

PART II

EXISTING CONDITIONS AND CHARACTER OF THE FACILITY

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Hawthorn Park Recycling and Disposal Facility

Houston, Harris County, Texas

TCEQ Permit MSW-2185A

Owner/Site Operator/Permittee:



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1.0 EXISTING CONDITIONS SUMMARY

The Hawthorn Park Recycling and Disposal Facility (referred to hereinafter as “Hawthorn Park RDF,” or “facility,” “landfill,” or “site”) is an existing 171.6-acre Type IV municipal solid waste (MSW) facility owned and operated by USA Waste of Texas Landfills, Inc. (USA Waste) under TCEQ Permit No. MSW-2185. The facility is located at 10550 Tanner Road, approximately 500 feet east of Beltway 8 (Sam Houston Parkway), north of Tanner Road in Houston, Harris County, Texas, as shown on Figures II-1 and II-2.

The existing, permitted 171.6-acre Hawthorn Park RDF consists of 129.8-acres of waste disposal area and 41.8-acres of non-waste disposal area designated for buffer, recycling, storage, and maintenance facilities, including the gatehouse and scales, landfill access road, stormwater conveyance structures, and a concrete-crushing and recycling facility and offices.

Under Permit No. MSW-2185, the existing Hawthorn Park RDF is divided into three blocks – West Block, Center Block, and East Block. The current permit was issued on April 12, 1994. There are existing groundwater monitoring wells and gas probes around the three blocks, and groundwater monitoring around the site is being conducted as part of the overall point of compliance monitoring. The entire waste footprint of the currently permitted disposal area has been constructed and waste disposal operations have been conducted within the permitted footprint.

As part of Permit No. MSW-2185’s overall development, one detention pond has been constructed outside the permit boundary, on property owned by USA Waste, in accordance with a Detention Facility Site Plan approved by the City of Houston Department of Public Works and Engineering and the Harris County Flood Control District (HCFCD). This pond receives stormwater runoff from the areas within the permit boundary.

By way of this application, USA Waste proposes to add approximately 38.6 acres to the permitted area of the facility, for a total permitted area of 210.2 acres. The proposed areas to be added to the permit boundary of the Hawthorn Park RDF via this Permit Amendment Application (PAA) are owned by USA Waste and immediately adjacent to the existing permit boundary under Permit No. MSW-2185. The increase in permitted acreage consists of adding undeveloped land around the permitted West, Center, and East Blocks, incorporating rights-of-way released by the City of Houston, and incorporating a closed Type IV landfill (Permit No. MSW-1135). A Type 5RC compost facility (Registration No. 104887468), operated by Living Earth Technology Co. (LETCO), currently conducts operations over the closed landfill. This PAA increases the waste disposal area footprint and disposal capacity through vertical expansion over existing fill areas and lateral expansion on adjacent permittee-owned property.

This PAA proposes the following areas for expansion of waste disposal operations:

- Existing, permitted non-disposal area within the West Block (includes the location of Cherry Crushed Concrete, Inc.'s concrete-crushing and recycling facility)
- Undeveloped area north of Center Block permitted disposal area
- Area south of Center Block permitted disposal area (includes closed Type IV landfill (Permit No. MSW-1135) on which the LETCO compost facility is located)
- Released Crawford Rd. right-of-way between West and Center Blocks, north of constructed cul-de-sac
- Released Clara Rd. right-of-way between Center and East Blocks, north of constructed cul-de-sac

These expansion areas, owned by USA Waste, consist of vacant commercial land, vacant residential land, and industrial use land. The surface topography generally slopes east towards an existing detention pond, which is also owned and operated by USA Waste.

The rights-of-way of Clara Rd. and Crawford Rd. located within the proposed permit boundary have been released by the City of Houston and acquired by USA Waste. Cul-de-sacs have been constructed at the termination of these rights-of-way to allow for vehicular turnaround.

1.1 Easements and Buffer Zones

A facility layout plan showing the on-site easements in relation to the limits of waste is presented as Figure II-4. As shown, four easements cross portions of existing or proposed disposal areas. These easements will be abandoned. The three easements in the expansion area will be abandoned before commencing a phase of landfill development affecting these easements. These easements are utility easements that serve facilities that will no longer exist or will be replaced by the proposed landfill operations.

No solid waste unloading, storage, disposal, or processing operations will occur within any easement that crosses the site. No solid waste disposal will occur within 25 feet of the center line of any utility line or pipeline easement, unless otherwise authorized by TCEQ. Easements will be clearly marked and maintained as detailed in Section 13 of the Site Operating Plan in Part IV.

A minimum 50-foot buffer zone will be maintained between the limits of waste placement and the permit boundary of the expanded facility. These buffer zone distances are identified on Figure II-4. The buffer zone distances for the expansion area exceed the minimum buffer zone distance of 50 feet, as shown on Figure II-4. Figure II-4 also shows areas where waste was previously placed within 50 feet of the permit boundary, as authorized under the facility's previous permits.

Buffer zones will remain in a natural condition except as modified for stormwater conveyance. Any litter in the buffer zone will be collected as part of routine on-site litter collection, as discussed in the Site Operating Plan in Part IV.

1.2 Site-Specific Conditions

Per 30 TAC §330.61(a), site-specific conditions are discussed in Sections 8 through 18 below. As documented, there are no site-specific conditions that require special design considerations or possible mitigation.

2.0 WASTE ACCEPTANCE PLAN

Per 30 TAC §330.61(b), this section provides information on waste acceptance, including a description of the waste characteristics, a projection of the estimated maximum annual waste acceptance rate, and anticipated facility service area.

2.1 Properties and Characteristics of Waste

The Hawthorn Park RDF is a Type IV landfill, and waste that will be disposed of at the landfill is expected to consist of brush, construction or demolition waste, and rubbish, as defined in 30 TAC §§330.3 and 330.5(a)(2). Listed below are the allowable wastes that the facility is authorized to accept for disposal, followed by a list of prohibited wastes that the facility is not authorized to accept:

Allowable Wastes: The facility may accept the following wastes:

- Construction or demolition waste [30 TAC §330.3(33)]
- Brush [30 TAC §330.3(18)]
- Rubbish [30 TAC §330.3(136)]
- Tires that have been processed (such as by splitting, shredding, quartering or sidewall removal) in a manner acceptable to the executive director. [30 TAC §330.3(142); 30 TAC §330.15(e)(4) (prohibiting disposal of whole used or scrap tires)]
- Class 2 industrial solid waste that is construction or demolition waste, brush, or rubbish resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations. [30 TAC §330.3(22); 30 TAC §330.173(i)]
- Class 3 industrial solid waste. [30 TAC §330.3(23); 30 TAC §330.173(j)]
- Non-regulated asbestos-containing material (non-RACM). [30 TAC §330.3(95); 40 CFR §61.141; 30 TAC §330.171(c)(4)]
- Other special waste that is construction or demolition waste, brush, or rubbish. [30 TAC §330.3(154); 30 TAC §330.171(a)]

Prohibited Wastes: The facility may not accept the following wastes:

- Wastes that are not construction or demolition waste, brush, or rubbish. [30 TAC §330.5(a)(2)]
- Putrescible waste. [30 TAC §330.3(122)]
- Untreated medical waste. Please note that this prohibition may be superseded by the executive director in writing when a situation exists that requires disposal of untreated medical waste to protect human health and the environment from the effects of a natural or man-made disaster. [30 TAC §330.171(c)(1)]
- Lead-acid storage batteries. [30 TAC §330.15(e)(1)]
- Do-it-yourself used motor vehicle oil. [30 TAC §330.15(e)(2)]
- Used oil filters from internal combustion engines. [30 TAC §330.15(e)(3)]
- Whole used or scrap tires. [30 TAC §330.15(e)(4)]

- Items containing chlorinated fluorocarbon (CFC) that have not been handled in accordance with 40 CFR §82.156(f). [30 TAC §330.15(e)(5)] *Note: Items that have been handled in accordance with these rules will be accepted for storage in the bulky items storage/recycling area
- Waste material that contains free liquids by the Paint Filter Test, EPA Method 9095. [30 TAC §330.15(e)(6)]
- Regulated hazardous waste. [30 TAC §330.15(e)(7), 40 CFR §261.3]
- Waste that exhibits the characteristics for hazardous waste [40 CFR §261.3] from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas. [30TAC §330.15(e)(7)]
- Polychlorinated biphenyl wastes (PCBs). [30 TAC §330.15(e)(8), 40 CFR §761]
- Radioactive materials [30 TAC Chapter 336], except as authorized in Chapter 336 or that are subject to an exemption of the Department of State Health Services. [30 TAC§330.15(e)(9)]
- Pesticide (insecticide, herbicide, fungicide, or rodenticide) containers that have been triple-rinsed before receipt at the landfill, are rendered unusable before receipt or on arrival, and are covered by the end of the same working day they are received. [30 TAC §330.171(c)(5)]
- Waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas that is construction or demolition waste, brush, or rubbish. [30 TAC §330.171(b), 30 TAC §330.3(154)(P)]
- Industrial waste or waste from oil, gas, and geothermal activities that were generated outside the boundaries of Texas that is construction or demolition waste, brush, or rubbish. [30 TAC §330.171(b), 30 TAC §330.3(154)(Q)]

The Site Manager is authorized to and may reject any waste materials which may cause an odor or nuisance, or which may otherwise require excessive or special on-site handling requirements. The procedures used to ensure that unauthorized wastes are not accepted for disposal are discussed in the Site Operating Plan in Part IV. As described in the Site Operating Plan, incoming wastes are screened to detect and prevent receipt of the prohibited wastes listed above.

The Hawthorn Park RDF is primarily a waste disposal facility; however, as part of the overall facility design, ancillary features for storage, processing, and recycling of waste are included at the facility.

2.2 Volume and Rate of Disposal

The Hawthorn Park RDF serves individuals, businesses, and communities primarily in west Harris County. The principal sources of waste are expected to be construction and demolition activities, City of Houston “heavy trash” pick-up routes, and homeowners.

Based on projected waste acceptance rates, the estimated waste acceptance rate will reach approximately 340,000 tons per year at the end of the estimated 46-year period. The actual waste acceptance rate will vary over the life of the facility depending on market conditions. The total and remaining disposal capacity calculations for the Hawthorn Park RDF expansion are provided in Appendix III-3A.

The following is the estimated maximum annual waste acceptance rate for the Hawthorn Park RDF projected for the initial five years of disposal operations proposed in this PAA:

Table II-1: Estimated Waste Acceptance Rates

Year	Estimated Annual Waste Acceptance Rate (tons per year)
1	150,000
2	200,000
3	202,400
4	204,829
5	207,287

As population, economic conditions, and available landfill disposal capacity change within the region, the volume of incoming waste could vary considerably. Quarterly and annual solid waste summary reports will be maintained to document the facility's annual waste acceptance rate. Consistent with 30 TAC §330.125(h), if the annual waste acceptance rate exceeds the rate estimated in this PAA and the waste increase is not due to a temporary occurrence, an application to modify the permit, including the revised estimated waste acceptance rate, will be filed in accordance with 30 TAC §305.70(k) within 90 days of the exceedance as established by the sum of the previous four quarterly summary reports. The permit modification application will propose changes, if any, in the Site Operating Plan in Part IV that are necessary to manage the increased waste acceptance rate to protect public health and the environment. Per 30 TAC §330.125(h), the estimated waste acceptance rate is not a limiting parameter of the permit.

2.3 Population Served

Per 30 TAC §330.3(115), the "population equivalent" is "the hypothetical population that would generate an amount of solid waste equivalent to that actually being managed based on a generation rate of five pounds per capita per day and applied to situations involving solid waste not necessarily generated by individuals." Based on this definition, and using the average tons/year over the life of the facility (approximately 262,421 tons), the tons of waste per person generated per year and the average population equivalent (PE) are calculated as follows:

$$5 \text{ pounds/person/day} \times 365 \text{ days/year} \div 2,000 \text{ pounds/ton} = 0.91 \text{ tons/person/year}$$

$$\text{PE} = 262,421 \text{ tons/year} \div 0.91 \text{ tons/person/year} = 288,375 \text{ persons}$$

Accordingly, the population equivalent served by the Hawthorn Park RDF is approximately 288,375 persons.

3.0 GENERAL LOCATION MAPS

Consistent with 30 TAC §330.61(c), general location maps are provided in addition to those maps required by §330.59(c) and provided in Part I, Appendix IA. Collectively, these maps show the proximity of the facility to surrounding features and specifically show the items identified in §330.61(c)(1)-(12):

1. The prevailing wind direction – Figure II-12
2. Known water wells within 500 feet of the proposed permit boundary – Figure II-10
3. Structures and inhabitable buildings within 500 feet of the proposed permit boundary – Figure II-11
4. Schools, licensed day-care facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within one mile of the facility – Appendix IIA, Land Use Analysis, Drawing 4
5. The location and surface type of all roads within one mile of the facility that will normally be used by the owner or operator for entering or leaving the facility – Appendix IIB-1, Transportation Study, Figure 1 and section “Roadway System in Proximity to Site”
6. Latitudes and longitudes – Various figures
7. Area streams – Figure II-14, Figure II-15
8. Airports within six miles of the facility – Figure II-18
9. Permit boundary – Various figures
10. Drainage, pipeline, and utility easements within or adjacent to the facility – Figure II-4
11. Facility access control features – Figure II-4, Figure II-9
12. Archaeological sites, historical sites, and sites with exceptional aesthetic qualities adjacent to the facility – Appendix IIF-2

4.0 FACILITY LAYOUT MAPS

The set of facility layout maps provided as Figures II-1 through Figure II-19 collectively show the items identified in 30 TAC §330.61(d)(1)-(9).

5.0 GENERAL TOPOGRAPHIC MAP

The United States Geological Survey (USGS) General Topographic Map is included as Figure II-15. The topographic map consists of the 7 1/2-minute series sheets for the 2019 Hedwig Village Quadrangle in Harris County, Texas. Figure II-15 is at a scale of 1 inch equals 2,000 feet, as required by 30 TAC §330.61(e).

6.0 AERIAL PHOTOGRAPH

Consistent with 30 TAC §330.61(f), the aerial photograph included as Figure II-3 shows the area within at least a one-mile radius of the permit boundary, and the permit boundary and limits of waste placement are also shown on the figure. This aerial photograph was taken from an aerial flyover by Dallas Aerial Survey dated 2019. Figure II-3 is at a scale of 1 inch equals 2,000 feet.

7.0 LAND USE MAP

Consistent with 30 TAC §330.61(g), a land use map is included as Drawing 4 in Appendix IIA. This land use map was prepared based on the land use analysis conducted by EHRA Engineering.

The land use features identified and depicted on Drawing 4, as required by 30 TAC §330.61(g), include the facility permit boundary, land uses within the permit boundary, and existing land uses within one mile of the permit boundary, such as agricultural, industrial, and residential uses. Locations of residences, commercial establishments, schools, licensed daycare facilities, churches, cemeteries, ponds or lakes, and recreational areas are shown.

Figure II-4 shows the drainage, pipeline, and utility easements within the facility. Appendix IIB-1 shows the access roads serving the facility.

8.0 IMPACT ON SURROUNDING AREA

Refer to Appendix IIA for EHRA Engineering's Land Use Analysis report evaluating the impact of the expanded facility on the area surrounding the Hawthorn Park RDF. Consistent with 30 TAC §330.61(h)(1)-(4), the report addresses zoning within two miles of the facility, character of surrounding land uses within one mile of the facility, growth trends within five miles of the facility, and proximity to residences and other uses within one mile of the facility:

8.1 Wells Within 500 Feet

Consistent with 30 TAC §330.61(h)(5), the locations of groundwater wells within one mile of the permit boundary were determined based on a water well database search performed by Biggs & Mathews Environmental, Inc. (Biggs & Mathews) the results of which are included in Part III, Attachment 4, Section 3.2. Figure II-10 shows the approximate locations of the wells within 500 feet of the facility.

As shown on Figure II-10, the well search identified 28 water wells within 500 feet of the facility. Seven of these wells appear to be located within the permit boundary. Physical surveys at the facility have identified only two water wells: an industrial water well (Tracking No. 299319) registered by Cherry Crushed Concrete; and a domestic water well (Tracking No. 402324) registered by LETCO. As phased development and construction of the Hawthorn Park RDF occurs, these two existing water wells, which are subject to impact from landfill operations, and any other water wells that may be impacted, will be capped, plugged, and closed, as discussed in Section 12.1.

An oil and gas well search of state records was conducted by Biggs & Mathews to identify locations of any existing or abandoned on-site crude oil or natural gas wells, or other wells associated with mineral recovery, that are under the jurisdiction of the Railroad Commission of Texas that are within 500 feet of the permit boundary (Part III, Attachment 4, Section 3.3). According to the well search, there are two producing wells and one plugged gas well within 500 feet of the permit boundary, as shown on Figure II-10. If additional existing or abandoned crude oil or natural gas wells, or other wells associated with mineral recovery, are located during facility development, they will be addressed as described in Section 12.2.

9.0 TRANSPORTATION

9.1 Roadway and Ground Transportation

Consistent with 30 TAC §330.61(i)(1)-(4), a Transportation Study prepared by Jones and Carter, Inc. is included as Appendix IIB-1. The transportation study provides information on the availability and adequacy of access roads, provides data on the existing and expected vehicular traffic on access roads within one mile of the facility during the expected site life of the facility, and projects the volume of traffic expected to be generated by the facility on the access roads within one mile of the facility. The traffic expected to be generated by the facility includes “Waste Management branded vehicles” and “other waste hauling vehicles.” The “Waste Management branded vehicles” are vehicles owned or operated by USA Waste, a wholly-owned subsidiary of Waste Management of Texas, Inc., while “other waste hauling vehicles” are vehicles of other waste haulers.

Documentation of Jones and Carter’s correspondence with the Texas Department of Transportation (TxDOT), Harris County, and the City of Houston (COH) is included in Appendix IIB-2. Responses from TxDOT and COH have not yet been received and will be provided when available. The response from Harris County is included in Appendix IIB-2.

9.2 Airport Impact

Consistent with 30 TAC §330.61(i)(5), an evaluation of the facility’s impact on surrounding airports was conducted in accordance with 30 TAC §330.545 and in coordination with the Federal Aviation Administration (FAA). Refer to Figure II-18, FAA Location Restriction Map, for the location of the facility in relationship to area airports. The airport map uses the FAA Sectional Aeronautical Chart for Houston, 105th Edition, effective February 27, 2020, as the base drawing. The map depicts the location of the Hawthorn Park RDF with a 5,000-foot radius, 10,000-foot radius, five-mile radius, and a six-mile radius from the facility permit boundary. There is no existing or planned public-use airport located within a six-mile radius of the Hawthorn Park RDF.

Refer to Appendix IIB-3 for the airport safety location restrictions statement and certification and for documentation of coordination with FAA (FAA filing number 2020-ASW-9100-OE through 2020-ASW-9105-OE).

10.0 GENERAL GEOLOGY AND SOILS STATEMENT

Consistent with 30 TAC §330.61(j)(1)-(4), a discussion of the geology and soils of the site is provided in the Geology Report in Part III, Attachment 4, prepared by Biggs & Mathews.

10.1 Geology

The Hawthorn Park RDF is located on the Quaternary sediments of the Gulf Coastal Plain. Thousands of feet of clastic sediments underlie the Gulf Coastal Plain. These deposits represent continental (alluvial plain), transitional (delta, lagoon, and beach), and marine (continental shelf) deposition of sand, gravel, silt, and clay, with progressively finer-grained sediments occurring gulfward. The site is underlain by the Lissie Formation deltaic plain. Typically, the Lissie is characterized by deposits of clay, silt, sand, and minor amounts of gravel, locally calcareous with iron oxide and iron-manganese oxides. Underlying the Lissie, the Willis Formation consists of clay, silt, sand, and minor gravel including some petrified wood. Lithologies of the Pliocene-age Goliad Sand, stratigraphically below the Willis, include sand, gravel, and calcite-cemented sandstone interbedded with clay and silt. The upper Miocene Fleming Formation, considered the lower confining unit to the overlying more permeable sediments, is predominantly massive clay and sandy clay interbedded with sand and sandstone.

A regional stratigraphic cross-section depicting the distribution of geologic units in the vicinity of the site is included as Figure II-13. A geologic map of the area is included as Figure II-14. A detailed discussion of the regional and site geology and stratigraphy is provided in the Geology Report prepared by Biggs & Mathews and included in Part III, Attachment 4.

10.2 Topography and Soils

The site is located in west-central Harris County, Texas. The topographic elevation of Harris County decreases from west to east. Figure II-15 shows site topography based on the 2016 USGS Hedwig Village quadrangle map.

The Gulf Coastal Plain is a nearly smooth, featureless, depositional plain with adjacent low, rolling hills extending westward to the Balcones Fault Zone and to shallow bays, barrier islands, and beaches along the Gulf of Mexico. The plain rises gently inland to the west to an elevation of approximately 200 feet above sea level.

In the Harris County area, the land slopes approximately two feet per mile southeast toward the Gulf of Mexico. The generally flat relief of the Gulf Coastal Plain is broken by broad shallow valleys of smaller streams and narrow valleys or small streams that drain the region. Several salt domes form broad mounds on the surface with up to about 100 feet of relief. The local topography at the site is generally flat. The natural approximate elevation across the site is 100 feet above mean sea level (ft-msl).

Based on data from the U.S. Department of Agriculture Web Soil Survey, the shallow soils on-site consist predominantly of Addicks-Urban land complex and Cyfair-Urban land complex, with lesser amounts of pits and gravel. The Addicks series consists of deep, moderately well drained, moderately permeable soils that formed in thick loamy sediments. These nearly level to very gently sloping soils are on flats on coastal plains. The Cyfair series consists of very deep, somewhat poorly drained, slowly permeable soils that formed in loamy sediments derived from the Lissie Formation of Pleistocene age. These nearly level soils are on coastal prairies; slope ranges from 0 to 1 percent, but most are less than 0.5 percent due to leveling. A soils map is included as Figure II-16.

10.3 Fault Areas

Consistent with 30 TAC §§330.61(j)(2) and 330.555, a fault evaluation was prepared by a professional geologist as part of this application to demonstrate that the Hawthorn Park RDF meets the location restriction for fault areas. The full fault evaluation and discussion is included in Section 2.1 of the Geology Report in Part III, Attachment 4.

The property on which the Hawthorn Park RDF is located was examined for the presence of faulting according to the §330.555 criteria. A fault study was conducted by Biggs & Mathews that included reviewing the McBride-Ratcliff and Associates, Inc. Fault Study completed in 1993, reviewing aerial photographs for the site, reviewing available geologic literature and maps of the area, conducting site reconnaissance, and examining the subsurface boring data from the site. The site and immediate area were investigated for:

- Structural damage to the constructed facilities (roadways, railways, and buildings).
- Scarps in natural ground.
- Presence of surface depressions (sag ponds and ponded water).
- Presence of lineations on aerial maps and topographic sheets.

Biggs & Mathews concluded that there are no geologic faults with Holocene-age displacements within 200 feet of the landfill boundaries; there is no faulting activity or differential subsidence that could adversely affect the landfill; and the proposed expanded facility complies with 30 TAC §330.555.

10.4 Seismic Impact Zones

The location restriction criteria in 30 TAC §330.557 require that new MSW landfill units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator can demonstrate that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the facility.

A seismic impact zone is defined as an area with a 10% or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 250 years. Maximum horizontal acceleration is defined as the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90% or greater probability that the acceleration will not be exceeded in 250 years, or the maximum horizontal acceleration based on a site-specific seismic risk assessment. If the maximum horizontal acceleration is less than or equal to 0.10 g, then the design of the unit will not need to incorporate an evaluation of seismic effects.

The 2014 USGS Seismic Hazard Map for maximum (peak) horizontal acceleration in lithified material with 2% probability of exceedance in 50 years is shown on Figure II-19, which is equivalent of maximum (peak) horizontal acceleration with 10% probability of exceedance in 250 years. As indicated on Figure II-19, the Hawthorn Park RDF is not located within an area with a 10% or greater probability that the maximum horizontal acceleration in lithified earth material will exceed 0.10 g in 250 years. Therefore, the site is not located within a seismic impact zone and complies with 30 TAC §330.557.

10.5 Unstable Areas

The location restriction criteria in 30 TAC §330.559 require engineering measures to be incorporated into the design of a disposal unit located in an unstable area to ensure that the integrity of the structural components of the disposal unit will not be disrupted. Unstable areas, by definition, are areas susceptible to natural or human-induced events or forces that can impair the integrity of some or all structural components (i.e., liners, final covers, etc.) of a disposal unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movement, salt domes, or karst terrain.

The determination of potential unstable areas at the site considered on-site and local soil conditions that may result in significant differential settling, on-site and local geologic or geomorphologic features, and on-site and local human-made features or events (both surface and subsurface). Site observations included:

- Observations of the sides and bottom of the excavations and liner subgrade during construction of disposal cells
- Observations of the excavation of the pond and soil borrow areas
- Observations of the existing structures
- Observations of the samples from the recent subsurface investigation conducted by Biggs & Mathews

Review of documentation included:

- Permit documents for Permit No. MSW-2185
- Boring logs from past and current subsurface investigations
- Aerial surveys and photographs of the site

Based on this review, the foundation conditions and the local geologic and geomorphologic formations are stable. In addition, there is no evidence to suspect mass movement of natural formations of earthen material on or in the vicinity of the site. No foundation problems exist at the site. The proposed landfill components were evaluated with respect to differential settlement, heave, and slope stability. The detailed analysis is included in the geotechnical analyses section of Part III, Attachment 3, Appendices 3B and 3C. Based on the results of these analyses, the existing and proposed human-made features are predicted to have adequate factors of safety with respect to stability.

Historic groundwater withdrawal in the greater Houston area has caused regional land subsidence dating back to the early 1900s. In 1975, the Texas Legislature created the Harris-Galveston Subsidence District (HGSD) with the goal of ceasing on-going subsidence and preventing future subsidence through the regulation of groundwater withdrawals in the area. HGSD's efforts have resulted in a significant decline in the rate of subsidence in the region. A geologic fault assessment was conducted for the facility in 1993. That assessment included a review of National Geodetic Survey benchmarks within three miles of the site based on data provided by HGSD. These data indicated an average subsidence rate of 0.217 feet per year (6.6 centimeters per year) between 1978 and 1987. Recent HGSD data reviewed for the years 2015 through 2019 indicate an average subsidence rate of 1.0 centimeter per year in the area of the facility. Given the declining rate of subsidence, and the fact that the subsidence occurs regionally based on a review of benchmarks, damage to the integrity of the landfill from subsidence is not expected.

Based on site observations, a review of existing geological data, and geotechnical analysis of the structural components of the landfill development, the site is not located in an unstable area and the integrity of the landfill is not expected to become impaired by natural, surface, or subsurface human-made features or events.

11.0 GROUND AND SURFACE WATER STATEMENT

11.1 Groundwater Conditions

A Groundwater Monitoring Plan prepared by Biggs & Mathews is included in Part III, Attachment 5. Consistent with 30 TAC §330.61(k)(1), the plan discusses site hydrogeology, the groundwater monitoring system, and groundwater quality.

The site hydrogeology is composed of two discrete groundwater flow systems. Groundwater flow is primarily contained within the more permeable sand beds of Layer II, which is considered the Uppermost Aquifer. Underlying the Uppermost Aquifer is an aquitard composed of clay and silty clay and it is considered the Lower Confining Unit (Layer III). Underlying the Lower Confining Unit is a lower transmissive layer consisting of primarily fine sand and varying amounts of silt (Layer IV). Groundwater flow direction is impacted by an on-site depressurization system. However, in general, groundwater flow in the Uppermost Aquifer is to the northeast.

Groundwater conditions at the site were determined using data from a combination of piezometers and monitoring wells that are a part of the approved site groundwater monitoring system. The piezometer and groundwater monitoring well details are included in Table III-4-6 of the Geology Report in Part III, Attachment 4. The data sheets and logs are included as Appendix III-4B of the report.

11.2 Surface Water Features

The following discussion of surface water at and near the site is provided consistent with 30 TAC §330.61(k)(2).

The site is located within the White Oak Bayou Watershed. All major watersheds of Harris County eventually drain east into Galveston Bay. The natural surface drainage in the site area is towards unnamed tributary of Cole Creek to the east. Site drainage features include manmade depressions that generally transport surface water toward the eastern portion of the site. Figure II-15 shows topography, surface water bodies, and drainage features in the vicinity of the site based on the 2019 USGS Hedwig Village 7.5-minute quadrangle map.

Surface water drainage facilities have been constructed as part of the development of Permit No. MSW-2185 and other prior waste permits. Surface water from the landfill footprint is routed through a detention pond before exiting the property boundary to an unnamed tributary of Cole Creek.

The surface water drainage evaluation and design are included in the Facility Surface Water Drainage Report in Part III, Attachment 2. The surface water drainage design for the Hawthorn Park RDF addresses requirements for surface water run-on and run-off and consists of add-on berms, downchutes, perimeter ditches, a detention pond with outfall, and erosion and sediment controls.

11.2.1 Texas Pollution Discharge Elimination System

The facility has been designed to prevent the unauthorized discharge of pollutants into waters of the State of Texas and waters of the United States, as defined by the Texas Water Code and the federal Clean Water Act, respectively. In compliance with the Texas Pollution Discharge Elimination System (TPDES) requirements for industrial activities with stormwater discharges, a Notice of Intent (NOI) has been filed with TCEQ. The facility's TPDES multi-sector general permit number is TXR05T969. The Hawthorn Park RDF will comply with all applicable conditions in the TPDES multi-sector general permit. A copy of the permit log is included in Appendix IIC-1.

12.0 ABANDONED OIL, GAS, AND WATER WELLS

12.1 Water Wells

Consistent with 30 TAC §330.61(l), a summary of abandoned oil and water wells has been developed. As described in Section 8.1 of this report, and as shown on Figure II-10, a well search identified 28 water wells within 500 feet of the facility. Seven of these wells appear to be located within the permit boundary, with two of these wells serving lessee operations within the footprint of the proposed expanded facility.

Should any additional existing or abandoned on-site water wells be discovered during facility development, the Hawthorn Park RDF will provide written notification to TCEQ of their location. The seven identified on-site water wells and any others discovered during facility development will be capped, plugged, and closed in accordance with the applicable rules and regulations of TCEQ or other state agency, and a copy of the well plugging report for any found well will be submitted to TCEQ and the appropriate state agency within 30 days prior to construction.

12.2 Oil and Gas Wells

As described in Section 8.1 of this report, and as shown on Figure II-10, there two producing wells, one plugged gas well, and one dry well within the permit boundary or within 500 feet of the permit boundary. Efforts were made to confirm the existence of the well locations by looking for them in the field and viewing historical imagery (aerial photography) of the site. These wells were not observed in the field.

Documentation for the plugged gas well was not found in database searches nor from a request for this information from the Railroad Commission of Texas. However, it should be noted that this gas well would have been located in what would have been a former sand pit and what is now part of the permitted waste footprint, and, if present, would have been plugged during the time the site was developed for those purposes.

If any additional existing or abandoned crude oil or natural gas wells, or other wells associated with mineral recovery, are discovered on-site during facility development, the facility will provide TCEQ with written certification that all such wells have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas.

13.0 FLOODPLAINS

Consistent with 30 TAC §§330.61(m), 330.63(c)(2), and 330.547, the 100-year floodplain at and near the site has been delineated. The existing Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Houston, Harris County, Texas, Map No. 48201C0635M, Effective Date: June 9, 2014) was reviewed. The FIRM indicates that the proposed permit boundary contains a small portion (less than one-tenth of an acre) of regulated 100-year FEMA floodplain as defined in the FEMA FIRM. On behalf of USA Waste, engineering consultant Jones and Carter, Inc., submitted to and received approval from FEMA for a Letter of Map Amendment (LOMA). The approved LOMA removes the Special Flood Hazard designation within the proposed permit amendment boundary. The FEMA determination letter issued July 17, 2020 concludes that the 100-year floodplain previously within the proposed permit boundary has been reclassified as a 500-year flood zone.

The FIRM Map Panel, LOMA, and FEMA determination letter are included in Appendix IID-1.

Jones and Carter, Inc., submitted a Drainage and Detention Analysis for the facility to the HCFCD, which was approved on October 20, 2020. The Drainage and Detention Analysis and approval letter are provided in Part III, Attachment 2, Appendix III-2F-1.

The Hawthorn Park RDF, in accordance with §330.547(a)-(c):

- Will not conduct solid waste disposal operations in areas that are located in a 100-year floodway as defined by FEMA;
- Will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment; and
- Will construct all waste storage and processing facilities outside of the 100-year floodplain.

14.0 WETLANDS

In accordance with §§330.61(m)(2) and (3) and 330.553, a wetland assessment for the proposed Hawthorn Park RDF expansion was conducted under applicable federal, state, and local laws. The assessment was conducted to determine if existing water features within the proposed expansion area meet federal (33 CFR §328.3(c)) and/or state (30 TAC §307.3(85)) criteria for wetlands, and whether there are any jurisdictional “waters of the U.S.” (33 CFR §328.3(a)) within the expansion area. Under the federal Clean Water Act (CWA) §404 and its implementing regulations, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill material into “waters of the U.S.” The phrase “waters of the U.S.” defines the extent of the USACE’s geographic jurisdiction. There are no known local laws or ordinances that would regulate or otherwise apply to wetlands within the proposed expansion area.

The wetlands assessment for the Hawthorn Park RDF was conducted by Golder and the findings are included in Appendix IID-2C and Appendix IID-2E. The assessment determined that the wetlands within the facility would not be considered state wetlands as defined within 30 TAC §307.3(85) (see Appendix IID-2E for the state wetlands assessment) and no USACE jurisdictional wetlands would be impacted by the proposed expansion as detailed below in Sections 14.1 and 14.2.

14.1 Wetlands and “Waters of the U.S.” Assessment

Golder biologists conducted a routine wetland and waterbody delineation for the facility 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 2012). Golder followed standard procedures to evaluate “waters of the U.S.”, including wetlands subject to regulation under the CWA, as established in the Regional Supplement and the USACE Jurisdictional Determination Form Instructional Guidebook (USACE 2007). See Appendix IID-2E for the detailed discussion regarding the state wetlands assessment.

As detailed within Appendix IID-2C, Golder biologists identified five wetlands, three manmade open waters, and seven manmade ditches within the area surveyed. However, only one wetland and six manmade ditches are located within the facility permit boundary (Figure II-20). The manmade ditches are part of the existing permitted surface water drainage system at the facility. These wetlands and waterbodies are proposed as non-jurisdictional under CWA §404 due to the isolated locations, upland excavations, or manmade status of each delineated feature. A jurisdictional determination request was submitted to the USACE on May 15, 2020 and was assigned a USACE file number of SWG-1992-01983. The approved jurisdictional determination (AJD) request is discussed in detail below in Section 14.2.

14.2 Approved Jurisdictional Determination

On behalf of USA Waste, Golder submitted a request for an AJD (USACE File No. SWG-1992-01983) on May 15, 2020 that included approximately 28.57 acres of proposed non-jurisdictional “waters of the U.S.”, including 1.0 acre of isolated wetlands, 21.17 acres of open waters resulting from manmade excavations of upland areas, and 6.40 acres (19,382 linear feet) of upland manmade drainage ditches associated with the surveyed area.

Tables II-2 and II-3 below includes the aquatic features identified within the facility permit boundary (Figure II-20) and provided to the USACE within the AJD request (Appendix IID-2B and Appendix IID-2C) including feature identification, U.S. Fish and Wildlife Service (USFWS) Cowardin wetland class or waterbody classification, acreage and/or linear feet within survey area, and whether the feature is proposed to be a USACE jurisdictional feature based on the delineation. The wetlands and waterbodies are currently proposed as non-jurisdictional features within the May 15, 2020 AJD request currently under review by the USACE. The AJD request and Golder’s Aquatic Resource Delineation Report (Wetlands Delineation Report) are provided in Appendix IID-2B and Appendix IID-2C, respectively.

Table II-2: Wetlands Located within the Facility Permit Boundary

Wetland ID	USFWS Cowardin Class	Acreage	Proposed Jurisdictional within USACE AJD Request
WG1HA001	PEM	0.04	No
Total		0.04	
USFWS Cowardin class: PEM= palustrine emergent			

Table II-3: Waterbodies Located within the Facility Permit Boundary

Waterbody ID	Classification	Acreage	Linear Feet	Proposed Jurisdictional within USACE AJD Request
SG1HA001	Ephemeral Ditch	0.54	3,942	No
SG1HA002	Ephemeral Ditch	1.58	3,222	No
SG1HA003	Ephemeral Ditch	2.11	3,778	No
SG1HA004	Ephemeral Ditch	1.15	2,700	No
SG1HA005	Intermittent Ditch	0.01	39	No
SG2HA001	Ephemeral Ditch	0.29	4,164	No
Total		5.68	17,845	

14.3 Demonstration of Compliance with Location Restrictions

New MSW landfill (MSWLF) units and lateral expansions shall not be located in wetlands unless the owner or operator submits each of the demonstrations identified in §330.553(b)(1)-(5) to TCEQ. Accordingly, this section provides the required demonstrations by listing each paragraph of §330.553(b)(1)-(5), followed by information on how the facility will comply with each of these requirements to meet the wetlands location restrictions.

1. Where applicable under Clean Water Act §404 or applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available that does not involve wetlands shall be clearly rebutted.

Response: As detailed above, the only impacts resulting from the proposed expansion will be limited to wetlands that are currently proposed as non-jurisdictional features per the AJD request submitted to the USACE in May 2020. The AJD request and Golder's Aquatic Resource Delineation Report (Wetlands Delineation Report) are provided in Appendix IID-2B and Appendix IID-2C, respectively.

2. The construction and operation of the MSWLF unit shall not:

- A. cause or contribute to violations of any applicable State water quality standard;

Response: During all phases of construction activities, USA Waste will incorporate best management practices (BMPs) to assist in the control of erosion, sedimentation, and post-construction total suspended soils. BMP devices to be used singularly or in combination will include avoidance, minimization, and/or the construction of barricade fences, silt fences, filter socks, straw bales, and similar materials. The Facility Surface Water Drainage Report is presented in Part III, Attachment 2. The report includes an Erosion and Sediment Control Plan for all phases of landfill operation. Also, the Site Operating Plan in Part IV addresses operational requirements to provide adequate cover over the waste, and to inspect, maintain, and repair erosion at the site.

- B. violate any applicable toxic effluent standard or prohibition under Clean Water Act §307;

Response: Waste placement will be limited to appropriately lined landfill areas and will be covered to minimize the generation of contaminated water. Additionally, run-on and run-off controls for active disposal areas will be utilized to minimize the potential for stormwater contamination. Such control measures are for compliance with CWA §307. No effluent violations are anticipated at this facility.

- C. jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

Response: Threatened and endangered species assessments for the proposed Hawthorn Park RDF were conducted by Golder and are included as Appendix IIE-1C and Appendix IIE-2B. The assessments were conducted by qualified biologists with applicable botanical knowledge and experience.

As part of the assessments, a field survey was conducted to determine if environmental features necessary for supporting the list of federal and state threatened and endangered species existed within the boundaries of the facility. The field survey was performed March 9-12, 2020 to evaluate potential threatened and endangered species habitat and included a walking survey of the facility.

It was determined that the project would have no effect on the five federally listed species; therefore, impacts to federally listed species are not anticipated for the project. TPWD provided a list of mitigation measures that would minimize potential impacts on state listed species. The site is currently an operating MSW landfill and all of the site, with the exception of approximately 10 acres north of Center Block, has been cleared and developed as authorized under previous registrations and permits, and under the current permit MSW-2185. However, the above recommendations will be considered prior to development of this 10-acre area. Therefore, the development and operation of the facility should not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

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

Response: The Hawthorn Park RDF and expansion area is not located within, adjacent to, or near a marine sanctuary; therefore, it will not violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

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

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

Response: Erosion and sediment control BMPs will be implemented throughout each phase of site development activities and during landfill operation as indicated in Part III, Attachment 2. The facility is designed with adequate calculated factors of safety for slope stability (see Part III, Attachment 3) and surface water drainage and erosional stability (see Part III, Attachment 2). The BMPs and engineering controls will be used to manage stormwater runoff, maintain stability, and minimize erosion/sedimentation.

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

Response: In new waste disposal areas, native soils will be excavated to provide for the construction and operation of the site. Based on the engineering design provided in this PAA, the potential for erosion, instability, and migration of fill materials should be minimal. The Liner Quality Control Plan provides specific requirements for construction to maintain the stability of site features, and, as previously indicated, BMPs will be used to prevent erosion and sedimentation impacts from the site.

- C. the volume and chemical nature of the waste managed in the landfill unit;

Response: All waste disposed of at the Hawthorn Park RDF expansion area will be placed in clay-lined areas and covered with a clay cover system. Clay liners will be installed in accordance with Liner Quality Control Plan included in the application (Part III, Attachment 3, Appendix III-3D). The clay cover will be installed in accordance with the Final Cover Quality Control Plan (Part III, Attachment 7, Appendix III-7A).

Consistent with 30 TAC §330.5(a)(2), the facility will accept brush, construction or demolition waste, and rubbish that are free of putrescible and household waste. Part II, Section 2.0 includes a detailed discussion of the properties and characteristics of wastes that may be accepted, wastes that are prohibited, and the volume and rate of disposal.

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

Response: All waste disposed of at the Hawthorn Park RDF will be placed in lined areas and covered with a cover system to minimize potential impacts on fish, wildlife, and other aquatic resources and their habitat. Clay liners will be installed in accordance with Liner Quality Control Plan included in the application (Part III, Attachment 3, Appendix III-3D). The clay cover will be installed in accordance with

the Final Cover Quality Control Plan (Part III, Attachment 7, Appendix III-7A). Additionally, the Site Operating Plan in Part IV provides for inspections and maintenance to minimize any impacts.

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

Response: Construction and the operation of the landfill in accordance with this PAA will minimize the potential for a catastrophic release of waste and potential impacts to the environment. Therefore, any catastrophic release potential should be minimal.

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

Response: In addition to the features identified in this PAA, a Stormwater Pollution Prevention and Protection Plan and a Spill Prevention and Control Plan have been developed to further enhance protection of the ecological resources.

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

Response: As detailed above, within the Hawthorn Park RDF expansion area there are no state-designated wetlands nor will there be any impacts to wetlands as defined by CWA § 404 pending the AJD request approval from the USACE. See the USACE AJD request (Appendix IID-2B), the Aquatic Resource Delineation Report (Appendix IID-2C), and the state wetlands assessment (Appendix IID-2E) for additional details.

5. Sufficient information shall be made available to TCEQ to make a reasonable determination with respect to these demonstrations.

Response: A copy of the AJD request submitted to USACE is included in Appendix IID-2B. Other additional information as may be requested will be provided to TCEQ.

15.0 PROTECTION OF ENDANGERED OR THREATENED SPECIES

Consistent with 30 TAC §§330.61(n) and 330.551, the potential impact on USFWS federally listed and Texas Parks and Wildlife Department (TPWD) state listed threatened and endangered (T&E) species at or near the site was assessed. Federal and state listed species assessments for the project were conducted by Golder biologists and are included as Appendix IIE-1C and Appendix IIE-2B.

As part of the assessments, a field survey was conducted to determine if habitats necessary for supporting federally listed and state listed T&E species existed within the facility. This field survey was performed March 9-12, 2020 to evaluate potential T&E species habitat and included a walking survey of the project area. For the project area, five species were federally listed and 83 species were state listed.

A copy of the State Listed Species Habitat Assessment Report, the TPWD Habitat Assessment Program Review Request, and correspondence with TPWD is included as Appendix IIE-1. A copy of the Federally Listed Species Habitat Assessment Report and the correspondence with the USFWS for federally listed species are included as Appendix IIE-2. In summary, it was determined that the project would have *no effect* on the five federally listed species; therefore, impacts on federally listed species are not anticipated for the project. Potentially suitable habitat was determined to be present for 29 of the 83 state listed species for the project area. Based on consultation with TPWD, the following mitigation measures were recommended for USA Waste to implement to minimize potential impacts on state listed species:

- Provide pre-construction training to all construction personnel for the identification and reporting of protected species, as well as describing the relevant rules and regulations that protect wildlife, including the penalties for harassing or harming protected species. This could include preparing a leaflet to be used as a training refresher for construction personnel on the identification and reporting of protected species.
- Any vegetation clearing should be scheduled outside of the general bird nesting season of March 15th to September 15th; however, if clearing must occur during nesting season, nest surveys should be conducted prior to clearing. Nest surveys should be conducted no more than 5 days prior to construction to maximize detection of active nests. If nests are observed during surveys, a vegetation buffer area of no less than 150-feet in diameter should remain around the nest until all young have fledged.
- If federally listed species are encountered during construction, work should stop immediately. The USFWS – Clear Lake Ecological Services Office should be contacted at (281) 286-8282 regarding compliance with the ESA.
- If during construction, the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them.

The site is currently an operating MSW landfill and all of the site, with the exception of approximately 10 acres north of Center Block, has been cleared and developed as authorized under previous

registrations and permits, and under the current permit MSW-2185. However, the above recommendations will be considered prior to development of this 10-acre area.

The Hawthorn Park RDF development and operation will not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

16.0 TEXAS HISTORICAL COMMISSION REVIEW

Consistent with 30 TAC §330.61(o), a review letter was submitted by Golder to the Texas Historical Commission (THC) documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. This letter is included in Appendix IIF-1.

An archaeological assessment of the Area of Potential Effect (APE) was conducted by Golder and is included in Appendix IIF-2. The assessment found no previously recorded cultural resource sites, National Register Properties, or State Archaeological Landmarks within the confines of the project area of the proposed landfill expansion.

The state Historic Preservation Officer determined that no historic properties are affected, and the project may proceed. Documentation of the coordination with the THC is provided in Appendix IIF-3.

17.0 COUNCIL OF GOVERNMENTS AND LOCAL GOVERNMENT REVIEW REQUEST

Consistent with §330.61(p), the permittee shall submit documentation that Parts I and II of the application were submitted for review to the applicable council of governments for compliance with applicable regional solid waste plans. The permittee shall also submit documentation that a review letter was requested from any local governments, as appropriate for compliance, with local solid waste plans. However, a review letter is not requisite to a final determination on a permit application.

The applicable council of government is the Houston-Galveston Area Council (H-GAC), which oversees the Gulf Coast State Planning Region and includes Harris County, Texas. As part of this PAA, a review request letter was submitted to H-GAC's Solid Waste Department Manager.

The submittal to H-GAC was made concurrent with the submittal of this PAA to TCEQ. A copy of the documentation and coordination with the HGAC is provided in Appendix IIG.

18.0 LOCATION RESTRICTIONS

The following section discusses the location restrictions as established by Subchapter M of Chapter 330 of the 30 TAC TCEQ regulations. The location of the supporting information is presented below:

Location Restriction	Regulation Citation	Supporting Information Location
Easement and Buffer Zones	§330.543	Part II, Section 1.1; Figure II-4
Airport Safety	§330.545	Part II, Section 9.2, Figure II-18; Appendix IIB-3
Floodplains	§330.547	Part II, Section 13.0; Figure II-17; Appendices IID-1 & IID-2
Groundwater	§330.549	Part II, Section 11.0; Appendix IIC; Part III, Attachments 4 & 5
Endangered or Threatened Species	§330.551	Part II, Section 15.0; Appendix IIE
Wetlands	§330.553	Part II, Section 14.0; Appendix IID-3
Fault Areas	§330.555	Part II, Section 10.3; Part III, Attachment 4;
Seismic Impact Zones	§330.557	Part II, Section 10.4; Figure II-19; Part III, Attachment 4
Unstable Areas	§330.559	Part II, Section 10.5; Part III, Attachment 3
Coastal Areas	§330.561	Part II, Section 18.1
Type I and Type IV Landfill Permit Issuance Prohibited	§330.563	Part II, Section 18.2

18.1 Coastal Areas

Per 30 TAC §330.561, a new landfill cell or an areal expansion of an existing landfill cell managing Class 1 industrial solid waste may not be located in the following areas described in §335.584(b)(3) and (4):

- on a barrier island or peninsula
- within 5,000 feet of an area subject to active coastal shoreline erosion

The Hawthorn Park RDF is not located on a barrier island or peninsula or within 1,000 feet of an area subject to active coastal shoreline erosion. Additionally, the facility will not accept or manage Class 1 industrial solid waste. Therefore, the site will be in compliance with the coastal areas location restriction.

18.2 Type I and Type IV Landfill Permit Issuance Prohibited

Per 30 TAC §330.563(a) and (b), TCEQ may not issue a permit for a Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.122, Denial of Certain Landfill Permits, and may not issue a permit for a Type I or Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.123, Limitation on Location of Municipal Solid Waste Landfills.

The proposed expanded Hawthorn Park RDF is not:

- located within 100 feet of a canal that is used as a public drinking water source or for irrigation of crops used for human or animal consumption;
- located in a county with a population of more than 225,000 that is located adjacent to the Gulf of Mexico;
- a conversion of a Type IV MSW landfill to a Type I MSW landfill in a county that is adjacent to a county with a population of more than 3.3 million and inside the boundaries of a national forest, as designated by the United States Forest Service, on public or private land; and
- located in a county where, prior to final consideration of the application by the TCEQ, the commissioners of the county in which the facility is located have adopted a resolution recommending denial of the application.