 has been present at least since 1995 but has been in cultivation periodically since that time.

3 Site Evaluation for Potential Wetlands

Using the desktop review tools previously described, four potential wetland (PW) areas; PW-1, PW-2, PW-3, and PW-4 were identified as target areas for site evaluations (see Exhibit 6). Site

evaluations were conducted on November 17 and 18, 2014 and February 6, 2015 in accordance with 30 TAC 330.61 regulations which require that wetlands located within the project boundary be identified. The entire project site was evaluated using vehicular and pedestrian surveys. The four potential wetland areas were surveyed in the field; however, PW-1, PW-2, and PW-3 failed to meet the three criteria (hydrology, vegetation, and hydric soils) as described in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual. PW-4 did appear to meet the three wetland criteria, therefore a wetland delineation was subsequently performed.

3.1 Potential Wetland Areas PW-1 through PW-3

PW-1 through PW-3 (see Exhibit 6) were evaluated relative to their potential as wetlands which may be subject to USACE jurisdiction. Although Area PW-1 is located within the floodplain, it did not meet the three criteria necessary to qualify as a wetland. PW-1 is comprised of a small bermed area surrounded by plowed dirt fields and fallow sorghum fields (see Appendix 1 – Photo 1). This small depression, which is located near the northwest boundary of the project site, is dominated by bermudagrass, Kleberg bluestem, and annual sunflower.

PW-2 (see Appendix 1 – Photo 2), which is located on the project site's northern boundary, is located in a plowed dirt field. This area, which was essentially devoid of vegetation, did not meet the three criteria necessary to qualify as a wetland.

PW-3 (see Appendix 1 – Photo 3) is located in a plowed dirt field. Although Area PW-3 is located within the floodplain, it was devoid of vegetation and did not meet the three criteria necessary to qualify as a wetland.

3.2 Potential Wetland Area PW-4

PW-4 is not located within the FEMA-mapped floodplain. It is located in an agricultural field that has been cultivated for at least 20 years (see Appendix 1 – Photo 4). An initial field visit was conducted November 17, 2014, and conditions reflected that the area had been previously plowed or disked. During this initial site evaluation, PW-4 was dominated by wetland plants (*Cyperus* spp. and *Sagittaria latifolia*), contained surface soils which appeared to be hydric, and were saturated (see Appendix 2). Based upon this initial site evaluation, PW-4 was preliminarily determined to be a wetland and scheduled for a formal delineation.

3.2.1 Wetland Delineation for PW-4

A wetland delineation was subsequently performed on PW-4 February 6, 2015 amid what could be considered "normal" climatic/hydrologic conditions at the site. The site received approximately 0.4 inches of rainfall the week prior to the site visit. The site had been plowed or disked since the November 2014 evaluation and the plant community had changed dramatically despite normal climatic conditions. The recent plowing affected both the vegetation and soils, which qualifies the area as being "disturbed" with atypical conditions. A summary of the wetland determination and delineation field results in included below.

3.2.1.1 Methodology

The wetland delineation was completed using the 1987 USACE Wetland Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains

Region (Version 2.0). Plant specimens were identified then referenced in the Region 6 Wetland Plant Indicator List. The wetland boundary was determined using surface features consistent with the wetland test pit observations. A Trimble 5700 GPS Receiver was used to survey in the wetland data points. All data points were plotted on State Plane Coordinate System, South Zone NAD 1983, tracking 7 satellites and measured to within less than +/-0.10 meters. The internal Trimble settings ensure that 98% of the GPS/RTK shots collected are within the sub-meter criteria. This methodology is in accordance with the USACE GPS Standard Operating Procedures dated 22 October 2003.

3.2.1.2 Delineation Results

The PW-4 wetland delineation included examination of nine (9) test pits. Four of the nine test pit locations met the three wetland criteria and the boundary of the wetland was subsequently determined. Wetland Determination Data Forms were completed for each of nine test pits and are included in Appendix 3. A diagram showing the location of test pits and the boundary of PW-4 is shown in Exhibit 7. Using the USACE methodology described above, PW-4 was estimated to be 0.358 acres in size.

Vegetation

Vegetation noted during the November 2014 preliminary site visit (see photos, Appendix 2) was different than the wetland delineation site visit which was performed in February 2015 (see photos, Appendix 3). The area had been disked or plowed in the three months between site visits, and all soils and vegetation (except for the single huisache tree) had been disturbed. Due to the recent ground disturbance, the plant community consisted primarily of pioneer wetland species (small forbs) and did not constitute a majority of the ground cover because most of the area was unvegetated. During the November 2014 preliminary site visit, dominant plant species included *Cyperus* spp. and *Sagittaria latifolia.* Dominant plant species during the February 2015 delineation included golden-fruited dock (*Rumex chrysocarpus*), southern marsh yellowcress (*Rorippa teres*), and false daisy (*Eclipta prostrata*). Dominant hydrophytic vegetation was present at wetland test pits (see Appendix 3). Table 1 shows a comparison of the vegetation present and percent ground cover composition during the November 2014 and February 2015 site visits to PW-4.

Table 1. Vegetation and percent ground cover composition documented during the November 2014 and February 2015 site visits to PW-4.

			November 2014		February 2015	
Common Name	Scientific Name	Wetland Indicator Codes*	% Cover (wetland)	% Cover (upland)	% Cover (avg-wetland)	% Cover (avg-upland)
Water			5	NA	0	0
Bare Ground			20	NA	53	82
Guineagrass	*Urochloa maxima*	FAC	10	NA	0	5
Large Barnyard Grass	*Echinochloa crus-galli*	FAC	5	NA	8	0
Huisache	*Acacia farnesiana*	FACU	10	NA	0	0
Unknown Flatsedge	*Cyperus* spp.	FAC, FACW, or OBL	30	NA	0	0
Broad Leaf Arrowhead	*Sagittaria latifolia*	OBL	20	NA	0	0
Red Center Morning Glory	*Ipomea amnicola*	FACW	<1	NA	0	0
Pink Smartweed	*Persicaria pensylvanica*	FACW	<1	NA	0	0
Southern Marsh Yellowcress	*Rorippa teres*	OBL	0	NA	11	0
False Daisy	*Eclipta prostrata*	FACW	0	NA	4	0
Golden-fruited Dock	*Rumex chrysocarpus*	FACW	0	NA	21	6
Bermudagrass	*Cynodon dactylon*	FACU	0	NA	4	0
American Black Nightshade	*Solanum americanum*	FACU	0	NA	0	5

* Source: the USACE Great Plains 2014 Regional Wetland Plant List. Explanations for indicator codes are as follows:

Indicator Code	Indicator Status	Designation	Comment
OBL	Obligate Wetland	Hydrophyte	Almost always occur in wetlands
FACW	Facultative Wetland	Hydrophyte	Usually occur in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte	Occur in wetlands and non-wetlands
FACU	Facultative Upland	Nonhydrophyte	Usually occur in non-wetlands, but may occur in wetlands
UPL	Obligate Upland	Nonhydrophyte	Almost never occur in wetlands

Soil

Soils were heavily disturbed down to a depth of at least 12 inches from cultivation practices. Of the areas evaluated, Test Pit #6 (TP6) appeared to be the least disturbed. This test pit site, which appears to have been avoided due to the presence of a large huisache tree, still did not exhibit expected stratified layers. Soils exhibited low chroma and low values in regards to the Munsell Soil Charts, indicating large amounts of organic matter. This condition may be caused by fertilizers and other long-term cultivation practices. Despite evidence of heavy disturbance, soils were catalogued using the prescribed USACE Delineation Manual procedures and were noted as being "significantly disturbed."

Table 2 below summarizes soil features and hydric soil indicators from the February 2015 delineation. According to the USDA, the soil surrounding PW-4 is within the Willacy Series. Information regarding Willacy series characteristics prior to disturbance from cultivation is not available; however, the USDA describes typical soil characteristics for Willacy series soils and this information is also included below. Soil matrices assigned during the delineation are similar to the USDA typical Willacy series matrices. This similarity may indicate that disturbance from

cultivation has prevented the soil from becoming anaerobic in some areas. However, some of the soils in the wettest section of the referenced area did exhibit a depleted and/or stripped matrix, which, regardless of disturbance, indicates anaerobic conditions, a necessary condition of hydric soils (see Appendix 3).

Table 2. Summary of soil features and hydric soil indicators documented during the February 2015 delineation of PW-4.

		Matrix		Redox Features					
Sample ID (location)	Depth	Color	%	Color	%	Type[1]	Loc[2]	Hydric Soil Indicator	Texture
TP-1 (out)	0-12"	10YR 4/2	98	10YR 6/5	2	C	M	Depleted Matrix	Loamy sands
TP-2 (in)	0-10"	10YR 3/2	100					Stripped Matrix	Loamy sand
	11-12"	10YR 4/2	100						Sand
TP-3 (in)	0-6"	10YR 3/2	95	10YR 5/6	5	C	M	Depleted Matrix/ Redox Dark Surface	Loamy sand
	7-12"	10YR 4/2	100						Sands w/some loam
TP-4 (out)	0-10"	10YR 5/3	100						Sands
	11-12"	10YR 3/2	100						Loamy Sands
TP-5 (in)	0-12"	10YR 3/1	100					Depleted Matrix	Loamy sands
TP-6 (out)	0-12"	10YR 4/3	95	10YR 5/8	5	C	M		Loamy sands
TP-7 (in)	0-12"	10YR 2/2	98	10YR 5/6	2	C	M	Depleted Matrix	Clayey sand
TP-8 (out)	0-12"	10YR 3/2	100					Stripped Matrix	Loamy sands
TP-9 (out)	0-12"	10YR 3/2	100					Stripped Matrix	Loamy sands

[1]Type: C=Concentration. [2]Location: M=Matrix.

USDA Typical Willacy Series Information:

The Willacy series consists of deep, well drained, moderately permeable soils that formed in alkaline loamy sediments. The soils are on nearly level to moderately sloping uplands. Slopes range from 0 to 5 percent.

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, hyperthermic Udic Argiustolls

TYPICAL PEDON: Willacy fine sandy loam--cultivated. (Colors are for dry soil unless otherwise stated.)

Ap - 0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard; friable; mildly alkaline; abrupt smooth boundary. (5 to 9 inches thick)

A1 - 7 to 14 inches; dark grayish brown (10YR 4/2) fine sandy loam, very dark brown (10YR 2/2) moist; weak fine granular and subangular blocky structure; slightly hard, friable; many fine and very fine pores and root channels; mildly alkaline; clear smooth boundary. (6 to 11 inches thick)

Hydrology

Hydrology indicators including surface water, saturation, algal mat or crust, and geomorphic position were all found at PW-4 (see Forms, Appendix 3). Standing water was observed during both the November and February site visits. Based on historic aerial imagery, the feature appears to have been present for at least 20 years, during which time it has been irregularly inundated and/or saturated.

Hydrology of this isolated wetland has been disturbed by continual disking and plowing of the field which has prevented drainage channels from forming. No drainage patterns into or out of the wetland were visible on the ground and the wetland does not appear to be connected to any adjacent wetlands or drainages. In addition to the field delineation observations, a drainage study determined that the source of hydrology is stormwater sheet flow drainage, from approximately 34 acres of the surrounding cultivated field, into the referenced wetland.

Of the three wetland indicator criteria, hydrology is the most variable; however, the presence of wetland vegetation and soils is strongly linked to the presence of hydrology. Evidence of a continuing wetland hydrology regime at PW-4 was found from two site visits, a review of aerial photography, USDA mapping, and a study of the hydrological drainage patterns (see Sections 2.1, 2.4, and 2.5).

4 Conclusions

4.1 Summary

The proposed landfill expansion area was evaluated for potential wetlands. Based on information obtained during the desktop review, four (4) areas were identified as being potential wetland sites. These potential wetland areas (PW-1, PW-2, PW-3, and PW-4) were surveyed in the field. PW-1, PW-2, and PW-3 failed to meet the three wetland criteria (hydrology, vegetation, and hydric soils) and therefore do not qualify as wetlands.

PW-4 was preliminarily determined to have wetland characteristics during the November 2014 field visit and a wetland delineation was subsequently performed on February 6, 2015 which confirmed that the area did meet the three wetlands criteria. In addition to the field confirmation, this feature was previously mapped by the NWI (in 1989) and is currently mapped by the USDA Web Soil Survey as "W" (indicating water). Based upon the information presented, PW-4 should be considered a wetland but does not appear to qualify as "waters of the United States", as defined in 40 CFR 328.3 (a) and 40 CFR 230.3 (s) due to its isolation and lack of connection to any other wetlands or drainages.

4.2 Review of the Clean Water Act Final Rule and Previous USACE Determinations

Wetlands that fall under the jurisdiction of the USACE are referred to as "waters of the United States". Although a feature may meet the definition of a wetland, it may or may not fall under the jurisdiction of the USACE. This is often true for isolated wetlands that are not connected or adjacent to other "waters of the United States" and are not within the 100-year floodplain. Other examples include irrigated farmlands, lined wastewater impoundments, and excavated stock tanks.

Although PW-4 does meet the three wetland criteria, appears to be persistent, and has been mapped in the past as a wetland, it has been manipulated over time by agricultural practices, may have been created by excavation, is not located within the floodplain, and is not adjacent to wetlands, drainages, or other hydrologic features. There are no indications of water marks, drift lines, gullies, erosional features, thin layers of sediment, or any other indicator that would infer

that this feature is connected to another hydrologic feature. These circumstances would indicate that the wetland is non-jurisdictional.

Clarifying amendments to the federal regulations were signed in May 2015 which further define the scope of "waters of the United States" protected under the Clean Water Act. This rule seeks to clarify such terms as tributaries and adjacent waters, and it promotes the use of a "significant nexus" analysis to determine if other waters significantly affect the chemical, physical, or biological integrity of a downstream navigable or interstate water. By way of example, the rule indicates that a case-specific significant nexus analysis is appropriate when such other waters are located within the 100-year floodplain of a navigable or interstate water, or when located within 4,000 feet of a navigable or interstate water, a tributary of such water, or an impoundment of jurisdictional water. PW-4 lies within the Nueces-Rio Grande Coastal Basin (TCEQ Surface Water Quality Segment 2202 - Arroyo Colorado above tidal), West Main Drain - Laguna Madre Watershed (USGS HUC watershed code 12110208400). It is located north of the Rio Grande and the IBWC Main Floodway that can convey water from the Rio Grande over to the Arroyo Colorado. PW-4 is a small (approximately 1/3 acre) wetland feature that does not meet the definition (33 CFR 328.3) of a water of the United States, nor is it adjacent to any of these waters. PW-4 appears to be located more than 4,000 feet from any navigable or interstate water, any tributary of such water, and any impoundment of jurisdictional waters.[i] Although a significant nexus analysis does not appear necessary based on the proximity criteria in the rule, PW-4 is a small and isolated wetland feature that does not contribute significantly to the chemical, physical, or biological integrity of the Rio Grande, Arroyo Colorado, their tributaries, or adjacent waters. PW-4 therefore would not constitute waters of the United States.

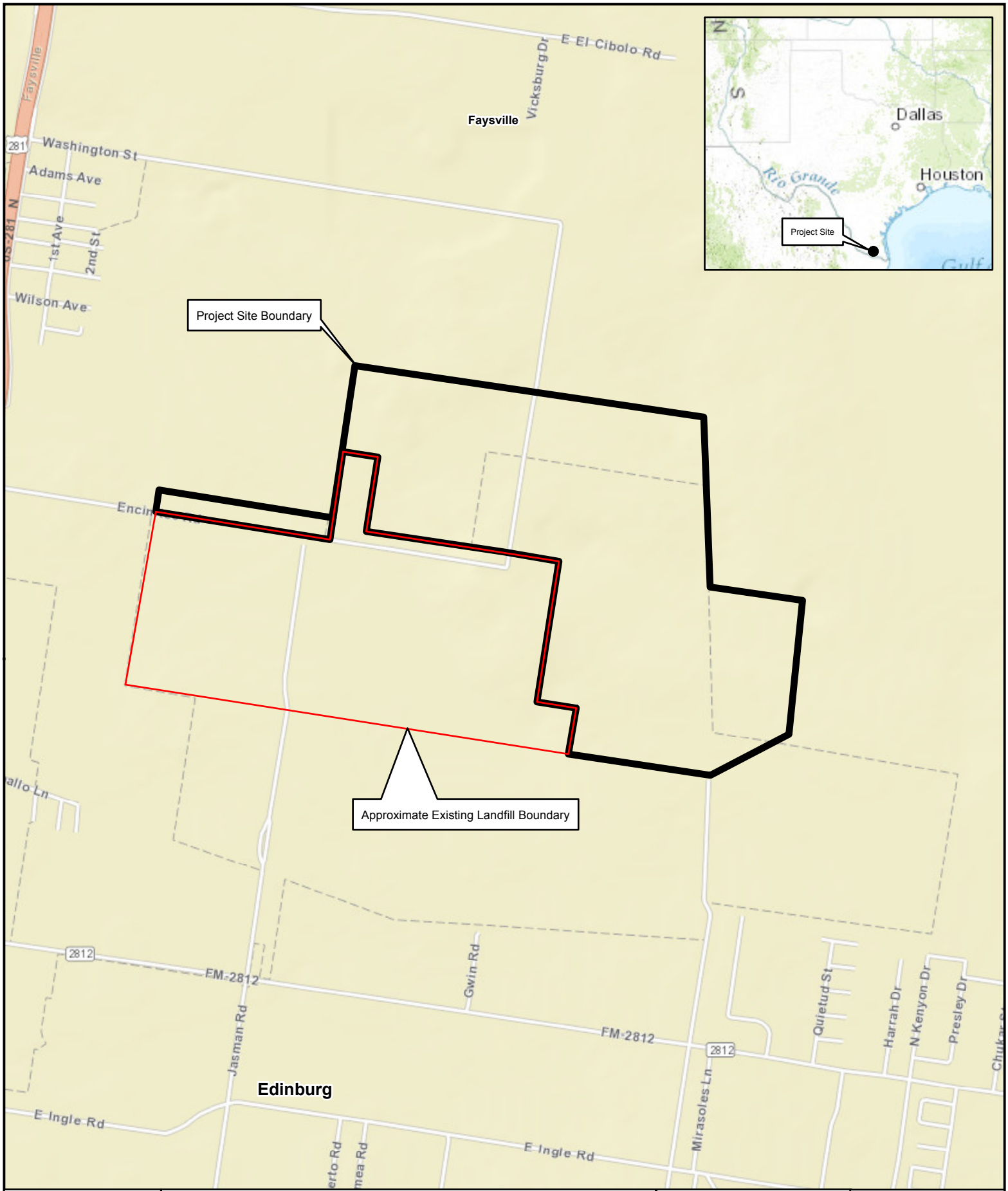
Previous USACE determinations conducted at the adjacent landfill site also support this report's finding that PW-4 is non-jurisdictional. When the landfill was expanded in 1995, the USACE (by Determination D-6413 dated February 27, 1995; see Appendix 4) concurred with findings that the landfill site did not contain areas that were subject to USACE jurisdiction. The adjacent landfill was further expanded to the east in 2001 and the USACE was again consulted regarding potential wetland areas. The determination regarding the expansion confirmed that the proposed expansion area (which contained a similar wetland feature depicted on Exhibit 5B) was not subject to USACE jurisdiction (Determination D-11442 dated May 7, 2001; see Appendix 4).

Therefore, based on previous coordination and USACE determinations, the desktop review information, the field surveys, and recent wetland delineation findings, it is apparent that PW-4 is not a jurisdictional "water of the United States".

[i] PW-4 is an isolated wetland feature located approximately 4,800 linear feet down gradient from a concrete-lined irrigation canal located southeast of the landfill; more than 1 linear mile from an unlined irrigation canal located to the south; more than 2 linear miles from Lake Edinburg located to the southwest; more than 8 linear miles from the Hidalgo-Willacy Counties Water District irrigation impoundments located to the northeast; more than 16 linear miles from the IBWC Main Floodway (Rio Grande to Arroyo Colorado diversion) located to the south; and more than 22 linear miles from the Rio Grande located further to the south.

EXHIBITS 1A AND 1B

LOCATION MAP AND AERIAL PHOTOGRAPH



Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 1A
GENERAL VICNITY MAP
CITY OF EDINBURG
LANDFILL EXPANSION PROJECT
HIDALGO COUNTY, TEXAS

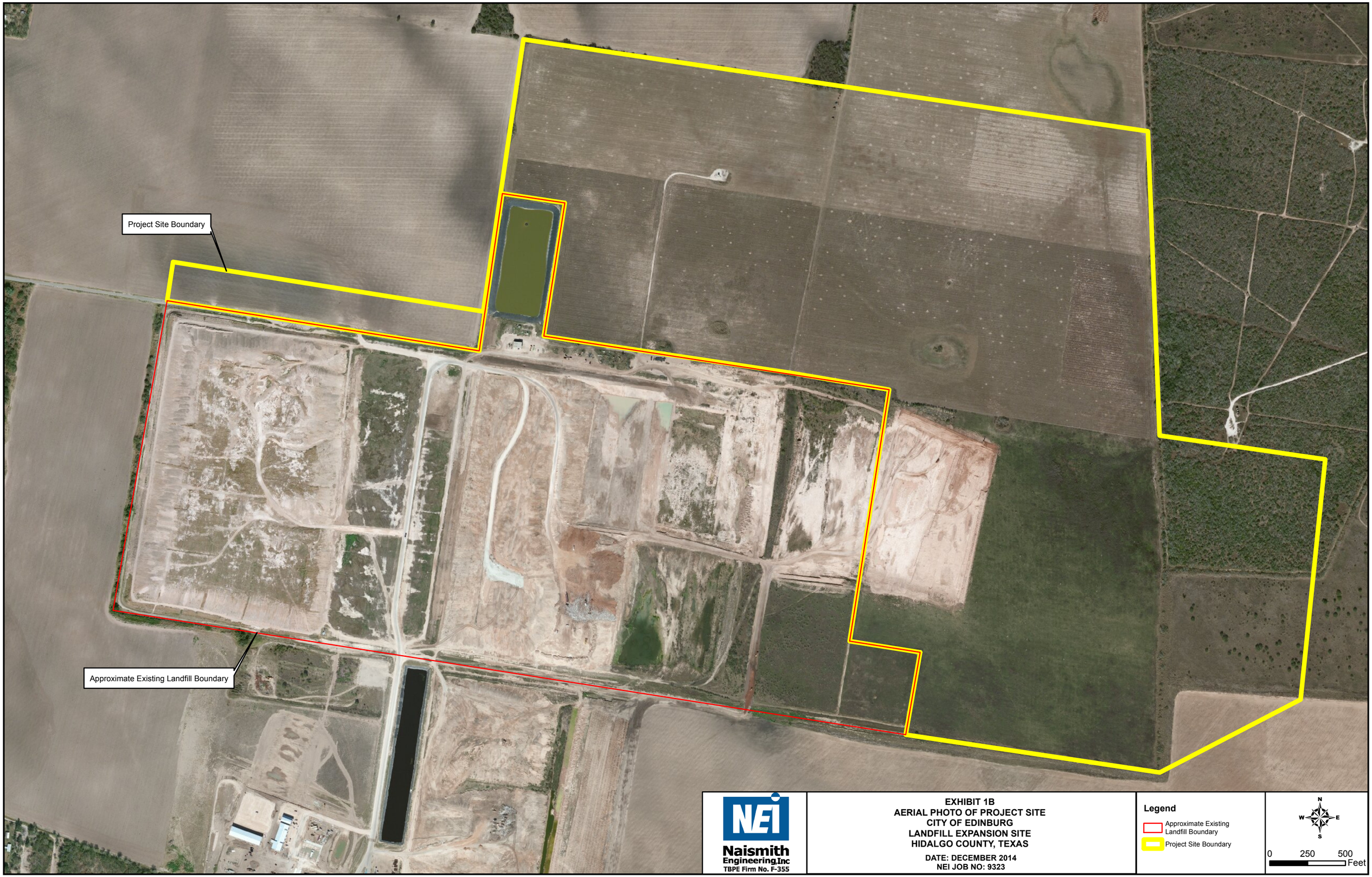
DATE: DECEMBER 2014
NEI JOB NO: 9323

Legend

- Approximate Existing Landfill Boundary
- Project Site Boundary

N W E S

0 0.125 0.25 Miles



Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 1B
AERIAL PHOTO OF PROJECT SITE
CITY OF EDINBURG
LANDFILL EXPANSION SITE
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

Legend
- Approximate Existing Landfill Boundary
- Project Site Boundary

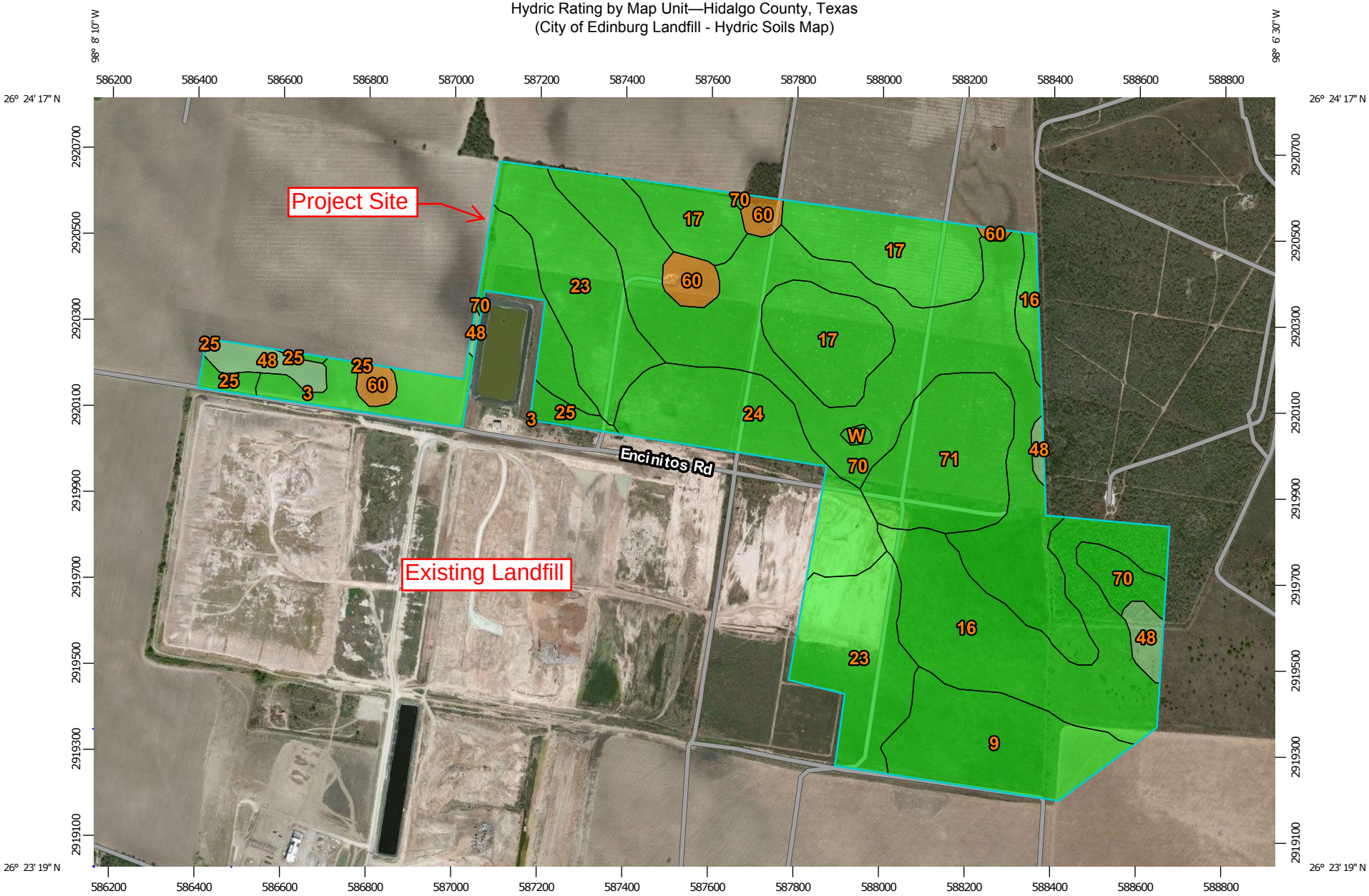
N W E S

0 250 500 Feet

EXHIBIT 2

WEB SOIL SURVEY MAP

Hydric Rating by Map Unit—Hidalgo County, Texas
(City of Edinburg Landfill - Hydric Soils Map)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hidalgo County, Texas
Survey Area Data: Version 11, Sep 30, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 10, 2010—Jan 25, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Hidalgo County, Texas (TX215)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
3	Brennan fine sandy loam, 0 to 1 percent slopes	0	9.3	2.8%
9	Delfina loamy fine sand, 0 to 3 percent slopes	0	25.2	7.5%
16	Hargill fine sandy loam, 0 to 1 percent slopes	0	46.8	14.0%
17	Hargill fine sandy loam, 1 to 3 percent slopes	0	41.6	12.4%
23	Hebbronville sandy loam, 1 to 3 percent slopes	0	46.7	14.0%
24	Hebbronville sandy loam, 3 to 5 percent slopes	0	25.9	7.8%
25	Hidalgo fine sandy loam, 0 to 1 percent slopes	0	4.8	1.4%
48	Racombes sandy clay loam	5	8.5	2.5%
60	Rio clay loam	95	7.5	2.2%
70	Willacy fine sandy loam, 0 to 1 percent slopes	0	92.8	27.7%
71	Willacy fine sandy loam, 1 to 3 percent slopes	0	24.7	7.4%
W	Water	0	0.6	0.2%
Totals for Area of Interest			**334.5**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

Component Percent Cutoff: None Specified

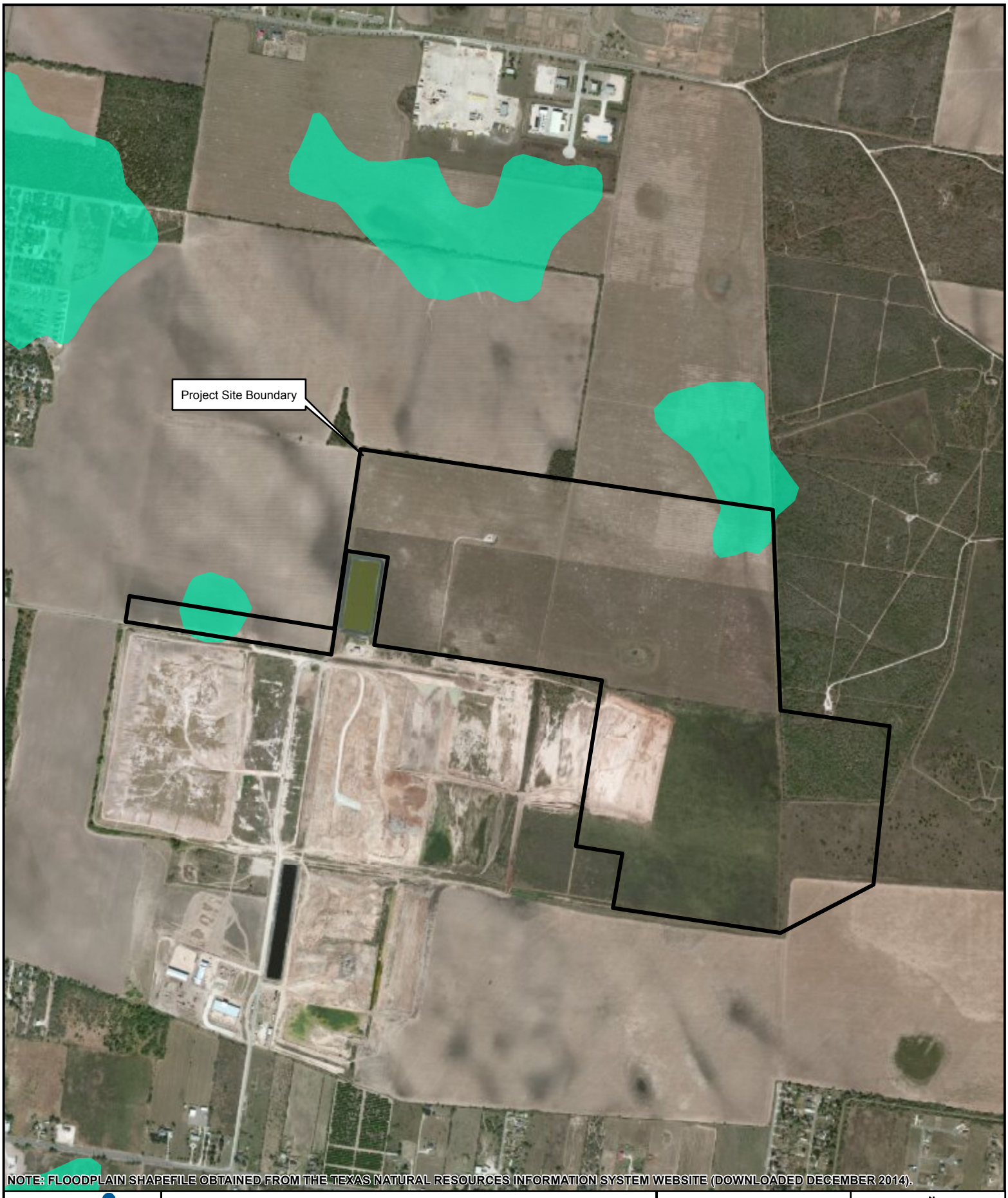
Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

EXHIBIT 3

FEMA FLOODPLAIN MAP



NOTE: FLOODPLAIN SHAPEFILE OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM WEBSITE (DOWNLOADED DECEMBER 2014).

Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 3
FEMA FLOODPLAIN MAP
CITY OF EDINBURG
LANDFILL EXPANSION SITE
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

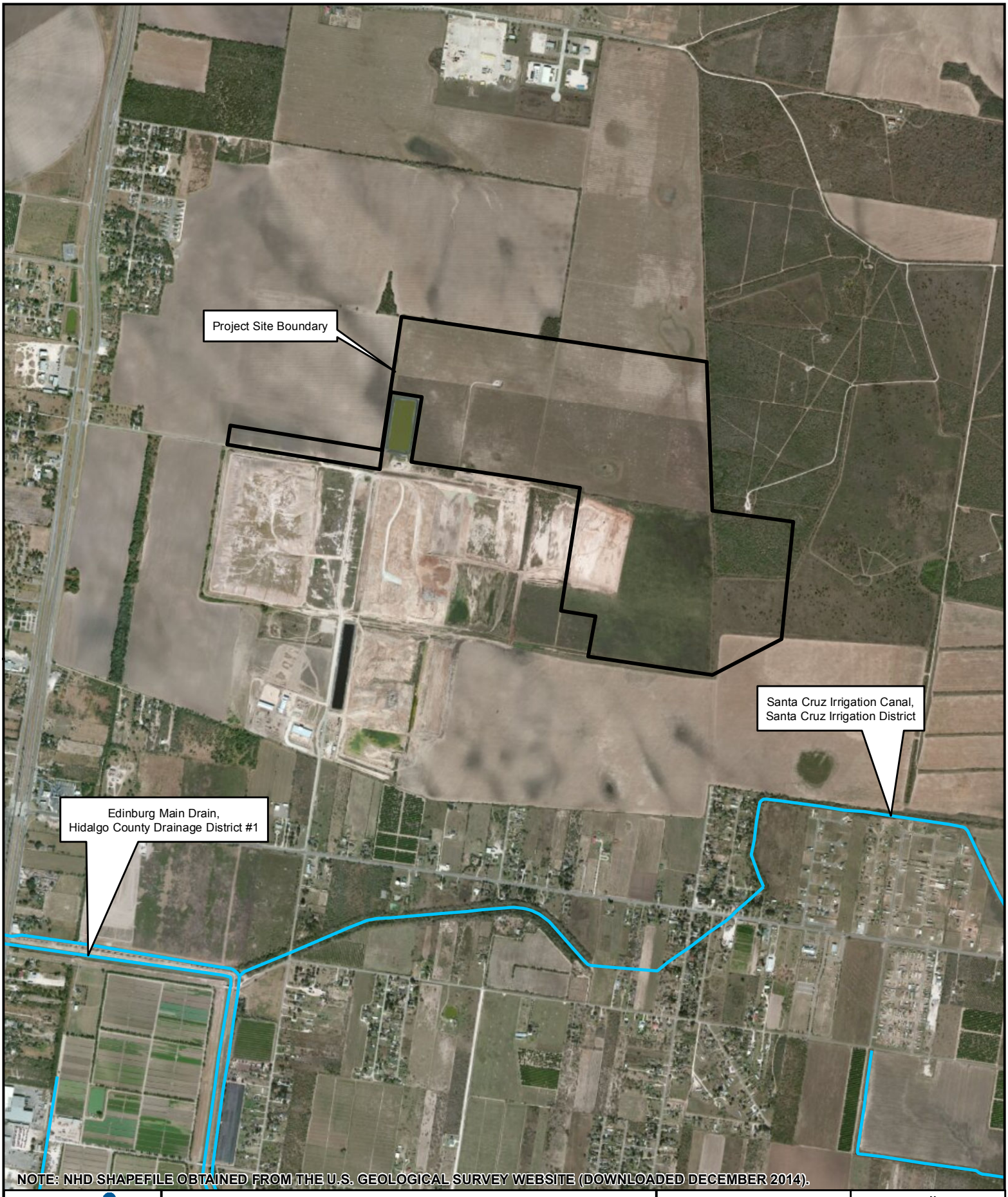
Legend
- Project Site Boundary
- 1% Annual Chance Flood Zone

N
W E
S

0 500 1,000 Feet

EXHIBIT 4

NATIONAL HYDROGRAPHY DATASET (NHD) MAP



NOTE: NHD SHAPEFILE OBTAINED FROM THE U.S. GEOLOGICAL SURVEY WEBSITE (DOWNLOADED DECEMBER 2014).

Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 4
NATIONAL HYDROGRAPHY DATASET MAP
CITY OF EDINBURG
LANDFILL EXPANSION PROJECT
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

Legend
- National Hydrography Dataset
- Project Site Boundary

N
W E
S

0 500 1,000
Feet

EXHIBITS 5A AND 5B

NATIONAL WETLANDS INVENTORY (NWI) MAPS

(2014 AND 1989)

NOTE: NWI SHAPEFILE OBTAINED FROM THE U.S. FISH AND WILDLIFE SERVICE WEBSITE (DOWNLOADED DECEMBER 2014).

Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 5A
NATIONAL WETLANDS INVENTORY MAP
CITY OF EDINBURG
LANDFILL EXPANSION PROJECT
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

Legend
- Freshwater Emergent Wetland
- Freshwater Pond
- Project Site Boundary

N
W E
S

0 500 1,000
Feet

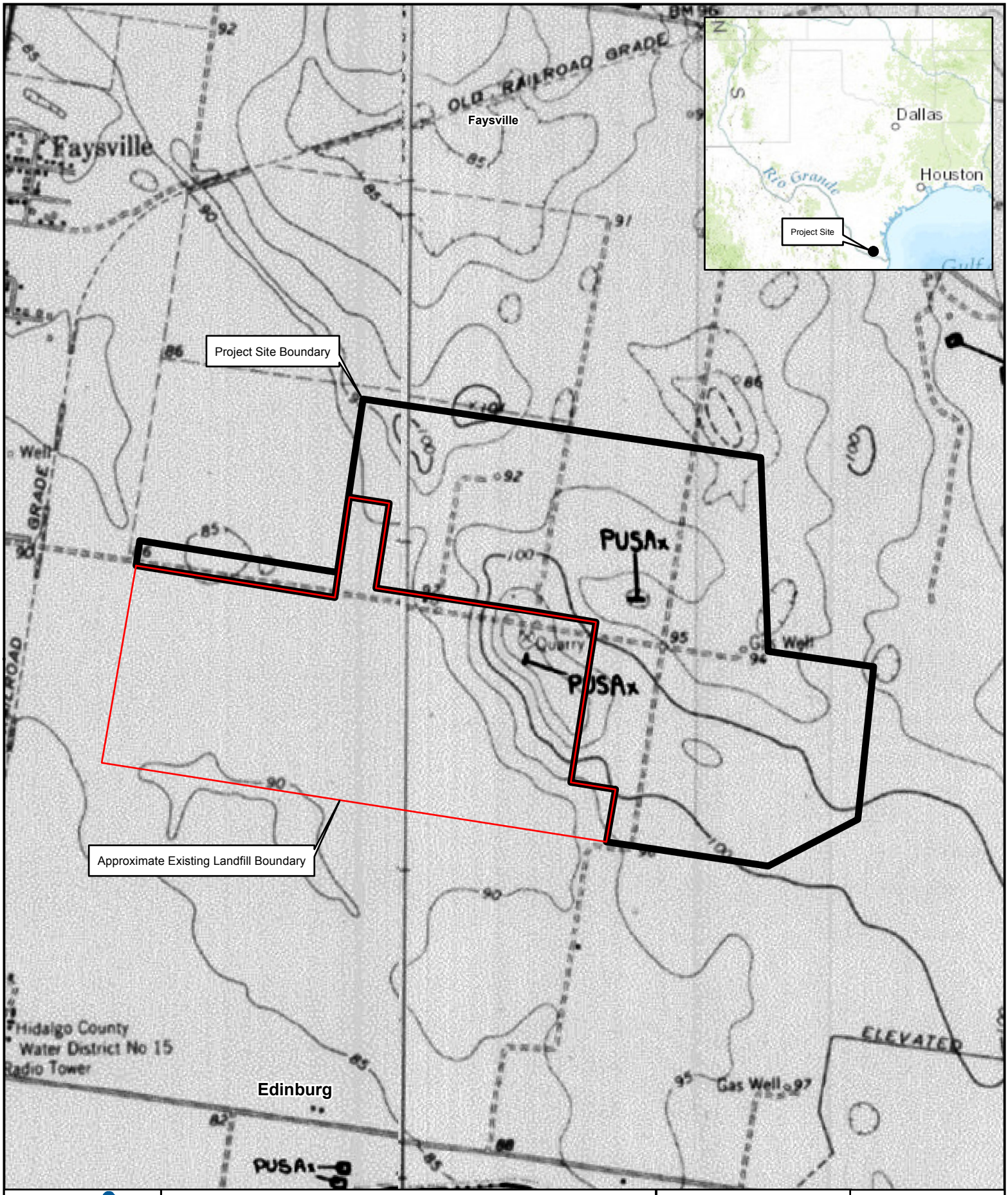


EXHIBIT 5B
1989 HISTORIC NWI MAP
CITY OF EDINBURG
LANDFILL EXPANSION PROJECT
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

Naismith Engineering, Inc
TBPE Firm No. F-355

Legend

- Approximate Existing Landfill Boundary
- Project Site Boundary

N W E S

0 0.1 0.2 Miles

EXHIBIT 6

POTENTIAL WETLAND AREAS SITE MAP

Project Site Boundary

PW-1 Area

PW-2 Area

PW-3 Area

PW-4 Area

Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 6
POTENTIAL WETLAND AREAS (AREAS PW-1 THROUGH PW-4)
CITY OF EDINBURG
LANDIFLL EXPANSION PROJECT
HIDALGO COUNTY, TEXAS

DATE: DECEMBER 2014
NEI JOB NO: 9323

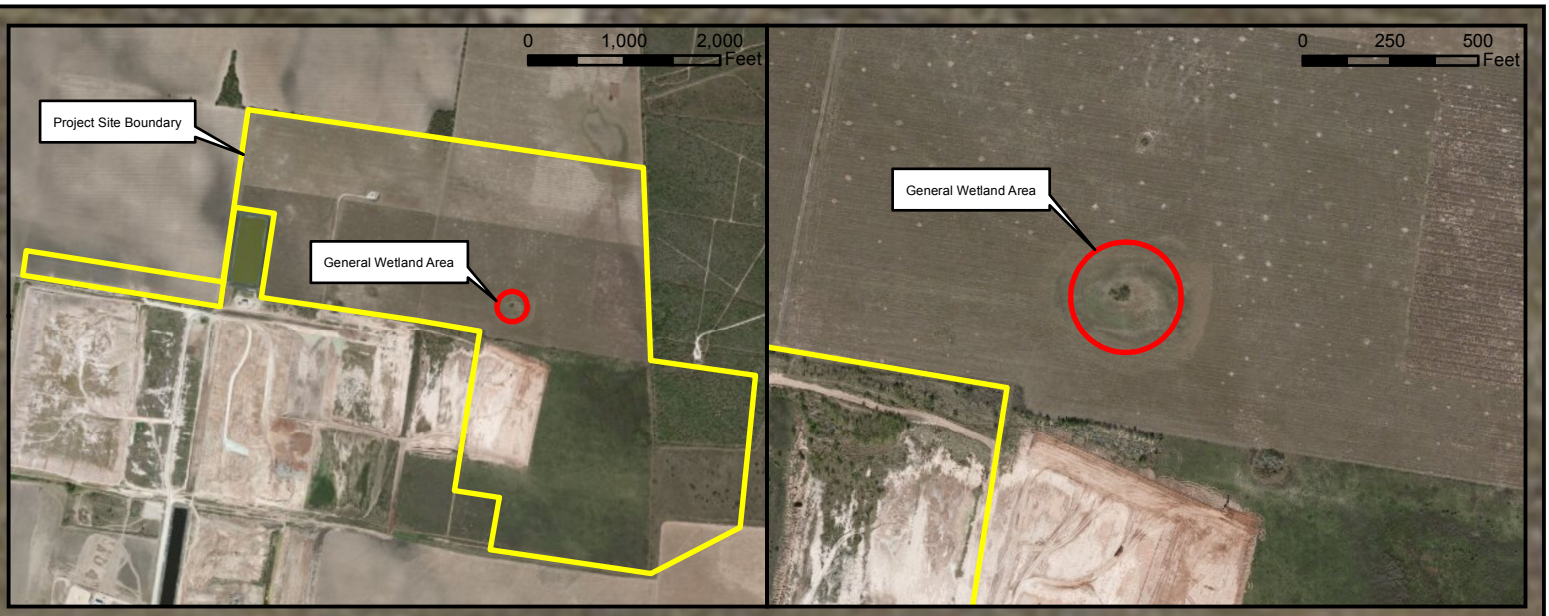
Legend
- Potential Wetland Areas
- Project Site Boundary

N W E S

0 125 250 Feet

EXHIBIT 7

WETLAND DELINEATION MAP FOR AREA PW-4



Naismith Engineering, Inc
TBPE Firm No. F-355

EXHIBIT 7
WETLAND DELINEATION MAP
CITY OF EDINBURG
LANDFILL EXPANSION SITE
HIDALGO COUNTY, TEXAS

DATE: FEBRUARY 2015
NEI JOB NO: 9323

Legend
- Test Pit Points
- Boundary Points
- Wetland Boundary
- Project Site Boundary

N W E S

0 12.5 25 Feet

APPENDIX 1

PHOTO LOG

Photo 1 – Area PW-1 facing north. This excavated pond contained standing water during the site visit (it had rained just prior to the site inspection) but no wetland vegetation was observed.

Photo 2 – This photo depicts Area PW-2 (the dirt plowed field) while facing west and looking down the project's northern boundary. The woodlands to the right are located immediately adjacent to Area PW-2 but are just north of the project's boundary line.

Photo 3 – Area PW-3 facing east and looking down the northern project boundary line.

Photo 4 – Area PW-4 facing northeast. This area did qualify as a wetland.

APPENDIX 2

WETLAND EVALUATION FORM FOR PW-4

Project Name: **City of Edinburg Landfill Expansion**

Reviewer(s): **Naismith Engineering, Inc.** (Company) **Jay Gardner and Emily McCauley** (Name(s)) Review Date: **Nov 17, 2014**

Wetland Area (PW-4)

Pre-Construction ☒ Post-Construction ☐

Physical Character of the Habitat

Description of the physical character of the habitat:

A field investigation was completed for Area PW-4 on November 17th 2014. Rainfall had been approximately normal for the region during the previous growing season; however, it did rain just prior to the site inspection. The wetland feature is located in a cultivated agricultural field in a slight depression. No drainage features connect the wetland with any adjacent hydrologic features (i.e. creeks, arroyos, or other wetlands).

The feature did include some obligate wetland plants (including *Sagittaria latifolia* and *Persicaria pensylvanica*) that were mixed with other upland vegetation. A large huisache tree and red center morning glory vine were located on the east side of the feature. Soils appeared to be hydric in nature and were damp with a small amount of surface water (less than 1") located in machinery ruts. Although there was a mix of upland plants (guineagrass and huisache), the feature should be assumed to be a wetland.

Water Coverage	☒ Yes	☐ No	5%
Water Depth	☒ Yes	☐ No	<1 in.

Vegetation

Dominant Plant Species	Percent Cover		Dominant Plant Species	Percent Cover
1. *Cyperus* spp. (flatsedge)	30		2. Bare ground/plant litter	20
3. *Sagittaria latifolia (*broad leaf arrowhead*)*	20		4. *Urochloa maxima* (guineagrass)	10
5. *Acacia farnesiana* (huisache)	10		6. *Echinochloa crus-galli* (barnyard grass)	5
7. *Persicaria pensylvanica (*pink smartweed*)*	<1		8. *Ipomea amnicola* (red center morning glory)	<1
9.			10.	

Soils

Soils surrounding the wetland feature have been disturbed through tilling and other agricultural practices. Surface soils appeared to be low chroma and low value in nature (based upon comparison with Munsell Soil Color Chart) which would indicate being hydric in nature.

Hydrology

The field surrounding the wetland feature has been disturbed through tilling and other agricultural practices. No drainage features, erosional channels, or connections exhibiting an ordinary high water mark (OHWM) to or from adjacent areas were apparent. The feature appears to be a low spot that is isolated from any adjacent areas.

Photo Log

Photo 1 – This photo was taken while facing northeast and looking across the wetland feature. This potential wetland (Area PW-4) is a very shallow depression that is located within a cultivated field.

Photo 2 – This photo, which was taken facing north, illustrates the mixture of wetland and upland vegetation occurring in Area PW-4. The dominant wetland plants include flatsedge and broad leaf arrowhead. This area also contained barnyard grass and guineagrass.

Photo 3 – This photo was taken within Area PW-4 while facing west. Upland vegetation, such as huisache and red center morning glory can be seen to the right. This photo also depicts areas of shallow standing water that occurred primarily within tractor ruts.

APPENDIX 3

FEBRUARY 6, 2015 SITE VISIT PHOTO LOG AND WETLAND DETERMINATION DATA FORMS FOR PW-4

Photo 1 – Area PW-4 facing northwest.

Photo 2 – Area PW-4 facing northeast.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 1

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580119.017 Long: 1928939.638 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Although hydric soil was present, sample point TP1 was determined to be located within uplands due to the lack of dominant hydrophytic vegetation and wetland hydrology.

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: 10m2)			
1. No vegetation present			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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 Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks:

Plowed field, no vegetation present.

SOIL

Sampling Point: TP 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
0-12	10YR 4/2	98	10YR 6/5	2	C	M	loamy sands	

[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** X **No** _____

Remarks:

Depleted matrix, no vertical stratification present. Plowed field. Hydric soil was present at sample point TP1.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was not present at sample point TP1.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 2

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580146.346 Long: 1928941.061 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Sample point TP 2 was determined to be within a wetland due to the presence of dominant hydrophytic vegetation, hydric soil, and wetland hydrology.

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: 10m2)			
1. Bermudagrass - Cynodon dactylon	10	Yes	FACU
2. Golden-fruited dock - Rumex chrysocarpus	10	Yes	FACW
3. Southern Marsh Yellowcress - Rorippa teres	10	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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−): 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	10	x 1 = 10
FACW species	10	x 2 = 20
FAC species	_____	x 3 = _____
FACU species	10	x 4 = 40
UPL species	_____	x 5 = _____
Column Totals:	30 (A)	70 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:

Disturbed, plowed agricultural field. Dominant hydrophytic vegetation was present at sample point TP2.

SOIL

Sampling Point: TP 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
0-10	10YR 3/2	100					loamy sands	
11-12	10YR 4/2	100					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** X **No** _____

Remarks:

Stripped matrix. Disturbed, plowed field. Hydric soil was present at sample point TP2.

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 X No _____ Depth (inches): 0-1"

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 10

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

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

Remarks:

Wetland hydrology was present at sample point TP2.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 3

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580174.568 Long: 1928901.752 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed.
Sample point TP3 was determined to be located within a wetland due to the presence of dominant hydrophytic vegetation, hydric soil, and wetland hydrology.

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: 10m2)			
1. Golden-fruited dock - Rumex chrysocarpus	5	Yes	FACW
2. Southern Marsh Yellowcress - Rorippa teres	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	10 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 90

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	5	x 1 = 5
FACW species	5	x 2 = 10
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	10 (A)	15 (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:

Disturbed, plowed field. Dominant hydrophytic vegetation was present at sample point TP3.

SOIL

Sampling Point: TP 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 %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	95	10YR 5/6	5	C	M	loamy sands	
7-12	10YR 4/2	100					sands w/ some 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** X **No** _____

Remarks:

Redox dark surface, depleted matrix. Disturbed soils. Hydric soil was present at sample point TP3.

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 X No _____ Depth (inches): 0-1"

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 10

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

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

Remarks:

Wetland hydrology was present at sample point TP3.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 4

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580198.730 Long: 1928868.654 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed. Sample point TP4 was determined to be within uplands to the the lack of dominant hydrophytic vegetation, hydric soil, and wetland hydrology.

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: 10m2)			
1. No vegetation			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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 Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks:

Disturbed, plowed field. No vegetation present.

SOIL

Sampling Point: TP 4

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
0-10	10YR 5/3	100					sands	
11-12	10YR 3/2	100					loamy sands	

[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:

Hydric soil was not present at sample point TP4.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was not present at sample point TP4.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 5

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580196.256 Long: 1928934.951 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed.
Sample point TP5 was determined to be within a wetland due to the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology.

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: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10m2)			
1. Golden-fruited dock - Rumex chrysocarpus	40	Yes	FACW
2. Barnyard grass - Echinochloa crus-galli	10	No	FAC
3. Bermudagrass - Cynodon dactylon	5	No	FACU
4. False Daisy - Eclipta prostrata	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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−): 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 50	x 2 =	100
FAC species 10	x 3 =	30
FACU species 5	x 4 =	20
UPL species	x 5 =	
Column Totals: 65 (A)		150 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:

Disturbed, plowed field. Dominant hydrophytic vegetation was present at sample point TP5.

SOIL

Sampling Point: TP 5

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
0-12	10YR 3/1	100					loamy sands	

[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** X **No** _____

Remarks:

Depleted matrix. Disturbed soils. Hydric soil was present at sample point TP5.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 12

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

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

Remarks:

Wetland hydrology was present at sample point TP5.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg / Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 6

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580210.974 Long: 1928939.307 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed.
Sample point TP6 was determined to be within uplands due to the lack of dominant hydrophytic vegetation, hydric soil, and wetland hydrology.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Huisache - Acacia farnesiana	10	Yes	FACU
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10m2)			
1. Guineagrass - Urochloa maxima	25	Yes	FAC
2. American black nightshade - Solanum americanum	25	Yes	FACU
3. Golden-fruited dock - Rumex chrysocarpus	30	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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−): 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 30	x 2 = 60
FAC species 25	x 3 = 75
FACU species 35	x 4 = 140
UPL species _____	x 5 = _____
Column Totals: 90 (A)	275 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☑ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks:

Dominant hydrophytic vegetation was not present at sample point TP6.

SOIL

Sampling Point: TP 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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	95	10YR 5/8	5	C	M	loamy sands	

[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:

Higher chroma and value but contains redox features. Hydric soil was not present at sample point TP6.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was not present at sample point TP6.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg, Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 7

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580186.109 Long: 1928995.268 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed.
Sample point TP7 was determined to be within a wetland due to the presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology.

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: 10m2)			
1. Golden-fruited dock - Rumex chrysocarpus	30	Yes	FACW
2. Southern marsh yellowcress - Rorippa teres	30	Yes	OBL
3. Large barnyard grass - Echinochloa crus-galli	20	Yes	FAC
4. False daisy - Eclipta prostrata	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 15

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	30	x 1 =	30
FACW species	35	x 2 =	70
FAC species	20	x 3 =	60
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	85 (A)		160 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Disturbed, plowed field.
Dominant hydrophytic vegetation was present at sample point TP7.

SOIL

Sampling Point: TP 7

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
0-12	10YR 2/2	98	10YR 5/6	2	C	M	clayey sands	

[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** X **No** _____

Remarks:

Depleted matrix. Disturbed soils. Hydric soil was present at sample point TP7.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was present at sample point TP7.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg, Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 8

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580164.451 Long: 1929047.867 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed.
Although hydric soil was present, sample point TP8 was determined to be within uplands due to the lack of dominant hydrophytic vegetation and wetland hydrology.

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: 10m2)			
1. No vegetation			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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 Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks:

Disturbed, plowed field. No vegetation present.

SOIL

Sampling Point: TP 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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					loamy sands	

[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** X **No** _____

Remarks:

Stripped matrix. Disturbed soils. Hydric soil was present at sample point TP8.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was not present at sample point TP8.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Edinburg Landfill Expansion City/County: Edinburg, Hidalgo Sampling Date: 2-6-15

Applicant/Owner: City of Edinburg State: TX Sampling Point: TP 9

Investigator(s): Jay Gardner Section, Township, Range: City of Edinburg

Landform (hillslope, terrace, etc.): Flat, Agricultural Field Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR): MLRA 83D / LRR I Lat: 9580249.982 Long: 1929030.766 Datum: NAD83

Soil Map Unit Name: Water (W), Willacy Fine Sandy Loam (70) NWI classification: Uplands

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

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

Are Vegetation N, Soil N, or Hydrology N 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:

Plowed field, heavily disturbed soil and vegetation.
Although hydric soil was present, sample point TP9 was determined to be within uplands due to the lack of dominant hydrophytic vegetation and wetland hydrology.

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: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10m2)			
1. No vegetation			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
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 Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks:

Disturbed, plowed field. No vegetation present.

SOIL

Sampling Point: TP 9

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
0-12	10YR 3/2	100					loamy sands	

[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** X **No** _____

Remarks:

Stripped matrix. Disturbed soils. Hydric soil was present at sample point TP9.

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): none

Water Table Present? Yes _____ No X Depth (inches): none

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): none

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

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

Remarks:

Wetland hydrology was not present at sample point TP9.

APPENDIX 4

PREVIOUS USACE DETERMINATIONS FOR THE

CITY OF EDINBURG LANDFILL

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318

REPLY TO
ATTENTION OF:

May 7, 2001

Regulatory Branch

SUBJECT: Determination D-11442

Southern Ecology Management, Inc.
P.O. Box 10412
Corpus Christi, Texas 78460-0412

Gentlemen:

This concerns your letter requesting information regarding permit requirements to expand the Edinburg Sanitary Landfill located east of U.S. highway 281 and approximately one mile south of Faysville, Hidalgo County, Texas.

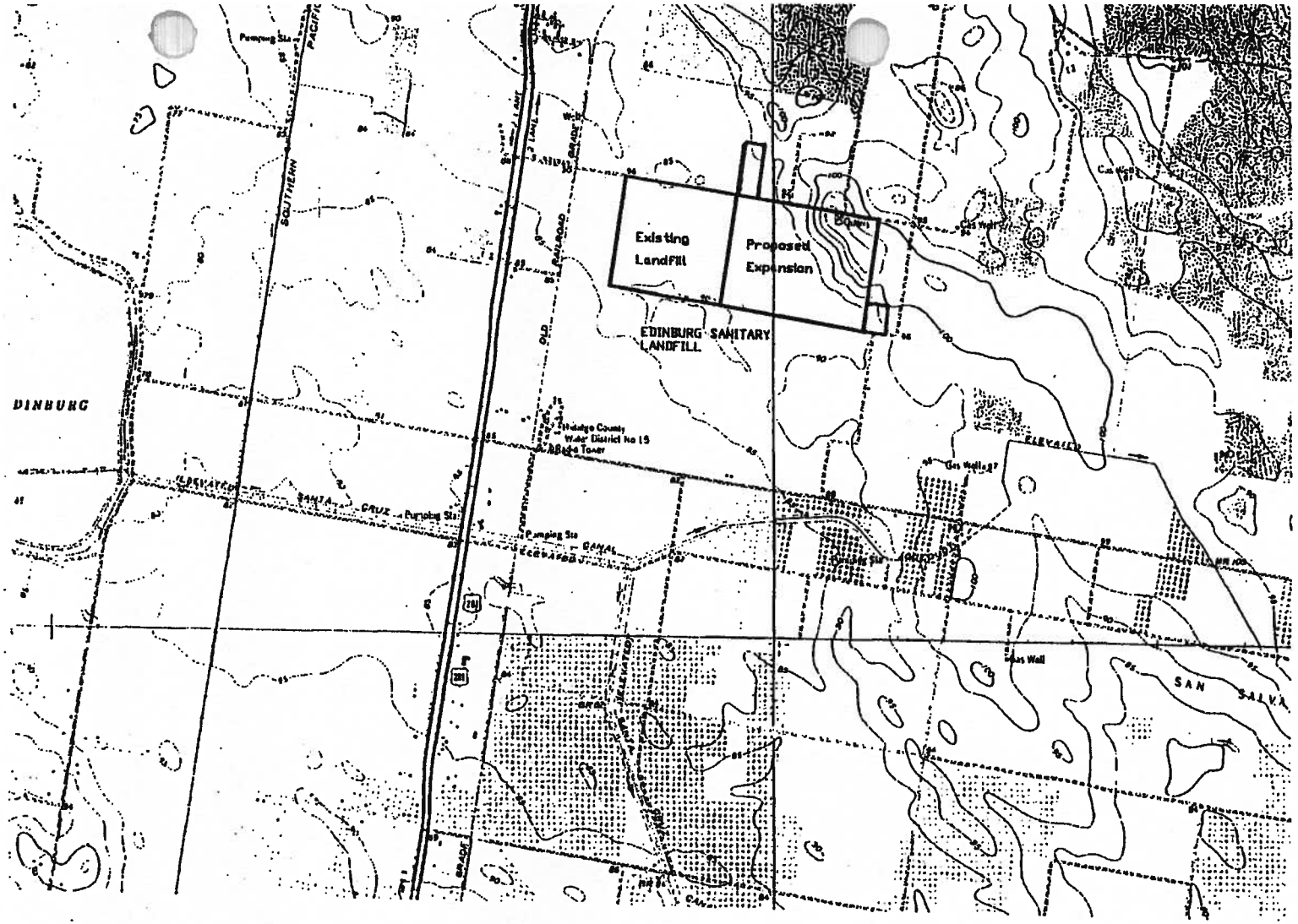
Based on the information that you have provided, and a review of the U.S.G.S. quadrangle map for Hargill, Texas, we have determined that the proposed work, is not subject to Corps of Engineers' jurisdiction. Therefore, no permit is required for your project, as proposed in the enclosed plan on one sheet. Under Section 404 of the Clean Water Act, activities that involve discharge of dredged and/or fill material in waters of the United States require a Department of the Army permit. Should you determine that your project would cause the discharge of fill into these areas, you should submit revised plans for our review prior to the initiation of the project.

This preliminary 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 the determination number D-11442 in future correspondence pertaining to this project. If you have any questions concerning this matter, please contact Marie C. Pattillo at the letterhead address or by telephone at 361-814-5847.

Sincerely,

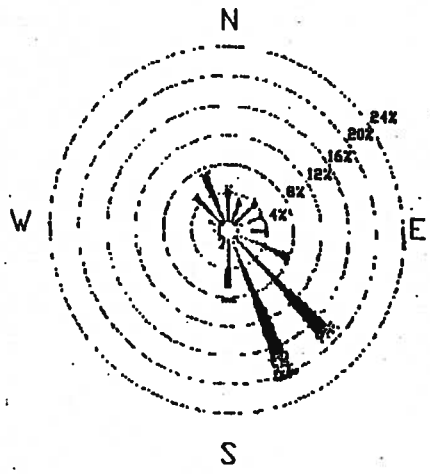
Lloyd Mullins
Unit Leader,
Corpus Christi Field Office

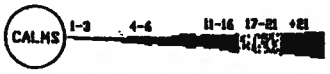
1/7 NOV. 01



BRO Jan.-Dec., 1992-92
January 1
December 31
Midnight - 11 PM

CALM WINDS: 5.23%





WIND SPEED (KNOTS)

NOTE: Frequencies indicate directon from which the wind is blowing

BASE MAP SOURCE: EAYSVILLE, TEXAS 1963, HARGILL, TEXAS 1963, EDINBURG, TEXAS 1983, LA BLANCA, TEXAS 1982, USGS 7.5' TOPOGRAPHIC QUADRANGLES

QUADRANGLE LOCATION

Southern Ecology Management, Inc.
P.O. Box 10412
Corpus Christi, TX 78460

DRAWN BY:	BLW	7.5-m USGS Hidalgo County
APPROVED:	GMH	EDINBURG SANITARY LANDFILL
DATE:	07/21/00	PERMIT AMENDMENT APPLICATION NO. 956-R
SCALE:	AS SHOWN	City of Edinburg, Hidalgo County, TX
SEM Drawing No.:	Topo	Amendment Application Reference: Figure:

D-11442

SOUTHERN ECOLOGY MANAGEMENT, INC.

ENVIRONMENTAL MANAGEMENT SERVICES

September 5, 2000

SEM Job No. 4059

Ms. Marie Pattillo
Army Corps of Engineers
1920 N. Chaparral
Corpus Christi, Texas 78401-1114

RE: Wetlands Verification
Edinburg Sanitary Landfill
Permit Amendment Application No. MSW 956-B
Hidalgo County, Texas

Dear Ms. Pattillo:

Southern Ecology Management, on behalf of the City of Edinburg, would like to request a wetlands verification for the area proposed for an expansion of the Edinburg Sanitary Landfill. Though we do not expect that the site would fall within the Corps of Engineers' jurisdiction, your verification is a permitting requirement. A copy of the Corps' letter for wetland verification during permitting (1995) of a vertical expansion on the western portion of the existing landfill is included for your reference.

The National Wetlands Inventory Map, 1989, identifies only one location within the proposed expansion. The location is shown as "Quarry" on the Wetlands and USGS maps and is designated "PUSAx" on the Wetlands Map. The Quarry is a borrow area within the upper portion of a sandy hill. The excavation is not abandoned, would hold water only briefly after a heavy storm, and has no wetland vegetation. The relevant portion of the National Wetlands Inventory Map is attached.

A site location map and an excerpt from the U.S. Geological Survey 7.5-minute Faysville & Hargill, Texas quadrangles, which delineates the project area, are included with this letter. In addition to the area designated as "proposed expansion", the City owns much of the land within approximately 1000 ft. of the expansion. Some of this land will be used for stormwater detention and for other operations (shown as adjoining rectangles).

If you require any additional information, please phone me at (361) 289-1095. Thank you for your assistance. If a site visit is required, please contact Mr. Elias A. Zuniga, Director of Solid Waste Management at (956) 381-5635

Sincerely,

Mitch Hudgins, P.E.
Senior Engineer

Attachments

P.O. BOX 10412 CORPUS CHRISTI, TX 78460-0412 (361) 289-1095 1-800-221-0206 FAX: (361) 289-1098

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT. CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON. TEXAS 77553-1229

REPLY TO ATTENTION OF

27 February 1995

COPY

Enforcement Section

SUBJECT: D-6413; Wetland Verification, City of Edinburg, Municipal Landfill Expansion, Faysville, Hidalgo County, Texas

Glenn W. Laird, AICP,NAEP
Senior Scientist
Life Sciences Section
Rust, Lichliter/Jameson
100 Glenborough, Suite 300
Houston, Texas

Dear Mr. Laird:

This is in response to your January 26, 1995, letter requesting a verification of your wetland determination on an approximate 40-acre landfill expansion site. The site is located adjacent to the City of Edinburg's Municipal Landfill, Hidalgo County, Texas.

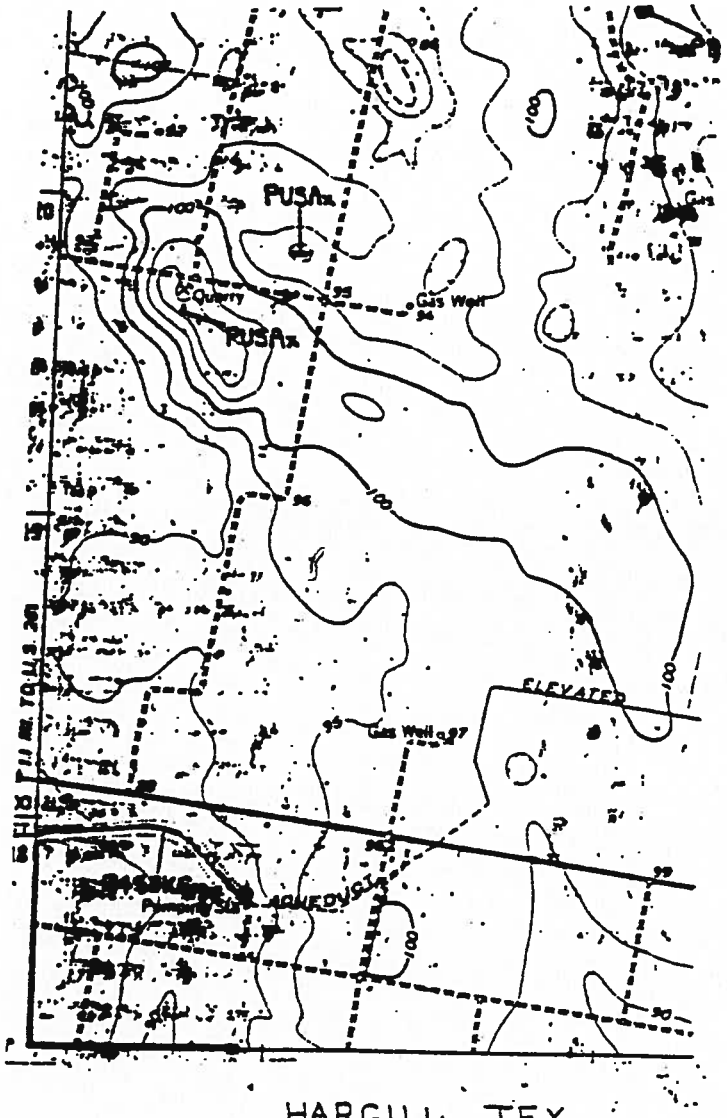
Based on our February 23, 1995, site visit and review of the information you submitted, we concur with your findings that the site does not contain areas subject to the Corps jurisdiction. This verification is valid for a period of 5 years unless new information warrants a revision prior to the expiration date.

If you have any questions concerning this matter, please contact Mr. Paul Lazarine at the Corpus Christi regulatory Field Office or call (512) 851-9134. Please reference the determination number D-6413 in any future correspondence regarding this verification.

Sincerely,

James E. Gilmore

James E. Gilmore
South Unit Leader
Enforcement Section



HARGILL, TEX.

U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

1989

LEGEND:

- LIMIT OF ENLARGED DETAIL
- CITY LIMIT
- RAILROAD
- PRIVATE ROAD
- DIVIDED ROAD
- PAVED ROAD
- ALL WEATHER ROAD
- EARTH ROAD
- ROAD IN CITY
- DIVIDED ROADWAY WITH FRONTAGE ROADS
- MILEAGE BETWEEN POINTS
- INTERSTATE HIGHWAY
- U.S. NUMBERED HIGHWAY
- STATE HIGHWAY
- STATE HIGHWAY LOOP OR SPUR
- FARM OR RANCH TO MARKET ROAD
- BUSINESS ROUTES
- COUNTY SEAT
- TOWN SYMBOLS
- BRIDGE OR CROSSING SEPERATION OVER 20'
- LOW WATER CROSSING
- INTERMITTENT STREAM
- FLOWING STREAM
- LAKE WITH DAM
- AREA SUBJECT TO INUNDATION
- INTERMITTENT LAKE
- AIRPORT WITH FACILITIES
- CEMETERY

0 2 4 6

SCALE IN MILES

BASE MAP SOURCE:

GENERAL HIGHWAY MAP OF HIDALGO COUNTY OBTAINED FROM THE TEXAS DEPT. OF TRANSPORTATION IN ELECTRONIC FORMAT. MAP DATED 1993 (1990 CENSUS FIGURES). MAP PLOTTED AT SHOWN SCALE.

Originally, 11" x 17"

Southern Ecology Management, Inc.
P.O. Box 6012
Corpus Christi, TX 78466

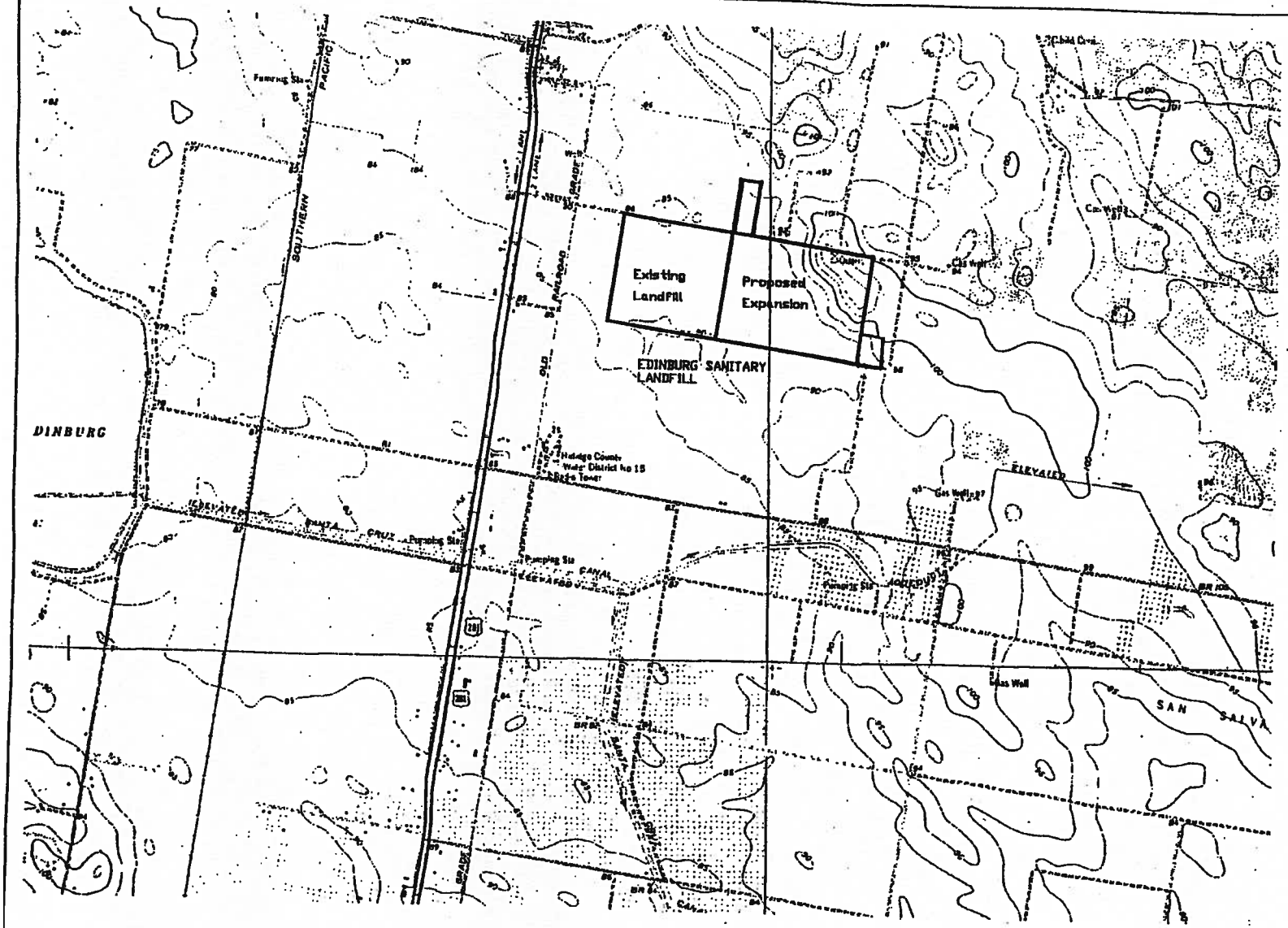
DRAWN BY:	SLW
APPROVED:	GSH
DATE:	07/12/00
SCALE:	AS SHOWN
SEM Drawing No.:	4039MAP1

SITE LOCATION MAP

EDINBURG SANITARY LANDFILL
PERMIT AMMENDMENT APPLICATION NO. 959-B
City of Edinburg, Hidalgo County, TX

Amendment Application Reference

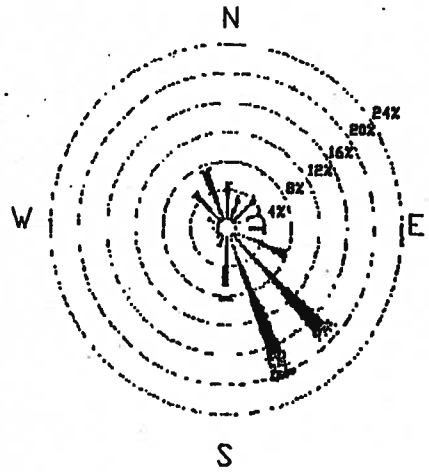
Figure: 1

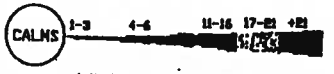


BRO Jan.-Dec., 1984-92
January 1
December 31
Midnight - 11 PM

CALM WINDS: 5.23%

N





WIND SPEED (KNOTS)

NOTE: Frequencies indicate directon from which the wind is blowing

Originally, 11" x 17"

BASE MAP SOURCE: FAYSVILLE, TEXAS 1963, HARGILL, TEXAS 1963, EDINBURG, TEXAS 1983, LA BLANCA, TEXAS 1982, USGS 7.5' TOPOGRAPHIC QUADRANGLES

QUADRANGLE LOCATION

Southern Ecology Management, Inc.
P.O. Box 9012
Corpus Christi, TX 78469

DRAWN BY	RLW
APPROVED	GMH
DATE	07/21/00
SCALE	AS SHOWN
SEM Drawing No.:	Topo

7.5-m USGS Hidalgo County

EDINBURG SANITARY LANDFILL
PERMIT AMENDMENT APPLICATION NO. 886-B
City of Edinburg — Hidalgo County, TX

Amendment Application Reference: Figure

APPENDIX IID2

US ARMY CORPS OF ENGINEERS REVIEW REQUEST

July 28, 2015

Project No.1401491

SENT VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

US Army Engineer District, Galveston
Jadwin Building
2000 Fort Point Road
Galveston, Texas 77553-1229

RE: WETLANDS VERIFICATION
PERMIT AMENDMENT APPLICATION
EDINBURG REGIONAL DISPOSAL FACILITY, TCEQ PERMIT MSW-956C
HIDALGO COUNTY, TEXAS

Dear Recipient:

On behalf of our client, City of Edinburg, we are preparing a Permit Amendment Application to be submitted to the Texas Commission on Environmental Quality (TCEQ) Solid Waste Permits Division for a proposed expansion to the Edinburg Sanitary Landfill, Permit No. MSW-956B. The existing 254-acre Type I facility is located in the City of Edinburg in Hidalgo, County Texas. Golder Associates Inc. is preparing the application for City of Edinburg to expand the permit boundary to approximately 603 acres.

In order to comply with current solid waste regulations, on behalf of City of Edinburg, we are requesting a wetland verification for the area proposed for an expansion. Also for your information, we have attached a Wetlands Evaluation that was performed by Naismith Engineering, Inc. Maps showing the site location and both the existing and the proposed limits of the permit boundary are included in the report.

If further information or documentation is required by your department to aid in your review, please give me a call at (281) 821-6868.

Sincerely,

GOLDER ASSOCIATES INC.

Chad E. Ireland, PE
Senior Project Geological Engineer

Charles G. Dominguez, PE
VP Central Region / Principal

cc: Ramiro L Gomez, Jr., City of Edinburg Department of Solid Waste

CEI/CGD/kjc

Golder Associates Inc.
500 Century Plaza Drive, Suite 190
Houston, TX 77073 USA
Tel: (281) 821-6868 Fax: (281) 821-6870 www.golder.com

APPENDIX IID3

US ARMY CORPS OF ENGINEERS DETERMINATION

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
CORPUS CHRISTI REGULATORY FIELD OFFICE
5151 FLYNN PARKWAY, SUITE 306
CORPUS CHRISTI, TEXAS 78411-4318

May 16, 2016

REPLY TO
ATTENTION OF:

Corpus Christi Regulatory Field Office

SUBJECT: File No. SWG-2015-00534; Approved Jurisdictional Determination

Golder Associates, Inc.
ATTN: Mr. Chad E. Ireland
500 Century Plaza Drive, Suite 190
Houston, Texas 77073-6027

Dear Mr. Ireland:

This is in regard to your request, dated July 28, 2015, on behalf of the City of Edinburg, in which you requested that we review the jurisdictional status of a proposed expansion of a Type I solid waste facility to approximately 603 acres from 254 acres. The project site includes a small isolated wetland, referred to as Area PW-4. The project site is located in the City of Edinburg in Hidalgo County, Texas. The project location and plans reviewed are attached in 3 sheets.

We have determined that Area PW-4 is not a water of the United States (U.S.). The Corps of Engineers has the authority to regulate certain work under the provisions of Section 10 of the Rivers and Harbor Act and Section 404 of the Clean Water Act (Section 404). Section 404 provides for the regulation of the discharge of fill material into Waters of the United States, which includes all wetlands adjacent to tidal and non-tidal waters. Isolated wetlands and outlying areas that are seasonally saturated may be regulated under the provisions of Section 404 depending on their relationship with interstate commerce. As such and according to the project plans submitted, a Department of the Army permit is not required for this activity.

This determination is an approved jurisdictional determination for Area PW-4, located within your project site, and is based on the isolated nature of this small wetland and the lack of a significant nexus to navigable or interstate waters. 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.

Corps determinations are conducted to identify the limits of the Corps Clean Water Act jurisdiction for particular sites. This 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.

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 to the Southwestern Division Office at the following address:

Elliott N. Carman, Appeal Review Officer
Southwestern Division, CESWD-PD-O
1100 Commerce Street, Room 831
Dallas, Texas 75242-1317
Telephone: 469-487-7061; FAX: 469-487-7199
Email: Elliott.N.Carman@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, 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. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination.

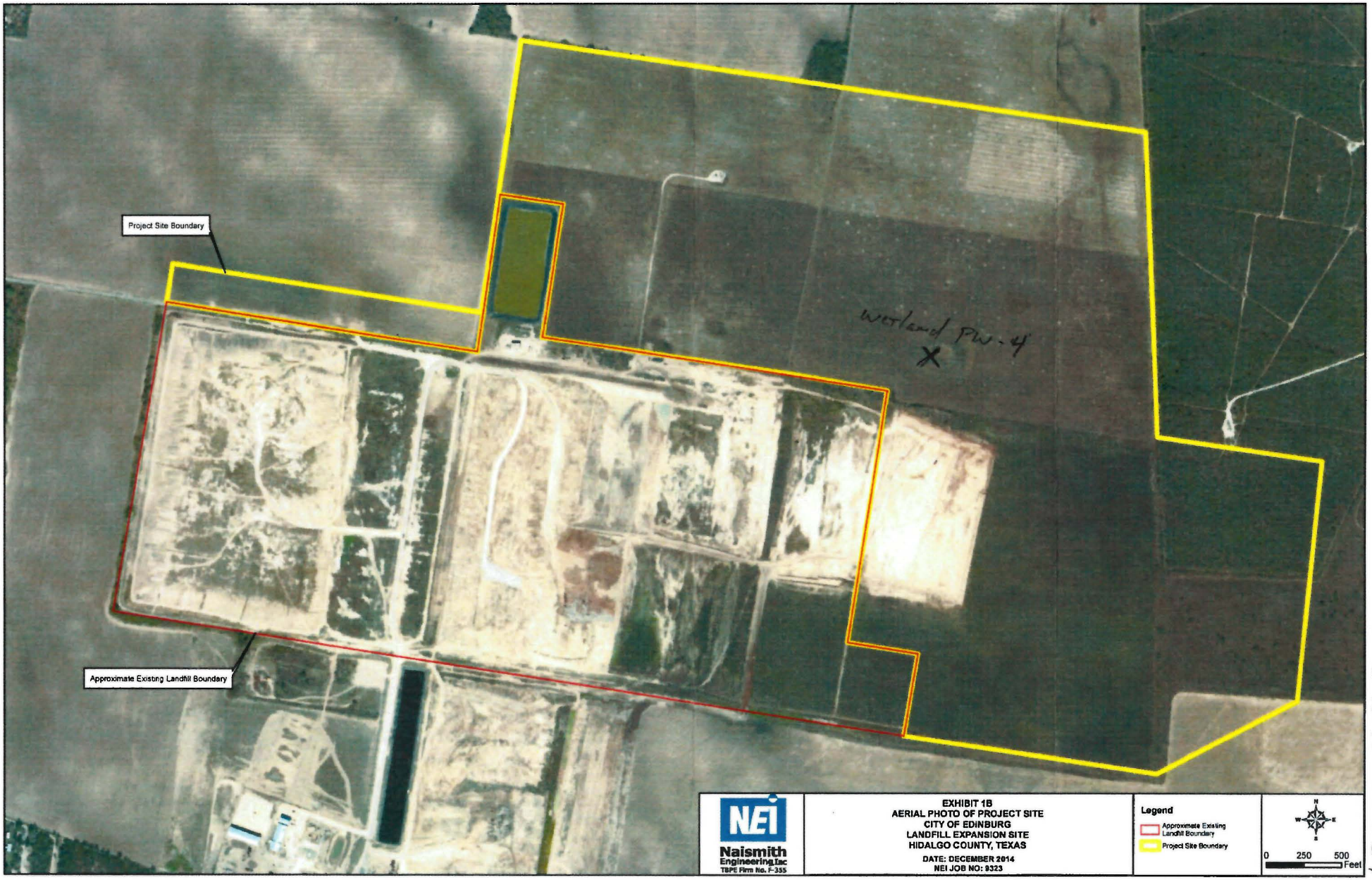
Please reference file number **SWG-2015-00534** in future correspondence pertaining to this subject. If you have any questions, please contact me at the letterhead address or by telephone at 361-814-5847, ext. 1002. To assist us in improving our service to you, please complete the survey found at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Matthew Kimmel
Supervisor
Corpus Christi Regulatory Field Office

Enclosures

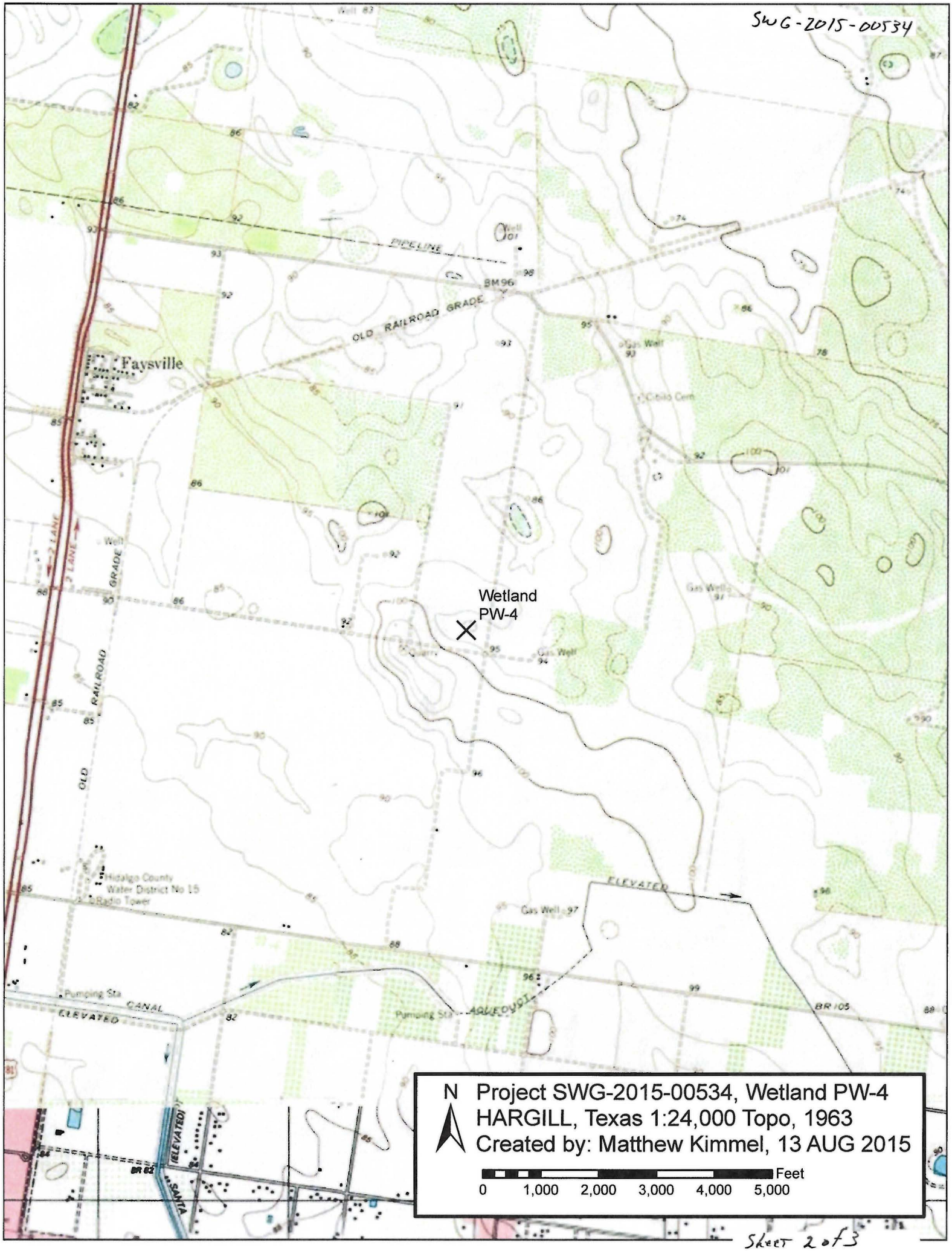
JUL 3 1 2015



Sheet 1 of 3

SWG-2015-00534

SWG-2015-00534




SWG-2015-00534
Wetland
PW-4
N
Project SWG-2015-00534, Wetland PW-4
NAIP 2014 Aerial Photo, flown 31 JUL 2014
Created by: Matthew Kimmel, 13 AUG 2015
Feet
0
1,000
2,000
3,000
4,000
5,000

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City of Edinburg	File Number: SWG-2015-00534	Date: 16 May 2016
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/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx 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 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. Matthew Kimmel
Supervisor
CESWG-RD-CC
U.S. Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
361-814-5847 ext. 1002; FAX: 361-814-5912

If you only have questions regarding the appeal process you may also contact:

Mr. Elliott Carman
Administrative Appeals Review Officer (CESWD-PD-O)
U.S. Army Corps of Engineers
1100 Commerce Street, Suite 831
Dallas , Texas 75242-1317
469-487-7061

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 agent.		