

**Part III  
Attachment III-A**

**SITE DEVELOPMENT PLAN NARRATIVE**

**Pescadito Environmental Resource Center  
MSW No. 2374  
Webb County, Texas**

**PESCADITO**  
ENVIRONMENTAL RESOURCE CENTER

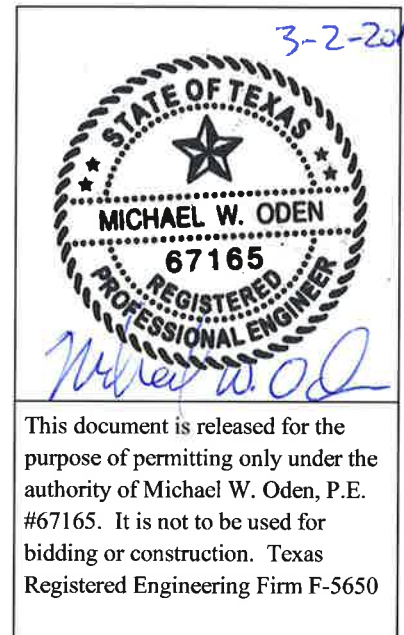
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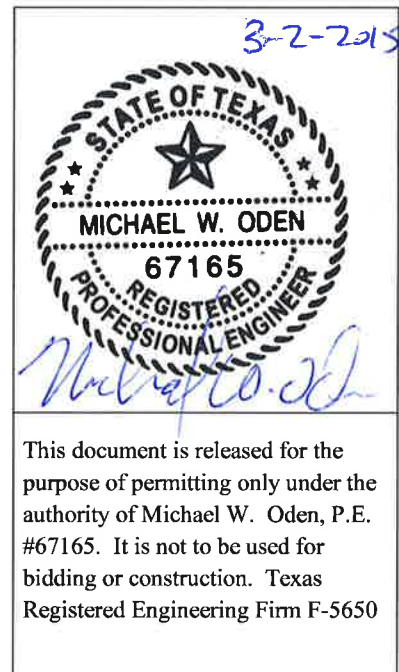


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## **1.0 INTRODUCTION**

The following narrative is included as Part III, Attachment III-A - Site Development Plan narrative in accordance with 30 TAC §330.63(a) and includes the criteria used in the selection and design of this facility for safeguarding the health, welfare, and physical property of the people and the environment. The narrative includes a discussion of the geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways, and other considerations specific to this facility.

### **1.1 Geology and Soil Conditions**

Soil at the site is predominantly clay, occasionally interbedded with claystone, sandstone and siltstone. These soil types are believed to extend to great depths beneath the site. The soils exist in nearly horizontal beds that exhibit very low vertical permeability and provide a naturally favorable site setting. The clay will provide excellent material for construction of liners, caps and cover systems. Surficial soils are stable and resist erosion, as evidenced by the absence of stream beds or other drainage features that would cut into the surface topography.

While limited groundwater may be encountered in thin layers of sandy or silty material within the otherwise highly impermeable clay, this groundwater is essentially not usable due to its very low production potential and poor water quality. The uppermost recognized regional aquifer beneath the site that is capable of producing water in potentially useful quantities is the Yegua-Jackson Aquifer, which is expected to be encountered at depths of at least 750 feet below ground surface at the site. Water in this aquifer is poor to very poor in quality, due to concentrations of total dissolved solids, chloride and sulfate that exceed Federal drinking water standards. The Yegua-Jackson Aquifer is classified as a minor aquifer by the Texas Water Development Board, because it produces relatively low yields of highly mineralized water. These water quantity and quality issues limit the usefulness of Yegua-Jackson Aquifer water for human consumption and agricultural uses such as livestock watering or crop irrigation. The site area is geologically stable, with no evidence of faults and a historical earthquake incidence rate significantly below the Texas state average.

Additional information on geology and soil conditions at the facility can be found in Part III, Attachment III-E.

## 1.2 Drainage

Portions of the site are currently located within the 100-year floodplain (See Part II, Figure 11). As part of development of the site in preparation of its use as a landfill, a Conditional Letter of Map Revision (CLOMR) has been prepared and approved to remove portions of the site from the 100-year floodplain. The CLOMR was submitted to Webb County and was subsequently approved by FEMA (See Part III, Attachment III-C for additional information regarding flood plains).

The flood plain improvements will be completely on Yugo Ranch property and will redirect most of the offsite flows (run-on) around the perimeter of the site to keep them separate from onsite flows (runoff). The pre-improvement drainage patterns are primarily from the west and north and contribute run-on to the site. The discharges from San Juanito Creek Tributary (western contributions) will be collected in a new detention basin (West Dam) located immediately west of the facility. The releases from the West Dam will then be directed in a new offsite channel to the southwest around the site. The discharges from Tributary 2 of San Juanito Creek Tributary (northwestern contributions) will be collected in a new offsite channel (Diversion Channel to the West Dam) and will also be directed into the same detention basin. In addition, there are two small unnamed tributaries located immediately north of the site. The run-on associated with the north western tributary will be captured by a new detention basin (Northwest Dam) with discharges being directed into the West Dam. The run-on associated with the north eastern tributary will be captured by a new detention basin (Northeast Dam).

There are two large surface water impoundments on the PERC facility and several smaller impoundments which have historically been used for livestock and other agricultural uses. For the most part, surface water flow occurs as overland flow and flow in dry washes whose course is difficult to identify on aerial photos. A few of the dry swales on or near the southern end of the PERC facility do not have defined bed and banks. This fact, along with other considerations, led the U.S. Army Corps of Engineers to declare that the project does not require authorization from the Department of the Army pursuant to Section 404 and/or Section 10. See Part II, Attachment A.

The facility will operate under Texas Pollutant Discharge Elimination System (TPDES) General Permit No. TXR050000. It will also operate in accordance with a Storm Water Pollution

Prevention Plan (SWPPP). The SWPPP will be prepared to reflect the design conditions of the landfill and related facilities. The SWPPP and TPDES General Permit will be obtained prior to being required due to construction of the facility. (See Part II, Attachment H).

Onsite surface water will be controlled with a variety of structures designed to collect and direct discharges through the project site to downstream discharge points. (See Part III, Attachment III-C). The system will include contouring, slope berms, protected downchutes, collection channels, perimeter ditches, and detention/sedimentation ponds.

### **1.3 Land Use and Zoning**

The Land-Use Map is presented as Part II, Figure 8, and shows the existing land uses within one mile of the facility. The land use presented on this map was obtained by observation and examination of recent aerial photographs, and is believed to be accurate as of the date of the photograph, which was taken in 2008. This land use information was checked by visual observation in June 2010 and again in 2013, 2014 and 2015. The current land use is shown on Figure 8 of Part II, and is as described in the Land Use Map Legend.

Current, recent and historic land use within the facility boundary is the same; cattle ranching and production of natural gas. Part II, Figure 9 is provided to show oil and gas wells in the area of the facility. Additional information on oil and gas wells can be found in Part III, Attachment III-E. Numerous roads, ranging from all-weather gravel surfaced roads to unimproved lanes, exist in the area, primarily to serve oil and gas exploration and production. This same land use extends for at least 3 to 5 miles in all directions from the facility.

The landfill and related facilities at the site will not have an adverse impact on human health or the environment in the area surrounding the facility. There is no existing zoning that would prohibit this proposed use, and no approval or special permit is required from any local government.

The site area has a very low population density, with no residential dwelling units within 500 feet of the proposed facility. Fewer than 10 persons live within a one-mile radius of the facility. The closest residential dwelling units are two structures at the Yugo Ranch headquarters about 2,100 feet southwest of the facility boundary. The next closest residential structures are at another ranch headquarters located approximately 2 miles away to the northwest.

#### **1.4 Adequacy of Access Roads and Highways**

**Transportation Access** - One characteristic of the site that is favorable for the development of the PERC facility is the site's access to a relatively inexpensive bulk transportation system, a nearby railroad. It is envisioned that the majority of the waste and recyclable materials to be brought to PERC will be hauled by rail, and this waste and material will not travel on public roads in any highly populated area in or near Laredo. The site is accessible for waste hauled by truck, as it is located about four miles from U.S. Highway 59 (Hwy 59) and about five miles from Texas Highway 359 (SH 359), and about 25 miles from Interstate 35 (I-35) in Laredo. The access route to the site from Laredo will be SH 359 via Jordan Road, which is an all-weather surface roadway managed by Webb County. Jordan Road "dead ends" at the Yugo Ranch entrance about 5.1 miles north of SH 359. There are no vehicle weight limits posted on this road. The access road from Hwy 59 will be used only in case of emergency, not for routine traffic by trucks hauling solid waste. The owners of Yugo Ranch will convey an easement generally along existing all-weather ranch roads to RVWM, as necessary to ensure access to the landfill site, and RVWM will improve and maintain this road as its main access route. The existing all-weather access roadway between PERC and Hwy 59 is within an easement and is proposed to be maintained strictly as a secondary, emergency use only, access route into the facility. In the event that road maintenance is being performed on the primary access road, or unusual weather has disrupted access, the secondary access road could be used temporarily to keep the facility in service.

The main line of the Kansas City Southern Railway Co. (KCS) between the United States and Mexico passes through the Yugo Ranch about two miles from the site. KCS acquired this portion of its rail system from the Texas Mexican Railway Company (Tex Mex) through a merger in 1995. Through this and other mergers and acquisitions over the years, KCS now owns or has direct access to rail lines in the United States that extend from Chicago and the Twin Cities in the north, through Illinois and Missouri south to Texas, east into Tennessee and Alabama, and throughout Louisiana. Significantly, the KCS rail lines also extend throughout the industrialized portions of Mexico. Additionally, KCS has established formal marketing agreements with Norfolk Southern RR in the northeast U.S., CSX in the southeast, Union Pacific in the mid-west to the West Coast, and BNSF in the mid-west, northwest, and southwest. KCS marketing agreements also include the Canadian Pacific RR and Canadian National RR. Having

these partnership agreements in addition to its own tracks gives KCS access to all population and industrial centers in North America, allowing it to benefit from international trade and shipping under the North American Free Trade Agreement (NAFTA).

The rail network of KCS and the presence of the KCS main line within two miles of the site provide a significant advantage to this facility. Railroads have re-established a prominent role in the U.S. shipping industry, particularly for long-distance and bulky or heavy commodity shipping. High diesel fuel costs in recent years redefined shipping in the U.S. High fuel costs have adversely impacted the profitability of the trucking industry and made railroads much more economical than trucks for hauling heavy loads for long distances. Marketing agreements between railroads, such as those already in place by KCS, and computerized programming of routes and rail car shipments have helped railroads become much more cost effective.

See Part II, Section 9.0 for further discussion on transportation to the facility. Part II, Attachment B contains correspondence with the Texas Department of Transportation (TxDOT) regarding the use of the State Highways and Part II, Attachment E regarding correspondence with Webb County.

## **2.0 GENERAL FACILITY DESIGN**

**330.63(b)**

The general facility design information is included in Part III, Attachment III-B - General Facility Design. Attachment III-B provides general facility design information including a discussion on facility access control (330.63(b)(1)), a generalized process design and working plan of the overall facility that describes waste movement (330.63(b)(2)), sanitation. (330.63(b)(3)), water pollution control (330.63(b)(4)), and a general discussion of how the facility is designed to protect endangered and threatened species (330.63(b)(5)).



### **3.0 FACILITY SURFACE WATER DRAINAGE DESIGN**

**330.63(c)**

Design information concerning the facility's surface water drainage is included in Part III, Attachment III-C - Facility Surface Water Drainage Report. Attachment III-C includes a discussion, drawings, and calculations that demonstrate that the facility was designed to meet the requirements of 330.63(c) and Subchapter G of Chapter 330. The surface water drainage design report includes analyses of the existing conditions, improvements due to the approved CLOMR, post development conditions, and design of the surface water management system. The surface water management system includes final cover drainage facilities, perimeter drainage channels, and detention and sedimentation ponds; and also includes an erosion and sediment control plan for all phases of landfill development. The surface water drainage design report demonstrates that existing drainage patterns will not be adversely altered.

#### **4.0 WASTE MANAGEMENT UNIT DESIGN**

**330.63(d)**

Waste management unit design information is included in Part III, Attachment III-D - Waste Management Unit Design. Attachment III-D includes a narrative discussion, drawings, and calculations that demonstrate that the facility was designed to meet 330.63(d)(4) for landfill units. The waste management unit design includes provisions for all-weather operations, proposed landfill method, elevation of the deepest excavation, maximum elevation of waste and final cover, waste disposal rate and operating life of the landfill. Landfill cross sections, construction and design details of the landfill, and liner and final cover quality control plans are also included in Attachment III-D.

The landfill composite liner system and the leachate collection and removal system have been designed to meet the requirements Subchapter H of Chapter 330.

Attachment III-D also includes the geotechnical analyses (Appendix III-D.5) for the facility and the leachate and contaminated water management plan (Appendix III-D.6).

## **5.0 GEOLOGY REPORT**

**330.63(e)**

Geology and soil information is included in Part III, Attachment III-E - Geology Report. Attachment III-E includes a discussion, evaluations, and figures that provide the information required by §330.63(e). The geology report includes descriptions of the regional geology and hydrogeology, geologic process, regional aquifers, subsurface investigations, geotechnical properties of subsurface soils, and fault and seismic conditions. The geology report includes the evaluation and demonstrations which confirm that the geology and soil conditions are suitable for operations as a municipal solid waste disposal facility.

## **6.0 GROUNDWATER MONITORING PLAN**

**330.63(f)**

A Groundwater Monitoring Plan is included in Part III, Attachment III-F - Groundwater Monitoring Plan. Attachment II-F includes a discussion, evaluations, and figures that provide the information required by 330.63(f) and Subchapter J of Chapter 330. The groundwater monitoring plan includes a map illustrating the groundwater well locations and designations, point of compliance, a contaminant pathway analysis, a groundwater monitoring program, detection monitoring program, and groundwater sampling and analysis plan (GWSAP).

## **7.0 LANDFILL GAS MANAGEMENT PLAN**

**330.63(g)**

A landfill gas management plan is included in Part III, Attachment III-G - Landfill Gas Management Plan. Attachment III-G includes narrative, evaluations, and drawings that provide the information required by §330.63(g) and Subchapter I of Chapter 330. The landfill gas management plan includes a discussion of the requirements for landfill gas monitoring at the landfill perimeter and in on-site structures, a landfill gas control system, and procedures to be implemented in the event that concentrations of methane in excess of the regulatory limits are measured at the facility permit boundary or in on-site structures.

## **8.0 CLOSURE PLAN**

**330.63(h)**

A closure plan for the landfill disposal units and liquid waste solidification units at the facility is included in Part III, Attachment III-H - Closure Plan. Attachment III-H includes narrative, evaluations, and maps and drawings that provide the information required by §330.63(h) and Subchapter K of Chapter 330. The closure plan includes the procedures to be taken for ongoing closure of the waste disposal units and the activities to occur following the final acceptance of waste. The closure plan describes the final cover system, closure procedures, and a closure schedule for both the waste disposal units and liquid waste solidification units.

## **9.0 POST-CLOSURE CARE PLAN**

**330.63(i)**

A post-closure care plan is included as Part III, Attachment III-I – Post-Closure Care Plan. Attachment III-I includes a narrative discussion that provides the information required by §330.63(i) and Subchapter K of Chapter 330. The post-closure care plan includes the procedures to be taken for post-closure care maintenance of the facility and describes the post-closure care activities, persons responsible for conducting post-closure care activities, and post-closure land use.

**10.0 COST ESTIMATES FOR CLOSURE AND POST-CLOSURE CARE 330.63(j)**

A cost estimate for closure and post-closure care is included as Part III, Attachment III-J - Cost Estimates for Closure and Post-Closure Care. Attachment III-J includes a discussion, evaluations and calculations that provide the information required by §330.63(j) and Subchapter L of Chapter 330. The detailed cost estimate for closure of the waste disposal units meets the requirements of §330.503. The detailed cost estimate for closure of the liquid waste solidification units meets the requirements of §330.505 and the detailed cost estimate for post-closure care of the facility meets the requirements of §330.507. This attachment also provides procedures that can be used to adjust the cost estimates during the life of the facility. Financial assurance documentation will be provided to the executive director a minimum of 60 days prior to the acceptance of waste and the mechanisms to be used will be effective prior to the initial receipt of waste (30 TAC 37.31).