

**Part III  
Attachment III-B**

**GENERAL FACILITY DESIGN**

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

**PESCADITO**  
ENVIRONMENTAL RESOURCE CENTER

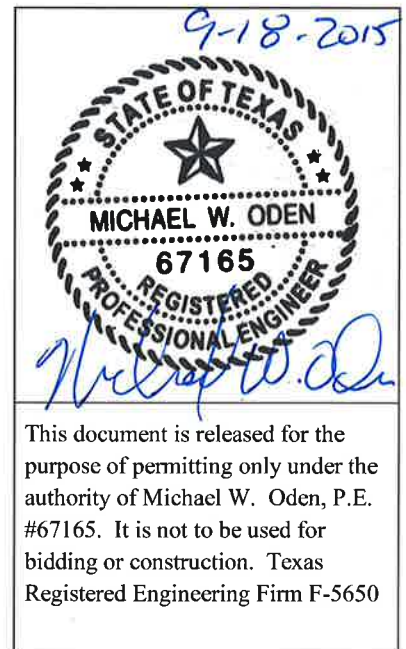
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### Appendix III-B.1 Figures

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## 1.0 FACILITY ACCESS

Public access to the Pescadito Environmental Resource Center (PERC) will be controlled by a perimeter fence located along the permit boundary and locking gates at the site entrance and other locations as needed for access to the remainder of the site. If needed, the perimeter fence may be offset from the permit boundary in areas of dense vegetation or in areas that are difficult to access.

The fence and gates will prevent the entry of livestock, protect the public from exposure to potential health and safety hazards by discouraging unauthorized public access to the disposal and processing operations, and discourage unauthorized entry or uncontrolled disposal of solid waste or prohibited materials. Perimeter fencing consisting of barbed wire, woven wire, wooden fencing, plastic fencing, pipe fencing, or other suitable material will be provided.

An entrance gate constructed of suitable fencing materials will be located on the entrance road to the site. The entrance gate will be locked when the landfill is not accepting waste and all other gates will be locked when not in use. The perimeter fence and gates will be inspected monthly and maintenance will be performed as necessary. Should a breach be detected during inspection or at any other time, every reasonable effort will be made to make repairs within 24 hours of detection. Should repairs require more than 24 hours; temporary repairs will be performed within the time specified during notification to the TCEQ region office in Laredo. The TCEO region office will be notified of the breach within 24 hours of detection unless permanent repairs are made within eight hours of detection.

Public access to the PERC site is provided from State Highway 359 and is limited to the entrance road through the scale house area. Access control to the facility is provided by the perimeter fencing and gated site entrance. Entrance to the site is monitored by the scale house attendant during site operating hours. Outside waste acceptance hours, the entrance gate to the site will be locked.

Entry to the active portion of the site will be restricted to designated personnel, approved waste haulers, properly identified persons whose entry is authorized by site management, and regulatory (e.g., TCEQ, Webb County officials) personnel. Visitors may be allowed on the active area only when accompanied by a site representative. Signs will be located along the

entrance road directing traffic to the scale house. The scale house attendant will restrict site access to authorized vehicles and direct those vehicles appropriately.

Waste hauling vehicles will be directed to the appropriate disposal or processing areas by signs located along the landfill haul road and access road and by the scale house attendant. These vehicles will deposit their loads and depart the site. Private, commercial, or public solid waste vehicles will not be allowed access to any areas other than the active portion of the landfill or processing areas without being accompanied by a site representative. Site personnel will provide traffic directions as necessary to facilitate safe movement of vehicles. Within the site, signs will be placed along the landfill haul road and access road at a frequency adequate for users to be able to determine the disposal or processing area locations and which roads are to be used. Roads not being used for access to disposal or processing areas will be blocked or otherwise marked for no entry.

## 2.0 WASTE MOVEMENT

The major classifications of solid waste to be accepted at the PERC Landfill include municipal solid waste, special waste, liquid waste and Class 1, 2 and 3 non-hazardous industrial wastes, both liquid and solid. Special wastes accepted at the facility authorized by §330.171(c) include dead animals and slaughter house waste, regulated asbestos containing materials (RACM), non-regulated asbestos-containing materials (non-RACM), empty containers and hazardous waste from Conditionally Exempt Small Quantity Generators (CESQG), provided the material is managed in accordance with the regulations and approved permit. In addition, other special wastes may be accepted based on a waste-specific approval as authorized by §330.171 (b) and facility management.

Used oil filters may be accepted for disposal only if they meet the requirements of 330.171(d). Class 1 wastes will be accepted as allowed and in accordance with 30 TAC 330.173 and the facility's approved Site Operating Plan (Part IV).

Waste disposal facilities include the municipal solid waste disposal areas (north and south units), RACM disposal area and Class 1 waste cells. Waste processing facilities include the liquid waste solidification area, large item/white goods and tire storage area, reusable materials staging area, citizen's convenience center and leachate storage facility. Appendix III-B.1 includes schematic drawings and details that depict disposal, waste processing, and storage activities that are part of the facility.

Waste hauling vehicles enter the facility via the site entrance road. (See Figure III-B.1-2 in Appendix III-B.1) The scale house attendant observes the incoming waste at the scale house, conducts waste screening, weighs or measures the load, and documents the incoming materials. The scale house attendant is familiar with the rules and regulations governing the various types of waste that can or cannot be accepted into this facility and will direct the waste hauler to the appropriate waste disposal, storage, or processing area. These scale house personnel will also have the authority to reject prohibited wastes and have the rejected waste removed by the transporter immediately upon discovery.

Trained personnel will observe waste unloading at the active working face, processing area(s), large item storage area and citizen's convenience area, and will have the authority and

responsibility to reject loads that contain prohibited wastes. These personnel will also have the authority to have prohibited waste removed by the transporter immediately upon discovery.

Figure III-B.1-2 is a flow diagram that illustrates the storage, processing, and disposal sequences for the various materials to be accepted. Figure III-B.1.2 depicts a plan view of the storage and processing units. Schematic details of the storage and processing units are depicted on Figures III-B.1.3 through 6. The figures include generalized construction details of slab and subsurface components for each processing or storage unit.

## 2.1 Waste Disposal

The landfill liner, leachate collection system, final cover system, run-on/run-off system, and any other component that will be used in the construction and operation of the municipal solid waste facility that is necessary for the protection of human health and the environment will meet all applicable Subtitle D requirements and TCEQ regulations and guidelines. Provisions addressing design and construction are addressed in the liner quality control plan (Appendix III-D.7), the leachate and contaminated water management plan (Appendix III-D.6), alternate final cover design (Appendix III-D.8), and the final cover quality control plan (Appendix III-D.9).

The waste disposal area will be excavated with side slopes no steeper than approximately 3 Horizontal to 1 Vertical (3H:1V) . The liner system will be constructed following excavation of each waste disposal area. The proposed liner system for the facility is described below with layers listed from top to bottom.

### SUBTITLE D COMPOSITE LINER SYSTEM

24-inches protective soil cover	On-site soil
Drainage geocomposite (200 mil minimum)	Geotextile on both sides
60-mil HDPE liner, or Bentonite Enhanced 60-mil HDPE Liner	Textured on bottom and side slopes
24-inches compacted soil liner for MSW cells <sup>1</sup> 36-inches for Class 1 waste cells	Maximum hydraulic conductivity = $1 \times 10^{-7}$ cm/sec
<sup>1</sup> all cells are designated to receive Class 1 wastes. PERC reserves the right to modify the permit in the future to designate cells to receive only MSW; upon approval only 24-inches of compacted soil liner will be used along with the other components listed	

Information regarding materials and construction quality assurance are included in Part III, Appendix III-D.7 - Liner Quality Control Plan. Liner system details are included in Part III,

### Appendix III-D.3 – Landfill Design and Details.

A leachate collection system (LCS) has been designed with a geocomposite drainage layer, leachate collection trenches, and collection sumps and pumps to remove leachate from the landfill. The LCS design, layout and details are shown in Part III, Appendix III-D.3 and information regarding the design is included in Appendix III-D.6 - Leachate and Contaminated Water Management Plan.

The landfill development method for the facility is a combination of area excavation and fill followed by aerial fill to the landfill completion height. Landfill development will generally follow the sequence of development as shown on Figure III-B.1.2 in Appendix III-B.1, which will be generally in the order the cells are numbered, starting with the north disposal unit. Individual cells may be developed in multiple phases depending on the amount of solid waste anticipated to be received.

Waste accepted for disposal will be directed to the active working face. Waste will be unloaded at the active working face, spread in layers and thoroughly compacted. Daily cover of waste will be applied to control disease vectors, windblown waste, odors, fires, scavenging, and to promote runoff from the fill area. Daily cover consisting of a minimum of 6 inches of soil will be placed over wastes at the end of each working day for odor control. Alternate daily covers (ADC), such as tarps, foams and slurry mixtures or contaminated soil will also be used if specifically approved by the TCEQ. Details regarding the use of ADC are included in Part IV – Site Operating Plan.

The final cover side slopes will not be steeper than 4H:1V, and the aerial fill top slope will be approximately 6 percent. A water balance (or evapotranspiration cover) final cover will be constructed over the entire landfill. As shown in Part III, Appendix III-D.8 – Water Balance Alternate Final Cover Design, the final cover is generally described below with layers from top to bottom.

Vegetative layer	7 – inches of soil capable of sustaining vegetation
Infiltration layer	30 – inches of soil per the requirements of Appendix III-D.8
Intermediate cover	12-inches of on-site soils

Final cover placement will generally follow the sequence of development of the landfill cells as shown on the Figures in Appendix III-B.1 and will be ongoing as areas of the site are filled to capacity. Cells will be closed according to the closure plan provided in Part III, Attachment III-H - Closure Plan.

## 2.2 Class 1 Industrial Waste

Class 1 industrial waste, both liquid and solid, may be accepted at the facility. Class 1 wastes are defined at 30 TAC 330.3(21) as “*Class 1 wastes--Any industrial solid waste or mixture of industrial solid wastes that because of its concentration, or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, or may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or disposed of or otherwise managed, as further defined in §335.505 of this title (relating to Class 1 Waste Determination)*”.

Class 1 waste will be identified at the scale house and directed to either to the liquid solidification area or the appropriate class 1 waste disposal cell. Once solidified, class 1 liquid waste will be transported and disposed in a class I disposal cell.

The amount of class 1 industrial waste received will be limited to 20% of the incoming wastes, not including the class 1 amount, received in the previous or current year.

Class 1 waste disposal cells will have a composite liner including three feet of compacted clay with a maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm/ sec. All cells are designated as potential class 1 cells. Class 1 waste disposal will be limited to an elevation below the perimeter berm.

Other wastes, such as MSW, special waste, RACM, class 2 and 3 industrial waste may be



disposed above the class 1 waste provided four feet of clay-rich soil is compacted on top of the class 1 waste prior to subsequent filling above.

### **2.3 Liquid Solidification**

Liquids to be managed at the facility such as off-specification liquids, grease trap waste, grit trap waste, sludges that do not pass the paint filter test, etc., will be identified at the scale house and directed to the liquid solidification area. The solidification basin will either be placed above a lined disposal cell or will contain a separate lined area beneath as shown on Figure III-B.1-5. Liquids will be delivered to the basins and discharged. Bulking agents such as on-site soil, sawdust, kiln dust, coal combustion residuals, auto-fluff or other inert materials with absorptive capacity will be mixed with the liquids until the resulting mixture passes the paint filter test and any other requirements outlined for the specific material. Once the liquids have been solidified, it will be transported and disposed in the appropriate waste disposal unit.

Odor control will provide at the Liquid solidification areas through rapid processing of any odorous liquids received, the large buffers provided at the facility and distance to nearby receptors. Other measures that may be employed include the use of misters utilizing odor neutralizing compounds, pending approval of a permit modification. Should these measures not prove adequate and odors are confirmed to be migrating off site, liquid wastes that have an offending odor will not be accepted.

### **2.4 RACM**

Regulated asbestos-containing material (RACM) may be accepted for disposal at the facility as defined in 40 Code of Federal Regulations Part 61 in accordance with the provisions of 30 TAC §330.171(c)(3). PERC is providing written notification to the executive director of the intent of the facility to accept RACM. The landfill, in accordance with §330.171(c)(3)(A), dedicates all of the landfill units (or cells) to potentially receive RACM. When RACM is accepted, a separate RACM unloading and disposal area will be provided. The exact area to be used will be consistent with the expected rate of incoming material, while allowing for safe and efficient operation of vehicles and equipment. After unloading, the RACM waste will be covered with a minimum of three feet of other solid waste or one foot of earthen material. If the deposited RACM is covered with other solid waste, daily cover consisting of a minimum of six inches of soil will be placed over the deposited wastes at the end of each working day. Specific instructions on the acceptance and handling of RACM are provided in Part IV – Site Operating Plan.

### **2.5 Large Item and Tire Storage Areas**

A storage area for large items, white goods and tires may be provided near the active working face, or may be provided at a location near the citizen's convenience center. Large items and

white goods include ovens, dishwashers, freezers, air conditioners, and other large items. Typically, large items and white goods are received in source-separated loads. Should large items, white goods or tires be received in mixed loads, they will be removed from the active face if it is determined to be safe to do so and staged near the active working face, or removed to the designated area near the citizen's convenience center. The large items, white goods and tires are transferred into roll-off containers for storage until transport to an off-site recycler. The roll-off containers will be covered to prevent the accumulation of rainfall inside the containers and to prevent the generation of contaminated water. The minimization of contaminated water will also limit the potential for generating odors within the storage areas. These items will be recycled to prevent a nuisance and to preclude discharge, but will not be stored in excess of 180 days. Large items and white goods that are not recycled will be disposed of at the working face. Tires will not be disposed unless they are split or quartered prior to disposal.

The large item storage area, when located within the waste disposal footprint will be placed only over areas that have received intermediate cover. Surface water run-on will be diverted around the storage area. Surface water from the storage areas will be contained by containment and diversion berms consistent with Part III, Attachment III-D.6 - Leachate and Contaminated Water Plan.

## **2.6 Reusable Materials Staging Area**

Inert materials such as brick, concrete, gravel, manufactured stone etc., and non-inert materials such as asphalt and asphalt shingles may be stockpiled for use on facility access roads, staging areas and at the working face for erosion control in drainage structures and as an aid in traction during wet weather. However, asphalt-containing material will not be used for erosion control in drainage structures. The reusable materials staging area will be located within the waste disposal footprint and will be relocated periodically as the active working face moves. The size of the stockpiles will vary depending on the amount of materials received and the needs of the facility. Run-on and run-off of rainfall from the inert material will not need to be controlled in a special manner or segregated from other rainfall. Additionally, odor control measures are not required for these inert or non-inert materials. Since asphalt is not an inert material, it will be managed in a manner that will prevent the run-off of contaminated water, the possible discharge of waste materials, or the creation of a nuisance condition. Since these inert and non-inert materials will

continuously be reused for site operations, there is no time limit on their storage.

## **2.7 Citizen's Convenience Center**

A citizen's convenience center for waste and recyclables drop-off will be located within the site entrance facilities, as shown on Figure III-B.1-2 and 3. Thirty to forty-cubic yard roll-off containers will be provided for the receipt of waste and recyclables from smaller haulers. Full roll-off containers will be emptied at the active working face at the end of each day and containers that are not full will be covered with a tarp or similar device at the end of each day when rain is expected to prevent the accumulation of rainfall and to minimize the generation of contaminated water. The elimination of contaminated water also minimizes the potential for generating odors. Containers holding recyclable materials will be periodically transported to a reuse or recycling facility. Large items, white goods and tires may be stored near the citizen's convenience center in roll-off containers or on the ground and will be periodically transported to an appropriate recycling facility.

## **2.8 Leachate Storage Facility**

The primary leachate storage for the facility will be provided by the leachate sumps, which are located within each landfill cell. Leachate will be pumped from the sumps through a leachate force main, or hauled via truck to the leachate storage facility. The leachate storage facility will be located as shown on Figure III-B.1-2. The storage facility will consist of two 15,000-gallon (minimum) storage tanks and/or an evaporation pond. The tanks will be equipped with tops and additional odor control measures will not be required. The secondary containment area provides containment, with 12 inches of freeboard, for volume from one leachate storage tank and precipitation from the 25-year, 24-hour storm event or 110 percent of the volume from one leachate storage tank. Refer to Part III, Appendix III-D.6 - Leachate and Contaminated Water Plan for secondary containment volume calculations.

The evaporation pond, if constructed will contain a composite bottom liner (3-feet compacted soil liner with a permeability less than or equal to  $1 \times 10^{-7}$  cm/sec and 60 mil HDPE), if leachate from the class 1 cells will be deposited there. If a permit modification is approved to construct cells for only MSW and only leachate from the MSW cells is deposited in the pond, then the liner for the pond may be the same as the MSW cells. Either option will be constructed in accordance with the Liner Quality Control Plan. The depth of the pond will be limited to 2-feet, so that there will always be one-foot of freeboard for the 25-year, 24-hour storm event and only one-foot of contaminated water over the liner. Contaminated water, leachate and gas condensate in the storage tanks will be transferred by pump or truck to the evaporation pond when there is capacity.

### **3.0 SANITATION**

The solid waste processing and storage units include the large item storage area, reusable materials staging area, liquid stabilization area, citizen's convenience center and leachate storage facility. Refer to Section 2 – Waste Movement for a discussion of each of the solid waste processing and storage units.

Each of the solid waste processing and storage units have been designed to facilitate proper cleaning. This includes controlling surface water drainage in the vicinity of each of the units to prevent surface water run-off onto, into, or off these areas.

#### **3.1 Large Item and Tire Storage Areas**

Large items, white goods and tires received at the facility are transferred into roll-off containers for temporary storage. Each roll-off container is covered with a tarp or similar device when rain is expected to prevent the accumulation of rainfall. The containers will be cleaned by removing loose material for disposal at the working face and washing down the containers with water, if needed. Wash water will be treated as contaminated water and disposed of in accordance with the Leachate and Contaminated Water Plan (Appendix III-D.6).

#### **3.2 Reusable Materials Staging Area**

Reusable materials received include inert materials to be stockpiled and reused for site operations. Since these materials are inert, surface water run-on and run-off controls are not required, and there is no requirement for additional sanitation controls.

#### **3.3 Citizen's Convenience Center**

The citizen's convenience center will receive municipal solid waste and recyclable materials from the public and small haulers. Any waste received will be loaded into roll-off containers. Each container is covered with a tarp or similar device to prevent the accumulation of rainfall when rain is expected and full containers will be transported and emptied at the working face. Containers will be cleaned as needed by washing down the containers with water or by the use of high pressure steam. The citizen's convenience center is constructed of reinforced concrete and/or asphalt. Should waste materials spill onto the surface, the materials will be picked up and disposed of at the working face. The surfaces will be cleaned as needed by washing down with water. Wash water from the roll-off containers or surfaces will be contained by mountable curbs around the facility and treated as contaminated water

and disposed of in accordance with the Leachate and Contaminated Water Plan (Appendix III-D.6).

### **3.4 Leachate Storage Facility**

The leachate storage facility consists of two storage tanks with a secondary containment structure and may include an evaporation pond for disposal if needed. Leachate storage and disposal will be in accordance with the Leachate and Contaminated Water Plan (Appendix III-D.6). The secondary containment structure will be periodically cleaned by removing loose materials from the surface and disposing of materials at the working face. The surfaces will be cleaned as needed by washing down with water. Wash water will be treated as contaminated water and disposed of in accordance with the Leachate and Contaminated Water Plan.

### **3.5 Liquid Solidification**

The liquid solidification basins will be constructed either above lined disposal areas or will contain its own liner beneath the basins. The basins will be emptied when the liquids are solidified and determined to pass the paint filter test. No residual liquid will remain in the basins once emptied. The ground around the basins will be elevated from the surrounding area to prevent storm water run-on. The soil around the basins will be inspected after they are emptied and any spilled material collected and properly disposed. Additional soil will be added as need to maintain sanitary conditions

### **3.6 General Information**

The processing and storage units will be maintained and operated to manage run-on and run-off during the peak discharge from the 25-year storm event and will prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water in and around each unit will be controlled to minimize the amount of surface water running onto, into, and off the processing or storage area. Groundwater and surface water resources will be protected by the proper management of all contaminated water. The facility will obtain specific written authorization from the TCEQ should the discharge of contaminated water become necessary. Such authorization will be obtained and placed in the site operating record prior to discharge. The Pescadito Environmental Resource Center will be operated in accordance with the General Prohibitions outlined in §330.15(h)(1)-(4) regarding the

discharge of solid wastes or pollutants into waters of the United States.

#### **4.0 ENDANGERED SPECIES PROTECTION**

A biological assessment (BA) of threatened and endangered species at the Pescadito Environmental Resource Center has been conducted by aci consulting. There are five federally listed, threatened or endangered species in Webb County. These are the jaguarondi, ocelot, interior least tern, ashy dogwood and Johnston's frankenia. The BA concluded there would be "no effect" for the ocelot, interior least tern, ashy dogwood and Johnston's frankenia. A "may affect, not likely to adversely affect" determination was made for the jaguarondi. Conservation measures have been proposed for the jaguarondi. As such, neither the facility nor its operation will result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause the taking of any endangered or threatened species. Coordination with the United States Fish and Wildlife Service (USFWS) and coordination with Texas Parks and Wildlife Department (TPWD) have been documented in Part II. The USFWS stated that the project complies with section 7(a)(2) of the endangered Species Act. The BA and related correspondence is included in Part II, Attachment A. Due to the findings of the BA and concurrences from the USFWS, a site specific species protection plan is not required.