

Appendix IID-2C
Aquatic Resource Delineation Report
(Wetlands Delineation Report)



REPORT

Aquatic Resource Delineation Report

Hawthorn Park Landfill Expansion Project

Submitted to:

USACE Galveston District Regulatory

P.O. Box 1229

Galveston, TX 77553

Submitted by:

Golder Associates, Inc.

14950 Heathrow Forest Parkway, Suite 280

Houston, Texas 77032

189426901

May 2020



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1.0 INTRODUCTION

Golder Associates (Golder) was retained by USA Waste of Texas Landfills, Inc (USA Waste) to perform an aquatic resource delineation for the Hawthorn Park Landfill Expansion Project (Project). USA Waste is proposing expansion of the existing Hawthorn Park Landfill currently permitted as Texas Commission on Environmental Quality (TCEQ) Municipal Solid Waste (MSW) Permit No. 2185. This jurisdictional determination request is completed in compliance with applicable TCEQ MSW permitting requirements for Wetlands (30 Texas Administrative Code [TAC] §330.61(m)), Endangered or Threatened Species (30 TAC §330.61(n)), and Texas Historical Commission Review (30 TAC §330.61(o)). The Project is located north of Tanner Road, west of Gessner Road, and east of the Sam Houston Parkway in Houston, Harris County, Texas as shown in Appendix A. The aquatic resource delineation consisted of the identification of all wetlands and waterbodies located within the Project's approximate 253-acre survey area (survey area).

2.0 PROJECT DESCRIPTION

The Project's expansion includes increasing the permitted area for landfill development to approximately 211 acres by including additional adjacent properties and previously abandoned road rights-of-ways (ROWs). Approximately 96% of the proposed permit area has been previously developed as part of ongoing landfill operations, recycling areas, access roads, and drainage features.

The expansion will also include completion of a detention basin located adjacent and east of the property. The detention pond will encompass approximately 45 acres and was approved by the City of Houston and Harris County Flood Control District in 1995. Construction of this detention pond has continued as part of ongoing landfill construction and operations.

3.0 METHODOLOGY

3.1 Background Review

Prior to conducting field surveys, Golder reviewed published information for the survey areas to gain an understanding of the existing site conditions. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- National Wetlands Inventory (NWI) database;
- USGS National Hydrography Dataset (NHD);
- Natural Resources Conservation Service (NRCS) soil survey database;
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) Viewer database; and
- USGS Hydrologic Unit Code (HUC) database.

3.1.1 USGS Topographic Survey Maps and Aerial Photography

Golder reviewed the USGS 7.5 Quadrangle Topographic Map, Hedwig Village, Texas prior to conducting field surveys. The topographic maps identified areas that historically contained ponds and streams throughout the

Project survey area. Recent aerial photography reveals a system of ponds and drainage ditches that direct the flow of stormwater from the west to the east across the Project area.

3.1.2 NWI Wetlands

The US Fish and Wildlife Service (USFWS) NWI data shows potential wetlands and ponds located throughout the Project survey area. These NWI features are included in the Project mapping provided as Appendix A.

3.1.3 Soils

The NRCS soils data lists two soil series within the Project (Appendix A). Table 1 below presents the soil data for the Project survey area.

Table 1: NRCS Soils Located within the Project Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	Slope Percentage	Hydric Rating
Cyfair-Urban Land Complex	CyuA	0 – 1	Not Hydric
Addicks-Urban Land Complex	Ak	0 – 1	Hydric

3.1.4 Floodplain and Hydrology

The FEMA NFHL data shows that the central portion of the Project survey area is located within the 500-year floodplain (0.2 percent annual chance flood hazard). The northeastern corner of the Project survey area is located within the 100-year floodplain (1 percent annual chance flood hazard). Golder also reviewed the USGS HUC database and the Project is located within one unique watershed (Hydrologic Unit Code [HUC] 8, 12040104 – Buffalo-San Jacinto). The primary hydrological feature in the vicinity of the Project is an unnamed tributary to Cole Creek.

3.2 Wetland and Waterbody Delineation

The wetland and waterbody delineation consisted of an initial desktop review of the Project and a pedestrian survey conducted in the field within the Project survey area to observe and record existing site conditions. Golder biologists conducted a routine wetland and waterbody delineation of “Waters of the United States” (WOUS) for the Project on March 9-12, 2020. The field delineation was performed in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coastal Plains Region* (Version 2.0) (USACE, 2010). Golder followed USACE standard procedures to evaluate WOUS, including wetland subject to regulation under the Clean Water Act (Jurisdictional waters), as established in the Regional Supplement and the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007).

The manual requires three positive indicators to be present for an area to be classified as a wetland, with special exceptions. These three criteria include wetland hydrology, hydrophytic vegetation, and hydric soils. Wetland hydrology for an area is determined by the presence of inundation, soil saturation and other physical indicators showing the presence of water. Vegetation documented at the site is identified by species and their USACE National Wetland Plant List (NWPL) wetland indicator status is used to identify the presence of hydrophytic vegetation. A soil pit was dug to a depth of 16 inches to identify the presence or absence of hydric soils within an area using indicators listed in the regional supplement and a Munsell® Color Chart.

Waterbodies will display an ordinary high-water mark (OHWM). An OHWM is indicated as physical characteristics defined by the USACE as “a clear, natural line impressed on the bank, shelving, changes in the character soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE 2010). Some areas that may not have an OHWM are also included as waterbodies such as manmade ponds, lakes, and other bodies of open water. If identified on site, the boundaries of the streams, open waters, and wetlands were delineated by Golder biologists using a Trimble R1 global positioning system (GPS) with sub-meter accuracy.

Golder utilized a unique four-part naming scheme for delineated WOUS within the survey area. This naming scheme consisted of feature type abbreviation, survey team, parish abbreviation, and feature number. Abbreviations for wetland and waterbody types are as follows: wetland (W), stream/ditches (S), and ponds (OW), survey teams were designated as G1 and G2, Harris County abbreviated as (HA), feature numbers were designated in chronological order. An example stream feature using this naming convention would be SG1HA001.

Golder biologists created four transects that transverse the Project survey area in accordance with the USACE Wetland Delineation Manual: *Technical Report Y-87-1* (USACE 1987) survey protocol for non-linear projects that are greater than five acres in size. Golder biologists walked the transects, in addition to other portions of the Project survey area, to ensure all environmental features were delineated during the surveys. Multiple data points were taken along the transects to document the conditions throughout the Project survey area. The transects created for the surveys are displayed in the Project maps located in Appendix A.

4.0 FIELD SURVEY RESULTS

Golder conducted a wetland and waterbody delineation within the Project survey area, shown in the mapping exhibits provided in Appendix A. Datasheets documenting hydrology, vegetation, and soil conditions at the site are located in Appendix B. Photographs taken at the site depicting conditions documented within the Project survey areas are provided in Appendix C. Land use types within the upland areas consists of industrial areas, pipeline ROWs, forested areas, and existing restored portions of the landfill.

4.1 Wetlands

Golder biologists delineated five wetland areas that exhibited the three positive indicators of a wetland within the survey area. Of the five wetlands, one was classified as palustrine scrub-shrub (PSS) and four were classified as palustrine emergent (PEM). Golder assessed each wetlands’ potential jurisdictional status using the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). Table 2 below provides a summary of the wetlands identified within each survey area, Cowardin classification, location, approximate size in acres, and potential jurisdictional status.

Table 2: Wetlands Located within the Project Survey Area

Wetland ID	Cowardin Class	Location	Acreage	Potentially JD YES/NO Justification
WG1HA001	PEM	29.855149, -95.558600	0.04	No, Isolated wetland feature no connectivity to jurisdictional WOUS
WG1HA002	PSS	29.857976, -95.546727	0.19	No, Isolated wetland feature no connectivity to jurisdictional WOUS

Wetland ID	Cowardin Class	Location	Acreage	Potentially JD YES/NO Justification
WG1HA003	PEM	29.851784, -95.546799	0.62	No, Isolated wetland feature no connectivity to jurisdictional WOUS
WG1HA004	PEM	29.851968, -95.547328	0.12	No, Isolated wetland feature no connectivity to jurisdictional WOUS
WG1HA005	PEM	29.851506, -95.548263	0.03	No, Isolated wetland feature no connectivity to jurisdictional WOUS
Total			1.00	

The wetland delineation revealed four PEM wetlands that encompassed approximately 0.81-acre, and one PSS wetland that encompassed approximately 0.19-acre, Golder believes that these wetlands meet the definition of an isolated wetland and are therefore, under consideration as non-jurisdictional features.

4.1.1 Vegetation

Datasheets provided in Appendix B document the conditions observed within the survey area. Dominant vegetation observed within wetland areas is presented below.

PSS Wetland

Characteristic vegetation observed within the only PSS wetland consists of American sycamore (*Platanus occidentalis*), Chinese tallow (*Triadica sebifera*), water oak (*Quercus nigra*), green ash (*Fraxinus pennsylvanica*), sugarberry (*Celtis laevigata*), Chinese privet (*Ligustrum sinense*) and woodrush flatsedge (*Cyperus entrerianus*).

PEM Wetlands

Characteristic vegetation observed within the PEM wetlands consists of sand spikerush (*Eleocharis montevidensis*), broadleaf cattail (*Typha latifolia*), alligator weed (*Alternanthera philoxeroides*), woodrush flatsedge, poisonbean (*Sesbania drummondii*), and black willow (*Salix nigra*).

Upland Areas

Characteristic vegetation of the upland areas consists of bermudagrass (*Cynodon dactylon*), Carolina geranium (*Geranium carolinianum*), huisache (*Vachellia farnesiana*), King Ranch bluestem (*Bothriochloa ischaemum*), sawtooth hackberry (*Rubus argutus*), Chinese tallow, white mulberry (*Morus alba*), black mustard (*Brassica rapa*), Texas thistle (*Cirsium texanum*), American elm (*Ulmus americana*), water oak, sugarberry, and Alabama supplejack (*Berchemia scandens*).

4.1.2 Soils

The soils information collected at each of the soil stations in the survey areas is described below. Table 3 contains the soil station ID, matrix and redox colors (if present), soil texture, and hydric soil indicator (if applicable).

Table 3: Soils Descriptions within the Project Survey Area

Soil Station ID	Matrix Color	Matrix Percent	Redox Color	Redox Percent	Texture	Hydric Soil Indicator
<i>Upland Areas</i>						
UPG1HA001	10YR 3/2	95	10 YR 4/4	5	Clay	Redox Dark Surface
UPG1HA002	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA003	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA004	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA005	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA006	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA007	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA008	10YR 3/2	99	10YR 4/6	1	Clay	N/A
UPG1HA009	10YR 3/2	99	10YR 4/6	1	Clay	N/A
UPG1HA010	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA011	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA012	10YR 4/4	100	N/A	N/A	Clay	N/A
UPG1HA013	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA014	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA015	10YR 4/2	85	N/A	N/A	Clay	N/A
	7/5YR 4/6	10	N/A	N/A	Clay	N/A
	10YR 5/8	5	N/A	N/A	Clay	N/A
UPG1HA016	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA017	10YR 3/2	70	N/A	N/A	Clay	N/A
	10YR 5/2	25	N/A	N/A	Clay	N/A
	10YR 4/6	5	N/A	N/A	Clay	N/A
UPG1HA018	10YR 4/2	100	N/A	N/A	Clay	N/A

Soil Station ID	Matrix Color	Matrix Percent	Redox Color	Redox Percent	Texture	Hydric Soil Indicator
UPG1HA019	10YR 4/2	100	N/A	N/A	Clay	N/A
UPG1HA020	10YR 4/3	75	N/A	N/A	Clay	N/A
	10YR 5/4	20	N/A	N/A	Clay	N/A
	10YR 4/6	5	N/A	N/A	Clay	N/A
UPG1HA021	10YR 3/2	100	N/A	N/A	Clay	N/A
UPG1HA022	10YR 4/2	95	10YR 5/8	5	Sandy Clay Loam	Redox Depression
UPG1HA023	10YR 3/2	95	10YR 4/4	5	Clay	Redox Dark Surface
<i>Wetland Areas</i>						
WG1HA001_WET_PEM	10YR 4/2	80	10YR 4/6	20	Clay	Redox Depression
WG1HA001_UP	10YR 3/2	100	N/A	N/A	Clay	N/A
WG1HA001_UP_B	10YR 3/2	100	N/A	N/A	Clay	N/A
WG1HA002_WET_PSS	10YR 3/2	95	10YR 4/4	5	Clay	Redox Dark Surface
WG1HA002_UP	10YR 3/1	80	N/A	N/A	Clay	N/A
	10YR 6/4	10	N/A	N/A	Clay	N/A
	10YR 5/8	10	N/A	N/A	Clay	N/A
WG1HA003_WET_PEM	10YR 4/2	85	10YR 5/8	15	Sandy Clay Loam	Redox Depression
WG1HA004_WET_PEM	10YR 5/1	85	10YR 5/4	15	Sandy Clay	Redox Depression
WG1HA004_UP	10YR 3/2	95	10YR 4/4	5	Sandy Clay	Redox Dark Surface
WG1HA005_WET_PEM	10YR 3/2	85	10YR 4/4	15	Clay	Redox Dark Surface

Soil Station ID	Matrix Color	Matrix Percent	Redox Color	Redox Percent	Texture	Hydric Soil Indicator
WG1HA005_UP	10YR 3/2	95	10YR 4/4	5	Sandy Clay	Redox Dark Surface

4.1.3 Hydrology

The Project survey area is located within one watershed (Hydrologic Unit Code [HUC] 8, 12040104 – Buffalo-San Jacinto). The primary hydrological feature in the vicinity of the Project is an unnamed tributary to Cole Creek. Primary hydrologic indicators observed within the Project survey area include saturated soils, sediment deposits, algal crust, and water-stained leaves. Secondary hydrologic indicators observed include geomorphic position, crayfish burrows, and surface soil cracks.

4.2 Waterbodies

Golder biologists delineated three manmade ponds and seven manmade ditches within the Project survey area. Six of these manmade ditches were classified as ephemeral ditches and one ditch (SG1HA005) was classified as an intermittent ditch. Golder assessed each waterbodies' potential jurisdictional status using the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). Table 4 below presents the waterbody ID, classification, location, approximate acreage within the Project survey area, and potential jurisdictional status.

Table 4: Waterbodies Located within the Project Survey Area

Waterbody ID	Classification	Location	Acreage	Linear Feet	Potentially JD YES/NO Justification
<i>Open Waters</i>					
OWG1HA001	Manmade Pond	29.856767, -95.548288	7.23	N/A	No, manmade excavations of upland area, no connectivity to jurisdictional WOUS
OWG1HA002	Manmade Pond	29.856221, -95.546987	3.79	N/A	No, manmade excavations of upland area, no connectivity to jurisdictional WOUS
OWG1HA003	Manmade Pond	29.853982, -95.547488	10.15	N/A	No, manmade excavations of upland area, no connectivity to jurisdictional WOUS
<i>Manmade Ditches</i>					

Waterbody ID	Classification	Location	Acreage	Linear Feet	Potentially JD YES/NO Justification
SG1HA001	Ephemeral Ditch	29.854600, -95.561586	0.54	3,942	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG1HA002	Ephemeral Ditch	29.857570, -95.555491	1.58	3,222	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG1HA003	Ephemeral Ditch	29.853265, -95.553377	2.11	3,778	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG1HA004	Ephemeral Ditch	29.857938, -95.551248	1.21	2,871	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG1HA005	Intermittent Ditch	29.855658, -95.547642	0.67	1,332	No, intermittent upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG1HA006	Ephemeral Ditch	29.856297, -95.547506	0.003	73	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
SG2HA001	Ephemeral Ditch	29.856676, -95.549058	0.29	4,164	No, ephemeral upland manmade drainage ditch, no connectivity to jurisdictional WOUS
Total			27.573	15,604	

The wetland delineation identified six ephemeral ditches and one intermittent ditch that encompassed approximately 6.40 acres and approximately 15,604 linear feet, Golder believes these seven ditches meet the definition of an upland manmade drainage ditches and are therefore, under consideration as non-jurisdictional features. Three manmade open waters were also delineated encompassing approximately 21.17 acres, Golder

believes these three features are manmade excavations of upland areas and therefore are considered non-jurisdictional features.

Additionally, Golder could find no direct connection from any delineated waterbodies to the unnamed tributary to Cole Creek. The stormwater conveyance culverts in the vicinity of the Project would only provide outflow/inflow during extreme flood events.

5.0 CONCLUSION

Golder performed a wetland and waterbody delineation on March 9-12, 2020 in accordance with the USACE Wetland Delineation Manual for the Project.

- The wetland delineation revealed four PEM wetlands that encompassed approximately 0.81-acre, and one PSS wetland that encompassed approximately 0.19-acre, Golder believes that these wetlands meet the definition of an isolated wetland and are therefore, under consideration as non-jurisdictional features.
- Additionally, six ephemeral ditches and one intermittent ditch that encompassed approximately 6.40 acres and approximately 15,604 linear feet were delineated. Golder believes these seven ditches meet the definition of an upland manmade drainage ditches and are therefore, under consideration as non-jurisdictional features.
- Finally, three manmade open waters encompassing approximately 21.17 acres were delineated, Golder believes these three features are manmade excavations of upland areas and therefore are considered non-jurisdictional features.

It is Golder's professional opinion that these five wetlands, three manmade open waters, and seven manmade ditches are considered non-jurisdictional under Section 404 of the Clean Water Act. Due to the isolated locations, upland excavations and manmade status of each delineated feature. Additionally, Golder has determined no federal nexus to a non-relatively permanent water (non-RPW), a relatively permanent water (RPW), or traditional navigable water (TNW) for any of the delineated features. The USACE has complete authority on the jurisdictional status of all potential WOUS.

Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluation of wetlands at the Project due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made.

6.0 REFERENCES

- FEMA. 2020. National Flood Hazard Layer (NFHL) Viewer. Available at: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>. Accessed March 2020.
- Munsell Color. 2010. Munsell soil color charts: with genuine Munsell color chips. Grand Rapids, MI.
- Natural Resources Conservation Service (NRCS). 2012. Web Soil Survey – Harris County, Texas. Available at: <http://websoilsurvey.nrcs.usda.gov>.
- Soil Survey Staff. 2014. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC.
- U.S. Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic Gulf Coastal Plains Region (Version 2.0). ERDC/EL TR-10-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE. 2007. Jurisdictional Determination Form Instructional Guidebook. Available at: https://www.nap.usace.army.mil/Portals/39/docs/regulatory/jd/jd_guidebook_051207final.pdf.
- USACE. 1987. Wetland Delineation Manual: Wetlands Research Program Technical Report Y-87-1. Available at: <https://www.swg.usace.army.mil/Portals/26/docs/regulatory/Wetlands/wlman87.pdf>. Accessed March 2020.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2016. Field Indicators of Hydric Soils in the United States, Version 8.0. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. 2020. Available at <https://www.fws.gov/wetlands/data/Mapper.html>. Accessed March 2020.
- U.S. Geological Survey (USGS). 7.5 Minute Quadrangle Topographic Maps. 1982. Hedwig Village, Texas.
- USGS. 2020. Water Resources of the United States: Hydrologic Unit Maps. Available at: <https://water.usgs.gov/GIS/huc.html>. Accessed March 2020.

Signature Page



Jeremy Munz
Project Biologist

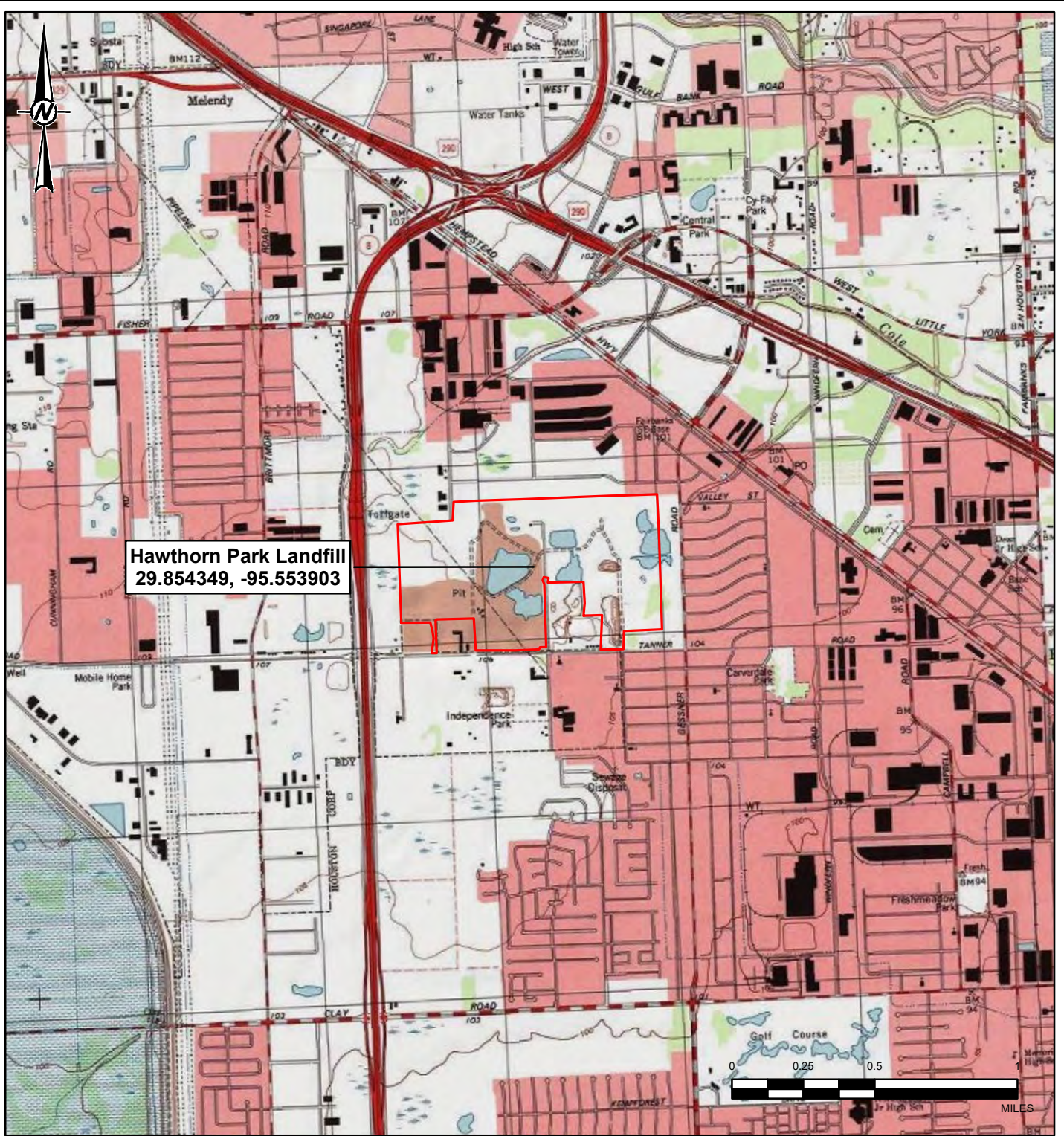


Jacob Trahan
Sr. Environmental Consultant



golder.com

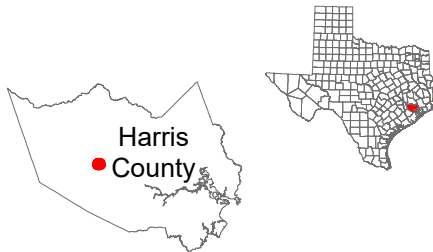
Appendix A



Hawthorn Park Landfill
29.854349, -95.553903

LEGEND

 SURVEY AREA



REFERENCE(S)

1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT © 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT

USA WASTE OF TEXAS LANDFILLS, INC.

PROJECT

HAWTHORN PARK LANDFILL EXPANSION

TITLE

PROJECT OVERVIEW MAP

CONSULTANT

YYYY-MM-DD	2020-03-25
DESIGNED	GFD
PREPARED	GFD
REVIEWED	KB
APPROVED	JMT



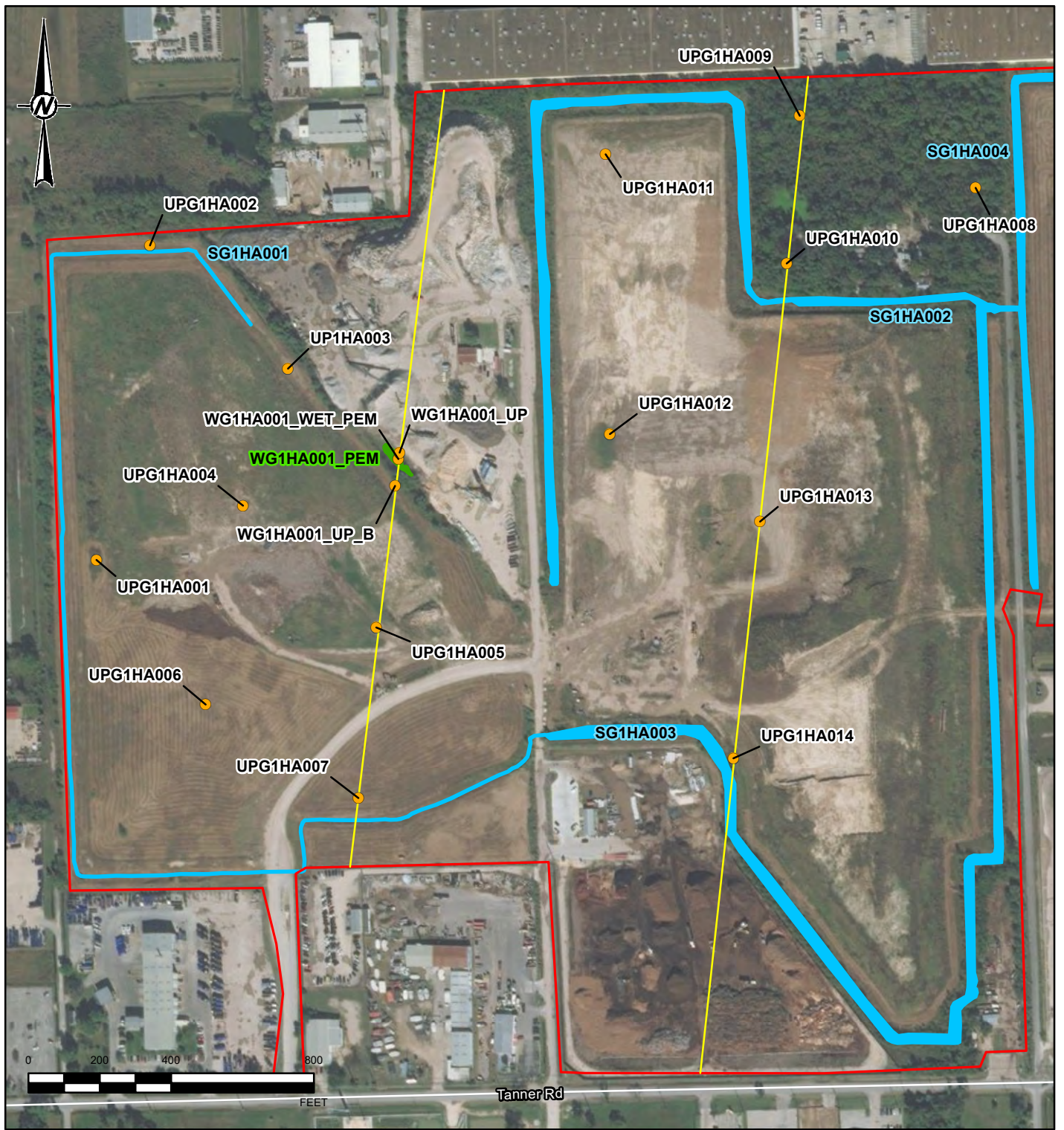
PROJECT NO.
189426901

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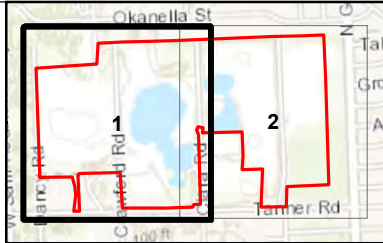
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FIGURE
1

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- LEGEND**
- SOIL STATIONS
 - ▭ SURVEY
 - TRANSECTS
- NON-JURISDICTIONAL FEATURES**
- WETLANDS
 - MANMADE DITCHES
 - PONDS



REFERENCE(S)

1. SOIL STATIONS, TRANSECTS, STREAMS, PONDS, WETLANDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY

SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC
 DATUM: NORTH AMERICAN 1983

CLIENT	USA WASTE OF TEXAS LANDFILLS, INC.		
PROJECT	HAWTHORN PARK LANDFILL EXPANSION		
TITLE	WETLAND MAP		
CONSULTANT	YYYY-MM-DD	2020-03-25	
	DESIGNED	GFD	
	PREPARED	GFD	
	REVIEWED	KB	
	APPROVED	JMT	
PROJECT NO.	CONTROL	REV.	FIGURE
189426901	A002	0	2-1

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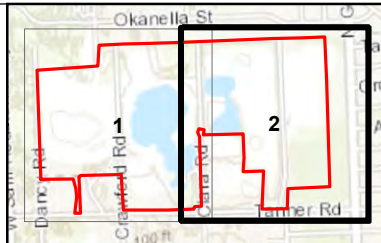
LEGEND

- SOIL STATIONS
- ▭ SURVEY
- ▭ TRANSECTS
- NON-JURISDICTIONAL FEATURES**
- ▭ WETLANDS
- ▭ MANMADE DITCHES
- ▭ PONDS

REFERENCE(S)

1. SOIL STATIONS, TRANSECTS, STREAMS, PONDS, WETLANDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
 2. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY
- SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC
 DATUM: NORTH AMERICAN 1983



CLIENT
 USA WASTE OF TEXAS LANDFILLS, INC.

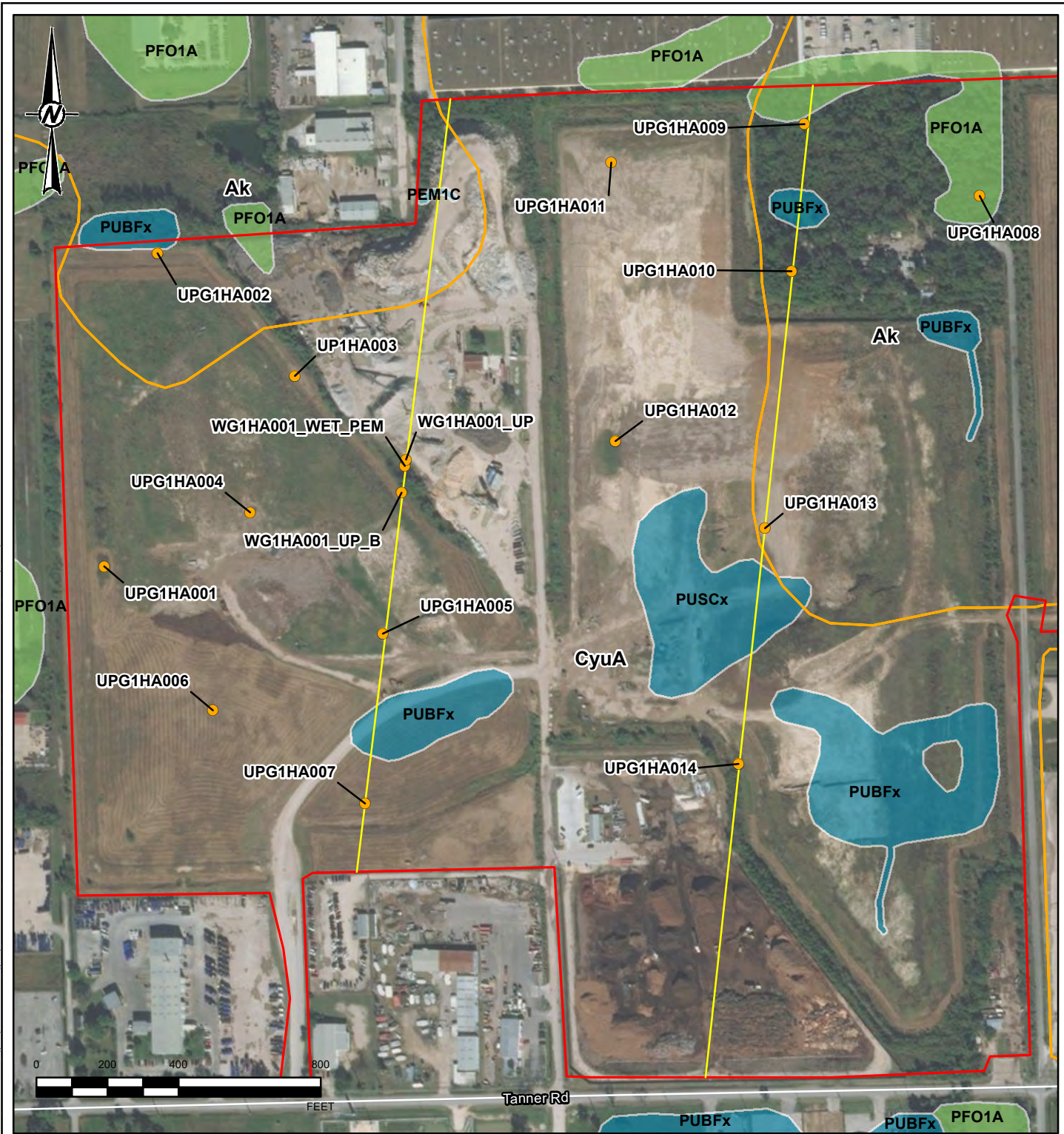
PROJECT
 HAWTHORN PARK LANDFILL EXPANSION

TITLE
WETLAND MAP

CONSULTANT	YYYY-MM-DD	2020-03-25
	DESIGNED	GFD
	PREPARED	GFD
	REVIEWED	KB
	APPROVED	JMT

PROJECT NO. 189426901	CONTROL A002	REV. 0	FIGURE 2-2
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1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI/A



LEGEND

- SOIL STATIONS
- SURVEY
- TRANSECTS
- NATIONAL INVENTORY WETLANDS DATA
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- NRCS SOILS
- AK: ADDICKS-URBAN LAND COMPLEX, 0 TO 1 PERCENT SLOPES
- CYUA: CYFAIR-URBAN LAND COMPLEX, 0 TO 1 PERCENT SLOPES
- GP: PITS, GRAVEL

REFERENCE(S)

1. NATIONAL WETLAND INVENTORY DATA, USFWS, 2019.
2. NRCS SOILS, USDA, 2020.
3. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC
 DATUM: NORTH AMERICAN 1983

CLIENT

USA WASTE OF TEXAS LANDFILLS, INC.

PROJECT

HAWTHORN PARK LANDFILL EXPANSION

TITLE

DESKTOP ANALYSIS MAP

CONSULTANT

YYYY-MM-DD	2020-03-25
DESIGNED	GFD
PREPARED	GFD
REVIEWED	KB
APPROVED	JMT



PROJECT NO.
189426901

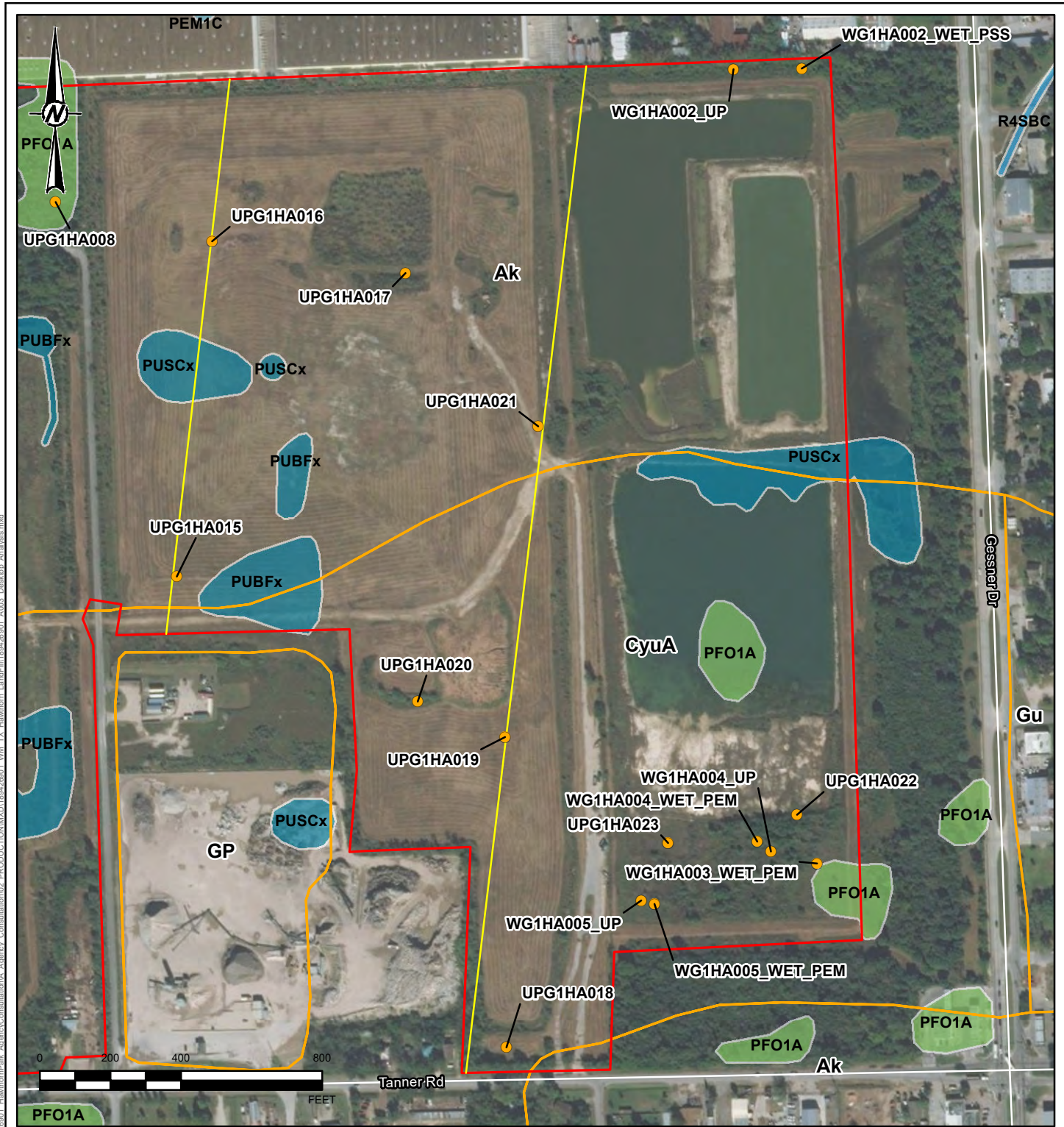
CONTROL
A003

REV.
0

FIGURE
3-1

PATH: G:\Projects\Waste Management of Texas\Hawthorn Park Landfill\99_PROJECTS\189426901_HawthornPark_Agency\Consultation\A_Agency_Consultation\02_PRODUCTION\MXD\189426901_1_WM_TX_Hawthorn_Landfill\189426901_A003_Desktop_Analysis.mxd

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A



LEGEND

- SOIL STATIONS
- ▭ SURVEY AREA
- TRANSECTS
- NATIONAL INVENTORY WETLANDS DATA**
- FRESHWATER EMERGENT WETLAND
- FRESHWATER FORESTED/SHRUB WETLAND
- FRESHWATER POND
- RIVERINE

- ▭ NRCS SOILS
- AK: ADDICKS-URBAN LAND COMPLEX, 0 TO 1 PERCENT SLOPES
- CYUA: CYFAIR-URBAN LAND COMPLEX, 0 TO 1 PERCENT SLOPES
- GP: PITS, GRAVEL
- GU: GESSNER OCCASIONALLY PONDED-URBAN LAND COMPLEX, 0 TO 1 PERCENT SLOPES

REFERENCE(S)

1. NATIONAL WETLAND INVENTORY DATA, USFWS, 2019.
2. NRCS SOILS, USDA, 2020.
3. SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC
 DATUM: NORTH AMERICAN 1983

CLIENT
 USA WASTE OF TEXAS LANDFILLS, INC.

PROJECT
 HAWTHORN PARK LANDFILL EXPANSION

TITLE
DESKTOP ANALYSIS MAP

CONSULTANT	YYYY-MM-DD	2020-03-25
DESIGNED	GFD	
PREPARED	GFD	
REVIEWED	KB	
APPROVED	JMT	



PROJECT NO.	CONTROL	REV.	FIGURE
189426901	A003	0	3-2

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI/A

Appendix B

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA001
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.854441 **Long.:** -95.561294 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA001

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Cynodon dactylon</u>	<u>40</u>	<input checked="" type="checkbox"/> <u>40.0%</u>	<u>FACU</u>
2. <u>Geranium carolinianum</u>	<u>15</u>	<input checked="" type="checkbox"/> <u>15.0%</u>	<u>UPL</u>
3. <u>Triadica sebifera</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>FAC</u>
4. <u>Galium aparine</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>FACU</u>
5. <u>Helianthus annuus</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>FAC</u>
6. <u>Solidago canadensis</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACU</u>
7. <u>Oxalis stricta</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>UPL</u>
8. <u>Capsella bursa-pastoris</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACU</u>
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 20 x 3 = 60

FACU species 60 x 4 = 240

UPL species 20 x 5 = 100

Column Total s: 100 (A) 400 (B)

Prevalence Index = B/A = 4.000

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPG1HA001

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

Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)	%	Tvpe ¹	Loc ²			
0-16	10YR	3/2	95	10YR	4/4	5	C	M	Clay	

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

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)</p> <p><input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)</p> <p><input type="checkbox"/> Muck Presence (A8) (LRR U)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR U)</p> <p><input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)</p> <p><input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)</p> <p><input type="checkbox"/> Delta Ochric (F17) (MLRA 151)</p> <p><input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)</p> <p><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR O)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR S)</p> <p><input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)</p> <p><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	--	---

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

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA002
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.856852 **Long.:** -95.560739 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA002

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Vachellia farnesiana</u>	<u>5</u>	<input checked="" type="checkbox"/> <u>100.0%</u>	<u>FACU</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u>	<u>5</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>95</u>	<input checked="" type="checkbox"/> <u>95.0%</u>	<u>UPL</u>
2. <u>Rosa bracteata</u>	<u>3</u>	<input type="checkbox"/> 3.0%	<u>UPL</u>
3. <u>Cyperus enterianus</u>	<u>2</u>	<input type="checkbox"/> 2.0%	<u>FACW</u>
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 2 x 2 = 4

FAC species 0 x 3 = 0

FACU species 5 x 4 = 20

UPL species 98 x 5 = 490

Column Total s: 105 (A) 514 (B)

Prevalence Index = B/A = 4.895

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPG1HA002

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Tvde ¹	Loc ²		
0-16	10YR	3/2	100				Clay	

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

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) <input type="checkbox"/> Muck Presence (A8) (LRR U) <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Marl (F10) (LRR U) <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T) <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U) <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR O) <input type="checkbox"/> 2 cm Muck (A10) (LRR S) <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA003
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Toeslope **Local relief (concave, convex, none):** flat **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.855871 **Long.:** -95.559551 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____ _____	
Remarks: _____ _____	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA003

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>90</u>	<input checked="" type="checkbox"/> <u>90.0%</u>	<u>UPL</u>
2. <u>Baccharis halimifolia</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FAC</u>
3. <u>Sesbania drummondii</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACW</u>
4. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
5. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
6. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 5 x 2 = 10

FAC species 5 x 3 = 15

FACU species 0 x 4 = 0

UPL species 90 x 5 = 450

Column Total s: 100 (A) 475 (B)

Prevalence Index = B/A = 4.750

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPG1HA003

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Tvde ¹	Loc ²		
0-16	10YR	3/2	100				Clay	

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) <input type="checkbox"/> Muck Presence (A8) (LRR U) <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Marl (F10) (LRR U) <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T) <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U) <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR O) <input type="checkbox"/> 2 cm Muck (A10) (LRR S) <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA004
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 3.0 % / 1.7 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.854826 **Long.:** -95.559984 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA004

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
(Plot size: <u>30'</u>)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Shrub Stratum (Plot size: <u>30'</u>)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Herb Stratum (Plot size: <u>30'</u>)			
1.	<u>85</u>	<input checked="" type="checkbox"/> 85.0%	UPL
2.	<u>5</u>	<input type="checkbox"/> 5.0%	FACU
3.	<u>5</u>	<input type="checkbox"/> 5.0%	FACU
4.	<u>5</u>	<input type="checkbox"/> 5.0%	FACU
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
9.	0	<input type="checkbox"/> 0.0%	
10.	0	<input type="checkbox"/> 0.0%	
11.	0	<input type="checkbox"/> 0.0%	
12.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>50</u>	20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover
Woody Vine Stratum (Plot size: <u>30'</u>)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 0 x 3 = 0

FACU species 15 x 4 = 60

UPL species 85 x 5 = 425

Column Total s: 100 (A) 485 (B)

Prevalence Index = B/A = 4.850

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPG1HA004

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Tvde ¹	Loc ²		
0-16	10YR	3/2	100				Clay	

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

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)</p> <p><input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)</p> <p><input type="checkbox"/> Muck Presence (A8) (LRR U)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)</p> <p><input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)</p>	<p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR U)</p> <p><input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)</p> <p><input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)</p> <p><input type="checkbox"/> Delta Ochric (F17) (MLRA 151)</p> <p><input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)</p> <p><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR O)</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR S)</p> <p><input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)</p> <p><input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA005
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.853857 **Long.:** -95.558839 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA005

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 0 x 3 = 0

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Total s: 0 (A) 0 (B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).
No vegetation, area is recently disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA006
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.853303 **Long.:** -95.560366 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA006

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Lolium perenne</u>	35	<input checked="" type="checkbox"/> 35.0%	FACU
2. <u>Rubus argutus</u>	20	<input checked="" type="checkbox"/> 20.0%	FAC
3. <u>Bothriochloa ischaemum</u>	20	<input checked="" type="checkbox"/> 20.0%	UPL
4. <u>Solidago canadensis</u>	15	<input type="checkbox"/> 15.0%	FACU
5. <u>Vicia ludoviciana</u>	5	<input type="checkbox"/> 5.0%	FACU
6. <u>Geranium carolinianum</u>	5	<input type="checkbox"/> 5.0%	UPL
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 20 x 3 = 60

FACU species 55 x 4 = 220

UPL species 25 x 5 = 125

Column Total s: 100 (A) 405 (B)

Prevalence Index = B/A = 4.050

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA007
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.852548 **Long.:** -95.559041 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA007

Tree Stratum	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. _____ (Plot size: <u>30'</u>)	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
8. _____	0	<input type="checkbox"/>	0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
7. _____	0	<input type="checkbox"/>	0.0%	_____
8. _____	0	<input type="checkbox"/>	0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover		
Shrub Stratum (Plot size: <u>30'</u>)				
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
6. _____	0	<input type="checkbox"/>	0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover		
Herb Stratum (Plot size: <u>30'</u>)				
1. <u>Rubus argutus</u>	50	<input checked="" type="checkbox"/>	50.0%	FAC
2. <u>Bothriochloa ischaemum</u>	20	<input checked="" type="checkbox"/>	20.0%	UPL
3. <u>Solidago canadensis</u>	10	<input type="checkbox"/>	10.0%	FACU
4. <u>Geranium carolinianum</u>	5	<input type="checkbox"/>	5.0%	UPL
5. <u>Vicia ludoviciana</u>	5	<input type="checkbox"/>	5.0%	FACU
6. <u>Cynodon dactylon</u>	5	<input type="checkbox"/>	5.0%	FACU
7. <u>Verbena bracteata</u>	5	<input type="checkbox"/>	5.0%	FACU
8. _____	0	<input type="checkbox"/>	0.0%	_____
9. _____	0	<input type="checkbox"/>	0.0%	_____
10. _____	0	<input type="checkbox"/>	0.0%	_____
11. _____	0	<input type="checkbox"/>	0.0%	_____
12. _____	0	<input type="checkbox"/>	0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	100	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	0	<input type="checkbox"/>	0.0%	_____
2. _____	0	<input type="checkbox"/>	0.0%	_____
3. _____	0	<input type="checkbox"/>	0.0%	_____
4. _____	0	<input type="checkbox"/>	0.0%	_____
5. _____	0	<input type="checkbox"/>	0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 50 x 3 = 150

FACU species 25 x 4 = 100

UPL species 25 x 5 = 125

Column Total s: 100 (A) 375 (B)

Prevalence Index = B/A = 3.750

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA008
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.857109 **Long.:** -95.553429 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA008

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Triadica sebifera</u>	<u>25</u>	<input checked="" type="checkbox"/> 50.0%	<u>FAC</u>
2.	<u>Quercus nigra</u>	<u>15</u>	<input checked="" type="checkbox"/> 30.0%	<u>FAC</u>
3.	<u>Ulmus americana</u>	<u>10</u>	<input checked="" type="checkbox"/> 20.0%	<u>FAC</u>
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>25</u>		20% of Total Cover: <u>10</u>	<u>50</u>	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: _____)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Shrub Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Triadica sebifera</u>	<u>15</u>	<input checked="" type="checkbox"/> 60.0%	<u>FAC</u>
2.	<u>Morus alba</u>	<u>10</u>	<input checked="" type="checkbox"/> 40.0%	<u>FACU</u>
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>12.5</u>		20% of Total Cover: <u>5</u>	<u>25</u>	= Total Cover
Herb Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Galium aparine</u>	<u>5</u>	<input checked="" type="checkbox"/> 50.0%	<u>FACU</u>
2.	<u>Cirsium texanum</u>	<u>3</u>	<input checked="" type="checkbox"/> 30.0%	<u>UPL</u>
3.	<u>Brassica rapa</u>	<u>2</u>	<input checked="" type="checkbox"/> 20.0%	<u>UPL</u>
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
9.		<u>0</u>	<input type="checkbox"/> 0.0%	
10.		<u>0</u>	<input type="checkbox"/> 0.0%	
11.		<u>0</u>	<input type="checkbox"/> 0.0%	
12.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>5</u>		20% of Total Cover: <u>2</u>	<u>10</u>	= Total Cover
Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Berchemia scandens</u>	<u>15</u>	<input checked="" type="checkbox"/> 100.0%	<u>FAC</u>
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>7.5</u>		20% of Total Cover: <u>3</u>	<u>15</u>	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 55.6% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 80 x 3 = 240

FACU species 15 x 4 = 60

UPL species 5 x 5 = 25

Column Total s: 100 (A) 325 (B)

Prevalence Index = B/A = 3.250

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Si Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA009
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.857704 **Long.:** -95.554964 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA009

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Quercus nigra</u>	25	<input checked="" type="checkbox"/> 50.0%	FAC
2.	<u>Ulmus americana</u>	15	<input checked="" type="checkbox"/> 30.0%	FAC
3.	<u>Celtis laevigata</u>	10	<input checked="" type="checkbox"/> 20.0%	FACW
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>25</u> 20% of Total Cover: <u>10</u>		<u>50</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.		0	<input type="checkbox"/> 0.0%	
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>		<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Ilex vomitoria</u>	15	<input checked="" type="checkbox"/> 50.0%	FAC
2.	<u>Morus alba</u>	10	<input checked="" type="checkbox"/> 33.3%	FACU
3.	<u>Juniperus virginiana</u>	5	<input type="checkbox"/> 16.7%	FACU
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>15</u> 20% of Total Cover: <u>6</u>		<u>30</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Ilex vomitoria</u>	10	<input checked="" type="checkbox"/> 66.7%	FAC
2.	<u>Morus alba</u>	5	<input checked="" type="checkbox"/> 33.3%	FACU
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
6.		0	<input type="checkbox"/> 0.0%	
7.		0	<input type="checkbox"/> 0.0%	
8.		0	<input type="checkbox"/> 0.0%	
9.		0	<input type="checkbox"/> 0.0%	
10.		0	<input type="checkbox"/> 0.0%	
11.		0	<input type="checkbox"/> 0.0%	
12.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>7.5</u> 20% of Total Cover: <u>3</u>		<u>15</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Berchemia scandens</u>	10	<input checked="" type="checkbox"/> 100.0%	FAC
2.		0	<input type="checkbox"/> 0.0%	
3.		0	<input type="checkbox"/> 0.0%	
4.		0	<input type="checkbox"/> 0.0%	
5.		0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>5</u> 20% of Total Cover: <u>2</u>		<u>10</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 10 x 2 = 20

FAC species 75 x 3 = 225

FACU species 20 x 4 = 80

UPL species 0 x 5 = 0

Column Total s: 105 (A) 325 (B)

Prevalence Index = B/A = 3.095

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA010
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.856568 **Long.:** -95.555119 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA010

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Fraxinus pennsylvanica</u>	<u>5</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACW</u>
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>2.5</u>		20% of Total Cover: <u>1</u>	<u>5</u> = Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u> = Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)				
1.	<u>Populus deltoides</u>	<u>5</u>	<input checked="" type="checkbox"/> 100.0%	<u>FAC</u>
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>2.5</u>		20% of Total Cover: <u>1</u>	<u>5</u> = Total Cover	
Herb Stratum (Plot size: <u>30'</u>)				
1.	<u>Cynodon dactylon</u>	<u>20</u>	<input checked="" type="checkbox"/> 44.4%	<u>FACU</u>
2.	<u>Sesbania drummondii</u>	<u>10</u>	<input checked="" type="checkbox"/> 22.2%	<u>FACW</u>
3.	<u>Helianthus annuus</u>	<u>5</u>	<input type="checkbox"/> 11.1%	<u>FAC</u>
4.	<u>Galium aparine</u>	<u>5</u>	<input type="checkbox"/> 11.1%	<u>FACU</u>
5.	<u>Verbena litoralis var. brevibracteata</u>	<u>3</u>	<input type="checkbox"/> 6.7%	<u>UPL</u>
6.	<u>Mellilotus officinalis</u>	<u>2</u>	<input type="checkbox"/> 4.4%	<u>FACU</u>
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
9.		<u>0</u>	<input type="checkbox"/> 0.0%	
10.		<u>0</u>	<input type="checkbox"/> 0.0%	
11.		<u>0</u>	<input type="checkbox"/> 0.0%	
12.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>22.5</u>		20% of Total Cover: <u>9</u>	<u>45</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u> = Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 15 x 2 = 30

FAC species 10 x 3 = 30

FACU species 27 x 4 = 108

UPL species 3 x 5 = 15

Column Total s: 55 (A) 183 (B)

Prevalence Index = B/A = 3.327

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA011
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.857451 **Long.:** -95.556689 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA012
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 3.0 % / 1.7 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.855294 **Long.:** -95.556723 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA012

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____ (Plot size: <u>30'</u>)	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Sesbania drummondii</u>	30	<input checked="" type="checkbox"/> 100.0%	FACW
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>15</u> 20% of Total Cover: <u>6</u>	<u>30</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Cynodon dactylon</u>	45	<input checked="" type="checkbox"/> 56.3%	FACU
2. <u>Melilotus officinalis</u>	20	<input checked="" type="checkbox"/> 25.0%	FACU
3. <u>Bothriochloa ischaemum</u>	15	<input type="checkbox"/> 18.8%	UPL
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>40</u> 20% of Total Cover: <u>16</u>	<u>80</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 30 x 2 = 60

FAC species 0 x 3 = 0

FACU species 65 x 4 = 260

UPL species 15 x 5 = 75

Column Total s: 110 (A) 395 (B)

Prevalence Index = B/A = 3.591

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA013
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.854587 **Long.:** -95.555420 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA013

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Cynodon dactylon</u>	<u>35</u>	<input checked="" type="checkbox"/> 35.0%	<u>FACU</u>
2. <u>Bothriochloa ischaemum</u>	<u>25</u>	<input checked="" type="checkbox"/> 25.0%	<u>UPL</u>
3. <u>Helianthus annuus</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>FAC</u>
4. <u>Melilotus officinalis</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>FACU</u>
5. <u>Ambrosia psilostachya</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FAC</u>
6. <u>Vicia ludoviciana</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACU</u>
7. <u>Lolium perenne</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACU</u>
8. <u>Geranium carolinianum</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>UPL</u>
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 15 x 3 = 45

FACU species 55 x 4 = 220

UPL species 30 x 5 = 150

Column Total s: 100 (A) 415 (B)

Prevalence Index = B/A = 4.150

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA014
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 5.0 % / 2.9 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.852769 **Long.:** -95.555718 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA014

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>45</u>	<input checked="" type="checkbox"/> <u>56.3%</u>	<u>UPL</u>
2. <u>Cynodon dactylon</u>	<u>35</u>	<input checked="" type="checkbox"/> <u>43.8%</u>	<u>FACU</u>
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>40</u> 20% of Total Cover: <u>16</u>	<u>80</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 0 x 3 = 0

FACU species 35 x 4 = 140

UPL species 45 x 5 = 225

Column Total s: 80 (A) 365 (B)

Prevalence Index = B/A = 4.563

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA015
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Ridgetop **Local relief (concave, convex, none):** flat **Slope:** 3.0 % / 1.7 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.854165 **Long.:** -95.552445 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA015

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>65</u>	<input checked="" type="checkbox"/> <u>65.0%</u>	<u>UPL</u>
2. <u>Cynodon dactylon</u>	<u>25</u>	<input checked="" type="checkbox"/> <u>25.0%</u>	<u>FACU</u>
3. <u>Ambrosia psilostachya</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FAC</u>
4. <u>Cyperus enterianus</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACW</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 5 x 2 = 10

FAC species 5 x 3 = 15

FACU species 25 x 4 = 100

UPL species 65 x 5 = 325

Column Total s: 100 (A) 450 (B)

Prevalence Index = B/A = 4.500

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA016
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.856767 **Long.:** -95.552040 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA016

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Galium aparine</u>	<u>55</u>	<input checked="" type="checkbox"/> <u>55.0%</u>	<u>FACU</u>
2. <u>Vicia ludoviciana</u>	<u>15</u>	<input type="checkbox"/> <u>15.0%</u>	<u>FACU</u>
3. <u>Bromus unioloides</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>UPL</u>
4. <u>Corydalis aurea</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>UPL</u>
5. <u>Helianthus annuus</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FAC</u>
6. <u>Verbena litoralis var. brevibracteata</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>UPL</u>
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 5 x 3 = 15

FACU species 70 x 4 = 280

UPL species 25 x 5 = 125

Column Total s: 100 (A) 420 (B)

Prevalence Index = B/A = 4.200

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA017
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.856476 **Long.:** -95.550320 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA017

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>35</u>	<input checked="" type="checkbox"/> <u>58.3%</u>	<u>UPL</u>
2. <u>Cirsium horridulum</u>	<u>10</u>	<input type="checkbox"/> <u>16.7%</u>	<u>FAC</u>
3. <u>Cynodon dactylon</u>	<u>5</u>	<input type="checkbox"/> <u>8.3%</u>	<u>FACU</u>
4. <u>Ambrosia psilostachya</u>	<u>5</u>	<input type="checkbox"/> <u>8.3%</u>	<u>FAC</u>
5. <u>Sesbania drummondii</u>	<u>3</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACW</u>
6. <u>Baccharis halimifolia</u>	<u>2</u>	<input type="checkbox"/> <u>3.3%</u>	<u>FAC</u>
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>30</u> 20% of Total Cover: <u>12</u>	<u>60</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 3 x 2 = 6

FAC species 17 x 3 = 51

FACU species 5 x 4 = 20

UPL species 35 x 5 = 175

Column Total s: 60 (A) 252 (B)

Prevalence Index = B/A = 4.200

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA018
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.850425 **Long.:** -95.549622 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA018

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____ (Plot size: <u>30'</u>)	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Rubus trivialis</u>	50	<input checked="" type="checkbox"/> 50.0%	FACU
2. <u>Bothriochloa ischaemum</u>	25	<input checked="" type="checkbox"/> 25.0%	UPL
3. <u>Verbena litoralis var. brevibracteata</u>	10	<input type="checkbox"/> 10.0%	UPL
4. <u>Andropogon glomeratus</u>	5	<input type="checkbox"/> 5.0%	FACW
5. <u>Lonicera japonica</u>	5	<input type="checkbox"/> 5.0%	FACU
6. <u>Galium aparine</u>	5	<input type="checkbox"/> 5.0%	FACU
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 5 x 2 = 10

FAC species 0 x 3 = 0

FACU species 60 x 4 = 240

UPL species 35 x 5 = 175

Column Total s: 100 (A) 425 (B)

Prevalence Index = B/A = 4.250

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA019
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.852839 **Long.:** -95.549554 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA019

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>90</u>	<input checked="" type="checkbox"/> <u>90.0%</u>	<u>UPL</u>
2. <u>Cynodon dactylon</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACU</u>
3. <u>Andropogon glomeratus</u>	<u>3</u>	<input type="checkbox"/> <u>3.0%</u>	<u>FACW</u>
4. <u>Rubus trivialis</u>	<u>2</u>	<input type="checkbox"/> <u>2.0%</u>	<u>FACU</u>
5. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
6. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 3 x 2 = 6

FAC species 0 x 3 = 0

FACU species 7 x 4 = 28

UPL species 90 x 5 = 450

Column Total s: 100 (A) 484 (B)

Prevalence Index = B/A = 4.840

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA020
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** undulating **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.853137 **Long.:** -95.550325 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA020

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Vachellia farnesiana</u>	<u>40</u>	<input checked="" type="checkbox"/> <u>100.0%</u>	<u>FACU</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>20</u> 20% of Total Cover: <u>8</u>	<u>40</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Lantana camara</u>	<u>40</u>	<input checked="" type="checkbox"/> <u>50.0%</u>	<u>FACU</u>
2. <u>Rubus argutus</u>	<u>20</u>	<input checked="" type="checkbox"/> <u>25.0%</u>	<u>FAC</u>
3. <u>Ampelopsis arborea</u>	<u>10</u>	<input type="checkbox"/> <u>12.5%</u>	<u>FAC</u>
4. <u>Bothriochloa ischaemum</u>	<u>5</u>	<input type="checkbox"/> <u>6.3%</u>	<u>UPL</u>
5. <u>Cynodon dactylon</u>	<u>5</u>	<input type="checkbox"/> <u>6.3%</u>	<u>FACU</u>
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>40</u> 20% of Total Cover: <u>16</u>	<u>80</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 30 x 3 = 90

FACU species 85 x 4 = 340

UPL species 5 x 5 = 25

Column Total s: 120 (A) 455 (B)

Prevalence Index = B/A = 3.792

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 13-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA021
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.855251 **Long.:** -95.549177 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA021

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Juniperus virginiana</u>	<u>5</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACU</u>
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>2.5</u>		20% of Total Cover: <u>1</u>	<u>5</u> = Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u> = Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)				
1.	<u>Baccharis halimifolia</u>	<u>10</u>	<input checked="" type="checkbox"/> 66.7%	<u>FAC</u>
2.	<u>Ilex vomitoria</u>	<u>5</u>	<input checked="" type="checkbox"/> 33.3%	<u>FAC</u>
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>7.5</u>		20% of Total Cover: <u>3</u>	<u>15</u> = Total Cover	
Herb Stratum (Plot size: <u>30'</u>)				
1.	<u>Cynodon dactylon</u>	<u>45</u>	<input checked="" type="checkbox"/> 52.9%	<u>FACU</u>
2.	<u>Bothriochloa ischaemum</u>	<u>25</u>	<input checked="" type="checkbox"/> 29.4%	<u>UPL</u>
3.	<u>Rubus argutus</u>	<u>10</u>	<input type="checkbox"/> 11.8%	<u>FAC</u>
4.	<u>Vicia ludoviciana</u>	<u>5</u>	<input type="checkbox"/> 5.9%	<u>FACU</u>
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
9.		<u>0</u>	<input type="checkbox"/> 0.0%	
10.		<u>0</u>	<input type="checkbox"/> 0.0%	
11.		<u>0</u>	<input type="checkbox"/> 0.0%	
12.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>42.5</u>		20% of Total Cover: <u>17</u>	<u>85</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u> = Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 25 x 3 = 75

FACU species 55 x 4 = 220

UPL species 25 x 5 = 125

Column Total s: 105 (A) 420 (B)

Prevalence Index = B/A = 4.000

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is > 50%
 - 3 - Prevalence Index is ≤ 3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 11-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA022
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** convex **Slope:** 3.0 % / 1.7 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.852168 **Long.:** -95.546965 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Wetland hydrology is not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA022

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
(Plot size: <u>30'</u>)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1.	0	<input type="checkbox"/> 0.0%	
2.	0	<input type="checkbox"/> 0.0%	
3.	0	<input type="checkbox"/> 0.0%	
4.	0	<input type="checkbox"/> 0.0%	
5.	0	<input type="checkbox"/> 0.0%	
6.	0	<input type="checkbox"/> 0.0%	
7.	0	<input type="checkbox"/> 0.0%	
8.	0	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Shrub Stratum (Plot size: <u>30'</u>)			
1.	<u>Triadica sebifera</u>	<u>35</u> <input checked="" type="checkbox"/> <u>70.0%</u>	<u>FAC</u>
2.	<u>Melia azedarach</u>	<u>5</u> <input type="checkbox"/> <u>10.0%</u>	<u>UPL</u>
3.	<u>Ilex vomitoria</u>	<u>5</u> <input type="checkbox"/> <u>10.0%</u>	<u>FAC</u>
4.	<u>Baccharis halimifolia</u>	<u>5</u> <input type="checkbox"/> <u>10.0%</u>	<u>FAC</u>
5.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
6.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
50% of Total Cover: <u>25</u>	20% of Total Cover: <u>10</u>	<u>50</u>	= Total Cover
Herb Stratum (Plot size: <u>30'</u>)			
1.	<u>Rubus argutus</u>	<u>70</u> <input checked="" type="checkbox"/> <u>70.0%</u>	<u>FAC</u>
2.	<u>Andropogon glomeratus</u>	<u>10</u> <input type="checkbox"/> <u>10.0%</u>	<u>FACW</u>
3.	<u>Solidago canadensis</u>	<u>10</u> <input type="checkbox"/> <u>10.0%</u>	<u>FACU</u>
4.	<u>Bothriochloa ischaemum</u>	<u>10</u> <input type="checkbox"/> <u>10.0%</u>	<u>UPL</u>
5.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
6.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
7.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
8.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
9.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
10.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
11.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
12.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
50% of Total Cover: <u>50</u>	20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover
Woody Vine Stratum (Plot size: <u>30'</u>)			
1.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
2.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
3.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
4.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
5.		<u>0</u> <input type="checkbox"/> <u>0.0%</u>	
50% of Total Cover: <u>0</u>	20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 10 x 2 = 20

FAC species 115 x 3 = 345

FACU species 10 x 4 = 40

UPL species 15 x 5 = 75

Column Total s: 150 (A) 480 (B)

Prevalence Index = B/A = 3.200

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** UPG1HA023
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851978 **Long.:** -95.548124 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: UPG1HA023

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	55	<input checked="" type="checkbox"/> 55.0%	UPL
2. <u>Cynodon dactylon</u>	20	<input checked="" type="checkbox"/> 20.0%	FACU
3. <u>Cyperus enterianus</u>	10	<input type="checkbox"/> 10.0%	FACW
4. <u>Salix nigra</u>	5	<input type="checkbox"/> 5.0%	OBL
5. <u>Verbena litoralis var. brevibracteata</u>	5	<input type="checkbox"/> 5.0%	UPL
6. <u>Vicia ludoviciana</u>	3	<input type="checkbox"/> 3.0%	FACU
7. <u>Andropogon virginicus</u>	2	<input type="checkbox"/> 2.0%	FAC
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 5 x 1 = 5

FACW species 10 x 2 = 20

FAC species 2 x 3 = 6

FACU species 23 x 4 = 92

UPL species 60 x 5 = 300

Column Total s: 100 (A) 423 (B)

Prevalence Index = B/A = 4.230

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA001_UP
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 60.0 % / 31.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.855199 **Long.:** -95.558587 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA001_UP

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Baccharis halimifolia</u>	<u>10</u>	<input checked="" type="checkbox"/> <u>100.0%</u>	<u>FAC</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>5</u> 20% of Total Cover: <u>2</u>	<u>10</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Brassica rapa</u>	<u>45</u>	<input checked="" type="checkbox"/> <u>45.0%</u>	<u>UPL</u>
2. <u>Panicum virgatum</u>	<u>15</u>	<input checked="" type="checkbox"/> <u>15.0%</u>	<u>FAC</u>
3. <u>Galium aparine</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>FACU</u>
4. <u>Helianthus annuus</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>FAC</u>
5. <u>Cynodon dactylon</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>FACU</u>
6. <u>Vicia ludoviciana</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACU</u>
7. <u>Rubus argutus</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FAC</u>
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 40 x 3 = 120

FACU species 25 x 4 = 100

UPL species 45 x 5 = 225

Column Total s: 110 (A) 445 (B)

Prevalence Index = B/A = 4.045

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA001_UP_B
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 3.0 % / 1.7 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.854943 **Long.:** -95.558637 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA001_UP_B

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Celtis laevigata</u>	<u>20</u>	<input checked="" type="checkbox"/> 100.0%	<u>FACW</u>
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>10</u> 20% of Total Cover: <u>4</u>		<u>20</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>		<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>		<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)				
1.	<u>Ambrosia trifida</u>	<u>20</u>	<input checked="" type="checkbox"/> 20.0%	<u>FAC</u>
2.	<u>Geranium carolinianum</u>	<u>15</u>	<input checked="" type="checkbox"/> 15.0%	<u>UPL</u>
3.	<u>Lantana camara</u>	<u>10</u>	<input checked="" type="checkbox"/> 10.0%	<u>FACU</u>
4.	<u>Corydalis aurea</u>	<u>10</u>	<input checked="" type="checkbox"/> 10.0%	<u>UPL</u>
5.	<u>Mellilotus officinalis</u>	<u>10</u>	<input checked="" type="checkbox"/> 10.0%	<u>FACU</u>
6.	<u>Lolium perenne</u>	<u>10</u>	<input checked="" type="checkbox"/> 10.0%	<u>FACU</u>
7.	<u>Rumex crispus</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FAC</u>
8.	<u>Rubus argutus</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FAC</u>
9.	<u>Vicia ludoviciana</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACU</u>
10.	<u>Baccharis halimifolia</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FAC</u>
11.	<u>Cyperus enterianus</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACW</u>
12.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>		<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>		<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 25 x 2 = 50

FAC species 35 x 3 = 105

FACU species 35 x 4 = 140

UPL species 25 x 5 = 125

Column Total s: 120 (A) 420 (B)

Prevalence Index = B/A = 3.500

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA001_WET_PEM
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.855149 **Long.:** -95.558600 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of 2 required) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA001_WET_PE

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Eleocharis montevidensis</u>	<u>25</u>	<input checked="" type="checkbox"/> <u>29.4%</u>	<u>FACW</u>
2. <u>Typha latifolia</u>	<u>20</u>	<input checked="" type="checkbox"/> <u>23.5%</u>	<u>OBL</u>
3. <u>Alternanthera philoxeroides</u>	<u>15</u>	<input type="checkbox"/> <u>17.6%</u>	<u>OBL</u>
4. <u>Cynodon dactylon</u>	<u>10</u>	<input type="checkbox"/> <u>11.8%</u>	<u>FACU</u>
5. <u>Sesbania drummondii</u>	<u>5</u>	<input type="checkbox"/> <u>5.9%</u>	<u>FACW</u>
6. <u>Andropogon glomeratus</u>	<u>5</u>	<input type="checkbox"/> <u>5.9%</u>	<u>FACW</u>
7. <u>Triadica sebifera</u>	<u>5</u>	<input type="checkbox"/> <u>5.9%</u>	<u>FAC</u>
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>42.5</u> 20% of Total Cover: <u>17</u>	<u>85</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 35 x 1 = 35

FACW species 35 x 2 = 70

FAC species 5 x 3 = 15

FACU species 10 x 4 = 40

UPL species 0 x 5 = 0

Column Total s: 85 (A) 160 (B)

Prevalence Index = B/A = 1.882

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA002_UP
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.857986 **Long.:** -95.547336 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA002_UP

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. <u>Platanus occidentalis</u> (Plot size: <u>30'</u>)	10	<input checked="" type="checkbox"/> 100.0%	FACW
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>5</u> 20% of Total Cover: <u>2</u>	10	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Ulmus rubra</u>	20	<input checked="" type="checkbox"/> 100.0%	FAC
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>10</u> 20% of Total Cover: <u>4</u>	20	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Lonicera japonica</u>	85	<input checked="" type="checkbox"/> 85.0%	FACU
2. <u>Rubus argutus</u>	5	<input type="checkbox"/> 5.0%	FAC
3. <u>Ilex vomitoria</u>	5	<input type="checkbox"/> 5.0%	FAC
4. <u>Solidago canadensis</u>	3	<input type="checkbox"/> 3.0%	FACU
5. <u>Triadica sebifera</u>	2	<input type="checkbox"/> 2.0%	FAC
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	100	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 10 x 2 = 20

FAC species 32 x 3 = 96

FACU species 88 x 4 = 352

UPL species 0 x 5 = 0

Column Total s: 130 (A) 468 (B)

Prevalence Index = B/A = 3.600

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA002_WET_PSS
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.857976 **Long.:** -95.546727 **Datum:** NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slopes (Ak) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA002_WET_PS

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Platanus occidentalis</u>	<u>5</u>	<input checked="" type="checkbox"/> 41.7%	<u>FACW</u>
2.	<u>Triadica sebifera</u>	<u>5</u>	<input checked="" type="checkbox"/> 41.7%	<u>FAC</u>
3.	<u>Quercus nigra</u>	<u>2</u>	<input type="checkbox"/> 16.7%	<u>FAC</u>
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>6</u>		20% of Total Cover: <u>2.4</u>	<u>12</u>	= Total Cover
Sapling or Sapling/Shrub Stratum (Plot size: _____)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover
Shrub Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Triadica sebifera</u>	<u>30</u>	<input checked="" type="checkbox"/> 66.7%	<u>FAC</u>
2.	<u>Fraxinus pennsylvanica</u>	<u>5</u>	<input type="checkbox"/> 11.1%	<u>FACW</u>
3.	<u>Ulmus americana</u>	<u>5</u>	<input type="checkbox"/> 11.1%	<u>FAC</u>
4.	<u>Celtis laevigata</u>	<u>5</u>	<input type="checkbox"/> 11.1%	<u>FACW</u>
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>22.5</u>		20% of Total Cover: <u>9</u>	<u>45</u>	= Total Cover
Herb Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	<u>Cyperus entererianus</u>	<u>65</u>	<input checked="" type="checkbox"/> 72.2%	<u>FACW</u>
2.	<u>Ligustrum sinense</u>	<u>10</u>	<input type="checkbox"/> 11.1%	<u>FAC</u>
3.	<u>Lonicera japonica</u>	<u>10</u>	<input type="checkbox"/> 11.1%	<u>FACU</u>
4.	<u>Rubus argutus</u>	<u>5</u>	<input type="checkbox"/> 5.6%	<u>FAC</u>
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
6.		<u>0</u>	<input type="checkbox"/> 0.0%	
7.		<u>0</u>	<input type="checkbox"/> 0.0%	
8.		<u>0</u>	<input type="checkbox"/> 0.0%	
9.		<u>0</u>	<input type="checkbox"/> 0.0%	
10.		<u>0</u>	<input type="checkbox"/> 0.0%	
11.		<u>0</u>	<input type="checkbox"/> 0.0%	
12.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>45</u>		20% of Total Cover: <u>18</u>	<u>90</u>	= Total Cover
Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.		<u>0</u>	<input type="checkbox"/> 0.0%	
2.		<u>0</u>	<input type="checkbox"/> 0.0%	
3.		<u>0</u>	<input type="checkbox"/> 0.0%	
4.		<u>0</u>	<input type="checkbox"/> 0.0%	
5.		<u>0</u>	<input type="checkbox"/> 0.0%	
50% of Total Cover: <u>0</u>		20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 80 x 2 = 160

FAC species 57 x 3 = 171

FACU species 10 x 4 = 40

UPL species 0 x 5 = 0

Column Total s: 147 (A) 371 (B)

Prevalence Index = B/A = 2.524

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA003_WET_PEM
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851784 **Long.:** -95.546799 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA003_WET_PE

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. <u>Salix nigra</u>	<u>5</u>	<input checked="" type="checkbox"/> <u>100.0%</u>	<u>OBL</u>
2. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
3. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
4. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
5. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
6. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>2.5</u> 20% of Total Cover: <u>1</u>	<u>5</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Cyperus enterianus</u>	<u>75</u>	<input checked="" type="checkbox"/> <u>75.0%</u>	<u>FACW</u>
2. <u>Salix nigra</u>	<u>10</u>	<input type="checkbox"/> 10.0%	<u>OBL</u>
3. <u>Eleocharis montevidensis</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACW</u>
4. <u>Sesbania drummondii</u>	<u>5</u>	<input type="checkbox"/> 5.0%	<u>FACW</u>
5. <u>Cynodon dactylon</u>	<u>3</u>	<input type="checkbox"/> 3.0%	<u>FACU</u>
6. <u>Typha latifolia</u>	<u>2</u>	<input type="checkbox"/> 2.0%	<u>OBL</u>
7. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
8. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
9. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
10. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
11. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
12. _____	<u>0</u>	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 17 x 1 = 17

FACW species 85 x 2 = 170

FAC species 0 x 3 = 0

FACU species 3 x 4 = 12

UPL species 0 x 5 = 0

Column Total s: 105 (A) 199 (B)

Prevalence Index = B/A = 1.895

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **WG1HA003 WET PE**

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

Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR	4/2	85	10YR	5/8	15	C	M	Sandy Clay Loam

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

<p>Hydric Soil Indicators:</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) <input type="checkbox"/> Muck Presence (A8) (LRR U) <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) <input type="checkbox"/> Sandy Muck Mineral (S1) (LRR O, S) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Marl (F10) (LRR U) <input type="checkbox"/> Depleted Ochric (F11) (MLRA 151) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T) <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U) <input type="checkbox"/> Delta Ochric (F17) (MLRA 151) <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR O) <input type="checkbox"/> 2 cm Muck (A10) (LRR S) <input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T) <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> Type: _____ Depth (inches): _____	<p>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA004_UP
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851888 **Long.:** -95.547208 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA004_UP

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>65</u>	<input checked="" type="checkbox"/> <u>65.0%</u>	<u>UPL</u>
2. <u>Cynodon dactylon</u>	<u>25</u>	<input checked="" type="checkbox"/> <u>25.0%</u>	<u>FACU</u>
3. <u>Sesbania drummondii</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACW</u>
4. <u>Verbena litoralis var. brevibracteata</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>UPL</u>
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 5 x 2 = 10

FAC species 0 x 3 = 0

FACU species 25 x 4 = 100

UPL species 70 x 5 = 350

Column Total s: 100 (A) 460 (B)

Prevalence Index = B/A = 4.600

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA005_UP
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851537 **Long.:** -95.548381 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA005_UP

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Bothriochloa ischaemum</u>	<u>65</u>	<input checked="" type="checkbox"/> <u>68.4%</u>	<u>UPL</u>
2. <u>Cynodon dactylon</u>	<u>20</u>	<input checked="" type="checkbox"/> <u>21.1%</u>	<u>FACU</u>
3. <u>Verbena litoralis var. brevibracteata</u>	<u>5</u>	<input type="checkbox"/> <u>5.3%</u>	<u>UPL</u>
4. <u>Sesbania drummondii</u>	<u>5</u>	<input type="checkbox"/> <u>5.3%</u>	<u>FACW</u>
5. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
6. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>47.5</u> 20% of Total Cover: <u>19</u>	<u>95</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 0 x 1 = 0

FACW species 5 x 2 = 10

FAC species 0 x 3 = 0

FACU species 20 x 4 = 80

UPL species 70 x 5 = 350

Column Total s: 95 (A) 440 (B)

Prevalence Index = B/A = 4.632

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WG1HA005_WET_PEM
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851506 **Long.:** -95.548263 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of 2 required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0		Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WG1HA005_WET_PE

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Eleocharis montevidensis</u>	<u>60</u>	<input checked="" type="checkbox"/> <u>60.0%</u>	<u>FACW</u>
2. <u>Cyperus enterrianus</u>	<u>20</u>	<input checked="" type="checkbox"/> <u>20.0%</u>	<u>FACW</u>
3. <u>Paspalum urvillei</u>	<u>10</u>	<input type="checkbox"/> <u>10.0%</u>	<u>FAC</u>
4. <u>Cynodon dactylon</u>	<u>5</u>	<input type="checkbox"/> <u>5.0%</u>	<u>FACU</u>
5. <u>Salix nigra</u>	<u>3</u>	<input type="checkbox"/> <u>3.0%</u>	<u>OBL</u>
6. <u>Alternanthera philoxeroides</u>	<u>2</u>	<input type="checkbox"/> <u>2.0%</u>	<u>OBL</u>
7. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
8. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
9. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
10. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
11. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
12. _____	<u>0</u>	<input type="checkbox"/> <u>0.0%</u>	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 5 x 1 = 5

FACW species 80 x 2 = 160

FAC species 10 x 3 = 30

FACU species 5 x 4 = 20

UPL species 0 x 5 = 0

Column Total s: 100 (A) 215 (B)

Prevalence Index = B/A = 2.150

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤ 3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill **City/County:** Harris County **Sampling Date:** 12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc. **State:** TX **Sampling Point:** WP1HA004_WET_PEM
Investigator(s): KB, JM **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR T **Lat.:** 29.851968 **Long.:** -95.547328 **Datum:** NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation , **Soil** , **or Hydrology** **significantly disturbed?** **Are "Normal Circumstances" present?** Yes No
Are Vegetation , **Soil** , **or Hydrology** **naturally problematic?** (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are present. This is a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of 2 required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 0	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: WP1HA004 WET PE

Tree Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: _____)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Shrub Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
6. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	
Herb Stratum (Plot size: <u>30'</u>)			
1. <u>Cyperus enterianus</u>	70	<input checked="" type="checkbox"/> 70.0%	FACW
2. <u>Eleocharis montevidensis</u>	10	<input type="checkbox"/> 10.0%	FACW
3. <u>Paspalum urvillei</u>	10	<input type="checkbox"/> 10.0%	FAC
4. <u>Salix nigra</u>	5	<input type="checkbox"/> 5.0%	OBL
5. <u>Alternanthera philoxeroides</u>	5	<input type="checkbox"/> 5.0%	OBL
6. _____	0	<input type="checkbox"/> 0.0%	_____
7. _____	0	<input type="checkbox"/> 0.0%	_____
8. _____	0	<input type="checkbox"/> 0.0%	_____
9. _____	0	<input type="checkbox"/> 0.0%	_____
10. _____	0	<input type="checkbox"/> 0.0%	_____
11. _____	0	<input type="checkbox"/> 0.0%	_____
12. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>50</u> 20% of Total Cover: <u>20</u>	<u>100</u>	= Total Cover	
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. _____	0	<input type="checkbox"/> 0.0%	_____
2. _____	0	<input type="checkbox"/> 0.0%	_____
3. _____	0	<input type="checkbox"/> 0.0%	_____
4. _____	0	<input type="checkbox"/> 0.0%	_____
5. _____	0	<input type="checkbox"/> 0.0%	_____
50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>	<u>0</u>	= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species 10 x 1 = 10

FACW species 80 x 2 = 160

FAC species 10 x 3 = 30

FACU species 0 x 4 = 0

UPL species 0 x 5 = 0

Column Total s: 100 (A) 200 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is > 50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

