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:

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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 Solis 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.

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

Table 1: NRCS Soils Located within the Project Survey Area

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 determine 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.

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

Table 2: Wetlands Located within the Project Survey Area

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).

Soil Station ID	Matrix Color	Matrix Percent	Redox Color	Redox Percent	Texture	Hydric Soil Indicator
Upland Areas						
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
	10YR 4/2	85	N/A	N/A	Clay	N/A
UPG1HA015	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
	10YR 3/2	70	N/A	N/A	Clay	N/A
UPG1HA017	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

Table 3: Soils Descriptions within the Project Survey Area

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
	10YR 4/3	75	N/A	N/A	Clay	N/A
UPG1HA020	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
Wetland Areas						
WG1HA001_WET_PEM	1oYR 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
	10YR 3/1	80	N/A	N/A	Clay	N/A
WG1HA002_UP	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.

Waterbody ID	Classification	Location	Acreage	Linear Feet	Potentially JD YES/NO Justification		
Open Waters							
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		
Manmade Ditcl	Manmade Ditches						

Table 4: Waterbodies Located within the Project Survey Area

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	57570, -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 nonjurisdictional 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 nonjurisdictional 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://hazardsfema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed March 2020.

Munsell Color. 2010. Munsell soil color charts: with genuine Munsell color ships. 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 athttps://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

euro mus

Jeremy Munz Project Biologist

fela

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Appendix A







I I I I I F THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MOD



1 I I I I MEASUREMENT DOES NOT MATCH W



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Appendix B

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Hawthorn Landfill	City/County: Harr	is County	Sampling Date:	09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State	s: _TX S	ampling Point: UPG1HA0	01
Investigator(s): KB, JM	Section, Townshij	p, Range: S N/A	T N/A R	N/A
Landform (hillslope, terrace, etc.): Flat	Local relief (concav	e, convex, none):	convex Slope:	5.0 % / 2.9°
Subregion (LRR or MLRA): LRR T	- .: 29.854441	Long.: -95	.561294 D	atum: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slop	les (CyuA)	N	IWI classification: None	
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes 🖲	No O (If no,	explain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significa	antly disturbed?	Are "Normal Circum	istances" present? Yes	● _{No} ○
Are Vegetation , Soil , or Hydrology natural	y problematic?	(If needed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing	sampling point loo	cations, transe	cts, important feature	es, etc.
Hydrophytic Vegetation Present? Yes O No 🖲	Is the Sam	mlad Araz		
Hydric Soil Present? Yes No	15 the Sam			
Wetland Hydrology Present? Yes \bigcirc No \bigcirc	within a W	etland?		
Remarks: Hydrophytic vegetation and wetland hydrology are not present. T	his is not a wetland.			
Primary Indicators (minimum of one required: check all that appl	V)		dary Indicators (minimum of 2)	required)
Surface Water (A1)	(B13)	3u	arsely Vegetated Concave Surf.	ace (B8)
High Water Table (A2)	(B15) (LRR U)	Dr	rainage Patterns (B10)	
Saturation (A3)	de Odor (C1)		oss Trim Lines (B16)	
Water Marks (B1)	spheres along Living Root	s (C3) Dr	y Season Water Table (C2)	
Sediment Deposits (B2)	duced Iron (C4)	Cr	ayfish Burrows (C8)	
Drift Deposits (B3)	duction in Tilled Soils (C6)) 🗌 Sa	aturation Visible on Aerial Image	ery (C9)
Algal Mat or Crust (B4)	ace (C7)	Ge	eomorphic Position (D2)	
Iron Deposits (B5)	in Remarks)	Sh	allow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FA	C-Neutral Test (D5)	
Water-Stained Leaves (B9)		Sp	hagnum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes Vo ODepth (inches	s):			
Water Table Present? Yes O No O Depth (inches	s):		× 0 •	
Saturation Present? Yes No Depth (inches	s):	etland Hydrology	Present? Yes \cup No	lacksquare
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspect	ions), if available:		
		,,		
Remarks:				

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

		Dominant		Sampling Point: UPG1HA001
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		$\frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{100000} \frac{1}{10000000000000000000000000000000000$
Sapling or Sapling/Snrub Stratum (Plot size:	_)			$\begin{array}{c} r A c w \text{ spectres } \underline{0} & x \ 2 = \underline{0} \\ \hline \end{array}$
1				FAC species 20 x 3 = 00
2	0			FACU species 60 x 4 =240
3	0	0.0%		UPL species20x 5 =100
4	0	0.0%		Column Totals: <u>100</u> (A) <u>400</u> (B)
5	0	0.0%		Provalence Index = R/A = 4.000
6	0	0.0%		$\frac{1}{1000}$
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	- Total Cover		\square 2 - Dominance Test is > 50%
Chruch Stratum (Plot size: 20)				$\square 2 \text{ Providence Index} = <2.01$
Shrub Stratum (Plot Size: 30)	0			
1				Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			
3	0			be present, unless disturbed or problematic.
4	0			
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30')				
1 Ovnodon dactvlon	40	40.0%	EACU	Sapling - Woody plants, excluding woody vines,
2 Geranium carolinianum	15	15.0%		approximately 20 ft (6 m) or more in height and less
2 Triadica sebifera	10			
	10			Sapling/Shrub - Woody plants, excluding vines, less
4. Galianti aparile				than 3 in. DBH and greater than 3.28 ft (1m) tall.
			FAC	
0. Solidago canadensis	5	<u>5.0%</u>	FACU	Shrub - Woody plants, excluding woody vines,
	5	5.0%	UPL	approximately 3 to 20 ft (1 to 6 m) in height.
		□ <u> </u>	FACU	Herh - All herhaceous (non-woody) plants, including
9	0			herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0			3 π (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0	0.0%		
1 2				
2.				
J				
4				Hydrophytic
5	0	0.0%		Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Tes V NO 🗢
Remarks: (If observed, list morphological adaptations below)				
Remarks, (ar observed, not morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	gional status r	not defined by FV	VS.	

SOIL

Profile Description: (Describe to the	e depth needed to documer	nt the indicator or co	onfirm the a	absence of indicators.)	
Depth Matrix	R	edox Features			
(inches) Color (moist) 0-16 10YR 3/2 9	Color (moist) 95 10YR 4/4	% Tvpe ¹ 5C	Loc² M	Clay	Remarks
			·	· · · · · · · · · · · · · · · · · · ·	
Type: C=Concentration. D=Depletion.	RM=Reduced Matrix, CS=Cover	red or Coated Sand Gr	ains ² Locat	tion: PL=Pore Lining. M=N	
Hydric Soil Indicators:				Indicators for Probl	lematic Hydric Soils ³ :
 Histosol (A1) Histosol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) 5 cm Mucky Minoral (A7) (LRP P, T 	Polyvalue Be Thin Dark Su Loamy Muck Loamy Gleye Depleted Ma Redox Dark	and Surface (S8) (LRR Jufface (S9) (LRR S, T, ay Mineral (F1) (LRR O ed Matrix (F2) atrix (F3) Surface (F6)	s, i, u) U))		LRR O) (LRR S) 518) (outside MLRA 150A,B) ain Soils (F19) (LRR P, S, T) 5 Loamy Soils (F20) (MLRA 153B) ial (TF2)
Muck Presence (A8) (LRR U) I cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 1) Sandy Muck Mineral (S1) (LRR 0, S	Job Periede Da Redox Depre Marl (F10) (I Depleted Oc Iron-Mangar 50A) Umbric Surfa Deplete Occord	essions (F8) LRR U) hric (F11) (MLRA 151) nese Masses (F12) (LR ace (F13) (LRR P, T, U	R O, P, T))	U Very Shallow Dark	< Surface (TF12) Remarks)
 Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) 	Deta Octific Reduced Ver Piedmont Flo Anomalous F	rtic (F18) (MLRA 151) podplain Soils (F19) (M Bright Loamy Soils (F20	150B) LRA 149A))) (MLRA 149	³ Indicators wetland H unless 9A, 153C, 153D)	of hydrophytic vegetation and hydrology must be present, disturbed or problematic.
Restrictive Layer (if observed):					
Туре:					
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	s County	Sampling Date:	09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State	: <u>TX</u> Sam	pling Point: UPG1HA002	
Investigator(s): KB, JM	Section, Township	, Range: S N/A	T N/A R N/A	A
Landform (hillslope, terrace, etc.): Flat	Local relief (concave	e, convex, none): flat	t Slope: 0	.0 % / 0.0°
Subregion (LRR or MLRA): LRR T	29.856852	Long.: -95.56	50739 Datu	im: NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slop	es (Ak)	NWI	classification: None	
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲	No 🔘 (If no, exp	plain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? A	re "Normal Circumsta	Inces" present? Yes 🖲	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If needed, explain any	y answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point loc	ations, transects	, important features,	etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{ightarrow}$	Is the Sam	oled Area		
Hydric Soil Present? Yes O No 🔍		Yes O N	No 🖲	
Wetland Hydrology Present? Yes O No 🖲	within a we	stiand?		
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 req	uired)
Primary Indicators (minimum of one required; check all that apply)		Surfac	e Soil Cracks (B6)	
Surface Water (A1)	13)	Sparse	ely Vegetated Concave Surface	(B8)
High Water Table (A2)	.5) (LRR U)	Draina	age Patterns (B10)	
Saturation (A3)	Odor (C1)	Moss	Trim Lines (B16)	
Water Marks (B1)	neres along Living Roots	(C3) Dry Se	eason Water Table (C2)	
Sediment Deposits (B2)	iced Iron (C4)	Crayfis	sh Burrows (C8)	
Drift Deposits (B3)	ction in Tilled Soils (C6)	Satura	ation Visible on Aerial Imagery	(C9)
Algal Mat or Crust (B4)	e (C7)	Geom	orphic Position (D2)	
Iron Deposits (B5) Other (Explain in	Remarks)	Shallo	w Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-N	leutral Test (D5)	
Water-Stained Leaves (B9)		Sphag	Inum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes ○ No ● Depth (inches):				
Water Table Present? Yes O No O Depth (inches):			0	`
Saturation Present? Yes No Depth (inches):	w	etland Hydrology Pres	sent? Yes \cup No $lacksquare$)
(includes capillary fringe)	os previous inspectiv	ons) if available:		
beschibe Recorded bata (stream gauge, monitoring weil, denai priot	ios, previous inspectio			
Remarks:				

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

		Dominant		Sampling Point: UPG1HA002
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across Air Surata. $\underline{2}$ (b)
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7		0.0%		Denselation Technical de la ch
7				Prevalence Index worksneet:
0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)			FACW species $2 \times 2 = 4$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $5 \times 4 = 20$
3	0	0.0%		UPL species98x 5 =490
4	0	0.0%		Column Totals: 105 (A) 514 (B)
5.	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 4.895$
7	0	0.0%		Hydrophytic Vegetation Indicators:
0				
0.		0.070		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)				□ 3 - Prevalence Index is \leq 3.0 1
1. Vachellia farnesiana	5	✔ 100.0%	FACU	\Box Problematic Hydrophytic Vegetation ¹ (Explain)
2.	0	0.0%		
3.	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
Δ	0	0.0%		be present, unless disturbed or problematic.
т Б				Definition of Vegetation Strata:
5		0.0%		Tree - Woody plants, excluding woody vines
		0.0%		approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 2.5 20% of Total Cover: 1		lotal Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Bothriochloa ischaemum	95	✔ 95.0%	UPL	Sapling - Woody plants, excluding woody vines,
2. Rosa bracteata	3	3.0%	UPL	than 3 in. (7.6 cm) DBH.
3 Cyperus entrerianus	2	2.0%	FACW	
Δ	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5				than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.				
0 7				Shrub - Woody plants, excluding woody vines,
/				approximately 5 to 20 it (1 to 6 iii) in height.
0				Herb - All herbaceous (non-woody) plants, including
9	!			herbaceous vines, regardless of size, and woody
10				plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		Woody vine - All woody vines, regardless of height.
Weeds Vine Stratum (Plot size: 30')				
	0	0.00/		
1				
Z				
3				
4	0			Hydrophytic
5	0	0.0%		Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Yes 🔾 No 🔍
				1
kemarks: (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	mional status r	not defined by EV	/S	

SOIL

Sampling Point: UPG1HA002

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or cor	nfirm the a	absence of indicators.)
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)		Color (moist)		Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
		· ·						
		· ·					·	
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Loca	tion: PL=Pore Lining. M=	=Matrix
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR S	5, T, U)		
Histic Epi	pedon (A2)		Thin Dark Su	face (S9) (I	RRSTI)		
Black Hist	tic (A3)			Minoral (El)		J) (LRR S)
	Sulfide (A4)) (LKK U)			(F18) (outside MLRA 150A,B)
Ctratified)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	Layers (AD)	N		rix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
		り - エーい	☐ Redox Dark S	urface (F6)			Red Parent Mat	erial (TF2)
5 cm Muc	ky Mineral (A7) (LRR P	, T, U)	Depleted Dar	k Surface (F	7)		Very Shallow Da	ark Surface (TF12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	ssions (F8)			Other (Explain i	n Remarks)
1 cm Muc	:k (A9) (LRR P, T)		🗌 Marl (F10) (L	RR U)				
Depleted	Below Dark Surface (A1	11)	Depleted Och	ric (F11) (M	LRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	150A)	Umbric Surfac	ce (F13) (LF	R P, T, U)			
Sandy Mu	ıck Mineral (S1) (LRR O	, S)	Delta Ochric (F17) (MLRA	151)			
Sandy Gle	eved Matrix (S4)	, ,		ic (F18) (MI	RA 150A 1	150B)	³ Indicator	s of hydrophytic vegetation and
Sandy Re	dox (S5)			ne (1 10) (111			wetland	I hydrology must be present,
	Matrix (S6)				Gelle (E20)	KA 149A)		ss disturbed of problematic.
		N		right Loamy	Solis (F20)	(MLRA 14	9A, 153C, 153D)	
	ace (57) (LRR P, 5, 1, 1)						
Restrictive L	ayer (if observed):							
Туре:								
Depth (inc	hes):						Hydric Soil Present?	Yes \cup No $ullet$
Remarks:								

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

s Landfills Inc				09-Mar-20
	State:	TX Samp	ling Point: UPG1HA003	
	Section, Township,	Range: S N/A	T N/A R N//	4
Toeslope	Local relief (concave	, convex, none): flat	Slope: 2	0%/ 1.1°
Lat.:	29.855871	Long.: -95.55	9551 Datu	m: NAD 83
and complex, 0 to 1 percent slopes	; (CyuA)	NWI	classification: None	
n the site typical for this time of y ϵ	ar? Yes 🖲 I	No \bigcirc (If no, exp	olain in Remarks.)	
, or Hydrology 🗌 significan	tly disturbed? A	e "Normal Circumsta	nces" present? Yes 🖲	No \bigcirc
, or Hydrology 🗌 naturally	problematic? (<u>1</u>	f needed, explain any	answers in Remarks.)	
Attach site map showing sa	mpling point loca	ations, transects,	important features,	etc.
Yes 🔿 No 🖲	Is the Samn	led Area		
Yes 🔿 No 🖲		$\frac{1}{1}$	o •	
Yes 🔿 No 🖲	within a we	tiand?	-	
il, and wetland hydrology are not	present. This is not a	wetland.		
		Secondary	Indicators (minimum of 2 reg	uired)
one required; check all that apply)		Surfac	e Soil Cracks (B6)	
Aquatic Fauna (B	13)	Sparse	ly Vegetated Concave Surface	(B8)
Marl Deposits (B	.5) (LRR U)	Draina	ge Patterns (B10)	
Hydrogen Sulfide	Odor (C1)	Moss 1	Trim Lines (B16)	
Oxidized Rhizosp	heres along Living Roots	(C3) Dry Se	ason Water Table (C2)	
Presence of Redu	iced Iron (C4)	Crayfis	h Burrows (C8)	
	iction in Tilled Soils (C6)	Satura	tion Visible on Aerial Imagery	(C9)
	e (C7)	Geomo	orphic Position (D2)	
erv (B7)	Remarks)		w Aquildia (DS) outral Test (DS)	
			num moss (D8) (I RR T II)	
$\gamma \sim 0$				
No Depth (inches):				
○ No ● Depth (inches). ○ No ● Dopth (inches).				
No Depth (inches) No Depth (inches)		etland Hydrology Pres	ent? Yes 🔿 No 🖲)
No Depth (inches) No Depth (inches) No Depth (inches) No Depth (inches)		etland Hydrology Pres	ent? Yes 🔿 No 🖲)
	and complex, 0 to 1 percent slopes n the site typical for this time of ye , or Hydrology	and complex, 0 to 1 percent slopes (CyuA) n the site typical for this time of year? Yes ● N , or Hydrology significantly disturbed? Ar , or Hydrology naturally problematic? (I Attach site map showing sampling point location Yes ● No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location Yes No ● Is the Sampling Point location oil, and wetland hydrology are not present. This is not a value O Is the Sampling Point location One	and complex, 0 to 1 percent slopes (CyuA) NWI n the site typical for this time of year? Yes No (If no, exp , or Hydrology isignificantly disturbed? Are "Normal Circumsta , or Hydrology naturally problematic? (If needed, explain any Attach site map showing sampling point locations, transects, Yes No Audit Deposits (B15) (LRR U) Surfac Aquatic Fauna (B13) Sparse Marl Deposits (B15) (LRR U) Draina Hydrogen Sulfide Odor (C1) Moss T Oxidized Rhizospheres along Living Roots (C3) Dry Se Presence of Reduced Iron	and complex, 0 to 1 percent slopes (CyuA) NWI classification: None n the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.) , or Hydrology isgnificantly disturbed? Are "Normal Circumstances" present? Yes ● , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) Attach site map showing sampling point locations, transects, important features, Yes No ● yes No ●

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

		Encelog2		Sampling Point: UPG1HA003
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
	0	0.0%		That are OBL, FACW, or FAC: (A)
·	0	0.0%		Total Number of Dominant
•	0	0.0%		Species Across All Strata:(B)
•	0	0.0%		
·	0	0.0%		Percent of dominant Species
·	0	0.0%		
•	0	0.0%		Prevalence Index worksheet:
·	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species $5 \times 2 = 10$
	0	0.0%		FAC species $5 \times 3 = 15$
	0	0.0%		FACU species $0 \times 4 = 0$
	0	0.0%		UPL species $90 \times 5 = 450$
	0	0.0%		Column Totals: 100 (A) 475 (B)
	0	0.0%		
	0	0.0%		$\frac{1}{2} = \frac{1}{2} = \frac{1}$
	0	0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		$\square 2 - Dominance Test is > 50\%$
Shruh Stratum (Plot size: 30')				\square 3 - Prevalence Index is <3.0 ¹
<u> </u>	0	0.0%		Problematic Hydronbytic Vegetation ¹ (Evolution)
·	0	0.0%		
•	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
·	0	0.0%		be present, unless disturbed or problematic.
•				Definition of Vegetation Strata:
•	0			Tree - Woody plants, excluding woody vines
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)				Sapling - Woody plants, excluding woody vines.
1. Bothriochloa ischaemum	90	⊻ 90.0%	UPL	approximately 20 ft (6 m) or more in height and less
2. Baccharis halimifolia	5	5.0%	FAC	than 3 in. (7.6 cm) DBH.
		<u>5.0%</u>	FACW	Sapling/Shrub Woody plants, evoluting vines, loss
4				than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
0	0			Shrub - Woody plants, excluding woody vines,
0				approximately 3 to 20 ft (1 to 6 m) in height.
8 0				Herb - All herbaceous (non-woody) plants, including
9				herbaceous vines, regardless of size, and woody
۰ ۱				plants, except woody vines, less than approximately
ו ר				
Z	0	0.0%		Woody vine - All woody vines, regardless of height
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
	0	0.0%		
•	0	0.0%		
•	0	0.0%		
	0	0.0%		
•	0	0.0%		Hydrophytic Vegetation
	0 =	= Total Cover		Present? Yes 🔾 No 🖲
50% of Total Cover: 0 20% of Total Cover: 0			1	

SOIL

Sampling Point: UPG1HA003

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
							-	
								-
								-
	·		,					
				-				
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil 1	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR 9	6, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A10)	(LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1	l) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	T, U)	Depleted Darl	surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)	,			Pomarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Kellia KS)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses	(F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		re (F13) (I R	(()))))	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soik	_KA 130A, .	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ignic Loanny	50115 (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ukuduja Caji Duasauta	M
Depth (inc	hes):						Hydric Soll 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 Sampli	ng 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	29.854826	Long.: -95.5599	984 Datum :	NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	s (CyuA)	NWI cl	assification: None	
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🖲	No \bigcirc (If no, expla	ain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significan	ntly disturbed? A	re "Normal Circumstanc	:es" present? Yes 🖲	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If needed, explain any a	nswers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point loc	ations, transects, i	mportant features, et	tc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Samr	led Area		
Hydric Soil Present? Yes O No 🔍	13 the Samp			
Wetland Hydrology Present? Yes O No 💿	within a We	tland? Tes The	0	
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not HYDROLOGY	present. This is not a	wetland.		
Wetland Hydrology Indicators:		Secondary Ir	dicators (minimum of 2 require	ad)
Primary Indicators (minimum of one required: check all that apply))		Soil Cracks (B6)	
Surface Water (A1)	313)	Sparsely	Vegetated Concave Surface (B)	8)
High Water Table (A2)	15) (LRR U)		Patterns (B10)	- /
Saturation (A3) Hydrogen Sulfide	e Odor (C1)	Moss Tri	m Lines (B16)	
Water Marks (B1) Oxidized Rhizosp	heres along Living Roots	(C3) Dry Seas	on Water Table (C2)	
Sediment Deposits (B2)	uced Iron (C4)	Crayfish	Burrows (C8)	
Drift Deposits (B3)	uction in Tilled Soils (C6)	Saturatio	on Visible on Aerial Imagery (C9))
Algal Mat or Crust (B4)	ce (C7)	Geomor	ohic Position (D2)	
Iron Deposits (B5)	n Remarks)	Shallow /	Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neu	tral Test (D5)	
U Water-Stained Leaves (B9)		Sphagnu	m moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes No Depth (inches):	:			
Water Table Present? Yes \bigcirc No \bigcirc Depth (inches):	: w	atland Hydrology Droco	-+7 Vec 🔿 No 🖲	
Saturation Present? Yes No Depth (inches):	: VV	edana nyarology Presel		
Describe Recorded Data (stream gauge, monitoring well, aerial photogenerate stream gauge, monitoring well, aerial photogenerate stream gauge stream stream gauge stream	tos, previous inspectio	ns), if available:		

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

		Dominant		Sampling Point: UPG1HA004
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la ch
7				Prevalence Index worksneet:
0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species $0 \times 2 = 0$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $15 \times 4 = 60$
3	0	0.0%		UPL species $\frac{85}{x 5} = \frac{425}{x 5}$
4	0	0.0%		$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
5	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 4.850$
7				Hydrophytic Vegetation Indicators:
0				
0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:0	0 =	Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1.	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
2. 	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
δ				be present, unless disturbed or problematic.
4				Definition of Vegetation Strata:
5				Tree Weedu plante evolution strata.
0	0	0.0%		approximately 20 ft (6 m) or more in height and 3 in
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Bothriochloa ischaemum	85	✔ 85.0%	UPL	Sapling - Woody plants, excluding woody vines,
2. Vicia ludoviciana	5	5.0%	FACU	than 3 in (7.6 cm) DBH
3 Melilotus officinalis	5	5.0%	FACU	
A Lysimachia arvensis		5.0%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5			17100	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
0				Shrub - Woody plants, excluding woody vines,
/				approximately 3 to 20 ft (1 to 6 m) in height.
8	0			Horb All borbaccous (non woody) plants including
9	0	0.0%		herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	- Total Cover		Woody vine - All woody vines, regardless of height.
(Plot size: 30')				
Woody Vine Stratum (Flot Size. 30)	0	□ <u> </u>		
1				
2	0			
3	0			
4	0	0.0%		
5	0	0.0%		Avarophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	- Total Cover		Present? Yes \cup No $ullet$
Kernarks: (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	/S	

SOIL

Sampling Point: UPG1HA004

Profile Desc	iption: (Describe to	the depth i	needed to document	the indic	ator or co	nfirm the a	absence of indicators.))
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
			·					· · · · · · · · · · · · · · · · · · ·
	·							
						67 		
1 Type: C=Con	centration D=Depletion	n RM=Redu		d or Coate	d Sand Grai	ins ² l oca	tion: PI =Pore Lining M=	-Matrix
Hydric Soil 1	indicators:						Indicators for Pro	hlomatic Hydric Soile ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR 9	5. T. U)		
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) ()		
Black Hist	ic (A3)			Mineral (F	(RR O))		(LRR S)
	Sulfide (A4)			Matrix (E2				(F18) (outside MLRA 150A,B)
	Lavers (A5)			riv (E3))		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	odies (A6) (IRR P T I	I)		urfaca (E6)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
	kv Mineral (A7) (I RR P	,, Т Ш		(FU)	7)		Red Parent Mate	erial (TF2)
	sence (A8) (I RR II)	, , , 0)			7)		Very Shallow Da	ark Surface (TF12)
	k (Δ9) (IRR P T)						Other (Explain i	n Remarks)
	Below Dark Surface (A1	1)		<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	UDA 1E1)			
	k Surface (A12)				(E12) (LRA 151)			
	irie Redox (A16) (MI RA	1504)			(F12) (LKK	0, P, T)		
Sandy Mi	ick Mineral (S1) (LRR O	(130A) (S)		E (FIS) (LF	(R P, I, U)			
Sandy Fie	eved Matrix (S4)	,		FI7) (MLRA	101)		³ Indicator	s of hydrophytic vegetation and
Sandy Bo	dox (S5)			IC (F18) (M	LKA 150A,	150B)	wetland	I hydrology must be present,
	uox (33) Matrix (S6)			opiain Soli:	5 (F19) (ML	RA 149A)	unies	ss disturbed or problematic.
	1001X (30)	D.		ight Loamy	Solis (F20)) (MLRA 14	9A, 153C, 153D)	
		5)						
Restrictive L	ayer (if observed):							
Type:	h						Hvdric Soil Present?	Yes 🔿 No 🖲
Depth (Inc	nes):						,	
Remarks:								

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

City/County: Harris County	Sampling Date: 09-Mar-20			
State: TX	Sampling Point: UPG1HA005			
Section, Township, Range: S	N/A T N/A R N/A			
Local relief (concave, convex, no	one): flat Slope: 0.0 % / 0.0 °			
29.853857 Long	: -95.558839 Datum: NAD 83			
s (CyuA)	NWI classification: None			
ar? Yes 🖲 No 🔾	(If no, explain in Remarks.)			
tly disturbed? Are "Normal	Circumstances" present? Yes $ullet$ No $igodot$			
problematic? (If needed, e	xplain any answers in Remarks.)			
ampling point locations, tr	ansects, important features, etc.			
Is the Sampled Area				
13 the Sampled Alea				
within a Wetland?				
present. This is not a wetland.				
	Secondary Indicators (minimum of 2 required)			
	Surface Soil Cracks (B6)			
13)	Sparsely Vegetated Concave Surface (B8)			
15) (LRR U)	Drainage Patterns (B10)			
Odor (C1)	Moss Trim Lines (B16)			
heres along Living Roots (C3)	Dry Season Water Table (C2)			
uced Iron (C4)	Crayfish Burrows (C8)			
uction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
e (C7)	Geomorphic Position (D2)			
Remarks)	Shallow Aquitard (D3)			
	FAC-IVEUTRAL LEST (DS) Schoonum mass (DS) (LDD T. LI)			
Wetland Hydr	ology Present? Yes 🔿 No 🖲			
Wetland Hydr	ology Present? Yes O No 🖲			
	State: TX Section, Township, Range: S Local relief (concave, convex, no 29.853857 Long. s (CyuA) ar? Yes No C tly disturbed? Are "Normal (problematic? (If needed, e ampling point locations, tra Is the Sampled Area within a Wetland? present. This is not a wetland. present. This is not a wetland. 13) 15) (LRR U) codor (C1) heres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) ce (C7) Remarks)			
		Dominant		Sampling Point: UPG1HA005
--	-------------------	--------------------	----------	--
	Absolute	Rel.Strat. I	ndicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata:1(B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
б	0	0.0%		That are OBL, FACW, of FAC:
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
1	0	0.0%		FAC species x 3 =
2.	0	0.0%		FACU species $0 \times 4 = 0$
3.	0	0.0%		$\frac{1}{1} = \frac{1}{2} = \frac{1}$
4.	0	0.0%		
5.	0	0.0%		$\frac{1}{2} = \frac{1}{2} = \frac{1}$
3	0	0.0%		Prevalence Index = $B/A = 0.000$
7.	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		1 - Rapid Test for Hydrophytic Vegetation
				\square 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				\square 3 - Prevalence Index is \leq 3.0 ¹
1	0			Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			1
3	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0			
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		approximately 20 π (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1.	0	0.0%		Sapling - Woody plants, excluding woody vines,
2.	0	0.0%		than 3 in. (7.6 cm) DBH.
3.	0	0.0%		
4	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5	0			than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0			Charles Weedersteiner werden im einen
7.	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10	0			herbaceous vines, regardless of size, and woody
11		0.0%		3 ft (1 m) in height.
12				
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')		_		
1	0			
2	0			
3	0			
4	0			Hydrophytic
5	0	0.0%		Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Yes 💛 No 🔍
Remarks: (11 observed, list morphological adaptations below). No vegetation, area is recently disturbed				
No vegetation, area is recently disturbed.				
*Indicator suffix = National status or professional decision assigned because F	Regional status r	not defined by FWS	5.	

Profile Desc	iption: (Describe to	the depth i	needed to document	the indic	ator or co	nfirm the a	absence of indicators.))
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
			·					· · · · · · · · · · · · · · · · · · ·
	·							
						67 		
1 Type: C=Con	centration D=Depletion	n RM=Redu		d or Coate	d Sand Grai		tion: PI =Pore Lining M=	-Matrix
Hydric Soil 1	indicators:						Indicators for Pro	hlomatic Hydric Soile ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR 9	5. T. U)		
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) ()		
Black Hist	ic (A3)			Mineral (F	$(\mathbf{R}\mathbf{R})$)		(LRR S)
	Sulfide (A4)			Matrix (E2				(F18) (outside MLRA 150A,B)
	Lavers (A5)			riv (E3))		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	odies (A6) (IRR P T I	I)		urfaca (E6)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
	kv Mineral (A7) (I RR P	у Т II)		(FU)	7)		Red Parent Mate	erial (TF2)
	sence (A8) (I RR II)	, , , 0)			7)		Very Shallow Da	ark Surface (TF12)
	k (Δ9) (IRR P T)						Other (Explain i	n Remarks)
	Below Dark Surface (A1	1)		<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	UDA 1E1)			
	k Surface (A12)				(E12) (LRA 151)			
	irie Redox (A16) (MI RA	1504)			(F12) (LKK	0, P, T)		
Sandy Mi	ick Mineral (S1) (LRR O	(130A) (S)		E (FIS) (LF	(R P, I, U)			
Sandy Gle	eved Matrix (S4)	,		FI7) (MLRA	101)		³ Indicator	s of hydrophytic vegetation and
	dox (S5)			IC (F18) (M	LKA 150A,	150B)	wetland	I hydrology must be present,
	uox (33) Matrix (S6)			opiain Soli:	5 (F19) (ML	RA 149A)	unies	ss disturbed or problematic.
	1001X (30)	D.		ight Loamy	Solis (F20)) (MLRA 14	9A, 153C, 153D)	
		5)						
Restrictive L	ayer (if observed):							
Type:	h						Hvdric Soil Present?	Yes 🔿 No 🖲
Depth (Inc	nes):						,	
Remarks:								

Project/Site: Hawthorn Landfill	City/County: Harris	County	Sampling Date:	09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State:	TX Sampli	ing 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	29.853303	Long.: -95.560	 366 Datu	Im: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	(CyuA)		lassification: None	
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 N	lo 🔿 🛛 (If no, expla	ain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Ar	e "Normal Circumstane	c es" present? Yes 🖲	No \bigcirc
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If	f needed, explain any a	answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point loca	tions, transects, i	important features,	etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sampl	ed Area		
Hydric Soil Present? Yes O No 🔍				
Wetland Hydrology Present? Yes O No 💿	within a Wet	land? 100 ° 110	0	
Remarks:	I			
Hydrophytic vegetation, hydric soil, and wetland hydrology are not	present. This is not a v	vetland.		
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary I	ndicators (minimum of 2 reg	uired)
Primary Indicators (minimum of one required; check all that apply)		Surface	Soil Cracks (B6)	
Surface Water (A1)	13)	Sparsely	Vegetated Concave Surface	(B8)
High Water Table (A2) Marl Deposits (B1	.5) (LRR U)	Drainage	e Patterns (B10)	
Saturation (A3)	Odor (C1)	Moss Tri	im Lines (B16)	
Water Marks (B1)	neres along Living Roots (C3) Dry Seas	son Water Table (C2)	
Sediment Deposits (B2)	ced Iron (C4)	Crayfish	Burrows (C8)	
Drift Deposits (B3)	ction in Tilled Soils (C6)	Saturatio	on Visible on Aerial Imagery	(C9)
Algal Mat or Crust (B4)	e (C7)	Geomor	phic Position (D2)	
Iron Deposits (B5) Other (Explain in	Remarks)	Shallow	Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neu	utral Test (D5)	
Water-Stained Leaves (B9)		Sphagnu	um moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes Volume No Depth (inches):				
Water Table Present? Yes O No O Depth (inches):				\ \
Saturation Present? Yes O No O Depth (inches):	We	tland Hydrology Prese	nt? Yes 🔾 No 🖲	9
Describe Recorded Data (stream gauge monitoring well aerial phot	os previous inspection	s) if available		
Domovice				
Refidiks.				

		Dominant		Sampling Point: UPG1HA006
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
7	0	0.0%		Prevalence Index worksheet:
8			<u>.</u>	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		- Total Cover		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Sapling or Sapling/Snrub Stratum_ (Plot size:	_)			$\frac{1}{2}$
1				FAC species 20 x 3 = 60
2	0			FACU species x 4 =
3	0	0.0%		UPL species25_ x 5 =125
4	0	0.0%		Column Totals: <u>100</u> (A) <u>405</u> (B)
5	0	0.0%		Provolonco Indox - P/A - 4.050
6	0	0.0%		Prevalence index – B/A – <u>4.050</u>
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		\square 2 - Dominance Test is > 50%
Church Churchtume (Plot size: 20				$\square 2 \text{ - Dominance rest is > 30.70}$
Shrub Stratum (Plot size: <u>30</u>)	•			\square 3 - Prevalence Index is $\leq 3.0^{-1}$
1				Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			
3	0			be present, unless disturbed or problematic.
4	0	0.0%		
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH)
Herb Stratum (Plot size: 30')				
	35	35.0%	EACU	Sapling - Woody plants, excluding woody vines,
2 Public argutus		20.0%	EAC	approximately 20 ft (6 m) or more in height and less
2. Rubus algutus		20.0%		
		▼ <u>20.0%</u>		Sapling/Shruh - Woody plants, excluding vines, less
			FACU	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. Vicia ludoviciana	5	5.0%	FACU	
6. Geranium carolinianum	5	5.0%	UPL	Shrub - Woody plants, excluding woody vines,
<i>(</i>	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0			herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	_100 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0	0.00/		
1			u	
2				
3	0	□		
4	0			Hydrophytic
5	0	0.0%		
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		Present? Yes U No 🛡
Domarker (If abcorred list normalization adaptations halow)				1
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	egional status i	not defined by F\	VS.	

Profile Desc	iption: (Describe to	the depth i	needed to document	the indic	ator or co	nfirm the a	absence of indicators.))
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
			·					· · · · · · · · · · · · · · · · · · ·
	·							
					-	67 		
1 Type: C=Con	centration D=Depletion	n RM=Redu		d or Coate	d Sand Grai	ins ² l oca	tion: PI =Pore Lining M=	-Matrix
Hydric Soil 1	indicators:						Indicators for Pro	hlomatic Hydric Soile ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR 9	5. T. U)		
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) ()		
Black Hist	ic (A3)			Mineral (F	$(\mathbf{R}\mathbf{R})$)		(LRR S)
	Sulfide (A4)			Matrix (E2				(F18) (outside MLRA 150A,B)
	Lavers (A5)			riv (E3)	.)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	odies (A6) (IRR P T I	I)		urfaca (E6)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
	kv Mineral (A7) (I RR P	у Т II)		(FU)	7)		Red Parent Mate	erial (TF2)
	sence (A8) (I RR II)	, , , 0)			7)		Very Shallow Da	ark Surface (TF12)
	k (Δ9) (IRR P T)						Other (Explain i	n Remarks)
	Below Dark Surface (A1	1)		<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	UDA 1E1)			
	k Surface (A12)				(E12) (LRA 151)			
	irie Redox (A16) (MI RA	1504)			(F12) (LKK	0, P, T)		
Sandy Mi	ick Mineral (S1) (LRR O	(130A) (S)		E (FIS) (LF	(R P, I, U)			
Sandy Fie	eved Matrix (S4)	,		FI7) (MLRA	101)		³ Indicator	s of hydrophytic vegetation and
	dox (S5)			IC (F18) (M	LKA 150A,	150B)	wetland	I hydrology must be present,
	uox (33) Matrix (S6)			opiain Soli	5 (F19) (ML	RA 149A)	unies	ss disturbed or problematic.
	1001X (30)	D.		ight Loamy	Solis (F20)) (MLRA 14	9A, 153C, 153D)	
		5)						
Restrictive L	ayer (if observed):							
Type:	h						Hvdric Soil Present?	Yes 🔿 No 🖲
Depth (Inc	nes):						,	
Remarks:								

Project/Site: Hawthorn Landfill	City/County: Harris	County	Sampling Date:	09-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State:	TX Sampl	ing Point: UPG1HA007	
Investigator(s): KB, JM	Section, Township,	Range: S N/A	T N/A R N//	4
Landform (hillslope, terrace, etc.): Flat	Local relief (concave	, convex, none): flat	Slope: 0	.0 % / 0.0°
Subregion (LRR or MLRA): LRR T	29.852548	Long.: -95.559		m: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	(CyuA)	NWI c	lassification: None	
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 N	No \bigcirc (If no, expl	ain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Ar	re "Normal Circumstan	ces" present? Yes 🖲	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (I	f needed, explain any a	answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point loca	ations, transects,	important features,	etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Same	led Area		
Hydric Soil Present? Yes O No 🔍	13 the Samp) (•)	
Wetland Hydrology Present? Yes O No •	within a We	tland?	,	
Remarks:	I			
Hydrophytic vegetation, hydric soil, and wetland hydrology are not	present. This is not a	wetland.		
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary J	Indicators (minimum of 2 requ	uired)
Primary Indicators (minimum of one required; check all that apply)		Surface	Soil Cracks (B6)	
Surface Water (A1)	13)	Sparsely	y Vegetated Concave Surface	(B8)
High Water Table (A2)	.5) (LRR U)	Drainag	e Patterns (B10)	
Saturation (A3)	Odor (C1)	Moss Tr	rim Lines (B16)	
Water Marks (B1) Oxidized Rhizospl	neres along Living Roots ((C3) Dry Sea	son Water Table (C2)	
Sediment Deposits (B2)	ced Iron (C4)	Crayfish	I Burrows (C8)	
Drift Deposits (B3)	ction in Tilled Soils (C6)	Saturati	on Visible on Aerial Imagery	(C9)
Algal Mat or Crust (B4) Thin Muck Surfac	e (C7)	Geomor	rphic Position (D2)	
Iron Deposits (B5) Other (Explain in	Remarks)	Shallow	Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Ner	utral Test (D5)	
Water-Stained Leaves (B9)		Sphagn	um moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes Vo O Depth (inches):				
Water Table Present? Yes O No O Depth (inches):			\bigcirc	`
Saturation Present? (includes capillary frince) Yes O No O Depth (inches):	We	stland Hydrology Prese	ent? Yes 🔾 No 🖲)
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspectio	ns), if available:		
Remarks				
Remarks.				

		Dominant		Sampling Point: UPG1HA007
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 2 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		- Total Cover		$\frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000000000000000000000000000000000$
	= 			
Sapling or Sapling/Snrub Stratum (Plot Size:	_)			$\begin{bmatrix} FACW & Spectres \\ 0 \\ x \\ z \\ z$
1	0			FAC species $50 \times 3 = 150$
2	0			FACU species $25 \times 4 = 100$
3	0	0.0%		UPL species25 x 5 =125
4	0	0.0%		Column Totals: <u>100</u> (A) <u>375</u> (B)
5	0	0.0%		Provolonco Indox - P/A - 2.750
6	0	0.0%		Prevalence index – B/A – <u>5.750</u>
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		\square 2 - Dominance Test is $> 50\%$
Church Churchtume (Diot size: 20				$\square 2 \text{ Dominance rest is } 50.01$
Shrub Stratum (Plot size. <u>30</u>)	0			
1				Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			
3	0			be present, unless disturbed or problematic.
4	0	0.0%		
5	0			Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH)
Herb Stratum (Plot size: 30')				
1 Rubus aroutus	50	50.0%	EAC	Sapling - Woody plants, excluding woody vines,
2 Bothriochlos ischaemum		20.0%		approximately 20 ft (6 m) or more in height and less
		20.0%		
			FACU	Sapling/Shruh - Woody plants, excluding vines, less
				than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. Vicia ludoviciana	5	5.0%	FACU	
6 Cynodon dactylon	5	5.0%	FACU	Shrub - Woody plants, excluding woody vines,
/ Verbena bracteata	5	5.0%	FACU	approximately 3 to 20 ft (1 to 6 m) in height.
δ	0	⊔_ <u>0.0%</u>		Horb All borbaccours (non-woody) plants, including
9	0	<u> </u>		herbaceous vines, regardless of size and woody
10	0			plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
A	0	0.00/		
1				
2				
3	0	<u> </u>		
4	0	<u> </u>		Hydronbytic
5	0	0.0%		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		Present? Yes U No 🔍
Remarks: (If observed, list morphological adaptations below)				1
Remarks: (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by F\	NS.	

Profile Desc	ription: (Describe to	the depth n	eeded to document	t the indic	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)		Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
8								
							-	
¹ Type: C=Cor	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ins ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prot	Jematic Hydric Soils ³
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (I RR 9	S Т П)		
Histic Epi	pedon (A2)		Thin Dark Su	rface (SQ) ()		
	tic $(\Delta 3)$			Minoral (E)	2 cm Muck (A10) (LRR S)
	(A3)				1) (LKK U)		Reduced Vertic ((F18) (outside MLRA 150A,B)
				u Matrix (F2	.)		Piedmont Floodp	olain Soils (F19) (LRR P, S, T)
		N N	Depleted Mat	rıx (F3)			Anomalous Brigh	nt Loamy Soils (F20) (MLRA 153B)
	Bodies (A6) (LRR P, T, U)	Redox Dark S	Surface (F6)			Red Parent Mate	erial (TF2)
5 cm Muo	ky Mineral (A7) (LRR P	, T, U)	Depleted Dar	k Surface (F	-7)		Very Shallow Da	rk Surface (TF12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	ssions (F8)			Other (Explain ir	n Remarks)
1 cm Muo	ck (A9) (LRR P, T)		🗌 Marl (F10) (L	RR U)				,
Depleted	Below Dark Surface (A1	1)	Depleted Och	ric (F11) (N	1LRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	150A)	Umbric Surfac	ce (F13) (LF	RR P, T, U)	,		
Sandy Mu	ıck Mineral (S1) (LRR O	, S)	Delta Ochric ((F17) (MI R	A 151)			
Sandy Gl	eved Matrix (S4)			ic (F18) (M	IRA 150A	150B)	³ Indicators	s of hydrophytic vegetation and
Sandy Re	dox (S5)			odalain Soil	c (E10) (MI	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed of problematic.
		n		right Loamy	/ SOIIS (F20)) (MLRA 14	9A, 153C, 153D)	
	ace (57) (LRR P, 5, 1, 1))						
						1		
Restrictive L	ayer (if observed):							
Type:								
Depth (inc	hes):						Hydric Soil Present?	Yes 🔾 No 🔍
Remarks:								
Remarks.								

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	29.857109 Long.: -95.553429 Datum: NAD 83
Soil Map Unit Name: _Addicks-Urban land complex, 0 to 1 percent slop	nes (Ak) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of ye	Par? Yes \bullet No \bigcirc (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significan	tly disturbed? Are "Normal Circumstances" present? Yes $ullet$ No $igodot$
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Te the Sampled Area
Hydric Soil Present? Yes O No 💿	
Wetland Hydrology Present? Yes O No O	within a Wetland?
Remarks: Hydric soil and wetland hydrology are not present. This is not a we	tland.
Wetland Hydrology Indicators: Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (minimum of 2 required)
Surface Water (A1)	13) Snarsely Vegetated Concave Surface (B8)
High Water Table (A2)	15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	e Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosp	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	uced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ce (C7) Geomorphic Position (D2)
Iron Deposits (B5)	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	·
Water Table Present? Yes Vo ODepth (inches):	
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photes Remarks:	tos, previous inspections), if available:

		Don	ninant		Compling Dointy UDG1UA008
		_ Spe	cies?		Sampling Point: UPGTHA008
	Absolute	Rel.	Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover		over	Status	Number of Dominant Species
	25		50.0%	FAC	That are OBL, FACW, or FAC: (A)
	15		30.0%	FAC	Total Number of Dominant
	10		20.0%	FAC	Species Across All Strata:9_(B)
	0		0.0%		Dereent of dominant Cracica
	0		0.0%		That Are OBL FACW, or FAC:55.6% (A/B)
	0		0.0%		
	0		0.0%		Prevalence Index worksheet:
	0	\Box_{-}	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 25 20% of Total Cover: 10	50	= Tota	al Cover		OBL species 0 x 1 = 0
apling or Sapling/Shrub Stratum (Plot size:)	_			FACW species $0 \times 2 = 0$
	0		0.0%		FAC species $80 \times 3 = 240$
	0		0.0%		FACU species $15 \times 4 = 60$
	0		0.0%		UPL species $5 \times 5 = 25$
	0	└──	0.0%		Column Totals: <u>100</u> (A) <u>325</u> (B)
	0		0.0%		
	0		0.0%		
	0	\Box_{-}	0.0%		Hydrophytic Vegetation Indicators:
	0	\Box_{-}	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0	= Tota	al Cover		\checkmark 2 - Dominance Test is > 50%
brub Stratum (Plot size: 30')					\square 3 - Prevalence Index is <3.0 ¹
Triadica sebifera	15		60.0%	FAC	$\square Problematic Hydronbytic Vegetation 1 (Explain)$
Morus alba	10		40.0%	FACU	
	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
	0		0.0%		be present, unless disturbed or problematic.
			0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines.
			al Cover		approximately 20 ft (6 m) or more in height and 3 in.
					(7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot Size: <u>30</u>)					Sapling - Woody plants, excluding woody vines
	5		50.0%	FACU	approximately 20 ft (6 m) or more in height and less
_ Galium aparine 2. Cirsium texanum	<u>5</u> 3		50.0% 30.0%	FACU UPL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
. Galium aparine 2. Cirsium texanum 3. Brassica rapa	5 3 2		50.0% 30.0% 20.0%	FACU UPL UPL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
1 <u>Galium aparine</u> 2 Cirsium texanum 3 Brassica rapa 4	5 3 2 0		50.0% 30.0% 20.0% 0.0%	FACU UPL UPL	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.
. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4	5 3 2 0 0		50.0% 30.0% 20.0% 0.0%	FACU UPL UPL	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.
. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6.	5 3 2 0 0 0 0		50.0% 30.0% 20.0% 0.0% 0.0%	FACU UPL UPL	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,
Galium aparine Cirsium texanum Brassica rapa I	5 3 2 0 0 0 0 0 0 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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.
Galium aparine Cirsium texanum Brassica rapa . <	5 3 2 0 0 0 0 0 0 0 0 0 0 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	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.
Galium aparine Cirsium texanum Brassica rapa - <	5 3 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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
. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 9.	5 3 2 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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
Galium aparine Cirsium texanum Brassica rapa Image: Strain	5 3 2 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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.
Galium aparine Galium texanum Brassica rapa J. Brassica rapa J.	5 3 2 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 0. 1. 2. 50% of Total Cover: 5. 20% of Total Cover: 2	5 3 2 0 10		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 1 Cover	FACU UPL UPL	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30')	5 3 2 0 10	 ✓ ✓	50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL	 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.
Galium aparine Girsium texanum Brassica rapa Berchemia scandens	5 3 2 0 10	 ✓ ✓	50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0%	FACU UPL UPL FAC	 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.
Galium aparine . Cirsium texanum . Brassica rapa 4. 5. 6. 7. 8. 9. 9. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30') . . <td>5 3 2 0 10</td> <td> ✓ ✓</td> <td>50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 100.0%</td> <td>FACU UPL UPL FAC</td> <td> 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. </td>	5 3 2 0 10	 ✓ ✓	50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 100.0%	FACU UPL UPL FAC	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 0. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30') 9. 0 9.<	5 3 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10	 ✓ ✓	50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL FAC	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 0. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30')) Berchemia scandens	5 3 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10	 ✓ ✓	50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL FAC	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 0. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30') 9. 9	5 3 2 0 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL FAC	 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.
1. Galium aparine 2. Cirsium texanum 3. Brassica rapa 4. 5. 6. 7. 8. 9. 0. 1. 2. 50% of Total Cover: 5. 2. 50% of Total Cover: 7. 9. 9. 0. 1. 2. 50% of Total Cover: 7. 9. 9. 0. 1. 2. 50% of Total Cover: 7.5 20% of Total Cover: 2 20% of Total Cover: 2. 50% of Total Cover: 7. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9	5 3 2 0		50.0% 30.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU UPL UPL 	 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

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

Profile Descr	ription: (Describe to	the depth r	eeded to d	ocument	the indic	ator or co	onfirm the a	absence of indicators.)
Depth	Matrix			Re	dox Featu	res		-	
(inches)	Color (moist)	%	Color (r	noist)	%	<u>Tvpe</u> ¹		Texture	Remarks
0-16	10YR 3/2	99	10YR	4/6	1	С	М	Clay	
									· · · ·
							·	·	
¹ Type: C=Con	centration. D=Depletio	n. RM=Redu	ced Matrix, C	S=Covere	ed or Coate	d Sand Gr	ains ² Loca	tion: PL=Pore Lining. M	=Matrix
Hydric Soil I	Indicators:		_					Indicators for Pro	oblematic Hydric Soils ³ :
	A1)		Poly	value Bel	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)
	pedon (A2)		L Thin	Dark Sur	face (S9) (LRR S, T,	J)	2 cm Muck (A1	0) (LRR S)
	IC (A3)		Loar	my Mucky	Mineral (F	1) (LRR O)		Reduced Vertic	(F18) (outside MLRA 150A,B)
Hydrogen Gratified	Suifide (A4)		Loar	my Gleyeo	Matrix (F2	2)		Piedmont Flood	lplain Soils (F19) (LRR P, S, T)
	Layers (A5)	N	Depl	leted Mat	rix (F3)			Anomalous Brig	ght Loamy Soils (F20) (MLRA 153B)
	odies (A6) (LRR P, T, U	J) 	C Rede	ox Dark S	urface (F6)			Red Parent Mat	terial (TF2)
		, I, U)	Depl	leted Dar	< Surface (I	-7)		Very Shallow D	ark Surface (TF12)
				ox Depres	sions (F8)			Other (Explain	in Remarks)
	.K (A9) (LKR P, T) Rolow Dark Surface (A)	11)		(F10) (LI	RU)				
	below Dark Surface (A.	11)		leted Och	ric (F11) (N	1LRA 151)			
	K SUITACE (ATZ)	1504)		-Mangane	ese Masses	(F12) (LR	κ O, P, T)		
	ine Redux (AIO) (MLRA	(150A)		oric Surfac	ce (F13) (Li	KK P, I, U)		
Sandy Gle	aved Matrix (S4)	, 3)			F17) (MLR/	A 151)	1500)	³ Indicato	rs of hydrophytic vegetation and
Sandy Re	dox (S5)			ucea vert	IC (F18) (M	LKA 150A,	150B)	wetlan	d hydrology must be present,
	Matrix (S6)				iabt Loom	s (F19) (M	LKA 149A)		ess disturbed or problematic.
Dark Surf	ace (S7) (LRR P. S. T. I	U)		IIIdious di	Ignit Loaniy	/ 50115 (F20) (MLRA 14:	9A, 155C, 155D)	
Restrictive L	ayer (if observed):								
Туре:								Hydric Soil Present	
Depth (inc	hes):							Tryanc Son Fresenc	ie tes ⊖ no ⊕
Remarks:									

pileant/Owner: USA Waste of Texas Landfills, Inc. State: T N/A R N/A estigator(s): K8_JM Section, Township, Range: S N/A T N/A R N/A urdiorm (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): undulting Slope: 0.0 % / 0.0 ° image in (LRR or MLRA): LRR T Lat: 29.857704 Log:: -95.554964 Datum: NAD 83 image in (LRR or MLRA): LRR T Lat: 29.857704 Log:: -95.554964 Datum: NAD 83 image in (LRR or MLRA): LRR T Lat: 29.857704 Log:: -95.554964 Datum: NAD 83 image in (LRR or MLRA): LRR T Lat: 29.857704 Log:: -95.554964 Datum: NAD 83 image intic Name: -, or Hydrology is ginificantly disturbed? Are "Normal Circumstances" present? Yes Image No ic dimatic/hydrologic conditions on the site typical for this time of year? Yes Image No Is the Sampled Area wtdron (hydrology Present? Yes No Is the Sampled Area wtdric soil and wetland hydrology are not present. This is not a wetland. Secondary Indicators (minimum of 2 required) Primary Indicators (minimum of one required; check all that apply) Garace Sul Cacks (66) Surface Sall Cacks (61) Garage Patterns (810) High Water Table (A2) Mar Deposts (815) (LRR U) Surface Sall Cacks (82) Hard Deposts (615) High Water Table (A2) Hard To Reduced f
estigator(s): K8, JM Section, Township, Range: S N/A T N/A R N/A udform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): undulating Slope: 0.0 % / 0.0 % integion (LRR or MLRA): LRR T Lat: 29,857704 Long: -95,554964 Datum: NAD 83 Map Unit Name: Ordin'-Urban land complex, 0 to 1 percent slopes (CyuA) NWT classification: None icimatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation , soil , or Hydrology inplificantly disturbed? Are "Normal Circumstances" present? Yes No No Vdrophytic Vegetation Present? Yes No No Is the Sampled Area within a Wetland? Yes No No Is the Sampled Area within a Wetland? Yes No No Secondary Indicators (minimum of 2 required) Primary Indicators (minimum of 2 required) Primary Indicators (minimum of 2 required) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface
adform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): undulating Slope: 0.0 % / 0.0 ° region (LRR or MLRA): LRR T Lat: 29.857704 Long: -95.554964 Datum: NAD 83 I Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None re Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc
integration (LRR or MLRA): LRR T Lat: 29.857704 Long:: -95.554964 Datum: NAD 83 NAP Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None I dimatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation , Soil , Soil , or Hydrology inaturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. tydric Soil Present? Yes Yes No within a Wetland? Yes Yes No Remarks: Hydric Soil and wetland hydrology are not present. This is not a wetland. 11DROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Hydroge sulfied Odar (C1) Hor Yotaks (B1) Orid water Table (A2) Harl Deposits (B15) (LRR U) Saturation (LS) Saturation (LS) Water Marks (B1) Orid water Marks (B2) Presence of Reduced Iron (C4) Water Marks
IMap Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes (CyuA) NWI classification: None Introductions on the site typical for this time of year? Yes ● No ○ (If no, explain in Remarks.) re Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ● No ○ re Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.
e: climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation , Soil , or Hydrology isignificantly disturbed? Are "Normal Circumstances" present? Yes No re Vegetation re Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. tydric Soil Present? Yes No Yes Yes No Yes Yes No Yes No Yes No Yes Yes Yes No Yes Yes Yes No Yes Yes Yes Yes
re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No re Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Yes
re Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.) UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. tydrophytic Vegetation Present? Yes No tytes No vetand Hydrology Present? Yes No remarks: Hydric soil and wetland hydrology are not present. This is not a wetland. tyte Soil and wetland hydrology are not present. This is not a wetland. tyte Soil and wetland hydrology Indicators: Tyte Soil and wetland hydrology are not present. This is not a wetland. tyte Soil and wetland hydrology Indicators: Tyte Soil and wetland hydrology Indicators: Hydric soil and wetland hydrology Indicators (minimum of 2 required) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Surface Soil Cracks (B1) Cracks (B1) Cracks (B1) Cracks (B1)
UMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. tydrophytic Vegetation Present? Yes No tydric Soil Present? Yes No Vettand Hydrology Present? Yes No Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland. 11 CPROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Timelde Soils (C6) Saturation (Visible on Aerial Imagery (C9) Agal Mat or Crust (P4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Iron Muchation Visible on Aerial Imagery (B7)
Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No<
tydric Soil Present? Yes No within a Wetland? Yes No within a Wetland? Wetland Hydrology Present? Yes No Image: Secondary Indicators No Image: Secondary Indicators (minimum of 2 required) Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland. Secondary Indicators (minimum of 2 required) Image: Secondary Indicators (minimum of 2 required) Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Agal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Shallow Aquita
Wetland Hydrology Present? Yes No within a Wetland? Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland. 1YDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Aquatic Fauna (B13) Surface Water (A1) High Water Table (A2) Hydrogen Sulfde Odor (C1) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Drift Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations:
Remarks: Hydric soil and wetland hydrology are not present. This is not a wetland. fYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (LRR U) Stauration (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Drift Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Shallow Aquitard (D3) Into Deposits (B3) Other (Explain in Remarks) In Deposits (B5) Other (Explain in Remarks) Haddation Visible on Aerial Imagery (B7) Fac-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Hydric soil and wetland hydrology are not present. This is not a wetland. Hydric soil and wetland hydrology are not present. This is not a wetland. Hydric soil and wetland hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) In undation Visible on Aerial Imagery (B7) Hydroley (D5) Sphagnum moss (D8) (LRR T, U) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U) Sphagnum moss (D8) (LRR T, U)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Drift Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Thin Muck Surface (C7) Iron Deposits (B5) Other (Explain in Remarks) Iron Deposits (B5) Other (Explain in Remarks) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Shallow Aquitard (D3) Iron Deposits (B5) Other (Explain in Remarks) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Wetland Hydrology Indicators: Secondary Indicators (minimum of 2 required) Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Inondation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Surface Water (A1) Aquatic Fauna (B13) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
High Water Table (A2) Marl Deposits (B15) (LRR U) Drainage Patterns (B10) Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Saturation (A3) Hydrogen Sulfide Odor (C1) Moss Trim Lines (B16) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Dry Season Water Table (C2) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Iron Deposits (B5) Other (Explain in Remarks) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U)
Inundation Visible on Aerial Imagery (B7) Kater-Stained Leaves (B9) Kater-Stained Leaves (B9) Kater-Stained Leaves (B9) Kater-Stained Leaves (D5) K
Water-Stained Leaves (B9) Sphagnum moss (D8) (LRR T, U) Field Observations: Image: Comparison of the second se
Field Observations:
Surface Water Present? Yes 🔾 No 🔍 Depth (inches):
Water Table Present? Yes O No O Depth (inches):
Saturation Present? Ves No 🔍 Depth (inches):
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
temarks:

VEGETATION (FIVE/FOUR Strata) - Use scientific	Sampling Point: UPG1HA009					
		Species?				
Tree Stratum (Plot size: 30')	Absolute % Cover	e Rel.Strat. r Cover	Indicator Status	Dominance Test worksheet:		
1 Ouercus nigra	25	50.0%	FAC	Number of Dominant Species		
2 Illmus americana		20.0%	EAC	$\frac{11}{100} = \frac{100}{100} = \frac$		
2. Celtic laevigata		 ✓ 30.0% ✓ 30.0% 		Total Number of Dominant		
		20.0%	FACW	Species Across All Strata:8_ (B)		
4	0			Percent of dominant Species		
5	0			That Are OBL, FACW, or FAC:(A/B)		
6	0					
7	0			Prevalence Index worksheet:		
8	0	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 25 20% of Total Cover: 10	50	= Total Cover		OBL species x 1 =		
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species $10 \times 2 = 20$		
1.	0	0.0%		FAC species75 x 3 =225		
2	0	0.0%		FACII species 20 x 4 = 80		
3	0	0.0%				
Δ				$\begin{array}{c} \text{OPL Spectres} & \underline{ } \\ \ \text{OPL Spectres} & \underline{ } \\ \ \text{OPL Spectres} & \underline{ } \\ \text{OPL Spectres} & \underline{ } \\ \ \ \$		
т 5				Column Totals: <u>105</u> (A) <u>325</u> (b)		
6				Prevalence Index = $B/A = 3.095$		
7				Hydronhytic Vegetation Indicators:		
<i>1</i>						
δ	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹		
1 Ilex vomitoria	15	✓ 50.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
2 Morus alba	10	33.3%	FACU			
3 Juniperus virginiana		16.7%	FACU	¹ Indicators of hydric soil and wetland hydrology must		
1			17100	be present, unless disturbed or problematic.		
4				Definition of Vegetation Strata:		
0				Trae Weedy plants, evaluding weedy vince		
				approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: <u>15</u> 20% of Total Cover: <u>6</u>		= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: <u>30'</u>)						
1. Ilex vomitoria	10	66.7%	FAC	Sapling - Woody plants, excluding woody vines,		
2. Morus alba	5	✓ 33.3%	FACU	than 3 in. (7.6 cm) DBH.		
3.	0	0.0%				
<u>л</u>		0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
5				than 3 in. DBH and greater than 3.28 ft (1m) tall.		
8						
0: 7				Shrub - Woody plants, excluding woody vines,		
۲ ٥						
8				Herb - All herbaceous (non-woody) plants including		
9				herbaceous vines, regardless of size, and woody		
10				plants, except woody vines, less than approximately		
11	0			3 ft (1 m) in height.		
12	0	0.0%		Marchender Aller et al.		
50% of Total Cover: 7.5 20% of Total Cover: 3	15	= Total Cover		woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30')						
1 Berchemia scandens	10	✓ 100.0%	FAC			
2						
2						
J						
4				Hydrophytic		
0	U	<u> </u>				
50% of Total Cover: 5 20% of Total Cover: 2	10	= Total Cover		Present? Tes 🗢 INO 🔾		
Remarks: (If observed, list morphological adaptations below)				1		

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

Profile Desc	ription: (Describe to	the depth r	eeded to d	locument	t the indic	ator or co	onfirm the	absence of indicators)
Depth	Matrix			Re	dox Featu	ires		-	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	99	10YR	4/6	1	С	Μ	Clay	
		-	-		-	-			
	·								
1 Type: C=Con	centration D=Depletio	n RM=Redu	ed Matrix (^S=Cover	 ed or Coate	d Sand Gr	ains ² l oca	tion: PI=Pore Lining M	=Matrix
Hydric Soil 1	Indicators:							Indicators for Dr	-Hautz
Histosol (A1)		Poly	value Bel	ow Surface	(S8) (LRR	S. T. U)		
Histic Epi	pedon (A2)		Thi	n Dark Su	face (S9) (LRR S, T,	J)		
Black Hist	tic (A3)		Loa	my Mucky	Mineral (F	1) (LRR O)		(E18) (outside MLRA 150A B)
Hydrogen	sulfide (A4)		Loa	my Gleye	d Matrix (F2	<u>2)</u>			$\frac{1}{100} \left(\frac{1}{100} \left(\frac{1}{100} \right) \left($
Stratified	Layers (A5)		Dep	pleted Mat	rix (F3)	,			(F_{1}, F_{2}, F_{2})
Organic E	Bodies (A6) (LRR P, T, l	U)	Red	lox Dark S	urface (F6))		Red Parent Mat	terial (TE2)
5 cm Muc	ky Mineral (A7) (LRR P	P, T, U)	Dep	leted Dar	k Surface (F7)			ark Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Rec	lox Depres	ssions (F8)	,			in Demarks)
🗌 1 cm Muc	:k (A9) (LRR P, T)		Mar	1 (F10) (Ll	RR U)				
Depleted	Below Dark Surface (A	11)	🗌 Dep	leted Och	ric (F11) (N	1LRA 151)			
Thick Dar	k Surface (A12)		Iror	n-Mangane	ese Masses	(F12) (LR	R O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)	🗌 Um	bric Surfa	ce (F13) (Ll	RR P, T, U)		
🗌 Sandy Mu	ick Mineral (S1) (LRR C), S)	Delt	ta Ochric ((F17) (MLR.	A 151)		2	
Sandy Gle	eyed Matrix (S4)		Rec	luced Vert	ic (F18) (M	LRA 150A,	150B)	^S Indicato wetlan	rs of hydrophytic vegetation and
Sandy Re	dox (S5)		Piec	dmont Flo	odplain Soil	s (F19) (M	LRA 149A)	unle	ess disturbed or problematic.
Stripped I	Matrix (S6)		Anc	malous B	right Loamy	/ Soils (F20) (MLRA 14	9A, 153C, 153D)	
Dark Surf	ace (S7) (LRR P, S, T,	U)							
Restrictive L	ayer (if observed):								
Туре:									• • • • •
Depth (inc	hes):							Hydric Soil Present	? Yes U No 🔍
Remarks:									

Project/Site: Hawthorn Landfill	City/County: Harris County	Sampling Date: 10-Mar-20					
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State: <u></u> S	Sampling Point: UPG1HA010					
Investigator(s): KB, JM	_ Section, Township, Range: S N/A	Τ Ν/Α Β Ν/Α					
Landform (hillslope, terrace, etc.): Flat	Local relief (concave, convex, none):	flat Slope: 0.0 % / 0.0°					
Subregion (LRR or MLRA): LRR T	29.856568 Long.: -9	5.555119 Datum: NAD 83					
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slop	s (CyuA)	NWI classification: None					
Are climatic/hydrologic conditions on the site typical for this time of	ear? Yes 🖲 No 🔿 (If no,	, explain in Remarks.)					
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 signific	itly disturbed? Are "Normal Circun	nstances" present? Yes $ullet$ No $igodot$					
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 natural	problematic? (If needed, explain	any answers in Remarks.)					
SUMMARY OF FINDINGS - Attach site map showing	ampling point locations, transe	cts, important features, etc.					
Hydrophytic Vegetation Present? Yes $ullet$ No $igodot$	Is the Sampled Area						
Hydric Soil Present? Yes O No 💿							
Wetland Hydrology Present? Yes O No 💿	within a Wetland?						
Remarks: Hydric soil and wetland hydrology are not present. This is not a v	tland.						
Wetland Hydrology Indicatory							
Primary Indicators (minimum of one required: check all that and		Indary Indicators (minimum of 2 required)					
Surface Water (A1)	313) Si	Sparsely Vegetated Concave Surface (B8)					
High Water Table (A2)	15) (LRR U)	Drainage Patterns (B10)					
Saturation (A3)	e Odor (C1)	oss Trim Lines (B16)					
U Water Marks (B1) Oxidized Rhizo	heres along Living Roots (C3)	ry Season Water Table (C2)					
Sediment Deposits (B2)	uced Iron (C4)	rayfish Burrows (C8)					
Drift Deposits (B3)	uction in Tilled Soils (C6)	aturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)	ce (C7)	eomorphic Position (D2)					
Iron Deposits (B5) Other (Explain	Remarks)	hallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	FA	AC-Neutral Test (D5)					
Water-Stained Leaves (B9)	Sr	phagnum moss (D8) (LRR T, U)					
Field Observations:							
Surface Water Present? Yes Vio Depth (inche	·						
Water Table Present? Yes O No O Depth (inche	: Method thereis are						
Saturation Present? Yes No Depth (inche	: Wetland Hydrology	Present? Tes C NO C					
Describe Recorded Data (stream gauge, monitoring well, aerial pl Remarks:	tos, previous inspections), if available:						

		Dominant		Sampling Point: UPG1HA010
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Cover	Status	Number of Dominant Species
1. Fraxinus pennsylvanica	5	✓ 100.0%	FACW	That are OBL, FACW, or FAC:(A)
2	0			Total Number of Dominant
3				Species Across All Strata: (B)
4	0			Percent of dominant Species
5				That Are OBL, FACW, or FAC:(A/B)
7				.
/ o				Prevalence Index worksheet:
				I otal % Cover of: Multiply by:
	· <u> </u>			$\begin{array}{c} \text{OBL species} \\ \hline 0 \\ \hline x \\ \hline 1 \\ \hline x \\ 2 \\ \hline $
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species $15 \times 2 = 30$
1				FAC species 10 x 3 = 50
2				FACU species 27 x 4 = 108
3				UPL species $3 \times 5 = 15$
4				Column Totals: <u>55</u> (A) <u>183</u> (B)
D				Prevalence Index = $B/A = 3.327$
0 7				Hydrophytic Vegetation Indicators:
0				
		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u> ')				3 - Prevalence Index is ≤3.0 1
1. Populus deltoides	5	⊻ 100.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0	0.0%		
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Cynodon dactylon	20	✔ 44.4%	FACU	Sapling - Woody plants, excluding woody vines,
2. Sesbania drummondii	10	22.2%	FACW	than 3 in. (7.6 cm) DBH.
3. Helianthus annuus	5	11.1%	FAC	
4 . Galium aparine	5	11.1%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5. Verbena litoralis var. brevibracteata	3	6.7%	UPL	than 3 in. DBH and greater than 3.28 it (1m) tail.
6. Melilotus officinalis	2	4.4%	FACU	Shrub - Woody plants, excluding woody vines.
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10	0	0.0%		plants, except woody vines, less than approximately
11. <u></u>	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 22.5 20% of Total Cover: 9	45 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
 1	0	0.0%		
2.	0	0.0%		
3.	0	0.0%		
4	0	0.0%		
5.	0	0.0%		Hydrophytic
50% of Total Cover: 0 20% of Total Cover: 0	=	= Total Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because	Regional status	not defined by E	vs	

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
							-	
								-
								-
	·		,					
				-				
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil 1	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR 9	5, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A10)	(LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1	l) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	T, U)	Depleted Darl	surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)	,			Romarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Kellia KS)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses	(F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		re (F13) (I R	(()))))	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soik	_KA 130A, .	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ight Loanty	50115 (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ubuduia Cail Duasanta	M
Depth (inc	hes):						Hydric Soll Present?	Yes 🔾 No 👻
Remarks:								

Project/Site: Hawthorn Landfill	City/County: Harris (County	Sampling Date:	10-Mar-20	
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State:	TX Samplin	ng Point: UPG1HA011		
Investigator(s): KB, JM	Section, Township,	Range: S N/A	T N/A R N//	4	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): flat	Slope: 0	.0 % / 0.0°	
Subregion (LRR or MLRA): LRR T	29.857451	Long.: -95.5566	589 Datu	m: NAD 83	
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	(CyuA)	NWI cla	assification: None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 N	o 🔾 🛛 (If no, expla	in in Remarks.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are	e "Normal Circumstance	es" present? Yes 🖲	No \bigcirc	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	problematic? (If	needed, explain any a	nswers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point loca	tions, transects, i	mportant features,	etc.	
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sample	d Area			
Hydric Soil Present? Yes O No 🔍	15 the Sample		\bigcirc		
Wetland Hydrology Present? Yes O No 🔍	within a Wet	and? Tes and?	0		
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not HYDROLOGY	present. This is not a v	etland.			
Wetland Hydrology Indicators:		Secondary In	dicators (minimum of 2 reg	uired)	
Primary Indicators (minimum of one required: check all that apply)			Goil Cracks (B6)		
Surface Water (A1)	13)	Sparsely	Vegetated Concave Surface	(B8)	
High Water Table (A2)	5) (LRR U)		Drainage Patterns (B10)		
Saturation (A3)	Odor (C1)	Moss Trir	n Lines (B16)		
Water Marks (B1) Oxidized Rhizospl	neres along Living Roots (C3) Dry Sease	on Water Table (C2)		
Sediment Deposits (B2)	ced Iron (C4)	Crayfish I	Burrows (C8)		
Drift Deposits (B3)	ction in Tilled Soils (C6)	Saturatio	n Visible on Aerial Imagery	(C9)	
Algal Mat or Crust (B4)	e (C7)	Geomorp	hic Position (D2)		
Iron Deposits (B5) Other (Explain in	Remarks)	Shallow A	Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)		FAC-Neut	tral Test (D5)		
U Water-Stained Leaves (B9)	•	Sphagnur	m moss (D8) (LRR T, U)		
Field Observations:					
Surface Water Present? Yes Vo Depth (inches):					
Water Table Present? Yes O No O Depth (inches):)	
Saturation Present? Yes No Depth (inches):	We	land Hydrology Preser	$t?$ res \bigcirc no \bigcirc	,	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspection	s), if available:			
	,	-,,			
Remarks.					

		Dominant		Sampling Point: UPG1HA011
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Tabl New Area Considerat
3	0	0.0%		Species Across All Strata: 2 (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0	0.0%	87 	Prevalence Index worksheet:
8	0	0.0%	87 	Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		0BL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum_ (Plot size:)			FACW species $0 \times 2 = 0$
1	0	0.0%		FAC species $0 \times 3 = 0$
2.	0	0.0%		FACU species $45 \times 4 = 180$
3.	0	0.0%		$1101 \text{ species} \qquad 55 \text{ y 5} = 275$
4	0	0.0%		$\frac{1}{2} = \frac{1}{2} = \frac{1}$
5	0	0.0%		$\begin{bmatrix} \text{Column lotals:} & 100 \\ \end{bmatrix} (A) & 455 \\ \end{bmatrix} (b)$
6	0	0.0%		Prevalence Index = $B/A = 4.550$
7	0			Hydrophytic Vegetation Indicators:
8				
50% of Total Cover: 0 20% of Total Cover: 0		- Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: <u>30'</u>)				\square 3 - Prevalence Index is ≤3.0 ¹
1	0			Problematic Hydrophytic Vegetation ¹ (Explain)
2	0			1
3	0	0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0	0.0%		
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Bothriochloa ischaemum	55	✓ 55.0%	UPL	Sapling - Woody plants, excluding woody vines,
2 Cynodon dactylon	45	✔ 45.0%	FACU	approximately 20 π (6 m) or more in height and less than 3 in (7.6 cm) DBH
3	0	0.0%		
4	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.0%		
7	0	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10				herbaceous vines, regardless of size, and woody
11				3 ft (1 m) in height
12				
12.	100			Woody vine - All woody vines, regardless of height.
	100 =	- Total Cover		
Woody Vine Stratum (Plot size: 30')				
1	0	0.0%		
2	0	0.0%		
3	0			
4	0	0.0%		
5	0	0.0%		Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		Present? Yes ∪ No ●
Remarks: (If observed, list morphological adaptations below)				1
איז				
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by F\	NS.	

Profile Desc	ription: (Describe to	the depth r	needed to document	the indic	ator or co	nfirm the a	absence of indicators.)
Depth	Matrix		Re	dox Featu	res		_	
(inches)	Color (moist)		Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
								I-
								1.0-
					-		-	
¹ Type: C=Cor	centration. D=Depletion	n. RM=Redu	ced Matrix, CS=Covere	ed or Coate	d Sand Gra	ins ² Loca	tion: PL=Pore Lining. M	=Matrix
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils ³ :
	(A1)		Polyvalue Bel	ow Surface	(S8) (LRR 5	S. T. U)		
Histic Epi	pedon (A2)		Thin Dark Su	face (S9) (RR S. T. U)		
Black His	tic (A3)			Mineral (F	1) (I RR ())	,		(LRR S)
Hvdroger	n Sulfide (A4)			Hatrix (F2				
Stratified	Lavers (A5)			riv (E3)	•)			
	Sodies (A6) (LRR P. T. L	n		urfaca (E6)			Anomalous Brig	Int Loamy Soils (F20) (MLRA 153B)
	rkv Mineral (Δ7) (I RR P	,, Т II)			-7)		Red Parent Mat	rerial (TF2)
		, 1, 0)		k Surrace (r	-/)		Very Shallow D	ark Surface (TF12)
							Other (Explain	in Remarks)
	Rolow Dark Surface (A1	(1)	☐ Marl (F10) (L)	KR U)				
	delow Dark Surface (A1	11)		ric (F11) (№	1LRA 151)			
		1504)	Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
	AIRIE REGOX (A16) (MLRA	A 150A)	Umbric Surfac	ce (F13) (LF	RR P, T, U)			
	JCK Mineral (S1) (LRR O	, S)	Delta Ochric ((F17) (MLR	A 151)		³ Indicato	rs of hydrophytic vegetation and
Sandy G	eyed Matrix (S4)		Reduced Vert	ic (F18) (M	LRA 150A,	150B)	wetlan	d hydrology must be present,
Sandy Re	dox (S5)		Piedmont Flo	odplain Soil	s (F19) (ML	.RA 149A)	unle	ss disturbed or problematic.
Stripped	Matrix (S6)		Anomalous B	right Loamy	Soils (F20)) (MLRA 149	9A, 153C, 153D)	
Dark Sur	face (S7) (LRR P, S, T, l	J)						
Restrictive I	aver (if observed):							
Type:	ayer (il observed).							
Dopth (inc	thos):						Hydric Soil Present	? Yes 🔾 No 🖲
Deput (inc	nes):						•	
Remarks:								

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.()%/ 1.7°			
Subregion (LRR or MLRA): LRR T	t.: 29.855294	Long.: -95.55672	23 Datun	n: NAD 83			
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slo	pes (CyuA)	NWI clas	sification: None	-			
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes 🖲 I	No 🔿 (If no, explain	n in Remarks.)				
Are Vegetation . , Soil , or Hydrology signific	antly disturbed? A	re "Normal Circumstance	s" present? Yes 🖲	No 🔿			
Are Vegetation , Soil , or Hydrology natural	lly problematic? (1	if needed, explain any an	swers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing	sampling point loca	ations, transects, im	portant features, e	etc.			
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Samn	led Area					
Hydric Soil Present? Yes 🔿 No 🖲	13 the Samp						
Wetland Hydrology Present? Yes O No •	within a We	tland? To the c					
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are n	ot present. This is not a	wetland.					
Wetland Hydrology Indicators:	њ <i>А</i>	Secondary Indi	icators (minimum of 2 requi	ired)			
Surface Water (A1)	(B13)	Surface So	II Cracks (Bb)	88)			
High Water Table (A2)	(B15) (I RR II)		egeldleu Concave Sunace (Patterns (B10)	00)			
Saturation (A3)	ide Odor (C1)	Moss Trim Lines (B16)					
Water Marks (B1)	ospheres along Living Roots	eres along Living Roots (C3) Dry Season Water Table (C2)					
Sediment Deposits (B2)	educed Iron (C4)	ed Iron (C4)					
Drift Deposits (B3)	eduction in Tilled Soils (C6)	ction in Tilled Soils (C6)					
Algal Mat or Crust (B4)	face (C7)	Geomorphi	ic Position (D2)	,			
Iron Deposits (B5)	n in Remarks)	Shallow Ac	uitard (D3)				
Inundation Visible on Aerial Imagery (B7)		FAC-Neutra	al Test (D5)				
Water-Stained Leaves (B9)		Sphagnum	moss (D8) (LRR T, U)				
Field Observations:							
Surface Water Present? Yes \bigcirc No $ullet$ Depth (inche	es):						
Water Table Present? Yes \bigcirc No \bigcirc Depth (inche	es):						
Saturation Present?	W (etland Hydrology Present	? Yes 🔾 No 🖲				
(includes capillary fringe) Yes No Depth (inche	es):						
Remarks:	notos, previous inspectio						

		Dominant		Sampling Point: UPG1HA012
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across Air Sulata (b)
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la chi
7				Prevalence Index worksneet:
0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)			FACW species $30 \times 2 = 60$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species 65 x 4 =260
3	0	0.0%		UPL species $15 \times 5 = 75$
4.	0	0.0%		$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
5	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 3.591$
7				Hydrophytic Vegetation Indicators:
0				
0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:		Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1. Sesbania drummondii	30	✔ 100.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
Λ				be present, unless disturbed or problematic.
т Б				Definition of Vegetation Strata:
5				Trop Woody plants, excluding woody vines
				approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: <u>15</u> 20% of Total Cover: <u>6</u>	30 =	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)				
1. Cynodon dactylon	45	✓ 56.3%	FACU	Sapling - Woody plants, excluding woody vines,
2 Melilotus officinalis	20	✓ 25.0%	FACU	than 3 in (7.6 cm) DBH
3 Bothriochloa ischaemum	15	18.8%	UPI	
Δ			0.2	Sapling/Shrub - Woody plants, excluding vines, less
т 5				than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
0				Shrub - Woody plants, excluding woody vines,
/				approximately 3 to 20 ft (1 to 6 m) in height.
8				Horb All borbaccous (non woody) plants including
9				herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 40 20% of Total Cover: 16	80 =	Total Cover		Woody vine - All woody vines, regardless of height.
(Plot sizo: 30')				
woody vine stratum (Fiot size: 30)				
1				
2		<u>0.0%</u>		
3	0	□0.0%		
4				I had wards a the
5	0	0.0%		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Yes \cup No $ullet$
				l
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	vs	

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	tor or cor	nfirm the a	absence of indicators.)
Depth	Matrix		Re	dox Featu	es			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 4/4	100					Clay	
							-	
							p	
		·	- p-				p-	
		·						
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	Sand Grai	ns ² Locat	tion: PL=Pore Lining. M:	=Matrix
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR S	5, T, U)	1 cm Muck (Δ9)	
Histic Epi	pedon (A2)		Thin Dark Su	face (S9) (L	RR S. T. U)		
Black Hist	tic (A3)			Mineral (F1		/		(ERR S)
	Sulfide (A4)			Motrix (E2)				(F18) (outside MLRA 150A,B)
Stratified	Lavers (A5)			- Mau IX (FZ)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	Edycis (AS)	n.		FIX (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
		り - エーい	Redox Dark S	urface (F6)			Red Parent Mat	erial (TF2)
	(LRR P)	, I, U)	Depleted Dar	k Surface (F	7)		Very Shallow Da	ark Surface (TF12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	ssions (F8)			Other (Explain i	n Remarks)
1 cm Muc	:k (А9) (LRR Р, Т)		🔄 Marl (F10) (L	RR U)				
	Below Dark Surface (A1	1)	Depleted Och	ric (F11) (M	LRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	150A)	Umbric Surfac	ce (F13) (LR	R P, T, U)			
Sandy Mu	ick Mineral (S1) (LRR O	, S)	Delta Ochric (F17) (MLRA	151)		2	
Sandy Gle	eyed Matrix (S4)		Reduced Vert	ic (F18) (ML	RA 150A. 1	L50B)	³ Indicator	s of hydrophytic vegetation and
Sandy Re	dox (S5)			ndnlain Soils	(F19) (MI	RA 149A)	wetland	1 hydrology must be present, as disturbed or problematic
Stripped	Matrix (S6)			right Loamy	Soile (E20)	(MIDA 140	0A 153C 153D)	is distarbed of problemate.
Dark Surf	ace (S7) (LRR P, S, T, l	J)			5013 (1 20)		JA, 135C, 155D)	
Destation 1								
	ayer (if observed):							
Type:							Hydric Soil Present	
Depth (inc	hes):						Hydric Soli Presents	res ⊖ no ⊜
Remarks:								

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.):	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 slope	s (Ak) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of yea	r? Yes 🖲 No 🔿 (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	y disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Te the Sampled Area
Hydric Soil Present? Yes O No 🔍	
Wetland Hydrology Present? Yes O No O	within a Wetland?
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not p	resent. This is not a wetland.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	j) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Ddor (C1)
Water Marks (B1)	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ed Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	(C7) Geomorphic Position (D2)
Iron Deposits (B5)	(emarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface water Present? Tes C No C Deptil (Inches):	
Water Table Present? Yes V No Depth (inches):	Wetland Hydrology Present? Yes No 🔍
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo Remarks:	is, previous inspections), if available:

		Dominant		Sampling Point: UPG1HA013
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: <u>2</u> (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 20% of Total Cover:0	0 =	Total Cover		OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
1	0	0.0%		FAC species x 3 =45
2	0	0.0%		FACU species x 4 =20
3	0	0.0%		UPL species $30 \times 5 = 150$
4	0	0.0%		Column Totals: 100 (A) 415 (B)
5	0	0.0%		
6	0	0.0%		Prevalence Index = B/A = 4.150
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Banid Test for Hydronbytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		\square 2 - Dominance Test is > 50%
Chrub Stratum (Plat size: 20')				
1	0	0.0%		$\square S - Prevalence Index is \leq 5.0^{-1}$
1 2				
2	0			¹ Indicators of hydric soil and wetland hydrology must
λ				be present, unless disturbed or problematic.
4				Definition of Vegetation Strata:
0				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).
Herb Stratum (Plot size: <u>30</u> ')		_		Sapling - Woody plants, excluding woody vines
1. Cynodon dactylon	35	✓ 35.0%	FACU	approximately 20 ft (6 m) or more in height and less
2. Bothriochloa ischaemum	25	✓ 25.0%	UPL	than 3 in. (7.6 cm) DBH.
3. Helianthus annuus	10		FAC	
4. Melilotus officinalis	10	10.0%	FACU	Sapling/Shrub - Woody plants, excluding vines, less than 3 in DBH and greater than 3 28 ft (1m) tall
5. Ambrosia psilostachya	5		FAC	
6. Vicia ludoviciana	5_	5.0%	FACU	Shrub - Woody plants, excluding woody vines,
/ Lolium perenne	5_	5.0%	FACU	approximately 3 to 20 ft (1 to 6 m) in height.
8. Geranium carolinianum	5	5.0%	UPL	Horb All borbaccous (non woody) plants, including
9	0	0.0%		herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
11	0			3 ft (1 m) in height.
12	0	0.0%		Marcharden Aller de de la companya de la companya
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: <u>30'</u>)				
1	0	0.0%		
2	0	0.0%		
3	0	0.0%		
4	0	0.0%		
5	0	0.0%		Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:	0 =	Total Cover		Present? Yes Vo 🔍
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because	Regional status r	not defined by F	VS.	

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
							-	
								-
								-
	·		,					
				-				
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR 9	5, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A10)	(LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1	l) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	T, U)	Depleted Darl	surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)	,			Romarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Kellia KS)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses	(F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		re (F13) (I R	(()))))	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soik	_KA 130A, .	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ignic Loanny	50115 (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ukuduja Caji Duasauta	M
Depth (inc	hes):						Hydric Soll Present?	Yes 🔾 No 👻
Remarks:								

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	29.852769 Long.: -95.555718 Datum: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	s (CyuA) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes $ullet$ No $igodot$ (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	itly disturbed? Are "Normal Circumstances" present? Yes $ullet$ No $igodoldsymbol{ imes}$
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	To the Compled Area
Hydric Soil Present? Yes 🔿 No 🖲	
Wetland Hydrology Present? Yes O No 🔍	within a Wetland?
Remarks:	
Hydrophytic vegetation, hydric soil, and wetland hydrology are not p	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)	Surface Soil Cracks (B6)
Surface Water (A1)	S13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	2 Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	uced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ce (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	:
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? Yes No	. Wetland Hydrology Present? Yes \bigcirc No \bigcirc
(includes capillary fringe)	tee provinus increations) if available
Describe Recorded Data (stream gauge, monitoring weil, aerial priot	tos, previous inspections), il avaliable:
Remarks:	

		Dominant		Sampling Point: UPG1HA014
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across Air Surata. $\underline{2}$ (b)
5		0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la ch
7				Prevalence Index worksneet:
0	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)			FACW species $0 \times 2 = 0$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $35 \times 4 = 140$
3	0	0.0%		UPL species $45 \times 5 = 225$
4.	0	0.0%		$\begin{array}{c} 1 & 1 & 0 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 &$
5	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 4.563$
7				Hydrophytic Vegetation Indicators:
0				
0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:		Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1.	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
Λ				be present, unless disturbed or problematic.
ч Б				Definition of Vegetation Strata:
5				Trop Woody plants, excluding woody vines
				approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)				
1. Bothriochloa ischaemum	45	✔ 56.3%	UPL	Sapling - Woody plants, excluding woody vines,
2. Cynodon dactylon	35	✓ 43.8%	FACU	than 3 in (7.6 cm) DBH
3	0	0.0%		
Δ	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5				than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.				
7				Shrub - Woody plants, excluding woody vines,
/				approximately 5 to 20 ft (1 to 6 ff) in height.
8				Herb - All berbaceous (non-woody) plants, including
9	0			herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 40 20% of Total Cover: 16	80 =	Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vino Stratum (Plot size: 30')				
	0			
1				
Z				
3				
4	0			Hydrophytic
5	0	0.0%		Vegetation
50% of Total Cover: 20% of Total Cover:0		Total Cover		Present? Yes 🔾 No 🛡
Remarks: (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status i	not defined by FV	/S	

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
							-	
								-
								-
	·		,					
				-				
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR 9	5, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A10)	(LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1	l) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	T, U)	Depleted Darl	surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)	,			Romarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Kellia (S)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses	(F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		re (F13) (I R	((())))	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soik	_KA 130A, .	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ignic Loanny	50115 (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ukuduja Caji Duasauta	M
Depth (inc	hes):						Hydric Soll Present?	Yes 🔾 No 👻
Remarks:								

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
oil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slope	s (Ak) NWI classification: None
re climatic/hydrologic conditions on the site typical for this time of yea	r? Yes 🖲 No 🔿 (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes O No 💿	To the Complet Area
Hydric Soil Present? Yes O No 💿	
Wetland Hydrology Present? Yes O No 💿	within a Wetland?
Hydrophytic vegetation, hydric soil, and wetland hydrology are not p	resent. This is not a wetland.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	5) (LRR U) Drainage Patterns (B10)
Saturation (A3)	Odor (C1)
Water Marks (B1)	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	red Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	(C7) Geomorphic Position (D2)
U Iron Deposits (B5) U Other (Explain in F	Remarks) Shallow Aquitard (U3)
Water-Stained Leaver (B9)	
Eiold Obconvations	
Surface Water Present? Yes No O Depth (inches):	
Water Table Precent? Ves No	
Saturation Present?	Wetland Hydrology Present? Yes \bigcirc No \odot
(includes capillary fringe) Yes V No O Depth (inches):	
Remarks:	

		Dominant		Sampling Point: UPG1HA015
	Absolute	_ Species? Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across Air Surata. $\underline{2}$ (b)
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la ch
7				Prevalence Index worksneet:
0	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species $5 \times 2 = 10$
1	0	0.0%		FAC species $5 \times 3 = 15$
2	0	0.0%		FACU species $25 \times 4 = 100$
3	0	0.0%		UPL species $\frac{65}{x 5} = \frac{325}{x 5}$
4	0	0.0%		$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
5	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 4.500$
7				Hydrophytic Vegetation Indicators:
0				
0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:		Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1.	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
0				be present, unless disturbed or problematic.
ч Б				Definition of Vegetation Strata:
5				Trae Weedy plants, evaluating weedy vince
0	0	0.0%		approximately 20 ft (6 m) or more in height and 3 in
50% of Total Cover: 20% of Total Cover:	0 =	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Bothriochloa ischaemum	65	✔ 65.0%	UPL	Sapling - Woody plants, excluding woody vines,
2 Cynodon dactylon	25	✓ 25.0%	FACU	than 3 in (7.6 cm) DBH
3 Ambrosia psilostachva	5	5.0%	FAC	
A Cynerus entrerianus		5.0%	FACW	Sapling/Shrub - Woody plants, excluding vines, less
5			TACI	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5				
0				Shrub - Woody plants, excluding woody vines,
7				approximately 3 to 20 ft (1 to 6 m) in height.
8				Horb All borbaccous (non woody) plants including
9	0			herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		Woody vine - All woody vines, regardless of height.
(Plot size: 30')				
Woody Vine Stratum (Fiot size: 30)	•			
1				
2	0			
3	0			
4	0			I had wards a the
5	0	0.0%		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Yes \cup No $ullet$
				l
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	/S.	

Profile Desci	ription: (De	scribe to	the depth	needed to document	the indic	ator or con	firm the a	absence of indicato	ors.)	
Depth Matrix		Redox Features				-				
(inches)	Color (moist)		Color (moist)	%	<u>Tvpe</u> ¹	Loc ²	Texture	Remarks	
0-16	10YR	4/2	85					Clay	mottles	
	10YR	5/8	5					Clay		
	7.5YR	4/6	10					Clav		
		.,.								
								-		
		-								
	-		-					-		
1.Turney C. Com	D	Devlatio	- DM Dadu					tion: DI Dava Lining	NA NA-A	
+ Type: C=Con	centration. D	=Depletio	n. RM=Redu	ced Matrix, CS=Covere	d or Coate	a Sana Grai	is ² Loca	tion: PL=Pore Lining.	. M=Matrix	
					C C	(60) (LDD 6	T 10	Indicators for	Problematic Hydric Soils ³ :	
	AI)				w Surface	(S8) (LRR S	, I, U)	1 cm Muck ((A9) (LRR O)	
	(A2)				ace (S9) (LRR S, I, U)		2 cm Muck ((A10) (LRR S)	
				Loamy Mucky	Mineral (F	1) (LRR O)		Reduced Ve	rtic (F18) (outside MLRA 150A,B)	
П статодел				Loamy Gleyed	Matrix (F2	2)		Piedmont Fl	oodplain Soils (F19) (LRR P, S, T)	
	Layers (A5)		N	Depleted Matr	ix (F3)			Anomalous I	Bright Loamy Soils (F20) (MLRA 153B)	
Urganic B	iodies (A6) (L	кк Р, Т, l	J)	Redox Dark Su	urface (F6)			Red Parent I	Material (TF2)	
5 cm Muc	ky Mineral (A	(LRR P	P, T, U)	Depleted Dark	Surface (I	-7)		Very Shallov	v Dark Surface (TF12)	
Muck Pre	sence (A8) (L	RR U)		Redox Depres	sions (F8)			Other (Expla	ain in Remarks)	
1 cm Muc	:k (A9) (LRR I	Р, Т)		🔄 Marl (F10) (LR	RU)					
	Below Dark S	Surface (A	11)	Depleted Ochr	ic (F11) (N	1LRA 151)				
Thick Dar	k Surface (A1	.2)		Iron-Mangane	se Masses	(F12) (LRR	О, P, T)			
Coast Pra	irie Redox (A	16) (MLR/	A 150A)	Umbric Surface	e (F13) (Ll	RR P, T, U)				
Sandy Mu	ick Mineral (S	51) (LRR C), S)	🗌 Delta Ochric (F	=17) (MLR	A 151)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Sandy Gle	eyed Matrix (S	54)		Reduced Verti	c (F18) (M	LRA 150A, 1	50B)			
Sandy Re	dox (S5)			Piedmont Floo	dplain Soil	s (F19) (MLI	RA 149A)			
Stripped I	Matrix (S6)			Anomalous Bri	ght Loamy	/ Soils (F20)	(MLRA 14	9A, 153C, 153D)		
Dark Surf	ace (S7) (LRF	R P, S, T,	U)							
Restrictive L	aver (if obs	erved):								
Type ¹	uyei (ii 000	ci i cu ji								
Denth (inc	hes).							Hydric Soil Prese	ent? Yes \bigcirc No $oldsymbol{igodol}$	
	ncs).				_					
Remarks:										

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	29.856767 Long.: -95.552040 Datum: NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slop	Des (Ak) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🖲 No 🔾 (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ıtly disturbed? Are "Normal Circumstances" present? Yes $ullet$ No $igodot$
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally j	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sampled Area
Hydric Soil Present? Yes O No 🔍	
Wetland Hydrology Present? Yes O No 💿	within a Wetland?
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)) Surface Soil Cracks (B6)
Surface Water (A1)	313) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	e Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	wheres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	uced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ce (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in	I Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	:
Water Table Present? Yes O No O Depth (inches):	
Saturation Present?	. Wetland Hydrology Present? Yes \bigcirc No \bigcirc
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspections), if available:
Remarks:	

		Dominant		Sampling Point: UPG1HA016
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3	0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
6.	0	0.0%		That Are OBL, FACW, or FAC:(A/B)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of Multiply by
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		$\frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{10000} \frac{1}{100000} \frac{1}{10000000000000000000000000000000000$
Sopling or Sopling /Shrub Stratum (Plot size:	<u> </u>			$ \begin{array}{c} \hline \hline \\ $
	_ ′	0.0%		$\begin{bmatrix} AC \\ a \\ b \\ c \\ c$
1				$\begin{array}{cccc} \mathbf{FAC} & \mathbf{Spectres} & \underline{\mathbf{J}} & \mathbf{X} & \mathbf{S} & \underline{\mathbf{J}} & \underline{\mathbf{J}} & \underline{\mathbf{J}} \\ \mathbf{FAC} & \mathbf{Spectres} & \underline{\mathbf{J}} & \mathbf{S} & \mathbf{S} & \underline{\mathbf{J}} & \underline{\mathbf{J}} \\ \mathbf{Spectres} & \mathbf{Spectres} & \underline{\mathbf{J}} & \mathbf{S} & \mathbf{S} & \underline{\mathbf{J}} & \underline{\mathbf{J}} \\ \mathbf{Spectres} & \mathbf{Spectres} & \underline{\mathbf{J}} & \mathbf{S} & \mathbf{S} & \underline{\mathbf{J}} & \underline{\mathbf{J}} \\ \mathbf{Spectres} & \mathbf{Spectres} & \underline{\mathbf{J}} & \mathbf{S} & \mathbf{S} & \underline{\mathbf{J}} \\ \mathbf{Spectres} & \mathbf{Spectres} & \mathbf{Spectres} & \mathbf{Spectres} & \mathbf{Spectres} \\ \mathbf{Spectres} & Spec$
2				FACU species 70 x 4 = 200
3				UPL species $-\frac{25}{x} \times 5 = -\frac{125}{x}$
4				Column Totals: <u>100</u> (A) <u>420</u> (B)
5				Prevalence Index = $B/A = 4.200$
6	0			
<i>(</i>	0	0.0%		Hydrophytic vegetation indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30')				\square 3 - Prevalence Index is ≤3.0 ¹
1	0	0.0%		Problematic Hydronhytic Vegetation ¹ (Explain)
2	0	0.0%		
3		0.0%		¹ Indicators of hydric soil and wetland hydrology must
δ				be present, unless disturbed or problematic.
ч б				Definition of Vegetation Strata:
5				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).
_Herb Stratum (Plot size: <u>30'</u>)				
1 <u>Galium aparine</u>	55	✓ 55.0%	FACU	approximately 20 ft (6 m) or more in height and less
2. Vicia ludoviciana	15	15.0%	FACU	than 3 in. (7.6 cm) DBH.
3. Bromus unioloides	10	10.0%	UPL	
4Corydalis aurea	10	10.0%	UPL	Sapling/Shrub - Woody plants, excluding vines, less
5Helianthus annuus	5	5.0%	FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6. Verbena litoralis var. brevibracteata	5	5.0%	UPL	Shrub - Woody plants, excluding woody vines
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10.	0	0.0%		nerbaceous vines, regardless of size, and woody
11.	0	0.0%		3 ft (1 m) in height.
12.	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 -	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: <u>30</u>)				
1	0	□ <u>0.0%</u>		
2	0	0.0%		
3	0	<u> </u>		
4	0	└── 0.0%		Hudrankutia
5	0	0.0%		Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		Present? Yes ∪ No ●
Remarks: (If observed, list morphological adaptations below)				1
Remains. (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by F\	NS.	

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
							-	
								-
								-
	·		,					
				-				
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil 1	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR 9	6, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A10)	(LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1	l) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	l Matrix (F2)		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	T, U)	Depleted Darl	surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)	,			Pomarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Kellia KS)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	ILRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses	(F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		re (F13) (I R	(()))))	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soik	_KA 130A, .	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ignic Loanny	50115 (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ukuduja Caji Duasauta	M
Depth (inc	hes):						Hydric Soll Present?	Yes 🔾 No 👻
Remarks:								

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 slope	es (Ak) NWI classification: None				
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes \bullet No \bigcirc (If no, explain in Remarks.)				
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	ly disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾				
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	roblematic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes O No 💿	Is the Sampled Area				
Hydric Soil Present? Yes O No 💿	13 the Sampled Alea $125 \bigcirc 100$				
Wetland Hydrology Present? Yes O No 💿	within a Wetland?				
Hydrophytic vegetation, hydric soil, and wetland hydrology are not p	present. This is not a wetland.				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1)	3) Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Marl Deposits (B15	5) (LRR U) Drainage Patterns (B10)				
Saturation (A3)	Odor (C1)				
Water Marks (B1)	eres along Living Roots (C3) Dry Season Water Table (C2)				
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)				
Drift Deposits (B3)	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)				
Algai Mat or Crust (B4)	e (C/) Geomorphic Position (D2)				
Interposits (B3) Uther (Explain in F	Remarks) Shallow Aquitad (D3)				
Water-Stained Leaves (R9)					
Field Observations:					
Surface Water Present? Yes No Depth (inches):					
Water Table Present? Ves No					
Saturation Present?	Wetland Hydrology Present? Yes \bigcirc No \odot				
(includes capillary fringe) Yes V No O Depth (inches):					
Remarks:					
		Dominant		Sampling Point: UPG1HA017	
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	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species	
1	0	0.0%		That are OBL, FACW, or FAC:(A)	
2	0	0.0%			
3	0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)	
4.	0	0.0%			
5.	0	0.0%		Percent of dominant Species	
6.	0	0.0%		That Are OBL, FACW, or FAC:(A/B)	
7	0	0.0%		Prevalence Index worksheet:	
8	0	0.0%		Total % Cover of: Multiply by:	
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		$\frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{10000} \frac{1}{10000000000000000000000000000000000$	
Sopling or Sopling /Shrub Stratum (Plot size:	<u> </u>			$\frac{1}{100} = \frac{1}{100} = \frac{1}$	
	_/	0.00/		$\frac{17}{12} \times 2 = \frac{17}{12} \times 2 = \frac{51}{12}$	
1				FAC species 17 x 3 = 51	
2				FACU species $5 \times 4 = 20$	
3				UPL species $35 \times 5 = 1/5$	
4				Column Totals:(A)(B)	
5	0			Prevalence Index = $B/A = 4200$	
6	0	0.0%			
7	0	0.0%		Hydrophytic Vegetation Indicators:	
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		2 - Dominance Test is > 50%	
Shrub Stratum (Plot size: 30')					
1	0	0.0%		Problematic Hydronhytic Vegetation ¹ (Explain)	
2					
3				¹ Indicators of hydric soil and wetland hydrology must	
аа				be present, unless disturbed or problematic.	
4				Definition of Vegetation Strata:	
5				Tree Weedy plants excluding weedy vines	
				approximately 20 ft (6 m) or more in height and 3 in.	
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).	
Herb Stratum (Plot size: <u>30'</u>)					
1. Bothriochloa ischaemum	35	✓ 58.3%	UPL	Sapling - Woody plants, excluding woody vines,	
2. Cirsium horridulum	10	16.7%	FAC	than 3 in. (7.6 cm) DBH.	
3. Cynodon dactylon	5	8.3%	FACU		
4. Ambrosia psilostachya	5	8.3%	FAC	Sapling/Shrub - Woody plants, excluding vines, less	
5. Sesbania drummondii	3	5.0%	FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.	
6 Baccharis halimifolia	2	3.3%	FAC		
7.	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
8	0	0.0%			
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including	
10		0.0%		herbaceous vines, regardless of size, and woody	
11	- <u> </u>			3 ft (1 m) in height.	
12		0.0%			
50% of Total Cover: 20 20% of Tatal Cover: 42				Woody vine - All woody vines, regardless of height.	
	60 =	= Total Cover		,,	
Woody Vine Stratum (Plot size: 30')		_			
1	0	0.0%			
2	0	0.0%			
3	0	0.0%			
4	0	0.0%			
5	0	0.0%		Hydrophytic Vegetation	
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		Present? Yes No 🔍	
Remarks: (If observed, list morphological adaptations below).					
*Indicator cuffix - National status or professional desision assigned because D	egional stature	not defined by D	vc		
mulcator suma – mational status or professional decision assigned because R	cyiunai status i	not defined by FV	v.J.		

Sampling Point: UPG1HA017

Profile Descr	ription: (De	scribe to	the depth	needed to document	the indic	ator or co	nfirm the a	absence of indicator	rs.)
Depth		Matrix		Re	dox Featu	res		-	
(inches)	Color ((moist)		Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR	3/2	70					Clay	Disturbed Solls
	10YR	5/2	25					Clay	
	10YR	4/6	5					Clay	
				·					······
				·					· v-
				·					
¹ Type: C=Con	centration. D	=Depletio	n. RM=Red	uced Matrix, CS=Covere	ed or Coate	d Sand Gra	ins ² Loca	tion: PL=Pore Lining.	M=Matrix
Hydric Soil I	Indicators:							Indicators for P	Problematic Hydric Soils ³ :
Histosol (A1)			Polyvalue Bel	ow Surface	(S8) (LRR 9	S, T, U)	1 cm Muck (A	49) (LRR O)
Histic Epi	pedon (A2)			Thin Dark Sur	face (S9) (LRR S, T, U)	2 cm Muck (A	A10) (LRR S)
Black Hist	tic (A3)			Loamy Mucky	Mineral (F	1) (LRR O)		Reduced Ver	tic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed	d Matrix (F2	2)		Piedmont Flo	odplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)			Depleted Mat	rix (F3)			Anomalous B	right Loamy Soils (F20) (MLRA 153B)
Organic B	Bodies (A6) (L	_RR P, T, L	J)	Redox Dark S	urface (F6)			Red Parent M	laterial (TF2)
5 cm Muc	ky Mineral (A	47) (LRR P	, T, U)	Depleted Darl	k Surface (F	-7)		Very Shallow	Dark Surface (TF12)
Muck Pres	sence (A8) (L	LRR U)		Redox Depres	ssions (F8)			Other (Explai	in in Remarks)
	CK (A9) (LRR	P, I)		Marl (F10) (LI	RR U)				
	Below Dark S	Surface (A	11)	Depleted Och	ric (F11) (M	1LRA 151)			
	K Surrace (A.	12)	1504)	Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
	IFIE REDOX (A	(10) (MLKA	(150A)	Umbric Surfac	ce (F13) (LF	RR P, T, U)			
	ick Mineral (S	51) (LKK U	, 5)		F17) (MLR/	A 151)		³ Indica	tors of hydrophytic vegetation and
	dov (SE)	54)			IC (F18) (M	LRA 150A,	150B)	wetla	and hydrology must be present,
	uux (55) Matrix (56)				odplain Soil	s (F19) (ML	.RA 149A)	ur	hless disturbed or problematic.
	Maurix (50) Face (57) (LPI	ррсти	(I)	Anomalous Bi	right Loamy	Soils (F20)) (MLRA 149	9A, 153C, 153D)	
		κr, 3, 1, 1)						
Restrictive L	ayer (if obs	erved):							
Type:	l							Hvdric Soil Prese	nt? Yes 🔿 No 🖲
Depth (inc	hes):								
Remarks:									

Project/Site: Hawthorn Landfill	City/County: Harris	s County	Sampling Date:	10-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State	: <u>TX</u> Sampli	ng Point: UPG1HA018	
Investigator(s): KB, JM	Section, Township	, Range: S N/A	T_N/A R_N/A	4
Landform (hillslope, terrace, etc.): Flat	Local relief (concav	e, convex, none): flat	Slope: 0,	.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T		Long.: -95.549	622 Datu	m: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slop	es (CyuA)	NWI cl	assification: None	
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes 🖲	No O (If no, expla	ain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significa	antly disturbed? μ	Are "Normal Circumstand	ces" present? Yes 🖲	No \bigcirc
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 natural	ly problematic? (If needed, explain any a	Inswers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing	sampling point loc	ations, transects, i	mportant features,	etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sam	nled Area		
Hydric Soil Present? Yes O No 🖲		$\frac{1}{2}$	۲	
Wetland Hydrology Present? Yes \bigcirc No \bigcirc	within a we	stiand?		
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are no	ot present. This is not a	wetland.		
				in d
Primary Indicators (minimum of one required: check all that appl			Soil Cracks (B6)	uirea)
Surface Water (A1)	(B13)		Vegetated Concave Surface	(B8)
High Water Table (A2)	(B15) (LRR U)		e Patterns (B10)	(20)
Saturation (A3)	de Odor (C1)	Moss Tri	m Lines (B16)	
U Water Marks (B1) Oxidized Rhizo	spheres along Living Roots	s (C3) Dry Seas	son Water Table (C2)	
Sediment Deposits (B2)	educed Iron (C4)	Crayfish	Burrows (C8)	
Drift Deposits (B3)	eduction in Tilled Soils (C6)	Saturatio	on Visible on Aerial Imagery ((C9)
Algal Mat or Crust (B4) Thin Muck Sur	face (C7)	Geomor	phic Position (D2)	
Iron Deposits (B5) Other (Explain	in Remarks)	Shallow	Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neu	ıtral Test (D5)	
Water-Stained Leaves (B9)		Sphagnu	ım moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes Vo Depth (inche	s):			
Water Table Present? Yes O No O Depth (inche	s):	/)
Saturation Present? Yes No Depth (inche	s):	etiand Hydrology Prese	nt? tes ⊂ ino ⊝	, ,
Describe Recorded Data (stream gauge, monitoring well, aerial ph	iotos, previous inspecti	ons), if available:		

		Dominant		Sampling Point: UPG1HA018		
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Cover	Status	Number of Dominant Species		
1	0	0.0%		That are OBL, FACW, or FAC:0(A)		
2	0	0.0%				
3.	0	0.0%		Total Number of Dominant		
4.	0	0.0%				
5	0	0.0%		Percent of dominant Species		
6				That Are OBL, FACW, or FAC:		
7			<u>.</u>	Dravalance Index werkeheet:		
0			<u>.</u>	The low of the second s		
		0.0%		I otal % Cover of: Multiply by:		
	=	= Total Cover		0 x I = 0		
Sapling or Sapling/Shrub Stratum (Plot size:	_)			FACW species $5 \times 2 = 10$		
1	0	0.0%		FAC species $0 \times 3 = 0$		
2	0	0.0%		FACU species $_{60}$ x 4 = $_{240}$		
3	0	0.0%		UPL species x 5 =		
4	0	0.0%		Column Totals: 100 (A) 425 (B)		
5	0	0.0%				
6	0	0.0%		Prevalence Index = B/A = 4.250		
7	0	0.0%		Hydrophytic Vegetation Indicators:		
8.	0	0.0%		1 - Panid Tast for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover				
Shrub Stratum (Plot size: <u>30</u>)				\square 3 - Prevalence Index is ≤3.0 $^{\perp}$		
1	0			Problematic Hydrophytic Vegetation ¹ (Explain)		
2	0					
3	0	0.0%	<u>.</u>	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4	0	0.0%				
5	0	0.0%		Definition of Vegetation Strata:		
6	0	0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover:020% of Total Cover:0	0 =	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7 6 cm) or larger in diameter at breast beight (DBH)		
Herb Stratum (Plot size: 30')						
1 Public trivialic	50	F 0.0%	EACU	Sapling - Woody plants, excluding woody vines,		
				approximately 20 ft (6 m) or more in height and less		
		▼ <u>25.0%</u>		than 3 ln. (7.6 cm) DBH.		
				Sapling/Shruh Woody plants, excluding vines, loss		
4 Andropogon glomeratus	5	5.0%	FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5. Lonicera japonica	5		FACU	5		
6. Galium aparine	5	5.0%	FACU	Shrub - Woody plants, excluding woody vines,		
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8	0	└── 0.0%				
9	0			herbaceous vines, regardless of size, and woody		
10	0	0.0%		plants, except woody vines, less than approximately		
11	0	0.0%		3 ft (1 m) in height.		
12	0	0.0%				
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30')						
1	0	0.0%				
2	- <u></u>	<u> </u>	. <u> </u>			
2						
J						
4				Hydrophytic		
о	U					
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover				
Remarks: (If observed, list morphological adaptations below).						
· · · · · · · · · · · · · · · · · · ·						
*Indicator suffix = National status or professional decision assigned because R	egional status i	not defined by F\	VS.			

Sampling Point: UPG1HA018

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res		_	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 4/2	100					Sandy Clay Loam	
			······ ·					
¹ Type: C=Cor	ncentration. D=Depletio	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ins ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol ((A1)		Polyvalue Bel	ow Surface	(S8) (LRR 9	S, T, U)	1 cm Muck (A9)	(IBB O)
Histic Epi	ipedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, U)	$\square 2 \text{ cm Muck (A10)}$	
Black His	tic (A3)		Loamy Mucky	Mineral (F	1) (LRR O)			(1300)
Hydroger	n Sulfide (A4)		Loamy Gleved	d Matrix (F2	()			(000000000000000000000000000000000000
Stratified	Layers (A5)		Depleted Mat	rix (F3)	,			$\frac{1}{2} = \frac{1}{2} \left(\frac{1}{2} \right) \left(\frac{1}{2} + \frac{1}{2}$
Organic B	Bodies (A6) (LRR P, T, L	J)	Redox Dark S	urface (F6)				
5 cm Mu	ckv Mineral (A7) (LRR P	, , Τ, U)		k Surface (F	-7)			f(a) (1 + 2)
Muck Pre	esence (A8) (LRR U)	, , -,		scions (F8)	,,			K Surface (TF12)
	ck (A9) (I RR P. T)						Other (Explain in	Remarks)
	Below Dark Surface (A	11)		ric (E11) (N	11 DA 151)			
	rk Surface (A12)				(E12) (I DD			
	airie Redox (A16) (MI R	1504)			(FIZ) (LKK	0, P, T)		
	uck Mineral (S1) (IPP C	(130A)		2e (F13) (Li	(R P, I, U)			
	aved Matrix (S4)	, 3)		(MLR/	A 151)		³ Indicators	of hydrophytic vegetation and
	eyeu Matrix (54)		Reduced Vert	IC (F18) (M	LRA 150A,	150B)	wetland	hydrology must be present,
	adox (SS)		Piedmont Floo	odplain Soil	s (F19) (ML	.RA 149A)	unless	s disturbed or problematic.
	Matrix (S6)		Anomalous B	right Loamy	Soils (F20)) (MLRA 149	9A, 153C, 153D)	
Dark Sur	face (S7) (LRR P, S, T, T	U)						
Restrictive L	_ayer (if observed):							
Туре:								
Depth (inc	ches):						Hydric Soil Present?	Yes 🔾 No 🖲
Pomarke	, ₁							
Remarks.								

State: TX Sampling Point: UPG1HA019 Section, Township, Range: S N/A T T N/A R R N/A N/A R N/A O.0 % / 0.0 ° Slope: 0.0 % / 0.0 ° Null classification: None Yes No Slope: No Slope: No Slope: No Slope: No Slope: No Slope: Slope: No Slope:
Section, Township, Range: S N/A T N/A R N/A cal relief (concave, convex, none): flat Slope: 0.0 % / 0.0 ° 9.852839 Long.: -95.549554 Datum: NAD 83 vuA) NWI classification: None Yes No (If no, explain in Remarks.) listurbed? Are "Normal Circumstances" present? Yes No
cal relief (concave, convex, none): flat Slope: 0.0 % / 0.0 ° 9.852839 Long.: -95.549554 Datum: NAD 83 ruA) NWI classification: None Yes No (If no, explain in Remarks.) listurbed? Are "Normal Circumstances" present? Yes No olematic? (If needed, explain any answers in Remarks.) oling point locations, transects, important features, etc.
Description Description </th
Yes No (If no, explain in Remarks.) disturbed? Are "Normal Circumstances" present? Yes No olematic? (If needed, explain any answers in Remarks.) oling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No ent. This is not a wetland.
Yes No (If no, explain in Remarks.) listurbed? Are "Normal Circumstances" present? Yes No lematic? (If needed, explain any answers in Remarks.) oling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No ent. This is not a wetland.
Are "Normal Circumstances" present? Yes No olematic? (If needed, explain any answers in Remarks.) oling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No
Indematic? (If needed, explain any answers in Remarks.) Indications, transects, important features, etc. Is the Sampled Area within a Wetland? Yes O No O went. This is not a wetland.
Is the Sampled Area within a Wetland? Yes O No O
Is the Sampled Area within a Wetland? Yes O No O
within a Wetland? Yes O No O
ent. This is not a wetland.
ent. This is not a wetland.
Secondary Indicators (minimum of 2 required)
Surface Soil Cracks (B6)
Sparsely Vegetated Concave Surface (B8)
LRR U) Drainage Patterns (B10)
r (C1) Moss Trim Lines (B16)
s along Living Roots (C3) Dry Season Water Table (C2)
Iron (C4) Crayfish Burrows (C8)
n in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
7) Geomorphic Position (D2)
arks) Shallow Aquitard (D3)
Wetland Hydrology Present? Yes O No 🖲
previous inspections), if available:

		Dominant		Sampling Point: UPG1HA019
	Absolute	_ Species? Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la ch
7				Prevalence Index worksneet:
0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species $3 \times 2 = 6$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $7 \times 4 = 28$
3	0	0.0%		UPL species90x 5 =450
4	0	0.0%		$\begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
5.	0	0.0%		
6	0	0.0%		Prevalence Index = $B/A = 4.840$
7	0	0.0%		Hydrophytic Vegetation Indicators:
8				
0.				1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)				□ 3 - Prevalence Index is \leq 3.0 1
1	0	0.0%		\Box Problematic Hydrophytic Vegetation ¹ (Explain)
2.	0	0.0%		
3.	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
Δ	0	0.0%		be present, unless disturbed or problematic.
т Б				Definition of Vegetation Strata:
5				Tree - Woody plants, excluding woody vines
		0.0%		approximately 20 ft (6 m) or more in height and 3 in.
50% of 10tal Cover: 0 20% of 10tal Cover: 0	=	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Bothriochloa ischaemum	90	✔ 90.0%	UPL	Sapling - Woody plants, excluding woody vines,
2. Cynodon dactylon	5	5.0%	FACU	than 3 in. (7.6 cm) DBH.
3. Andropogon glomeratus	3	3.0%	FACW	
4 Rubus trivialis	2	2.0%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
о С				
7				Shrub - Woody plants, excluding woody vines,
0				
0				Herb - All herbaceous (non-woody) plants, including
9				herbaceous vines, regardless of size, and woody
10				plants, except woody vines, less than approximately
11	0			3 it (1 m) in height.
12	0	0.0%		March and a Million and a strength and the strength of the Solid
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0	0.0%		
2				
2.	- <u> </u>			
J				
4				Hydrophytic
5		0.0%		Vegetation Voc No
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		
Remarks: (If observed, list morphological adaptations below)				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	/S	

Sampling Point: UPG1HA019

Profile Desc	ription: (Describe to	the depth n	eded to document	the indica	tor or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 4/2	100					Clay	
							-	
								-
								-
		. <u> </u>						
				-			-	
¹ Type: C=Con	centration. D=Depletior	n. RM=Reduce	ed Matrix, CS=Covere	d or Coated	l Sand Grai	ns ² Locat	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR S	6, T, U)	1 cm Muck (A9)	(LRR O)
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (L	.RR S, T, U)	2 cm Muck (A10)) (LRR S)
Black Hist	tic (A3)		Loamy Mucky	Mineral (F1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	sulfide (A4)		Loamy Gleyed	Matrix (F2))		Piedmont Floodp	lain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (LRR P, T, U)	Redox Dark S	urface (F6)			Red Parent Mate	rial (TF2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P,	T, U)	Depleted Darl	Surface (F	7)		Very Shallow Da	k Surface (TE12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)				Pomarka)
🗌 1 cm Muc	:k (A9) (LRR P, T)		 Marl (F10) (LI	RRU)				Kellia KS)
Depleted	Below Dark Surface (A1	.1)	Depleted Och	ric (F11) (M	LRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	se Masses ((F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	150A)		e (F13) (I R	R P T II)	0, . , . ,		
Sandy Mu	ick Mineral (S1) (LRR O	, S)		F17) (MIRA	151)			
Sandy Gle	eved Matrix (S4)			ic (F18) (MI	PA 150A	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soile	(E10) (MI	DA 140A)	wetland	hydrology must be present,
	Matrix (S6)					KA 149A)		s disturbed or problematic.
	ace (S7) (IPP P S T I	n		Ight Loanty	50IIS (F20)	(MLKA 145	9A, 155C, 155D)	
		,)						
Restrictive L	ayer (if observed):							
Туре:							Ukuduja Caji Duasauta	M
Depth (inc	hes):						Hydric Soll Present?	Yes 🔾 No 👻
Remarks:								

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	s (CyuA) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of yea	ear? Yes $ullet$ No $igodot$ (If no, explain in Remarks.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Are "Normal Circumstances" present? Yes $ullet$ No $igodot$
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sampled Area
Hydric Soil Present? Yes O No 🖲	$\frac{1}{2} = \frac{1}{2} = \frac{1}$
Wetland Hydrology Present? Yes O No 🔍	within a wetland?
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are not p HYDROLOGY	present. This is not a wetland.
Wetland Hydrology Indicators	Cocondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	
Surface Water (A1)	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	Jced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7) Geomorphic Position (D2)
Iron Deposits (B5)	Remarks) Shallow Aquitard (D3)
	Colorence (DS)
	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface water Present? Tes C No C Depth (inclies).	
Water Table Present? Yes V No V Depth (inches):	Wetland Hydrology Present? Yes No 🔍
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	:os, previous inspections), if available:

		Dominant		Sampling Point: UPG1HA020		
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species		
1	0	0.0%		That are OBL, FACW, or FAC: (A)		
2	0	0.0%				
3	0	0.0%		Species Across All Strata: 3 (B)		
4	0	0.0%				
5	0	0.0%		Percent of dominant Species		
6.	0	0.0%		That Are OBL, FACW, or FAC:		
7.	0	0.0%		Prevalence Index worksheet:		
8	0	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		$\begin{array}{c} \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \\ \hline 0 \hline \hline 0 \\ \hline 0 \hline \hline 0 \hline$		
Sonling or Copling /Shuth Stratum (Dist size:				$\frac{1}{2} = \frac{1}{2} = \frac{1}$		
Sapling of Sapling/Shrub Stratum (Plot Size.	_/	0.00/		$\begin{bmatrix} 1 & \text{cm} \\ \text{spected} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix} \times \begin{bmatrix} 2 \\ 2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$		
1				FAC species 30 x 3 = 30		
2				FACU species $35 \times 4 = 340$		
3				UPL species $5 \times 5 = 25$		
4				Column Totals: <u>120</u> (A) <u>455</u> (B)		
5	0			Prevalence Index = $B/A = 3792$		
6	0	0.0%				
7	0	0.0%		Hydrophytic Vegetation Indicators:		
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		\square 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30')				\square 3 - Prevalence Index is <3.0 ¹		
1 Vachellia farnesiana	40	100.0%	EACU			
			TACO	\square Problematic Hydrophytic vegetation $\dot{-}$ (Explain)		
2				¹ Indicators of hydric soil and wetland hydrology must		
3				be present, unless disturbed or problematic.		
4	0			Definition of Veretation Strates		
5.	0			Definition of vegetation Strata:		
6	0			I ree - Woody plants, excluding woody vines,		
50% of Total Cover: 20 20% of Total Cover:8	40 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: <u>30'</u>)						
1 Lantana camara	40	✓ 50.0%	FACU	Sapling - Woody plants, excluding woody vines,		
2 Rubus aroutus	20	✓ 25.0%	FAC	approximately 20 ft (6 m) or more in height and less		
3 Ampelopsis arborea	10	12 5%	FAC			
4 Bothriochloa ischaemum		6.3%	UPI	Sapling/Shrub - Woody plants, excluding vines, less		
5 Cynodon dactylon		<u> </u>	FACU	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6						
7				Shrub - Woody plants, excluding woody vines,		
0						
0				Herb - All herbaceous (non-woody) plants, including		
9 10				herbaceous vines, regardless of size, and woody		
				plants, except woody vines, less than approximately		
11	0			$3 \pi (1 \text{ m}) \text{ in neight.}$		
12	0	0.0%				
50% of Total Cover: 20% of Total Cover:16	80 =	= Total Cover		woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30')						
1	0	0.0%				
2	0	0.0%				
3	- <u> </u>					
δ						
۲۰ ۲				Hydrophytic		
		0.0%		Vegetation Present? Yes No •		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover				
Remarks: (If observed, list morphological adaptations below).						
*Indicator suffix = National status or professional decision assigned because Re	gional status r	not defined by FV	VS.			

Profile Descr	ription: (De	scribe to	the depth	needed to document	the indic	ator or cor	firm the a	absence of indicators.)		
Depth		Matrix		Rec	lox Featu	ires				
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks	
0-16	10YR	4/3	75					Clay		
	10YR	4/6	5					Clay		
	10YR	5/4	20					Clav	anna i P	
		-					60-			
	contration D	-Depletio	n PM-Podu		d or Coate	d Sand Grai	ns 21.0ca	tion: DI-Dore Lining M-	Matrix	
Hydric Soil 1		-Depietio					lis -Loca			
					w Surface	(0) (100 0	. т ну	Indicators for Prob	plematic Hydric Soils ³ :	
	$(\Lambda 2)$					(58) (LKK 5	, I, U)	1 cm Muck (A9)	(LRR O)	
	ic (A3)				ace (S9) (LKK S, I, U)	2 cm Muck (A10) (LRR S)	
	uc (MJ) Sulfida (MA)				Material (F	1) (LKK ()		Reduced Vertic ((F18) (outside MLRA 150A,B)	
	Journal (A4)			Loamy Gleyed	Matrix (F2	<u>(</u>)		Piedmont Floodp	olain Soils (F19) (LRR P, S, T)	
	Layers (AS)	ידיסס	D	Depleted Matr	IX (F3)			Anomalous Brigh	nt Loamy Soils (F20) (MLRA 153B)	
	iodies (Ab) (L	_RR P, I, U	J) 	Redox Dark Su	Irface (F6)			Red Parent Mate	erial (TF2)	
	ky Mineral (A	47) (LRR P	, I, U)	Depleted Dark	Surface (F7)		Very Shallow Da	rk Surface (TF12)	
	sence (A8) (L	_RR U)		Redox Depres	sions (F8)			Other (Explain in	n Remarks)	
	:k (A9) (LRR	P, I)		☐ Marl (F10) (LR	RU)					
	Below Dark S	Surface (A	11)	Depleted Ochr	ic (F11) (N	4LRA 151)				
Thick Dar	k Surface (Al	12)		Iron-Mangane	se Masses	(F12) (LRR	O, P, T)			
Coast Pra	irie Redox (A	16) (MLRA	A 150A)	Umbric Surfac	e (F13) (L	RR P, T, U)				
Sandy Mu	ick Mineral (S	61) (LRR C), S)	Delta Ochric (I	-17) (MLR	A 151)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,		
Sandy Gle	eyed Matrix (S4)		Reduced Verti	c (F18) (M	LRA 150A, 1	.50B)			
Sandy Re	dox (S5)			Piedmont Floo	dplain Soil	s (F19) (ML	RA 149A)	unles	s disturbed or problematic.	
Stripped I	Matrix (S6)			Anomalous Bri	ght Loamy	/ Soils (F20)	(MLRA 149	9A, 153C, 153D)		
Dark Surf	ace (S7) (LRI	R P, S, T,	U)							
Restrictive L	ayer (if obs	erved):								
Type:		-			_					
Depth (inc	hes):							Hydric Soil Present?	Yes 🔾 No 🖲	
Pomarke:										
Nethal KS.										

Project/Site: Hawthorn Landfill	City/County: Harris County Samplin	ng Date: 13-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State: _TX Sampling Point: UP	G1HA021
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 Slo	ope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T	29.855251 Long.: -95.549177	Datum: NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slop	s (Ak) NWI classification:	None
Are climatic/hydrologic conditions on the site typical for this time of ye	r? Yes 🖲 No 🔾 (If no, explain in Remark	s.)
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	y disturbed? Are "Normal Circumstances" present?	Yes $oldsymbol{igstar}$ No $igcap$
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally	roblematic? (If needed, explain any answers in Re	marks.)
SUMMARY OF FINDINGS - Attach site map showing sa	npling point locations, transects, important	features, etc.
Hydrophytic Vegetation Present? Yes \bigcirc No $oldsymbol{igodol}$	Is the Sampled Area	
Hydric Soil Present? Yes O No 💿		
Wetland Hydrology Present? Yes \bigcirc No \odot	within a Wetland?	
Remarks:	· ·	
Hydrophytic vegetation, hydric soil, and wetland hydrology are not	resent. This is not a wetland.	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minir	num of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6))
Surface Water (A1)	3) Sparsely Vegetated Con	icave Surface (B8)
High Water Table (A2) Marl Deposits (B	i) (LRR U) Drainage Patterns (B10))
Saturation (A3)	Odor (C1) Moss Trim Lines (B16)	
Water Marks (B1)	eres along Living Roots (C3) Dry Season Water Table	e (C2)
Sediment Deposits (B2)	ed Iron (C4) Crayfish Burrows (C8)	
Drift Deposits (B3)	tion in Tilled Soils (C6) Saturation Visible on Ae	rial Imagery (C9)
Algal Mat or Crust (B4)	(C7) Geomorphic Position (D	2)
Iron Deposits (B5) Other (Explain in	Lemarks) Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)	Sphagnum moss (D8) (I	LRR T, U)
Field Observations:		
Surface Water Present? Yes ○ No ● Depth (inches)		
Water Table Present? Yes O No O Depth (inches)		\sim
Saturation Present? Yes No Depth (inches)	Wetland Hydrology Present? Yes	U No U
(includes capillary tringe)		
Describe Recorded Data (stream gauge, monitoring weil, aenar pho	s, previous inspections), il available.	
Remarks:		

		Dominant		Sampling Point: UPG1HA021
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
Juniperus virginiana	5	✓ 100.0%	FACU	That are OBL, FACW, or FAC: (A)
·	0	0.0%		Total Number of Dominant
J	0	0.0%		Species Across All Strata:5(B)
ł	0	0.0%		
j	0	0.0%		Percent of dominant Species That Are OBL EACW or EAC: 40.0% (A/B)
j	0	0.0%		
·	0	0.0%		Prevalence Index worksheet:
5	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Total Cover		OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species $0 \times 2 = 0$
	0	0.0%		FAC species $25 \times 3 = 75$
<u>.</u>	0	0.0%		FACU species $55 \times 4 = 220$
b	0	0.0%		UPL species $25 \times 5 = 125$
•	0	0.0%		Column Totals: 105 (A) 420 (B)
j	0	0.0%		Provolonce Index = P/A =
)	0	0.0%		$\frac{1}{2} = \frac{1}{2} = \frac{1}$
, 	0	0.0%		Hydrophytic Vegetation Indicators:
J	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		□ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
Baccharis halimifolia	10	✔ 66.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	5	33.3%	FAC	
	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
 4.	0	0.0%		be present, unless disturbed or problematic.
j.	0	0.0%		Definition of Vegetation Strata:
j.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	= Total Cover	-	approximately 20 ft (6 m) or more in height and 3 in.
Herb Stratum (Plot size: 30')				
1 Cynodon dactylon	45	52.9%	FACU.	Sapling - Woody plants, excluding woody vines,
2 Bothriochloa ischaemum	25	 ✓ 29.4% 		approximately 20 ft (6 m) or more in height and less
3 Rubus argutus	10	11.8%	FAC	
4 Vicia ludoviciana	5	5.9%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6		0.0%		
7	0	0.0%		shrub - woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
0.	0	0.0%		herbaceous vines, regardless of size, and woody
1.	0	0.0%		3 ft (1 m) in height.
2.	0	0.0%		
50% of Total Cover: 42.5 20% of Total Cover: 17	85 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Fibit size. 30)	0			
J				
/•		0.0%		Hydrophytic
-				Vegetation
	<u> </u>	Tabal Car		Present? YES V NO 🛡

Sampling Point: UPG1HA021

Profile Desc	ription: (Describe to	the depth n	eeded to document	the indica	ator or cor	nfirm the a	absence of indicators.)
Depth	Matrix		Re	dox Featu	res		-	
(inches)	Color (moist)		Color (moist)		Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
		· ·						
		· ·					·	
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	ed or Coated	d Sand Grai	ns ² Loca	tion: PL=Pore Lining. M=	=Matrix
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR S	5, T, U)		
Histic Epi	pedon (A2)		Thin Dark Su	face (S9) (I	RRSTI)		
Black Hist	tic (A3)			Minoral (El)		J) (LRR S)
	Sulfide (A4)) (LKK U)			(F18) (outside MLRA 150A,B)
Ctratified)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)
	Layers (AD)	N		rix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)
		り - エーい	☐ Redox Dark S	urface (F6)			Red Parent Mat	erial (TF2)
5 cm Muc	ky Mineral (A7) (LRR P	, T, U)	Depleted Dar	k Surface (F	7)		Very Shallow Da	ark Surface (TF12)
Muck Pre	sence (A8) (LRR U)		Redox Depres	ssions (F8)			Other (Explain i	n Remarks)
1 cm Muc	:k (A9) (LRR P, T)		🗌 Marl (F10) (L	RR U)				
Depleted	Below Dark Surface (A1	11)	Depleted Och	ric (F11) (M	LRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRR	O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	150A)	Umbric Surfac	ce (F13) (LF	R P, T, U)			
Sandy Mu	ıck Mineral (S1) (LRR O	, S)	Delta Ochric (F17) (MLRA	151)			
Sandy Gle	eved Matrix (S4)	, ,		ic (F18) (MI	RA 150A 1	150B)	³ Indicator	s of hydrophytic vegetation and
Sandy Re	dox (S5)			ic (I 10) (I'll			wetland	I hydrology must be present,
	Matrix (S6)				Gelle (E20)	KA 149A)		ss disturbed of problematic.
		N		right Loamy	Solis (F20)	(MLRA 14	9A, 153C, 153D)	
	ace (57) (LRR P, 5, 1, 1)						
Restrictive L	ayer (if observed):							
Туре:								
Depth (inc	hes):						Hydric Soil Present?	Yes \cup No $ullet$
Remarks:								

Project/Site: Hawthorn Landfill C	City/County: Harris	3 County	Sampling Date:	11-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State:	: <u>TX</u> Sam	pling Point: UPG1HA022	
Investigator(s): KB, JM	Section, Township,	, Range: S N/A	T_N/A R_N/A	4
Landform (hillslope, terrace, etc.): Flat	Local relief (concave	e, convex, none):	nvex Slope: 3	.0 % / 1.7°
Subregion (LRR or MLRA): LRR T Lat.:	29.852 <u>168</u>	Long.:95.54	46965 Datu	m: 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	r? Yes 🔍	No O (If no, exp	plain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significantly	y disturbed? A	re "Normal Circumsta	ances" present? Yes 🖲	$_{No}$ \bigcirc
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally pro	oblematic? (1	If needed, explain any	y answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sam	npling point loca	ations, transects	, important features,	etc.
Hydrophytic Vegetation Present? Yes \odot No \bigcirc	To the Samn			
Hydric Soil Present? Yes No	Is the Samp			
Wetland Hydrology Present? Yes O No •	within a We	itland?	10 ©	
Remarks: Wetland hydrology is not present. This is not a wetland.				
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary	y Indicators (minimum of 2 requ	uired)
Primary Indicators (minimum of one required; check all that apply)		Surfac	ce Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B13) Marl Deposite (B15)			ely Vegetated Concave Surface	(B8)
L High Water Table (A2) Image With Depusits (A2)) (LKK U)		age Patterns (B10)	
Saturation (A3) Note: Marke (B1) Ovidized Phizoenber	dor (CI)		Irim Lines (B16)	
Wdlef MidiKs (D1) Oxiuzeu Mizospirei Sodiment Deposite (R2) Presence of Reduce	Tes diving Living Roots			
Drift Deposits (B3)	rion in Tilled Soils (C6)		SN BUFFOWS (CO)	()
□ Dint Deposits (D5) □ Recent A of Readed			2000 VISIDIE OIT ACTIAL ITTAYCLY (porphic Position (D2)	((9)
☐ Aight Fine of cruck (57) ☐ Thint Fine of cruck (57) ☐ Thint Fine of cruck (57) ☐ Thint Fine of cruck (57)	(C/)		Manitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-N	Jeutral Test (D5)	
Water-Stained Leaves (B9)		Sphac	num moss (D8) (LRR T, U)	
Field Observations:		op		
Surface Water Present? Yes O No O Depth (inches):				l
Water Table Dresent? Vec No O Donth (inches);				
Saturation Drecent?	w	etland Hydrology Pre	sent? Yes \bigcirc No $oldsymbol{ullet}$)
(includes capillary fringe) Yes ∪ No ● Depth (inches):		•		
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspectio	ons), if available:		
Remarks:				

		Dominant		Sampling Point: UPG1HA022
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6				That Are OBL, FACW, or FAC:
7				Durana lan az Turden menlek esti
/				Prevalence Index worksneet:
		0.0%		I otal % Cover or: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		$\begin{array}{ccc} \text{OBL species} & 0 & \text{X 1} = 0 \\ \hline \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species 10 x 2 = 20
1	0	0.0%		FAC speci es 115 x 3 = 345
2	0	0.0%		FACU species $10 \times 4 = 40$
3	0	0.0%		UPL species <u>15</u> x 5 = <u>75</u>
4	0	0.0%		$\begin{array}{c} \cdot \\ \hline \\$
5	0	0.0%		
6.	0	0.0%		Prevalence Index = $B/A = 3.200$
7.	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		
				1 - Rapid Test for Hydrophytic Vegetation
50% of lotal cover: 0 20% of lotal cover: 0		= Total Cover		\checkmark 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)				\Box 3 - Prevalence Index is ≤3.0 ¹
1. Triadica sebifera	35	✓ 70.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Melia azedarach	5	10.0%	UPL	
3. Ilex vomitoria	5	10.0%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4 Baccharis halimifolia	5	10.0%	FAC	be present, unless disturbed or problematic.
5	0	0.0%		Definition of Vegetation Strata:
6				Tree - Woody plants, excluding woody vines
C				approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Rubus argutus	70	✔ 70.0%	FAC	Sapling - Woody plants, excluding woody vines,
2. Andropogon glomeratus	10	10.0%	FACW	than 3 in. (7.6 cm) DBH.
3. Solidago canadensis	10	10.0%	FACU	
4. Bothriochloa ischaemum	10	10.0%	UPL	Sapling/Shrub - Woody plants, excluding vines, less
5	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.0%		
7		0.0%		Shrub - Woody plants, excluding woody vines,
8				
α		<u> </u>		Herb - All herbaceous (non-woody) plants, including
				herbaceous vines, regardless of size, and woody
10 4.4				plants, except woody vines, less than approximately
12	0	0.0%		Weady vina All weady vince regardless of height
50% of Total Cover: 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0	0.0%		
2	0	0.0%		
3	0	0.0%		
Δ	0	0.0%		
5	- <u> </u>			Hydrophytic
J		0.070		Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	egional status r	not defined by F	WS.	

US Army Corps of Engineers

Sampling Point: UPG1HA022

Profile Desc	iption: (Describe to	the depth n	eeded to document	the indic	ator or co	onfirm the	absence of indicators.)	
Depth	Matrix		Re	dox Featu	ires		_	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 4/2	95	10YR 5/8	5	С	М	Sandy Clay Loam	
							-	
	·				-			
						- <u>-</u>		
¹ Type: C=Con	centration. D=Depletion	n. RM=Reduc	ed Matrix, CS=Covere	d or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=I	Matrix
Hydric Soil 1	indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (Δ9) (
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (LRR S. T. I	J)	$\square 2 \text{ cm Muck (A10)}$	
Black Hist	ic (A3)			Mineral (F	1) (I RR O)	- ,		(LRR S)
Hydrogen	Sulfide (A4)			l Matrix (E	1) (LINCO)			-18) (outside MLRA 150A,B)
	Lavers (A5)			- Maurix (1 4	<u>~</u>)			ain Soils (F19) (LRR P, S, T)
	edies (A6) (LBB D T L	I)					Anomalous Bright	t Loamy Soils (F20) (MLRA 153B)
	Wineral (AZ) (LRR F, T, C			urface (F6)) \		Red Parent Mater	ial (TF2)
		, I, U)	Depleted Dark	c Surface (F7)		Very Shallow Dar	k Surface (TF12)
	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Explain in	Remarks)
1 cm Muc	k (A9) (LRR P, T)		🗌 Marl (F10) (LF	RR U)				
	Below Dark Surface (A:	11)	Depleted Och	ric (F11) (N	MLRA 151)			
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRF	R O, P, T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)	Umbric Surfac	e (F13) (L	RR P, T, U)	1		
Sandy Mu	ck Mineral (S1) (LRR O), S)	🗌 Delta Ochric (F17) (MLR	A 151)		2	
Sandy Gle	eyed Matrix (S4)		Reduced Vert	ic (F18) (M	LRA 150A,	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Re	dox (S5)		Piedmont Floo	dplain Soil	s (F19) (M	LRA 149A)	unless	disturbed or problematic.
Stripped I	Matrix (S6)			ight Loam	/ Soils (F2()) (MI RA 14	9A 153C 153D)	
Dark Surf	ace (S7) (LRR P, S, T, I	U)		.g	, (,, (, ,2, , , , , , , , , , , , , , , ,	., 1000, 1000,	
Restrictive L	aver (if observed):							
Type:	ayer (il observed).							
Depth (inc	hes):						Hydric Soil Present?	Yes 🔍 No 🔾
Pemarke:	······································							
Remarks.								

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.	
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slop	Des (CyuA) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of	vear? Yes • No (If no, explain in Remarks,)
Are Vegetation , Soil , or Hydrology significa	antly disturbed? Are "Normal Circumstances" present? Yes \bullet No \bigcirc
SUMMARY OF FINDINGS - Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes O No •	To the Compled Area
Hydric Soil Present? Yes No	
Wetland Hydrology Present? Yes O No O	within a Wetland?
Remarks:	
Hydrophytic vegetation and wetland hydrology are not present. T	'his is not a wetland.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply	y) Surface Soil Cracks (B6)
Surface Water (A1)	(B13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	(B15) (LRR U) Drainage Patterns (B10)
Saturation (A3)	Ide Odor (C1) Moss Trim Lines (B16)
Water Marks (B1)	spheres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	2duced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	Eduction in Filled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	face (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain Other (Explain	in Remarks) Shallow Aquitard (D3)
	Sphagnum moss (D8) (LRR 1, 0)
Field Observations:	
Surface Water Present? Tes O NO O Depth (inches	s):
Water Table Present? Yes Vo ODepth (inches	
Saturation Present? Yes No Depth (inches	
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if available:
Remarks:	

		Dominant		Sampling Point: UPG1HA023
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 2 (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC: (A/D)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		OBL species 5 x 1 = 5
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species <u>10</u> x 2 = <u>20</u>
1.	0	0.0%		FAC species 2 x 3 = 6
2	0	0.0%		FACIL speciles $23 \times 4 = 92$
3	0	0.0%		$\begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $
Δ	0	0.0%		$\begin{array}{c} \text{OPL specilies} & \underline{ \text{OPL specilies}} & $
5	0	0.0%		$\begin{bmatrix} \text{Column lotals:} & 100 \\ \end{bmatrix} (A) & 423 \\ \end{bmatrix} (b)$
6	0	0.0%		Prevalence Index = $B/A = 4.230$
7		0.0%		Hydrophytic Vegetation Indicators:
8				
				1 - Rapid Test for Hydrophytic Vegetation
	=	= Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)		_		□ 3 - Prevalence Index is \leq 3.0 ¹
1	0			Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4	0	0.0%		be present, unless disturbed of problematic.
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH)
Herb Stratum (Plot size: <u>30'</u>)				
1 Bothriochloa ischaemum	55	✓ 55.0%	UPI	Sapling - Woody plants, excluding woody vines,
2 Cynodon dactylon	20	20.0%	FACU	approximately 20 ft (6 m) or more in height and less
3 Cyperus entrerianus	10		FACW	
4 Salix nigra	5	5.0%	OBI	Sapling/Shrub - Woody plants, excluding vines, less
5. Verbena litoralis var. brevibracteata	5	5.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6 Vicia Iudoviciana		3.0%		
7 Andropogon virginicus		2.0%	FAC	Shrub - Woody plants, excluding woody vines,
8				
9		<u>0.0%</u>		Herb - All herbaceous (non-woody) plants, including
10		0.0%		herbaceous vines, regardless of size, and woody
11		<u> </u>		plants, except woody vines, less than approximately 3 ft (1 m) in height
11 10				
				Woody vine - All woody vines regardless of height
50% of lotal cover: 50 20% of lotal cover: 20	100 =	= Total Cover		
Woody Vine Stratum (Plot size: 30')		_		
1	0			
2	0	0.0%		
3	0	0.0%		
4	0			
5	0	0.0%		Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:0	0 =	Total Cover		Present? Yes 🔾 No 🔍
Domarker (If obcomed list morphological adaptations halo a				I
Kernarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because	Regional status r	not defined by FV	VS.	

Profile Descr	ription: (Describe to	the depth i	needed to do	ument the	e indicator o	r confirm the	absence of indicators	.)
Depth	Matrix			Redox	Features		_	-
(inches)	Color (moist)	%	Color (m	oist)	<u>%</u> Tvp	e ¹ Loc ²	Texture	Remarks
0-16	10YR 3/2	95	10YR	4/4 5	C	M	Clay	
	·				<u>_</u>			
¹ Type: C=Con	centration. D=Depletic	on. RM=Redu	ced Matrix, CS	=Covered o	r Coated Sand	I Grains ² Loca	ation: PL=Pore Lining. M	I=Matrix
Hydric Soil I	Indicators:						Indicators for Pro	oblematic Hydric Soils ³ :
	A1)		Polyva	lue Below S	Surface (S8) (LRR S, T, U)	1 cm Muck (A9	9) (LRR O)
Histic Epip	pedon (A2)		Thin E	ark Surface	e (S9) (LRR S,	T, U)	2 cm Muck (A1	10) (LRR S)
Black Hist	ic (A3)		Loamy	/ Mucky Min	neral (F1) (LR	R O)	Reduced Vertic	c (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)		Loamy	Gleyed Ma	atrix (F2)		Piedmont Floor	dplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Deple	ed Matrix (F3)		Anomalous Brig	ght Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR P, T,	U)	✓ Redox	Dark Surfa	ce (F6)		Red Parent Ma	terial (TF2)
5 cm Muc	ky Mineral (A7) (LRR I	P, T, U)	Deple	ed Dark Su	rface (F7)		Very Shallow D	Dark Surface (TF12)
Muck Pres	sence (A8) (LRR U)		Redox	Depression	ns (F8)		Other (Explain	in Remarks)
1 cm Muc	k (A9) (LRR P, T)		🗌 Marl (F10) (LRR L	J)			,
Depleted	Below Dark Surface (A	A11)	Deple	ed Ochric (F11) (MLRA 1	.51)		
Thick Dar	k Surface (A12)		Iron-N	langanese l	Masses (F12)	(LRR O, P, T)		
Coast Pra	irie Redox (A16) (MLR	A 150A)	🗌 Umbri	c Surface (F	=13) (LRR P, 1	r, U)		
Sandy Mu	ick Mineral (S1) (LRR (0, S)	Delta	Ochric (F17) (MLRA 151)		3	
Sandy Gle	eyed Matrix (S4)		Reduc	ed Vertic (F	18) (MLRA 1	50A, 150B)	Jindicato	ors of hydrophytic vegetation and
Sandy Re	dox (S5)		Piedm	ont Floodpla	ain Soils (F19) (MLRA 149A)	unle	ess disturbed or problematic.
Stripped N	Matrix (S6)		Anom	alous Bright	Loamy Soils	(F20) (MLRA 14	9A, 153C, 153D)	
Dark Surfa	ace (S7) (LRR P, S, T,	U)		-	·			
Restrictive L	ayer (if observed):							
Туре:							Hudric Coil Drocont	12 X-2 🔍 N-2 🔿
Depth (incl	hes):						Hydric Soll Present	
Remarks:								
1								

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	z, none): flat Slope: 60.0 % / 31.0 °
Subregion (LRR or MLRA): LRR T	29.855199 Lc	Ding.: -95.558587 Datum: NAD 83
oil 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 ve	ar? Yes 🖲 No 🔿	(If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significan	lv disturbed? Are "Norm	nal Circumstances" present? Yes No
Are Vegetation Soil or Hydrology naturally	problematic? (If peode	d evolution and answers in Pomarks)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	To the Commission	
Hydric Soil Present? Yes O No O	Is the Sampled Area	
Wetland Hydrology Present? Yes \bigcirc No \bigcirc	within a Wetland?	tes U No G
Remarks:		
Hydric soil and wetland hydrology are not present. This is not a we	land.	
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	.3)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	5) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosp	eres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7)	Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in	Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes \bigcirc No \bigcirc Depth (inches):		
Water Table Present? Yes \bigcirc No $oldsymbol{igodol}$ Depth (inches):		$\cdots $
Saturation Present? Yes No Depth (inches):	Wetland H	ydrology Present? Yes \cup No $ullet$
(includes capillary fringe)	os previous inspections) if a	vailable:
beschbe Recorded Data (stream gauge, monitoring weil, achar pho		
Remarks:		

		Dominant		Sampling Point: WG1HA001_UP
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: <u>3</u> (B)
4	0	0.0%		Deveent of developent Consider
5	0			That Are OBL_FACW_or_FAC·66.7% (A/B)
6	0			
7	0			Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0		Total Cover		OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species $0 \times 2 = 0$
1	0	0.0%		FAC species 40 x 3 =20
2	0	0.0%		FACU species25 x 4 =100
3	0	0.0%		UPL species x 5 =225
4	0	0.0%		Column Totals:(A)(B)
5	0	0.0%		Prevalence Index – $B/\Lambda - A 0.45$
6	0	0.0%		
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:		Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				3 - Prevalence Index is ≤3.0 1
1 Baccharis halimifolia	10	✔ 100.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	0	0.0%		
3.	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4.	0	0.0%		be present, unless disturbed or problematic.
5.	0	0.0%		Definition of Vegetation Strata:
6.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 5 20% of Total Cover: 2	10 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
(Plot size: 30')				(7.6 cm) of larger in diameter at breast height (DBH).
1 Practice range	45	45.00/		Sapling - Woody plants, excluding woody vines,
2 Panicum virgatum	<u>45</u>	✓ 45.0%		approximately 20 ft (6 m) or more in height and less
2. Calium anarine		10.0%		than 3 in. (7.6 cm) DBH.
A Helianthus annuus				Sapling/Shrub - Woody plants, excluding vines, less
4. <u>Inelianulus allinuus</u>				than 3 in. DBH and greater than 3.28 ft (1m) tall.
6. Vicia Iudoviciana	F	E 004	EACU	
7 Rubus aroutus		<u> </u>	FAC	Shrub - Woody plants, excluding woody vines,
8				
9				Herb - All herbaceous (non-woody) plants, including
9 10				herbaceous vines, regardless of size, and woody
11				3 ft (1 m) in height.
12				
50% of Total Cover: 50 20% of Total Cover: 20	100 -	- Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0			
2	0			
3	0	<u> </u>		
4	0	<u> </u>		Hydronhytic
5	0			Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		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.

Sampling Point: WG1HA001 UP

Profile Desc	ription: (Describe to	the depth ne	eded to document	t the indic	ator or co	nfirm the a	absence of indicators.)	
Depth	Matrix		Re	dox Featu	res		_	
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
		- <u>-</u> -				-		•
¹ Type: C=Con	centration. D=Depletio	n. RM=Reduce	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ins ² Loca	tion: PL=Pore Lining. M=	Matrix
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :
Histosol ((A1)		Polyvalue Bel	ow Surface	(S8) (LRR 9	5, T, U)	1 cm Muck (A9)	(LRR O)
🗌 Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, U)	2 cm Muck (A10)	
Black His	tic (A3)		Loamy Mucky	Mineral (F	1) (LRR O)	-		(1300)
Hydroger	n Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)			ain Soils (E19) (I RP P S T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)	,			$\frac{1}{2} = \frac{1}{2} \left(\frac{1}{2} \right) \left(\frac{1}{2} + \frac{1}{2}$
Organic E	Bodies (A6) (LRR P, T, L	J)	Redox Dark S	urface (F6)				HELOATHY SOUS (FZU) (MERA 1550)
5 cm Muc	cky Mineral (A7) (LRR P	, T, U)		k Surface (F	-7)			lidi (TFZ)
Muck Pre	sence (A8) (LRR U)	, , ,		ssions (F8)	,,			
	rk (A9) (I RR P. T)						Other (Explain in	Remarks)
	Below Dark Surface (A	11)		ric (E11) (N	/I DA 1E1)			
	k Surface (A12)			ПС (FII) (М	(C12) (LDD			
	hiria Raday (A12)	1504)			(FIZ) (LKK	0, P, T)		
	uck Minoral (S1) (IPR C			ce (F13) (Li	(R P, I, U)			
		, 5)		(F17) (MLR/	A 151)		³ Indicators	of hydrophytic vegetation and
			Reduced Vert	ic (F18) (M	LRA 150A,	150B)	wetland	hydrology must be present,
	dox (55)		Piedmont Floo	odplain Soil	s (F19) (ML	RA 149A)	unless	s disturbed or problematic.
	Matrix (S6)		Anomalous B	right Loamy	Soils (F20)) (MLRA 149	9A, 153C, 153D)	
Dark Surf	face (S7) (LRR P, S, T, I	U)						
Restrictive L	aver (if observed):							
Type:								
Denth (inc	hes).						Hydric Soil Present?	Yes 🔾 No 🖲
Demontra								
Remarks:								

State: TX	Sampling Point: WG1HA001_UP_B
Section, Township, Range:	S N/A T N/A R N/A
Local relief (concave, convex	x, none): flat Slope: 3.0 % / 1.7°
- : 29.854943 Lo	Dng.: -95.558637 Datum: NAD 83
es (CyuA)	NWI classification: None
year? Yes 🖲 No 🔾	(If no, explain in Remarks.)
ntly disturbed? Are "Norn	nal Circumstances" present? Yes 🖲 No 🔾
y problematic? (If neede	d, explain any answers in Remarks.)
sampling point locations,	transects, important features, etc.
To the Sampled Area	
Is the Sampleu Area	
within a Wetland?	
t present. This is not a wetland	
4	Secondary Indicators (minimum of 2 required)
() (B13)	Surface Soil Cracks (B6)
(B15) (I RR II)	Drainage Patterns (B10)
le Odor (C1)	Moss Trim Lines (B16)
spheres along Living Roots (C3)	Dry Season Water Table (C2)
duced Iron (C4)	$\Box Cravfish Burrows (C8)$
duction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
ace (C7)	Geomorphic Position (D2)
in Remarks)	Shallow Aquitard (D3)
	FAC-Neutral Test (D5)
	Sphagnum moss (D8) (LRR T, U)
5):	
;):	
S): Wetland H	ydrology Present? Yes 🔿 No 🖲
Wetland H	ydrology Present? Yes No 💿
	Local relief (concave, convex : 29.854943 Lo es (CyuA) /ear? Yes No () intly disturbed? Are "Norm y problematic? (If needer sampling point locations, Is the Sampled Area within a Wetland? it present. This is not a wetland () (B13) B15) (LRR U) de Odor (C1) spheres along Living Roots (C3) duced Iron (C4) duction in Tilled Soils (C6) ace (C7) in Remarks)

		Enocioc2		Sampling Point: WG1HA001_UP_B
	Absolute	_ Speciesr _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
Celtis laevigata	20	✓ 100.0%	FACW	That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%	. <u> </u>	Species Across All Strata: 7 (B)
ł	0	0.0%		Deveent of deminant Creation
j	0	0.0%	·	That Are OBL. FACW. or FAC:28.6% (A/B)
j	0			
7	0			Prevalence Index worksheet:
3	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 10 20% of Total Cover: 4	20 =	= Total Cove	•	OBL species x 1 =
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species <u>25</u> x 2 = <u>50</u>
l	0	0.0%		FAC species 35 x 3 =
2	0	0.0%		FACU species35 x 4 =140
3	0	0.0%		UPL species $25 \times 5 = 125$
1	0	0.0%		Column Totals: <u>120</u> (A) <u>420</u> (B)
5	0	0.0%		Provalence Index – B/Λ – 3 500
δ	0	0.0%		
7	0	0.0%		Hydrophytic Vegetation Indicators:
3	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	=	= Total Cove	r	□ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1.	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3.	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4.	0	0.0%		be present, unless disturbed or problematic.
5.	0	0.0%		Definition of Vegetation Strata:
δ.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cove	,	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Ambrosia trifida	20	✓ 20.0%	FAC	Sapling - Woody plants, excluding woody vines,
2. Geranium carolinianum	15	✓ 15.0%	UPL	than 3 in. (7.6 cm) DBH.
3. Lantana camara	10	✓ 10.0%	FACU	
4. Corydalis aurea	10	✓ 10.0%	UPL	Sapling/Shrub - Woody plants, excluding vines, less
5. Melilotus officinalis	10	✔ 10.0%	FACU	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6, Lolium perenne	10	✓ 10.0%	FACU	Shruh, Woody plants, excluding woody vines
7 Rumex crispus	5	5.0%	FAC	approximately 3 to 20 ft (1 to 6 m) in height.
8. Rubus argutus	5	5.0%	FAC	
9. Vicia ludoviciana	5	5.0%	FACU	Herb - All herbaceous (non-woody) plants, including
10. Baccharis halimifolia	5	5.0%	FAC	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11. Cyperus entrerianus	5	5.0%	FACW	3 ft (1 m) in height.
12.	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover	-	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
<u></u>	0	0.0%		
2	0	0.0%		
3	0	0.0%		
·	0	0.0%		
1	0	0.0%		Hydrophytic
4 5				
4.	0 =	= Total Cove	r l	Present? Yes 🔾 No 🖲

Profile Desc	iption: (Describe to	the depth	needed to document	the indica	tor or con	firm the a	absence of indicators.)
Depth	Matrix		Re	dox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR 3/2	100					Clay	
			·					
							P.	
	·	·					P	
¹ Type: C=Con	centration. D=Depletion	n. RM=Redu	ced Matrix, CS=Covere	ed or Coated	Sand Grai	ns ² Locat	tion: PL=Pore Lining. M	=Matrix
Hydric Soil 1	indicators:						Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belo	ow Surface (58) (LRR S	, T, U)	1 cm Muck (A9) (LRR O)
Histic Epi	oedon (A2)		Thin Dark Sur	face (S9) (Ll	RR S, T, U)		2 cm Muck (A1	0) (LRR S)
Black Hist	ic (A3)		Loamy Mucky	Mineral (F1)	(LRR O)		Reduced Vertic	(F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)		Loamy Gleyed	d Matrix (F2)			Piedmont Flood	Iplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brig	ht Loamy Soils (E20) (MIRA 153B)
Organic B	odies (A6) (LRR P, T, L	J)	Redox Dark S	urface (F6)			Red Parent Mat	rerial (TE2)
🗌 5 cm Muc	ky Mineral (A7) (LRR P	, T, U)	Depleted Darl	< Surface (F7	')		Very Shallow D	ark Surface (TE12)
Muck Pres	sence (A8) (LRR U)		Redox Depres	sions (F8)			Other (Evplain)	in Romarke)
🗌 1 cm Muc	k (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				
Depleted	Below Dark Surface (A:	11)	Depleted Och	ric (F11) (ML	RA 151)			
Thick Dar	k Surface (A12)	-	Iron-Mangane	se Masses (F12) (I RR	O. P. T)		
Coast Pra	irie Redox (A16) (MLRA	A 150A)		re (F13) (I RF	2 P T II)	0, . , . ,		
Sandy Mu	ck Mineral (S1) (LRR O), S)		F17) (ΜΙ ΒΔ	151)			
Sandy Gle	eved Matrix (S4)	/ - /		ic (F18) (MU	131) 20 1500 1	50B)	³ Indicator	rs of hydrophytic vegetation and
Sandy Re	dox (S5)			dalain Soile	(E10) (MI I	DA 140A)	wetlan	d hydrology must be present,
	Matrix (S6)			iaht Loomy ((MIDA 140		ss distuibed of problematic.
	ace (S7) (IRR P S T I	D		Ight Loanty :	50115 (F2U)	(MLKA 14:	9A, 155C, 155D)	
		0)						
Restrictive L	ayer (if observed):							
Туре:							Undria Call Duasanti	
Depth (inc	hes):						Hydric Soil Present	$?$ Yes \cup No \bigcirc
Remarks:								

Project/Site: Hawthorn Landfill	City/County: Harris	County	Sampling Date:	12-Mar-20	
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State:	TX Sampl	ling Point: WG1HA001	_WET_PEM	
Investigator(s): KB, JM	Section, Township,	Range: S N/A	TN/A RN	/A	
Landform (hillslope, terrace, etc.): Flat	Local relief (concave,	convex, none): cond	cave Slope:	2.0 % / 1.1°	
Subregion (LRR or MLRA): LRR T	29.855149	Long.: -95.558	600 Dat	tum: NAD 83	
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	; (CyuA)	NWI d	classification: None		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 N	lo 🔿 🛛 (If no, expl	lain in Remarks.)		
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significant	tly disturbed? Ar	e "Normal Circumstan	ices" present? Yes	🖻 No 🔿	
Are Vegetation, Soil, or Hydrology naturally p	problematic? (I	f needed, explain any	answers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point loca	itions, transects,	important features	s, etc.	
Hydrophytic Vegetation Present? Yes No	Is the Samp	ad Araa			
Hydric Soil Present? Yes No	IS the Sampi		$ \cap $		
Wetland Hydrology Present? Yes	within a Wet	land? Tes O No	,		
Remarks					
Hydrophytic vegetation, hydric soil, and wetland hydrology are pres	ent. This is a wetland.				
···,					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary	Indicators (minimum of 2 re	auired)	
Primary Indicators (minimum of one required: check all that apply)			Soil Cracks (B6)		
Surface Water (A1)	13)	Sparsel	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)	15) (LRR U)		e Patterns (B10)		
Saturation (A3)	Odor (C1)	Moss Tr	rim Lines (B16)		
Water Marks (B1) Oxidized Rhizosph	heres along Living Roots (C3) Dry Sea	ason Water Table (C2)		
Sediment Deposits (B2)	uced Iron (C4)	Crayfish	n Burrows (C8)		
Drift Deposits (B3)	uction in Tilled Soils (C6)	Saturati	ion Visible on Aerial Imager	y (C9)	
Algal Mat or Crust (B4)	ie (C7)	Geomo	rphic Position (D2)		
Iron Deposits (B5) Other (Explain in	Remarks)	Shallow	/ Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	,	✔ FAC-Ne	utral Test (D5)		
Water-Stained Leaves (B9)		Sphagn	um moss (D8) (LRR T, U)		
Field Observations:					
Surface Water Present? Yes O No O Depth (inches):					
Water Table Present? Yes No					
Saturation Present?	We	tland Hydrology Prese	ent? Yes 🖲 No 🤇	\supset	
(includes capillary fringe) Yes ○ No ● Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspection	ıs), if available:			
Remarks:					

		Dominant		Sampling Point: <u>WG1HA001_WET_P</u>
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: <u>2</u> (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata:(B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 20% of Total Cover:	0 =	= Total Cover		OBL species <u>35</u> x 1 = <u>35</u>
Sapling or Sapling/Shrub Stratum_ (Plot size:)			FACW species x 2 =70
1	0	0.0%		FAC species $5 \times 3 = 15$
2	0	0.0%		FACU species $10 \times 4 = 40$
3.	0	0.0%		$\frac{1}{100} \text{ speciles } \frac{0}{100} \text{ speciles } \frac{0}{100} \text{ speciles } \frac{1}{100} \text{ speciles } \frac{1}$
4.	0	0.0%		$\begin{array}{c} 1 \\ 1 \\ 1 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\$
5.	0	0.0%		
δ	0	0.0%		Prevalence Index = B/A = <u>1.882</u>
7	0	0.0%		Hydrophytic Vegetation Indicators:
3	0	0.0%		V 1 - Panid Tast for Hydroniu tie Vesetation
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		
				✓ 2 - Dominance lest is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				✓ 3 - Prevalence Index is $\leq 3.0^{\perp}$
l				Problematic Hydrophytic Vegetation ¹ (Explain)
2				¹ Indicators of hydric coil and wothand hydrology much
3	0			be present, unless disturbed or problematic.
1	0			
D	0	0.0%		Definition of Vegetation Strata:
ô	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)				
1. Eleocharis montevidensis	25	✔ 29.4%	FACW	Sapling - Woody plants, excluding woody vines,
2. Typha latifolia	20	✓ 23.5%	OBL	than 3 in. (7.6 cm) DBH.
3. Alternanthera philoxeroides	15	17.6%	OBL	
4. Cynodon dactylon	10	11.8%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5. Sesbania drummondii	5	5.9%	FACW	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6. Andropogon glomeratus	5	5.9%	FACW	Shruh - Woody plants, excluding woody vines
7. Triadica sebifera	5	5.9%	FAC	approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10	0	0.0%		nerbaceous vines, regardless of size, and woody
11.	0	0.0%		3 ft (1 m) in height.
12.	0	0.0%		
50% of Total Cover: 42.5 20% of Total Cover: 17	85 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Weedy Vine Stratum (Plot size: 30')				
woody vine Stratum (Fiol Size, 30 /	0			
۱ ک				
<u> </u>				
5				
+				Hydrophytic
0	0	□0.0%		Vegetation Ves No
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because R	Regional status i	not defined by F	NS.	

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Profile Desc	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	onfirm the a	absence of indicators	5.)
Depth	Matrix		Re	dox Featu	res			
(inches) 0-16	Color (moist) 10YR 4/2	% 80	Color (moist) 10YR 4/6	% 20	Tvpe ¹ C	Loc ²	Texture Clay	Remarks disturbed soils
· ·		·						
¹ Type: C=Cor	centration. D=Depletion	n. RM=Reduc	red Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. N	M=Matrix
Hydric Soil	Indicators:						Indicators for Pr	oblematic Hydric Soils ³ :
Histosol (Histoc Epi Black His Hydroger Stratified Organic E 5 cm Muc Muck Pre 1 cm Muc Depleted Thick Dai Coast Pra Sandy Mu Sandy Gla	A1) pedon (A2) tic (A3) I Sulfide (A4) Layers (A5) Bodies (A6) (LRR P, T, L sodies (A6) (LRR P, T, L sence (A8) (LRR U) tick (A9) (LRR P, T) Below Dark Surface (A1 k Surface (A12) tirie Redox (A16) (MLRA tick Mineral (S1) (LRR O syed Matrix (S4) dox (S5)	1) , T, U) 11) (150A) , S)	 Polyvalue Bek Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mati Redox Dark S Depleted Dark Redox Depres Marl (F10) (Li Depleted Och Iron-Mangane Umbric Surfac Delta Ochric (Reduced Vert Piedmont Floo 	ow Surface face (S9) (Mineral (F Matrix (F3) urface (F6) Surface (F6) Surface (F6) Surface (F1) (N See Masses See (F13) (LF F17) (MLR/ ic (F18) (M odplain Soil	(S8) (LRR LRR S, T, U 1) (LRR O) 2) 77) (F12) (LRF (F12) (LRF RR P, T, U) A 151) LRA 150A, s (F19) (M	S, T, U) J) R O, P, T) 150B) LRA 149A)		9) (LRR O) 10) (LRR S) ic (F18) (outside MLRA 150A,B) odplain Soils (F19) (LRR P, S, T) ight Loamy Soils (F20) (MLRA 153B) aterial (TF2) Dark Surface (TF12) n in Remarks) ors of hydrophytic vegetation and nd hydrology must be present, less disturbed or problematic.
Stripped Dark Surf Restrictive L Type:	Matrix (S6) iace (S7) (LRR P, S, T, I ayer (if observed):	(ר	Anomalous Br	ight Loamy	⁷ Soils (F2C)) (MLRA 14	9A, 153C, 153D) Hydric Soil Presen	it? Yes ● No ○
Remarks:								

Project/Site: Hawthorn Landfill	City/County: Harr	is County	Sampling Date:	12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	Stat	e: <u>TX</u> Samp	ling Point: WG1HA002	LOP
Investigator(s): KB, JM	Section, Townshi	p, Range: S N/A	T _{N/A} R _N	/A
Landform (hillslope, terrace, etc.): Flat	Local relief (concav	/e, convex, none): con	Icave Slope:	2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.:	- : 29.857986	Long.: -95.54	7336 Dat	um: NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slo	pes (Ak)	NWI	classification: None	-
Are climatic/hydrologic conditions on the site typical for this time of y	year? Yes 🖲	No O (If no, exp	lain in Remarks.)	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significa	ntly disturbed?	Are "Normal Circumstar	nces" present? Yes	🖻 No 🔿
Are Vegetation , Soil , or Hydrology naturally	y problematic?	(If needed, explain any	answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing s	sampling point lo	cations, transects,	important features	s, etc.
Hydrophytic Vegetation Present? Yes $ullet$ No $igodot$	Is the Sam	nled Area		
Hydric Soil Present? Yes O No 💿	IS the Sall			
Wetland Hydrology Present? Yes O No 💿	within a W	etland?		
Remarks:				
Hydric soil and wetland hydrology are not present. This is not a w	etland.			
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary	Indicators (minimum of 2 re	auired)
Primary Indicators (minimum of one required; check all that apply	/)	Surface	e Soil Cracks (B6)	1
Surface Water (A1)	(B13)	Sparse	ly Vegetated Concave Surfac	e (B8)
High Water Table (A2) Marl Deposits (B	B15) (LRR U)	Drainag	ge Patterns (B10)	
Saturation (A3)	le Odor (C1)	Moss T	rim Lines (B16)	
Water Marks (B1) Oxidized Rhizos	pheres along Living Root	s (C3) Dry Sea	ason Water Table (C2)	
Sediment Deposits (B2)	duced Iron (C4)	Crayfis	h Burrows (C8)	
Drift Deposits (B3)	duction in Tilled Soils (C6) Saturat	tion Visible on Aerial Imager	y (C9)
Algal Mat or Crust (B4)	ace (C7)	Geomo	prphic Position (D2)	
Iron Deposits (B5) Other (Explain i	in Remarks)	Shallov	v Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Ne	eutral Test (D5)	
Water-Stained Leaves (B9)		Sphagr	num moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes \bigcirc No \bigcirc Depth (inches	;):			
Water Table Present? Yes O No O Depth (inches	s):		\sim	
Saturation Present? Voc O No O Donth (inches	· · · · · · · · · · · · · · · · · · ·	Netland Hydrology Pres	ent? Yes \bigcirc No (●
(includes capillary fringe) Tes C NO C Deput (incluses	····			
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspect	ions), if available:		
Remarks:				

		Dominant		Sampling Point: <u>WG1HA002_UP</u>
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'</u>)	% Cover	Cover	Status	Number of Dominant Species
1. Platanus occidentalis	10	✔ 100.0%	FACW	That are OBL, FACW, or FAC:(A)
2	0	0.0%		
3.	0	0.0%		Total Number of Dominant Species Across All Strata: 3 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:66.7% (A/B)
7	0	0.0%		Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
50% of Total Cover: 5 20% of Total Cover: 2		= Total Cove		$\frac{1000}{1000} = \frac{1000}{1000} = \frac{1000}{1000$
	· <u>· · · ·</u> ·			$\frac{10}{10} \times 1 = \frac{10}{10}$
Sapling or Sapling/Shrub Stratum (Plot size:)			$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{20}$
1				FAC species $32 \times 3 = 90$
2	0			FACU species $\underline{88}$ x 4 = $\underline{352}$
3	0			UPL species x 5 =
4	0	0.0%		Column Totals: <u>130</u> (A) <u>468</u> (B)
5	0	0.0%		Prevalence Index = $B/A = 3.600$
6	0	0.0%		
7	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cove	-	\checkmark 2 - Dominance Test is > 50%
Shruh Stratum (Plot size: 30'				\sim 2 - Drowalance Index is $\leq 2.0^{-1}$
1 Illmus rubra	20	100.0%	EAC	S - Prevalence Index is 25.0
	0			
2				¹ Indicators of hydric soil and wetland hydrology must
3			·	be present, unless disturbed or problematic.
4	0			Definition of Manatation Strates
5	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 10 20% of Total Cover: 4	20 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>)				
1. Lonicera japonica	85	✔ 85.0%	FACU	Sapling - Woody plants, excluding woody vines,
2 Rubus argutus	5	5.0%	FAC	than 3 in (7.6 cm) DBH
3 Ilex vomitoria	5	5.0%	FAC	
4 Solidado canadensis	3	3.0%	FACU	Sapling/Shrub - Woody plants, excluding vines, less
5 Triadica sebifera	2	2 0%	FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6				
7	0	0.0%		Shrub - Woody plants, excluding woody vines,
۲ ۶			·	
0			·	Herb - All herbaceous (non-woody) plants. including
9 10				herbaceous vines, regardless of size, and woody
1U				plants, except woody vines, less than approximately
11	0			
12	0	□0.0%		Woody vine - All woody vince, regardless of height
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cove		woody vine - Ail woody vines, regardless of height.
_Woody Vine Stratum (Plot size: <u>30'</u>)				
1.	0	0.0%		
2.	0	0.0%		
3		0.0%		
۵. <u> </u>		0.0%		
т 5		0.0%		Hydrophytic
				Vegetation Present? Yes I No
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cove		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because	Regional status	not defined by F	WS.	

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Profile Desc	ription: (De	scribe to	the depth	needed to document	the indica	tor or cor	firm the a	absence of indicators	s.)
Depth		Matrix		Rec	lox Featur	es		_	
(inches)	Color (moist)	%	Color (moist)		Tvpe ¹	Loc ²	Texture	Remarks
0-16	10YR	3/1	80					Clay	
	10YR	6/4	10					Clay	
	10YR	5/8	10					Clay	
					·				
							. <u> </u>		· · · · · · · · · · · · · · · · · · ·
	-								
¹ Type: C=Con	centration. D	=Depletio	n. RM=Redu	uced Matrix, CS=Covere	d or Coatec	Sand Grai	ns ²Loca	tion: PL=Pore Lining. I	M=Matrix
Hydric Soil	Indicators:							Indicators for P	roblematic Hydric Soils ³ :
Histosol (A1)			Polyvalue Belo	w Surface ((S8) (LRR S	5, T, U)	1 cm Muck (A	9) (LRR O)
Histic Epi	pedon (A2)			Thin Dark Sur	face (S9) (L	RR S, T, U)	2 cm Muck (A	10) (LRR S)
Black Hist	tic (A3)			Loamy Mucky	Mineral (F1) (LRR O)		Reduced Vert	ic (F18) (outside MLRA 150A,B)
Hydrogen	n Sulfide (A4)			Loamy Gleyed	Matrix (F2))		Piedmont Floo	odplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)			Depleted Matr	ix (F3)			Anomalous Br	ight Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (L	.RR P, T, l	J)	Redox Dark S	urface (F6)			Red Parent M	aterial (TF2)
5 cm Muc	cky Mineral (A	47) (LRR P	, T, U)	Depleted Dark	Surface (F	7)		Very Shallow	Dark Surface (TF12)
Muck Pre	sence (A8) (L	.RR U)		Redox Depres	sions (F8)			Other (Explair	n in Remarks)
1 cm Muc	ck (A9) (LRR	Р, Т)		🔄 Marl (F10) (LF	RU)				
Depleted	Below Dark S	Surface (A	11)	Depleted Och	ic (F11) (M	LRA 151)			
Thick Dar	k Surface (A1	12)		Iron-Mangane	se Masses ((F12) (LRR	O, P, T)		
Coast Pra	iirie Redox (A	16) (MLRA	A 150A)	Umbric Surfac	e (F13) (LR	R P, T, U)			
Sandy Mu	uck Mineral (S	51) (LRR C), S)	Delta Ochric (=17) (MLRA	151)		³ Indicat	ors of hydrophytic vegetation and
Sandy Gle	eyed Matrix (S	54)		Reduced Verti	c (F18) (MLRA 150A, 150B) wetland hydrology must be present,				
Sandy Re	dox (S5)			Piedmont Floc	dplain Soils	(F19) (ML	RA 149A)	un	less disturbed or problematic.
	Matrix (S6)			Anomalous Br	ght Loamy	Soils (F20)	(MLRA 14	9A, 153C, 153D)	
Dark Surf	ace (S7) (LRI	κ Ρ, S, Τ,	0)						
							1		
Restrictive L	ayer (if obs	erved):							
Туре:					_			Undria Call Duasa	
Depth (inc	hes):							Hydric Soll Preser	it? Yes 🔾 No 🗢
Remarks:									

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	2_WET_PSS
Investigator(s): KB, JM	Section, Tow	nship, Range: S N/A	A T N/A R N	I/A
Landform (hillslope, terrace, etc.): Flat	Local relief (co	ncave, convex, none):	concave Slope:	2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.	- .: 29.857976	Long.: -9	95.546727 Da t	tum: NAD 83
Soil Map Unit Name: Addicks-Urban land complex, 0 to 1 percent slo	opes (Ak)		NWI classification: None	
Are climatic/hydrologic conditions on the site typical for this time of	year? Yes	● No ○ (If no	o, explain in Remarks.)	
Are Vegetation , Soil , or Hydrology signification	antly disturbed?	Are "Normal Circu	mstances" present? Yes	• No 🔿
Are Vegetation Soil or Hydrology patural	v problematic?	(If needed, evaluation	n any answers in Remarks)	
SUMMARY OF FINDINGS - Attach site map showing s	sampling point	t locations, transe	ects, important features	s, etc.
Hydrophytic Vegetation Present? Yes No	Tatha	Commind Arrow		
Hydric Soil Present? Yes Ves No	is the			
Wetland Hydrology Present? Yes \bullet No \bigcirc	within	a Wetland?		
Remarks:				
Hydrophytic vegetation, hydric soil, and wetland hydrology are pr	esent. This is a we	etland.		
HYDROLOGY				
Wetland Hydrology Indicators:		Seco	ndary Indicators (minimum of 2 re	auired)
Primary Indicators (minimum of one required; check all that appl	y)		Surface Soil Cracks (B6)	
Surface Water (A1)	(B13)		Sparsely Vegetated Concave Surface	ce (B8)
High Water Table (A2)	(B15) (LRR U)		Drainage Patterns (B10)	
Saturation (A3)	de Odor (C1)		Moss Trim Lines (B16)	
Water Marks (B1) Oxidized Rhizo	spheres along Living	Roots (C3)	Dry Season Water Table (C2)	
Sediment Deposits (B2)	duced Iron (C4)		Crayfish Burrows (C8)	
Drift Deposits (B3)	duction in Tilled Soils	s (C6)	Saturation Visible on Aerial Imager	y (C9)
Algal Mat or Crust (B4)	face (C7)		Geomorphic Position (D2)	
Iron Deposits (B5) Other (Explain	in Remarks)		Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		✓ F	AC-Neutral Test (D5)	
✓ Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes \bigcirc No $oldsymbol{O}$ Depth (inches	s):			
Water Table Present? Yes \bigcirc No $oldsymbol{igodol}$ Depth (inches	s):		\sim	\sim
Saturation Present? Yes No	s):	Wetland Hydrology	/ Present? Yes 🔍 No 🤇)
(includes capillary fringe)		nactiona) if availables		
Describe Recorded Data (stream gauge, monitoring weil, aerial pr	iotos, previous ins	pecuons), il available:		
Remarks:				

		Dominant		Sampling Point: WG1HA002_WET_P		
Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:		
1 Platanus occidentalis	5	✔ 41.7%	FACW	Number of Dominant Species That are OBL_EACW_or_EAC' 4 (A)		
7 Triadica sebifera	5	✓ 41.7%	FAC			
2. Quercus nigra	2	16.7%	FAC	Total Number of Dominant		
4	0	0.0%		Species Across Air Strata: 4 (b)		
5		0.0%		Percent of dominant Species		
3 3	0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)		
7	0	0.0%		Prevalence Index worksheet:		
3	0	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 6 20% of Total Cover: 2.4	12 :	= Total Cover		0BL specilies 0 x 1 = 0		
Sonling or Sonling (Shruh Strotum (Plot size:	<u></u>			$\frac{1}{100} = \frac{1}{100} = \frac{1}{100} = \frac{1}{100}$		
		0.0%		$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}$		
) 				FAC species 37 x 3 = 171		
<u></u>				FACU species $10 \times 4 = 40$		
)				UPL species x 5 =		
ł				Column Totals: <u>147</u> (A) <u>371</u> (B)		
)				Prevalence Index = $B/A = 2.524$		
7				Hydronhytic Vegetation Indicators		
·						
3		0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover	•	✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: <u>30</u>)				✓ 3 - Prevalence Index is \leq 3.0 ¹		
Triadica sebifera	30	66.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
Praxinus pennsylvanica	5	11.1%	FACW			
3. Ulmus americana	5	11.1%	FAC	¹ Indicators of hydric soil and wetland hydrology must		
Celtis laevigata	5	11.1%	FACW	be present, unless disturbed or problematic.		
5	0	0.0%		Definition of Vegetation Strata:		
δ	0	0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 20% of Total Cover:9	45 =	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: <u>30</u>)				Conling Woody planta avaluding woody vince		
1. Cyperus entrerianus	65	✓ 72.2%	FACW	approximately 20 ft (6 m) or more in height and less		
2. Ligustrum sinense	10	11.1%	FAC	than 3 in. (7.6 cm) DBH.		
3. Lonicera japonica	10	11.1%	FACU			
4. Rubus argutus	5	5.6%	FAC	Sapling/Shrub - Woody plants, excluding vines, less		
5	0	0.0%		than 5 m. DBH and greater than 5.26 it (1m) tail.		
6	0	0.0%		Shrub - Woody plants, excluding woody vines,		
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8	0	0.0%				
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including		
0	0	0.0%		plants, except woody vines, less than approximately		
1	0	0.0%		3 ft (1 m) in height.		
2	0	0.0%				
50% of Total Cover: 20% of Total Cover: 18	90 =	= Total Cover		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: <u>30</u>)						
l	0	□				
2	0	0.0%				
3	0	0.0%				
1	0	0.0%		I hadron hadia		
5	0	0.0%		Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		Present? Yes $ullet$ No $igcup$		

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

Profile Descr	iption: (Describe to	the depth ne	eded to document	the indic	ator or co	onfirm the	absence of indicators.)		
Depth	Matrix		Re	dox Featu	ires		_		
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks	
0-16	10YR 3/2	95	10YR 4/4	5	С	М	Clay		
							-		
								-	
			,						
						-			
¹ Type: C=Con	centration. D=Depletio	n. RM=Reduce	ed Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix	
Hydric Soil I	indicators:						Indicators for Prob	lematic Hydric Soils ³ :	
Histosol (A	A1)		Polyvalue Bel	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(I BR O)	
Histic Epip	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, I	J)	\square 2 cm Muck (A10)		
Black Hist	ic (A3)		Loamy Mucky	Mineral (F	1) (LRR O)			F(18, 0)	
Hydrogen	Sulfide (A4)		Loamy Gleved	d Matrix (F2	2)			ain Soils (E10) (IBP P S T)	
Stratified	Layers (A5)		Depleted Mat	rix (F3)	,			t = 10000 (119) (ERR F, 3, 1)	
Organic B	odies (A6) (LRR P, T, l	J)	Redox Dark S	urface (F6))			rial (TE2)	
5 cm Muc	ky Mineral (A7) (LRR P	, , T, U)		k Surface (, F7)			lidi (TFZ)	
Muck Pres	sence (A8) (LRR U)	/ / - /		sions (F8)	,,				
	k (A9) (I RR P. T)						Other (Explain in	Remarks)	
	Below Dark Surface (A	11)		NN () ric (E11) (N					
	k Surface (A12)	11)		пс (FII) (I	(E12) (LDI				
	irio Podov (A12)	1504)				(O, P, T)			
	uck Minoral (S1) (I BB C			Ce (F13) (L	RR P, T, U)				
	uck Millerdi (SI) (LRR C), 5)		F17) (MLR	A 151)	(= = =)	³ Indicators	of hydrophytic vegetation and	
	eyed Matrix (S4)		Reduced Vert	ic (F18) (MLRA 150A, 150B) wetland hydrology must be present,					
			Piedmont Floo	odplain Soi	ls (F19) (M	LRA 149A)	unless	s disturbed or problematic.	
	Matrix (S6)		Anomalous Br	right Loam	/ Soils (F20) (MLRA 14	9A, 153C, 153D)		
Dark Surfa	ace (S7) (LRR P, S, T,	U)							
Restrictive L	aver (if observed):								
Type:									
Depth (incl	hes).						Hydric Soil Present?	Yes 🔍 No 🔾	
Remarks:									

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 yea	ar? Yes \odot No \bigcirc (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology significantl	tly disturbed? Are "Normal Circumstances" present? Yes • No •			
Are Vegetation , Soil , or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes $ullet$ No $igodot$	To the Sampled Area			
Hydric Soil Present? Yes 💿 No 🔿				
Wetland Hydrology Present? Yes No	within a Wetland?			
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are prese HYDROLOGY	ent. This is a wetland.			
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (Imminian of 2 required)			
Surface Water (A1)	13) Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	.5) (LRR U) Drainage Patterns (B10)			
Saturation (A3)	Odor (C1) Moss Trim Lines (B16)			
Water Marks (B1)	neres along Living Roots (C3) Dry Season Water Table (C2)			
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)			
Drift Deposits (B3)	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	e (C7) Geomorphic Position (D2)			
Iron Deposits (B5) Other (Explain in F	Remarks) Shallow Aquitard (D3)			
	► FAC-Neutral Test (D5)			
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)			
Field Observations:				
Water Table Present? Yes Vio Depth (inches):	Wetland Hydrology Present? Yes No			
(includes capillary fringe) Yes No Depth (inches):	0			
Remarks:				
		Dominant		Sampling Point: <u>WG1HA003_WET_PE</u>
---	-----------------	----------------------------	-----------	---
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: <u>2</u> (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:(A,B)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		0BL species 17 x 1 = 17
Sapling or Sapling /Shrub Stratum (Plot size:)			FACW species 85 x 2 = 170
1		0.0%		FAC species $0 \times 3 = 0$
2				$EACH species 3 \times 4 = 12$
2				$\begin{array}{cccc} \mathbf{FACO} & \mathbf{Spectres} & \underline{\mathbf{S}} & \mathbf{X} & 4 & \underline{\mathbf{F}} & \underline{\mathbf{F}} \\ \mathbf{Spectres} & \mathbf{Spectres} & \mathbf{Spectres} & \mathbf{Spectres} \\ \mathbf{Spectres} \\ \mathbf{Spectres} & \mathbf{Spectres} \\ Spectr$
δ				$\begin{bmatrix} UPL \text{ specilles} & \underline{0} & x \text{ 5} = \underline{0} \\ \hline \end{bmatrix}$
4				Column Totals: <u>105</u> (A) <u>199</u> (B)
0				Prevalence Index = B/A = <u>1.895</u>
7				Hydrophytic Vegetation Indicators:
<i>1</i>				
δ	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				✓ 3 - Prevalence Index is \leq 3.0 ¹
1. Salix nigra	5	✔ 100.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	0	0.0%		
3.	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4	0	0.0%		be present, unless disturbed or problematic.
5		0.0%		Definition of Vegetation Strata:
6				Tree - Woody plants, excluding woody vines
U		- Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)		_		Sapling Weady plants, evoluting weady vince
1. Cyperus entrerianus	75	✓ 75.0%	FACW	approximately 20 ft (6 m) or more in height and less
2. Salix nigra	10	10.0%	OBL	than 3 in. (7.6 cm) DBH.
3. Eleocharis montevidensis	5	5.0%	FACW	
4 <u>Sesbania drummondii</u>	5	5.0%	FACW	Sapling/Shrub - Woody plants, excluding vines, less
5. Cynodon dactylon	3	3.0%	FACU	than 3 m. DBH and greater than 3.28 m (1m) tail.
6 _. Typha latifolia	2	2.0%	OBL	Shrub - Woody plants, excluding woody vines
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10	0	0.0%		nerpaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12.	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot Size: 30)				
1	0			
2	0	□		
3	0			
4	0			Hudwanky dia
5	0	0.0%		Vegetation
50% of Total Cover: 20% of Total Cover:0	0 =	= Total Cover		Present? Yes $ullet$ No $igcup$
Domarker (If obconved list membelogical edentations below)				I
kemarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because F	Regional status	not defined by FV	VS.	

US Army Corps of Engineers

Profile Desc	ription: (Describe to	the depth r	needed to document	the indic	ator or co	onfirm the	absence of indicators.)			
Depth	Matrix		Re	dox Featu	res		_			
(inches)	Color (moist)		Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks		
0-16	10YR 4/2	85	10YR 5/8	15	С	М	Sandy Clay Loam			
	. <u> </u>		······							
					-					
¹ Type: C=Con	centration. D=Depletio	n. RM=Redu	ced Matrix, CS=Covere	ed or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=	Matrix		
Hydric Soil	Indicators:						Indicators for Prob	lematic Hydric Soils ³ :		
Histosol (A1)		Polyvalue Bel	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	(LRR O)		
Histic Epi	pedon (A2)		Thin Dark Sur	face (S9) (LRR S, T, L	J)	2 cm Muck (A10)	(LRR S)		
Black His	tic (A3)		Loamy Mucky	Mineral (F	1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A.B)		
Hydroger	n Sulfide (A4)		Loamy Gleyed	d Matrix (F2	2)		Piedmont Floodn	lain Soils (F19) (I RR P. S. T)		
Stratified	Layers (A5)		Depleted Mat	rix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MI RA 153B)		
Organic E	Bodies (A6) (LRR P, T, l	J)	Redox Dark S	urface (F6)	1		Red Parent Mate	rial (TE2)		
🗌 5 cm Mud	cky Mineral (A7) (LRR P	P, T, U)	Depleted Darl	< Surface (I	-7)		Very Shallow Dar	k Surface (TE12)		
Muck Pre	sence (A8) (LRR U)		Redox Depres	sions (F8)				Romarka)		
🗌 1 cm Mue	ck (A9) (LRR P, T)		 Marl (F10) (Li	RRU)				Refinances)		
Depleted	Below Dark Surface (A	11)	Depleted Och	ric (F11) (N	/LRA 151)					
Thick Dar	k Surface (A12)		Iron-Mangane	ese Masses	(F12) (LRF	R O. P. T)				
Coast Pra	iirie Redox (A16) (MLR/	A 150A)	Umbric Surfac	re (F13) (II	(*) (-** RR P. T. U)					
Sandy Mu	uck Mineral (S1) (LRR C), S)		F17) (MIR	Δ 151)					
Sandy Gl	eved Matrix (S4)			ic (F18) (M	IRA 150A	150B)	³ Indicators	of hydrophytic vegetation and		
Sandy Re	dox (S5)			ne (F10) (F1	c (F1Q) (M	130D)	wetland	hydrology must be present,		
Stripped	Matrix (S6)			right Loam) (MI DA 14	unless disturbed or problematic.			
Dark Surf	ace (S7) (I RR P. S. T.	U)			50113 (1 20		JA, 133C, 133D)			
		-								
							1			
Restrictive L	ayer (if observed):									
Туре:										
Depth (inc	hes):						Hydric Soil Present?	Yes 🔍 No 🔾		
Remarks:										

Project/Site: Hawthorn Landfill	City/County: Ha	Irris County	Sampling Date:	12-Mar-20			
Applicant/Owner: USA Waste of Texas Landfills, Inc.	Sta	ite: <u>TX</u> Sa	ampling Point: WG1HA00	4_UP			
Investigator(s): KB, JM	Section, Townsh	nip, Range: S N/A	T _{N/A} R	N/A			
Landform (hillslope, terrace, etc.): Flat	Local relief (conc	ave, convex, none):	flat Slope:	0.0 % / 0.0°			
Subregion (LRR or MLRA): LRR T Lat.	- .: 29.851888	Long.: -95.	.547208 Da	atum: NAD 83			
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slop	es (CyuA)		WI classification: None				
Are climatic/hydrologic conditions on the site typical for this time of	vear? Yes		explain in Remarks.)				
Are Vegetation Soil Soil or Hydrology Significa	antly disturbed?	Are "Normal Circum	stances" nresent? Yes	• No 🔿			
	w problematic?	(Tf needed combine					
SUMMARY OF FINDINGS - Attach site map showing s	sampling point l	ocations, transec	ts, important feature	s, etc.			
Hydrophytic Vegetation Present? Yes O No 🖲							
Hydric Soil Present? Yes • No •	Is the Sa	mpled Area					
Wetland Hydrology Present? Yes O No •	within a	Wetland? Yes \bigcirc	NO 🔍				
Remarks:							
Hydrophytic vegetation and wetland hydrology are not present. T	his is not a wetland.						
HYDROLOGY							
Wetland Hydrology Indicators:		Second	lary Indicators (minimum of 2 r	equired)			
Primary Indicators (minimum of one required; check all that apply	y)	Sur	rface Soil Cracks (B6)				
Surface Water (A1)	(B13)	Spa	arsely Vegetated Concave Surfa	ace (B8)			
L High Water Table (A2) Marl Deposits (B15) (LRR U)	Dra	ainage Patterns (B10)				
Saturation (A3)	de Odor (C1)	Udor (C1) Moss Trim Lines (B16)					
Water Marks (B1) Oxidized Rhizos	spheres along Living Ro	ots (C3) 📃 Dry	/ Season Water Table (C2)				
Sediment Deposits (B2)	duced Iron (C4)	Cra	ayfish Burrows (C8)				
Drift Deposits (B3) Recent Iron Re	duction in Tilled Soils (C	.6) Sat	uration Visible on Aerial Image	ry (C9)			
Algal Mat or Crust (B4)	ace (C7)	Geo	omorphic Position (D2)				
Iron Deposits (B5) Other (Explain Other (Explain)	in Remarks)	Sha	allow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B/)		FAC	C-Neutral Test (D5)				
Water-Stained Leaves (B9)	r	Spł	nagnum moss (D8) (LRR T, U)				
Field Observations:							
Surface Water Present? Yes ○ No ● Depth (inches	s):						
Water Table Present? Yes O No 💿 Depth (inches	s):						
Saturation Present? Yes No Depth (inches	5):	Wetland Hydrology P	resent? Yes \cup No	lacksquare			
(includes capillary fringe)	otos, previous inspe	ctions) if available:					
Describe Recorded Data (scream gauge, monitoring weil, aenai ph	lotos, previous insper	cions), il available.					
Remarks:							

		Dominant		Sampling Point: WG1HA004_UP
	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:0(A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
4	0	0.0%		Species Across Air Surata. $\underline{2}$ (b)
5	0	0.0%		Percent of dominant Species
0				That Are OBL, FACW, or FAC:
7				Denselation Technical de la ch
7				Prevalence Index worksneet:
0	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		$\begin{array}{ccc} \text{OBL specilies} & \underline{0} & \text{x 1} = \underline{0} \\ \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)			FACW species $5 \times 2 = 10$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $25 \times 4 = 100$
3	0	0.0%		UPL species $_{70}$ x 5 = $_{350}$
4.	0	0.0%		$\begin{array}{c} 1 & 1 \\$
5	0	0.0%		$(x) = \frac{100}{100}$
6	0	0.0%		Prevalence Index = $B/A = 4.600$
7		0.0%		Hydrophytic Vegetation Indicators:
0				
0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20% of Total Cover:		Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30'</u>)				□ 3 - Prevalence Index is \leq 3.0 ¹
1.	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
Λ	0			be present, unless disturbed or problematic.
ч Б				Definition of Vegetation Strata:
5				Trop Woody plants, excluding woody vines
				approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 0 20% of Total Cover: 0	=	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: _30')				
1. Bothriochloa ischaemum	65	✔ 65.0%	UPL	Sapling - Woody plants, excluding woody vines,
2. Cynodon dactylon	25	✓ 25.0%	FACU	than 3 in (7.6 cm) DBH
3 Sesbania drummondii	5	5.0%	FACW	
4. Verbena litoralis var. brevibracteata	5	5.0%	UPI	Sapling/Shrub - Woody plants, excluding vines, less
5			0.2	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6				
7				Shrub - Woody plants, excluding woody vines,
/				approximately 5 to 20 ft (1 to 6 ff) in height.
0				Herb - All herbaceous (non-woody) plants, including
9		<u>0.0%</u>		herbaceous vines, regardless of size, and woody
10	0			plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 50 20% of Total Cover: 20	100 =	Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vino Stratum (Plot size: 30')				
	0	0.00/		
1				
Z				
3				
4	0			Hydrophytic
5	0	0.0%		Vegetation
50% of Total Cover: 20% of Total Cover:0		Total Cover		Present? Yes 🔾 No 🛡
Remarks: (11 observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	nional status r	not defined by FV	/S.	

Profile Desci	ription: (Describe to	the depth I	needed to d	locument	the indic	ator or c	onfirm the	absence of indicators.)	
Depth Matrix Redox Features							_			
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks	
0-16	10YR 3/2	95	10YR	4/4	5	C	M	Sandy Clay		
						_				
	u		-	-				·		
				-						
¹ Type: C=Con	centration. D=Depletic	on. RM=Redu	ced Matrix, (CS=Covere	ed or Coate	d Sand G	rains ² Loca	tion: PL=Pore Lining. M:	=Matrix	
Hydric Soil 1	Indicators:							Indicators for Pro	blematic Hydric Soils ³ :	
Histosol (A1)		Poly	value Bel	ow Surface	(S8) (LRF	R S, T, U)	1 cm Muck (A9)) (LRR O)	
Histic Epi	pedon (A2)		🗌 Thii	n Dark Sur	face (S9) (LRR S, T,	U)	2 cm Muck (A10	0) (LRR S)	
Black Hist	ic (A3)		Loa	my Mucky	Mineral (F	1) (LRR O)	Reduced Vertic	(F18) (outside MLRA 150A,B)	
Hydrogen	Sulfide (A4)		Loa	my Gleyeo	d Matrix (F2	2)		Piedmont Flood	lplain Soils (F19) (LRR P, S, T)	
Stratified	Layers (A5)		Dep	leted Mat	rix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (LRR P, T, I	U)	✓ Rec	lox Dark S	urface (F6))		Red Parent Mat	erial (TF2)	
5 cm Muc	ky Mineral (A7) (LRR F	P, T, U)	Dep	pleted Dar	< Surface (F7)		Very Shallow Da	ark Surface (TF12)	
Muck Pres	sence (A8) (LRR U)		Rec	lox Depres	sions (F8)			Other (Explain in Remarks)		
	:k (A9) (LRR P, T)		Mar	1 (F10) (LI	RR U)					
	Below Dark Surface (A	.11)	🗌 Dep	oleted Och	ric (F11) (N	MLRA 151)			
	K Sufface (A12)	A 150A)		n-Mangane	ese Masses	(F12) (LR	R O, P, T)			
	IFIE REGOX (AIB) (MLR	A 150A)		bric Surfac	ce (F13) (L	RR P, T, U)			
	uck Millerdi (SI) (LKK (), 5)		ta Ochric (F17) (MLR	A 151)	4 5 9 5 1	³ Indicator	rs of hydrophytic vegetation and	
	dox (S5)			luced Vert	IC (F18) (M	ILKA 150A	, 150B)	wetland	d hydrology must be present,	
	uox (33) Matrix (S6)			amont Fio	apiain Sol	IS (F19) (N	(1LRA 149A)		ss disturbed or problematic.	
	ace (S7) (IRR P S T	11)		maious bi	ight Loam	/ 5011S (F2	0) (MLRA 14	9A, 153C, 153D)		
		0)								
Restrictive L	ayer (if observed):									
Type:	h							Hvdric Soil Present	? Yes 🔍 No 🔿	
Depth (inc	hes):									
Remarks:										

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 ver	ar? Yes 🖲 No 🔾 (If no. explain in Remarks.)
Are Vegetation , Soil , or Hydrology , significant	(v, u) (is turbed? Are "Normal Circumstances" present? Yes \bullet No \bigcirc
Are Vegetation Soil or Hydrology paturally r	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes O No 💿	To the Convolution
Hvdric Soil Present? Yes No	
Wetland Hydrology Present? Yes O No O	within a Wetland? Tes \bigcirc No \bigcirc
Remarks	I
Hydrophytic vegetation 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)	Surface Soil Cracks (B6)
Surface Water (A1)	.3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1.	5) (LRR U) Drainage Patterns (B10)
Saturation (A3)	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	ieres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduct P	ced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3) Recent Iron Reduct	ction in Tilled Solis (C6) Saturation Visible on Aerial Imagery (C9)
	Geomorphic Position (D2)
Uther (Explain in)	Remarks)
Water Stained Leaves (P0)	
Field Observations:	
Water Table Present? Yes Vo ODepth (inches):	Wetland Hydrology Present? Yes No 🔍
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:

		Dominant		Sampling Point: WG1HA005_UP
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: 0 (A)
2.	0	0.0%		
3.	0	0.0%		Total Number of Dominant
Δ	0	0.0%		Species Across Air Strata: <u>2</u> (B)
5		0.0%		Percent of dominant Species
0:				That Are OBL, FACW, or FAC:
7				Dravalance Index werkeheet
0				Prevalence Index worksneet:
		0.0%		I otal % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	=	= Total Cover		$\begin{array}{c} \text{OBL species} 0 \text{x } 1 = 0 \\ \hline \end{array}$
Sapling or Sapling/Shrub Stratum (Plot size:	_)	_		FACW species $5 \times 2 = 10$
1	0	0.0%		FAC species $0 \times 3 = 0$
2	0	0.0%		FACU species $20 \times 4 = 80$
3	0	0.0%		UPL species x 5 = 350
4	0	0.0%		$\begin{array}{c} \cdot \\ \hline \\$
5	0	0.0%		
6.	0	0.0%		Prevalence Index = $B/A = 4.632$
7.	0	0.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		
		Total Cavar		1 - Rapid Test for Hydrophytic Vegetation
	=	= Total Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)		_		□ 3 - Prevalence Index is \leq 3.0 ¹
1	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4	0	0.0%		be present, unless disturbed or problematic.
5.	0	0.0%		Definition of Vegetation Strata:
6	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30</u>)				Sapling Woody plants, evoluting woody vines
1. Bothriochloa ischaemum	65	✔ 68.4%	UPL	approximately 20 ft (6 m) or more in height and less
2. Cynodon dactylon	20	✓ 21.1%	FACU	than 3 in. (7.6 cm) DBH.
3. Verbena litoralis var. brevibracteata	5	5.3%	UPL	
4. Sesbania drummondii	5	5.3%	FACW	Sapling/Shrub - Woody plants, excluding vines, less
5	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0	0.0%		Shruh - Woody plants, excluding woody vines
7.	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	0	0.0%		
9	0	0.0%		Herb - All herbaceous (non-woody) plants, including
10		0.0%		herbaceous vines, regardless of size, and woody
11				a fight of the second vines, less than approximately a fight of the second vines, less than approximately a fight of the second vines, less than approximately a fight of the second view of the second vie
11				
12	0	0.0%		Woody vine - All woody vines, regardless of height
50% of Total Cover: <u>47.5</u> 20% of Total Cover: <u>19</u>	95 =	= Total Cover		woody vine - Air woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
1	0	0.0%		
2.	0	0.0%		
3	0	0.0%		
Δ	0	0.0%		
5				Hydrophytic
				Vegetation Present? Yes No •
SU% of Lotal Cover: 0 20% of Total Cover: 0		= Iotal Cover		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix - National status or professional decision assigned because R	enional status r	not defined by FV	/S	

Profile Descr	iption: (Describe to	the depth	needed to d	locument	the indic	ator or c	onfirm the	absence of indicators.)	
Denth	Matrix	-		Re	dox Featu	ires		_		
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks	
0-16	10YR 3/2	95	10YR	4/4	15	C	М	Sandy Clay		
	p							·		
				-						
¹ Type: C=Con	centration. D=Depletic	on. RM=Redu	ced Matrix, C	CS=Covere	ed or Coate	ed Sand G	rains ² Loca	tion: PL=Pore Lining. M	=Matrix	
Hydric Soil I	indicators:							Indicators for Pro	blematic Hydric Soils ³ :	
Histosol (A1)		Poly	value Belo	ow Surface	: (S8) (LRF	R S, T, U)			
🗌 Histic Epip	pedon (A2)		🗌 Thir	n Dark Sur	face (S9) (LRR S, T,	U)	\square 2 cm Muck (A1))) (I RR S)	
Black Hist	ic (A3)		Loa	my Mucky	Mineral (F	1) (LRR O)		(F18) (outside MLRA 150A.B)	
Hydrogen	Sulfide (A4)		Loa	my Gleyed	d Matrix (F2	2)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)	
Stratified	Layers (A5)		🗌 Dep	leted Mat	rix (F3)			Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (LRR P, T, I	U)	🖌 Red	lox Dark S	urface (F6))		Red Parent Mat	erial (TF2)	
5 cm Muc	ky Mineral (A7) (LRR F	P, T, U)	🗌 Dep	leted Darl	< Surface (F7)		Very Shallow Da	ark Surface (TF12)	
Muck Pres	sence (A8) (LRR U)		Red	lox Depres	sions (F8)			Other (Explain in Remarks)		
1 cm Muc	k (A9) (LRR P, T)		Mar	l (F10) (Li	RR U)				,	
	Below Dark Surface (A	11)	🗌 Dep	leted Och	ric (F11) (N	MLRA 151))			
Thick Dar	k Surface (A12)		Iror	n-Mangane	ese Masses	(F12) (LR	R O, P, T)			
Coast Pra	irie Redox (A16) (MLR	A 150A)	Um Um	bric Surfac	ce (F13) (L	RR P, T, U	I)			
Sandy Mu	ck Mineral (S1) (LRR C	D, S)	Delt	ta Ochric (F17) (MLR	A 151)		³ Indicators of hydrophytic vegetation and		
Sandy Gle	eyed Matrix (S4)		Red	luced Vert	ic (F18) (M	ILRA 150A	, 150B)	wetland	d hydrology must be present,	
Sandy Re	dox (S5)		Piec	dmont Floo	odplain Soi	ls (F19) (N	1lra 149A)	unle	ss disturbed or problematic.	
				malous Br	ight Loam	y Soils (F2	0) (MLRA 14	9A, 153C, 153D)		
	ace (S7) (LRR P, S, T,	0)								
Restrictive L	ayer (if observed):									
Туре:										
Depth (inc	hes):							Hydric Soil Present	$r $ Yes \odot No \bigcirc	
Remarks:										

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 yea	r_{r} Yes \bullet No \bigcirc (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantl	ly disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes $ullet$ No $igodot$	Is the Sampled Area
Hydric Soil Present? Yes 💿 No 🔾	
Wetland Hydrology Present? Yes	within a Wetland?
Remarks: Hydrophytic vegetation, hydric soil, and wetland hydrology are prese	int. This is a wetland.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	i) (LRR U) Drainage Patterns (B10)
✓ Saturation (A3)	Jdor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosphe Oxidized Rhizosphe	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduct Drift Deposits (B3) Recent Iron Reduct	tion in Tilled Soils (C6)
Algal Mat or Crust (B4)	(C7)
	(C) Vertex (D2)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T. U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	
Water Table Present? Yes No	
Saturation Present?	Wetland Hydrology Present? Yes No
(includes capillary fringe) Yes Vo Depth (inches):	
Remarks:	

		Dominant		Sampling Point: <u>WG1HA005_WET_PE</u>
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u> ')	% Cover	Cover	Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Deminant
3	0	0.0%		Species Across All Strata: 2 (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species
6	0	0.0%		That Are OBL, FACW, or FAC:(X, B)
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		OBL species 5 x 1 = 5
Sapling or Sapling/Shrub Stratum (Plot size:)			FACW species 80 x 2 = 160
1	0	0.0%		FAC species $10 \times 3 = 30$
2	0	0.0%		$\mathbf{FACII} \text{ speciles } 5 \text{ x } 4 = 20$
3		0.0%		
Δ				$\begin{array}{c} \text{OPL spectres} & \underline{ } \\ \text{opt} & \underline{ } \\ \ \ & \\ \text{opt} & \underline{ } \\ \ & \\$
т 5				$\begin{bmatrix} \text{Column lotals:} & 100 \\ \end{bmatrix} (A) & 215 \\ \end{bmatrix} (B)$
6		0.0%		Prevalence Index = B/A =2.150
7		0.0%		Hydrophytic Vegetation Indicators:
8		0.0%		
				✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0		= Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: <u>30</u>)		_		✓ 3 - Prevalence Index is ≤3.0 1
1	0	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
2	0	0.0%		
3	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
4	0	0.0%		be present, unless disturbed or problematic.
5	0	0.0%		Definition of Vegetation Strata:
6.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover	-	approximately 20 ft (6 m) or more in height and 3 in.
(Plot size: 30')				(7.6 GH) of larger in diameter at breast height (DBH).
Herb Stratum (Hot size: <u>50</u>)	<u> </u>	1 co ov	54.014	Sapling - Woody plants, excluding woody vines,
	60	✓ 60.0%	FACW	approximately 20 ft (6 m) or more in height and less
	20	▶ 20.0%	FACW	than 3 in. (7.6 cm) DBH.
3. Paspaium urvillei			FAC	Conling/Chrub Woody planta avaluating vince loss
4. Cynodon dactylon	5	5.0%	FACU	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. Salix nigra	3		OBL	······································
6. Alternanthera philoxeroides	2	2.0%	OBL	Shrub - Woody plants, excluding woody vines,
<i>(</i>	0	□		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	□0.0%		Horb All horbaccous (non woody) plants including
9	0			herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0			3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30')				
· · 1	0	0.0%		
2		0.0%		
3		0.0%		
Δ		0.0%		
5		0.0%		Hydrophytic
				Vegetation Present? Yes • No O
	=	= Total Cover		
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because	Regional status	not defined by FV	vs.	

US Army Corps of Engineers

Profile Desc	ription: (Describe to	the depth n	eeded to documer	t the indic	ator or co	onfirm the	absence of indicators.)		
Depth	Matrix		R	edox Featu	ires		_		
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks	
0-16	10YR 3/2	85	10YR 4/4	15	С	М	Clay		
		· ·							
		- <u></u>							
¹ Type: C=Cor	ncentration. D=Depletio	n. RM=Reduc	ced Matrix, CS=Cover	red or Coate	ed Sand Gra	ains ² Loca	ition: PL=Pore Lining. M=	Matrix	
Hydric Soil	Indicators:						Indicators for Prol	Jematic Hydric Soils ³ :	
	(A1)		Polyvalue Be	low Surface	(S8) (I RR	S. T. U)			
Histic Epi	ipedon (A2)		Thin Dark Su	irface (S9) (1)			
Black His	tic (A3)			Minoral (E		5)	2 cm Muck (A10) (LRR S)	
	n Sulfide (A4)				1) (LKK U)			F18) (outside MLRA 150A,B)	
Stratified				tu matrix (F.	<u>~)</u>		Piedmont Flood	plain Soils (F19) (LRR P, S, T)	
	Rediac (AG) (LDD D T L	N		urix (⊢3)			Anomalous Brigh	nt Loamy Soils (F20) (MLRA 153B)	
	DUDIES (AD) (LKK P, I, L	<i>ツ</i> (エコ)	▼ Redox Dark	Surface (F6)) 		Red Parent Mate	erial (TF2)	
		, 1, 0)	Depleted Da	rk Surface (F7)		Very Shallow Da	rk Surface (TF12)	
			Redox Depre	essions (F8)			Other (Explain in Remarks)		
	CK (A9) (LRR P, T)		🔄 Marl (F10) (I	_RR U)					
Depleted	Below Dark Surface (A	11)		hric (F11) (I	MLRA 151)				
Thick Da	rk Surface (A12)		Iron-Mangar	ese Masses	(F12) (LRI	R O, P, T)			
Coast Pra	airie Redox (A16) (MLRA	A 150A)	Umbric Surfa	ace (F13) (L	RR P, T, U)			
Sandy Mu	uck Mineral (S1) (LRR C), S)	Delta Ochric	(F17) (MLR	A 151)		31		
Sandy Gl	eyed Matrix (S4)		Reduced Ver	tic (F18) (M	ILRA 150A,	150B)	"Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
Sandy Re	edox (S5)		Piedmont Flo	odplain Soi	ls (F19) (M	LRA 149A)			
Stripped	Matrix (S6)		Anomalous E	Bright Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)		
Dark Sur	face (S7) (LRR P, S, T, I	U)							
Restrictive L	.ayer (if observed):								
Туре:							Hydric Soil Procent?		
Depth (inc	ches):						Hydric Soli Present:	tes S No C	
Remarks:									

Project/Site: Hawthorn Landfill	City/County: Harr	is County	Sampling Date:	12-Mar-20
Applicant/Owner: USA Waste of Texas Landfills, Inc.	State	e: <u>TX</u> San	npling Point: WP1HA004	_WET_PEM
Investigator(s): KB, JM	Section, Townshi	p, Range: S N/A	T _{N/A} R _N	I/A
Landform (hillslope, terrace, etc.): Flat	Local relief (concav	ve, convex, none):	oncave Slope:	1.0 % / 0.6°
Subregion (LRR or MLRA): LRR T Lat.:	29.851968	Long.: -95.5	47328 Dat	tum: NAD 83
Soil Map Unit Name: Cyfair-Urban land complex, 0 to 1 percent slopes	; (CyuA)		I classification: None	-
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲	No (If no, ex	xplain in Remarks.)	
Are Vegetation, Soil, or Hydrology significant	tly disturbed?	Are "Normal Circumst	ances" present? Yes	• No O
Are Vegetation Soil or Hydrology paturally r	nrohlematic?	(If needed, explain a	ny answers in Remarks)	
SUMMARY OF FINDINGS - Attach site map showing sa	Impling point lo	cations, transect	s, important features	s, etc.
Hydrophytic Vegetation Present? Yes No	To the Com			
Hydric Soil Present? Yes No	Is the Sam			
Wetland Hydrology Present? Yes	within a W	/etland? Tes 🙂		
Remarks:	I			
Hydrophytic vegetation, hydric soil, and wetland hydrology are pres	ent. This is a wetlar	ıd.		
HYDROLOGY				
Wetland Hydrology Indicators		Cocondo	n. Indicators (minimum of 2 rs	a visad)
Primary Indicators (minimum of one required: check all that apply)			ace Soil Cracks (B6)	equired)
Surface Water (A1)	13)	Spar	selv Vegetated Concave Surfac	re (B8)
High Water Table (A2)	15) (LRR U)		nage Patterns (B10)	
Saturation (A3)	Odor (C1)	Moss	s Trim Lines (B16)	
Water Marks (B1)	heres along Living Root	(C3) Dry 9	Season Water Table (C2)	
Sediment Deposits (B2)	iced Iron (C4)		fish Burrows (C8)	
Drift Deposits (B3)	uction in Tilled Soils (C6) Satur	ration Visible on Aerial Imager	v (C9)
Algal Mat or Crust (B4)	e (C7)	Geor	norphic Position (D2)	/(/
Iron Deposits (B5) Other (Explain in	Remarks)	Shall	low Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7))	✓ FAC-	Neutral Test (D5)	
Water-Stained Leaves (B9)		Spha	agnum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes O No O Depth (inches):				
Water Table Present? Yes No			-	-
Saturation Present?	v	Netland Hydrology Pro	esent? Yes 🖲 No 🤇	C
(includes capillary fringe) Yes VO Depth (inches):				
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspect	ions), if available:		
Remarks:				

		Dominant		Sampling Point: <u>WP1HA004_WET_PE</u>		
	Absolute	_ Species? Rel.Strat.	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: <u>30</u>)	% Cover	Cover	Status	Number of Dominant Species		
1	0	0.0%		That are OBL, FACW, or FAC: (A)		
2	0	0.0%		Tatal Number of Dominant		
3	0	0.0%		Species Across All Strata: 1 (B)		
4	0	0.0%				
5	0	0.0%		Percent of dominant Species		
6	0	0.0%		That Are OBL, FACW, or FAC:(A, b)		
7	0	0.0%		Prevalence Index worksheet:		
8.	0	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		OBL species $10 \times 1 = 10$		
Sanling or Sanling /Shrub Stratum (Plot size:				FACW specilles $80 \times 2 = 160$		
1	/	0.0%		$\frac{100}{100} \times 2 = \frac{30}{100}$		
۱ ۲	0			$\frac{10}{10} \times 3 = \frac{10}{10}$		
2				FACU species $-\frac{0}{2} \times 4 = -\frac{0}{2}$		
3	0			UPL species $-\frac{0}{x} \times 5 = -\frac{0}{x}$		
4	0			Column Totals: <u>100</u> (A) <u>200</u> (B)		
5	0	0.0%		Prevalence Index = $B/A = 2000$		
б	0					
7	0			Hydrophytic Vegetation Indicators:		
8	0	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		✓ 2 - Dominance Test is > 50%		
Shruh Stratum (Plot size: 30')				\mathbf{M} 3 - Provalence Index is <3.0 ¹		
1	0	0.0%		S - Prevalence Index is 25.0		
۱ ۵		0.0%				
2				¹ Indicators of hydric soil and wetland hydrology must		
3				be present, unless disturbed or problematic.		
4	0	0.0%				
5	0	0.0%		Definition of Vegetation Strata:		
6	0	0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
_Herb Stratum (Plot size: <u>30'</u>)						
1. Cyperus entrerianus	70	✓ 70.0%	FACW	Sapling - Woody plants, excluding woody vines,		
2 Eleocharis montevidensis	10	10.0%	FACW	than 3 in (7.6 cm) DBH		
2 Paspalum urvillei	10		FAC			
	5	5.0%		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,		
5. Alternanthera nhiloveroides		<u> </u>				
		<u> </u>	UDL			
07	0					
7	0			approximately 3 to 20 ft (1 to 6 m) in height.		
ö	0			Herb - All herbaceous (non-woody) plants, including		
9	0			herbaceous vines, regardless of size. and woody		
10	0	0.0%		plants, except woody vines, less than approximately		
11	0	0.0%		3 ft (1 m) in height.		
12	0	0.0%				
50% of Total Cover: 50 20% of Total Cover: 20	100 =	= Total Cover		Woody vine - All woody vines, regardless of height.		
Woody Vino Stratum (Plot size: 30')						
	^	0.00/				
l						
<u>ک</u>	0	0.0%				
3	0	0.0%				
4	0			Hydrophytic		
5	0	0.0%		Vegetation		
50% of Total Cover: 20% of Total Cover:0	0 =	= Total Cover		Present? Yes \bullet No \bigcirc		
Remarks: (If observed, list morphological adaptations below)	_			1		
הכוומראס. (דו סטפרויפט, ווכן חוטרטוטטונמו adaptations below).						
*Indicator suffix = National status or professional decision assigned because	e Regional status	not defined by FM	'S.			

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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth Matrix Redox Features				_						
(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture	Remarks		
0-16	10YR 5/1	85	10YR 5/4	15	С	М	Sandy Clay			
					_					
							<u></u>			
¹ Type: C=Cor	¹ Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix									
Hydric Soil	Indicators:						Indicators for Pro	oblematic Hydric Soils ³ :		
Histosol ((A1)		Polyvalue Bel	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (I BR O)		
🗌 Histic Epi	pedon (A2)		Thin Dark Su	rface (S9) (LRR S, T, U	J)	\square 2 cm Muck (A1)	(1 RR S)		
Black His	tic (A3)		Loamy Mucky	/ Mineral (F	1) (LRR O)	,	2 CIII Muck (AIO) (LRR S)			
Hydroger	n Sulfide (A4)		Loamy Gleve	d Matrix (F	2)		Reduced Vertic (F18) (outside MLRA 150A,B) Reduced Vertic (F18) (Outside MLRA 150A,B) Reduced Vertic (F18) (Outside MLRA 150A,B)			
Stratified	Layers (A5)		Depleted Mat	rix (E3)	-,	Piedmont Floodplain Soils (F19) (LRR P, S, T)				
Organic E	Bodies (A6) (LRR P, T,	U)	Redox Dark 9	Surface (F6))		Anomalous Bright Loamy Soils (F20) (MLRA 153B)			
5 cm Mu	ckv Mineral (A7) (LRR	, P, T, U)		k Surface (, F7)					
Muck Pre	sence (A8) (LRR U)	1 1 - 1		scions (F8)	,,			Very Shallow Dark Surface (TF12)		
	rk (A9) (I RR P. T)		Marl (E10) (L				Other (Explain	in Remarks)		
	Below Dark Surface (A11)		(E11)	MIDA 151)					
	rk Surface (A12)	(11)			(E12) (LDE					
	airie Redox (A16) (MI	20 1500)				(0, P, T)				
	uck Mineral (S1) (I PP	0 5)		ce (F13) (L	KK P, I, U)					
	oved Matrix (S4)	0, 3)		(F17) (MLR	A 151)	4505)	³ Indicato	rs of hydrophytic vegetation and		
Sandy Gleyed Matrix (S4)			LRA 150A,	150B)	wetland hydrology must be present,					
	uux (SS)		Piedmont Flo	odplain Soi	ls (F19) (M	LRA 149A)	unle	ess disturbed or problematic.		
		110	Anomalous B	right Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)			
	race (S7) (LRR P, S, T,	0)								
Restrictive L	aver (if observed):									
Type:										
Denth (inc	hes).						Hydric Soil Present	? Yes 🖲 No 🔾		
Demontra										
Remarks:										