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Department of Environmental Protection

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David B. Struhs
Secretary

August 3, 2000

John Gallagher, County Administrator
Pasco County Board of County Commissioners
7530 Little Road
New Port Richey, FL 34654

RE: West Pasco Revised Conditions of Certification and
Revised Landfill Operations Plan #PA87-23, Pasco County

Dear Mr. Gallagher:

Department and County staff have continued to work on the resolution of the Certification of Conditions and revised Operation Plan for the West Pasco Solid Waste Facility since the meeting in our offices in April and I'd like to update you on our joint progress and ask for your help resolving the few issues which remain. As you may remember, the Department's larger goal in this effort is to establish a clear regulatory relationship between our respective staffs so that the county's West Pasco solid waste facility can routinely operate in compliance with our rules and the certification conditions at this site. The Department has proposed that we achieve this regulatory clarity by developing three interrelated processes and documents. These are (1) Conditions of Certification, (2) Operations Plan and (3) an administrative method of addressing future modifications or additions to either of these documents as conditions or operations on the site change. Once we reach agreement on these three components, both parties will clearly know what's expected and can easily achieve and maintain the compliance status for this facility.

Our progress on the conditions of certification has proceeded positively, and we are hopefully at a point where the attached revisions will be ready to forward to Buck Oven with the county's concurrence. The Department has reviewed the most recent suggested conditions of certification received from Mr. Daniel Strobridge of CDM on April 11, 2000. Many of his suggestions have been included in the attached revised version of the conditions of certification, however a few areas of difference remain. While a few of the differences are minor language clarifications (noted by ~~strike through~~ *italic* edits in attached draft), the most significant difference continues to be the addition of language the Department believes is required to demonstrate reasonable assurance that the facility's operation will be in compliance with our rules and protective of the environment. This reasonable assurance generally equates to having a date certain for the submittal of reports, data, etc. to the Department. If the specific dates/timeframes we are proposing cause the county an unforeseen hardship (i.e.: report date too close to data collection date), we are willing to seek a mutually agreeable alternate date but feel that the date certain must be specified in the conditions.

The latest version of the landfill operations plan, with suggested revisions by Department staff, is also included for review and comment by county staff. The differences are minor and the Department hopes that this revised draft will be acceptable to the county. We would like to finalize the Operations Plan concurrently with the revised conditions of certification as the plan is referenced in the conditions of certification, and in many other ways the two documents are interdependent. Please note that the plan received on January 17, 1995 is the current Department approved operations plan until we can reach agreement and the new version is approved as a replacement.

The third administrative issue that needs to be addressed is "How will either of these documents be revised/modified as the landfill develops or site conditions change in the future?" As you may have noted in the meeting, not having this process clearly structured was a major source of frustration to both the county and department staff. In addition, many of the "problems" at this site can be attributed to a breakdown in communication between our staffs as site conditions changed and confusion resulting over what was or was not "approved". Chapter 62-17.211

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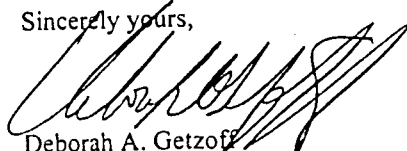
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provides the criteria for formal modification of the conditions of certification but this administrative process is not appropriate for minor changes to the language in the conditions of certification and would not apply to changes in the Operations Plan for this facility. Chapter 62-17.191 (1) (c) does provide a specific process for post certification review and approval of submittals that we might use even though the specific language does not apply to our regulatory situation. The department requests that the county review this section of the FAC and see if we can agree that it would provide an administrative framework for processing minor modifications or changes in conditions of certification or the operations plan. The "agreement" between the parties to use this process would not be included in any formal document or order, but would simply be acknowledged by the county and department as a mutually beneficial voluntary process to reduce disputes and to improve communication.

After the county has had time to review the revised attachments, the department would like to propose a meeting to resolve the few language differences that may remain in the conditions of certification, and operations plan drafts and to develop an agreement as to how these documents can be modified or updated in the future. Should you agree that such a meeting would be beneficial, please have appropriate staff contact William Kutash, Southwest District Waste Program Administrator, at (813) 744-6100 ext. 353 so that a time and place for the meeting can be established.

Your assistance in resolving these matters is appreciated.

Sincerely yours,



Deborah A. Getzoff
Director of District Management
Southwest District

DAG/wk
Attachments
Revised Conditions of Certification
Revised Landfill Operations Plan.

cc: Mr. Doug Bramlett, Assistant County Administrator
Mr. Vincent Mannella, Pasco County Resource Recovery Facility Manager
Mr. Daniel Strobbridge, CDM
Mr. Robert Butera, P.E., Solid Waste Director, Southwest District
Mr. Kim Ford, P.E., Solid Waste Permitting, Southwest District
Mr. Buck Oven, P.E., Power Plant Sitting, Tallahassee

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

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SECTION 8.0

LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C.

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste.

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the *trained spotter* staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When the plant capacity *is available* allows, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available, *see Section 8.7.1 for mining procedures.*

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified *through or by* at the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u> First Shift Supervisor Second Shift Supervisor	<u>Six Days*</u> MTWTF TWTFS
<u>Equipment Operator/Spotters</u> First Shift Operator Second Shift Operator	MTWT WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;

- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. *If required, debris stored outside of lined areas shall be authorized by FDEP.* ~~Do not place the debris in an unlined area. Call FDEP.~~

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- ~~Apply initial cover to working face of the active Solid Waste Disposal Unit (daily requirement) for waste deposited in these units;~~
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units, *and leachate storage tank*.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at *the solid waste disposal unit* each working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable waste.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the ~~Class III~~ and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under

existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. ~~Also contact~~ The County Health Department *will also be contacted*.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. Figure 8.2 and 8.2A depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for disposal unit A-2 is shown in Figure 8.2B.

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. ~~Ash/solid waste~~ will not be placed within two feet of this flagged or marked line. All incoming ~~ash/solid~~ waste will be directed to the working face. (Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see Figure 8.3).) Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, ~~disposal-unit~~ cells will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a ~~50-foot-wide~~ working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the west portion of the unit and proceed east to the portion of the unit. The area will be divided into approximately six subareas (refer to Drawing 8.2B). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-foot grid of tires to

minimize the formation of leachate to the extent possible. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the storm-water-swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2B8.

Phase II

1. Construct berms around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover a-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary from elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

The sequence of filling ~~future~~ lined disposal unit areas with installed leachate collection systems will ~~be developed to~~ meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift *in* solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final Cover will be applied over disposal units lifts within 180 days after the final lift ~~over an~~ area is completed. *Intermediate* Cover will consist of ~~18~~ 12 inches of ~~earth soil or an approved~~ mix of wood chips and soil for cover with 6 ~~another~~ inches of native soils to support vegetation. The top six inches of *final cover* will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4). Placement of a rain tarp to limit infiltration of rain may be used *for ash monofills*. ~~in place of earth or wood chips (refer to Section 8.2.6).~~

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit *at the end of each working day*. The ash monofill disposal unit cell will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days. ~~of disposal unit completion.~~ Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate *ash monofills* will be covered by a 20 mil geomembrane secured in place by tires.

The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. *Final* Cover material will be applied to the landfill once the final grades are reached *in accordance with an approved closure plan*. ~~The cover may be earth which will be seeded or planted with grass, suitable cover vegetation, or a rain tarp (refer to Section 8.2.6).~~

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan *will* includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent *will be provided to DEP for review and approval prior to closure* ~~is shown on Figure 8.5~~. The vents will provide an escape route for gases ~~that are lighter than air~~, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see Figure 8.6).

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week.

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory *or other approved laboratory, if necessary*. The water quality monitoring plan *shall meet* ~~meets~~ the requirements of Chapter 62-701.510, F.A.C. *for each disposal unit*.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified in accordance with *Conditions of Certification Section II*. ~~the Solid Waste Rule, New well construction details will be provided to the Solid Waste Section for review and approval prior to implementation.~~

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, *site certification*, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permits, *conditions of certification*, engineering drawings, and the operating plan are kept on site at the office of the Solid Waste Manager.

The Operating Record will be available during business hours for inspection by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day.

~~To the extent possible,~~ The amount of solid waste received by the type of waste will be ~~determined~~ *estimated* as listed under Chapter 62-701.5-500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided *quarterly* to the Department in accordance with *62-701.500(4)(a), F.A.C.* ~~the solid waste rules.~~

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate from the Class III Landfill to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future.

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness, and Compaction, and Mining Frequencies

All solid waste, ~~if required,~~ *accepted for disposal* will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit ~~will~~ *may* be removed ~~as soon as practical,~~ compaction requirements ~~are intentionally~~ *may be* less than would be for a solid waste unit used for disposal only at a municipal landfill. *By-pass waste designated for removal (mining) will require only one to three passes with heavy equipment and will be segregated in an area with active leachate collection and covered with waste tire chips. By-pass waste may be removed to no closer than four feet above the protective soil layer within 180 days or relocated for disposal and compacted in two foot layers as required.*

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects ~~are~~ *will be* removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed to ~~construct~~ *in* lifts. The working face *will be interior* of the disposal unit, ~~and with side slopes graded at a slope;~~ not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

All waste Ash lifts will follow the construction lifts as shown on ~~Drawing~~ *Figure 8.2* and described in Section 8.2.6.

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180 days. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20-mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Operational Procedures for Leachate Management Plant

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department *upon request*. ~~in accordance with the reporting schedule in the solid waste rule.~~ A copy of the form that will be used to record the data is included in *Table Report Forms 8.1 and 8.2*.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than *1000 gallons per acre per day* ~~20 percent above the leachate action level for 10 days~~, the Solid Waste Manager will be notified so the exceedances can be addressed promptly *and the Department notified of corrective actions*.

Leachate Management Facility

The Leachate Management Facility (LMF) has capacity to treat the leachate from up to 10 acres of open ash disposal units.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. ~~The term of the agreement is until November 1999. The county does not plan to extend the term of this agreement.~~ If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tank or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section 8.8.4.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the ~~Corn~~ **Crom** tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP *upon request*. ~~in accordance with the solid waste rule.~~

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be recorded and compared as shown on the monthly leachate generation summaries. ~~submitted in accordance with the rule.~~

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Gas monitoring will be initiated after the burial of ~~putrescible waste or by-pass waste~~ in any solid waste disposal unit in compliance with ~~62-701, 400, paragraph 10.2~~ **62-701.400(10) and 62-701.500(9)**. No gas monitoring will be conducted relative to the ash monofill disposal units.

8.10 Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 8.2.2.2 and 8.2.8).

8.11 Equipment and Operation Feature Requirements

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

8.11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur to control litter.

8.11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.11.9 Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

8.12 Additional Recordkeeping and Reporting Requirements

Records *and construction plans* used for developing permit applications *new disposal units* and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files. Reports required by the *permit conditions of certification and this operations plan* will be maintained for at least 10 years in the Utilities Services Branch files. Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

The Solid Waste ~~Director~~ *Manager* will submit annually to the Department estimates of ~~other~~ remaining capacity of the constructed and unconstructed, ~~permitted~~ waste disposal units. Estimates will be maintained in the Utilities Services Branch files.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.

REPORT FORMS TABLE

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 3/31/00

1	2		4		6	7	8	9	10	11	12	MEASURED BAREALL	LEACHATE (GALLONS) PUMPED FROM UNIT SW 1		PUMPED TO Bareall Pond	Month Balance
MONTH & DAY	LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-1		LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-2		TOTAL GALS. PUMPED TO CROM TANK	PROCESSSED LEACHATE @ 1 ML/L	PUMPED & TRUCKED FROM A-2 SURFACE	LEACHATE TRUCKED FROM CROM TANK	TOTAL GALLONS TRUCKED OR PROCESSSED	RESIDUAL TO CROM TANK @ END DAY	CROM TANK INVT. START OF MO GALLONS		PRIMARY	SECONDARY		
1-Mar	390	0	3,300	0	3,690	0	0	0	0	3,690	572,360	0.000	3,190	0	3,190	
2-Mar	1,510	0	0	0	1,510	0	0	0	0	1,510	573,870	0.000	0	0	0	
3-Mar	1,180	0	3,800	0	4,980	0	0	0	0	4,980	578,850	0.000	0	0	0	
4-Mar	2,020	0	2,300	0	4,320	0	0	0	0	4,320	583,170	0.000	3,210	0	3,210	
5-Mar	0	0	0	0	0	0	0	0	0	0	583,170	0.000	0	0	0	
6-Mar	280	0	3,200	0	3,480	0	0	0	0	3,480	586,650	0.000	0	0	0	
7-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	588,750	0.000	3,200	0	3,200	
8-Mar	390	0	3,100	0	3,490	0	0	0	0	3,490	592,240	0.000	3,930	0	3,930	
9-Mar	1,510	1,570	0	200	3,280	0	0	0	0	3,280	595,520	0.000	0	3,530	3,530	
10-Mar	2,110	0	0	0	2,110	0	0	0	0	2,110	597,630	0.000	2,880	0	2,880	
11-Mar	2,270	0	2,700	0	4,970	0	0	0	0	4,970	602,600	0.000	3,180	0	3,180	
12-Mar	0	0	0	0	0	0	0	0	0	0	602,600	0.000	0	0	0	
13-Mar	420	0	2,200	0	2,620	0	0	0	0	2,620	605,220	0.000	0	0	0	
14-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	607,320	0.000	0	0	0	
15-Mar	230	0	2,800	0	3,130	0	0	0	0	3,130	610,450	0.000	3,190	0	3,190	
16-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	612,550	0.000	0	0	0	
17-Mar	640	0	2,800	0	3,540	0	0	0	0	3,540	616,090	0.000	0	0	0	
18-Mar	2,010	0	0	100	2,110	0	0	0	0	2,110	618,200	0.000	3,190	0	3,190	
19-Mar	0	0	0	0	0	0	0	0	0	0	618,200	0.000	0	0	0	
20-Mar	1,560	0	2,800	0	4,460	0	0	0	0	4,460	622,660	0.000	0	0	0	
21-Mar	0	0	0	0	0	0	0	0	0	0	622,660	0.000	3,350	0	3,350	
22-Mar	80	0	3,400	0	3,480	0	0	0	0	3,480	626,140	0.000	0	0	0	
23-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	628,240	0.000	0	0	0	
24-Mar	0	0	0	0	0	0	0	0	0	0	628,240	0.000	3,180	0	3,180	
25-Mar	2,820	0	2,700	0	5,520	0	0	0	0	5,520	633,760	0.000	0	0	0	
26-Mar	0	0	0	0	0	0	0	0	0	0	633,760	0.000	0	0	0	
27-Mar	2,770	0	2,900	0	5,670	0	0	0	0	5,670	639,430	0.000	4,220	0	4,220	
28-Mar	770	0	4,000	0	4,770	0	0	0	0	4,770	644,200	0.500	950	0	950	
29-Mar	680	0	3,900	0	4,580	0	0	0	0	4,580	648,780	0.000	0	0	0	
30-Mar	1,910	0	4,700	0	6,610	0	0	0	0	6,610	655,390	0.000	3,200	0	3,200	
31-Mar	180	0	2,300	0	2,480	0	0	0	0	2,480	657,870	0.000	0	0	0	
March-00	34,130	1,570	53,200	300	89,200	0	0	0	0	89,200		0.500	40,830	3,530	44,360	89,200

A-2 SURFACE
TOTAL COLUMN 10

• Disposal of "Brine Concentrate" from the Leachate Management Facility.

- West Pasco Class I Landfill has a total of 29 acres, which are comprised of three cells. The cells consist of the following:
- Ash Cell I - 10 acres INTERMEDIATE COVER (70ML Geomembrane)
 - Ash Cell II - 6 acres NOT USED, 2.3 acres OPEN
 - Solid Waste Cell I - 10 acres OPEN

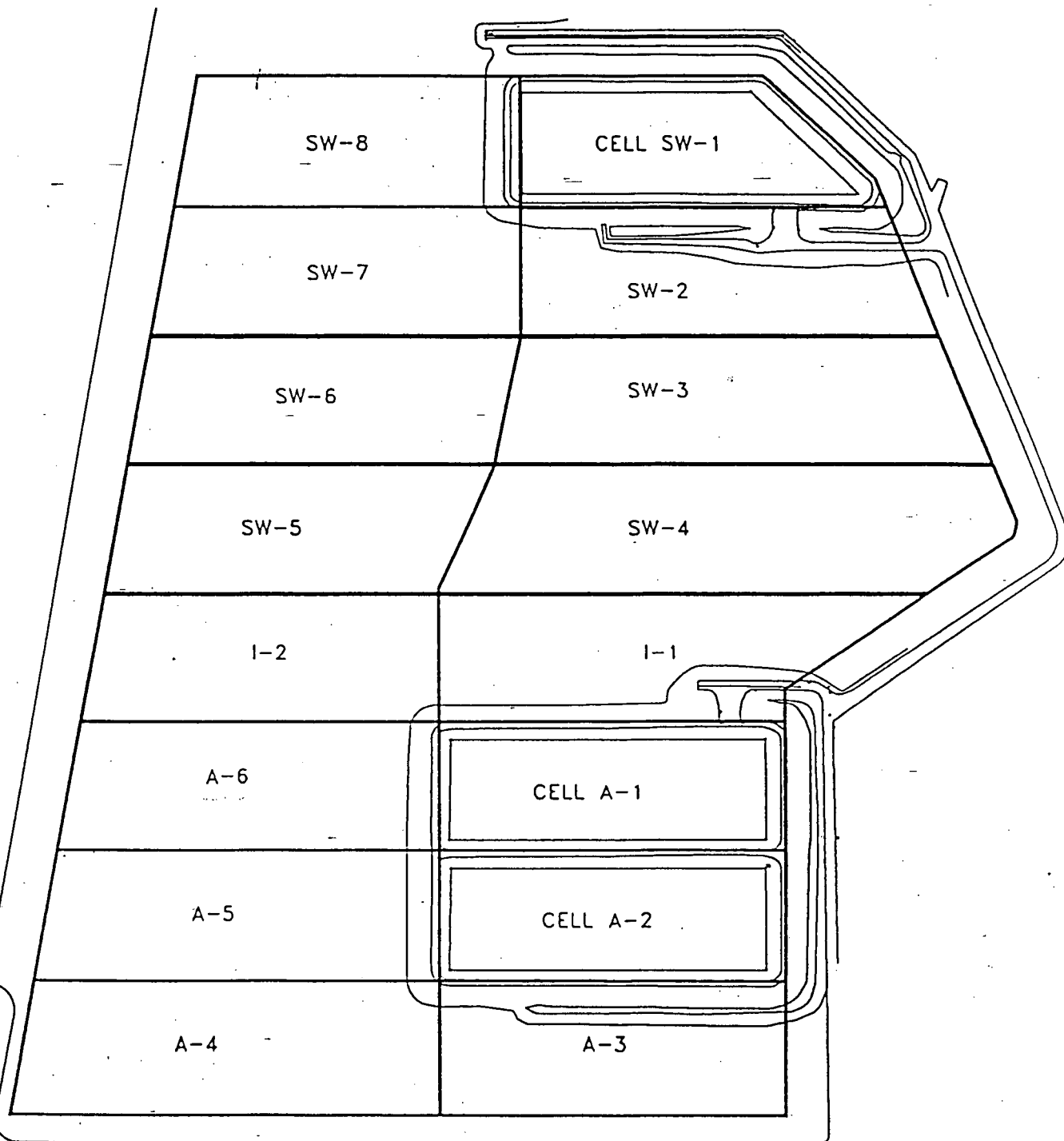
PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 12/31/2000

MONTH & DAY	MEASURED RAINFALL	WEST PASCO CLASS I LEACHATE REMOVED						TOTAL LEACHATE REMOVED	SHADY HILLS WWTP	OTHER OFF-SITE WWTP	ON-SITE LEACHATE MANAGEMENT PLANT	TOTAL LEACHATE DISPOSAL	Beginning Balance 323,016 COMPUTED BALANCE	CROM TANK INVENTORY 499,940 667,835 848,030 XX
		ASH CELL I		ASH CELL II		SOLID WASTE CELL	PW-4							
		ASH CELL I	ASH CELL II	ASH CELL I	ASH CELL II									
Jan-2000	1,100	41,015	1,565	65,900	100	72,180	3,090	183,850	75,270	0	0	75,270	431,606	
Feb-2000	1,600	36,830	100	61,800	100	82,900	0	181,730	82,900	0	0	82,900	568,870	
Mar-2000	0,500	34,130	1,570	53,200	300	40,830	3,530	133,560	44,360	0	0	44,360	657,870	
Apr-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
May-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Jun-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Jul-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Aug-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Sep-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Oct-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Nov-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
Dec-2000	0,000	0	0	0	0	0	0	0	0	0	0	0		
2000	3,200	111,975	3,235	180,900	500	195,910	6,620	499,140	202,530	0	0	202,530		

XX See Attached (Leachate Report) Reconciliation of Crom Tank Inventory.

X Due to the corrosive characteristics of the leachate as well as the high concentration of solids flowing thru the various meters and pumps, month end adjustment to the manual leachate tank sight glass readings are necessary.

FIGURES



ACAD=48356581



Not To Scale

Prepared/Date:

Checked/Date:

Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



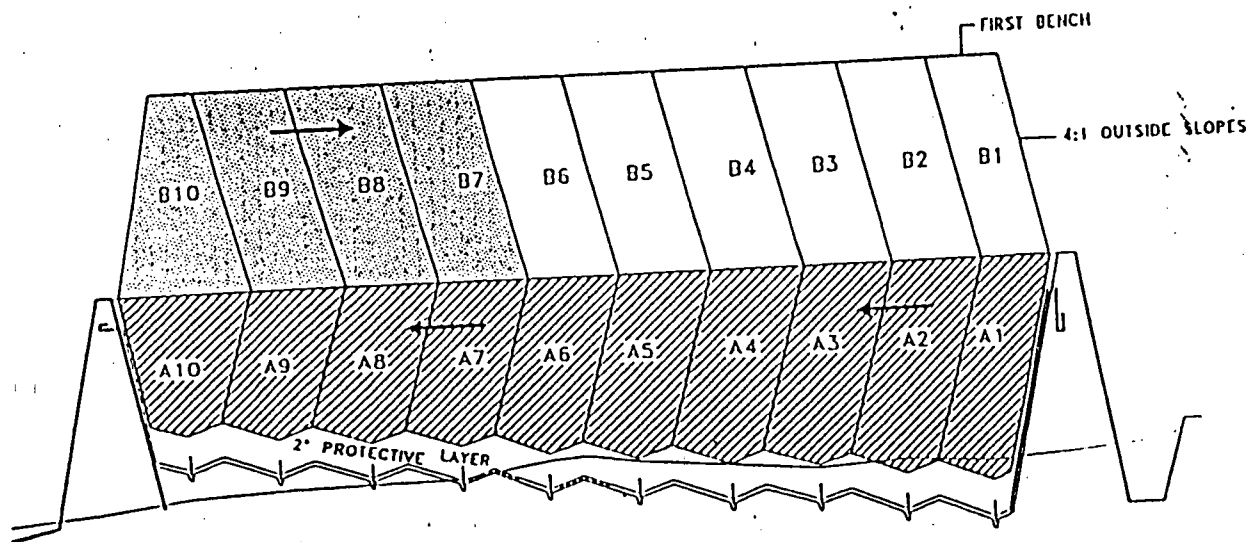
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

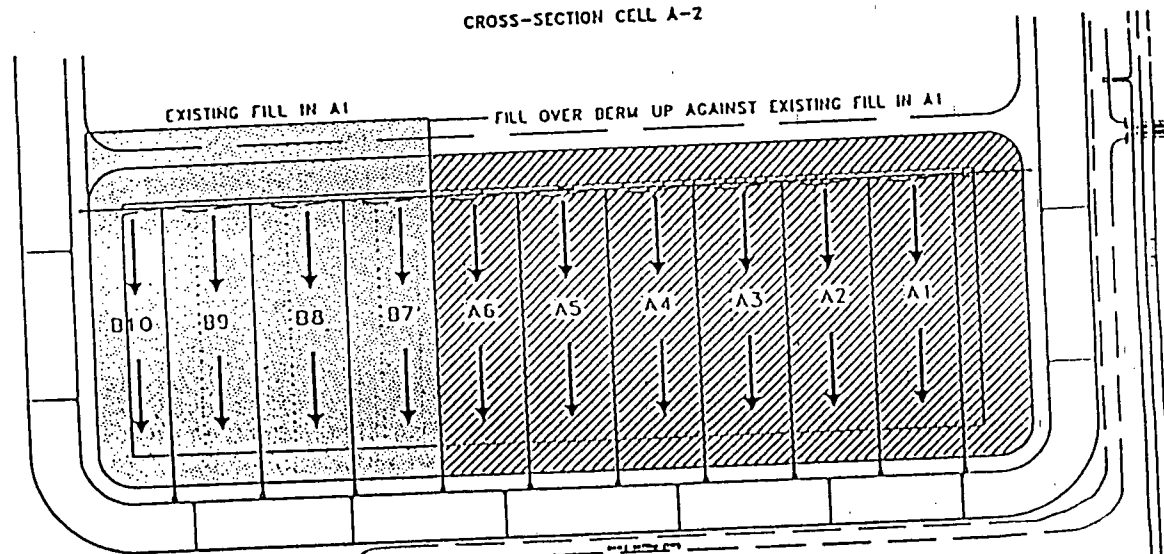
Resource Recovery Facility
Pasco County, Florida

West Pasco Class I
Landfill Footprint Schematic

Project 464-83565.01 Figure 8.1



CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



LIFT A



LIFT B

← FILL DIRECTION



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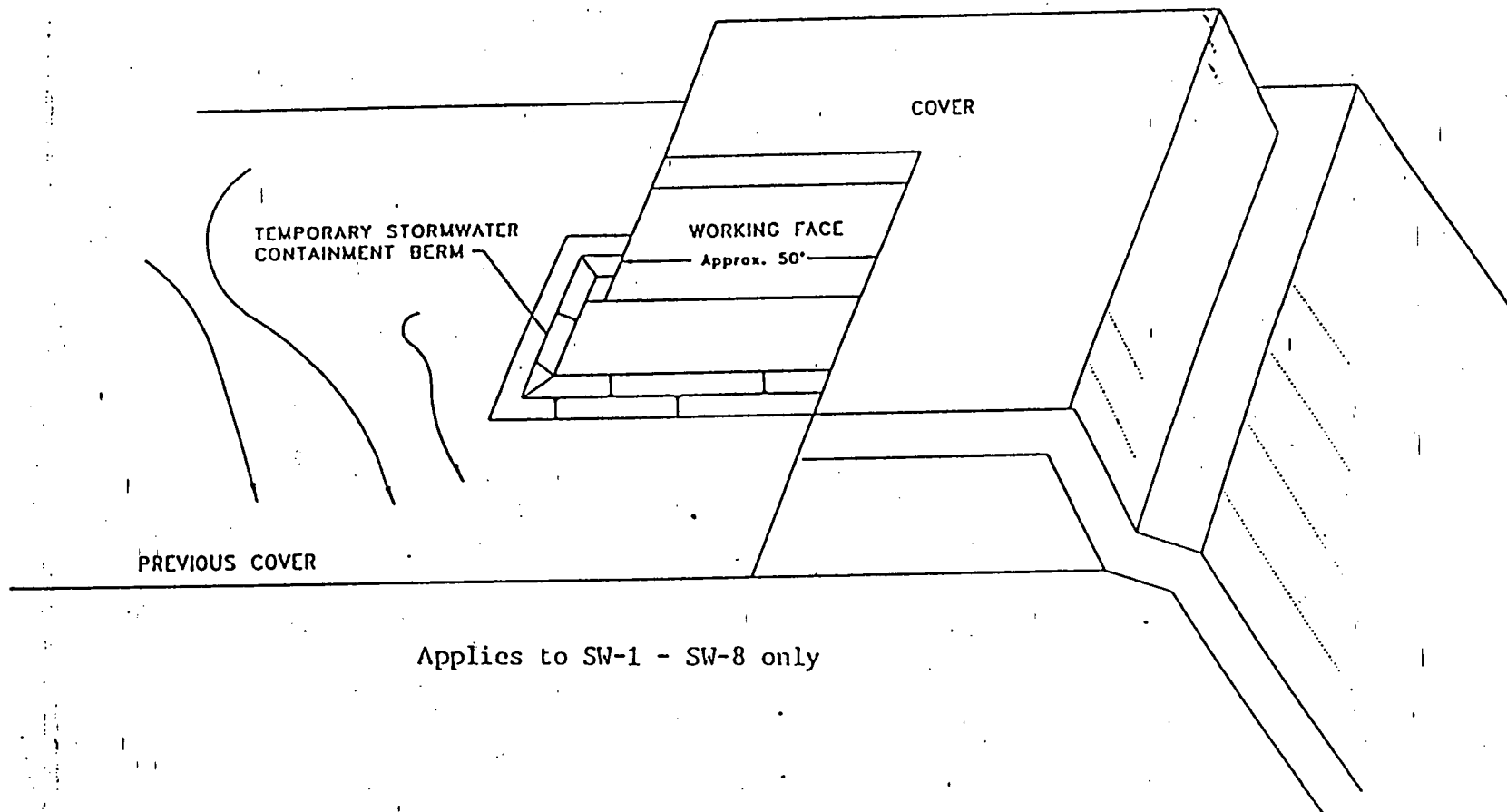
Resource Recovery Facility
Pasco County, Florida

Lift Sequence Schematic

Project 464-83565.01

Figure 8.2

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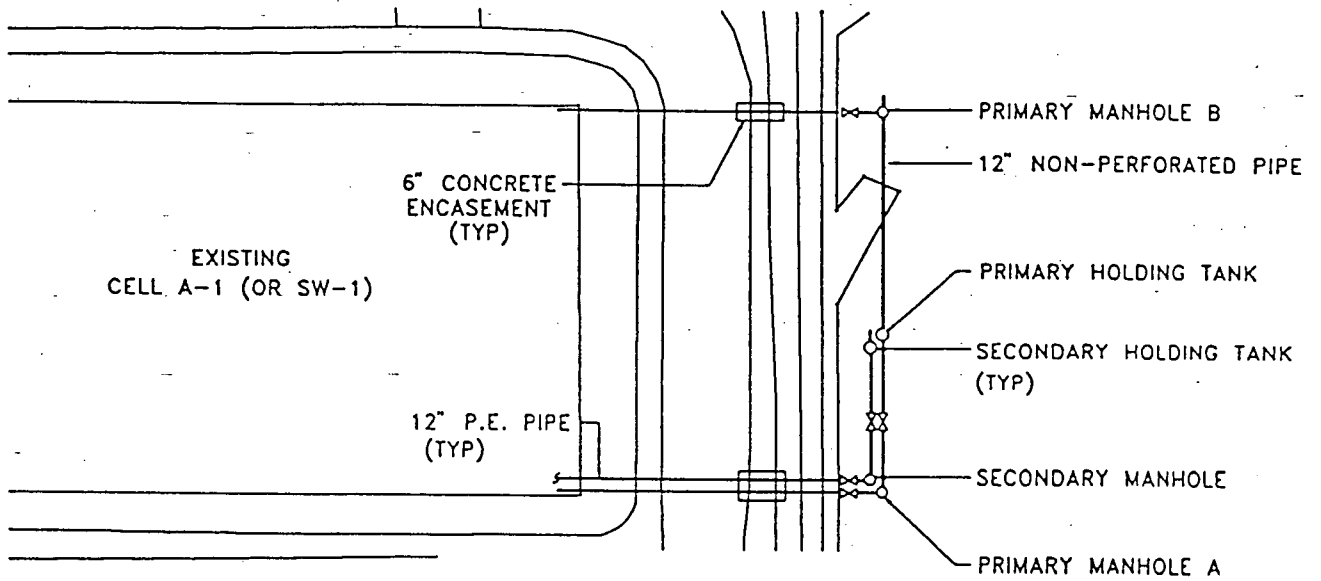
Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565.01

Figure 8.3

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Pasco County, Florida



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ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida
Leachate Collection System
Schematic
Cell SW-1 and Cell A-1

Project 464-83565.01 Figure 8.6

Kir

June 26, 2000
Revised

I'm ASSUMING ALL
INCLUDE ALL THAT
THE BOLDED AREAS ~~ARE THAT~~
YOU ADDED OR REVISED.

Bob

Kir - make copies (2) so you
and Steve can discuss my
comments. I want to
get it as close as
we can.

Bob

LANDFILL OPERATIONS REQUIREMENTS

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

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SECTION 8.0

LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and ~~Recycling Center~~ was permitted separately under Chapter 62-701, F.A.C.

EXEMPT

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

IS THIS THE ONLY EXAMPLE OF SUCH WASTE?

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste.

TRAINED SPOTTER

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When the plant capacity allows, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available, *see Section 8.7.1 for mining procedures.*

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified at the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. ~~Douglas S. Bramett~~ ^{THE} Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. ~~He~~ ^{THE} is assisted by ~~Vince Mammella~~ ^{ADMINISTRATOR}, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u>	<u>Six Days*</u>
First Shift Supervisor	MTWTF
Second Shift Supervisor	TWTFs
<u>Equipment Operator/Spotters</u>	
First Shift Operator	MTWT
Second Shift Operator	__WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified ^{AND TRAINED} to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;

- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. ~~Do not place the debris in an unlined area. Call FDEP.~~ *DEBRIS IF REQUIRED, DEBRIS STAGED OUTSIDE OF LINED AREAS SHALL BE AUTHORIZED BY FDEP.*

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- ~~Apply initial cover to working face of the active Solid Waste Disposal Unit (daily requirement) for waste deposited in these units;~~ 77
WILL BE DELETED.
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

- Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units. AND LEACHATE STORAGE TANK.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at *the solid waste disposal unit* each working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable waste.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil ~~will~~ ^{AND SPOTTER} be removed to the ~~Class III and~~ Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. ~~Also contact~~ ^{WILL ALSO BE CONTACTED} the County Health Department.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to ^{ASSURE} ~~see if~~ they are crossing the scale by observing them as they leave the ash handling facility. *WHAT ABOUT USING A TICKETING APPROACH SIMILAR TO OTHER FACILITIES FOR IDENTIFICATION?*

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. (Figure 8.2 and 8.2A depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for disposal unit A-2 is shown in Figure 8.2B.) *IS NOT THIS IS OBSOLETE*

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. ~~Ash/solid waste~~ will not be placed within two feet of this flagged or marked line. All incoming ~~ash/solid~~ waste will be directed to the working face. (Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see Figure 8.3).) Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, ~~disposal units~~ cells will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a ~~50-foot-wide~~ working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the west portion of the unit and proceed east to the portion of the unit. The area will be divided into approximately six subareas (refer to Drawing 8.2B). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-foot-grid of tires to minimize the formation of leachate to the extent possible. A spillway will be

*ISN'T SUMP IN
NORTHEAST AREA?*

formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2B8.

Phase II

1. Construct berms around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover a-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary from elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

CONFUSED?

The sequence of filling ~~future~~ lined disposal unit areas with installed leachate collection systems will be developed to meet the following objectives:

- Complete subsequent lifts over lower lifts (frequent enough to minimize infiltration and conserve the field capacity of the lower lift in solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final Cover will be applied over disposal units lifts within 180 days after the final lift over an area is completed. Intermediate Cover will consist of 12 inches of earth soil or an approved mix of wood chips and soil for cover with 6 inches of native soils to support vegetation. The top six inches of final cover will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4). Placement of a rain tarp to limit infiltration of rain may be used for ash monofills in place of earth or wood chips (refer to Section 8.2.6).

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit at the end of each working day. The ash monofill disposal unit cell will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate ash monofills will be covered by a 20 mil geomembrane secured in place by tires.

THE

MAY

WHY?
IN PLACE OF
INTERMEDIATE
COVER

The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final Cover material will be applied to the landfill once the final grades are reached *in accordance with an approved closure plan*. The cover may be earth which will be seeded or planted with grass, suitable cover vegetation, or a rain tarp (refer to Section 8.2.6).

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan *will* includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. *The detail of this gas vent will be provided to DEP for review prior to closure is shown on Figure 8.5.* The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

ADD APPROVAL

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see Figures 8.6, 8.6A and 8.6B). When the leachate reaches a predetermined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see Figures 8.6 and 8.6A).

APPEAR REDUNDANT - WHAT IS IN 8.6A THAT IS NOT NOTED ON 8.6

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week.

WILL
NOT
ADD TO
8.6?
IF
YOU
WANT
TO
ADD
SOMETHING

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory *or other approved laboratory, if necessary*. The water quality monitoring plan *shall meet* meets the requirements of Chapter 62-701.510, F.A.C. *for each disposal unit*.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified *in accordance with the Solid Waste Rule, and new well*

SITE NOTE

construction details will be provided to the Solid Waste Section for ^{REVIEW AND} approval prior to implementation.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, *site certification*, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permits, *conditions of certification*, engineering drawings, and the operating plan are kept on site at the office of the Solid Waste Manager.

The Operating Record will be available during business hours for inspection by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the ^{Scale House} weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day.

~~To the extent possible, the~~ The amount of solid waste received by the type of waste will be ~~determined~~ *estimated* as listed under Chapter 62-701.5-500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department in accordance with the solid waste rules.

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate from the Class III Landfill to the Class I Landfill is internal.

The Landfill Supervisor will check ~~or have checked~~ the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future.

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 ^{Compaction AND} Waste Layer Thickness and ~~Compaction Frequencies~~ ^{AND MINING PROCEDURE}

All solid waste, ~~if required,~~ *accepted for disposal* will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. ~~By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit will may be removed as soon as practical, compaction requirements are intentionally may be less than would be for a solid waste unit used for disposal only at a municipal landfill. By-pass waste designated for removal (mining) will require only one to three passes with heavy equipment and will be segregated in an area with active leachate collection and covered with waste tire chips. By-pass waste may be removed to no closer than four feet above the protective soil layer within 180 days or relocated for disposal and compacted in two foot layers as required.~~ *OK* *any note will be made by site* *compaction of by-pass waste* *confusing*

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects ^{will be} removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator. *?*

8.7.3 Construction of Lifts

Solid waste will be placed to ⁱⁿconstruct lifts. The working face ^{WILL BE} ~~is~~ interior of the disposal unit, and side ~~grades kept at a slope~~ ^{GRADED} not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

All waste Ash lifts will follow the construction lifts as shown on Drawing Figure 8.2 and described in Section 8.2.6.

8.7.4 Working Face Width

- The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180 days. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Operational Procedures for Leachate Management Plant

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department *upon request*. ~~in accordance with the reporting schedule in the solid waste rule.~~ A copy of the form that will be used to record the data is included in Tables 8.1 and 8.2.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than 20 percent above the leachate action level ^{12"} for 10 days, the Solid Waste Manager will be notified so the exceedances can be addressed promptly *and the Department notified of corrective actions.*

not defined?

Leachate Management Facility

The Leachate Management Facility (LMF) has capacity to treat the leachate from up to 10 acres of open ash disposal units.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. ~~The term of the agreement is until November 1999. The county does not plan to extend the term of this agreement.~~ If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills-WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tank or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section 8.8.4, ~~such as the City of Tampa WWTP.~~

NOT REQUIRED

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the ~~Crom~~ **Crom** tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP *upon request.* ~~in accordance with the solid waste rule.~~

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be recorded and compared as shown on the monthly leachate generation summaries ~~and submitted to FDEP upon request, submitted in accordance with the rule.~~ *INCLUDE AND PROVIDE DATA IN 8.8.1.*

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Gas monitoring will be initiated after the burial of ~~putrescible waste or by-pass waste~~ in any solid waste disposal unit in compliance with ~~62-701, 400, paragraph 10.2~~ *62-701.400(10) and 62-701.500(9).* No gas monitoring will be conducted relative to the ash monofill disposal units.

8.10 Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System ~~to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.~~

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 8.2.2.2 and 8.2.8).

8.11 Equipment and Operation Feature Requirements

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

1 - ADEQUATE?

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

8.11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control

REDUNDANT - SEE 8.1.8

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur to control litter.

8.11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.11.9 Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

8.12 Additional Recordkeeping and Reporting Requirements

Records *and construction plans* used for developing ~~permit applications~~ *new disposal units* and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files. Reports required by the ~~permit conditions of certification and this operations plan~~ will be maintained for at least 10 years in the Utilities Services Branch files. Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

The Solid Waste ~~Director~~ *Manager* will submit annually to the Department estimates of ~~other~~ remaining capacity of the constructed and unconstructed, ~~permitted~~ waste disposal units. Estimates will be maintained in the Utilities Services Branch files.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.

REPORT FORMS-TABLE

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 3/31/00

1	2		3		4	5	6	7	8	9	10	11	12		13			
MONTH & DAY	LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-1		LEACHATE (GALLONS) PUMPED TO CROM TANK UNIT A-2		TOTAL GALL. PUMPED TO CROM TANK	PROCESS LEACHATE @ L.M.P.	PUMPED & TRUCKED FROM A-2 SURFACE	LEACHATE TRUCKED FROM CROM TANK	TOTAL GALLONS TRUCKED OR PROCESSED	RESIDUAL TO CROM TANK @ END DAY	CROM TANK PWT. START OF MO. END DAY	WEATHERED RAINFALL	LEACHATE (GALLONS) PUMPED FROM UNIT B-1		PUMPED TO Stockpile	Waste		
	PRIMARY	SECONDARY	PRIMARY	SECONDARY									PRIMARY	SECONDARY				
1-Mar	390	0	3,300	0	3,690	0	0	0	0	3,690	572,360	0.000	3,190	0	3,190			
2-Mar	1,510	0	0	0	1,510	0	0	0	0	1,510	573,870	0.000	0	0	0			
3-Mar	1,180	0	3,800	0	4,980	0	0	0	0	4,980	578,850	0.000	0	0	0			
4-Mar	2,020	0	2,300	0	4,320	0	0	0	0	4,320	583,170	0.000	3,210	0	3,210			
5-Mar	0	0	0	0	0	0	0	0	0	0	583,170	0.000	0	0	0			
6-Mar	280	0	3,200	0	3,480	0	0	0	0	3,480	586,650	0.000	0	0	0			
7-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	588,750	0.000	3,200	0	3,200			
8-Mar	390	0	3,100	0	3,490	0	0	0	0	3,490	592,240	0.000	3,930	0	3,930			
9-Mar	-1,510	-1,570	0	200	3,280	0	0	0	0	3,280	595,520	0.000	0	3,530	3,530			
10-Mar	2,110	0	0	0	2,110	0	0	0	0	2,110	597,630	0.000	7,860	0	7,860			
11-Mar	2,270	0	2,700	0	4,970	0	0	0	0	4,970	602,600	0.000	3,180	0	3,180			
12-Mar	0	0	0	0	0	0	0	0	0	0	602,600	0.000	0	0	0			
13-Mar	420	0	2,200	0	2,620	0	0	0	0	2,620	605,220	0.000	0	0	0			
14-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	607,320	0.000	0	0	0			
15-Mar	230	0	2,900	0	3,130	0	0	0	0	3,130	610,450	0.000	3,190	0	3,190			
16-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	612,550	0.000	0	0	0			
17-Mar	640	0	2,900	0	3,540	0	0	0	0	3,540	616,090	0.000	0	0	0			
18-Mar	2,010	0	0	100	2,110	0	0	0	0	2,110	618,200	0.000	3,190	0	3,190			
19-Mar	0	0	0	0	0	0	0	0	0	0	618,200	0.000	0	0	0			
20-Mar	1,560	0	2,900	0	4,460	0	0	0	0	4,460	622,660	0.000	0	0	0			
21-Mar	0	0	0	0	0	0	0	0	0	0	622,660	0.000	3,350	0	3,350			
22-Mar	80	0	3,400	0	3,480	0	0	0	0	3,480	626,140	0.000	0	0	0			
23-Mar	2,100	0	0	0	2,100	0	0	0	0	2,100	628,240	0.000	0	0	0			
24-Mar	0	0	0	0	0	0	0	0	0	0	628,240	0.000	3,180	0	3,180			
25-Mar	2,820	0	2,700	0	5,520	0	0	0	0	5,520	633,760	0.000	0	0	0			
26-Mar	0	0	0	0	0	0	0	0	0	0	633,760	0.000	0	0	0			
27-Mar	2,770	0	2,900	0	5,670	0	0	0	0	5,670	639,430	0.000	4,220	0	4,220			
28-Mar	770	0	4,000	0	4,770	0	0	0	0	4,770	644,200	0.500	950	0	950			
29-Mar	680	0	3,900	0	4,580	0	0	0	0	4,580	648,780	0.000	0	0	0			
30-Mar	1,910	0	4,700	0	6,610	0	0	0	0	6,610	655,390	0.000	3,200	0	3,200			
31-Mar	180	0	2,300	0	2,480	0	0	0	0	2,480	657,870	0.000	0	0	0			
March-00	34,130	1,570	53,200	300	89,200	0	0	0	0	89,200		0.500	40,830	3,330	44,360	89,200		

A-2 SURFACE
TOTAL COLUMN 10

• Disposal of "Drain Concentrate" from the Leachate Management Facility.

- West Pasco Clean Landfill has a total of 29 acres, which are comprised of three cells. The cells consist of the following:
 - Ash Cell I - 19 acres INTERMEDIATE COVER (20M Geomembrane)
 - Ash Cell II - 6 acres NOT USED, 2.3 acres OPEN
 - Solid Waste Cell I - 19 acres OPEN

PASCO COUNTY: UTILITIES SERVICES BRANCH
LEACHATE REPORT
CALENDAR YEAR END 12/31/2000

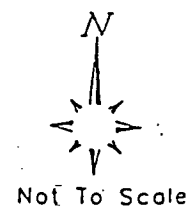
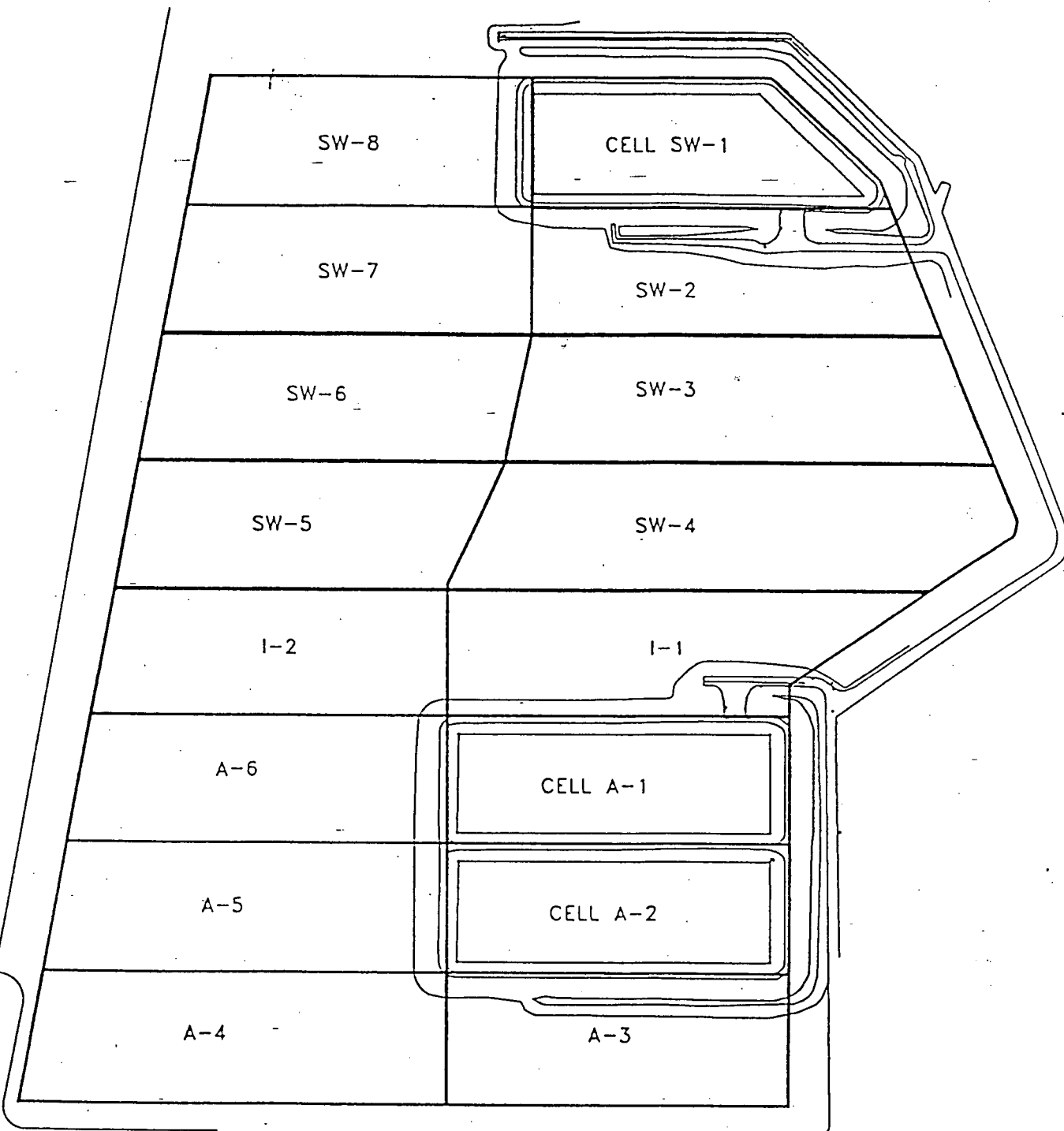
MONTH & DAY	MEASURED RAINFALL	WEST PASCO CLASS I LEACHATE REMOVED						TOTAL LEACHATE REMOVED	SHADY HILLS WWTP	OTHER OFF-SITE WWTP	ON-SITE LEACHATE MANAGEMENT PLANT	TOTAL LEACHATE DISPOSAL	Beginning Balance 373,015 COMPUTED BALANCE	CROM TANK INVENTORY
		ASH CELL I	ASH CELL II		SOLID WASTE CELL	PW-1 CELL								
			AS SETTLED LIQ	AS SETTLED LIQ		AS SETTLED LIQ	AS SETTLED LIQ							
Jan-2000	1.100	41,015	1,565	65,900	100	72,180	3,090	183,850	75,270	0	0	75,270	431,505	480,840
Feb-2000	1.600	36,830	100	61,800	100	82,900	0	181,730	82,900	0	0	82,900	508,670	567,835
Mar-2000	0.500	34,130	1,570	53,200	300	40,830	3,530	133,560	44,360	0	0	44,360	657,870	648,030
Apr-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
May-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Jun-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Jul-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Aug-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Sep-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Oct-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Nov-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
Dec-2000	0.000	0	0	0	0	0	0	0	0	0	0	0	0	
2000	3.200	111,975	3,235	180,900	500	195,910	6,620	499,140	202,530	0	0	202,530		

XX See Attached (Leachate Report) Reconciliation of CROM Tank Inventory.

X Due to the corrosive characteristics of the leachate as well as the high concentration of solids flowing thru the various meters and pumps, month end adjustment to the manual leachate tank sight glass readings are necessary.

FIGURES

ACAD=48356581



Prepared/Date:
Checked/Date:

Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



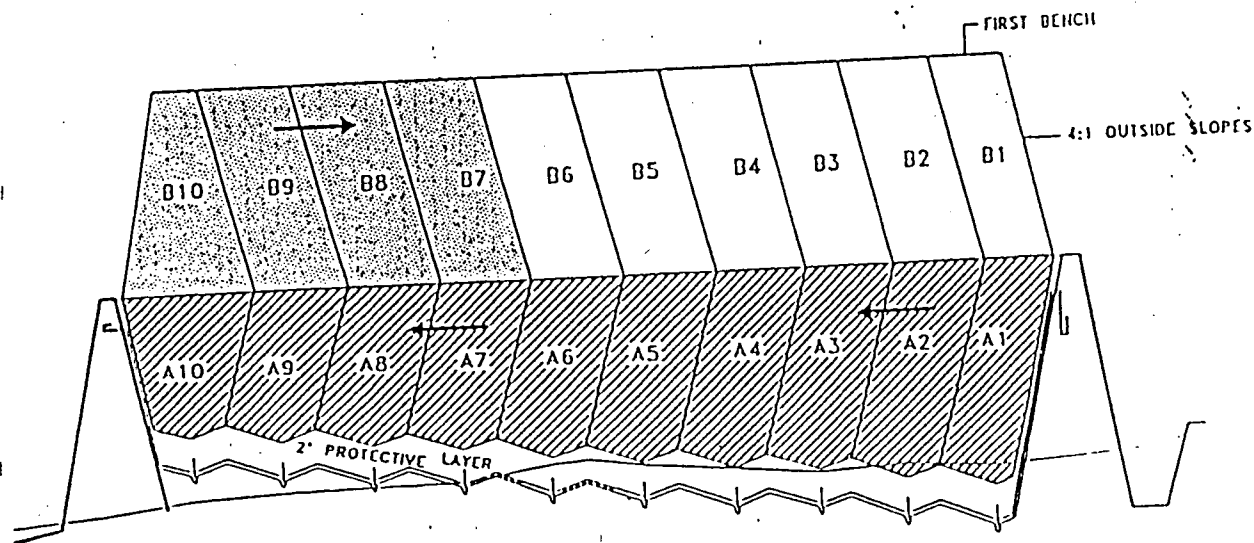
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

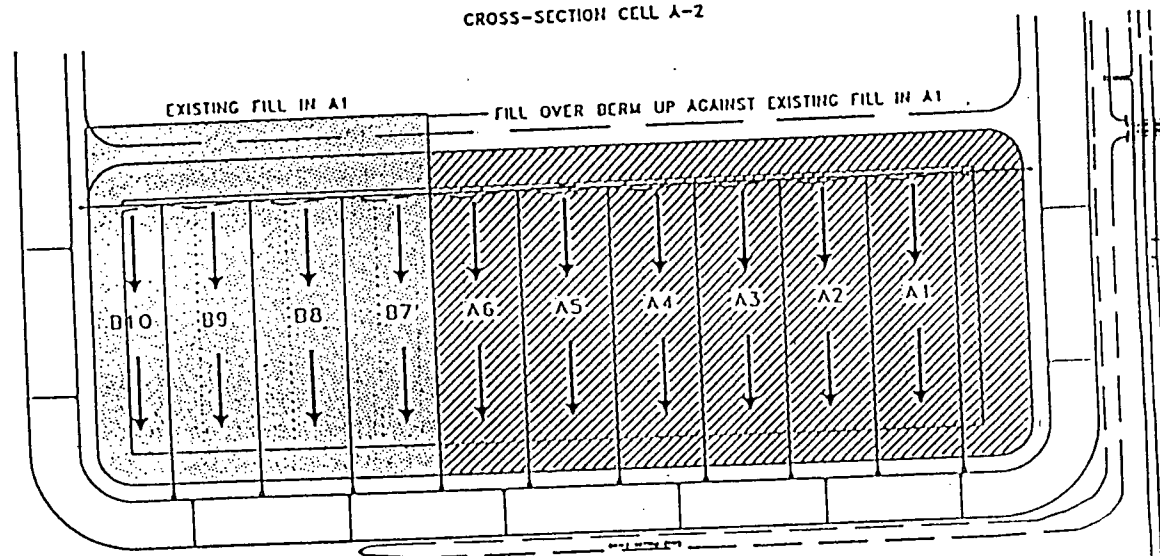
Resource Recovery Facility
Pasco County, Florida

West Pasco Class I
Landfill Footprint Schematic

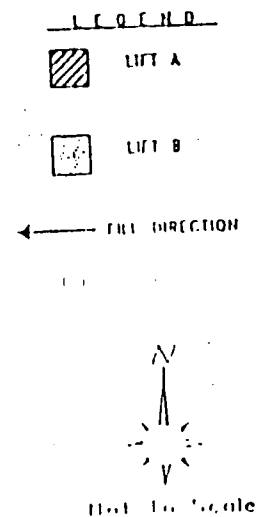
Project 464-83565.01 Figure 8.1



CROSS-SECTION CELL A-2

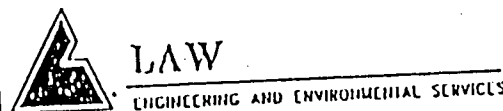


CROSS-SECTION CELL A-2



Prepared/Date:
Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



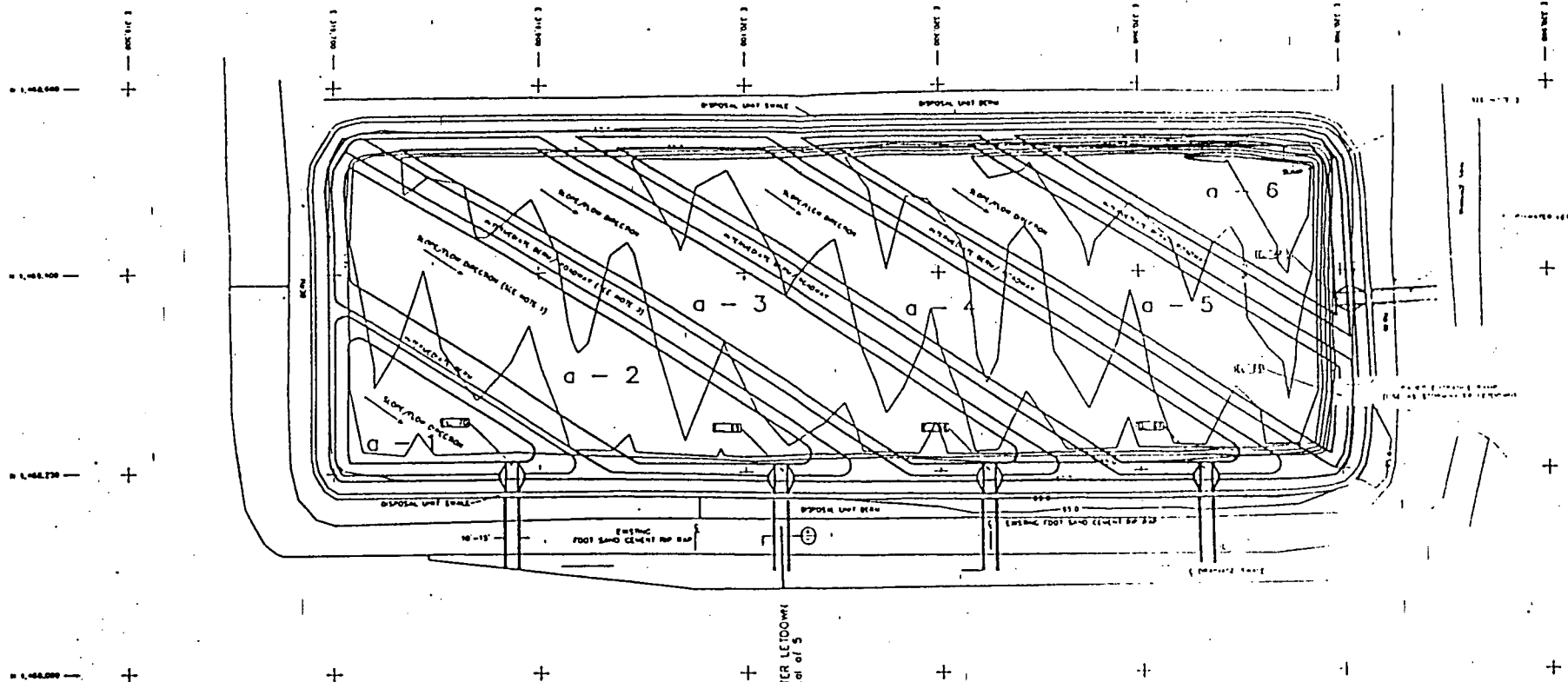
Resource Recovery Facility
Pasco County, Florida

Lift Sequence Schematic

Project 464-83565.01

Figure 8.2

ACAD=49353532



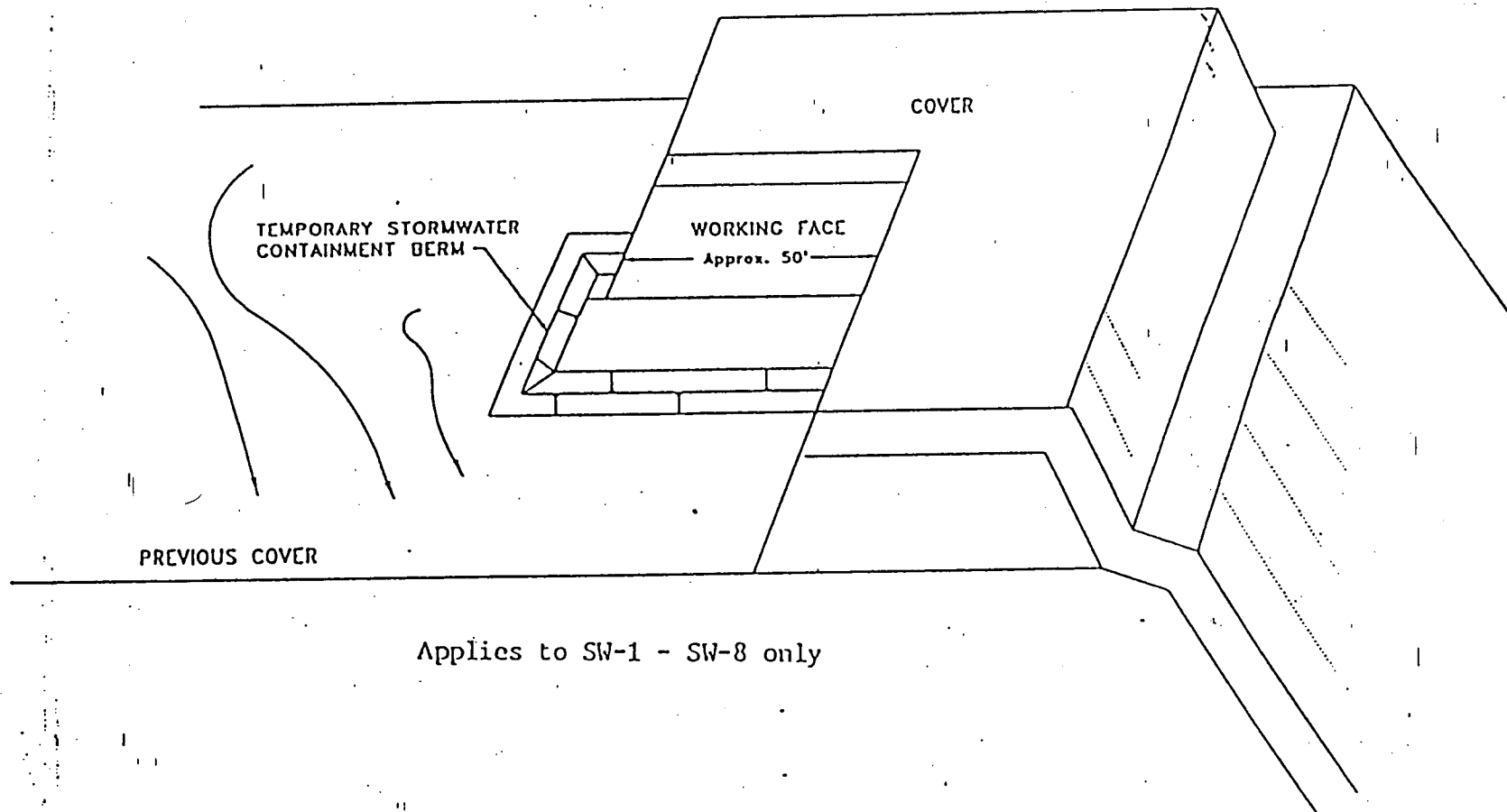
STORMWATER LETDOWN DETAIL
NOT TO SCALE

STORMWATER LETDOWN
Typical of 5

1. ALL ELEVATIONS SHOWN ARE BASED ON THE 1985 FLOOD ELEVATION DATA.
2. IF A FLOOD ELEVATION IS SHOWN, IT IS THE FLOOD ELEVATION, NOT THE NORMAL ELEVATION.



										PASCO COUNTY BOARD OF COUNTY COMMISSIONERS UTILITY SERVICES BRANCH		A-2 OPERATIONS PLAN PASCO COUNTY, FLORIDA		AS NOTED 40141-7-0317 8.2B	
										LAW		FILING PLAN			



Applies to SW-1 - SW-8 only

Not to Scale

Prepared/Date:
Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



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ENGINEERING AND ENVIRONMENTAL
SERVICES

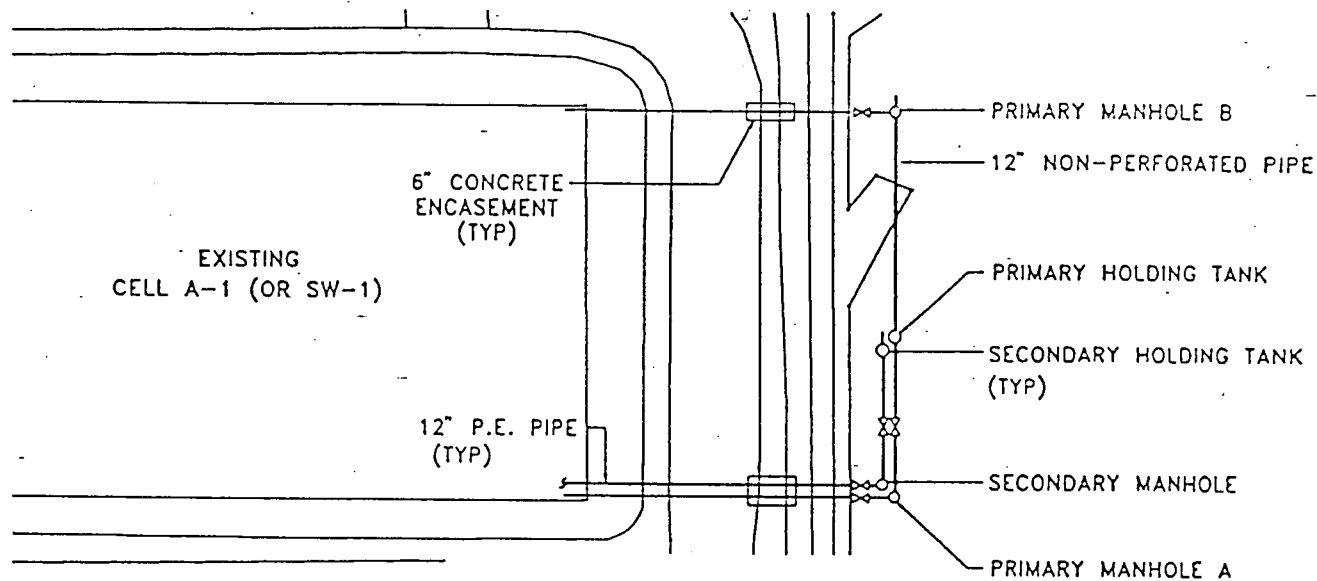
Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565.01

Figure 8.3

ACAD=483565F3



Not To Scale

Prepared/Date:

Checked/Date:

Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



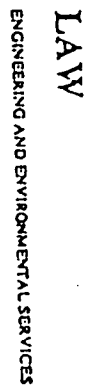
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida
Leachate Collection System
Schematic
Cell SW-1 and Cell A-1

Project 464-83565.01 Figure 8.6

ACA0-48356586



Disposal Unit A-1 Manhole Modification As-Built

40141-3-0317, Phase 01, Item 01

Yves Francis Landfill

ENGINEER

R. F. Manner

DATE:

01/12/2018

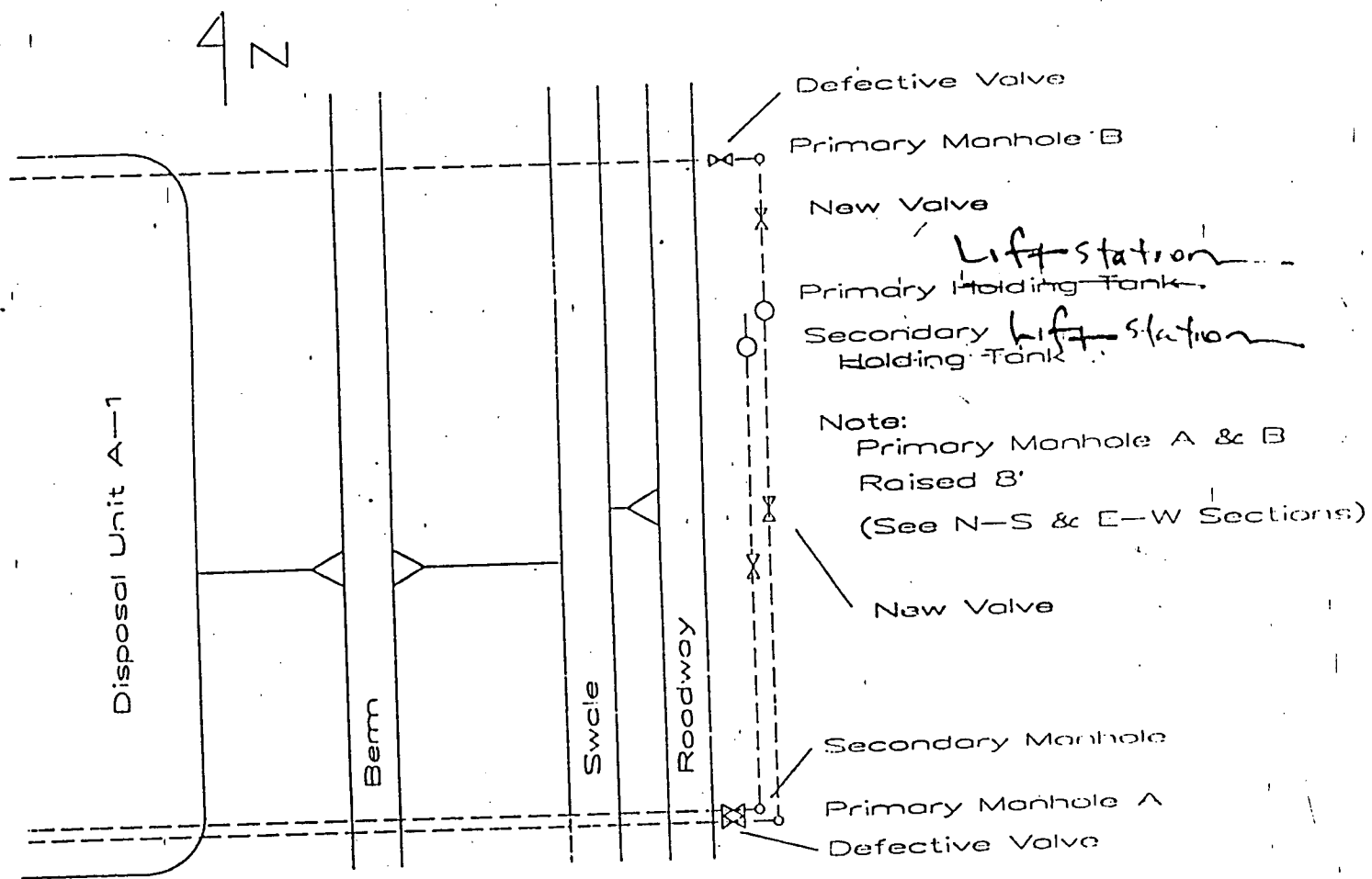
CHECKED:

Over

SHEET:

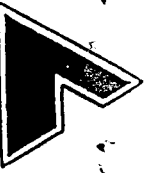
12

Eqn 8.6 A



Plan

h: *lymphocaryum blunkii* sp. n.



LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

Disposal Unit A-1 Manhole Modification As-Built

JOB NO: 40111-20117 Name of Task 012

JOB NAME: 1st Floor Landing

ENGINEER: A.E. Murt

DATE: 01/05/08

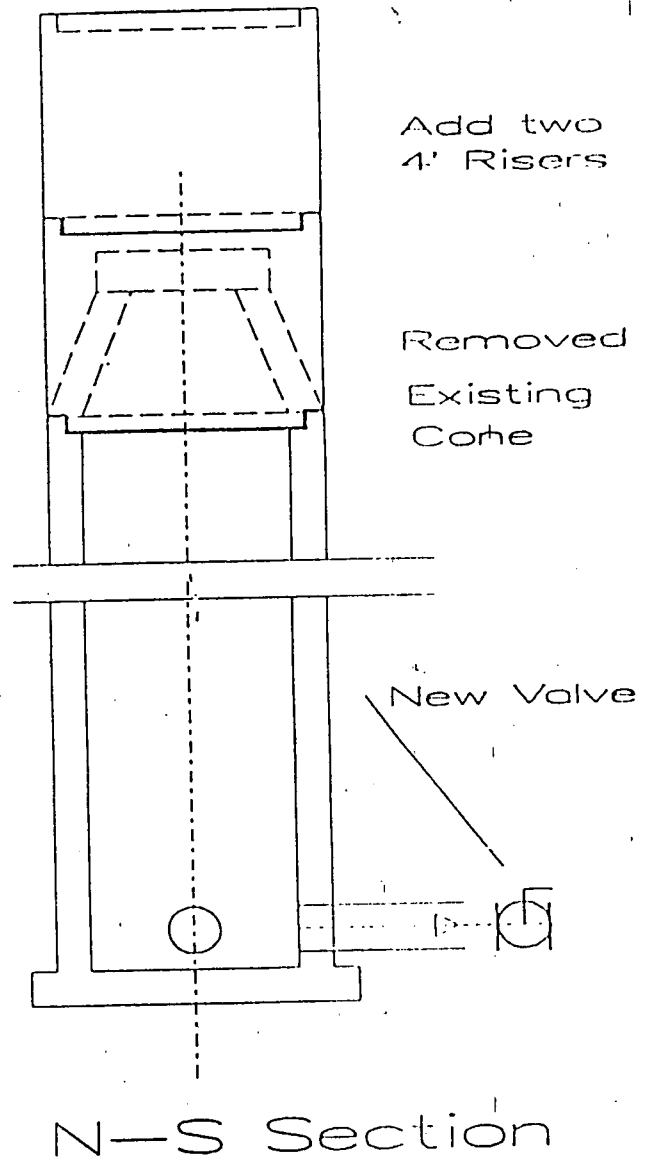
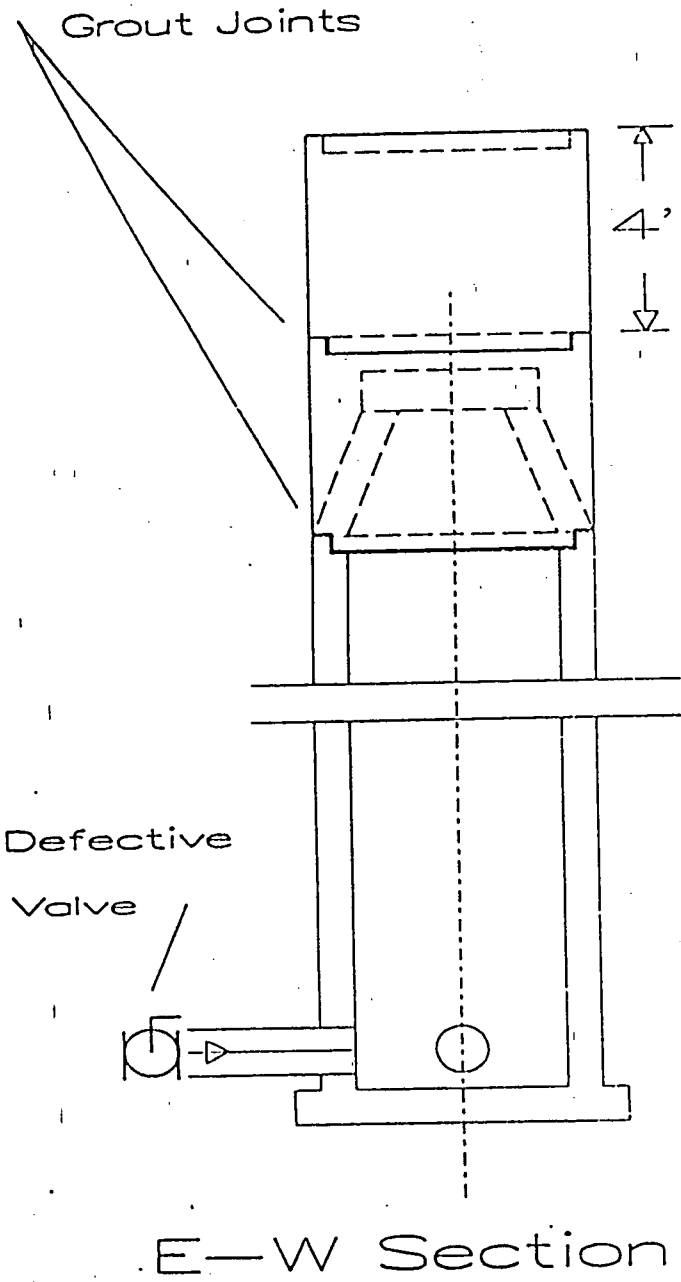
CHECKED:

DATE:

SHEET: 1 of 1

File # 8.6.13

As per drawing from 11/10/2007



March 1, 1999
Revised

Bob
This is most recent
with my comments

Kim
5/2/00

RECEIVED
MAR 02 1999

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

THIS IS
Kim's STEVE
DISCUSSION
COPY

STEVE
your copy for
your comments
Kim

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

NEEDS
TABLE OF CONTENTS

KIM: WE/THEY NEED TO MAKE UP OUR MINDS
WHETHER THIS OPERATION PLAN IS FOR JUST
THE EXISTING DISPOSAL UNIT (SW-1, A-1, A-2)
OR FOR BOTH PRESENT + FUTURE DISPOSAL UNITS.
THE PLAN JUMPS BACK + FORTH BETWEEN SPECIFIC REFERENCES
TO SW-1 + A-1 + 2 AND GENERAL REFERENCES (Solid waste disposal (ASIA DISPOSAL UNITS))

Reviewed Kim
3/1/99

SECTION 8.0

LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plan Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C.

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste.

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When the plant capacity allows, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available, *see Section 8.1.1 for mining procedures.*

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units.

*moving
to new process
scale house
process
scale house
FB*

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified at the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u>	<u>Six Days*</u>
First Shift Supervisor	MTWTF
Second Shift Supervisor	TWTF
<u>Equipment Operator/Spotters</u>	
First Shift Operator	MTWT
Second Shift Operator	WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;

- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. Do not place the debris in an unlined area. Call FDEP.

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;

~~Apply initial cover to working face of the active Solid Waste Disposal Unit (daily requirement) for waste deposited in these units.~~ *DALEY-COW 2*
AL

- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

the solid waste disposal unit
this does not include Class III material
One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable and non-processible waste.

AT WHD? AL
If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the ~~Class III~~ and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be

removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. Also contact the County Health Department.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 - Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. Figure 8.2 and ~~8.2A~~ depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for disposal unit A-2 is shown in Figure 8.2B.

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. ~~Ash and solid waste~~ will not be placed within two feet of this flagged or marked line. All incoming ~~solid waste~~ will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see Figure 8.3). Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a ~~50-foot wide~~ working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the southwest corner of the unit and proceed diagonally to the northeast corner of the unit. The area will be divided into six subareas (refer to Drawing 8.2B). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-

1
10
COFFIN
W/
LAW
/ACAS

GET RID OF 8.2A

SEE NOTE
FIG 8.3
THIS APPL TO
MSW ONLY OR
GUT MSW + ASH
25

CURRENTLY NOT OPERATING LIKE
THIS. ARE THEY SURE THEY
WANT TO STICK TO THIS

foot grid of tires to minimize the formation of leachate to the extent possible. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2B.

Phase II

1. Construct berms around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover a-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary for elevation 70 to 65.5.

Phase IV

- 1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

The sequence of filling ~~the~~ lined disposal unit areas with installed leachate collection systems will ~~be designed to~~ meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift *in* solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

to support vegetation
Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

final
Cover will be applied over disposal units *within 180 days after the final lift is completed.* Cover will consist of *18 inches of earth or wood chips* *cover with 6 inches of native soil.* The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4). Placement of a rain tarp to limit infiltration of rain may be used *in place of each or wood chips* *(refer to Section 8.2.6).*

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.

AT THE END OF EACH WORKING DAY *Good comment*
Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate will be covered by a 20 mil geomembrane secured in place by tires.

Final
The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Cover material will be applied to the landfill once the final grades are reached. The cover may be earth which will be seeded or planted with grass, suitable cover vegetation, or a rain tarp (refer to Section 8.2.6).

Intermediate
in accordance with an approved closure plan

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. ~~The detail of this gas vent is shown on Figure 8.5.~~ The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see Figure 8.6).

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week.

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 62-701.510, F.A.C. for each disposal unit.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified in accordance with the Solid Waste Rules, and new well construction details will be provided to the Solid Waste Section for approval prior to implementation.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on site at the office of the Solid Waste Manager.

The Operating Record will be available during business hours for inspection by Department personnel. ✓

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day.

~~To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 62-701-500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department in accordance with the solid waste rules.~~ ^{estimated} ~~land to 2006~~

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters. ✓

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future. ✓

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known. ✓

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste, ~~if required~~, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit will be removed as soon as practical, compaction requirements are intentionally less than would be for a solid waste unit used for disposal only at a municipal landfill. By-pass waste ~~may~~ ^{will} require only one to three passes with heavy equipment. ^{all will be segregated on an active leachate collection system with waste disposal.}

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects are removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed to construct lifts. The working face of the disposal unit, and side grades at a slope, not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

ASH lifts will follow the construction lifts as shown on Drawing 8.2 and described in Section 8.2.6.

figure 8.3

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Operational Procedures for Leachate Management ~~Power Plant Siting Act~~

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department in accordance with the reporting schedule in the solid waste rule. A copy of the form that will be used to record the data is included in Table 8.1 ~~8.2~~ *upon request.*

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than 20 percent above the leachate action level for 10 days, the Solid Waste Manager will be notified so the exceedances can be addressed promptly *and the Department notified of corrective actions.*

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. ~~The term of the agreement is until November 1999. The county does not plan to extend the term of this agreement.~~ If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

Leachate Management Facility

The Leachate Management Facility (LMF), ~~permitted under the Power Plant Siting Board,~~ has capacity to treat the leachate from the ash disposal units.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tanks or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section

8.8.4, such as the City of Tampa WWTP.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the Corm tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP in accordance with the solid waste rule. SPECIFY upon request.

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be reached and compared as shown on the monthly leachate generation summaries submitted in accordance with the rule. SPECIFY

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Gas monitoring will be initiated after the burial of permissible waste in any solid waste disposal unit in compliance with 62-701.400, paragraph 10.2. No gas monitoring will be conducted relative to the ash monofill disposal units.

62-701.400(10) and
62-701.500(9).

8.10 ~~Describe~~ Procedures for Operating and Maintaining the Landfill Storm-Water Management System to ~~Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.~~

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 8.2.2.2 and 8.2.8).

8.11 Equipment and Operation Feature Requirements

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

March 1, 1999
Revised

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

8.11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur, to control litter.

8.11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.12 ~~8.11.9~~ Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance maps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

missing 8.13
All of 8.13 - 8.13.5
ADD 8.13 - 8.13.5
From early APPROVED
OPS PLAN

From currently approved ops plan

✓ 8.13 Additional Recordkeeping and Reporting Requirements

✓ 8.13.1 Records Used For Developing ~~Permit Applications~~ *landfill design* and Supplemental Information Maintained For the Design Period of the Landfill

Records used for developing ~~permit applications~~ *landfill design* and other Supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.

✓ 8.13.2 Monitoring Information Calibration and Maintenance Records, Copies of Reports Required By ~~Permit~~ *condition, of certification and the operations plan* Maintained For At Least Ten Years

Reports required by the ~~permit~~ *condition, of certification and the operations plan* will be maintained for at least 10 years in the Utilities Services Branch files.

✓ 8.13.3 Background Water Quality Records Shall be Maintained for the Design Period of the Landfill

Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

✓ 8.13.4 Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit This Estimate Annually to the Department

The Operations and Maintenance Director will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed, permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch Files.

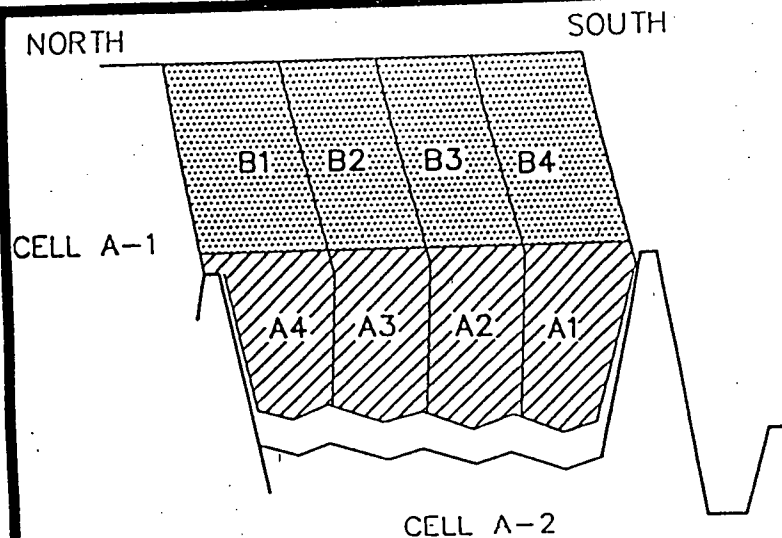
8.13.5 Annual Report Requirements Including a Report Submitted to the Department Which Is Signed, Dated and Sealed by P.G. or P.E.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated and sealed by a P.G. or P.E.

TABLE

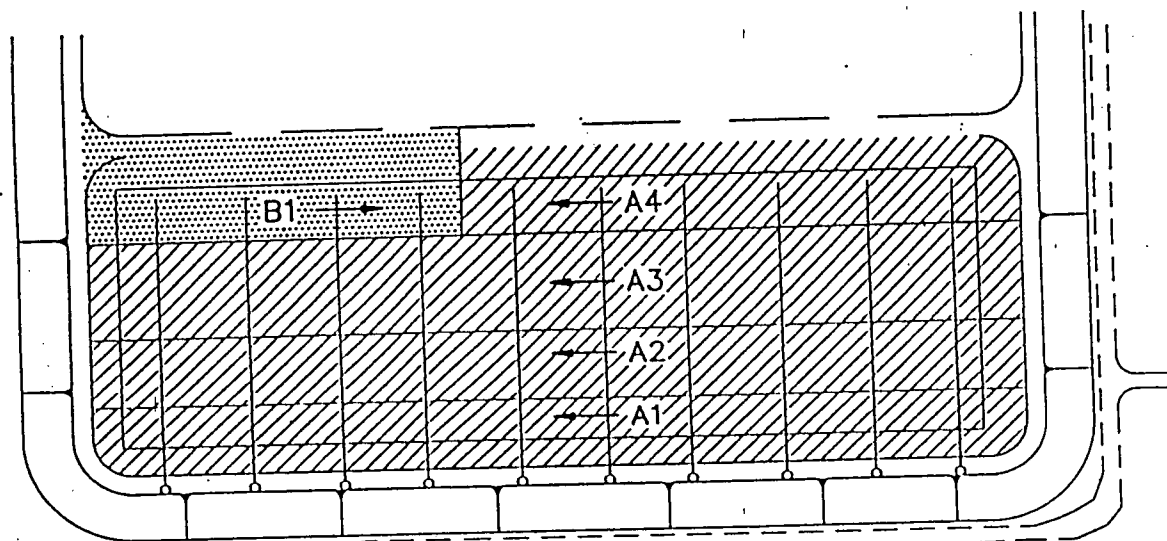
FIGURES



? SEQUENCE?
 ⇒ A1 N TO S
 OR
 E TO W
 CONFLICT ←
 GET RID OF
 FIGURE 8.2A

LEGEND

- LIFT A
- LIFT B
- FILL DIRECTION



FILL PLAN OF CELL A-2.



NOT TO SCALE

Prepared/Date: JFW 01/29/98
 Checked/Date:

PASCO COUNTY
 BOARD OF COUNTY COMMISSIONERS
 UTILITY SERVICES BRANCH
 RESOURCE RECOVERY FACILITY
 PASCO COUNTY, FLORIDA

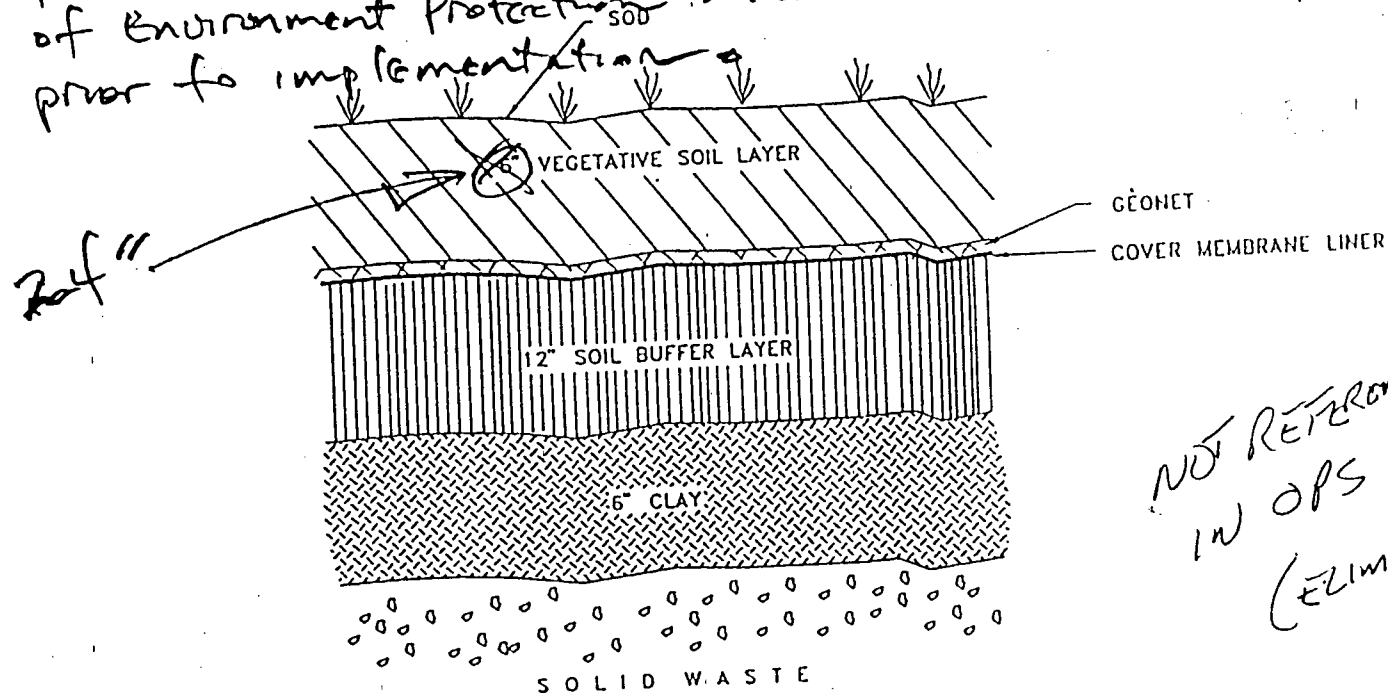


LAW
 ENGINEERING AND ENVIRONMENTAL SERVICES

MODIFIED LIFT A SEQUENCE
 SCHEMATIC FOR CELL A-2

Project 40141-7-0317 Figure 8.2A

Note: This is a conceptual design only. Construction plans, specifications, CQA, and all supporting information required for final closure design will be provided to the Department of Environment Protection Solid Waste Section for approval prior to implementation.



NOT REFERENCED ANYWHERE
IN OPS PLAN
(ELIMINATE)

Not To Scale
Prepared/Date:
Checked/Date:

Resource Recovery Facility
Pasco County, Florida

Final Cover Detail

Project 64-83565.01

Figure 8.4

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida

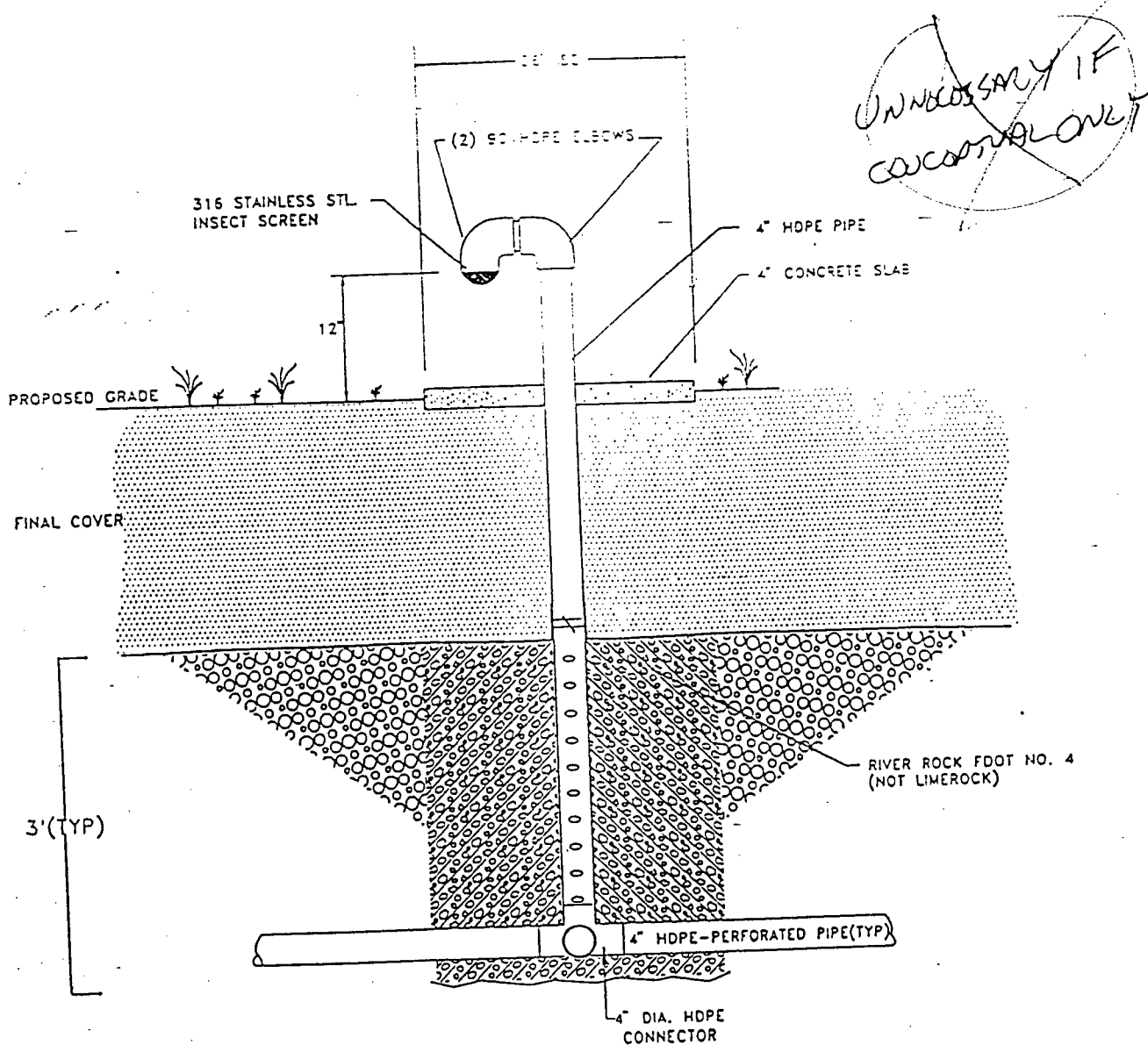


LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

ACAD=48356594

Note: This is a conceptual design only. Construction plans, specifications ~~etc.~~ (Same note as for figure 8.4)



Prepared/Date: REM 2/99
Checked/Date:

BOARD OF COUNTY
COMMISSIONERS
UTILITY SERVICES
PASCO COUNTY, FLORIDA



LAW

ENGINEERING AND ENVIRONMENTAL
SERVICES

WEST PASCO LANDFILL
Gas Vent Detail

Project 40141-9-0451 Figure 8.5

Report forms

TABLE 3

after revision

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

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SECTION 8.0

LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C.

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste.

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When the plant capacity allows, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available, *see Section 8.7.1 for mining procedures.*

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified at the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u> First Shift Supervisor Second Shift Supervisor	<u>Six Days*</u> MTWTF TWTFS
<u>Equipment Operator/Spotters</u> First Shift Operator Second Shift Operator	MTWT WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;

- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. Do not place the debris in an unlined area. Call FDEP.

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- ~~Apply initial cover to working face of the active Solid Waste Disposal Unit (daily requirement) for waste deposited in these units;~~
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at *the solid waste disposal unit* ~~the does not include ash monofill~~ each working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable waste.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the ~~Class III and~~ Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be

removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. Also contact the County Health Department.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. Figure 8.2 and 8.2A depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for disposal unit A-2 is shown in Figure 8.2B.

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within two feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. (Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see Figure 8.3).) Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units cells will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a 50-foot-wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the west portion of the unit and proceed east portion of the unit. The area will be divided into approximately six subareas (refer to Drawing 8.2B). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-

foot grid of tires to minimize the formation of leachate to the extent possible. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2B8.

Phase II

1. Construct berms around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover a-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary from elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

The sequence of filling ~~future~~ lined disposal unit areas with installed leachate collection systems will be developed to meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift *in* solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final Cover will be applied over disposal unit lifts within 180 days after the final lift ~~over an~~ area is completed. *Intermediate* Cover will consist of ~~18~~ 12 inches of earth soil or an approved mix of wood chips and soil for cover with 6 ~~another~~ inches of native soils to support vegetation. The top six inches of *final cover* will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4). Placement of a rain tarp to limit infiltration of rain may be used for ash monofill in place of earth or wood chips (refer to Section 8.2.6).

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit *at the end of each working day*. The ash monofill disposal unit will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate ~~for~~ ash monofills will be covered by a 20 mil geomembrane secured in place by tires. cell

in accordance with an approved closure plan
The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. ~~Final Cover~~ material will be applied to the landfill once the final grades are reached. ~~The cover may be earth which will be seeded or planted with grass, suitable cover vegetation, or a rain tarp (refer to Section 8.2.6).~~

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

will
Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent ~~is shown on Figure 8.5.~~
will be provided to DEP for review prior to closure.
The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see Figures 8.6, 8.6A and 8.6B). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see Figures 8.6 and 8.6A).

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week.

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory *or other approved laboratory, if necessary.* The water quality monitoring plan ~~shall meet~~ meets the requirements of Chapter 62-701.510, F.A.C. *for each disposal unit.*

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified ~~in accordance with the Solid Waste Rule, and new well construction details will be provided to the Solid Waste Section for approval prior to implementation.~~

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, *site certification*, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permits, *conditions of certification*, engineering drawings, and the operating plan are kept on site at the office of the Solid Waste Manager.

The Operating Record will be available during business hours for inspection by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day.

~~To the extent possible, the~~ The amount of solid waste received by the type of waste will be determined *estimated* as listed under Chapter 62-701.5-500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department ~~in accordance with the solid waste rules.~~

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate from the Class III Landfill to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County

facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, proper disposal, and correct handling in the future.

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

above
All solid waste, ~~if required,~~ *accepted for disposal* will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit ~~will~~ *may* be removed as soon as practical, compaction requirements are ~~intentionally~~ *may be* less than would be for a solid waste unit used for disposal only at a municipal landfill. *By-pass waste designated for removal (mining) will require only one to three passes with heavy equipment and will be segregated in an area with active leachate collection and cover with waste tire chips. By-pass waste will be removed to four feet above the protective soil layer within 180 days or relocated for disposal and compacted in two foot layers as required.*

may
no closer than

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects are removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

kept
Solid waste will be placed to construct lifts. The working face of the disposal unit and side grades at a slope *is interior* not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

All waste Ash lifts will follow the construction lifts as shown on Drawing Figure 8.2 and described in Section 8.2.6.

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180 days. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Operational Procedures for Leachate Management Plant

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department *request* ~~upon receipt~~ in accordance with the reporting schedule in the solid waste rule. A copy of the form that will be used to record the data is included in Tables 8.1 and 8.2.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review *not bold* daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than 20 percent above the leachate action level for 10 days, the Solid Waste Manager will be notified so the exceedances can be addressed promptly *and the Department notified of corrective actions.*

Leachate Management Facility

The Leachate Management Facility (LMF) has capacity to treat the leachate from up to 10 acres of open ash disposal units.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. ~~The term of the agreement is until November 1999. The county does not plan to extend the term of this agreement.~~ If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tank or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section 8.8.4, *such as the City of Tampa WWTP*.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the ~~Corm~~ *Crom* tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP ~~in accordance with the solid waste rule.~~

upon request.

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be recorded and compared as shown on the monthly leachate generation summaries submitted in accordance with the rule.

8.9 ~~Describe Routine Gas Monitoring Program for the Landfill as Required~~

Gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in any solid waste disposal unit in compliance with 62-701, 400, paragraph 10.2 62-701.400(10) and 62-701.500(9). No gas monitoring will be conducted relative to the ash monofill disposal units.

8.10 ~~Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.~~

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 8.2.2.2 and 8.2.8).

8.11 Equipment and Operation Feature Requirements

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

8.11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur to control litter.

8.11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.11.98 Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

8.12.12

Additional Recordkeeping and Reporting Requirements

8.13.1 ~~Records Used for Developing Permit Applications~~ Landfill Design and Supplemental Information Maintained For the Design Period of the Landfill.

~~Records used for developing permit applications landfill design and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.~~

8.13.2 ~~Monitoring Information Calibration and Maintenance Records, Copies of Reports Required by Permit~~ Maintained For At Least Ten Years.

~~Reports required by the conditions of certification and this operations plan permit will be maintained for at least 10 years in the Utilities Services Branch files.~~

8.13.3 ~~Background Water Quality Records Shall be Maintained for the Design Period of the Landfill~~

~~Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.~~

8.13.4 ~~Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit This Estimate Annually to the Department~~

~~The Operations and Maintenance Director will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed, permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch files.~~

8.13.5 ~~Annual Report Requirements Including a Report Submitted to the Department Which Is Signed, Dated and Sealed by P.G. or P.E.~~

~~A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.~~

~~The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report~~

8.12 Additional Recordkeeping and Reporting

and construction plans *new disposal units*
Records used for developing ~~permit applications~~ and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files. Reports required by the ~~permit~~ will be maintained for at least 10 years in the Utilities Services Branch files. Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files. *Conditions of certification and the operations plan*

Manager
The Solid Waste ~~Director~~ will submit annually to the Department estimates of ~~other~~ remaining capacity of the constructed and unconstructed ~~permitted~~ waste disposal units. Estimates will be maintained in the Utilities Services Branch files.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.

March 1, 1999

Mr. Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
MAR 02 1999

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Subject: **West Pasco Landfill**
Revised Operations Plan
LAW Project 40141-9-0451

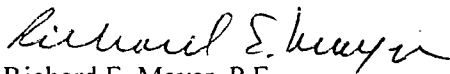
Dear Mr. Ford:


Law Engineering and Environmental Services, Inc. (LAW), on behalf of Pasco County, has revised the operations plan for the West Pasco Landfill. Many of the comments in your facsimile dated September 1998 have been incorporated into this revised document. In addition the revised document reflects some additional clarifications. All the strikeouts and italics were deleted because the extensive number of them rendered them less than useful in understanding the document.

We trust these data adequately respond to you comments. If you have any questions, please call at 813/289-0750.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.


Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759


George W. Ellsworth, P.G.
Senior Geologist
Florida Registration 0848

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RECEIVED
MAR 02 1999

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

NEEDS
TABLE OF CONTENTS

Revised & Approved:
3/1/99

SECTION 8.0

LANDFILL OPERATIONS

This Operations Plan is for the West Pasco Class I Landfill. It is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn Resource Recovery Facility (the plant), the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The West Pasco Class I Landfill, and the West Pasco Class III Landfill are co-located on an 800-acre site. The entire 160-acre West Pasco Class I Landfill and the Resource Recovery Facility are permitted under the Florida Electrical Power Plan Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C. ✓

The West Pasco Class I Landfill is conceptually designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are planned for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in 1991, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work. ✓

Processible Municipal Solid Waste (MSW) is combusted in the plant. The residual ash is quenched and screened to remove large materials and passes through a magnetic separator to remove ferrous metal before hauling to the ash disposal unit. Process residue (MSW ash) from the plant is loaded into trucks for disposal in the active ash monofill disposal unit at the adjacent West Pasco Class I Landfill. ✓

Non-processible waste such as reject glass from recycling operations is disposed in SW-1. Non-processible waste is disposed at the base of the lift in solid waste disposal unit(s). By-pass waste is disposed on top of the non-processible waste. ✓

Whenever processible waste is being bypassed from the plant to the Active Solid Waste Disposal Unit, the Landfill Supervisor will have the staff at the scale house direct incoming haulers to the Active Solid Waste Disposal Unit. Some of the staff may be re-assigned to the Active Solid Waste Disposal Unit receiving the waste as spotters. When the plant capacity allows, the scale house will direct the haulers to the plant. The Landfill Supervisor will initiate removal of the solid waste from the Active Solid Waste Disposal Unit and begin hauling to the plant for burning as soon as it is practical when capacity is available. ✓

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. Entrance to the site is limited to one gate and it is monitored by the county staff located in the scale house along the entrance road. To further limit access, the West Pasco Class I Landfill, and the West Pasco Class III Landfill are separated internally by a chain-link and barbed wire fence to control movement between the units. ✓

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have been trained and are certified at the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u>	<u>Six Days*</u>
First Shift Supervisor	MTWTF
Second Shift Supervisor	TWTFS
<u>Equipment Operator/Spotters</u>	
First Shift Operator	MTWT
Second Shift Operator	___WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an **uncontrollable fire** does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;

- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

If necessary, solid waste will be directed to other permitted disposal facilities as appropriate, in Pasco County.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

The Landfill Supervisor will report findings to the Solid Waste Manager.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the system capacity, the materials can be stockpiled/disposed of in the active Solid Waste Disposal Unit. The Class III landfill can be used to the extent needed for a staging area. Do not place the debris in an unlined area. Call FDEP.

Once the rate of inflow decreases to below the system capacity of the plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply initial cover to working face of the active Solid Waste Disposal Unit (daily requirement) for waste deposited in these units;
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. A dumpster will be provided near the working face to facilitate removal of unacceptable and non-processible waste.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for quenching and be allowed to cool.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the Class III and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be

removed under the direction of the County Hazardous Waste Coordinator in compliance with the solid waste rule. Also contact the County Health Department. ✓

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing across the scales to be weighed. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility. ✓

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible waste or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading. ✓

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. Figure 8.2 and ~~8.2A~~ depicts the sequence of filling waste and progression of lifts within a typical disposal unit. A modified sequence of filling for disposal unit A-2 is shown in Figure 8.2B.
A-2 GET RID OF 8.2A

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid Waste Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within two feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachate and divert storm water to the surface-water management system (see Figure 8.3). Solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day. ✓

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the southwest corner of the unit and proceed diagonally to the northeast corner of the unit. The area will be divided into six subareas (refer to Drawing 8.2B). A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10- ✓

foot grid of tires to minimize the formation of leachate to the extent possible. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, or wood chips will be placed over the ash before the rain tarp is used.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or wood chips, covering any exposed ash on the side slopes with four to six inches of soil or wood chips, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2B.

Phase II

1. Construct berms around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover a-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary for elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

The sequence of filling future lined disposal unit areas with installed leachate collection systems will be developed to meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift *in* solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

2 PARTS
Intermediate
Final cover
Cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Cover will consist of 18 inches of earth or wood chips *soil* cover with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4). Placement of a rain tarp to limit infiltration of rain may be used in place of each or wood chips (refer to Section 8.2.6). *an approved mix of soil and soil for another*

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Top areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at least two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate will be covered by a 20 mil geomembrane secured in place by tires.

The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Cover material will be applied to the landfill once the final grades are reached. The cover may be earth which will be seeded or planted with grass, suitable cover vegetation, or a rain tarp (refer to Section 8.2.6).

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed when the disposal units are filled. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases. ✓

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate pump station (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 and A-2 is pumped to the on-site leachate management (treatment) facility. 8.6A and 8.6B

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1 (see Figure 8.6). 8.6A and 8.6B

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance after each major storm event and once per week. ✓

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system. ✓

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 62-701.50, F.A.C. for each disposal unit. or other approved laboratory if necessary

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Solid Waste Manager of the damage. The Department will also be notified in accordance with the Solid Waste Rule. construction details will be provided to the Solid Waste Section for approval prior to implementation.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications described by Chapter 62-701, F.A.C., including permits, engineering drawings, and supporting information, and the landfill operator training verifications. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on site at the office of the Solid Waste Manager. site certification, conditions of certification

The Operating Record will be available during business hours for inspection by Department personnel. ✓

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the entrance to the site. Additionally, all ash residue transported from the plant to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste weights will be recorded in tons per day. ✓

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 62-701.2500(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department in accordance with the solid waste rules. ✓

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing at least 6 feet high. Access to the site is through one gate and entrance road. The county staff located in the scale house located along this road monitors traffic. Interior fencing separates the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Class I Landfill and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal. ✓

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained. ✓

8.6 Monitoring of Waste

In the event that waste is being directed to an active solid waste unit, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters. ✓

If unauthorized wastes are detected, the spotter will notify the Landfill Supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Landfill Supervisor will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future. ✓

If the Landfill Supervisor or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Landfill Supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known. ✓

The information and observations resulting from each random inspection will be recorded in writing and retained at the site for at least three years. The recorded information will include the following: ✓

- Date and time of inspection;
 - Name of the hauling firm or vehicle owner;
 - Driver of the vehicle;
 - Vehicle license plate number;
 - Source of waste;
 - Observations made;
 - Name and signature of the inspector.
- ✓

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste, if required, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. Because the waste in the Solid Waste Disposal Unit will be removed as soon as practical, compaction requirements are ~~intentionally~~ less than would be for a solid waste unit used for disposal only at a municipal landfill. *may be*

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material for a total of three feet thick over the geomembrane will be placed on the side slopes and covered with a geotextile. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. Large objects are removed from the ash prior to disposal. The thickness of the first layer will be at least four feet of compacted waste for each solid waste disposal unit. Placement of the first layer will be conducted by a trained operator. ✓

8.7.3 Construction of Lifts

Solid waste will be placed to construct lifts. The working face of the disposal unit, and side grades at a slope, not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses. ✓

Ash lifts will follow the construction lifts as shown on Drawing 8.2 and described in Section 8.2.6. ✓

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic. ✓

8.7.5 Initial Cover

Initial cover will be applied to solid waste in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6. ✓

Initial cover of the solid waste disposal units will be applied at the end of each working day. The initial cover will be six inches in compacted thickness unless a tarp is used. ✓

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days if additional solid waste will not be deposited within 180. The intermediate cover, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled within the active disposal unit for use as initial cover for the resumed disposal activity. ✓

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with an approved closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass. ✓

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal. In the event the litter becomes an issue, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into the active disposal unit; ✓
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the site access roads, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas. Litter will be collected daily on operating days.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct once a week inspections (twice per week during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Operational Procedures for Leachate Management ~~Power Plant Siting Act~~

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department in accordance with the reporting schedule in the solid waste rule. A copy of the form that will be used to record the data is included in Table 8.1. *8.2*

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below 12 inches and that generation rates measured in the secondary leachate collection system are not excessive, i.e., above 1,000 gallons per acre per day. If exceedance is detected of more than 20 percent above the leachate action level for 10 days, the Solid Waste Manager will be notified so the exceedances can be addressed promptly. *and the Department notified of corrective actions.*

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. The term of the agreement is until November 1999. The county does not plan to extend the term of this agreement. If this source is needed in the future, the county will negotiate to haul leachate to this or another facility.

*+7
update
needed*

Leachate Management Facility

The Leachate Management Facility (LMF), ~~permitted under the Power Plant Siting Board~~, has capacity to treat the leachate from the ash disposal units.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump or haul leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facilities. ✓

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station, holding tank or leachate sumps, the Landfill Supervisor will be notified immediately, so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP. ✓

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate pump station holding tanks or leachate sumps, the Solid Waste Manager will be notified immediately so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites identified in Section 8.8.4.

8.8.4, such as the City of Tampa WWTP.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the form tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP in accordance with the solid waste rule. Crom ✓

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be reached and compared as shown on the monthly leachate generation summaries submitted in accordance with the rule.

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in any solid waste disposal unit in compliance with 62-701.400, paragraph 10.2. No gas monitoring will be conducted relative to the ash monofill disposal units.

62-701.400(10) and
62-701.500(9).

8.10 ~~Describe~~ Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Sections 8.2.2.2 and 8.2.8).

8.11 Equipment and Operation Feature Requirements

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	3

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

March 1, 1999
Revised

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building, Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios. Telephones are available on site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building and all vehicles on site have first-aid kits.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

8.11.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur, to control litter.

8.11.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the site and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.12 ~~8.11.9~~ Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the site, the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance maps to the constructed disposal units. The Landfill Supervisor will insure that the access roads are maintained.

missing 8.13
All of 8.13
ADD 8.13 - 8.13.5
From Early APPROVED
OPS PLAN
8-15

from currently approved ops plan

✓ 8.13 Additional Recordkeeping and Reporting Requirements

✓ 8.13.1 Records Used For Developing Permit Applications and Supplemental Information Maintained For the Design Period of the Landfill

Records used for developing permit applications and other Supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.

✓ 8.13.2 Monitoring Information Calibration and Maintenance Records, Copies of Reports Required By Permit Maintained For At Least Ten Years

Reports required by the permit will be maintained for at least 10 years in the Utilities Services Branch files.

✓ 8.13.3 Background Water Quality Records Shall be Maintained for the Design Period of the Landfill

Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

✓ 8.13.4 Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit This Estimate Annually to the Department

The Operations and Maintenance Director will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed, permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch Files.

8.13.5 Annual Report Requirements Including a Report Submitted to the Department Which Is Signed, Dated and Sealed by P.G. or P.E.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated and sealed by a P.G. or P.E.

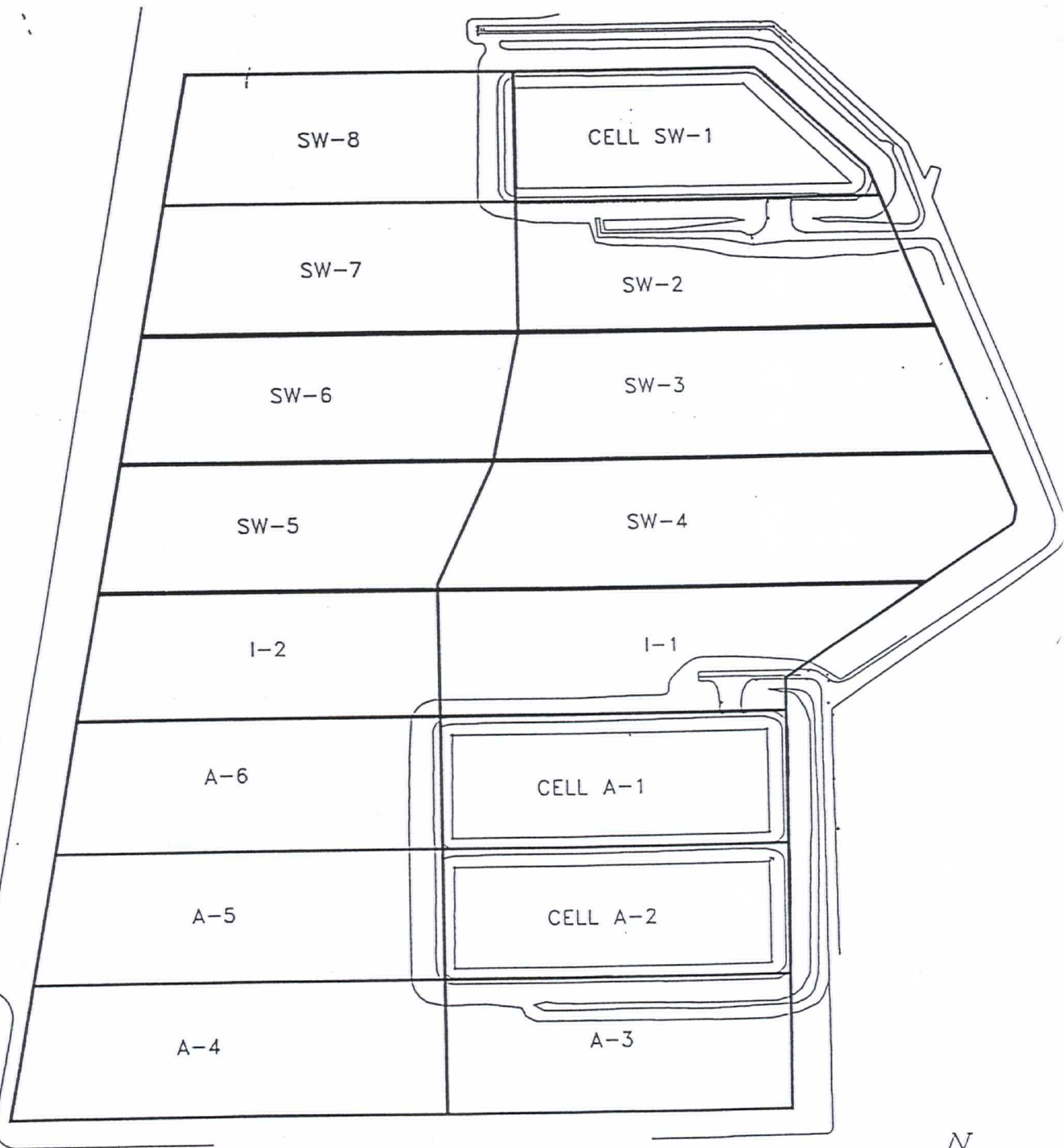
Report forms
~~TABLE 3~~

Table 8.1

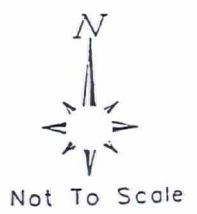
AUSD Report Form
TABLE 8.2
for annual summary

[illegible]

FIGURES



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Checked/Date:

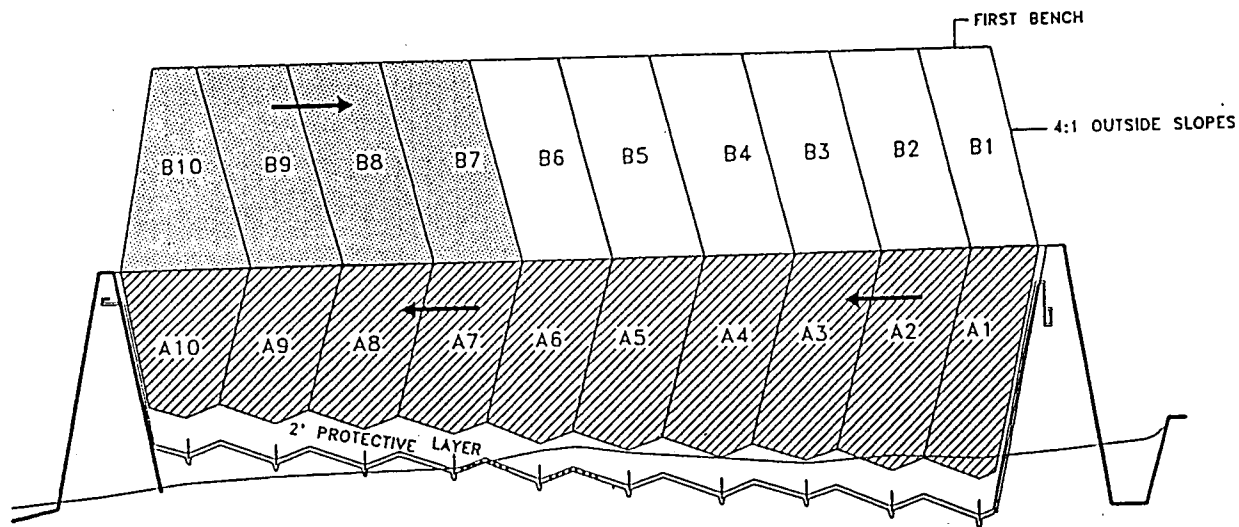
Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



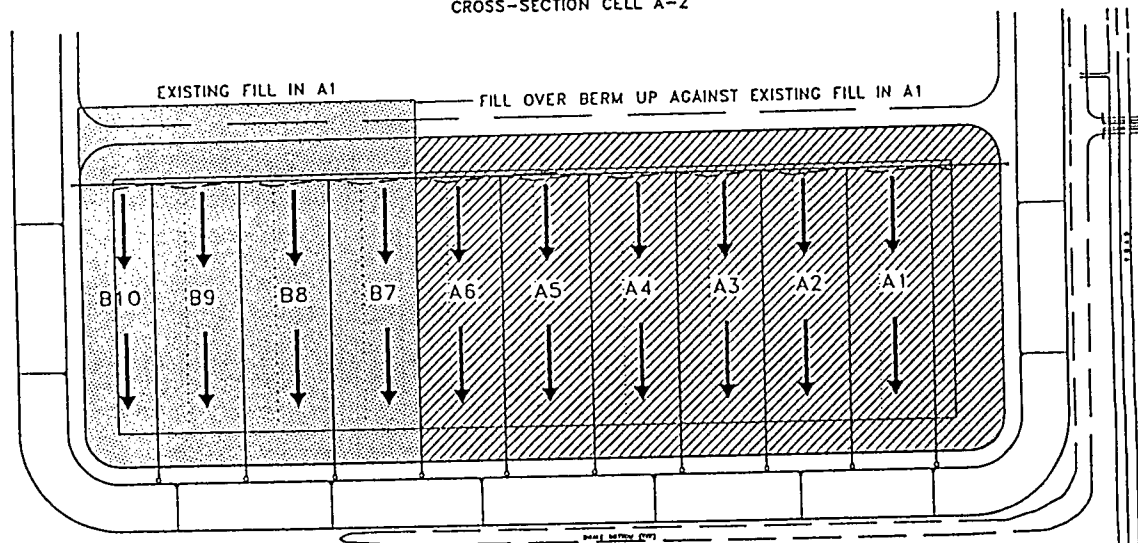
Resource Recovery Facility,
Pasco County, Florida

West Pasco Class
Landfill Footprint Schematic

Project 464-83565.01 Figure 4b



CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



LIFT A



LIFT B



FILL DIRECTION



Not To Scale

Prepared/Date:
Checked/Date:

Resource Recovery Facility
Pasco County, Florida

Lift Sequence Schematic

Project 464-83565.01

Figure 8.2

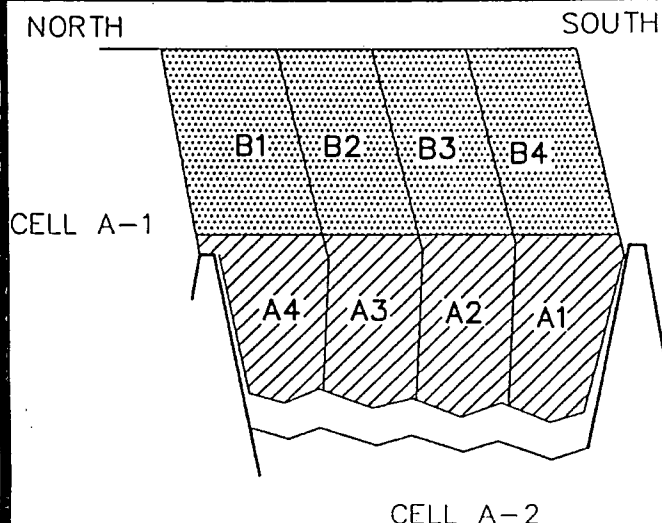
Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



LAW




ENGINEERING AND ENVIRONMENTAL SERVICES

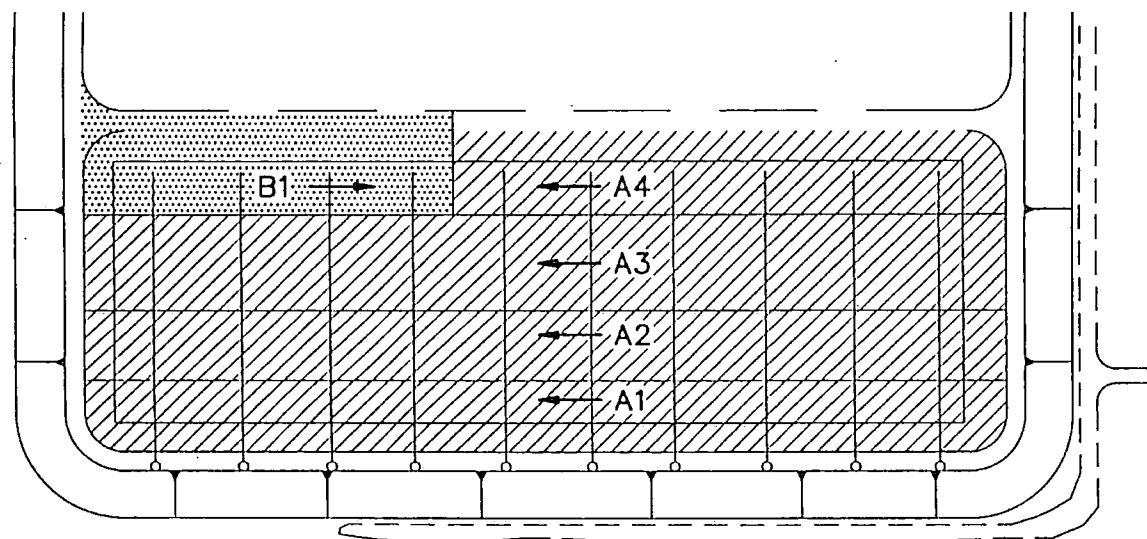
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? SEQUENCE ?
 ⇒ A1 N TO S
 OR
 E TO W
 CONFLICT ←
 GET RID OF
 FIGURE 8.2A

LEGEND

-  LIFT A
-  LIFT B
-  FILL DIRECTION



FILL PLAN OF CELL A-2.



NOT TO SCALE

Prepared/Date: JFW 01/29/98
 Checked/Date:

PASCO COUNTY
 BOARD OF COUNTY COMMISSIONERS
 UTILITY SERVICES BRANCH
 RESOURCE RECOVERY FACILITY
 PASCO COUNTY, FLORIDA

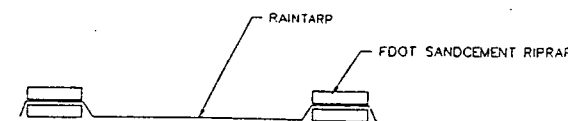
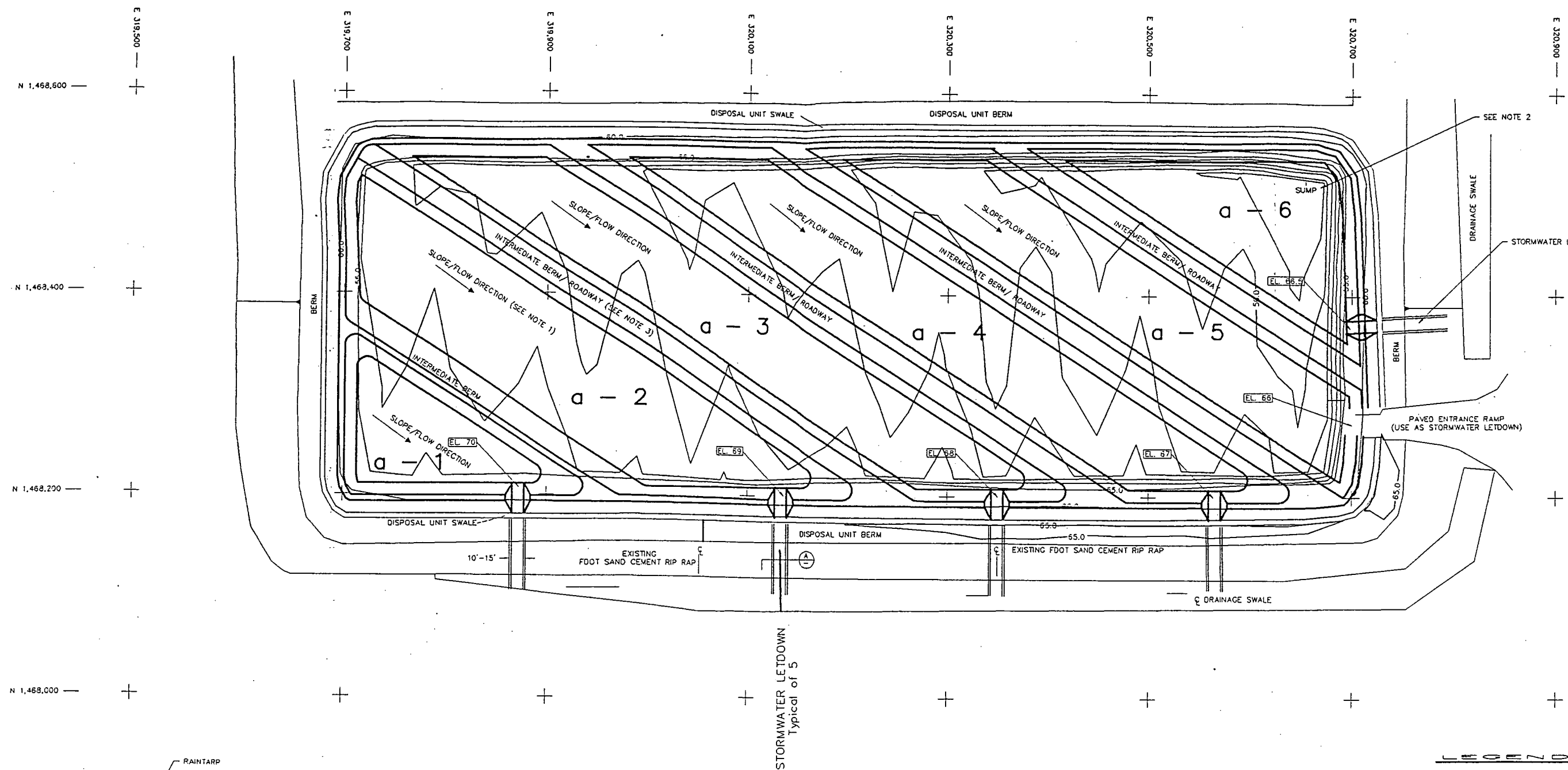


LAW
 ENGINEERING AND ENVIRONMENTAL SERVICES

MODIFIED LIFT A SEQUENCE
 SCHEMATIC FOR CELL A-2

Project 40141-7-0317

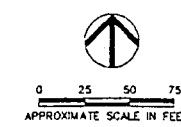
Figure 8.2A



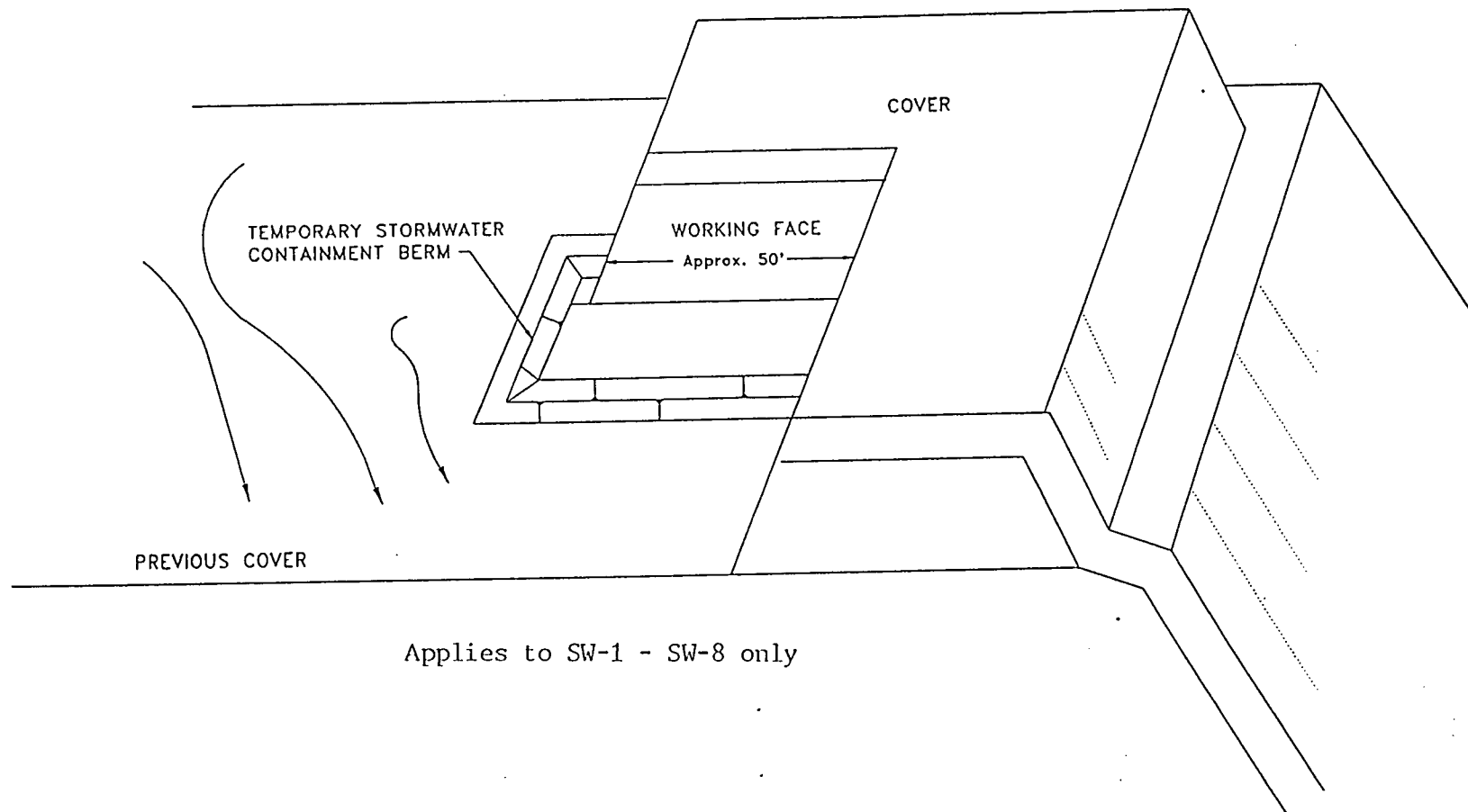
Ⓐ STORMWATER LETDOWN DETAIL
NOT TO SCALE

LEGEND

1. SLOPE TO SOUTHEAST CORNER TO EACH SUBAREA
 2. LEAVE SUMP AREA OPEN
 3. 3'-4' HIGH BERMS ABOVE FINISH GRADE OF ASH
- EL. 67 ELEVATION OF ASH WHEN RAIN TARP IS APPLIED



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Applies to SW-1 - SW-8 only

Not to Scale

Prepared/Date:
Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



LAW
ENGINEERING AND ENVIRONMENTAL
SERVICES

Resource Recovery Facility
Pasco County, Florida

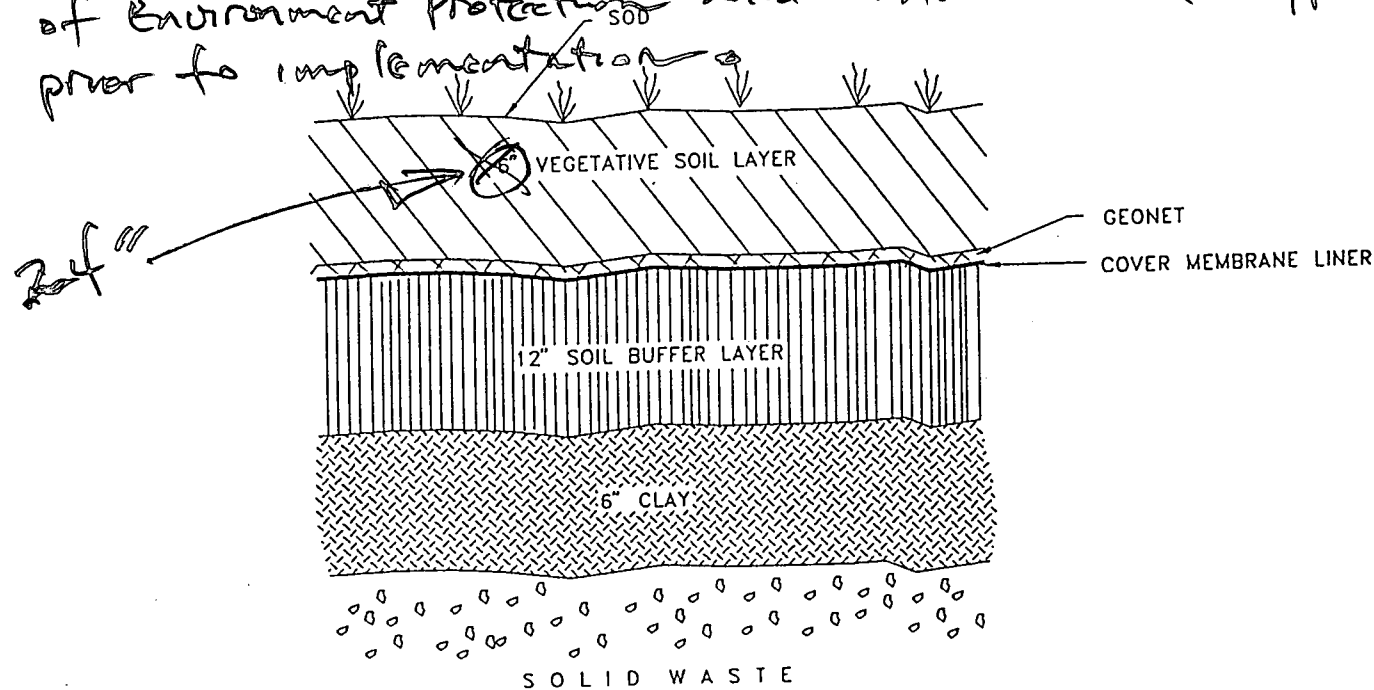
Working Face Schematic

Project 464-83565.01

Figure 8.3

ACAD=483565F3

Note: This is a conceptual design only. Construction plans, specifications, CQA, and all supporting information required for final closure design will be provided to the Department of Environment Protection Solid Waste Section for approval prior to implementation.



Not To Scale

Prepared/Date:

Checked/Date:

Resource Recovery Facility
Pasco County, Florida

Final Cover Detail

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



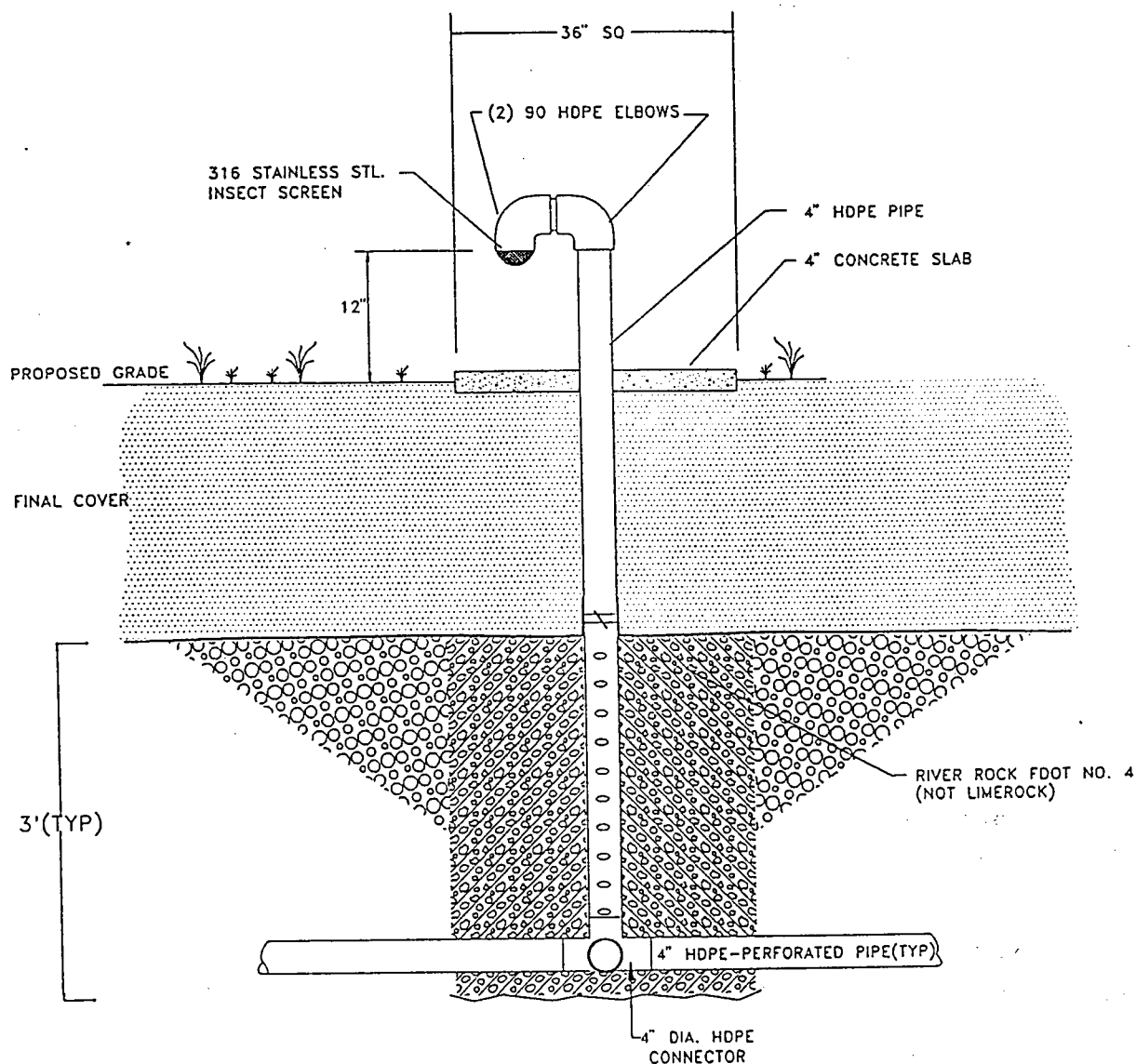
LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

Project 64-83565.01

Figure 8.4

Note: This is a conceptual design only. Construction plans, specifications, etc. (Same note as for figure 8.4)



Prepared/Date: REM 2/99
Checked/Date:

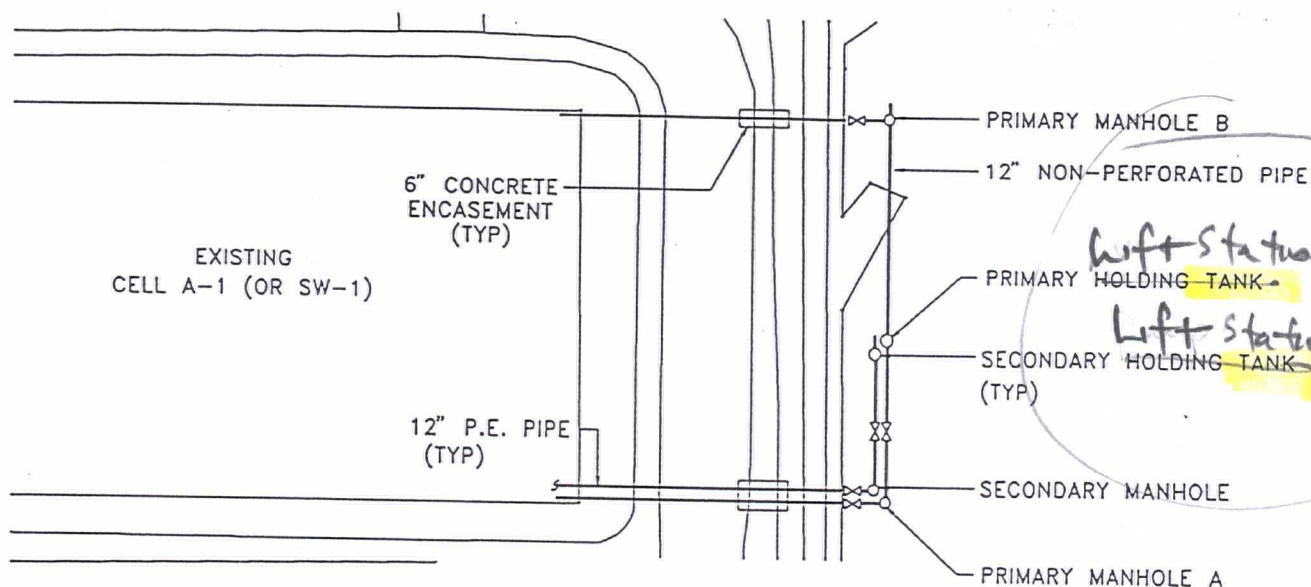
BOARD OF COUNTY
COMMISSIONERS
UTILITY SERVICES
PASCO COUNTY, FLORIDA



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ENGINEERING AND ENVIRONMENTAL
SERVICES

WEST PASCO LANDFILL
Gas Vent Detail

Project 40141-9-0451 Figure 8.5



Note: The attached sketches show temporary modifications to system, Spring 1998

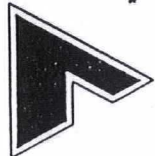
Prepared/Date: REM-2/99
Checked/Date:

BOARD OF COUNTY
COMMISSIONERS
UTILITY SERVICES
PASCO COUNTY, FLORIDA



LAW
ENGINEERING AND ENVIRONMENTAL
SERVICES

WEST PASCO LANDFILL
Leachate Collection System
Schematic, SW1 & A1 & A2
Project 40141-9-0451 Figure 8.6

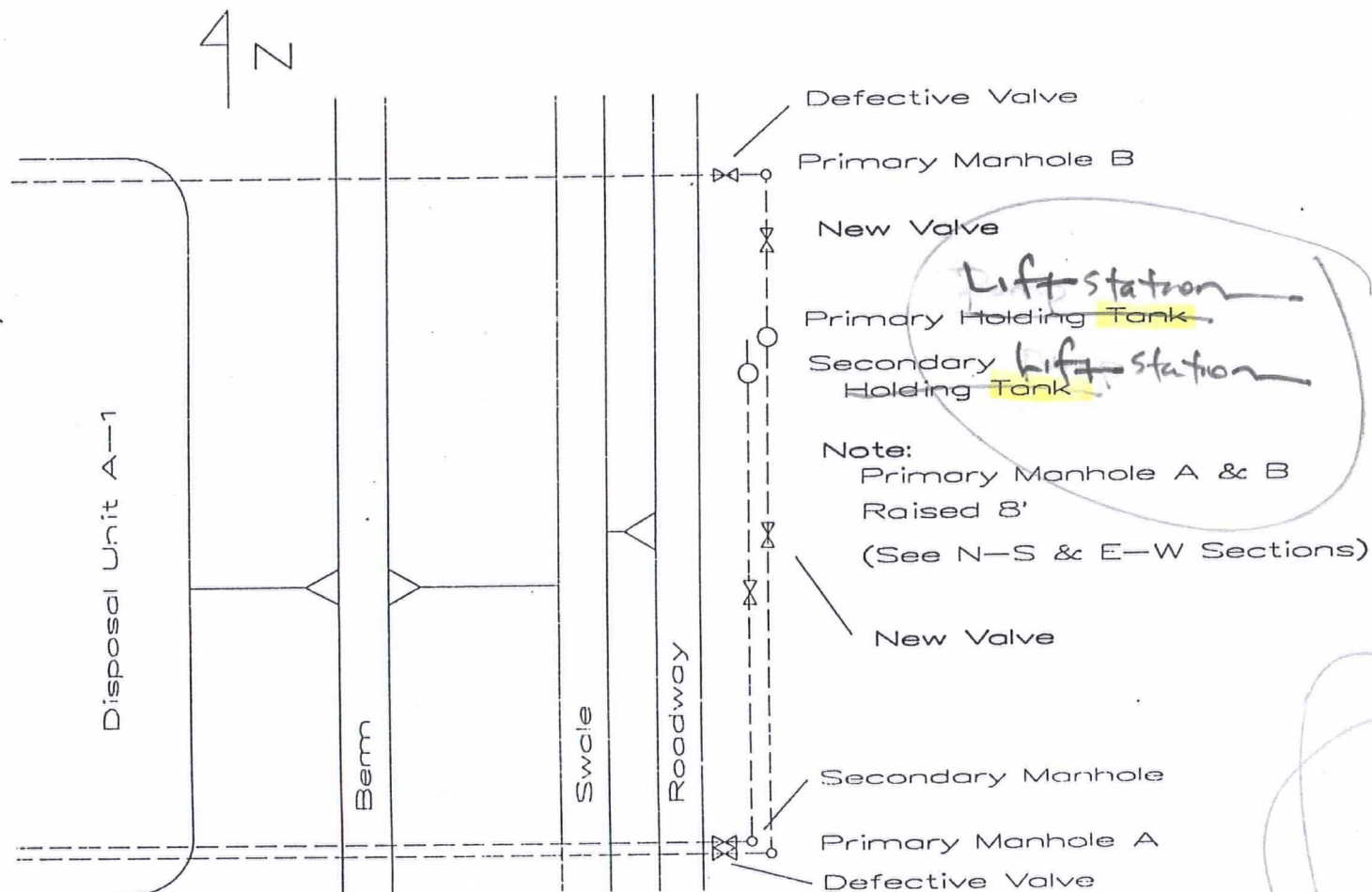


LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

Disposal Unit A-1 Manhole Modification As-Built

JOB NO.	40141-7-0317, Phase 01, Task 912
COL.	West Pasco Landfill
ENGINEER:	RE: Mover
CHECKED:	DATE: 01/26/98
SHEET:	1 of 1

Figure 8.6A





LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

Disposal Unit A-1 Manhole Modification As-Built

JOB NO: 401417-0112, Phase 01, Task 912

JO: West Pasco Landfill

ENGINEER: RE: NINEC DATE: 01/26/98

CHECKED: DATE:

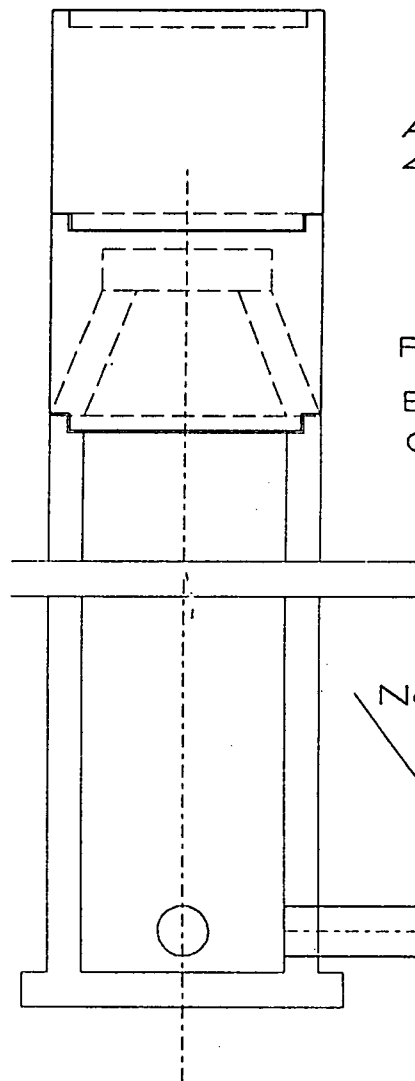
SHEET: 1 of 1

Figure 8.6B

Add two
4' Risers

Removed
Existing
Cone

New Valve

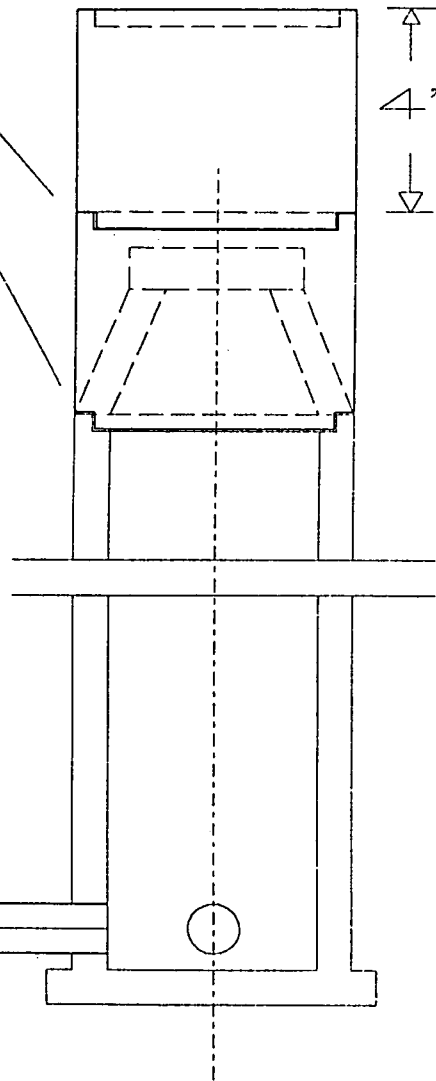


N-S Section

Grout Joints

4'

Defective
Valve



E-W Section

h:\grip\pen\hwy\form\blank\calc.xls

Kim
If this is all
Comments we
have for a
revised GPS
plan I suggest
we contact
Duck Over.
Bob

FDEP

3804 Coconut Palm Drive, Tampa, FL 33619-8318

FAX

Date:

FAX 11/15/98

Number of pages including cover sheet:

17

To: Dick Mayer
Lawrence

Phone: 289 0750

Fax phone: 289 5474

CC:

From:

Kim Ford

Phone: (813) 744-6100 x382

Fax phone: (813) 744-6125

REMARKS:

☐ Urgent

☒ For your review

☒ Reply ASAP

☐ Please comment

W/ PASCO OPS PLAN COMMENTS
- REVISIONS NEEDED

THX
Kim
RB

SECTION 8.0

LANDFILL OPERATIONS

The landfill addressed in this application is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn resource recovery facility, the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The resource recovery facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plan Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Process residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

~~Currently, no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill.~~ Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) 10 hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semi-truck transfer trailers, and by small private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which is directed to a public drop-off area outside the building. Inside the facility building on the tipping floor, rolloff containers are provided for removing non-processible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scalehouse and the facility operators to advise them of the delivery of an unacceptable waste.

planned The West Pasco Class I Landfill ~~was designed and permitted~~ *is conceptually* to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are ~~designed~~ for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in

Kim: ARE A1 THROUGH A-6 AND
SW-1 THROUGH SW-8 ALL
AUTHORIZED FOR CONSTRUCTION
& OPERATION UNDER THE
CERTIFICATION?

1990, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Has any been disposed? where does it go? explain what happens to processible waste.
Except for non-processible waste that cannot be burned, the use of the Solid Waste Disposal Units is intended to be temporary until the Resources Recovery Plant can once again receive and burn the solid waste. Whenever waste is being bypassed from the plant to the Solid Waste Disposal Units (SW-1 through SW-8) the Landfill Supervisor will have the staff at the scale house direct incoming haulers to SW-1 through SW-8. The spotters at the Resource Recovery Facility tipping floor will be re-assigned to the specific Class I landfill receiving the waste. Once the Resource Recovery Facility can receive waste again, the scale house will direct the haulers to off load at the tipping floor of the Resource Recovery Facility. The Landfill Supervisor will initiate removal of the solid waste from the Solid Waste Disposal Unit and begin hauling to the plant for burning.

The entire 800-acre site is enclosed by a 6-foot high chain-link and barbed wire fence to limit access. To further limit access, the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have *been trained and are certified at* the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

Certified Landfill Operators	Six Days*
First Shift Supervisor	MTWTF
Second Shift Supervisor	TWTFs

Equipment Operator/Spotters First Shift Operator Second Shift Operator	MTWT WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

ALTERNATE WASTE
HANDLING + DISPOSAL

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply ~~daily~~ ^{additional} cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the capacity of the Resource Recovery Plant, the materials can be stockpiled/disposed of in SW-1 through SW-8. The Class III landfill can be used to the extent needed for a staging area. Do not place the debris in an unlined area. Call FDEP.

One the rate of inflow decreases to below the capacity of the Resource Recovery Plant, begin to feed the debris into the plant. Storage of debris is a temporary measure *for less than twelve (12) months.*

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply initial cover to working face of SW-1 through SW-8 (daily requirement) for waste deposited in these units;
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being by-passed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the Landfill Supervisor to the specific Class I Landfill. *A dumpster will be provided near the working face to facilitate removal of undesirable waste.*

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for re-quenching ~~or the load may be dumped on the paved entry to the disposal unit~~ and allowed to cool. The Landfill Supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked. *If a hot load of waste is spotted*

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the Class III and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. *scales?* The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except ~~during the highly unlikely event~~ when non-processible waste ~~and~~ by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. ~~Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10 foot grid of tires tied together with rope, to minimize the formation of leachate to the extent possible.~~

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Solid waste

Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within two feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert storm water to the surface-water management system (see Figure 8.3). Ash/solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (50 to 100 feet) (Figure 8.3). A slope of 3:1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

(Drawing 8.3)

northeast

southwest

A-2 Filling Sequence - The filling of Disposal Unit A-2 will begin in the northwest corner of the unit and proceed diagonally to the southeast corner of the unit. The area will be divided into six subareas. A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal-unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, tire chips, or wood chips will be placed over the ash before the rain tarp is used.

*THIS IS NOT
HOW THE YARD
OPERATES
TODAY.*

The filling sequence described above for A-1 (see Figure 8.2) has not been followed. Once Cell A-1 is filled to the level depicted for Lift A in the original Operations Plan, Lift B will also be filled to the level depicted in the original Operations Plan. Each lift will be sloped to drain to the perimeter berm and this will be storm water. The modified filling sequence for Lifts A and B will be as follows:

- An operational road will be constructed with ash. The elevation of the road will be approximately 59 feet.
- Lift A will be filled in 100 foot wide strips from east to west and above elevation 63 feet, graded to slope dipping slightly towards the outer berm, and progressively covered with a rain tarp (secured in place by tires tied together with ropes) (see Figure 8.2A).
- Storm water runoff from the rain tarp will be directed in to the storm water system as planned. The runoff will be across the berm and down the berm slopes which are covered with well established grass.

The filling sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.

3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or ~~shredded tires~~ *wood chips*, covering any exposed ash on the side slopes with four to six inches of soil or shredded tires, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2.

Phase II

1. Construct berms ~~(ash)~~ around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover A-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary for elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

Tabulated below are elevations and a schedule for Phases I and II:

Subarea	Finish Elevation Outlet	Fill Time (months)	Approximate Date Subarea Covered
a-1	70	1	May 1, 1998
a-2	69	3	August 1, 1998
a-3	68	4	varies*
a-4	67	4	varies
a-5	66	4	varies
a-6	65.5	1	varies

Understudy
TABLE

*Depends on how quickly the leachate level can be drawn down below ash surface.

The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of 18 inches of clayey material cover with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4).

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (soil or shredded waste tires or ~~wood chips~~) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer. ~~The spreading of refuse is a continuous operation.~~

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover will

KIM?
THEY STILL HAVE NOT
PROVIDED A SEQUENCE OF FILLING / REMOVAL OF THE PASS
WASTE IN SW-1, NOR PROCEDURES FOR PLACEMENT /
REMOVAL OF WASTE TO INSURE INTEGRITY
LAYER, ASH BASE, ETC

be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate will be covered by a 20 mil geomembrane secured in place by tires. *Clear*

The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed as the disposal units are constructed. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases. *when* *filled* *done 7/24/00/10*

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate collection tank (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 is pumped to the on-site leachate management (treatment) facility. If testing of the leachate indicates the need for pre-treatment prior to processing at the wastewater treatment plant, the necessary pre-treatment will be performed. *reuse - not tank, show foreman to LTP* *(where?, how?)*

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1. *show on figure 8.6*

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance *after each major storm event and once per week.*

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 62-701.510, F.A.C.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Operations and Maintenance Director of the damage. The Department *will also be notified within seven days of the occurrence.*

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 62-701, F.A.C., including the Department approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 62-701, F.A.C. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on site at the office of the Landfill Supervisor.

The Operating Record will be available for inspection *during full business hours* by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the Resource Recovery Facility. Additionally, all ash residue transported from the Resource Recovery Facility to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste will be recorded in tons per day.

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 62-701(5)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department.

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing *at least 6 feet high*. Interior fencing separates the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery Facility and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. At the East Pasco Transfer Station, all loads are dumped on the transfer station tipping floor. At the Resource Recovery Facility, all loads are

dumped into the refuse pit, except those loads directed to dump on the floor *for temporary storage until the waste can be moved to the pit*. The SWRRF has a written plan for the identification, isolation, and handling of unacceptable materials. *Documentation Available For Department Inspection* (Summary of Pl. OR ATTACH

2. waste happens to non-processible waste. Describe use of rollers for unacceptable waste.
~~Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads.~~ In the event that ~~significant~~ by-pass waste from the Resource Recovery Facility occurs, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Facility Operator who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Facility Operator will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future.

If the Facility Operator or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Facility Operator will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the facility for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

intentionally less
All solid waste, if required, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. *Because the waste in the Solid Waste Disposal Unit will be removed as soon as possible, compaction requirements are lower than would be for a solid waste disposal unit at a municipal landfill.* *used for disposal only.*

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

NOT APPLICABLE FOR BY-PASS OPERATION
An additional foot of protective layer soil material will be placed on the side slope and covered with a geotextile *at the initial point of entry into the new disposal unit*. The first layer of waste *(for a total of 3 feet thick over the geomembrane)* *(ash or solid waste)*

April 13, 1998

Revised

for each solid waste disposal unit.

will be selected to be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed ~~into disposal units~~ to construct lifts. The working face of the disposal unit, and side grades at a slope, not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

← Ash lifts will follow the construction in lifts as shown on Drawing 8.2 and as described in Section 8.2.6.

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet and a maximum of 100 feet. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste ~~disposal units~~ in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash ~~monofill disposal units~~. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover ~~at the solid waste disposal units (solid waste)~~ will be applied at the end of each working day. The initial cover will be six inches in compacted thickness ~~unless a tarp is used~~.

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of ~~disposal unit completion~~ if additional solid waste will not be deposited within 180 days of ~~disposal unit completion~~. The intermediate cover, ~~when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days~~, will be graded to provide a surface slope and will either be seeded or sodded with grass or covered with a 20 mil geomembrane secured by ties to further promote runoff and minimize infiltration. ~~When disposal activity is resumed in the disposal unit, the intermediate cover may be pushed aside (or removed) and stockpiled within the limits of the disposal unit for use as initial cover for the resumed disposal activity.~~

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days of ~~disposal unit completion~~ if additional solid waste will not be deposited within 180 days of ~~disposal unit completion~~. The intermediate cover, ~~when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days~~ will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of

tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass or suitable cover vegetation.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event the litter generating waste by-passes the Resource Recovery Facility, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the Resource Recovery Facility access road, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct *once a week* inspections (*twice per week* during the wet seasons) and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Describe Operational Procedures for Leachate Management Including:

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department;

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department quarterly. A copy of the form that will be used to record the data is included in Table 8.1.

or more frequently if requested.

send a copy of all attachments as a review for review
IS THIS TABLE 8.1 OK WITH YOU?

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required;

7
0 The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the line is maintained below 12 inches its maximum allowable level and that generation rates measured in the secondary leachate collection system are not excessive. Refer to Appendix A5.4 for calculations of this value. If exceedance is detected of more than 20 percent above the leachate action level for 10 days, the Resource Recovery Operations Manager Operations and Maintenance Director will be notified so the exceedances can be addressed promptly.))?

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste;

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate;

New Port Richey WWTP Co-Treatment

Pasco County has an understanding with New Port Richey WWTP for hauling and disposal of ash leachate. The tanker loads are off loaded and mixed with raw wastewater in the Pasco County Southwest Collection System to provide a blending of leachate and raw wastewater prior to treatment. This procedure will continue on a weekly basis until the New Port Richey WWTP has problems with effluent quality as a result of this co-treatment process or it is not longer needed.

City of Tampa Advanced WWTP Co-Treatment

7
0 Pasco County has an agreement to transport ash leachate to the Tampa WWTP. The number of loads was limited initially to assure the ash leachate does not cause adverse treatment or biological problems. After the initial delivery period, the County has hauled 60,000 gpd to the Tampa facility. If this source is needed in the future, the County will negotiate to haul leachate to the facility. This agreement is for a period of two years.

IS THIS STILL
GOING ON. SHOULD
HAVE EXISTED
CONTINGENCY WITH
TO COVER TOTAL
BREAKDOWN OF
LMF OR WWTP

Leachate Management Facility

The Leachate Management Facility (LMF), if a 75 percent capacity is assumed, can process approximately 785,000 gallons per month. This facility will be used at its maximum capacity unit and after the excess ash leachate is processed.

(or haul)

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump leachate generated from solid waste generated in SW-1 and Class III to the Shady Hills and Hudson facility. facilities.

Vincent to add Anelote here.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems;

MSW disposal units
Solid Waste pump station,

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the Landfill Supervisor will be notified so that

pumps

immediately,

arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks, or leachate pumps, the Landfill Supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites. *? Be specific*

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day;

The Landfill Supervisor will direct staff to daily record the leachate level measured in the *Crum* tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system and submitted to FDEP *monthly, quarterly, or more frequently if requested.*

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates;

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be graphed and compared. *as shown on the monthly rainfall graph. Leachate is measured and submitted quarterly or more frequently if requested.*

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required;

any Gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in the southwest solid waste disposal units. No gas monitoring will be conducted relative to the ash monofill disposal units. *disposal (not temporary storage)*

8.10 Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales. ~~Also, any closed-out disposal units will be capped with an 18 inch clay cap to inhibit vertical infiltration/percolation of rain.~~

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Section 8.2.2.2). *(and 8.2.8)*

8.11 Equipment and Operation Feature Requirements;

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	2
Dump trucks	2

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactors, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios.

Telephones are available on-site.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building.


8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.

*SOME SECTIONS MISSING 8.11.6 - 8.11.8
8.12 & 8.13*

Transmit Confirmation Report

No. : 001
Receiver : 9-289-5474
Transmitter : WASTE MGT TAMPA SWDIST
Date : Sep 16 98 8:38
Time : 11'38
Mode : Norm
Pages : 17
Result : OK

LAW**LAWGIBB Group Member** 

FYI + FI

RECEIVED
APR 15 1998
ED E P

April 13, 1998

Mr. Kim B. Ford, P.E.
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Subject: **West Pasco Landfill Operations Plan - Revision 2**
LAW Project 40141-7-0291.03.9i2

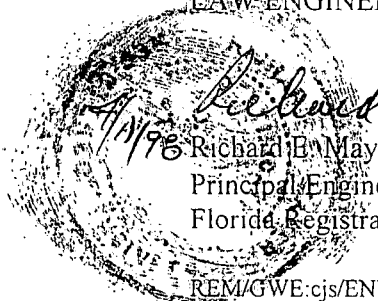
Dear Mr. Ford:

Enclosed is the revised Operations Plan for the Ash and Solid Waste Disposal Units at the West Pasco Landfill and Solid Waste Incinerator. The revised plan was developed to reflect: 1) the changed conditions that have occurred since the original plan was developed as part of the permitting process, and 2) your comments contained in a letter dated February 4, 1998, and previous correspondence. The plan was Section 8.0 in the permit and the designation has not been changed. The revisions and strikeouts are shown. Only Figure 8.2 is included. Once we agree that this is the plan, we will publish a final document with appendices and drawings.

If you have any questions, please contact the undersigned at (813) 289-0750.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.



Richard E. Mayer
Richard E. Mayer, P.E.
Principal Engineer
Florida Registration 41759

REM/GWE:cjs/ENVIRO/REPORT/4014170291.LAD3

George W. Ellsworth
George W. Ellsworth, P.G.
Senior Environmental Geologist
Florida Registration 0848

Attachment

cc: ✓ Robert Butera, P.E. III, Division of Waste Management, FDET, Tampa, FL
John J. Gallagher, County Administrator
Vincent Mannella, P.E., Solid Waste Facility Manager
Ronald J. Walker, Solid Waste Superintendent
Douglas S. Bramlett, Utilities/Public Works Division

LAW Engineering and Environmental Services, Inc.
4919 West Laurel Street
Tampa, FL 33607
813-289-0750 • Fax: 813-289-5474

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SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

SECTION 8.0

LANDFILL OPERATIONS

The landfill addressed in this application is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn resource recovery facility, the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plan Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 62-701, F.A.C.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Process residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Currently, no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill. Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) 10 hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semi-truck transfer trailers, and by small private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which is directed to a public drop-off area outside the building. Inside the facility building on the tipping floor, rolloff containers are provided for removing non-processible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scalehouse and the facility operators to advise them of the delivery of an unacceptable waste.

The West Pasco Class I Landfill was designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are designed for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in

1990, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

Except for non-processible waste that cannot be burned, the use of the Solid Waste Disposal Units is intended to be temporary until the Resources Recovery Plant can once again receive and burn the solid waste. Whenever waste is being bypassed from the plant to the Solid Waste Disposal Units (SW-1 through SW-8) the Landfill Supervisor will have the staff at the scale house direct incoming haulers to SW-1 through SW-8. The spotters at the Resource Recovery Facility tipping floor will be re-assigned to the specific Class I landfill receiving the waste. Once the Resource Recovery Facility can receive waste again, the scale house will direct the haulers to off load at the tipping floor of the Resource Recovery Facility. The Landfill Supervisor will initiate removal of the solid waste from the Solid Waste Disposal Unit and begin hauling to the plant for burning.

The entire 800-acre site is enclosed by a **6-foot high** chain-link and barbed wire fence to limit access. To further limit access, the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-701, F.A.C. Additionally, Pasco County currently has other staff members who have ***been trained and are certified at*** the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u> <i>First Shift Supervisor</i> <i>Second Shift Supervisor</i>	<u>Six Days*</u> MTWTF TWTFS
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<u>Equipment Operator/Spotters</u> First Shift Operator Second Shift Operator	MTWT ____WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

Either of the Certified Landfill Operators and Equipment Operators are qualified to substitute for the other and perform the duties. This cross training allows for a backup operator when one can't be at the site.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an **uncontrollable fire** does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

If the storm results in an inflow of debris that when combined with the normal daily rate is in excess of the capacity of the Resource Recovery Plant, the materials can be stockpiled/disposed of in SW-1 through SW-8. The Class III landfill can be used to the extent needed for a staging area. Do not place the debris in an unlined area. Call FDEP.

Once the rate of inflow decreases to below the capacity of the Resource Recovery Plant, begin to feed the debris into the plant. Storage of debris is a temporary measure.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply initial cover to working face *of SW-1 through SW-8 (daily requirement) for waste deposited in these units;*
- Secure equipment.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being by-passed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the Landfill Supervisor to the specific Class I Landfill. *A dumpster will be provided near the working face to facilitate removal of undesirable waste.*

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for requeenching ~~or the load may be dumped on the paved entry to the disposal unit~~ and allowed to cool. The Landfill Supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil will be removed to the Class III and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except during the highly unlikely event when non-processible waste and by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management. ~~Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. A temporary rain tarp (20 mil geomembrane) will be secured in place by a 10-foot grid of tires tied together with rope, to minimize the formation of leachate to the extent possible.~~

Ash will be monofilled. Solid waste and ash will not be co-disposed.

Disposal Units - The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within two feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert storm water to the surface-water management system (see Figure 8.3). Ash/solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (*50 to 100 feet*) (Figure 8.3). A slope of 3:1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

A-2 Filling Sequence - *The filling of Disposal Unit A-2 will begin in the northwest corner of the unit and proceed diagonally to the southeast corner of the unit. The area will be divided into six subareas. A berm will be constructed around the entire subarea while filling is underway to prevent runoff that has been in contact with the ash from spilling out of the lined area of the disposal unit. Area 6 (the sump area) will remain at a lower elevation than the remainder of the ash. The surface of each subarea will be graded to slope to an area in the southeast corner. A spillway will be formed in the southeast corner to capture runoff from the subarea once the rain tarp is in place. Six inches of soil, tire chips, or wood chips will be placed over the ash before the rain tarp is used.*

~~The filling sequence described above for A-1 (see Figure 8.2) has not been followed. Once Cell A-1 is filled to the level depicted for Lift A in the original Operations Plan, Lift B will also be filled to the level depicted in the original Operations Plan. Each lift will be sloped to drain to the perimeter berm and this will be storm water. The modified filling sequence for Lifts A and B will be as follows:~~

- ~~• An operational road will be constructed with ash. The elevation of the road will be approximately 59 feet.~~
- ~~• Lift A will be filled in 100 foot wide strips from east to west and above elevation 63 feet, graded to slope dipping slightly towards the outer berm, and progressively covered with a rain tarp (secured in place by tires tied together with ropes) (see Figure 8.2A).~~
- ~~• Storm water runoff from the rain tarp will be directed in to the storm water system as planned. The runoff will be across the berm and down the berm slopes which are covered with well established grass.~~

The filing sequence is as follows:

Phase I

1. Construct berms around subarea a-1 fill and grade surface to drain toward the southeast corner of the subarea (maintain the perimeter swale constructed between the disposal unit berm and the subarea berm).
2. Place rain tarp on a-1.
3. Once the rain tarp is in place, construct a 10 to 15 foot-wide spillway for storm water to exit the subarea. This spillway is constructed by creating an opening in the subarea berm, filling the perimeter swale with soil or shredded tires, covering any exposed ash on the side slopes with four to six inches of soil or shredded tires, placing the rain tarp down the slope to the elevation of the storm-water swale located at the toe of the disposal unit berm. The rain tarp will be secured using sand cement rip rap bags along both sides of the spillway. The rain tarp will be sandwiched between two bags: one row on each side of the spillway down the slope. Refer to Figure 8.2.

Phase II

1. Construct berms (ash) around subarea a-2 and start filling this subarea.
2. As the water level recedes and the dozer is available, level the irregularities in subarea a-3. Grade surface to drain to the southeast corner of this subarea. Also construct a berm (ash) between subareas a-3 and a-4.
3. Cover A-3
4. Repeat cycle for subareas a-4, a-5 and cover.

Phase III

1. Remove rain tarp from subarea a-3.
2. Place rain tarp from subarea a-3 over subarea a-2.
3. Create storm-water outlet per procedure described above.
4. Repeat the steps above for subareas a-4, 5, and part of 6.

The finished elevation for subareas a-1 through a-6 will vary for elevation 70 to 65.5.

Phase IV

1. Remove cover from subareas a-1 and a-2 and repeat fill sequence described above in Phases I and II.

Tabulated below are elevations and a schedule for Phases I and II:

<i>Subarea</i>	<i>Finish Elevation Outlet</i>	<i>Fill Time (months)</i>	<i>Approximate Date Subarea Covered</i>
<i>a-1</i> 6/8	70	1	May 1, 1998
<i>a-2</i> 7/7	69	3	August 1, 1998
<i>a-3</i> 7/7	68	4	varies*
<i>a-4</i> 7/20	67	4	varies
<i>a-5</i> 6/15	66	4	varies
<i>a-6</i>	65.5	1	varies

*Depends on how quickly the leachate level can be drawn down below ash surface.

The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meet the following objectives.

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift solid waste disposal units.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of 18 inches of clayey material cover with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4).

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material (*soil or shredded waste tires or wood chips*) will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer. The spreading of refuse is a continuous operation.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover will

be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. Areas with intermediate cover will be seeded or sodded to avoid slope erosion and sloped at two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate will be covered by a 20 mil geomembrane secured in place by tires.

The initial intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed as the disposal units are constructed. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate collection tank (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 is pumped to the on-site leachate management (treatment) facility. If testing of the leachate indicates the need for pre-treatment prior to processing at the wastewater treatment plant, the necessary pre-treatment will be performed.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1.

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be checked and cleaned to assure proper performance *after each major storm event and once per week.*

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 62-701.510, F.A.C.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Operations and Maintenance Director of the damage. The Department *will also be notified within seven days of the occurrence.*

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 62-701, F.A.C., including the Department approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 62-703, F.A.C. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on site at the office of the Landfill Supervisor.

The Operating Record will be available for inspection *during all business hours* times by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the Resource Recovery Facility. Additionally, all ash residue transported from the Resource Recovery Facility to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste will be recorded in tons per day.

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 62-701.5(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department.

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing *at least 6 feet high*. Interior fencing separates the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery Facility and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a monthly basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. At the East Pasco Transfer Station, all loads are dumped on the transfer station tipping floor. At the Resource Recovery Facility, all loads are

dumped into the refuse pit, except those loads directed to dump on the floor *for temporary storage until the waste can be moved to the pit*. The SWRRF has a written plan for the identification, isolation, and handling of unacceptable materials.

Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads. In the event that significant by-pass waste from the Resource Recovery Facility occurs, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Facility Operator who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Facility Operator will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future.

If the Facility Operator or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Facility Operator will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the facility for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste, if required, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment. *Because the waste in the Solid Waste Disposal Unit will be removed as soon as possible compaction requirements are lower than would be for a solid waste disposal unit at a municipal landfill.*

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material will be placed on the side slope and covered with a geotextile at the initial point of entry into the new disposal unit. The first layer of waste

will be selected to be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed into disposal units to construct lifts. The working face of the disposal unit, and side grades at a slope, not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be at a minimum of 50 feet *and a maximum of 100 feet*. During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste disposal units in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover at the solid waste disposal units (solid waste) will be applied at the end of each working day. The initial cover will be six inches in compacted thickness.

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will either be seeded or sodded with grass or covered with a 20 mil geomembrane secured by tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover may be pushed aside (or removed) and stockpiled *within the limits of the disposal unit* for use as initial cover for the resumed disposal activity.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of

tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass ~~or suitable cover vegetation~~.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event, the litter generating waste by-passes the Resource Recovery Facility, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the Resource Recovery Facility access road, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct *once a week* inspections *twice per week* during the wet seasons and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Describe Operational Procedures for Leachate Management Including:

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department;

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department quarterly. A copy of the form that will be used to record the data is included in Table 8.1.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required;

The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the line is maintained below **12 inches** ~~its maximum allowable level~~ and that generation rates measured in the secondary leachate collection system are not excessive. Refer to Appendix A5.4 for calculations of this value. If exceedance is detected **of more than 20 percent above the leachate action level for 10 days**, the **Resource Recovery Operations Manager** ~~Operations and Maintenance~~ Director will be notified so the exceedances can be addressed promptly.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste;

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate;

New Port Richey WWTP Co Treatment

~~Pasco County has an understanding with New Port Richey WWTP for hauling and disposal of ash leachate. The tanker loads are off loaded and mixed with raw wastewater in the Pasco County Southwest Collection System to provide a blending of leachate and raw wastewater prior to treatment. This procedure will continue on a weekly basis until the New Port Richey WWTP has problems with effluent quality as a result of this co treatment process or it is not longer needed.~~

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. The number of loads was limited initially to assure the ash leachate does not cause adverse treatment or biological problems. After the initial delivery period, the County has hauled 60,000 gpd to the Tampa facility. If this source is needed in the future, the County will negotiate to haul leachate to the facility. This agreement is for a period of two years.

Leachate Management Facility

The Leachate Management Facility (LMF), if a 75 percent capacity is assumed, can process approximately 785,000 gallons per month. This facility will be used at its maximum capacity unit and after the excess ash leachate is processed.

Shady Hills and Hudson WWTP Co-Treatment

The County is permitted to pump leachate generated from solid waste generated in SW-1 *and Class III* to the Shady Hills *and Hudson* facility.

Vincent to add Anclote here.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems;

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the Landfill Supervisor will be notified so that

arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the Landfill Supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day;

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the Crum tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system *and submitted to FDEP monthly*.

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates;

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be graphed and compared.

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required;

Gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in the ~~southwest~~ **solid waste** disposal units. No gas monitoring will be conducted relative to the ash monofill disposal units.

8.10 Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 62-3, 62-302, and 62-23, F.A.C.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales. Also, any closed-out disposal units will be capped with an 18-inch clay cap to inhibit vertical infiltration/percolation of rain.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Section 8.2.2.2).

8.11 Equipment and Operation Feature Requirements;

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	2
Dump trucks	2

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the county's Public works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

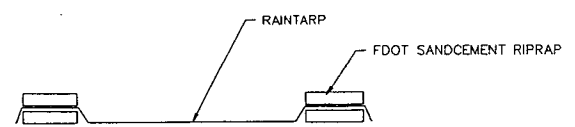
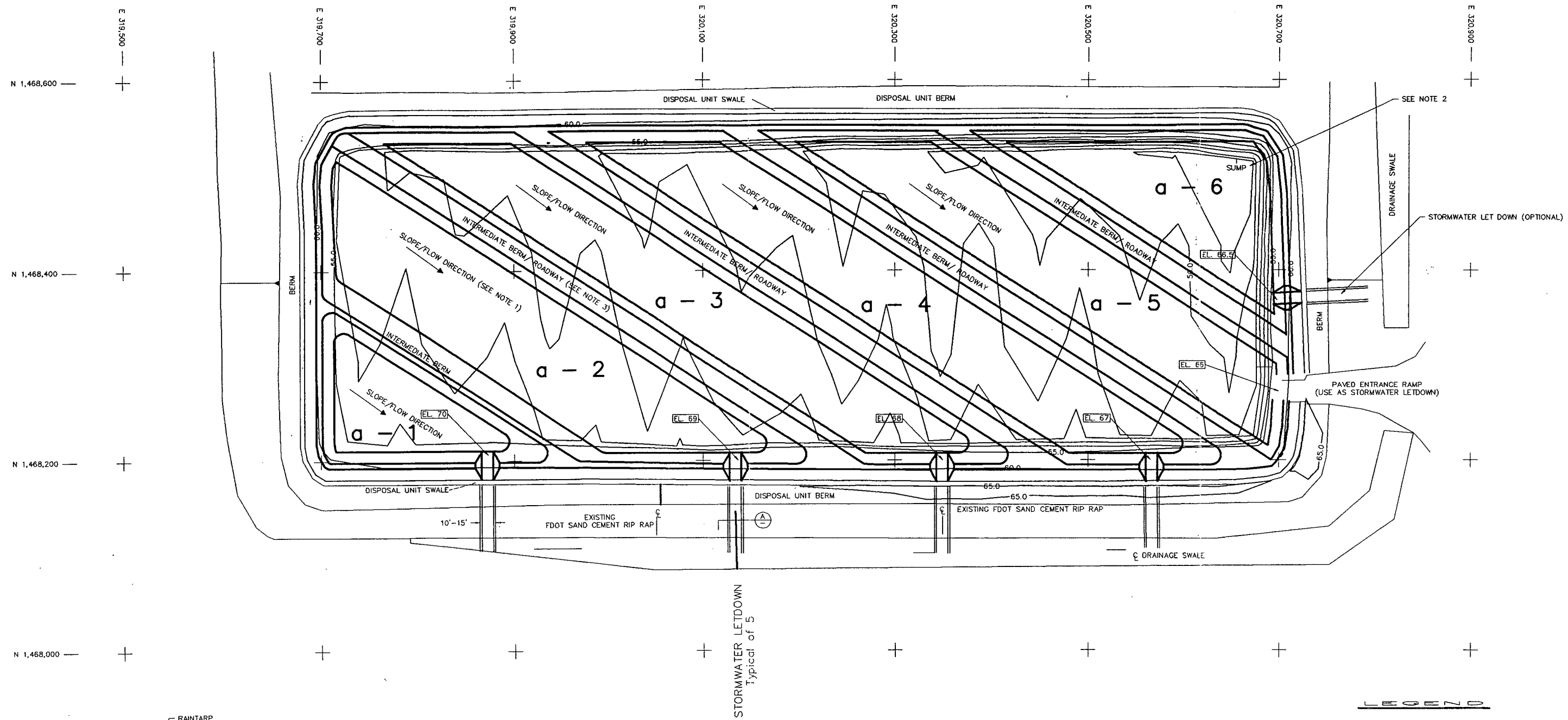
Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building.

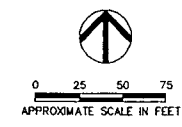
8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.



(A) STORMWATER LETDOWN DETAIL
NOT TO SCALE

- LEGEND**
- 1. SLOPE TO SOUTHEAST CORNER TO EACH SUBAREA
 - 2. LEAVE SUMP AREA OPEN
 - 3. 3'-4' HIGH BERMS ABOVE FINISH GRADE OF ASH
- (EL. 67) ELEVATION OF ASH WHEN RAIN TARP IS APPLIED



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PASCO COUNTY, FLORIDA

DADE CITY (352) 521-4274
LAND O'LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145
FAX (813) 847-8064

UTILITIES SERVICES BRANCH
PUB.WKS./UTILITIES BLDG., S-205
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

February 18, 1998

Mr. Kim B. Ford, P.E.
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
FEB 23 1998
D E F

Subject: **West Pasco Landfill Operations Plan**
LAW Project 40141-7-0291.03.912

Dear Mr. Ford:

Enclosed is the revised Operations Plan for the Ash and Solid Waste Disposal Units at the West Pasco Landfill and Solid Waste Incinerator. The revised plan was developed to reflect the changed conditions that have occurred since the original plan was developed as part of the permitting process. The plan was Section 8.0 in the permit and the designation has not been changed. This revised plan incorporates written agreements with FDEP and presents new plans for operation of these disposal units. Also, your comments concerning the Addendum provided in correspondence dated February 4, 1998, have been incorporated into this document. Briefly, the changed conditions that precipitated writing this plan are:

1.1 DISPOSAL UNIT A-2

Wind storms repeatedly caused erosion of the drainage layer sands on the side slopes of the cell. The County decided to place ash along all the slopes to protect the drainage layer. In addition, the County began disposing of bags filled with chlorides generated from the on-site leachate treatment plant in the west end of A-2. In order to place the bags at the west end it was necessary to construct a road using the ash material to the bag disposal area. The County received authorization from the FDEP to dispose of the bags at the west end of A-2, and the County disposed of bags in this area in 1997. Recently, they have removed the bags from the west

end and are temporarily storing the salt in roll-off containers until the material can be hauled off site to a permitted disposal area. Further disposal of chlorides in A-2 may be a contingency only because the County has a contract for off-site disposal.

The leachate treatment system, designed to treat leachate generated in A-2 and A-1, has not been functional and the site has received significant rainfall over the past few months. As a result the leachate has ponded in A-1 because there is no place to dispose of leachate at a rate commensurate with the inflow. The County plans to utilize a rain tarp in combination with a proposed filling sequence to minimize leachate in this disposal unit.

How?
When?

1.2 DISPOSAL UNIT A-1

During operations monitoring of the leachate outfall system it was discovered that the existing valves between the leachate collection system and the manholes would not close completely because they had deteriorated. The leakage rate is on the order of 110,000 gallons per day. Because the leachate treatment system has not been operational, the County has had no place to dispose of this rate of flow. Installing the plug was the only way to stop flows to the manhole and the pump station further downstream. Obviously, the next step was to replace the valves but it could not be done safely without possible spillage of leachate when the valves were removed. It was decided to place the new valves downstream of the manholes and to take these deteriorated valves out of service in an open position, replacing them as soon as possible. In order to do that it was necessary to raise the manholes to a height sufficient to allow leachate to rise in the manhole to a level equal to the level of leachate in the disposal unit when the new valve was closed. These activities have been completed and the as-built data is enclosed. Once the leachate level in A-1 is lowered to meet the one-foot rule, the deteriorated valves will be replaced and the manholes will be restored to the original (permit design) condition.

X WAS ONLY
10,000/day
until
plugged
in
A-2

The County had observed that there was little or no runoff from the surface of A-1 even during intense storm events. Using a new valve arrangement at the outfall for the leachate collection system, the County decided to estimate the leachate level in the disposal unit. The elevation of the leachate was determined by opening an old valve, closing the new valve and allowing the leachate to rise in the raised manhole up to the level in the disposal unit. The elevation of leachate in the

How observed
look at
RESULTS
10000/day
in
1997
18,000,000
in
1997

unit is 61.25, or approximately two feet below the top of perimeter berm. The existing cover is not promoting runoff and the disposal unit is filling with rainwater. An alternative cover system is needed and a geomembrane cover is planned.

The County is currently hauling the leachate contained in A-1 and A-2 to treatment plants in the area for treatment and disposal. This is a temporary measure until the on-site plant becomes operational and the elevation of leachate in each disposal unit is reduced to below the one foot rule.

2.0 DESIGN MODIFICATIONS

2.1 DISPOSAL UNIT A-2

1. The route of the access road to the west end of the disposal unit will be moved north. This road will then be located approximately parallel to the south berm at a distance of 120 feet north of the berm. The area between the south berm and the road will be raised to approximately one foot above the top of the berm and graded to promote storm-water runoff to the south. This area may be covered with 6 to 8 inches of earth cover, or the sharps removed from the ash and a rain tarp placed over the area. Tires will be used to secure the geomembrane.
2. Once the area between the road and the berm is filled and covered, the area to the north of the road will be filled starting from the east end of the cell in approximately 100 feet wide strips. The area around the sump will remain open. The elevation of the ash in this area will be raised to one foot above the berm and graded to promote runoff from the material. As each strip is completed a rain tarp will be placed on top. Once the entire disposal unit is filled to above the top of the berms the County will cut the geomembrane into 40-foot wide strips and may choose to remove the cover material (if used) and begin the filling sequence in accordance with this revised operations plan. The cover material, if removed, will be stockpiled within the cell for reuse.
3. The south side of the disposal unit will be used to receive the chloride bags as a contingency if other plans for the chlorides disposal do not occur. The site designated for bag disposal will be in the area between the south berm and the road as described in paragraph 1 above (see Figure 8.2A, Area A-1). The elevation of the bag disposal area will be raised to at least one foot above the berm. A rain tarp (16 mil geosynthetic fabric coated with low density polyethylene) will be laid on top of the bags to limit moisture from percolating rain entering the bags.

February 18, 1998

2.2 DISPOSAL UNIT A-1

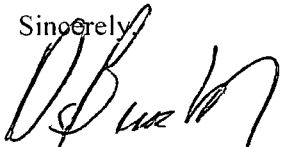
The entire surface area of this disposal unit will be covered with a 20 mil geomembrane. Tires on a 50-foot grid tied together with ropes will be used to secure the geomembrane.

2.3 SCHEDULE

The rain tarp will be applied to A-2 as soon as the design changes described above can be implemented by filling with ash, and pending leachate removal and disposal. The County advertised for bids to complete the intermediate cover for A-1. The bid opening date was February 5, 1998, and allows 45 days for award of the contract and 60 days for performance. As a result, A-1 should be covered before the rainy season begins. -7

If you have any questions, please contact the undersigned.

Sincerely,



Douglas S. Bramlett
Assistant County Administrator
(Utilities Services)

DSB/cjs/ENVIRO/REPORT/4014170291.LAD1

Attachment

cc: Robert Butera, P.E. III, Division of Waste Management, FDET, Tampa, FL
John J. Gallagher, County Administrator
Vincent Mannella, P.E., Solid Waste Facility Manager
Ronald J. Walker, Solid Waste Superintendent

SECTION 8.0

LANDFILL OPERATIONS REQUIREMENTS

SECTION 8.0

LANDFILL OPERATIONS

The landfill addressed in this application is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn resource recovery facility, the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plan Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 17-701, F.A.C.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Process residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Currently, no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill. Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) 10 hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semi-truck transfer trailers, and by small private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some was from small private vehicles which are directed to a public drop-off area outside the building. Inside the facility building on the tipping floor, rollover containers are provided for removing non-processible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scalehouse and the facility operators to advise them of the delivery of an unacceptable waste. *roll off*

The West Pasco Class I Landfill was designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 through A-6) are designed for ash disposal, eight disposal units (SW-1 through SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres; each disposal area is approximately 10 acres in size. The initial phase of construction was completed in

1990, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

The entire 800-acre site is enclosed by chain-link and barbed wire fence to limit access. To further limit access, the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 62-703, F.A.C. Additionally, Pasco County currently has other staff members who have attended the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

SW-1
loads
checked

8.2 Landfill Operations Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch, coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

<u>Certified Landfill Operators</u> Jim Gerger, Supervisor Walter Dransky	<u>Six Days*</u> MTWTF _____S
<u>Equipment Operator/Spotters</u> Keith Wallace Barry Wright	MTWT _____WTFS
*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.	

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an **uncontrollable fire** does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details;
- Scale attendant will contact 911 to request fire department assistance;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details;
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires;
- Scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

8.2.2.3 Equipment Failure Procedures

If equipment fails, the Landfill Supervisor will be notified so that arrangements can be made for the equipment's repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check storm-water management system for any blockages at culverts, pipes, etc.;
- Check leachate management system levels, pumping units, etc.;
- Apply daily cover to working face where appropriate;
- Secure equipment where appropriate.

At the beginning of the work week, immediately after opening, the Landfill Supervisor will direct staff to observe the conditions of and record deficiencies of:

- Access roads;
- Storm-water management system;
- Leachate management system;
- Landfill equipment;
- Disposal units.

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being by-passed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the Landfill Supervisor to the specific Class I Landfill.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for requeenching or the load may be dumped on the paved entry to the disposal unit and allowed to cool. The Landfill Supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil can be removed to the adjacent Class III Landfill and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scale by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except during the highly unlikely event when non-processible waste and by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. However, a temporary rain tarp (20 mil geomembrane) will be secured in place by a 50-foot grid of tires tied together with rope, to minimize the formation of leachate to the extent possible. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management.

Disposal Units SW-1 through SW-8 are currently designated for disposal of solid waste. Disposal Units A-1 through A-6 are currently designated for ash disposal. Depending on future volumes, Disposal Units I-1 and I-2 may be used for either ash or solid waste. The ash and solid waste will not be co-disposed. The ash residue will be monofilled; no mixing of the two materials will be allowed. The term "mixing" doesn't include laying an eight-inch ash layer above drainage sand to facilitate placement and removal of solid wastes.

The method of filling wastes in an individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within 10 feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert storm water to the surface-water management system (see Figure 8.3). Ash/solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (Figure 8.3). A slope of 3:1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

DESIGN X-SECTIONS 10

A-2
The filling sequence described above for A-1 (see Figure 8.2) has not been followed. Once Cell A-1 is filled to the level depicted for Lift A in the original Operations Plan, Lift B will also be filled to the level depicted in the original Operations Plan. Each lift will be sloped to drain to the perimeter berm and this will be storm water. The modified filling sequence for Lifts A and B will be as follows:

A-2 *Rows - Slope Top to Drain*

Why is it covered?

- An operational road will be constructed with ash. The elevation of the road will be approximately 59 feet.
 - Lift A will be filled in 100-foot wide strips from east to west and above elevation 63 feet, graded to slope dipping slightly towards the outer berm, and progressively covered with a rain tarp (secured in place by tires tied together with ropes) (see Figure 8.2A).
 - Storm-water runoff from the rain tarp will be directed in to the storm-water system as planned. The runoff will be across the berm and down the berm slopes which are covered with well established grass.
- Lift B filled how?*
- at 10%? & to what slope?*
- How to prevent erosion?*

The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meet the following objectives.

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift solid waste disposal units.
 - Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, berms and tarps.
 - Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
 - Provide bench terraces along side slopes to minimize erosion.
- Where?*

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of 18 inches of clayey material cover with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4).

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit, sufficient cover material will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. The solid waste is to be placed at the bottom of the working face, within the bermed working areas, and spread up toward the top in two-foot layers. The solid waste

will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer. The spreading of refuse is a continuous operation.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, F.A.C. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover will be applied within seven days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. All intermediate cover areas will be seeded or sodded to avoid slope erosion and sloped at two percent to allow storm water to drain off and be removed from the disposal unit or as an alternate will be covered by a 20 mil geomembrane secured in place by a 50-foot grid of tires.

Conflict with other
The initial, intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

8.2.8 Operations of Gas, Leachate, and Storm-Water Control

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed as the disposal units are constructed. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

A-2
The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate collection tank (see Figure 8.6). When the leachate reaches a pre-determined level, leachate is automatically pumped to the treatment/disposal facility. Leachate from SW-1 is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. Leachate from A-1 is pumped to the on-site leachate management (treatment) facility. If testing of the leachate indicates the need for pre-treatment prior to processing at the wastewater treatment plant, the necessary pre-treatment will be performed.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1.

The storm-water controls will be operated to collect and convey runoff to surface-water management areas for sedimentation control in accordance with Chapter 62-3 and 62-4, F.A.C. Surface-water management areas will be maintained by periodic removal of sediments. Surface-water control devices, such as weirs and culverts, will be routinely checked and cleaned to assure proper performance.

All water coming into contact with solid waste will be intercepted and contained by berms, and will be handled as leachate. Only storm water that has not contacted ash or solid waste may be discharged to the surface-water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 17-701.510, F.A.C.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Operations and Maintenance Director of the damaged well so that the Department can be notified.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 17-701, F.A.C., including the Department approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 17-703, F.A.C. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on site at the office of the Landfill Supervisor.

The Operating Record will be available for inspection at reasonable times by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the Resource Recovery Facility. Additionally, all ash residue transported from the Resource Recovery Facility to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste will be recorded in tons per day.

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 17-701.5(4)(b), F.A.C. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department upon request.

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing. Interior fencing separates the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery Facility and the West Pasco Class III Landfill are chain link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a regular basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operation and types of waste accepted are maintained.

8.6 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. At the East Pasco Transfer Station, all loads are dumped on the transfer station tipping floor. At the Resource Recovery Facility, all loads are dumped into the refuse pit, except those loads directed to dump on the floor. The SWRRF has a written plan for the identification, isolation, and handling of unacceptable materials.

Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads. In the highly unlikely event that significant by-pass waste from the Resource Recovery Facility occurs, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly, at least three loads of solid waste will be examined by the assigned spotters.)

If unauthorized wastes are detected, the spotter will notify the Facility Operator who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The Facility Operator will attempt to determine the identity of the waste sources and facilitate its removal, property disposal, and correct handling in the future.

If the Facility Operator or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper clean-up, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Facility Operator will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the facility for at least three years. The recorded information will include the following:

- Date and time of inspection;
- Name of the hauling firm or vehicle owner;
- Driver of the vehicle;
- Vehicle license plate number;
- Source of waste;
- Observations made;
- Name and signature of the inspector.

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste, if required, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next

layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment and should be compacted to approximately one foot in thickness.

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material will be placed on the side slope and covered with a geotextile at the initial point of entry into the new disposal unit. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed into disposal units to construct lifts. The working face of the disposal unit, and side grades at a slope, not greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed 10 feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

8.7.4 Working Face Width

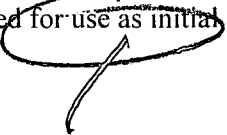
The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be minimal (± 50 feet). During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste disposal units in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors or fires. Initial cover will not be necessary for the ash monofill disposal units. However, a temporary rain tarp will be used as discussed in Section 8.2.6.

Initial cover at the solid waste disposal units (solid waste) will be applied at the end of each working day. The initial cover will be six inches in compacted thickness.

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will either be seeded or sodded with grass or covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside (or removed) and stockpiled for use as initial cover for the resumed disposal activity.



8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover in SW-1 only, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will either be seeded or sodded with grass. The ash disposal units may be covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside within the disposal unit and stockpiled for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass or suitable cover vegetation.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event the litter generating waste by-passes the Resource Recovery Facility, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill;
- Routine clean-up around disposal unit and access roads;
- Maintain small working face and effective initial cover.

Clean-up along the Resource Recovery Facility access road, Hays Road, and within the Facility grounds, particularly around the private drop-off area, will be maintained. County crews will routinely police these areas.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, storm-water retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct routine inspections during the wet seasons and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Describe Operational Procedures for Leachate Management Including:

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department;

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for

non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department quarterly. A copy of the form that will be used to record the data is included in Table 8.1.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required;

Does not exist
The Landfill Supervisor will review daily the leachate collection and removal system data to insure that the head over the line is maintained below its maximum allowable level and that generation rates measured in the secondary leachate collection system are not excessive. Refer to Appendix A5.4 for calculations of this value. If exceedance is detected, the Operations and Maintenance Director will be notified so the exceedances can be addressed promptly.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste;

Pasco County will comply with State and Federal rules if it becomes regulated as hazardous waste.

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate;

New Port Richey WWTP Co-Treatment

Pasco County has an understanding with New Port Richey WWTP for hauling and disposal of ash leachate. The tanker loads are off-loaded and mixed with raw wastewater in the Pasco County Southwest Collection System to provide a blending of leachate and raw wastewater prior to treatment. This procedure will continue on a weekly basis until the New Port Richey WWTP has problems with effluent quality as a result of this co-treatment process or it is not longer needed.

City of Tampa Advanced WWTP Co-Treatment

Pasco County has an agreement to transport ash leachate to the Tampa WWTP. The number of loads was limited initially to assure the ash leachate does not cause adverse treatment or biological problems. After the initial delivery period, the County has hauled 60,000 gpd to the Tampa facility. If this source is needed in the future, the County will negotiate to haul leachate to the facility.

Leachate Management Facility

The Leachate Management Facility (LMF), if a 75 percent capacity is assumed, can process approximately 785,000 gallons per month. This facility will be used at its maximum capacity unit and after the excess ash leachate is processed.

Shady Hills WWTP Co-Treatment

The County is permitted to pump leachate generated from solid waste generated in SW-1 to the Shady Hills facility.

8.8.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems;

Solid Waste

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the Landfill Supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the

leachate transmissive pipeline or with the WWTP, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

Ash Disposal Units

If equipment problems occur (such as pump failure) so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the Landfill Supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the Leachate Management Plant, the Landfill Supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, to transport leachate by tanker truck to approved disposal sites.

8.8.6 Procedures for Recording Quantities of Leachate Generated in Gal/Day;

The Landfill Supervisor will direct staff to daily record the leachate levels measured in the Crum tank (the large storage tank integral to the on-site leachate treatment facility) at the leachate treatment facility and flow meter readings. Quantities will be measured and recorded daily for each primary and secondary liner system.

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates;

The Landfill Supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be graphed and compared.

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required;

Routine gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in the southwest disposal units. No gas monitoring will be conducted relative to the last monofill disposal units.

8.10 Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 17-3, 17-302, and 17-23, F.A.C.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the pre-developed and any closed-out areas of the landfill and direct it to one of our major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonable high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales. Also, any closed-out disposal units will be capped with an 18-inch clay cap to inhibit vertical infiltration/percolation of rain.

The Landfill Supervisor will routinely inspect the storm-water management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The storm-water management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Section 8.2.2.2).

8.11 Equipment and Operation Feature Requirements;

8.11.1 Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump truck	1
Leachate pumps	2
Dump trucks	2

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list, with the exception of the compactor, are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scalehouse, the West Pasco Class III Scalehouse, and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building.

8.11.5 Dust Control Methods

The access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as-needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty areas.



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LETTER OF TRANSMITTAL

TO KIM FORD
ZDEP

DATE	JOB NO. <u>4041-T-0317</u>
ATTENTION	
RE: <u>WEST PASCO OPERATION</u> <u>PLAN</u> <u>4.2</u>	

GENTLEMEN:

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

- ☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION

RECEIVED
FEB 10 1998
D

THESE ARE TRANSMITTED as checked below:

- ☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO _____

SIGNED: L. E. Meyer

RECEIVED
FEB 10 1998
D
E
P

SECTION 8.0
LANDFILL OPERATION REQUIREMENTS

*Richard E. Meyer
1.12.95*

SECTION 8.0

LANDFILL OPERATIONS

The landfill addressed in this application is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of: a mass-burn resource recovery facility; the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 17-701, F.A.C.

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Processed residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal unit at the adjacent West Pasco Class I Landfill.

Currently no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill. Deliveries are accepted at the Solid Waste Resource Recovery Facility (SWRRF) 10 hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the SWRRF in standard packer vehicles, open body dump trucks, semi-truck transfer trailers, and by smaller private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which are directed to a public drop-off area outside the building. Inside the facility building on the tipping floor rollover containers are provided for removing of non-processible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scale house and the facility operators to advise them of the delivery of an unacceptable waste.

The West Pasco Class I Landfill was designed and permitted to be constructed in a phased series of individual disposal units, with a total of 16 disposal units. Six disposal units (A-1 to A-6) are designated for ash disposal, eight disposal units (SW-1 to SW-8) for non-processible or by-pass waste, and two disposal units (I-1 and I-2) were left undesignated. The layout of the disposal units is shown in Figure 8.1. The disposal area covers approximately 160 acres, each disposal unit is approximately 10 acres in size. The initial phase of construction was completed in 1990, with the construction of disposal units SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

The entire 800-acre site is enclosed by chain-link and barbed wire fence to limit access. To further limit access the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain-link and barbed wire fence to control movement between the units.

8.1 Operating Personnel Training

The Pasco County Utilities Services Branch (PCUSB) has a pro-active approach to training and certification of all landfill personnel and currently has trained operators who have satisfied the requirements of Chapter 17-703 FAC. Additionally, Pasco County currently has other staff members who have attended the TREEO Solid Waste Landfill Operator Short Course and are used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates are kept on file. The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

8.2 Landfill Operation Plan

8.2.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. Douglas S. Bramlett, Assistant County Administrator, Utilities Services Branch coordinates solid waste management in the County. He is assisted by Vince Mannella, Solid Waste Facilities Manager, who manages the operation and maintenance of the solid waste management facilities.

The following current schedule is typical of the staffing for the West Pasco Class I Landfill.

Certified Landfill Operators

Jim Gerger, Supervisor
Walter Dransky

Six Days*
MTWTF_
_____S

Equipment Operator/Spotters

Keith Wallace
Barry Wright

MTWT_
____WTFS

*Landfill is closed on Sundays. No ash is hauled to ashfill disposal unit.

8.2.2 Contingency Operations for Emergencies

8.2.2.1 Fire Emergency Procedures

In the highly unlikely event that an uncontrollable fire does occur at the landfill site:

- field staff will contact scale attendant by 2-way radio and provide details;
- scale attendant will contact 911 to request fire department assistance;
- scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- field staff will contact scale attendant by 2-way radio and provide details;
- field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires.
- scale attendant will contact Landfill Supervisor;
- Landfill Supervisor will inspect scene.

8.2.2.2 Natural Disasters Procedure

If notice is available of a pending natural disaster (tornado, hurricane, etc.) the Landfill Supervisor will direct staff to:

- Check stormwater management system for any blockages at culverts, pipes, etc.
- Check leachate management system levels, pumping units, etc.
- Apply daily cover to working face where appropriate.
- Secure equipment where appropriate.

After the natural disaster has occurred, the Landfill Supervisor will direct staff to assess damage to and operational status of:

- Access roads
- Stormwater management system
- Leachate management system
- Landfill equipment
- Disposal units

8.2.2.3 Equipment Failure Procedures

If equipment fails the Landfill Supervisor will be notified so that arrangements can be made for the equipments repair. If the downtime is expected to hinder landfill operations, the Landfill Supervisor will obtain backup equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

8.2.2.4 End of Work Week Procedures

At the end of the work week, prior to shut down, the Landfill Supervisor will direct staff to:

- Check stormwater management system for any blockages at culverts, pipes, etc.
- Check leachate management system levels, pumping units, etc.
- Apply daily cover to working face where appropriate.
- Secure equipment where appropriate.

At the beginning of the work, immediately after opening, the Landfill Supervisor will direct staff to observe the condition of and record deficiencies of:

- Access roads
- Stormwater management system
- Leachate management system
- Landfill equipment
- Disposal units

Particular attention is to be paid to the leachate management system pumps, operability and the leachate levels in the disposal units.

8.2.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being by-passed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the landfill supervisor to the specific Class I landfill.

If in the highly unlikely case a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for requenching or the load may be dumped on the paved entry to the disposal unit and allowed to cool. The Landfill Supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked.

If prohibited types of waste are observed by the spotter in any by-pass waste, the Landfill Supervisor will be notified so that arrangement for the observed wastes can be removed.

Batteries, tires, and used oil can be removed to the adjacent Class III Landfill and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Coordinator.

8.2.4 Weighing Incoming Waste

No waste can enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. The Landfill Supervisor will periodically check ash trucks to see if they are crossing the scales by observing them as they leave the ash handling facility.

8.2.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except during the highly unlikely event when non-processible waste and by-pass waste are being delivered to the solid waste disposal unit. During these exceptions the Landfill Supervisor will assign additional landfill staff to control traffic and direct unloading.

8.2.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface water management.

Disposal Units SW-1 through SW-8 are currently designated for disposal of solid waste. Disposal Units A-1 through A-6 are currently designated for ash disposal. Depending on future volumes, Disposal Units I-1 and I-2 may be used for either ash or solid waste. The ash and solid waste will not be co-disposed. The ash residue will be monofilled, no mixing of the two materials will be allowed.

The method of filling wastes in a individual disposal unit is described as follows. The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be placed within ten feet of this flagged or marked line. All incoming ash/solid waste will be directed to the working face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert stormwater to the surface water management system. See Figure 8.3. Ash/solid waste will be placed against the side slope of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (Figure 8.3). A slope of 3 to 1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meet the following objectives.

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift disposal unit.
- Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves and berms.
- Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover, and decrease leachate volumes.

Final cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of a 18 inches of clayey material covered with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration. See Figure 8.4.

8.2.7 Waste Compaction and Application of Cover

In the solid waste disposal unit sufficient cover material will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. In areas near a borrow area, stockpiling may not be necessary. The ash/solid waste is to be placed at the bottom of the working face, within the bermed working area, and spread up toward the top in 2-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front end loader or bulldozer. The spreading of refuse is a continuous operation.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 17-701, FAC. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover consisting of 1 foot of compacted sandy soil from an on-site borrow pit will be applied within 7 days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. All intermediate cover areas will be seeded or covered with wood chips, straw or other appropriate cover material to avoid slope erosion and sloped at 2 percent to allow stormwater to drain off and be removed from the disposal unit.

The initial intermediate and final slope on top of landfill areas will be a minimum of 2 percent and will not exceed 4 percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

8.2.8 Operations of Gas, Leachate, and Stormwater Controls

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste disposal units will be installed as the disposal units are constructed. Gas vents will not be installed in the ash monofill disposal units. The detail of this gas vent is shown on Figure 8.5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Disposal Units SW-1 and A-1. The normal operation is by gravity drain to the leachate collection tank(see Figure 8.6). When the leachate reaches a predetermined level which is less than one foot in the storage tank(s), leachate is automatically pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant. If testing of the leachate indicates the need for pretreatment prior to processing at the wastewater treatment plant, the necessary pretreatment will be performed.

The leachate collection system in Disposal Unit A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe to a lift station at Disposal Unit A-1. See Drawing Sheets 8 through 12.

The stormwater controls shown on Drawing Sheets 8, 13 and 14 will be operated to collect and convey runoff to surface water management areas for sedimentation control in accordance with Chapters 17-3 and 17-4 FAC. Surface water management areas will be maintained by periodic removal of sediments. Surface water control devices such as weirs and culverts will be routinely checked, and cleaned to assure proper performance.

All water coming into contact with solid waste will be intercepted and contained by terms, and will be handled as leachate. Only stormwater that has not contact ash or solid waste may be discharged to the surface water management system.

8.2.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 17-701.510, FAC.

If any of the ground-water monitoring wells are damaged or found to be damaged, they will be reported immediately to the Landfill Supervisor who will note the occurrence in his daily operational log. The Landfill Supervisor will also notify the Operations and Maintenance Director of the damaged well so that the Department can be notified.

8.3 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 17-701, FAC, including the Department approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 17-703, FAC. The record is considered part of the operation plan and is kept at the Pasco County Government Center Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on-site at the office of the Landfill Supervisor.

The Operating Record will be available for inspection at reasonable times by Department personnel.

8.4 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the Resource Recovery Facility. Additionally, all ash residue transported from the Resource Recovery Facility to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste will be recorded in tons per day.

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 17-701.5(4)(b), FAC. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department.

8.5 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain-link fencing. Interior fencing separates the Resource Recovery Facility, West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery and the West Pasco Class III Landfill are chain-link and are closed and secured during non-working hours. The entrance gate to the Class I Landfill is internal.

The Landfill Supervisor will check or have checked the integrity of the perimeter fencing on a regular basis. The Landfill Operators will secure the entrance gates at the end of the operating day. The Landfill Supervisor will ensure that the existing signs indicating the hours of operations and types of waste accepted are maintained.

8.6 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. At the East Pasco Transfer Station all loads are dumped on the transfer station tipping floor. At the Resource Recovery Facility all loads are dumped into the refuse pit, except those loads directed to dump on the floor. The SWRRF has a written plan for the identification, isolation, and handling of unacceptable materials.

Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads. In the highly unlikely event that significant by-pass waste from the Resource Recovery Facility occurs, the Landfill Supervisor will establish random examination of solid waste deliveries at least three times per week. Randomly at least three loads of solid waste will be examined by the assigned spotters.

If unauthorized wastes are detected, the spotter will notify the Facility Operator who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The facility operator will attempt to determine the identify of the waste sources, and facilitate its removal, proper disposal and correct handling in the future.

If the Facility Operator or other trained personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes are deposited will be cordoned off from public access until proper cleanup, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The Facility Operator will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the facility for at least three years. The recorded information will include the following:

- Date and time of inspection
- Name of the hauling firm or vehicle owner
- Driver of the vehicle
- Vehicle license plate number
- Source of waste
- Observations made
- Name and signature of the inspector

8.7 Procedures for Spreading and Compacting Waste

8.7.1 Waste Layer Thickness and Compaction Frequencies

All solid waste if required will be spread in layers of approximately two (2) feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment. By-pass waste will require three to five passes with the heavy equipment and should be compacted to approximately one (1) foot in thickness.

8.7.2 Special Considerations for First Layer of Waste Placed in a Disposal Unit

An additional foot of protective layer soil material will be placed on the side slope and covered with a geotextile at the initial point of entry into the new disposal unit. The first layer of waste will be selected to be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.7.3 Construction of Lifts

Solid waste will be placed into disposal units to construct lifts. The working face of the disposal unit, and side grades at a slope, no greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed ten (10) feet. A temporary berm will be constructed around the working face to minimize the formation of leachate (see Figure 8.3). The temporary berm will be moved as the working face/lift progresses.

8.7.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill disposal units and solid waste disposal units, the working face under normal operating conditions should be minimal (± 50 feet). During periods when the volume of by-pass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.7.5 Initial Cover

Initial cover will be applied to solid waste disposal units in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors, or fires. Initial cover will not be necessary for the ash monofill disposal units.

Initial cover at the solid waste disposal units will be applied at the end of each working day. The initial cover will be comprised of soil material and be six (6) inches in compacted thickness.

8.7.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will also be seeded or sodded with grass to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside and stockpiled for use as initial cover for the resumed disposal activity.

8.7.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of 2 to 4 percent from

the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass or suitable cover vegetation.

8.7.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event the litter generating waste by-passes the Resource Recovery Facility, the Landfill Supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill
- Routine clean-up around disposal unit and access roads
- Maintain small workface and effective initial cover

Clean-up along the Resource Recovery Facility access road, Hayes Road, and within the Facility grounds, particularly around the private drop-off area will be maintained. County crews will routinely police these areas.

8.7.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, stormwater retention pond outer slopes, and along interior access roads. The Landfill Supervisor or his designee will conduct routine inspections during the wet seasons and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

8.8 Describe Operational Procedures For Leachate Management Including:

8.8.1 Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department;

The leachate sampling and analysis will be performed semi-annually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for non-operational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department quarterly. A copy of the form that will be used to record the data is included in Table 8.1.

8.8.2 Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required;

The landfill supervisor will review daily the leachate collection and removal system data to insure that the head over the liner is maintained below its maximum allowable level and that generation rates measured in the secondary leachate collection system are not excessive. Refer to Appendix A5.4 for calculations of this value. If exceedance are detected, the Operations and Maintenance Director will be notified so the exceedances can be addressed promptly.

8.8.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County is evaluating options for pretreating the leachate prior to it being transmitted to the Shady Hills Subregional Wastewater Treatment Plant (WWTP).

8.8.4 Agreements for Off-Site Discharge and Treatment of Leachate.

No agreement for off-site discharge and treatment is necessary. Treatment and discharge is provided by the Shady Hills WWTP. Back-up treatment and discharge will be provided by the Hudson WWTP. The West Pasco Class I Landfill and the Shady Hills and the Hudson WWTPs are owned by Pasco County and operated by the Utilities Services Branch.

8.8.5 Contingency Plan for Managing Leachate During Emergencies or Equipment Problems

If equipment problems occur such as pump failure so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the landfill supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP, the landfill supervisor will be notified so that arrangements can be made to correct the problem and if necessary, arrangements be made to transport leachate by tanker truck to the Shady Hills WWTP or the Hudson WWTP.

8.8.6 Procedures for Recording Quantities of Leachate generated in gal/day

The landfill supervisor will direct staff to daily record the leachate levels measured in the tanks and sumps and flow meters readings. Flow meter results will be subtracted from the previous day's results to determine the quantity of leachate generated, in gallons per day. Quantities will be measured and recorded daily for each primary and secondary liner system.

8.8.7 Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates

The landfill supervisor will direct staff to daily check and record rainfall collected in an on-site rain gauge. The data will be recorded along with the leachate generation data. Leachate generation rates for each disposal unit measured and the amount of rainfall will be graphed and compared.

8.9 Describe Routine Gas Monitoring Program for the Landfill as Required

Routine gas monitoring will be initiated after the burial of putrescible waste or by-pass waste in the SW disposal units. No gas monitoring will be conducted relative to the last monofill disposal units.

8.10 Describe procedures for Operating and Maintaining the Landfill Stormwater Management System to Comply With the Standards of Chapters 17-3, 17-302, and 17-23, FAC.

The access road encompassing the landfill area and the disposal unit berms are elevated above existing ground elevations to prevent any surface water from entering the waste-filled area.

Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive runoff from the predeveloped and any closed-out areas of the landfill and direct it to one of four major retention basins.

The bottom of the landfill disposal units are lined and positioned above the seasonal high water table to prevent any lateral flow into the waste-filled areas, if in the unlikely event that standing water was to occur in the swales. Also any closed-out disposal units will be capped with an 18-inch clay cap to inhibit vertical infiltration/percolation of rain.

The landfill supervisor will routinely inspect the stormwater management system. Particular attention will be given to inspecting the culverts under the access road for any blockage. The stormwater management system will also be inspected prior to a natural disaster if sufficient notice is available, and after any natural disaster (see Section 8.2.2.2.)

8.11 Equipment and Operation Feature Requirements.

8.11.1 Sufficient equipment for Excavating, Spreading, Compacting and Covering Waste.

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

Compactor	1
Bulldozer	2
Front-end loaders	2
Leachate Transport Truck and 6,000-gallon tanker	1
Dump Truck	1
Leachate Pumps	2
Dump Trucks	2

8.11.2 Reserve Equipment or Arrangements to Obtain Additional Equipment Within 24 Hours of Breakdown

Reserve equipment is available from the County's Public Works Division. All equipment on the list with the exception of the compactor are available from Public Works on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

8.11.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scalehouse, and the West Pasco Class III Scalehouse and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios.

8.11.4 Personnel Shelter and Sanitary Facilities, First Aid Equipment

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, restrooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building.

8.11.5 Dust Control Methods

That access road is paved. Unpaved, interior roads will be wet down with water using a spray truck on an as needed basis. Heavy equipment is enclosed and air conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty area.

8.11.6 Fire Protection Capabilities and Procedures for Notifying Local Fire Department Authorities in Emergencies

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the Fire Department as discussed under Section 8.2.2.1 Fire Emergency Procedures.

8.11.7 Litter Control Devices

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when non-processible or by-pass waste are being delivered to the solid waste disposal unit. During these exceptions, the landfill supervisor will require loads be covered, working face be kept to a minimum, cover applied efficiently, and routine clean-up occur, to control litter.

8.11.8 Signs Indicating Operating Authority, Traffic Flow, Hours of Operation, Disposal Restrictions

Signage indicating operating authority, traffic flow, hours of operation, disposal restrictions are provided at the entrances to the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

8.12 Provide a Description of All-Weather Access Road, Inside Perimeter Road and Other Roads Necessary for Access Which Shall Be Provided at the Landfill.

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center, a perimeter road and entrance ramps to the constructed disposal units.

8.13 Additional Recordkeeping and Reporting Requirements

8.13.1 Records Used For Developing Permit Applications and Supplemental Information Maintained For the Design Period of the Landfill

Records used for developing permit applications and other Supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files.

8.13.2 Monitoring Information Calibration and Maintenance Records, Copies of Reports Required By Permit Maintained For At Least Ten Years

Reports required by the permit will be maintained for at least 10 years in the Utilities Services Branch files.

8.13.3 Background Water Quality Records Shall be Maintained for the Design Period of the Landfill

Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

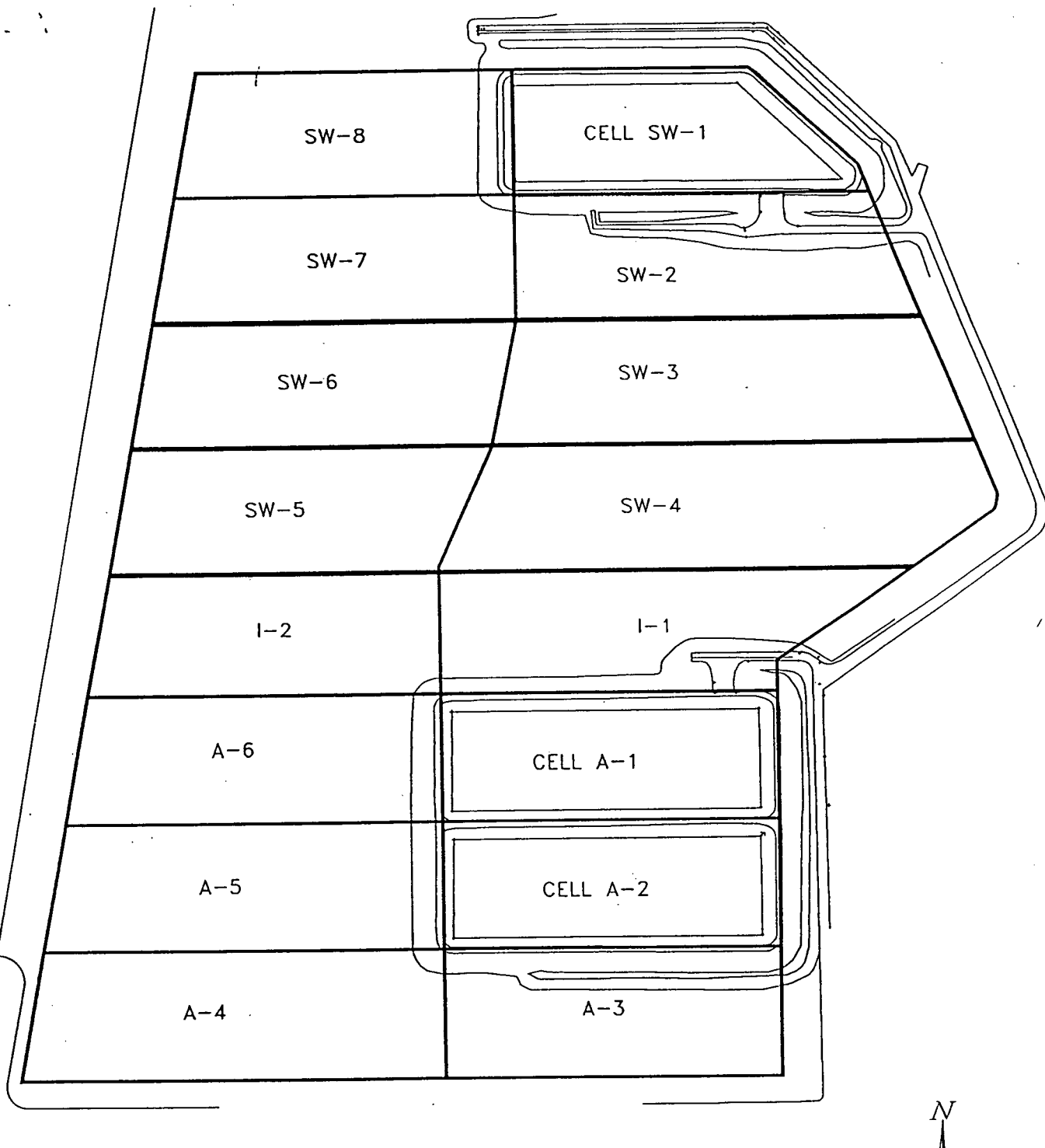
8.13.4 Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit This Estimate Annually to the Department

The Operations and Maintenance Director will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed, permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch Files.

8.13.5 Annual Report Requirements Including a Report Submitted to the Department Which Is Signed, Dated and Sealed by P.G. or P.E.

A technical report, prepared, signed and sealed by a P.G. or P.E. with experience in hydrogeologic investigations, will be submitted to the Department every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Ground-water contour maps will be interpreted as to ground-water flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated and sealed by a P.G. or P.E.



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Pasco County
Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



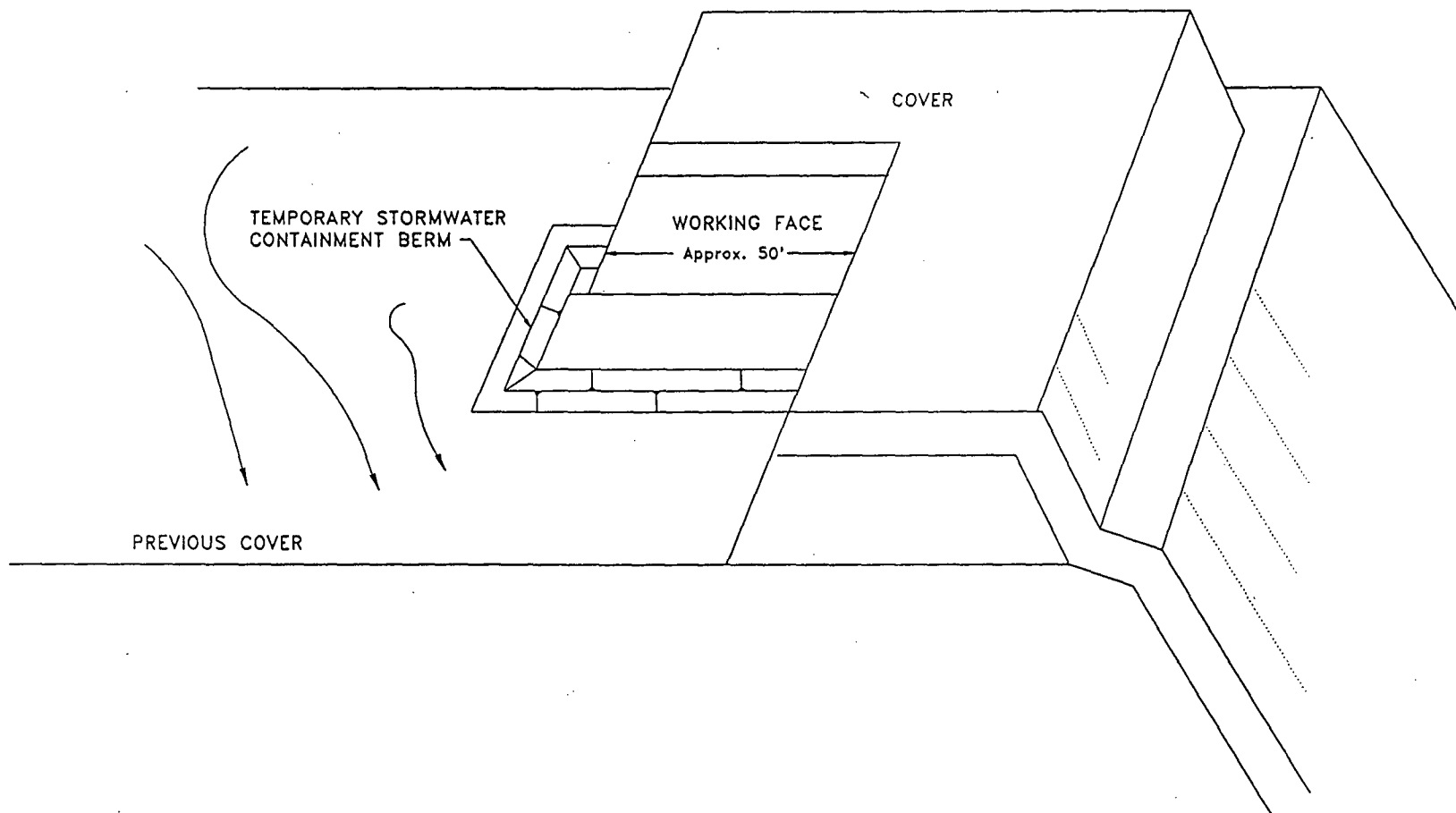
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ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

West Pasco Class I
Landfill Footprint Schematic

Project 464-83565.01 Figure 8



Not to Scale

Prepared/Date:

Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



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ENGINEERING AND ENVIRONMENTAL
SERVICES

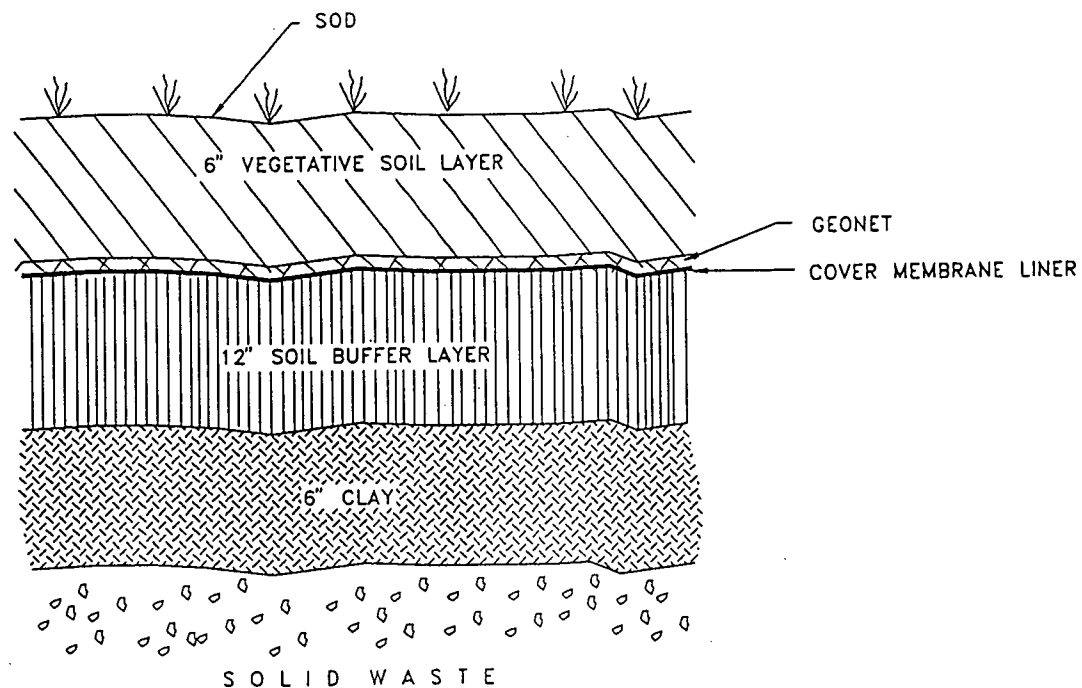
Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565.01

Figure 8.3

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Not To Scale

Prepared/Date:

Checked/Date:

Pasco County
Board of County Commissioners
Utility Services Branch
Pasco County, Florida



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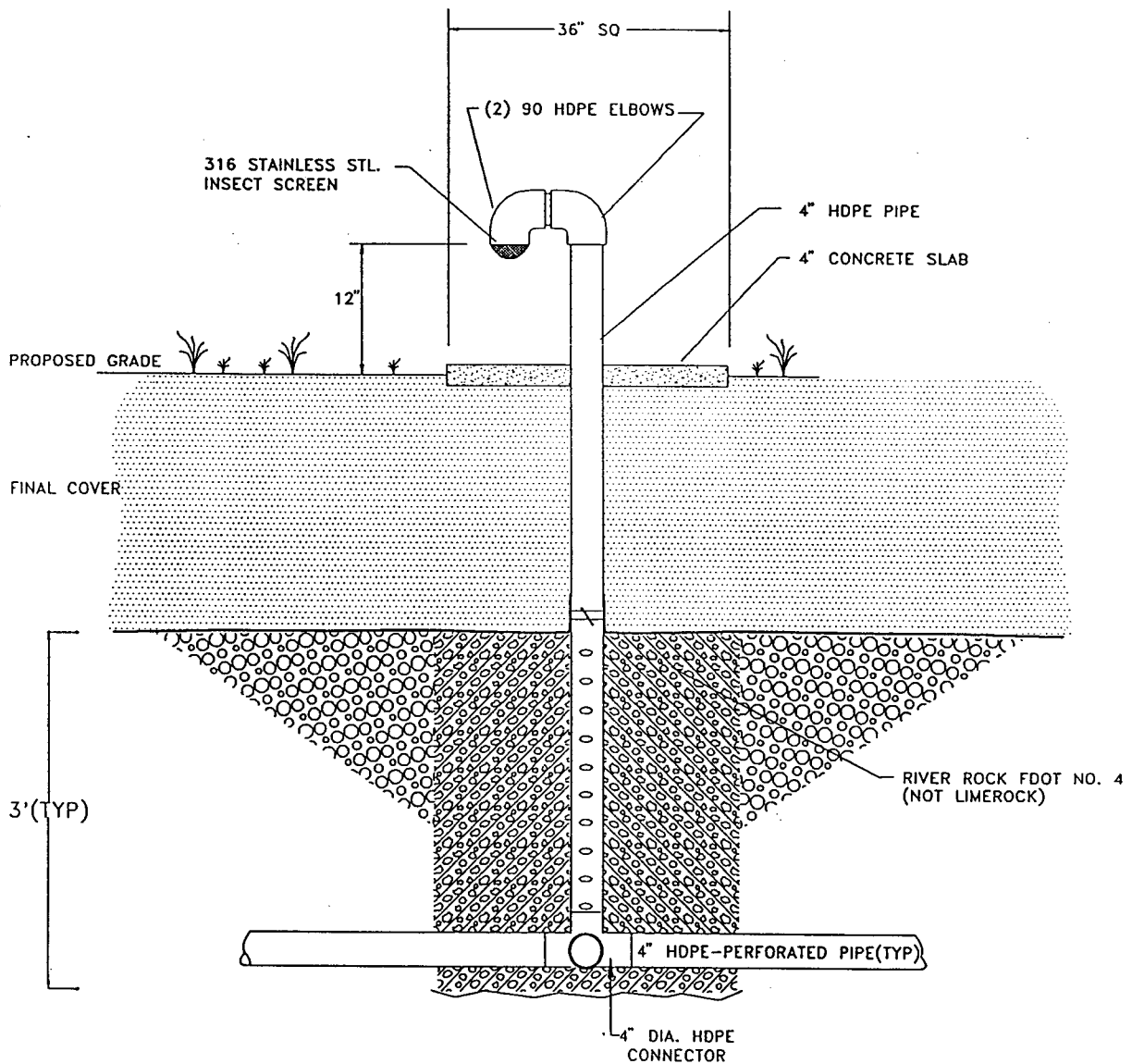
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

Final Cover Detail

Project 464-83565.01

Figure 8.4



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Resource Recovery Facility
Pasco County, Florida

Gas Vent Detail

Project 464-83565.01 Figure 8.5

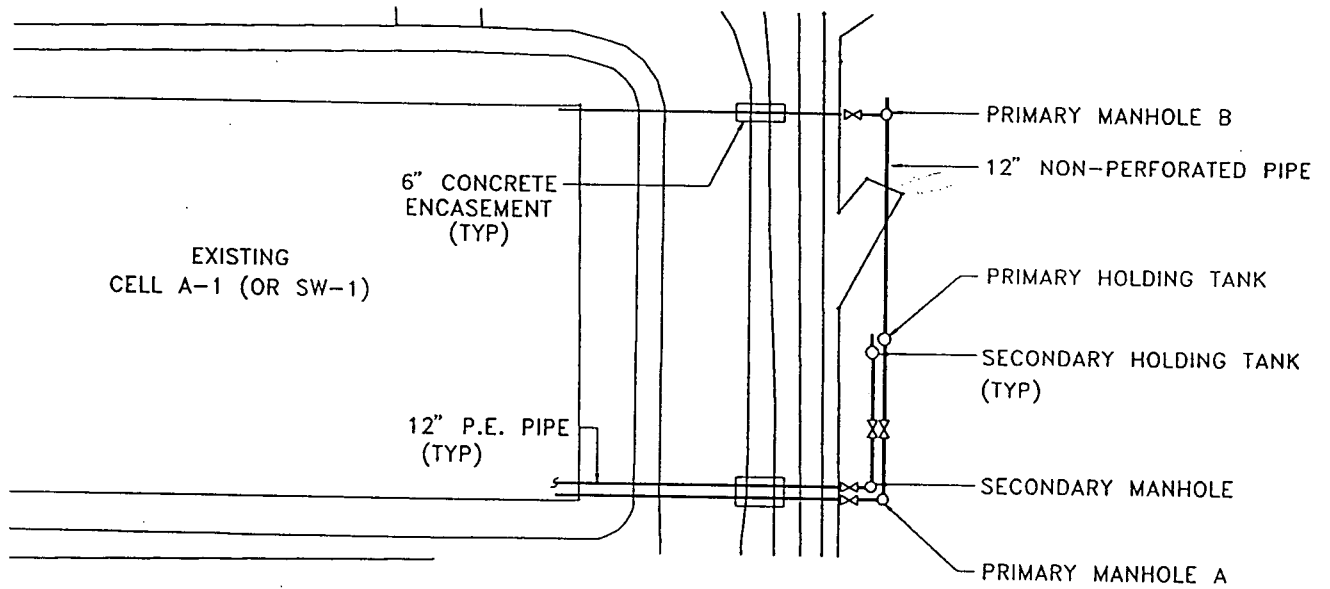
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Utility Services Branch
Pasco County, Florida



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ENGINEERING AND ENVIRONMENTAL SERVICES



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Board of County
Commissioners
Utility Services Branch
Pasco County, Florida



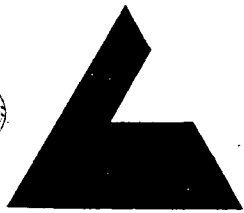
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ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida
Leachate Collection System
Schematic
Cell SW-1 and Cell A-1

Project 464-83565.01 Figure 8.6

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Appendix 5.4
CALCULATIONS



LAW COMPANIES

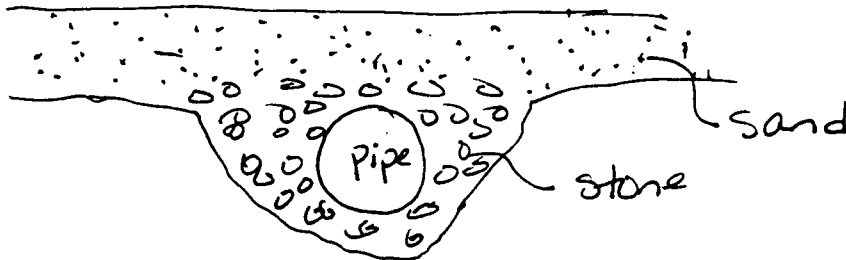
GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. _____ SHEET 1 OF 2

JOB NAME Pasco County Landfill

BY LAM DATE 7/7/94

CHECKED BY CJR DATE 7/7/94



$$\begin{aligned} D_{15}(\text{filter}) &\leq 5D_{85}(\text{soil}) \quad \checkmark \\ D_o(\text{pipe}) &\leq D_{85}(\text{soil}) \quad \checkmark \end{aligned}$$

D_{85} of silica sand (FDOT Silica Sand section 902-2)
 $\approx 0.9\text{mm to } 2.36\text{mm}$
 $5D_{85} = 4.5\text{mm to } 11.8\text{mm}$

D_{15} stone (No 89) - FDOT
 $\approx 1.2\text{mm to } 4\text{mm}$

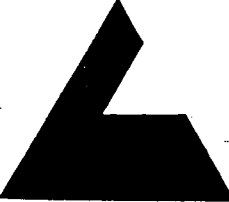
$$\begin{aligned} D_{15}(\text{filter}) &\leq 5D_{85}(\text{soil}) \\ 1.2\text{mm to } 4\text{mm} &\leq 4.5\text{mm to } 11.8\text{mm} \end{aligned}$$

YES

D_{85} stone (No 89) - FDOT
 $\approx 7\text{mm to } 9\text{mm}$

$$D_o \leq D_{85}(\text{soil})$$

\therefore pipe openings must be less than 7mm

 LAW COMPANIES GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS	JOB NO. _____ SHEET <u>2</u> OF <u>2</u>
	JOB NAME <u>Pasco County Landfill</u>
	BY <u>LAM</u> DATE <u>7/7/94</u>
	CHECKED BY <u>CJK</u> DATE <u>7/7/94</u>

$$7\text{mm} = 0.7\text{cm}$$

$$1\text{inch} = 2.54\text{cm}$$

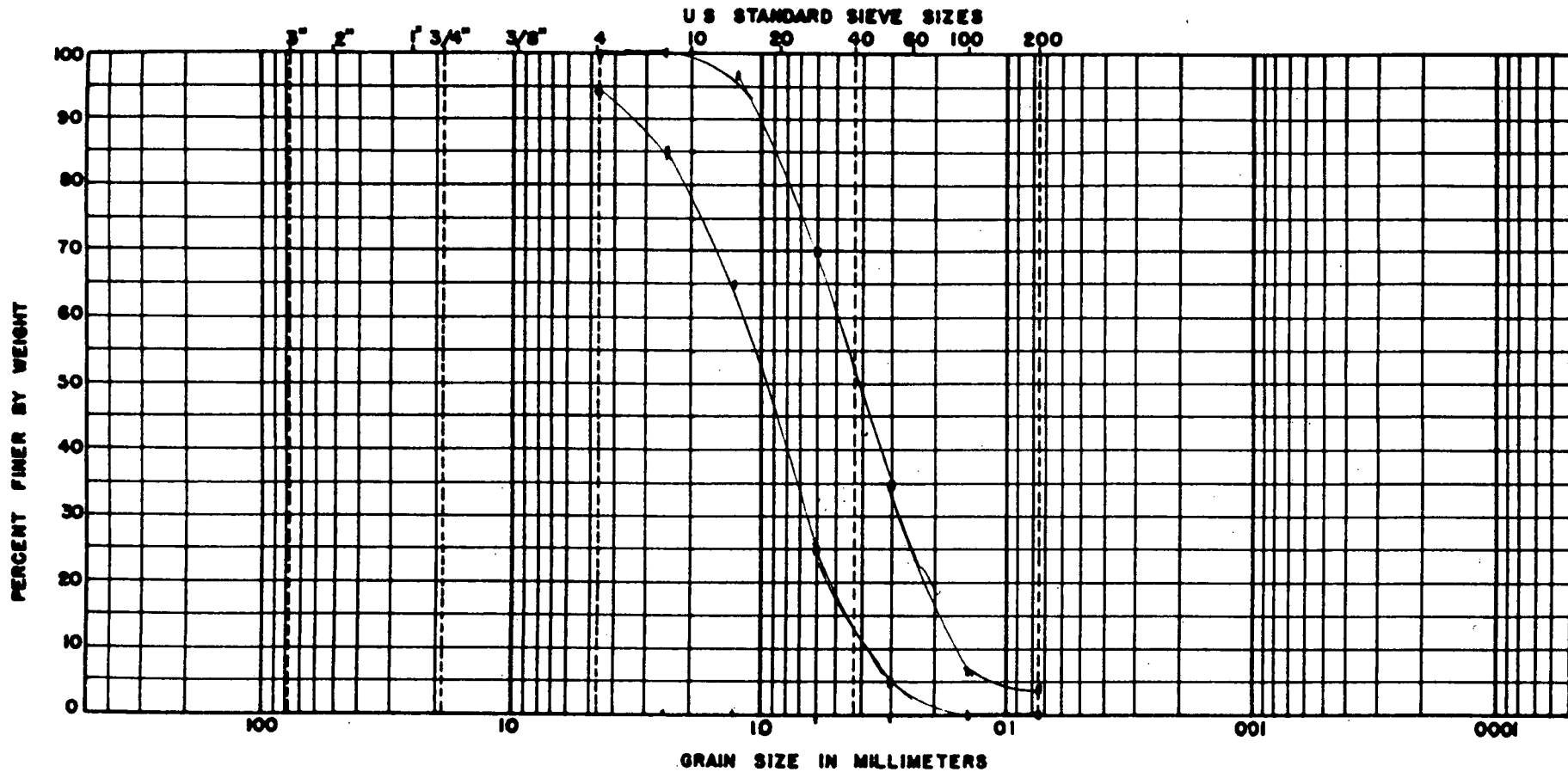
$$\therefore 7\text{mm} = 0.276\text{ inches}$$

Pipe openings must be
less than 0.276 inches

use 0.25 inches or less



Silica Sand



BOUL DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

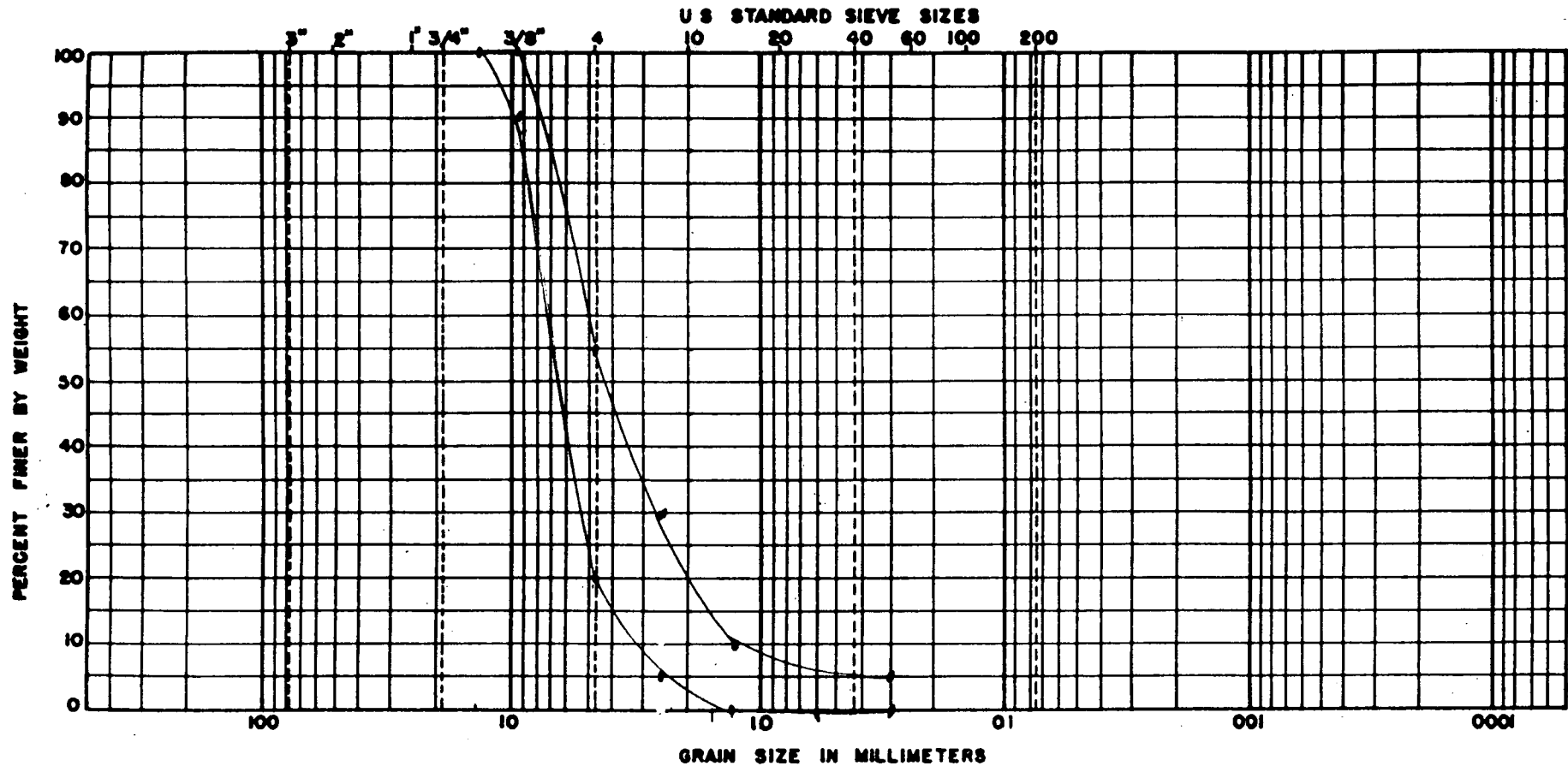
BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION

GRAIN SIZE DISTRIBUTION

JOB NO. _____

LAW ENGINEERING

No 89 Stone



BOUL DERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT SIZES	CLAY SIZES

BORING NO	ELEV OR DEPTH	NAT WC	LL	PL	PI	DESCRIPTION OR CLASSIFICATION

GRAIN SIZE DISTRIBUTION

JOB NO. _____

LAW ENGINEERING

given opening, or it establishes the largest opening that can be used with a given soil. Frequently, a soil is employed as a filter. This means that the effective diameter of its voids must be less than D_{85} of the soil being filtered. Since the effective pore diameter is about $\frac{1}{3}D_{15}$, then

$$D_0 \leq D_{85(\text{soil})} \quad (3:19a)$$

$$D_{15(\text{filter})} \leq 5D_{85(\text{soil})} \quad (3:19b)$$

If the filter is to provide free drainage, it must be much more pervious than the soil. Since the permeability coefficient varies as the square of the grain size, then a ratio of permeabilities of over 25 to 1 can be secured by

$$D_{15(\text{filter})} \geq 5D_{15(\text{soil})} \quad (3:19c)$$

These criteria (Fig. 3.19) are the basis for filter design.^{3:11} In general, the filter soil should be well within these limits, and its grain size curve should be smooth and parallel to or flatter than the soil. If the soil being filtered is very fine grained, more than one filter layer will be required. The final filter layer is designed to fit between the openings in the conduit and the next finer filter. For many silty and clayey soils a well-graded concrete sand makes a satisfactory filter. A coarser pea-gravel second filter—usually described as ASTM No. 78 crushed stone—is then needed for the first.

If the soil being filtered is gap-graded, its grain size curve is redrawn, considering only the portion of the soil finer than the gap to be the total soil being filtered, and disregarding the part of the soil coarser than the gap. The filter is designed to fit the redrawn curve.

There have been many attempts to devise a "universal filter" that is small enough to filter the finest soil and yet having a D_{85} large enough so that it will not pass through the 80-mm or $\frac{3}{16}$ -in. perforations of commercial drainpipe. However, such filter materials have such a wide range of sizes (high C_u) that the particles segregate during handling and construction. Therefore, they should not be used unless care is taken to maintain their gradation.

The thickness of a sand or gravel filter layer is controlled by the ability of the layer to undergo distortion without rupture and by construction ease. Around drainpipes, filter layers from 0.1 to 0.2 m (4 to 8 in.) are sufficient. In dams horizontal layers should be 0.2 to 1 m (1 to 3 ft) thick and trench or chimney filters 2 to 3 m (6 to 10 ft) wide.

Fabric filters of woven metal, woven plastic, and nonwoven fiber sheets are easy to install in restricted spaces. Their cost is offset by saving labor. Reliable data on their filtering performance must be obtained from tests utilizing the same soils and gradients anticipated in the installation. Under gradients of up to 10, the nonwoven filters appear to have an effective opening of about 0.25 mm. In woven fabric, the openings are somewhat larger; they can be measured with a microscope-comparator.

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free advice of the piling salesman and against the warning of his engineer. The dam failed by shear in the downstream face that was already weakened by the increased neutral stress. The cutoff should be placed where the increased pore pressure is not harmful, at the center of the structure or upstream from the center and under the heaviest part of the structure, if possible. Incomplete cutoffs can increase seepage erosion by concentrating gradients.

Excessive water pressure can be controlled by drainage that short-circuits the flow and bleeds off the excess neutral stress at a point where it can do no harm. The *trench drain*, *blanket drain*, and *toe drain* (Fig. 3.18c) are used separately or in combination in earth dams to reduce neutral stresses in the downstream part of the embankment. Relief holes (Fig. 3.18d) reduce uplift on masonry dams. Relief wells (Fig. 3.18e) are used to reduce pressures in confined seams or pockets. Drainage has the disadvantage of shortening the seepage path and increasing the flow, but this can be corrected as previously described. It is essential that the drainage system be properly designed to avoid seepage erosion, as will be described in the section on filters.

FILTER DESIGN / A *filter* or *protective filter* is any porous material whose openings are small enough to prevent movement of the soil into a drain and which is sufficiently pervious to offer little resistance to seepage. Extensive experiments have shown that it is not necessary for a filter to screen out all the particles in the soil. Instead the filter openings need restrain only the coarsest 15%, or the D_{85} , of the soil. These coarser particles, D_{85} and larger, will collect over the filter opening as shown in Fig. 3.19a. Their voids will create smaller openings to trap even smaller particles of soil. Therefore, the diameter of the openings in the filter must be less than D_{85} of the soil. If the filter is a metal screen, filter fabric or holes in a perforated pipe, this limit fixes the finest soil that can be filtered by any

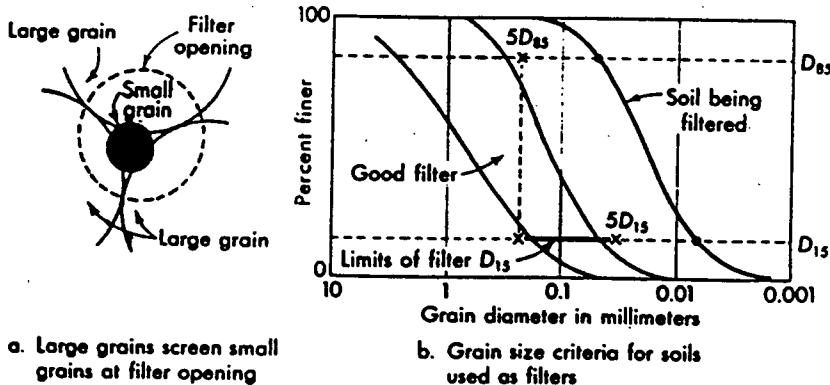


Figure 3.19 Protective filters.

902-1.1

Control of Mineral Aggregate Sources (Silica Sand and Screenings), except as noted herein.

902-1.2 Deleterious Substances:

All fine aggregate shall be reasonably free of lump clay, soft or flaky particles, salt, alkali, organic matter, or other extraneous substances. The weight of deleterious substances shall not exceed the following percentages:

Shale	1.0
Coal and lignite	1.0
Cinders and clinkers	0.5
Clay Lumps	1.0

902-2 Silica Sand. 902-2.1 Composition:

Silica sand shall be composed only of naturally occurring hard, strong, durable, uncoated grains of quartz, reasonably graded from coarse to fine, meeting the following requirements, in percent total weight.

Sieve	Percent Retained	Percent Passing
No. 4	0 to 5	95 - 100
No. 8	0 to 15	85 - 100
No. 16	3 to 35	65 - 97
No. 30	30 to 75	25 - 70
No. 50	65 to 95	5 - 35
No. 100	93 to 100	0 - 7
No. 200	Minimum 96	Maximum 4

Silica sand from any one source, having a variation in Fineness Modulus greater than 0.20 either way from the Fineness Modulus of target gradations established by the producer, may be rejected.

902-2.2 Organic Impurities:

Silica sand shall be subject to the colorimetric test for organic impurities. If the color produced is darker than the standard solution, the aggregate shall be rejected unless it can be shown by appropriate tests that the impurities causing the color are not of a type that would be detrimental to Portland Cement Concrete. Such tests shall be in accordance with Florida Methods FM 1-T-21 and T-71. When tested for the effect of organic impurities on strength of mortar, the strength ratio at 7 and 28 days, calculated in accordance with Section of FM-1-T-71, shall not be less than 95 percent.

902-3 Sands for Miscellaneous Uses.

902-3.1 Anchor Bolts and Pipe Joints:

Sand for setting anchor bolts, pipe joints or other similar uses shall meet the quality requirements of 902-2 except that gradation requirements are waived.

902-3.2 Brick Sand for brick masonry of 902-2

materials shall pass from coarse to fine

902-3.3 Sand-

Sand for sand requirements of material shall meet

Passing

No. 4 Sieve

No. 100 Sieve

No. 200 Sieve

902-4 Filter M

Silica sand for meet the requirements of 902-1.2 and 9

902-5 Screenin

902-5.1 Comp

Screenings shall be either naturally resulting from the

include natural (lightweight aggregate) with similar characteristics

Aggregates following gradation

Sieve Size

3/8"

No. 4

No. 200

When permitted may contain up to 10 percent passing No. 200 Sieve.

902-5.2 Spec

902-5.2.1 S

S

Processed sand for Coarse Aggregate shall be 100 percent passing No. 20 Sieve. Aggregate Source shall be in-service history and shall be implemented.

gates to be used in asphaltic concrete may contain not more than 1 percent free shell. Free shell is defined as the coarse aggregate retained on the No. 4 sieve, consisting of loose, whole, or broken shell, or the external remains of other marine life, having a ratio of length of the particle to the shell wall thickness of one to one. Coral, molds, or casts of other shells, and oyster shell indigenous to the formation, shall be considered as free shell.

Requirement for maximum percent of material passing the No. 200 sieve for a lot or stockpile of any coarse aggregate component shall be as follows:

any samples obtained by the Department for purposes or assurances purposes at the source shall be the average percent of material passing the No. 200 sieve. Two composite samples shall not exceed 10 percent. Individual test shall exceed 2.0 percent. 10 percent assurance samples or acceptance samples shall be obtained by the Department. Obtained at the point of use, the percent of material passing the No. 200 sieve shall not exceed 3.75 percent. The maximum test shall exceed 4.0 percent.

This limitation applies only to coarse aggregates which appear as an impurity. It is not applicable to aggregates which are predominantly chert.

Physical Properties:

Aggregates shall meet the following physical requirements, except as noted herein:

Los Angeles Abrasion (FM 1-T 096).....Maximum 30 percent
 Sodium Sulphate (FM 1-T 104).....Maximum 12 percent*

Soundness.....Maximum 10 percent
 Approval—Aggregates exceeding soundness limits will be rejected unless performance history indicates material will not be detrimental for Portland cement concrete or other intended usages.

Elongated particle is defined as one having a maximum and the minimum dimensions of the prism exceeding five to one.

Gradation:

Aggregates shall conform to the gradation limits of Table 1, when the stone size is specified. The 1 is waived for those aggregates intended for use in bituminous mixtures, provided the material meets uniformity and bituminous design

TABLE 1. Maximum Limits of Percentages of Material Passing Each Laboratory Sieve (Square Openings), weight percent

Size Number	Nominal Size, Square Opening	4-in. (100-mm)	3 1/2-in. (90-mm)	3-in. (75-mm)	2 1/2-in. (63-mm)	2-in. (50-mm)	1 1/2-in. (37.5-mm)	1 1/4-in. (31.5-mm)	1-in. (25.0-mm)	3/4-in. (19.0-mm)	3/8-in. (9.5-mm)	No. 4 (4.75-mm)	No. 8 (2.36-mm)	No. 16 (1.18-mm)	No. 30 (0.60-mm)
1	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
2	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
3	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
4	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
5	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
6	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
7	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
8	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
9	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15
10	3/4 to 1 1/4-in. (60 to 37.5-mm)	100	90 to 100	25 to 60	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15	0 to 15

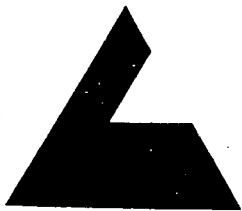
NOTE: The above gradations represent the extreme limits for the various sizes indicated, which will be used in determining the suitability for use of coarse aggregate from all sources of supply. For any grade from any one source, the gradation shall be held reasonably uniform and not subject to the extreme percentages of gradation specified above.

POLYNET PN-3000
PRODUCT DESCRIPTION

PN-3000 is a profiled geonet manufactured by extruding two sets of polyethylene strands to form a diamond shape. The resulting net provides superior planar water flow, is inert to biological and naturally encountered chemicals, alkalis, and acids and is resistant to UV light exposure. Polynet PN-3000 conforms to the property values listed below.

<u>PROPERTY</u>	<u>METHOD</u>	<u>UNITS</u>	<u>QUALIFIER</u>	<u>VALUE</u>
Roll Length	-	ft	Normal	300
Roll Width	-	ft	Normal	7.54
Thickness	ASTM D1777	inches	Range	0.220±0.022
Area per Roll	-	ft ²	Normal	2262
Weight per Roll	-	lbs	Normal	407
Weight per Square Foot	ASTM D3776 (option C)	lbs/ft ²	Range	0.180±0.018
Carbon Black Content	ASTM D1603	percent	Range	2.5±0.5
Polymer Density	ASTM D1505	g/cm ³	Range	0.937±0.002
Melt Flow Index	ASTM D1238 (condition E)	g/10 min.	Maximum	1.0
Tensile Strength (Machine Direction)	ASTM D1682 (modified)	ppi	Range	50±10
Transmissivity ¹ (gradient = 1.0 at 15,000 psf)	ASTM D4716	M ² /sec	Minimum	1 X 10 ⁻³

¹ Measured between two steel plates one hour after application of the confining pressure. Values may vary based on transmissivity specimen dimensions and specific laboratory.



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 444-3565.0 / SHEET 1 OF

JOB NAME Resource Recovery Class 1

BY REM DATE 7/6/94

CHECKED BY DR DATE 7/7/94

Pipe Strength / Loading

Non-pressure

Pipes - Collection & header - Burial elevation 125'
- $\frac{47}{78}$

- Sider Slope riser 30'

pressure

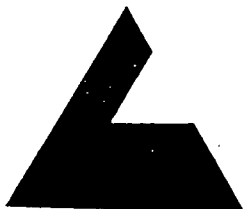
- Force main 4" inside & 5" containment
may use 6" if spacers are
required

Preliminary design for permit based on
Drisco pipe[®] Eng manual - a copy of same pages
is attached.

1st Buried collection / header pipes using
Chart 24 Soil Type 11 slight to moderate
compaction soil modulus - 1500

Then for Max Burial 78' - use SDR 17

2ND Riser - use a stiffer pipe check chart
SDR 13.5 OK



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 464-3565.01 SHEET 2 OF

JOB NAME Reserve Runway Class 1

BY REM DATE 7/6/94

CHECKED BY DATE

FINALLY for Pressure pipe face man

SDR - 17 - 100 psi, which is more than adequate



DRISCOPIPE

For a given SDR the ratio of the O.D. to the minimum wall thickness remains constant. An SDR 11 means the O.D. of the pipe is eleven times the thickness of the wall. This remains true regardless of diameter. For example, a 14" diameter pipe with a wall of 1.273" is an SDR 11 pipe. An 18" diameter pipe with a wall of 1.637 is also an SDR 11 pipe. Common SDR ratios are SDR 9.3, SDR 11, SDR 13.5, SDR 15.5, SDR 17, SDR 19, SDR 21, SDR 26 and SDR 32.5. For high SDR ratios, the pipe wall is thin in comparison to the pipe O.D. For low SDR ratios, the wall is thick in comparison to the pipe O.D. Given two pipes of the same O.D., the pipe with the thicker wall will be stronger than the one with the thinner wall. Thus, high SDRs have low pressure ratings and low SDRs correspond to high pressure ratings because of the relative wall thickness.

The pressure rating of thermoplastic pipe is mathematically calculated from the SDR and an allowable hoop-stress. The allowable hoop-stress is commonly known as the long term hydrostatic design stress. It is the stress level (that has been laboratory tested and field proven) that can exist in the pipe wall continuously with a high degree of confidence that the pipe will operate under pressure for at least 50

years with safety. The formula relating SDR and hydrostatic design stress has been adopted by ISO (International Standards Organization), ASTM (American Society For Testing and Materials) and the PPI (Plastics Pipe Institute) as the standard for the industry.

The formula is:

$$P = \frac{2 St}{D - t} \text{ or } P = \frac{2 S}{SDR - 1}$$

Where: P = Pressure rating (psi)
D = Pipe OD (inches)
t = Minimum wall thickness (inches)
S = Hydrostatic Design Stress
SDR = D ÷ t

From the formula it can be shown that *all pipes of the same SDR (regardless of diameter) will have the same pressure rating for a given design stress.* Thus, 36" dia. SDR 32.5 has the same pressure rating as 14" SDR 32.5. For the design engineer's reference, the standard SDRs and their corresponding standard pressure ratings for water at 73.4°F. using a hydrostatic design stress of 800 psi, are shown in Charts 12 and 13.

Chart 12
Pipe Pressure Rating

Driscopipe 1000 (at 73.4°F)

	SDR 32.5	SDR 26	SDR 21	SDR 19	SDR 17	SDR 15.5	SDR 13.5	SDR 11	SDR 9	SDR 7
Long Term Strength (psi)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Safety Factor	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Hydrostatic Design Stress	800	800	800	800	800	800	800	800	800	800
Design Life (min. years)	50	50	50	50	50	50	50	50	50	50
Pressure Rating (psi)	51	64	80	90	100	110	128	160	200	267

Chart 13
Pipe Pressure Rating

Driscopipe 8600 (at 73.4°F)

	SDR 32.5	SDR 25.3	SDR 15.5	SDR 11	SDR 9.3	SDR 8.3
Long Term Strength (psi)	1600	1600	1600	1600	1600	1600
Safety Factor	2.0	2.0	2.0	2.0	2.0	2.0
Hydrostatic Design Stress	800	800	800	800	800	800
Design Life (min. years)	50	50	50	50	50	50
Pressure Rating (psi)	51	65	110	160	190	220

DRISCOPIPE

Simplified Burial Design: A conservative estimate of the ability of Driscopipe pipelines to perform in a buried environment is found in Chart 24. It is based on a minimum 2:1 safety factor and 50 year design service life. A detailed burial design starts on page 37. The detailed design should be used for critical or marginal applications or whenever a more precise solution is desired.

Detailed Burial Design:

Design by Wall Crushing: Wall crushing would theoretically occur when the stress in a pipe wall, due to the external vertical pressure, exceeded the long-term compressive strength of the pipe material. To ensure that the Driscopipe wall is strong enough to endure the external pressure the following check should be made:

$$S_A = \frac{(SDR - 1)}{2} P_T$$

Values of E'

Based on Soil Type (ASTM D2321) and Degree of Compaction

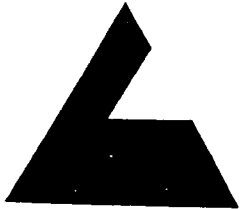
Soil Type of Initial Backfill Embedment Material	Description	E' (psi) for Degree of Compaction (Proctor Density, %)			
		Loose	Slight (70-85%)	Moderate (85-95%)	High (95%)
I	Manufactured angular, granular materials (crushed stone or rock, broken coral, cinders, etc.)	1,000	3,000	3,000	3,000
II	Coarse grained soils with little or no fines	N.R.	1,000	2,000	3,000
III	Coarse grained soils with fines	N.R.	N.R.	1,000	2,000
IV	Fine-grained soils	N.R.	N.R.	N.R.	N.R.
V	Organic soils (peat, muck, clay, etc.)	N.R.	N.R.	N.R.	N.R.

N.R. = Not Recommended for use by ASTM D2321 for pipe wall support

Chart 24

SDR	Maximum Burial Depth, ft. in dry soil of 100 lbs/cu. ft.			Maximum External Pressure psi			Maximum Deflection, % after installation		
	Soil Modulus, psi*			Soil Modulus, psi*			Soil Modulus, psi*		
	1000	2000	3000	1000	2000	3000	1000	2000	3000
32.5	25	32	37	17	22	26	1.7	0.9	0.6
26	33	45	52	23	31	36	2.3	1.2	0.8
21	46	61	71	32	42	49	3.2	1.6	1.1
19	52	69	81	36	48	56	3.6	1.8	1.2
17	61	121	181	42	84	126	4.2	2.1	1.4
15.5	56	112	168	39	78	117	3.9	2.0	1.3
13.5	49	98	147	34	68	102	3.4	1.7	1.1
11	39	78	117	27	54	81	2.7	1.4	0.9
9.3	33	68	101	23	47	70	2.3	1.2	0.8
8.3	30	61	89	21	42	62	2.1	1.1	0.7
7.3	26	52	79	18	36	55	1.8	0.9	0.6

*assumes no external loads



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 4648356502 SHEET 1 OF 4
JOB NAME W. Pasedo Class I Land fill
BY LAH DATE 6/22/94
CHECKED BY C/L DATE 7-7-94

Settlement Calculations

el 152

$$\Delta \sigma = (102' \times 90 \text{ pcf})$$
$$= 9180 \text{ psf}$$
$$= 4.6 \text{ tsf} \quad \checkmark$$

102'

el 100

$$\Delta \sigma = (50' \times 90 \text{ pcf})$$
$$50' = 4500 \text{ psf}$$
$$= 2.25 \text{ tsf}$$

el 50

①

$$10' \quad \bar{n} = 5 \quad (10 \times 5) = 50 \text{ tsf} = E$$

②

$$6' \quad \bar{n} = 10 \quad (10 \times 10) = 100 \text{ tsf} = E$$

③

$$20' \quad \bar{n} = 10 \quad 100 \text{ tsf} = E$$

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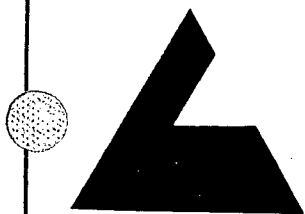
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X

1100 feet

X



LAW COMPANIES

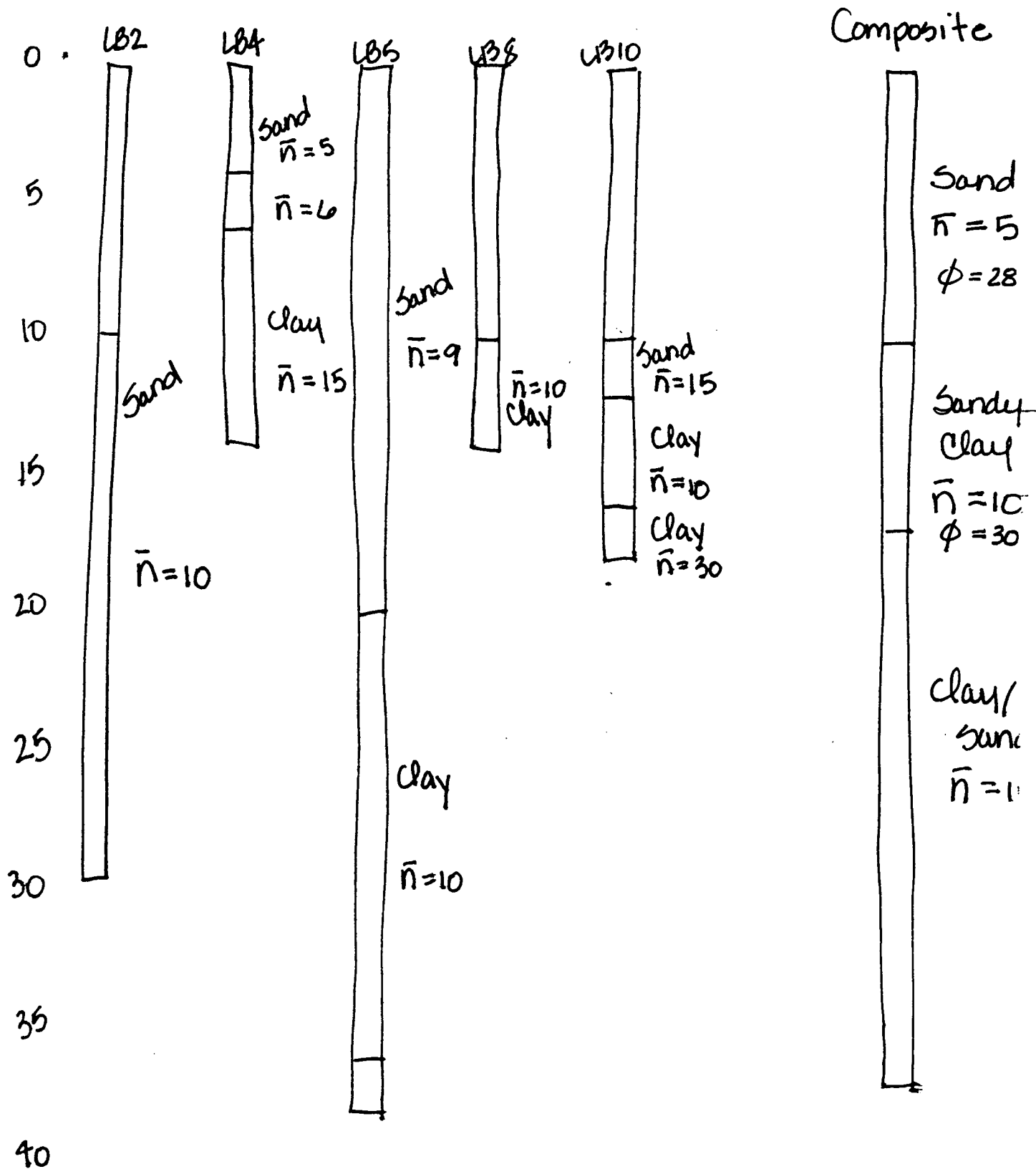
GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

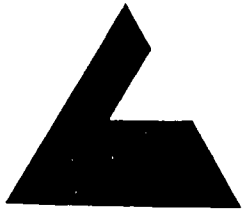
JOB NO. _____ SHEET 2 OF 4

JOB NAME W. P. 3000 Class I Landfill

BY L Hall DATE 6/22/94

CHECKED BY C/R DATE 7-7-94





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GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
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JOB NO. _____ SHEET 3 OF 4
JOB NAME W Pased Class 1 Landfill
BY L Hall DATE 6/22/94
CHECKED BY CLV DATE 7-7-94

$$S = \frac{\Delta \sigma H}{E}$$

at el 152

$$\text{layer 1: } S = \frac{(4.6 \text{ tsf})(10')}{50 \text{ tsf}} = 0.92 \text{ ft or 11 inches}$$

$$\text{layer 2: } S = \frac{(4.6 \text{ tsf})(6')}{100 \text{ tsf}} = 0.28 \text{ ft or 3.3 inches}$$

$$\text{layer 3: } S = \frac{(4.6 \text{ tsf})(20')}{100 \text{ tsf}} = 0.92 \text{ ft or 11 inches}$$

$$\Sigma S = 25.3 \text{ inches or 2 feet}$$


at el 100

$$\text{layer 1: } S = \frac{(2.25 \text{ tsf})(10')}{50 \text{ tsf}} = 0.45 \text{ ft or 5.4 inches}$$

$$\text{layer 2: } S = \frac{(2.25 \text{ tsf})(6')}{100 \text{ tsf}} = 0.14 \text{ ft or 1.6 inches}$$

$$\text{layer 3: } S = \frac{(2.25 \text{ tsf})(20')}{100 \text{ tsf}} = 0.45 \text{ ft or 5.4 inches}$$

$$\Sigma S = 12.4 \text{ inches or } \frac{1.5}{1.0} \text{ feet}$$

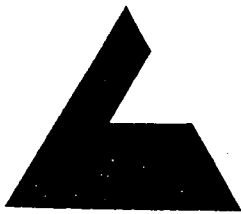
	LAW COMPANIES	JOB NO. _____ SHEET <u>4</u> OF <u>4</u>
	GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS	JOB NAME <u>W. Pased Class I Land fill</u>
		BY <u>U Hall</u> DATE <u>6/22/94</u>
		CHECKED BY _____ DATE _____

Differential Settlement over 1100 feet = 0.5 feet
1

$S = 5\%$

or 55 feet in 1100 ft

\therefore Adding $\frac{1}{2}$ foot of settlement to the high side will not make a detrimental difference to the slope in the pipe.



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JOB NO. 4648356502 SHEET 1 OF 1
JOB NAME W. Pasco Island Landfill
BY LAH DATE 6/22/94
CHECKED BY CJH DATE 7-7-97

Pipe Loading

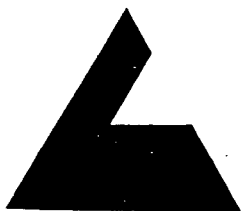
Pipe ϕ = 6 inches

Wt of soil above w/ no reduction for differences
in settlement over pipe was assumed.

elev of pipe $\sim +47'$

elev of top of embankment $\sim +125'$

$$\begin{aligned}\text{Wt of soil (ash) over pipe} &= (+125' - +47') \times \text{ash} \\ &= (78 \text{ ft} \times 90 \text{ pcf}) \\ &= 7020 \text{ psf} \checkmark \\ &\text{OR } 7 \text{ Ksf}\end{aligned}$$



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CONSULTANTS

JOB NO. 464.3565.01 SHEET 1 OF
JOB NAME EPSOURCE Dec. Class 1
BY REM DATE 7/6/94
CHECKED BY EDG DATE 7/7/94

Pump AND Forced main size

1. peak daily flow rates from HELP MODEL =

$$\text{primary} - 322506 \text{ ft}^3/\text{day} \times 7.48 \text{ gal}/\text{ft}^3 = 24,127 \text{ gal}/\text{day} - 6.9 \text{ Acres}$$

$$\text{secondary} - 24.5 \text{ ft}^3/\text{day} \times 7.48 \text{ gal}/\text{ft}^3 = 183 \text{ gal}/\text{day} - 6.9 \text{ acres}$$

$$\therefore \text{primary} - \frac{24,127 \text{ gal}/\text{day}}{6.9 \text{ Acres}} \approx 3500 \text{ gal}/\text{Ac} \cdot \text{day}$$

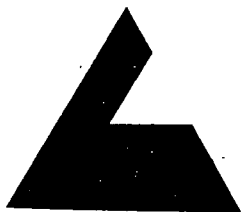
$$\text{secondary} \frac{183 \text{ gal}/\text{day}}{6.9 \text{ Acres}} = 26 \text{ gal}/\text{Ac} \cdot \text{day}$$

From A Camp Dresser & McKee INC report
to PASCO County "WEST PASCO LANDFILL SYSTEM Liner Performance
CDM Project NO. 6104-17-CG3-LBR"

The Average monthly flow (high) 3.79 gal/hr
(low) 2.53 gal/hr.

Based on a review of data the high peak
daily value was 10 gal/hr \rightarrow 240 gal/10 Acres cell
or 24 gal/Ac.day

\therefore The estimate for secondary leachate
production is acceptable



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& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 464.3565.01 SHEET 2 OF
JOB NAME Resource Recovery Class 1
BY REM DATE 7/6/94
CHECKED BY RLV DATE 7/7/94

flow data from primary was not available

2. Head and flow rates

Primary

○ \varnothing - 3500 gal/AC-day

$$\textcircled{a} \text{ 10 ACRES - } 35,000 \text{ gal/day} \times \frac{\text{day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min}} = 249 \text{ gpm}$$

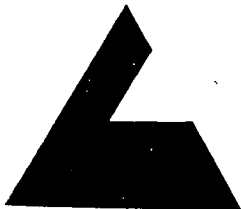
USE EPG model side slope river pump

TSPB - mid range flow rate is 259 gpm

Head - static 47' - 63' or 16'

DYNAMIC ADD $\frac{10'}{26'}$ + conservative

TSP-B-1 well mark



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JOB NO. 464-356501 SHEET 3 OF

JOB NAME Resource Recovery Class 1

BY REM DATE 7/6/94

CHECKED BY LDL DATE 7/7/94

For secondary use smallest size pump

24 gal/ac-day

$$24 \times 10 \text{ AC} \times \frac{\text{day}}{24 \text{ hr}} \times \frac{1 \text{ hr}}{60 \text{ min.}} = 0.2 \text{ gpm}$$

Use TSP1-3

3. Fuel main

use min size - 4 inch w/ 5 inch
containment pipe

A. TANK SIZES

Existing holding tanks are performing satisfactorily

Primary - 8,000 gallons ±

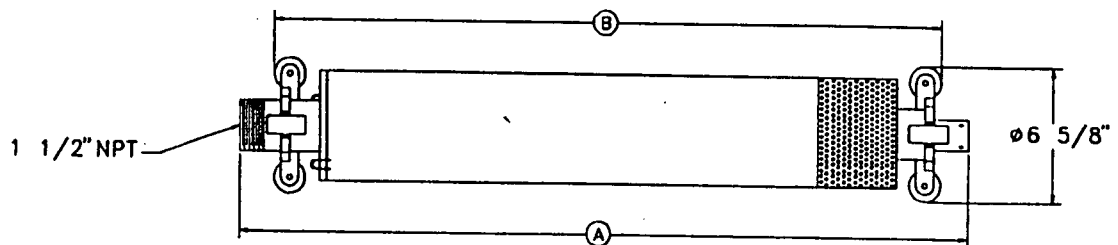
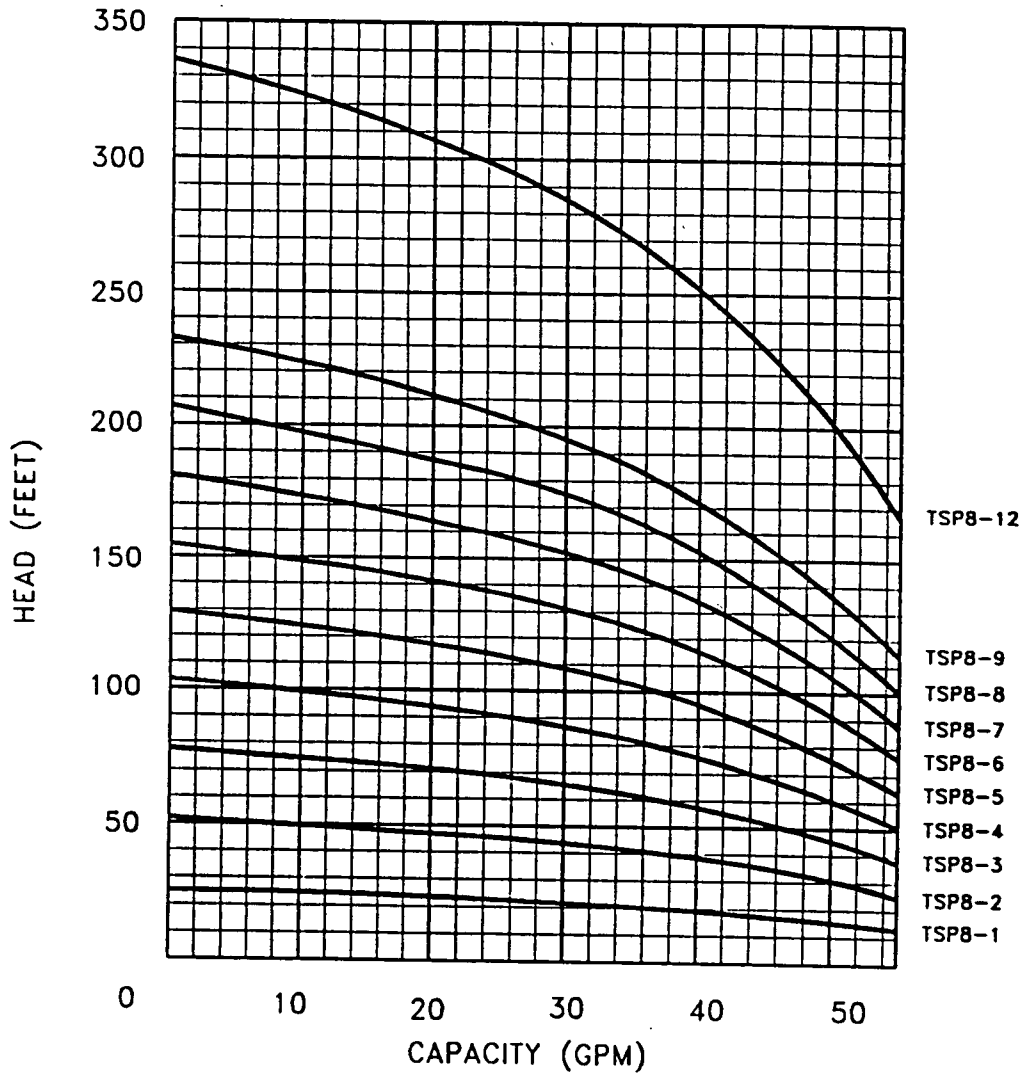
Secondary 6,000 gallons ±

Flows will be metered at pump so use
two lines to pump to one 10,000 gallon Tank
above ground in a containment area.



TSP8 SurePump™ SIDE SLOPE RISER

893

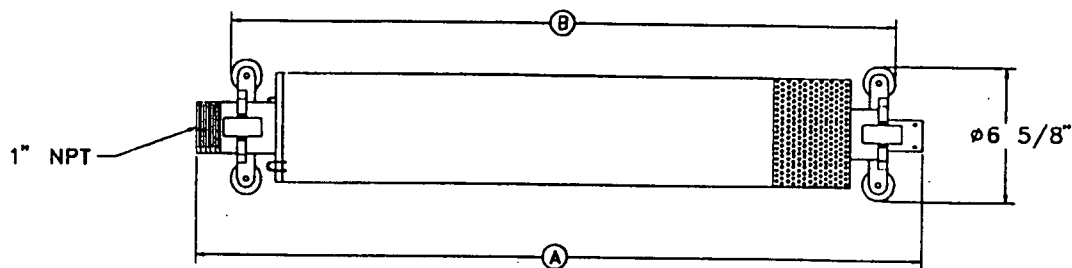
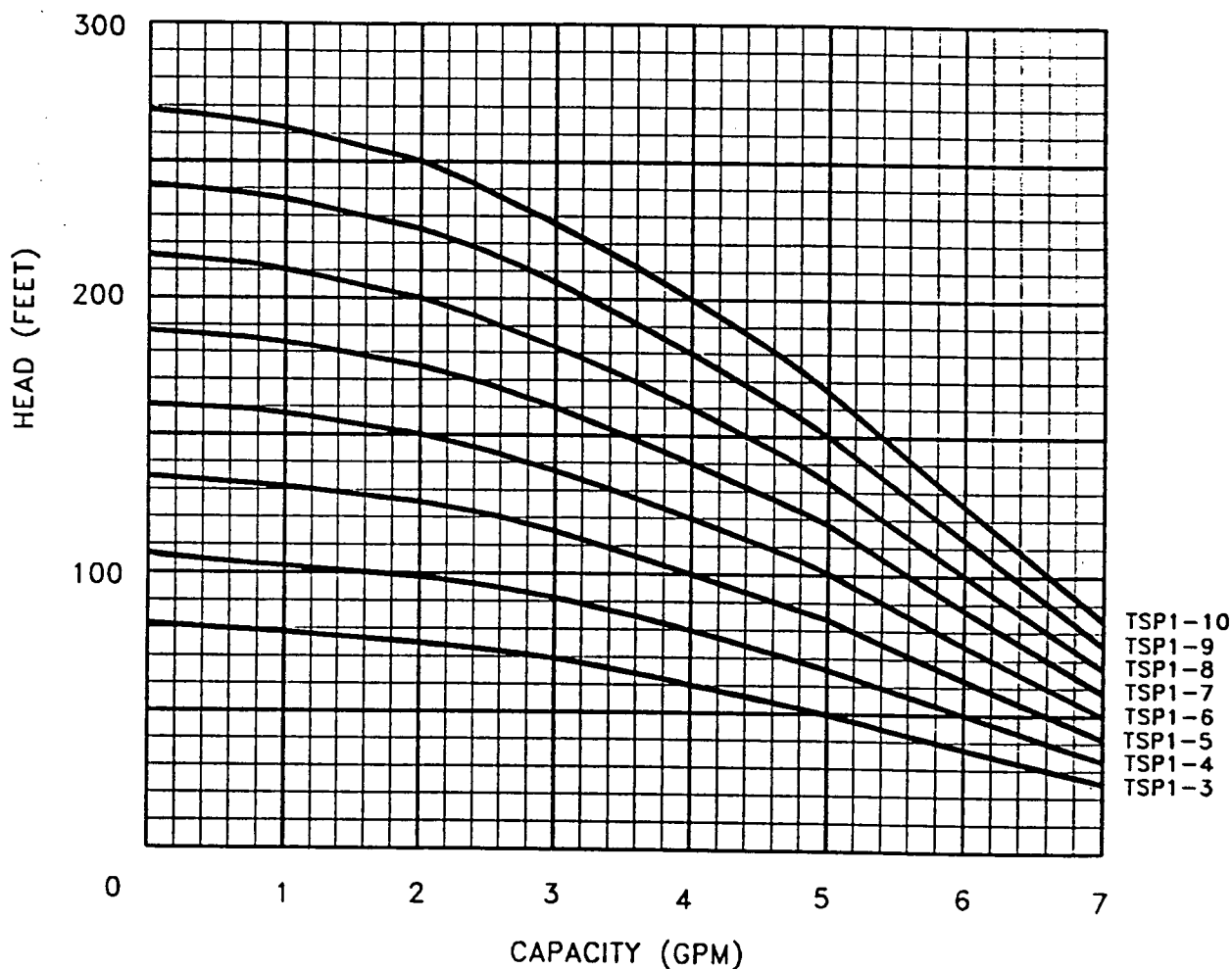


PUMP MODEL	SINGLE PHASE			THREE PHASE			SHIPPING WEIGHT (LBS)	
	MOTOR HP	A (in)	B (in)	MOTOR HP	A (in)	B (in)	1Ø	3Ø
TSP8-1	0.50	31.50	29.50	0.50	31.50	29.50	41.0	41.0
TSP8-2	0.75	34.50	32.50	0.75	34.50	32.50	44.7	44.7
TSP8-3	1.00	37.00	35.00	1.00	37.00	35.00	49.6	49.6
TSP8-4	1.00	38.75	36.75	1.00	38.75	36.75	51.0	51.0
TSP8-5	1.50	42.25	40.25	1.50	41.25	39.25	59.1	54.7
TSP8-6	1.50	44.00	42.00	1.50	42.75	40.75	60.6	56.2
TSP8-7	2.00	47.00	45.00	2.00	45.75	43.75	65.5	61.0
TSP8-8	2.00	48.75	46.75	2.00	47.25	45.25	67.5	63.0
TSP8-9	3.00	58.75	56.75	3.00	56.00	54.00	91.9	82.1
TSP8-12	5.00	69.75	67.75	5.00	63.75	61.75	115.1	97.4



TSP1 SurePump™ SIDE SLOPE RISER

89



PUMP MODEL	SINGLE PHASE			THREE PHASE			SHIPPING WEIGHT (LBS)	
	MOTOR HP	A (in)	B (in)	MOTOR HP	A (in)	B (in)	1Ø	3Ø
TSP 1-3	0.33	30.00	28.00	0.50	30.75	28.75	39.0	41.2
TSP 1-4	0.33	31.00	29.00	0.50	31.50	29.50	40.0	42.2
TSP 1-5	0.33	31.75	29.75	0.50	32.25	30.25	41.0	43.2
TSP 1-6	0.33	32.50	30.50	0.50	33.25	31.25	42.1	44.3
TSP 1-7	0.33	33.50	31.50	0.50	34.00	32.00	43.2	45.3
TSP 1-8	0.33	34.25	32.25	0.50	34.75	32.75	44.2	46.4
TSP 1-9	0.33	35.00	33.00	0.50	35.75	33.75	45.2	47.4
TSP 1-10	0.50	36.50	34.50	0.50	36.50	34.50	48.5	48.5



LAW COMPANIES

GEOTECHNICAL, ENVIRONMENTAL
& CONSTRUCTION MATERIALS
CONSULTANTS

JOB NO. 464,1565.01 SHEET _____ OF _____

JOB NAME Resource Recovery Class 1

BY REH DATE 7/7/94

CHECKED BY RDR DATE 7/7/94

Above ground
TANK INSTALLATION.

10,000 gallon tank

Approximately a 12' diameter tank

containment area volume

10,000 gallon + 1,000 = 11,000 gallon

use 3' high walls

1,470 ft³

area of containment = $1470/3 = 490$

22' square

WT = 11,000 gallon $\times \frac{8.33 \#}{\text{gallon}}$ = 91,630 #

Tank

2,000 #

concrete [22 x 22 x (6"/12)]

+ (6"/12) x 3 x 88] $\frac{150 \#}{\text{ft}^3}$ = 56,100 #

149,730 #

$\frac{149,730}{(22+22 \times 100)} = 2.1 \text{ KSI}$ —

Typical sand will meet this



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

February 4, 1998

Mr. Richard Mayer, P.E.
Law Engineering
4919 W. Laurel Street
Tampa, FL 33607

RE: West Pasco Landfill Operations Plan

Dear Mr. Mayer:

Based on a review of the January 1998 Operations Plan addendum received January 30, 1998, the Department requests clarification on several items as follows:

1. **Section 1.1.** Please provide copies of any documents of Department authorization to place the chloride bags in the west end of A-2. The Department is unaware of any authorization to place chloride bags or ash in the west end of A-2. What specifically has been done to seek a contract for off-site disposal of chloride bags?
2. **Section 1.2.** What is the basis for the County's decision to allow leachate to accumulate in A-1? The Department has advised the County to continue to pump leachate from A-1 (primary and secondary systems) to A-2. Why is the existing cover on A-1 not promoting run-off as it was intended to? Why has the County stopped hauling leachate to the New Port Richey WWTP?
3. **Section 3.1.** Please provide a specific grading plan for items 1 and 2 in this section including cross-sections with slopes and elevations to promote stormwater runoff. Please describe an improved method of placing the chloride bags to prevent damage.
4. **Section 3.1, 8.2.6.** References to detailed cross-sections for filling are requested.
5. **Section 3.1, 8.2.7.** Wood chips as cover are not approved and should be deleted.
6. **Section 3.1, 8.2.8.** This section should be changed for revised gas vent details that may be required and reference to the Shady Hills WWTP.

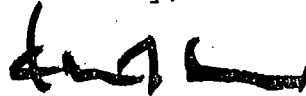
Mr. Richard Mayer, P.E.
Law Engineering

February 4, 1998
Page Two

7. **Section 3.1, 8.7.5.** Wood chips as cover are not approved and should be deleted.
8. **Section 3.1, 8.7.6.** Reference to removal and reuse of soil cover is unclear. Is soil proposed as initial cover?
9. **Section 3.1, 8.8.2.** Please provide a copy of Appendix A5.4.
10. **Section 3.1, 8.8.3.** This section should be changed for reference to Shady Hills WWTP.
11. **Section 3.1, 8.8.4.** Please provide copies of agreements for a two (2) year period for transporting ash leachate and each off-site WWTP to be used for disposal. These agreements should include the maximum amounts to be transported and for disposal by each WWTP, and identify all limitations such as the hours per day or days per week. The Department continues to expect the maximum amount of ash leachate to be removed for off-site disposal at the New Port Richey WWTP (12,000 gpd) and Tampa WWTP (60,000 gpd) until leachate compliance levels are maintained. What effort is the County making to increase off-site disposal at these facilities and to others?
12. **Section 3.1, 8.8.5.** The reference to the Hudson WWTP is unclear.
13. **Section 3.1, 8.8.6.** Recirculation of ash leachate into disposal unit A-2 is not approved as an ongoing contingency plan but only as required to prevent a catastrophic event such as the discharge of ash leachate from A-1.

Please provide a comprehensive operations plan updated to include all changes. On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,



Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
Vince Mannella, P.E., Pasco County
Robert Butera, P.E., FDEP Tampa



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JAN 3 1998
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LAW

ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

ADDENDUM

LANDFILL OPERATIONS REQUIREMENTS

January 1998

ENVIRO/REPORT/4014170291.ADDENDUM

1.0 BACKGROUND

This addendum to the operations plan for Disposal Units A-1 (A-1) and A-2 (A-2) is needed to respond to changed conditions that have occurred since the original plans were developed as part of the permitting process. This addendum incorporates agreements with FDEP made by letters and presents new plans for operation of these two disposal units. Briefly, the changed conditions that precipitated writing this addendum are:

1.1 DISPOSAL UNIT A-2

Wind storms repeatedly caused erosion of the drainage layer sand from off the liner on the side slopes of the cell. The County decided to place ash along all the slopes to protect the drainage layer. In addition, the County began disposing of bags filled with chlorides generated from the on-site leachate treatment plant in the west end of A-2. In order to place the bags at the west end it was necessary to construct a road using the ash material to the bag disposal area. The County received authorization from the FDEP to dispose of the bags at the west end of A-2, and the County disposed of bags in this area in 1997. Recently, they have removed the bags from the west end and are temporarily storing the salt in roll-off containers until the material can be hauled off site to a permitted disposal area. Further disposal of chlorides in A-2 may be a contingency only because the County is seeking a contract for off-site disposal.

The leachate treatment system, designed to treat leachate generated in A-2 and A-1, has not been functional and the site has received significant rainfall over the past few months. As a result the leachate has ponded in A-1 because there is no place to dispose of leachate at a rate commensurate with the inflow. The County plans to utilize a rain tarp in combination with a proposed filling sequence to minimize leachate in this disposal unit.

1.2 DISPOSAL UNIT A-1

During operations monitoring of the leachate outfall system it was discovered that the existing valves between the leachate collection system and the manholes would not close completely because they have deteriorated. The leakage rate is on the order of 110,000 gallons per day and because the leachate treatment system has not been operational the County has had no place to

dispose of this rate of flow. Installing the plug was the only way to stop flows to the manhole and the pump station further downstream. Obviously, the next step was to replace the valves but it could not be done safely without possible spillage of leachate when the valves are removed. It was decided to place the new valves downstream of the manholes and to take these deteriorated valves out of service in an open position, replacing them as soon as possible. In order to do that it was necessary to raise the manholes to a height sufficient to allow leachate to rise in the manhole to a level equal to the level of leachate in the disposal unit when the new valve was closed. These activities have been completed and the as-built data is enclosed. Once the leachate level in A-1 is lowered to meet the one-foot rule, the deteriorated valves will be replaced and the manholes will be restored to the original (permit design) condition.

The County had observed that there was little or no runoff from the surface of A-1 even during intense storm events. Using new valve arrangement at the outfall for the leachate collection system the County decided to estimate the leachate level in the disposal unit. The elevation of the leachate was determined by opening an old valve, closing the new valve and allowing the leachate to rise in the raised manhole up to the level in the disposal unit. The elevation of leachate in the unit is 61.25 or approximately two feet below the top of perimeter berm. The existing cover is not promoting runoff and the disposal unit is filling with rainwater. An alternative cover system is needed and a geomembrane cover is planned.

The County is currently hauling the leachate contained in A-1 and A-2 to treatment plants in the area for treatment and disposal. This is a temporary measure until the on-site plant becomes operational and the elevation of leachate in each disposal unit is reduced to below the one foot rule.

2.0 DESIGN MODIFICATIONS

2.1 DISPOSAL UNIT A-2

1. The route of the access road to the west end of the disposal unit will be moved north. This road will then be located approximately parallel to the south berm at a distance of 120 feet north of the berm. The area between the berm and the road will be raised to approximately one foot above the top of the berm and graded to promote storm-water runoff to the south. This area may be covered with 6 to 8 inches of earth cover or the sharps removed from the ash and a rain tarp placed over the area. Tires will be used to secure the geomembrane.

GET
X SECTION
UP SLOPE
TELEVISIONS
→

ok
when?

2. Once the area between the road and the berm is filled and covered the area to the north of the road will be filled starting from the east end of the cell in approximately 100 foot wide strips. The area around the sump will remain open. The elevation of the ash in this area will be raised to one foot above the berm and graded to promote runoff from the material. As each strip is completed a rain tarp will be placed on top. Once the entire disposal unit is filled to above the top of the berms the County will cut the geomembrane into 40-foot wide strips and may choose to remove the cover material (if used) and begin the filling sequence in accordance with this revised operations plan. *The cover material, if removed, will be stockpiled within the cell for reuse.*

?

3. The south side of the disposal unit will be used to receive the chloride bags as a contingency if other plans for the chlorides disposal do not occur. The site designated for bag disposal will be in the area between the south berm and the road as described in paragraph 1 above (see Figure 8.2A, Area A-1). The elevation of the bag disposal area will be raised to at least one foot above the berm. A rain tarp (16 mil geosynthetic fabric coated with low density polyethylene) will be laid on top of the bags to limit moisture from percolating rain from entering the bags.

1
protection
of bags
of

ok
when?
0

2.2 DISPOSAL UNIT A-1

The entire surface area of this disposal unit will be covered with a 20 mil geomembrane. Tires on a 50-foot grid tied together with ropes will be used to secure the geomembrane.

2.3 SCHEDULE

The rain tarp will be applied to A-2 as soon as the design changes described above can be implemented by filling with ash and pending leachate removal and disposal. The County advertised for bids to complete the intermediate cover for A-1. The bid opening date is February 5, 1998, and allowing 45 days for award of the contract and 60 days for performance means A-1 should be covered before the rainy season begins.

3.0 PLAN

3.1 INTRODUCTION

The Operations Plan for Disposal Unit A-2 was developed as part of the permit application for construction and operation of the disposal unit. The Plan is dated January 4, 1995. This addendum is to modify only the sections of the Plan that are changed and these are shown in italics:

Section	✓ 8.1	Operating Personnel Training	No change
Section	✓ 8.2	Landfill Operation Plan	
	✓ 8.2.1	Designated Responsible Operating and Maintenance Personnel	No change
	✓ 8.2.2	Contingency Operations for Emergencies	No change
	✓ 8.2.3	Controlling Types of Waste Received at Landfill	No change
	✓ 8.2.4	Weighing Incoming Waste	No change
	✓ 8.2.5	Vehicle Traffic Control and Unloading	No change
	8.2.6	Method and Sequencing of Filling Waste	Change
		<p>The West Pasco Class I Landfill will be developed using 16 disposal units as shown on Figure 8.1. Each disposal unit is approximately 10 acres. Figure 8.2 depicts the sequencing progression of lifts within a typical disposal unit. <i>However, a temporary rain tarp (20 mil geomembrane) will be secured in place by a 50-foot grid of tires tied together with rope, to minimize the formation of leachate to the extent possible. As this sheet indicates, the liner and leachate collection system will be constructed one disposal unit at a time with temporary roads and swales for access and surface-water management.</i></p> <p>Disposal Units SW-1 through SW-8 are currently designated for disposal of solid waste. The ash and solid waste will not be co-disposed. The ash residue will be monofilled, no mixing of the two materials will be allowed. <i>The term "mixing" doesn't include laying an eight-inch ash layer above drainage sand to facilitate placement and removal of solid wastes.</i></p> <p>The method of filling wastes in an individual disposal unit is described as follows: The edge of liner at the top of berm will be flagged or marked with traffic cones except at berms common between the new operating disposal unit and the adjacent filled disposal unit. Ash/solid waste will not be</p>	✓

	<p>placed within ten feet of this flagged or marked line. All incoming ash/solid waste will be directed to the work face. Berms will be maintained around the entire working disposal area to intercept and contain leachates and divert storm water to the surface-water management system (see Figure 8.3). Ash/solid waste will be placed against the side slopes of the previous day's refuse. The first row will act as a guide for the placement of refuse for the remaining rows. In each row, disposal units will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the landfill equipment to operate (Figure 8.3). A slope of 3 to 1 on a 50-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.</p> <p><i>A-2</i> The filling sequence described above for Lift A (see Figure 8.2) has not been followed. Once Cell A-2 is filled to the level depicted for Lift A, in the original operations plan Lift B will also be filled to the level depicted in the original operations plan. The modified filling sequence for Lifts A and B will be as follows:</p> <ul style="list-style-type: none">• An operational road will be constructed with ash as shown in Figure 8.2 (attached). Elevation of the road will be approximately 59 feet.• Lift A will be filled in 100-foot wide strips from east to west to an elevation of approximately 63 feet, graded to slope dipping slightly towards the outer berm and progressively covered with a rain tarp (secured in place by tires tied together with ropes) (see Figure 8.2A).• Lift B will be filled to an elevation of approximately 73 feet, as shown in Figure 8.2A, then graded to slope dipping slightly towards the outer berm, and progressively covered with a rain tarp (see Figure 8.2A).• Storm-water runoff from the rain tarp will be directed into the storm-water system as planned. <p>The sequence of filling future lined disposal unit areas with installed leachate collection systems is developed to meeting the following objectives.</p> <ul style="list-style-type: none">• Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift disposal units.	
--	--	--

insolid waste

		<ul style="list-style-type: none"> • Direct the surface runoff from unused portions of disposal units away from ash/solid waste using control valves, and berms, <i>and furrows.</i> • Design landfill slopes during operation to maximize surface runoff away from the working face and minimize leachate generation. • Provide bench terraces <i>along side slopes</i> to minimize erosion. <i>SHOW SECTION</i> <p>Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.</p> <p>Final cover will be applied over disposal unit lifts within 180 days after the final lift over an area is completed. Final cover will consist of 18 inches of clayey material covered with 6 inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 8.4).</p>	
	8.2.7	Waste Compaction and Application of Cover	Change
		<p>In the solid waste disposal unit, sufficient cover material will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is required in the ash monofill disposal units. In areas near a borrow area, stockpiling may not be necessary. The ash/solid waste is to be placed at the bottom of the working face, within the bermed working area, and spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front end loader or bulldozer. The spreading of refuse is a continuous operation.</p> <p>Application of initial, intermediate, and final cover is to be performed as required per Chapter <i>62</i> 17-701, FAC. Six inches of initial cover will be applied to the working face of the solid waste disposal unit. The ash monofill disposal unit will not require initial cover. Intermediate cover consisting of 1 foot of wood or tire chips from an on-site source <i>seeded</i> borrow pit will be applied within 7 days of disposal unit completion if final cover or an additional lift is not to be applied within 180 days of disposal unit completion. All intermediate cover areas will be seeded or covered with wood chips, straw or other appropriate cover material to avoid slope erosion and sloped at two percent to allow storm water to drain off and be removed from the disposal unit <i>or as an alternate will be covered by a 20 mil</i></p>	

		geomembrane secured in place by a 50-foot grid of tires. The initial intermediate and final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed disposal units will have a slope of 4:1 to minimize erosion. Final cover will be applied to the landfill once the final grades are reached. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.	
	8.2.8	Operations of gas, leachate, and storm-water controls	No change
	8.2.9	Water quality monitoring	No change
Section	8.3	Operating Record	No change
Section	8.4	Waste Record	No change
Section	8.5	Access Control	No change
Section	8.6	Monitoring of Waste	No change
Section	8.7	Procedures for Spreading and Compacting Waste	No change
	8.7.1	Waste Layer Thickness and Compaction Frequencies	No change
	8.7.2	Special Considerations for First Layer of Waste Placed in a Disposal Unit	No change
	8.7.3	Construction of Lifts	No change
	8.7.4	Working Face Width	No change
	8.7.5	Initial Cover	Change
		Initial cover will be applied to solid waste disposal units in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors, or fires. Initial cover will not be necessary for the ash monofill disposal units. <i>However, a temporary rain tarp will be used as discussed in Section 8.2.6.</i> Initial cover at the solid waste disposal units (<i>solid waste</i>) will be applied at the end of each working day. The initial cover will be comprised of soil material <i>tire or woodchips</i> and be six inches in compacted thickness.	
	8.7.6	Intermediate Cover	Change
		Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of disposal unit completion if additional solid waste will not be deposited within 180 days of disposal unit completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent disposal unit for more than 180 days, will be graded to provide a surface slope and will	

		also either be seeded or sodded with grass or covered with a 20 mil geomembrane secured by a 50-foot grid of tires to further promote runoff and minimize infiltration. When disposal activity is resumed in the disposal unit, the intermediate cover will be pushed aside (or removed) and stockpiled for use as initial cover for the resumed disposal activity.	
✓	8.7.7	Final Cover	No change
✓	8.7.8	Litter Policing Methods	No change
✓	8.7.9	Erosion Control Procedures	No change
Section	8.8	Describe Operation Procedures for Leachate Management Including:	
✓	8.8.1	Leachate Level Monitoring, Sampling, Analyses and Data Results Submitted to the Department	No change
	8.8.2	Operation and Maintenance of Leachate Collection and Removal System, and Treatment as Required	No change
	8.8.3	Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste	No change
	8.8.4	Agreements for Off-Site Discharge and Treatment of Leachate	Change
		<p>No agreement of off site discharge and treatment is necessary. Treatment and discharge is provided by the Shady Hills WWTP. Back up treatment and discharge will be provided by the Hudson WWTP. The West Pasco Class I Landfill and the Shady Hills and the Hudson WWTPs are owned by Pasco County and operated by the Utilities Services Branch.</p> <p>1. <u>New Port Richey Wastewater Treatment Plant Co-Treatment</u> Pasco County has an agreement New Port Richey WWTP for hauling and disposal of ash leachate. The tanker loads are off-loaded and mixed with raw wastewater in the Pasco County Southwest Collection System to provide a blending of leachate and raw wastewater prior to treatment. This procedure will continue on a weekly basis until the New Port Richey WWTP has problems with effluent quality as a result of this co-treatment process or it is no longer needed.</p> <p>2. <u>City of Tampa Advanced WWTP Co-Treatment</u> Pasco County has a agreement to transport ash leachate to the Tampa WWTP. The number of loads was limited initially to assure the ash leachate does not cause adverse treatment or biological problems. After the initial delivery period, the County has hauled 60,000 gpd to the Tampa facility.</p>	

Consist of

contaminated soil not used for initial cover

Pasco County has a contract to haul up to 9000 gpd of ash leachate. This will continue until 6/11.

Provide copy of ash and leachate to site computers for 2 yrs

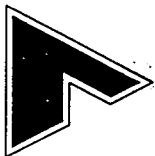
of up to 60,000 gpd. This will continue until 6/11

		<p>3. <u>Leachate Management Facility</u> <i>on-site</i> The Leachate Management Facility (LMF), if a 75 percent capacity is assumed, can process approximately 285,000 gallons per month. This facility will be used at its maximum capacity until and after the excess ash leachate is processed as necessary to process all ash leachate.</p> <p>4. <u>Shady Hills WWTP Co-Treatment</u> <i>on-site to reduce or eliminate off-site disposal and maintain no greater than one foot of head in each lined ash disposal unit.</i></p> <p>The County is permitted to pump leachate generated from solid waste generated in SW-1 to the Shady Hills facility.</p>	
	8.8.5	Contingency Plan for Managing Leachate during Emergencies or Equipment Problems	Change
		If equipment problems occur, such as pump failure, so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the landfill supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmission pipeline or with the WWTP, the landfill supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, arrangements be made to transport leachate by tanker truck to the Shady Hills WWTP (solid waste leachate only) or the Hudson WWTP, or the City of Tampa Advanced WWTP Co-Treatment.	
	8.8.6	Procedures for Recording Quantities of Leachate Generated in Gal/Day	Change
		<p>The landfill supervisor will direct staff to daily record the leachate levels measured in the <i>crum</i> tank at the leachate treatment facility and sumps and flow meters readings. Flow meter results will be subtracted from the previous day's results to determine the quantity of leachate generated, in gallons per day. Quantities will be measured and recorded daily for each primary and secondary liner system.</p> <p>During the period that Leachate Management Facility is not operational and leachate is pumped from the secondary liner system into the primary liner system, this action will be described and reworded on the daily record.</p>	
	8.8.7	Procedures for Comparing Precipitation Experienced at the Landfill with Leachate Generation Rates	No change
Section	8.9	Describe Routine Gas Monitoring Program for the Landfill as Required	No change

Recirculation is not approved

Section ✓ 8.10	Describe Procedures for Operating and Maintaining the Landfill Storm-Water Management System to Comply with the Standards of Chapters 17-3, 17-302, and 17-23, FAC	No change
Section ✓ 8.11	Equipment and Operation Feature Requirements	
✓ 8.11.1	Sufficient Equipment for Excavating, Spreading, Compacting and Covering Waste	No change
✓ 8.11.2	Reserve Equipment or Arrangements to Obtain Addition Equipment within 24 Hours of Breakdown	No change
✓ 8.11.13	Communication Equipment	No change
✓ 8.11.14	Personnel Shelter and Sanitary Facilities, First Aid Equipment	No change
✓ 8.11.15	Dust Control Methods	No change
✓ 8.11.6	Fire Protection Capabilities and Procedures for Notifying Local Fire Department Authorities in Emergencies	No change
✓ 8.11.7	Litter Control Devices	No change
✓ 8.11.8	Signs Indicating Operating Authority, Traffic Flow, Hours of Operation, Disposal Restrictions	No change
Section ✓ 8.12	Provide a Description of All-Weather Access Road, Inside Perimeter Road and Other Roads Necessary for Access which shall be Provided at the Landfill	No change
Section ✓ 8.13	Additional Recordkeeping and Reporting Requirements	
✓ 8.13.1	Records Used for Developing Permit Applications and Supplemental Information Maintained for the Design Period of the Landfill	No change
✓ 8.13.2	Monitoring Information Calibration and Maintenance Records, Copies of Reports Required by Permit Maintained for at Least Ten Years	No change
✓ 8.13.3	Background Water Quality Records shall be Maintained for the Design Period of the Landfill	No change
✓ 8.13.4	Maintain Annual Estimates of the Remaining Life of Constructed Landfills and of Other Permitted Areas Not Yet Constructed and Submit this Estimate Annually to the Department	No change
8.13.5	Annual Report Requirements Including a Report Submitted to the Department which is Signed, Dated and Sealed by P.G. or P.E.	No change

FIGURES



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

Disposal Unit A-1 Manhole Modification As-Built

JOB NO: 40141-7-0317, Phase 01, Task 912

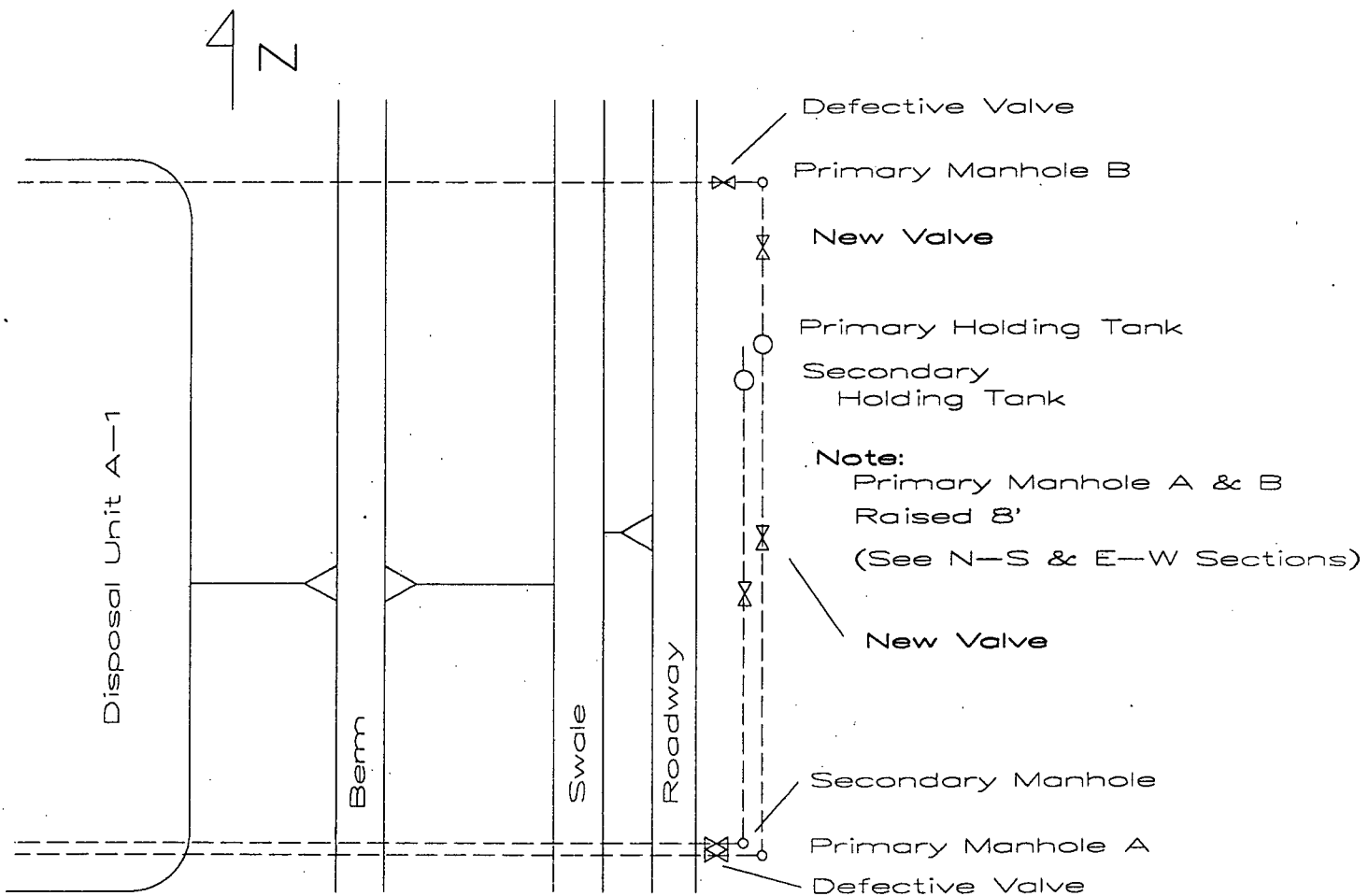
JOB N West Pasco Landfill

ENGINEER: RE Meyer

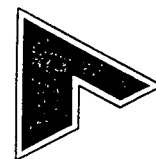
DATE: 01/26/98

CHECKED: DATE:

SHEET: 1 of 1



Plan



LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

Disposal Unit A-1 Manhole Modification As-Built

JOB NO: 40141-7-0317, Phase 01, Task 912

JOB: West Pasco Landfill

ENGINEER: RE Mayer

DATE: 01/26/98

CHECKED:

DATE:

SHEET:

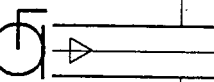
1 of 1

h:\group\enviro\form\blankcalc.xls

Grout Joints

4'

Defective
Valve



E-W Section

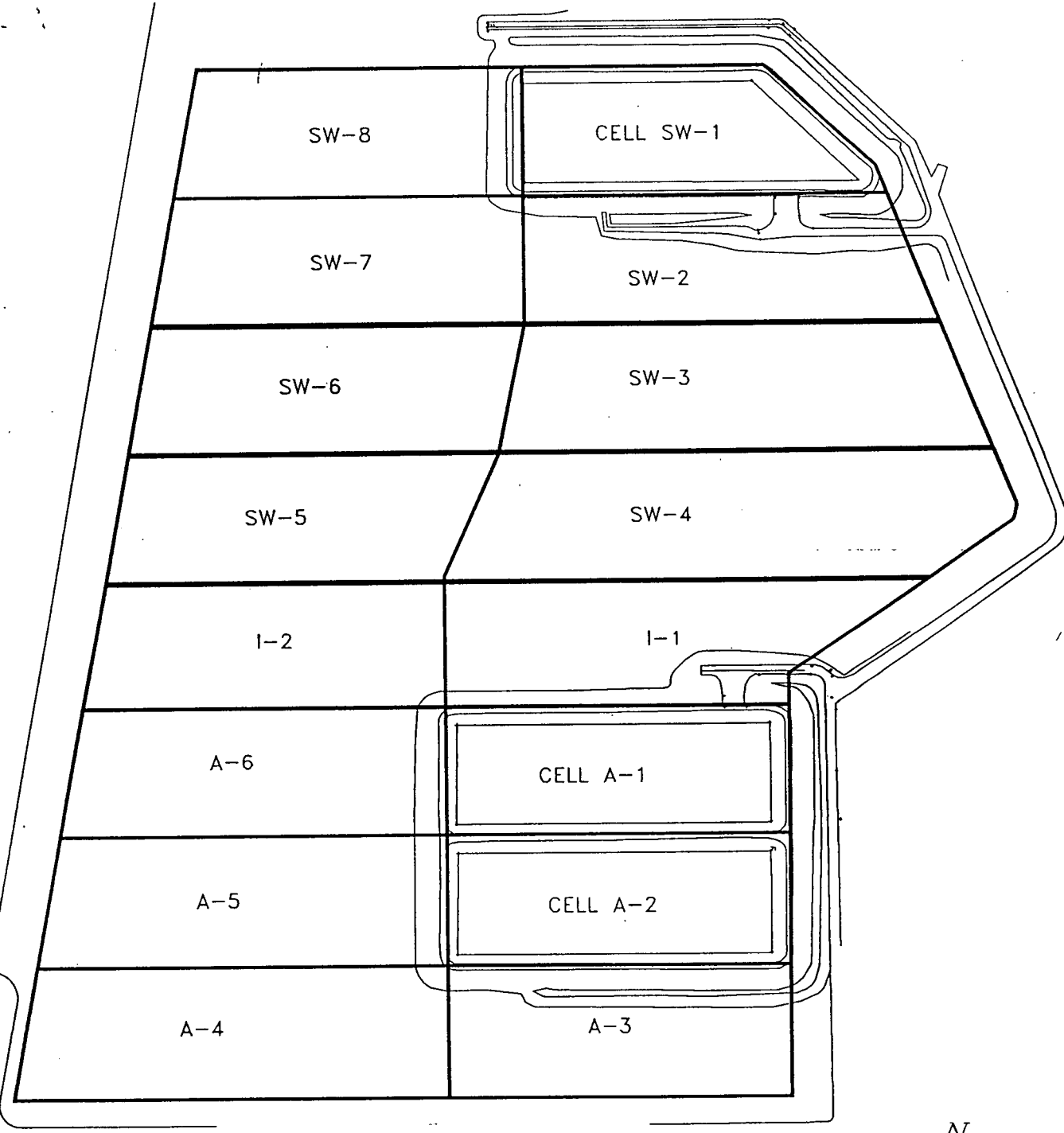
Add two
4' Risers

Removed
Existing
Cone

New Valve



N-S Section



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Pasco County
Board of County
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Utility Services Branch
Pasco County, Florida

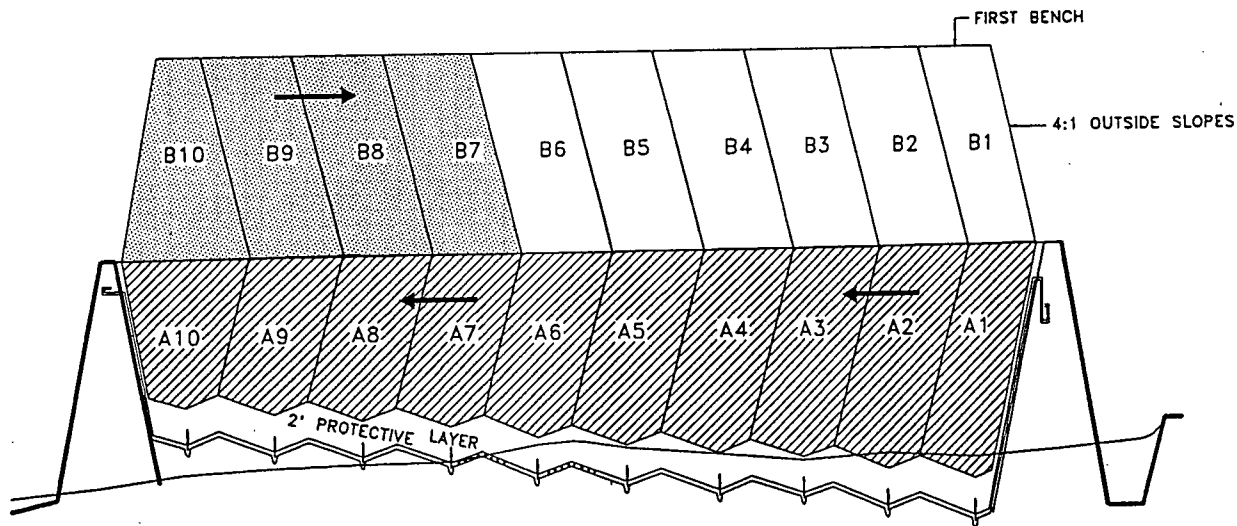


Resource Recovery Facility
Pasco County, Florida

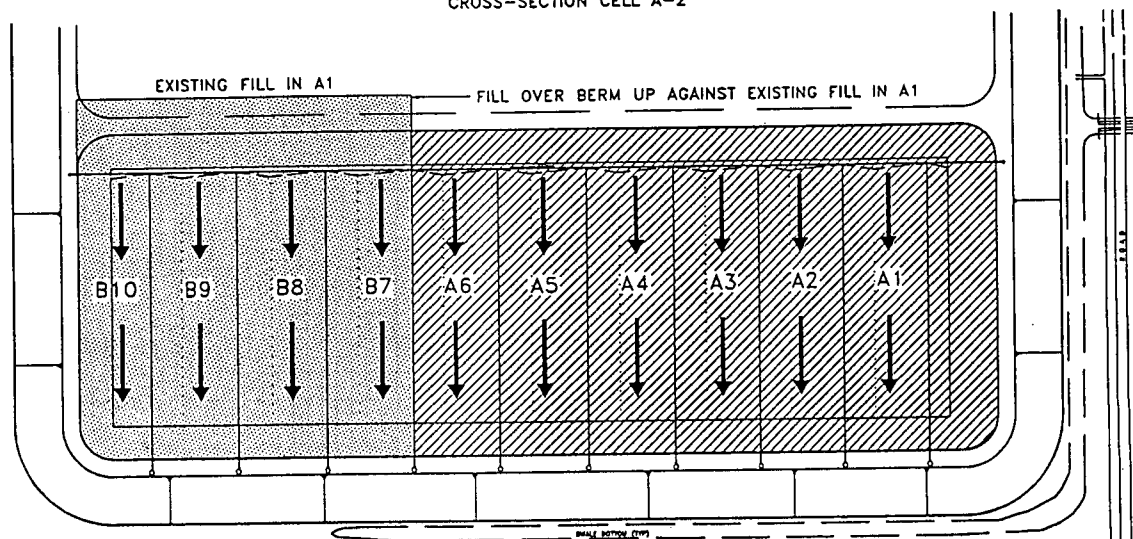
West Pasco Class I
Landfill Footprint Schematic

Project 464-83565.01 Figure 8.

ACAD=48356581



CROSS-SECTION CELL A-2



CROSS-SECTION CELL A-2

LEGEND



LIFT A



LIFT B

← FILL DIRECTION



Not To Scale

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ACAD=48356582

Pasco County
Board of County Commissioners
Utility Services Branch
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LAW

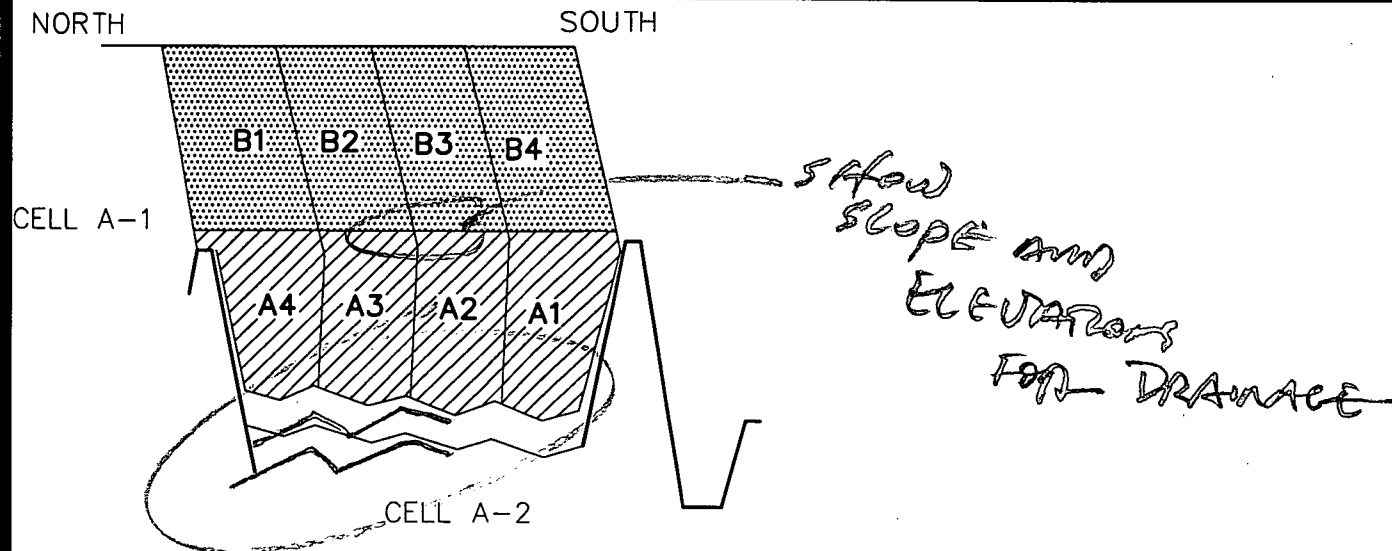
ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida




Lift Sequence Schematic

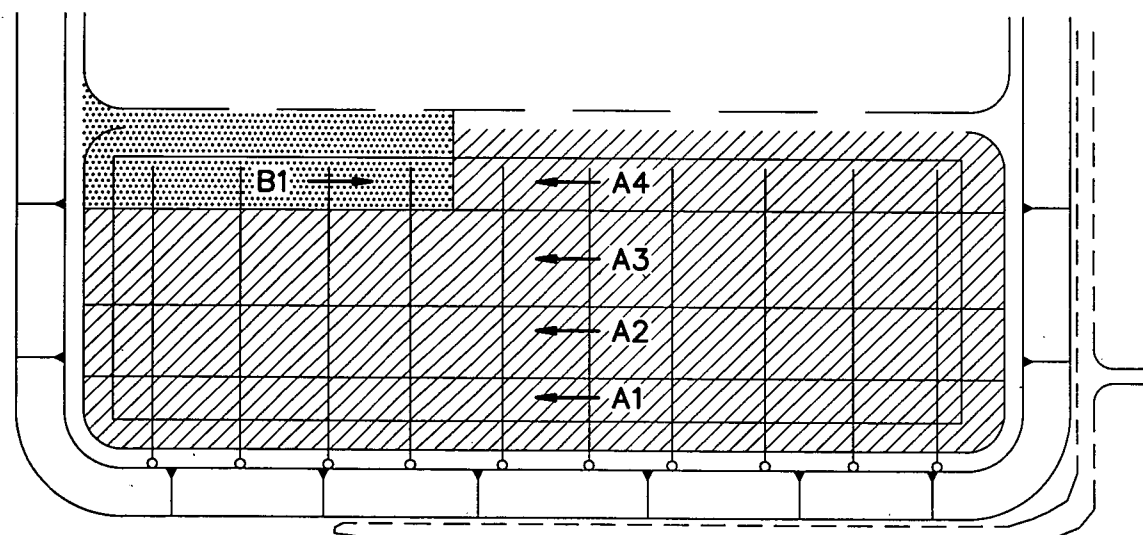
Project 464-83565.01

Figure 8.2



LEGEND

-  LIFT A
-  LIFT B
-  FILL DIRECTION



FILL PLAN OF CELL A-2.



NOT TO SCALE

Prepared/Date: JFW 01/29/98
Checked/Date:

PASCO COUNTY
BOARD OF COUNTY COMMISSIONERS
UTILITY SERVICES BRANCH
RESOURCE RECOVERY FACILITY
PASCO COUNTY, FLORIDA



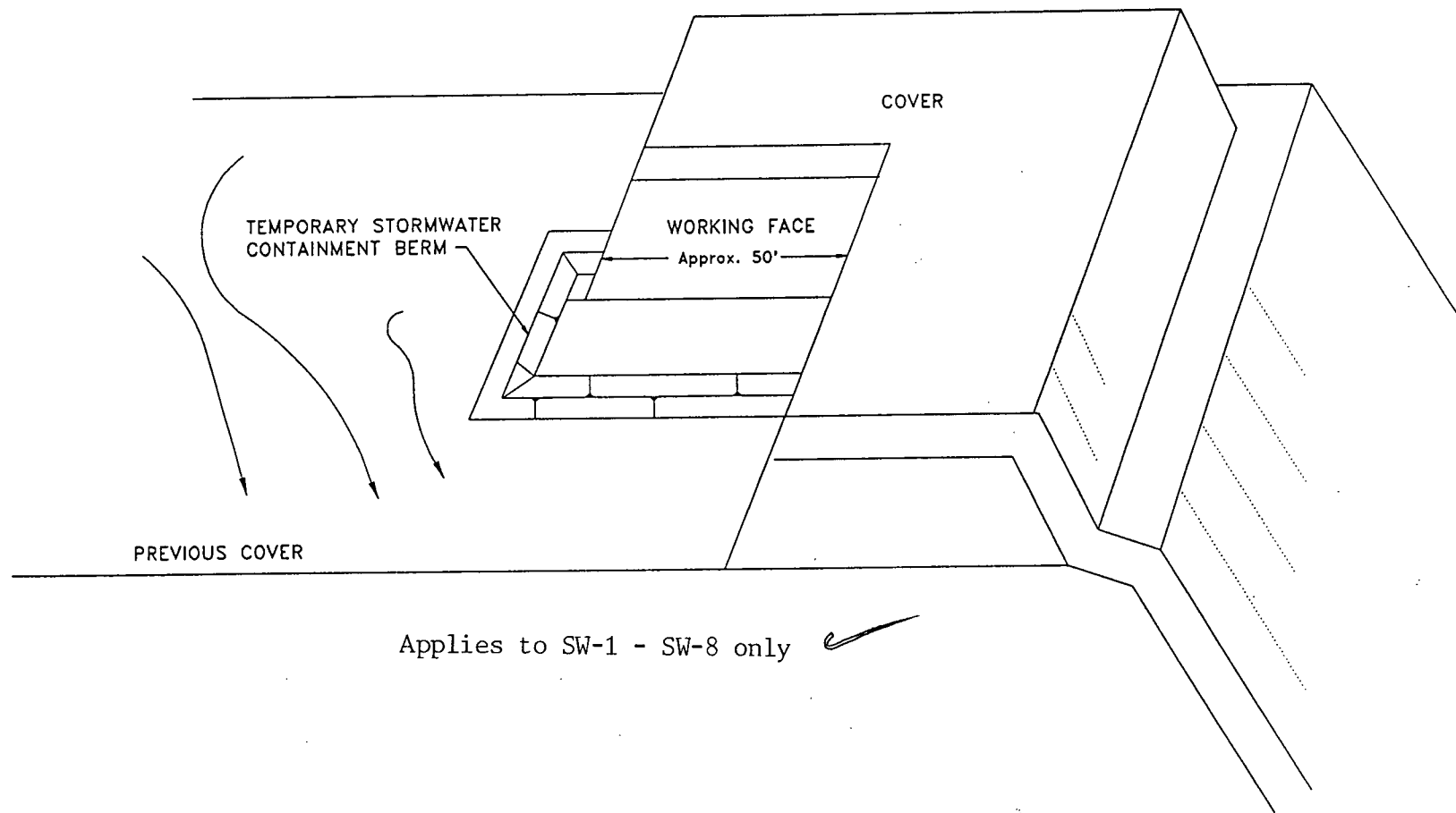
LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

MODIFIED LIFT A SEQUENCE
SCHEMATIC FOR CELL A-2

Project 40141-7-0317

Figure 8.2A

ACAD=483565F3



Applies to SW-1 - SW-8 only ✓

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Pasco County, Florida



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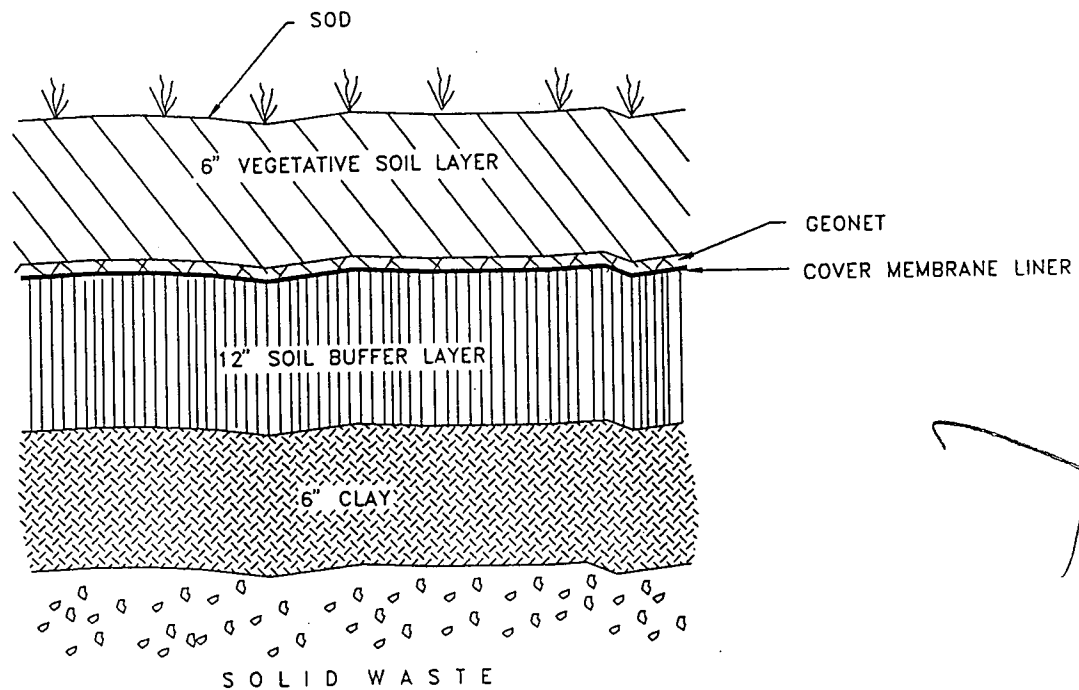
Resource Recovery Facility
Pasco County, Florida

Working Face Schematic

Project 464-83565 01

Figure 8.3

ACAD=48356584



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Board of County Commissioners
Utility Services Branch
Pasco County, Florida



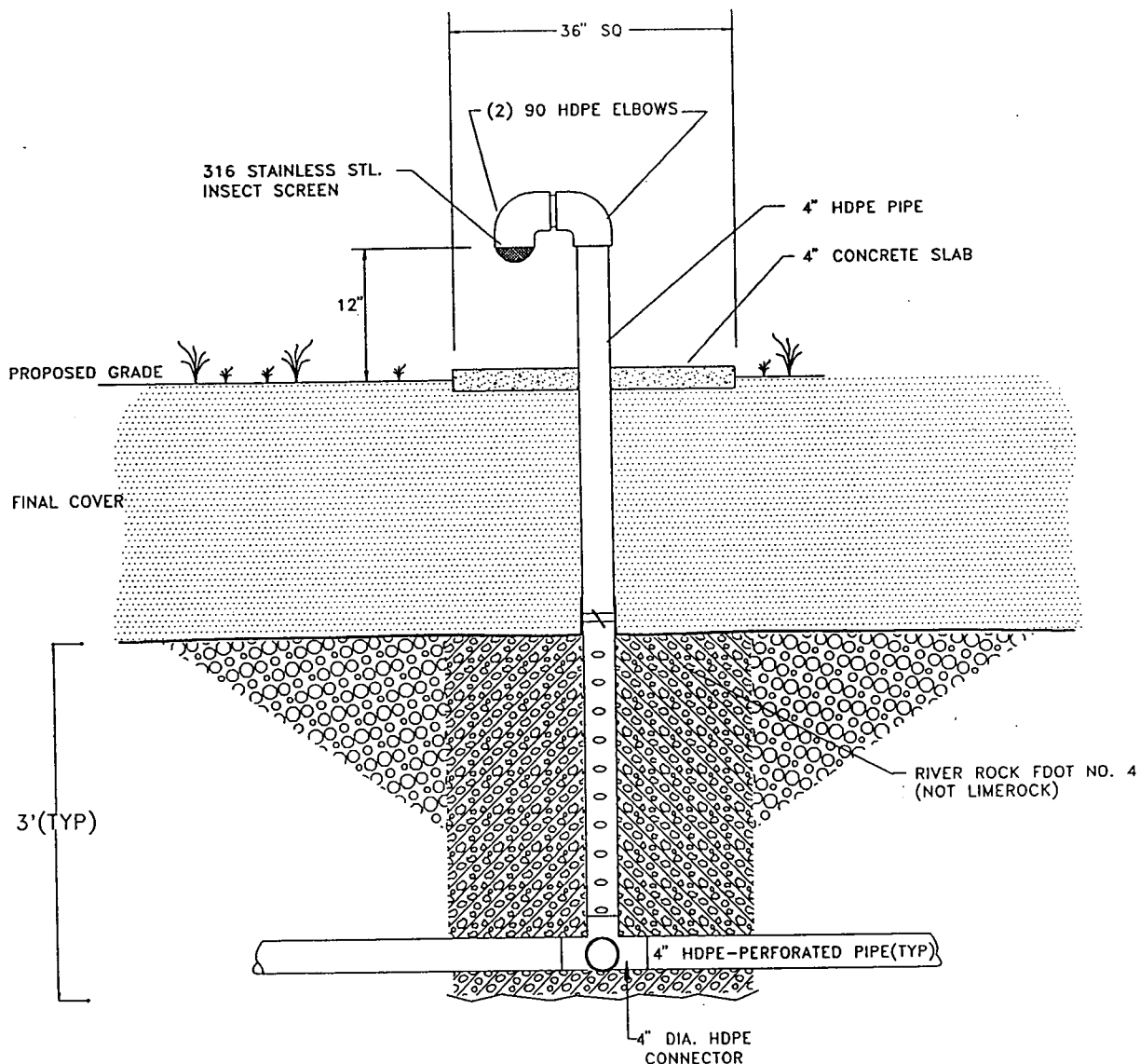
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ENGINEERING AND ENVIRONMENTAL SERVICES

Resource Recovery Facility
Pasco County, Florida

Final Cover Detail

Project 464-83565.01

Figure 8.4



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Utility Services Branch
Pasco County, Florida



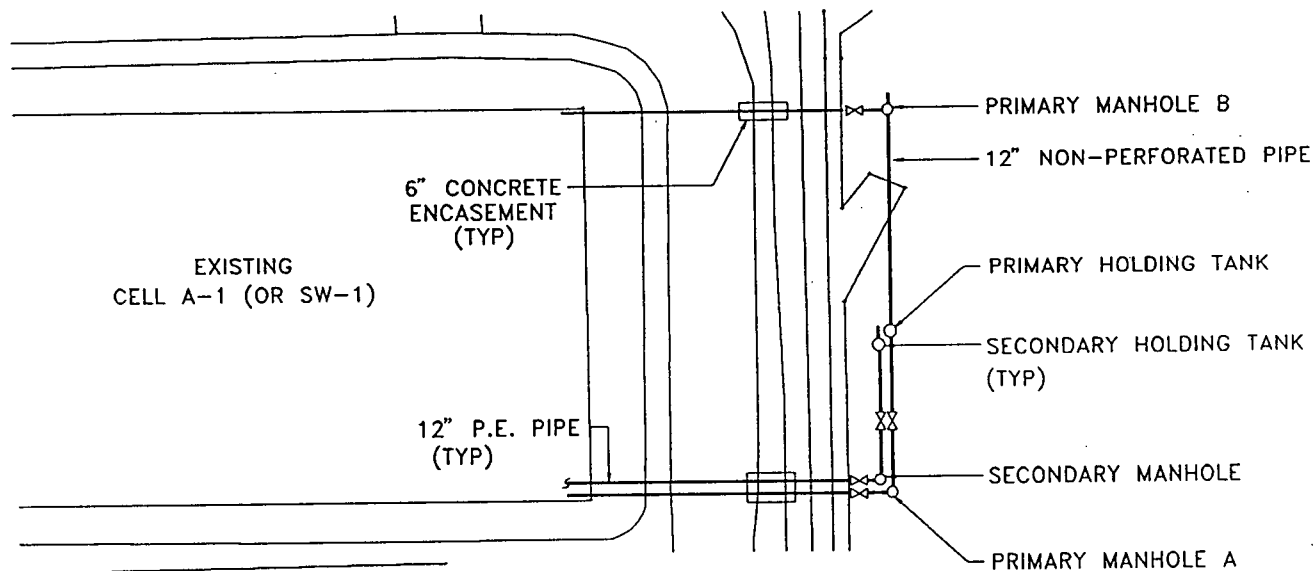
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Resource Recovery Facility
Pasco County, Florida

Gas Vent Detail

Project 464-83565.01 Figure 8.1

ACAD=48356585



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Pasco County, Florida



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Resource Recovery Facility
Pasco County, Florida
Leachate Collection System
Schematic
Cell SW-1 and Cell A-1

Project 464-83565.01 Figure 8.

ACAD=48356586



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

November 21, 1997

Mr. Vince Mannella, P.E.
Solid Waste Management
Pasco County Utilities
7536 State Street
New Port Richey, FL 34654

Re: West Pasco Landfill, Disposal Units A-1 and A-2
#PA87-23, Pasco County

Dear Mr. Mannella:

On November 18, 1997, the Department sent Warning Letter #WL97-0008SW51SWD regarding Disposal Units A-1 and A-2 (copy attached). Attached are documents concerning additional related issues that have not been resolved.

1. DEP's March 12, 1997 letter and copy of the approved operations plan for the landfill disposal units A-1 and A-2, Sections 8.2.6 and 8.2.8 describe the use of control valves and berms to isolate and minimize leachate generation. The current method and sequence of filling conflicts with this approved plan. A revised operations plan has been requested but has not been provided. On March 18, 1997, staff observed the bottom of disposal unit A-2 covered with ash rather than segmenting stormwater from leachate. Leachate generation has not been minimized.
2. Pasco County's September 29, 1997 letter describes placement of super sacks of chlorides in disposal unit A-2, and CDM's January 11, 1996 letter regards the same. On October 6, 1997, staff observed broken and damaged sacks and uncontained/spilled chlorides. The bag breaches have not been minimized.
3. Leak detection system flow rates have varied from 5,800 to 2,600 gallons of leachate removed from disposal unit A-2 from October 2 until November 12, 1997. An evaluation describing the significance of these leakage rates has been requested by phone as we discussed on November 21, 1997.

The Department requests an amended operations plan to provide for minimized leachate generation and containment of chlorides by **December 5, 1997**. The amended operations plan should be accompanied by a corrective actions plan to resolve current deviations from the approved operational plan and unfavorable site conditions addressed in this letter and a schedule for completion.

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Mr. Vincent Mannella, P.E.
Solid Waste Management

November 21, 1997
Page Two

On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kim B. Ford', with a stylized flourish at the end.

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: John Gallagher, Pasco County
Douglas Bramlett, Pasco County
(1) Robert Butera, P.E., FDEP Tampa
Steve Morgan, FDEP Tampa



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

March 12, 1997

Mr. Vincent Mannella, P.E.
Pasco County Utilities Services
Utilities Bldg., S-213
7530 Little Road
New Port Richey, FL 34654

Re: Amended Operations Plan
Waste Pasco Class I Landfill
Certification #PA-87-23, Pasco County

Dear Mr. Mannella:

The amended operations plan with revised date of January 14, 1997 was received with your January 28, 1997 cover letter on January 31, 1997. Upon review of the amended plan, staff found many deletions to the operations plan previously approved by the Department on June 5, 1995 as part of the Conditions of Clarification. These conditions reference Section 8.0 (Revised January 4, 1995) of the Engineering Report by Law Engineering as the approved plan. The version you submitted on January 28, 1997 amended a June 28, 1994 version that was revised on November 16 and December 21, 1994 and finally on January 4, 1995 prior to Department approval.

Attached is the entire Section 8.0, the approved operations plan for your use and revisions. As suggested in the Department's January 23, 1997 letter, Sections 8.2.6 and 8.2.7 may be revised and resubmitted as replacement pages. The Department requests future amendments be submitted with a list of the sections revised with a brief description for each revision.

On all future correspondence, please include Robert Butera on distribution. If you have any questions you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: John Gallagher, Pasco County
Douglas Bramlett, Pasco County, w/attachment
AD Robert Butera, P.E., Solid Waste, FDEP Tampa
Steve Morgan, FDEP Tampa

"Protect, Conserve and Manage Florida's Environment and Natural Resources"



PASCO COUNTY, FLORIDA

D.E.P.

JAN 31 1997

DADE CITY (904) 521-4274
LAND O' LAKES (813) 996-7341
NEW PORT RICHEY (813) 847-8145
FAX (813) 847-8064

SOUTHWEST DISTRICT
TAMPA

UTILITIES SERVICES BRANCH
PUB. WKS./UTILITIES BLDG., S-213
7530 LITTLE ROAD
NEW PORT RICHEY, FL 34654

January 28, 1997

Mr. Kim Ford, P.E.
Florida Department of
Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

RE: West Pasco Solid Waste Cell SW-1
#PA87-23, Pasco County

Dear Mr. Ford:

Attached hereto please find the Amended Operations Plan for West Pasco Class I Landfill.

The Operations Plan has been amended as per our previous discussions. Please review and if you have any questions, please call me direct at (813) 856-0119.

Sincerely,

Vincent Mannella, P.E.
Solid Waste Facility Manager

VM/mvv

cc: Mr. Robert Butera, Florida Department of Environmental Protection, 3804 Coconut Palm Drive
Tampa, FL 33619-8318
John J. Gallagher, County Administrator
Douglas S. Bramlett, Assistant County Administrator (Utilities Services)
Ronald Walker, Solid Waste Superintendent

Bas AS HC 2/3
PA DM
STEVE
Comments 7
Am 2/3/97

WRONG SECTION MODIFIED?!

West Pasco Class I Land I Operations Plan
Law Environmental, Inc.
Amendment by:
Vincent Mannella, P.E.

June 28, 1994

January 14, 1997

WPA
VERSION
To Modify

AMENDED
OPERATIONS PLAN
FOR
WEST PASCO CLASS I LANDFILL

PREPARED FOR:
PASCO COUNTY BOARD OF COUNTY COMMISSIONERS
PASCO COUNTY, FLORIDA

PREPARED BY:
LAW ENVIRONMENTAL, INC.
TAMPA, FLORIDA
JUNE 28, 1994

Amendment by:
Vincent Mannella, P.E.
Solid Waste Facility Manager
January 1997

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- 6 Geological Data
- 7 Grading Plan
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- 9 Leachate Collection System Plan (Secondary)
- 10 Cell Cross Sections
- 11 Double Liner System Sections and Details
- 12 Leachate Withdrawal System Sections and Details
- 13 Miscellaneous Sections and Details
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**OPERATIONS PLAN FOR
WEST PASCO CLASS I LANDFILL**

The landfill addressed in this operations plan is an integral unit of the Pasco County Solid Waste System ("System"). The System is comprised of a mass-burn Resource Recovery Facility, the West Pasco Class I Landfill, the West Pasco Class III Landfill and Recycling Center, the East Pasco Transfer Station and Recycling Center, and the East Pasco Class I Landfill. The East Pasco Class I Landfill has been closed to the general public effective September 30, 1996. Pasco County operates the Class I for various County departments working in East Pasco. The Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are co-located on an 800-acre site. The Resource Recovery Facility and the West Pasco Class I Landfill are permitted under the Florida Electrical Power Plant Siting Act, while the West Pasco Class III Landfill and Recycling Center was permitted separately under Chapter 17-701, FAC (now 62-701 FAC).

The Resource Recovery Facility is designed to receive and process 1,050 tons per day of waste generated by residential, commercial, and industrial sources. Three separate combustion units with a capacity of 350 tons per day and a boiler system generate steam for conversion to electrical energy. Emissions controls include dry scrubbers and fabric filter baghouses for each combustion unit. The Pasco County Resource Recovery Plant has recently added to each combustion unit a carbon injection system for mercury emission control. The residue ash handling system is completely enclosed. Bottom ash and grate siftings from the combustion units, as well as fly ash and spent scrubber reagent, are collected and quenched. Ash is moved by conveyor through a scalper screen to remove large materials and through a magnetic separator to remove ferrous metal. Processed residue (MSW ash) is loaded into trucks for disposal in an ash monofill disposal cell at the adjacent West Pasco Class I Landfill.

Currently, no delivery of municipal solid waste (MSW) is made directly to the West Pasco Class I Landfill. Deliveries are accepted at the Solid Waste

Resource Recovery Facility ten hours each day, Monday through Saturday, except legal holidays. Refuse is delivered to the Solid Waste Resource Recovery Facility in standard packer vehicles, open body dump trucks, semitruck transfer trailers, and by smaller private vehicles. The waste transferring vehicles pass through an entrance and exit over an automated truck scale system. The scale system is operated by an adjacent scale house with a computerized record keeping system that maintains an accurate accounting of all refuse delivered and ash residue removed from the building.

All processible waste received is dumped inside the Resource Recovery Facility in a refuse storage pit with the exception of some waste from small private vehicles which are directed to a public drop-off area outside the building. Inside the facility building, on the tipping floor, roll-off containers are provided for removing of nonprocessible waste. The County provides a trained spotter on the tipping floor to observe refuse dumping. The spotter has communication links with the scale house and the facility operators to advise them of the delivery of any unacceptable waste.

The West Pasco Class I Landfill was designed and permitted to be constructed in a phased series of individual cells, with a total of 16 cells. Six cells (A-1 to A-6) are designated for ash disposal, eight cells (SW-1 to SW-8) for nonprocessible or bypass waste, and two cells (I-1 and I-2) were left undesignated. The layout of the cells is shown in Figure 8.1. The disposal area covers approximately 160 acres, each cell is approximately ten acres in size. The initial phase of construction was completed in 1990 with the construction of Cells SW-1 and A-1, eastern portion of the perimeter access road, retention ponds 1 and 2, an equipment maintenance building, and other associated drainage work.

The entire 800-acre site is enclosed by chain link and barbed wire fence to limit access. To further limit access, the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center are separated internally by a chain link and barbed wire fence to control movement between the units.

1.0 Bypass MSW Procedure

It is anticipated that Pasco County will bypass MSW once per year when the spring scheduled boiler outages occur during the months of March and April. March and April MSW averages 794 t/d. The operating boilers, at 80 percent efficiency, burn approximately 280 t/d each, or 560 t/d. During the outage, approximately 23,820 tons of MSW will be received at the plant. Two boilers, at 80 percent efficiency, will burn 16,800 tons leaving a delta of approximately 7,020 tons, which will be bypassed to SW-1.

It is the intention of Pasco County to remove the bypassed MSW from SW-1 returning the same to the Resource Recovery Plant for fuel within a six- to nine-month period.

Trucks delivering MSW to SW-1 could cause a serious threat to the filter media, the leachate collection system, and the cell liner. In an effort to protect the cells filter media, leachate collection system, and liner, a 15-inch layer of Resource Recovery Plant ash will be placed on the filter media and properly compacted to provide a work surface in the cell to bring in the MSW for inventory and then to remove the MSW from the cell to the Resource Recovery Plant without damage to the ancillary parts of the cell. Sketch No. 7, as attached, shows the limits of the ash pad.

This ash base will not be commingled with the MSW, nor will mixing of Resource Recovery Plant ash and MSW be permitted.

The placing and removal of the bypass MSW will be in conformance with the Department-approved operating plan.

2.0 Operating Personnel Training

The Pasco County Utilities Services Branch has a proactive approach to training and certification of all landfill personnel. The West Pasco Class I Landfill will have trained operators who have satisfied the requirements of Chapter 62-701 FAC. Additionally, other staff members who have attended the TREEO Solid Waste Landfill Operator Short Course will be used as trained spotters at the landfill and elsewhere in the solid waste management system. Copies of their course completion certificates will be kept on file.

The landfill will have at least one trained operator at the landfill during all times when the landfill receives waste. At least one trained spotter will be at each working face at all times when the landfill receives waste other than ash to detect unauthorized wastes.

3.0 Landfill Operation Plan

3.1 Designated Responsible Operating and Maintenance Personnel

The Pasco County Board of County Commissioners sets policy for the administration and management of the disposal of solid waste in the County. The Assistant County Administrator for the Utilities Services Branch coordinates solid waste management in the County. He is assisted by the Solid Waste Facility Manager who manages the operation and maintenance of the solid waste facilities.

3.2 Contingency Operations for Emergencies

3.2.1 Fire Emergency Procedures

In the event that an uncontrollable fire does occur at the landfill site:

- Field staff will contact scale attendant by two-way radio and provide details.

- Scale attendant will contact 911 to request fire department assistance.
- Scale attendant will contact landfill supervisor.
- Landfill supervisor will direct additional equipment and manpower to the scene as necessary.

If the fire is controllable:

- Field staff will contact scale attendant by two-way radio and provide details.
- Field staff will snuff out fire using landfill equipment and soil from an on-site stockpile maintained for suppressing fires.
- Scale attendant will contact landfill supervisor.
- Landfill supervisor will inspect scene.

3.2.2 Natural Disaster Procedures

If notice is available of a pending natural disaster (tornado, hurricane, etc.), the landfill supervisor will direct staff to:

- Check stormwater management system for any blockages at culverts, pipes, etc.
- Check leachate management system levels, pumping units, etc.
- Apply daily cover to working face where appropriate.
- Secure equipment where appropriate.

After the natural disaster has occurred, the landfill supervisor will direct staff to assess damage to and operational status of:

- Access roads.
- Stormwater management system.
- Leachate management system.
- Landfill equipment.
- Disposal units (cells).

3.2.3 Equipment Failure Procedures

If equipment fails, the landfill supervisor will be notified so that arrangements can be made for the equipment repair. If the downtime is expected to hinder landfill operations, the landfill supervisor will obtain back-up equipment under established cooperative lending agreements with other solid waste management facilities or other County departments.

3.3 Controlling Types of Waste Received at Landfill

One spotter will be located at each working face receiving wastes to inspect waste being dumped at the working face. In the event Resource Recovery Facility is not receiving waste and waste is being bypassed to landfill or other permitted facilities, the spotter(s) assigned to the Resource Recovery Facility tipping floor will be reassigned by the landfill supervisor to the specific Class I Landfill.

If, in the highly unlikely case, a hot load of ash is spotted, the vehicle will be directed to return to the ash handling facility for requeenching or the load may be dumped on the paved entry to the cell and allowed to cool. The landfill supervisor will be notified so that the Resource Recovery Facility Manager can be advised of the receipt of the hot load and quenching operations be checked.

If, in the highly unlikely event, prohibited types of waste are observed by the spotter in any bypass waste, the landfill supervisor will be notified so that arrangement for the removal of the observed wastes can be made. Batteries, tires, and used oil can be removed to the adjacent Class III Landfill and Recycling Center, which has facilities for handling these prohibited wastes. Hazardous and medical wastes can be removed under existing arrangements for the proper handling and disposal. These wastes should be removed under the direction of the County Hazardous Waste Manager.

3.4 Weighing Incoming Waste

No waste will enter the site without passing over the weighing facilities at the Resource Recovery Facility and the West Pasco Class III Landfill. The landfill supervisor will periodically check ash trucks to see if they are crossing the scales by observing them as they leave the ash handling facility.

3.5 Vehicle Traffic Control and Unloading

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when nonprocessable waste and bypass waste are being delivered to the solid waste cell or another permitted facility. During these exceptions, the landfill supervisor will assign additional landfill staff to control traffic and direct unloading.

3.6 Method and Sequence of Filling Waste

The West Pasco Class I Landfill will be developed using 16 cells as shown on Figure 1. Each cell is approximately ten acres. Figure 2 depicts the sequencing progression of lifts within a typical cell. As this sheet indicates, the liner and leachate collection system will be constructed one cell at a time with temporary roads and swales for access and surface water management.

Cells SW-1 through SW-8 are currently designated for disposal of solid waste. Cells A-1 through A-6 are currently designated for ash disposal. Depending on future volumes, Cells I-1 and I-2 may be used for either ash or solid waste. The ash and solid waste will not be co-disposed. The ash residue will be monofilled; no mixing of the two materials will be allowed. A synthetic or clay liner will be used to separate the materials at the interface. The operational method of filling will be similar for both materials.

The method of filling wastes in an individual cell is described as follows: All incoming ash/solid waste will be directed to the working face. Ash solid waste will be placed against the side slope of the previous day's refuse. The

first row will act as a berm to provide a guide for the placement of refuse for the remaining rows. In each row, cells will be constructed having a minimum length working face to control the operation and leachate quantities, yet of sufficient length to provide adequate dumping areas and room for the equipment to operate (Figure 8.3). A slope of 3:1 on a 135-foot wide working face will provide for centralization of operations, while providing maneuvering area for large private and commercial vehicles unloaded each day.

The sequence of filling future lined cell areas with installed leachate collection systems is developed to meet the following objectives:

- Complete subsequent lifts over lower lifts frequent enough to minimize infiltration and conserve the field capacity of the lower lift cell.
- Direct the surface run-off from unused portions of cells away from ash/solid waste using control valves and berms.
- Design landfill slopes during operation to maximize surface run-off away from the working face and minimize leachate generation.
- Provide bench terraces along side slopes to minimize erosion.

Efficient use of these techniques will reduce the need for intermediate cover and decrease leachate volumes.

Final cover will be applied over cell lifts within 180 days after the final lift over an area is completed. Final cover will consist of 18 inches of clayey material covered with six inches of native soils. The top six inches will be uncompacted and vegetated with native grasses or other vegetation to promote evapotranspiration (see Figure 4).

3.7 Waste Compaction and Application of Cover

Sufficient cover material will be stockpiled near the working face to provide an adequate supply for at least one week of operation. No daily cover is

required for the ash monofill cells. In areas near a borrow area, stockpiling may not be necessary.

The ash/solid waste is to be placed at the bottom of the working face, spread up toward the top in two-foot layers. The solid waste will be compacted with a minimum of three to five passes of a compactor. The ash will be compacted as necessary by a front-end loader or bulldozer. The spreading of refuse is a continuous operation.

Application of initial, intermediate, and final cover is to be performed as required per Chapter 62-701, FAC. Six inches of initial cover will be applied to the working face of the solid waste cell when solid waste is not placed on it within 18 hours. The ash monofill cell will not require initial cover. Intermediate cover consisting of one foot of compacted sandy soil from an on-site borrow pit will be applied within seven days of cell completion if final cover or an additional lift is not to be applied within 180 days of cell completion. Any intermediate areas that will not be landfilled or covered with final cover within six months will be seeded or covered with wood chips, straw, or other appropriate cover material to avoid slope erosion.

Final cover will be applied to the landfill once the final grades are reached. The initial final slope on top of landfill areas will be a minimum of two percent and will not exceed four percent. The perimeter sides of all completed cells will have a slope of 4:1 to minimize erosion. Areas with final cover will be seeded or planted with grass or suitable cover vegetation.

3.8 Operations of Gas, Leachate, and Stormwater Controls

Since the site closure plan includes a low permeability top cap, the gas venting system in the solid waste cells will be installed as the cells are constructed. Gas vents will not be installed in the ash monofill cells. The detail of this gas vent is shown in Figure 5. The vents will provide an escape route for gases that are lighter than air, such as methane, to prevent lateral migration of these potentially explosive gases.

The leachate collection and transmission system consists of gravity drains, sumps (manholes), and isolation valves in Cells SW-1 and A-1. The normal operation is by gravity drain to the leachate collection tank (see Figure 6). When the leachate reaches a predetermined level in the storage tank(s), leachate is pumped to the Pasco County Shady Hills Subregional Wastewater Treatment Plant or the Leachate Treatment Facility. Leachate from SW-1 will be pumped to the Shady Hills Subregional Wastewater Treatment Plant for cotreatment without any pretreatment; leachate from A-1/A-2 will be pumped to the leachate management facility (as of March 10, 1997, approximately). If testing of the leachate indicates the need for pretreatment prior to processing at the wastewater treatment plant, the necessary pretreatment will be performed.

The leachate collection system in Cell A-2 consists of gravity drains to sumps inside the primary and inside the secondary liner and isolation valves. The leachate is pumped up out of the sump through a pipe to the top of the berm into a double-walled transmission pipe (see Drawing Sheet Nos. 8 through 12),

The stormwater controls will be operated to collect and convey run-off to surface water management areas for sedimentation control in accordance with Chapters 17-3 and 17-4, FAC. Surface water management areas will be maintained by periodic removal of sediments. Surface water control devices, such as weirs and culverts, will be routinely checked and cleaned to ensure proper performance. All waste coming into contact with solid waste will be handled as leachate.

3.9 Water Quality Monitoring

The water quality monitoring will be performed by the Pasco County Environmental Laboratory. The water quality monitoring plan meets the requirements of Chapter 62-701.510, FAC.

If any of the groundwater monitoring wells are damaged or found to be damaged, they will be reported immediately to the landfill supervisor who will note the

occurrence in his daily operational log. The landfill supervisor will also notify the Solid Waste Facility Manager of the damaged well so that the Department can be notified.

4.0 Operating Record

The Operating Record shall consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 62-701, FAC, including the Department-approved permit, engineering drawings, and supporting information, and the landfill operator training verifications required by Chapter 62-703, FAC. The record is considered part of the operation plan and is kept at the Pasco County Government Utilities Services Branch office located in New Port Richey. Duplicates of the permit, engineering drawings, and the operating plan are kept on-site at the office of the landfill supervisor.

The Operating Record will be available for inspection at reasonable times by Department personnel.

5.0 Waste Record

All solid waste will be weighed as it is received at the weighing facilities located at the Resource Recovery Facility. Additionally, all ash residue transported from the Resource Recovery Facility to the West Pasco Class I Landfill will be weighed at the same weighing facilities. All solid waste will be recorded in tons per day.

To the extent possible, the amount of solid waste received by the type of waste will be determined as listed under Chapter 62-701.5(4)(b), FAC. Where possible, such as ash-residue, actual weights in tons per day will be recorded. Waste reports will be completed monthly, and copies will be provided to the Department.

6.0 Access Control

To prevent unauthorized access to the 800-acre site in West Pasco, the entire site is enclosed with either barbed wire or chain link fencing. Interior fencing separates the Resource Recovery Facility, the West Pasco Class I Landfill, and the West Pasco Class III Landfill and Recycling Center. Entrance gates at the Resource Recovery Facility and the West Pasco Class III Landfill are chain link and are closed and secured during nonworking hours. The primary entrance gate to the Class I Landfill is internal.

The landfill supervisor will check or have checked the integrity of the perimeter fencing on a regular basis. The landfill operators will secure the entrance gates at the end of the operating day. The landfill supervisor will ensure that the existing signs indicating the hours of operations and types of waste accepted are maintained.

7.0 Monitoring of Waste

Examination of the waste received is accomplished both at the East Pasco Transfer Station and at the Resource Recovery Facility tipping floor. Routinely, only ash residue loads are monitored at the Class I Landfill for hot loads. When significant bypass waste from the Resource Recovery Facility occurs, the landfill supervisor will establish random examination of solid waste deliveries at least three times per week.

Randomly, at least three loads of solid waste will be examined by the assigned spotters. If unauthorized wastes are detected, the spotter will notify the landfill supervisor who will contact the generator, hauler, or other party responsible for shipping the waste to the County facility. The landfill supervisor will attempt to determine the identity of the waste sources and facilitate its removal, proper disposal, and correct handling in the future.

If the landfill supervisor or other trained County personnel determines the detected unauthorized waste to be hazardous waste, the area where the wastes

are deposited will be cordoned off from public access until proper cleanup, transportation to, and/or disposal at a permitted hazardous management facility has been assured. The landfill supervisor will promptly notify the Department of the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known.

The information and observations resulting from each random inspection will be recorded in writing and retained at the facility for at least three years. The recorded information will include the following:

- Date and time of inspection.
- Name of the hauling firm or vehicle owner.
- Driver of the vehicle.
- Vehicle license plate number.
- Source of waste.
- Vehicle license plate number.
- Source of waste.
- Observations made.
- Name and signature of the inspector.

8.0 Procedures for Spreading and Compacting Waste

8.1 Waste Layer Thickness and Compaction Frequencies

All solid waste, if required, will be spread in layers of approximately two feet in thickness and compacted to as thin a layer as practical, depending on the type of waste received, before the next layer is applied. Ash residue will require only one or two passes with the heavy equipment (dozer). Bypass waste will require four to five passes with the heavy equipment and should be compacted to approximately one foot in thickness.

8.2 Special Considerations for First Layer of Waste Placed in a Cell

Special consideration will be given to selecting the first waste to be placed above the liner and leachate collection system. The selected waste will be free of large rigid objects that may damage the liner or leachate collection system. The thickness of the first layer will be at least four feet of compacted waste. Placement of the first layer will be conducted by a trained operator.

8.3 Construction of Horizontal Lifts

Solid waste will be placed into cells to construct horizontal lifts with the following parameters for the working face of the cell with the side grades slope being no greater than three feet horizontal to one foot vertical rise. Lift thickness should not exceed ten feet.

8.4 Working Face Width

The working face will be only wide enough to accommodate vehicles dumping waste. In the ashfill cells and solid waste cells, the working face under normal operating conditions should be minimal. During periods when the volume of bypass waste is high, the size of the working face will be greater to accommodate the increased traffic.

8.5 Initial Cover

Initial cover will be applied to solid waste cells in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, blowing litter, odors, disease vectors, or fires. Initial cover will not be necessary for the ash/monofill cells.

Initial cover at the solid waste cells will be applied at the end of each working day, except to the working face when additional solid waste will be placed on it within 18 hours. The initial cover will be comprised of soil

material and be six inches in compacted thickness, except inventoried MSW that has been bypassed from the Resource Recovery Plant. Bypassed MSW may receive cover of 1'-0 of tire chips or wood chips in lieu of earth cover.

8.6 Intermediate Cover

Intermediate cover, in addition to six-inch initial cover, will be applied and maintained within seven days of cell completion. The intermediate cover, when disposal to the initial fill phase and disposal activity is shifted to a new adjacent cell for more than 180 days, will be seeded or sodded with grass to promote run-off and minimize infiltration. When disposal activity is resumed in the cell, the intermediate cover will be pushed aside and stockpiled for use as initial cover for the resumed disposal activity, except tire chip cover or wood chips will be disposed with the inventoried MSW when removed from inventory to the Resource Recovery Plant for final disposition.

8.7 Final Cover

Once the solid waste disposal units have been filled to the final grades, final cover will be applied in accordance with the closure plan. The top of the landfill area will be convex with an outward slope of two to four percent from the center. The side will be completed with slopes of 4:1. Areas with final cover will be seeded or sodded with grass or suitable cover vegetation.

8.8 Litter Policing Methods

Litter generated within the landfill site is expected to be nominal because the litter generating waste is currently combusted at the Resource Recovery Facility. In the event the litter generating waste bypasses the Resource Recovery Facility, the landfill supervisor will initiate the following litter control methods:

- Require delivery vehicles remain covered until entry into landfill.
- Routine cleanup around cell and access roads.

- Maintain small work face and effect initial cover.

Cleanup along the Resource Recovery Facility access road, Hays Road, and within the facility grounds, particularly around the private drop-off area will be maintained. County crews will routinely police these areas.

8.9 Erosion Control Procedures

Grass vegetative cover will be established and maintained on all landfill berms outer slopes, stormwater retention pond outer slopes, and along interior access roads. The landfill supervisor or his designee will conduct routine inspections during the wet seasons and immediately after heavy storms to detect any emerging erosion. Detected erosion will be repaired by landfill staff.

9.0 Operational Procedures for Leachate Management

9.1 Leachate Level Monitoring, Sampling, Analyses, and Reporting

The leachate sampling and analysis will be performed semiannually by the Pasco County Environmental Laboratory as part of the Water Quality Monitoring Plan. The results will be reported to the Department. Leachate level monitoring will be performed daily (except for nonoperational days). Results, including leachate generation rates, pumpage, and rainfall data will be reported to the Department quarterly.

9.2 Operation and Maintenance of Leachate Collection and Removal System

The landfill supervisor will review daily the leachate collection and removal system data to ensure that the head over the liner is maintained below its maximum level and that generation rates measured in the secondary leachate collection system do not exceed the threshold amount. If exceedance is detected, the Solid Waste Facility Manager will be notified so the exceedances can be addressed promptly.

9.3 Procedures for Managing Leachate if it Becomes Regulated as a Hazardous Waste

Pasco County will evaluate options for pretreating the leachate prior to it being transmitted to the Shady Hills Subregional Wastewater Treatment Plant (WWTP) or the leachate processing facility. Leachate from SW-1 will be transmitted to the Shady Hills Subregional WWTP. Leachate from ash cell(s) will be transmitted to the Leachate Treatment Facility (as of March 10, 1997).

9.4 Agreements for Off-Site Discharge and Treatment of Leachate

No agreement for off-site discharge and treatment is necessary. Treatment and discharge is provided by the WWTP for the leachate management facility. The West Pasco Class I Landfill, the WWTP, and the Leachate Treatment Facility are owned by Pasco County and operated by the Utilities Services Branch.

9.5 Contingency Plan for Managing Leachate during Emergencies or Equipment Problems

If equipment problems occur, such as pump failure, so that leachate cannot be removed from the leachate holding tanks or leachate pumps, the landfill supervisor will be notified so that arrangements can be made for equipment repair or replacement. If problems occur with the leachate transmissive pipeline or with the WWTP or the leachate management facility, the landfill supervisor will be notified so that arrangements can be made to correct the problem and, if necessary, arrangements be made to transport leachate by tanker truck to the WWTP or an alternate WWTP, or the leachate management facility.

9.6 Recording Quantities of Leachate Generated

The landfill supervisor will direct staff to daily check and record leachate levels in all leachate collection tanks and pumps. Leachate generation rate will be calculated by multiplying the difference in leachate level from the

previous day times a conversion factor (inches to gallons) obtained from a look-up table for respective tank or pumps.

9.7 Comparing Precipitation with Leachate Generation Rates

The landfill supervisor will direct staff to daily check and record rainfall collected in an on-site language. The landfill supervisor will also direct staff to record all leachate pumpage data. The data will be recorded along with the leachate generation data.

10.0 Routine Gas Monitoring

Routine gas monitoring will be initiated after the burial of putrescible waste or bypass waste in the SW cells that is to remain in the cell in excess of one year. No gas monitoring will be conducted relative to the last monofill cells.

11.0 Operating and Maintaining the Landfill Stormwater Management System

The landfill stormwater management system will be operated and maintained to comply with the standards of Chapters 17-3, 17-302, and 17-23, FAC.

The access road encompassing the landfill area and the cell berms are elevated above existing ground elevations to prevent any surface water from entering the waste-filled area. Additionally, a large swale is located at the base of the landfill slope on the interior side of the access road. The swale is designed to receive run-off from the predeveloped and any closed-out areas of the landfill and direct it to one of four major retention basins.

The bottom of the landfill cells are lined and positioned above the seasonal high water table to prevent any lateral flow into the waste-filled areas if in the unlikely event that standing water was to occur in the swales. Also, any closed-out cells will be capped with an 18-inch clay cap to inhibit vertical infiltration/percolation of rain.

The landfill supervisor will routinely inspect the stormwater management system. Particular attention will be given to inspecting the culverts under the access road for any blockage.

The stormwater management system will also be inspected prior to, if notice is available, and after any natural disaster (see Section 2.2.2.).

12.0 Equipment and Operation Features

12.1 Landfill Equipment

The West Pasco Class I Landfill has been operating since 1990. Existing equipment has proved sufficient. The equipment available at the West Pasco Landfill is as follows:

- Compactor - 1
- Bulldozer - 2
- Font-end loaders - 2
- Leachate transport truck - 1
and 6,000-gallon tanker
- Tandem dump truck - 1
- Leachate pumps - 2
- Dump trucks 2

The Solid Waste Facility Manager will periodically review the landfill equipment type and numbers to determine the need for additional equipment.

12.2 Reserve Equipment

Reserve equipment is available from the County's Road and Bridge Department. All equipment on the list, with the exception of the compactor, is available from the Road and Bridge Department on a temporary basis. Additionally, the County provides for the replacement of equipment through a replacement account funded monthly during the expected life of the equipment.

12.3 Communication Equipment

Communication between personnel in the West Pasco Landfill Maintenance Building Resource Recovery Facility Scale House and the West Pasco Class III Scale House and landfill staff operating equipment is maintained by two-way radios and the master communication system maintained for all County departments. Additionally, landfill staff can contact each other by two-way radios.

12.4 Personnel Shelter and Sanitary Facilities

The West Pasco Landfill Maintenance Building provides the nearest shelter to the West Pasco Class I Landfill staff. The building includes office space, rest rooms, and showers as well as two equipment/vehicle bays. Basic first aid is available at the maintenance building.

12.5 Dust Control Methods

That access road is paved. Unpaved, interior roads will be wet down using a spray track on as-needed basis. Heavy equipment is enclosed and air-conditioned. Dust masks, goggles, and hard hats are available to personnel working in excessively dusty area.

12.6 Fire Protection

Fire extinguishers are provided on all heavy equipment operating in the wastefill areas. Staff are directed to contact the fire department as discussed under Section 2.2.1, Fire Emergency procedures.

12.7 Litter Control

Private refuse haulers are not allowed in the West Pasco Class I Landfill except when nonprocessible or bypass waste are being delivered to the solid waste cell. During these exceptions, the landfill supervisor will require

loads be covered, working face be kept to a minimum, cover applied efficiently, and routine cleanup occur to control litter.

12.8 Signage

Signage indicating operating authority, traffic flow, hours of operation, and disposal restrictions are provided at the entrances to the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center. The landfill supervisor will ensure the signage is maintained.

12.9 Access Road

All roads providing access to the landfill disposal units are paved with asphalt. These roads include access roads from the Resource Recovery Facility and the West Pasco Class III Landfill and Recycling Center, a perimeter road, and entrance ramps to the constructed cells. The landfill supervisor will ensure that the access roads are maintained.

12.10 Additional Record Keeping and Reporting

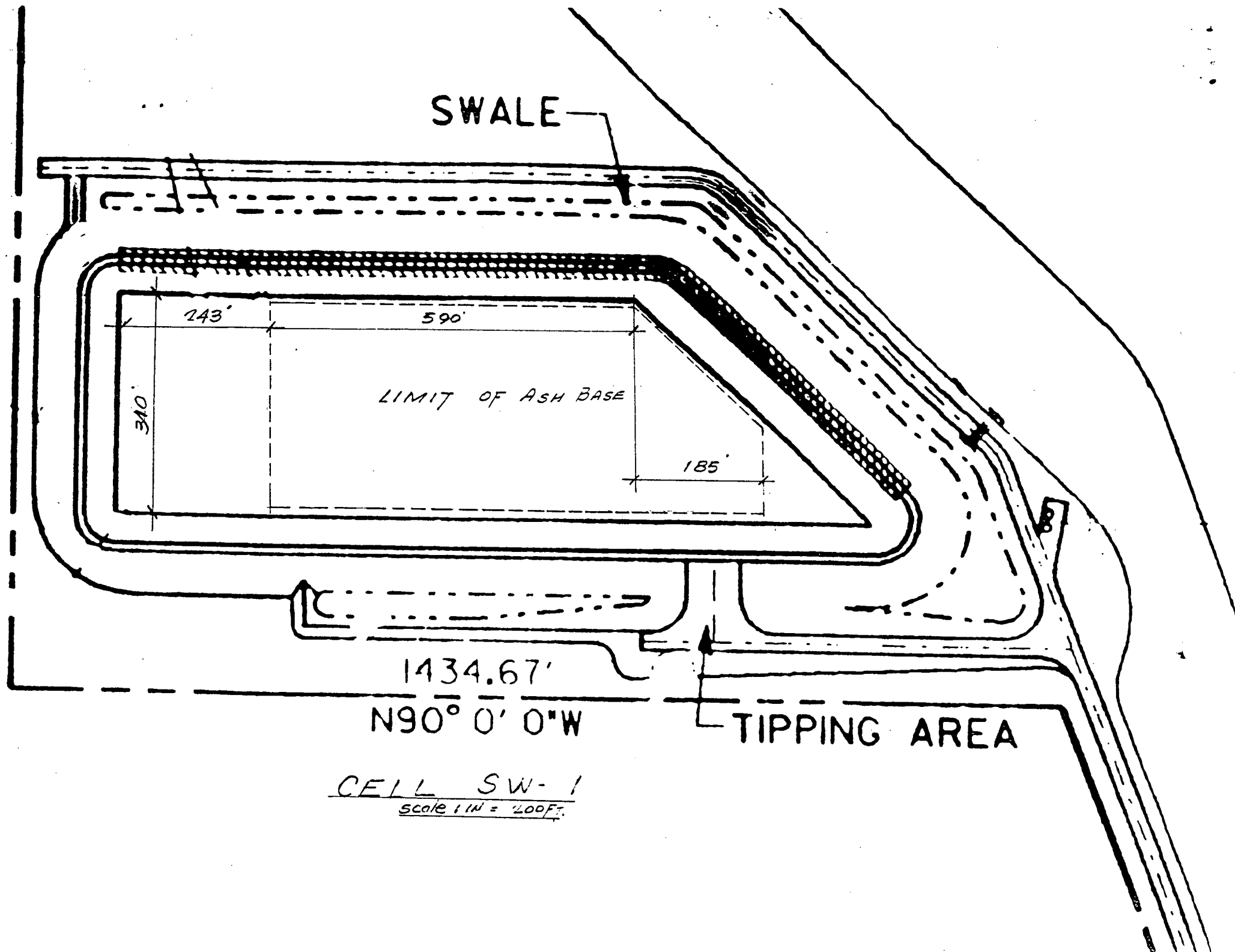
Records used for developing permit applications and other supplemental information will be maintained for the design period of the landfill in the Utilities Services Branch files. Reports required by the permit will be maintained for at least ten years in the Utilities Services Branch files. Background water quality records will be maintained for the design period of the landfill in the Utilities Services Branch files.

The Solid Waste Facility Manager will submit annually to the Department estimates of other remaining capacity of the constructed and unconstructed permitted waste disposal units. Estimates will be maintained in the Utilities Services Branch files.

A technical report, prepared, signed, and sealed by a P.G. or P.E. with experience in hydrogeologic investigations will be submitted to the Department

every two years. The report will summarize and interpret the water quality data and water level measurements collected during the previous two years.

The report will also include tabular and graphical displays of any parameters detected and water level hydrographs for all monitoring wells. The report will further show trends and comparisons between zones or aquifers, comparisons between upgradient and downgradient wells, correlations between related parameters, any discussions of erratic and/or poorly correlated data. Groundwater contour maps will be interpreted as to groundwater flow direction and rates. The report will further evaluate the adequacy of the water quality monitoring frequency and sampling locations based upon the site conditions. The report will be signed, dated, and sealed by a P.G. or P.E.



SWALE

243'

590'

340'

LIMIT OF ASH BASE

185'

1434.67'

N90° 0' 0" W

TIPPING AREA

CELL SW-1

SCALE 1" = 200 FT.



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

January 23, 1997

Mr. Vincent Mannella, P.E.
Pasco County Utilities Services
Utilities Bldg., S-213
7530 Little Road
New Port Richey, FL 34654

Re: Letter dated January 14, 1997 - Chlorides Disposal
Letter dated January 15, 1997 - MSW Storage in SW-1
Certification #PA-87-23, Pasco County

Dear Mr. Mannella:

In response to your January 14, 1997 letter regarding disposal of "super sacks of chlorides" from the leachate treatment facility, the Department has the following concerns:

1. Disposal Unit SW-1 is designated for the disposal of solid waste, not the ash or its residuals which remain after leachate treatment such as the chlorides; and
2. Chlorides from the ash leachate discharged into SW-1 appears to have caused problems with treatment at the Shady Hills WWTP. Leakage from any of the chloride residual bags in SW-1 may alter its leachate characteristics and treatability.

The Department objects to the proposed disposal of the chlorides in SW-1 unless additional information is provided to alleviate related concerns.

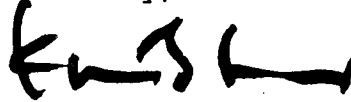
The Department has no objections to the proposed MSW stockpiling and removal described in your letter dated January 15, 1997, however, Sections 8.2.6 and 8.2.7 referenced in your letter regarding the operation of SW-1 contain no details of proposed stockpiling activities. Please submit the information requested in the Department's December 5, 1996 letter (attached) as a supplement with revisions to the current operation plan as previously requested. The Department suggests Sections 8.2.6 and 8.2.7 be revised and resubmitted as replacement pages.

Mr. Vincent Mannella, P.E.
Pasco County

January 23, 1997
Page Two

If you have any questions you may call me at (813) 744-6100, extension 382. On all future correspondence, please include Robert Butera on distribution.

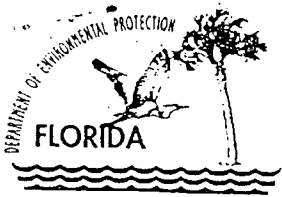
Sincerely,

A handwritten signature in black ink, appearing to read 'KBF', with a stylized flourish at the end.

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab
Attachment

cc: Douglas Bramlett, Pasco County
Ed Snipes, P.E., Domestic Waste, FDEP Tampa
RB Robert Butera, P.E., Solid Waste, FDEP Tampa
Danielle Nichols, Solid Waste, FDEP Tampa



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

December 5, 1996

Mr. Vince Mannella, P.E.
Solid Waste Management
Pasco County Public Works
Utilities Bldg., S-205
7530 Little Road
New Port Richey, FL 34654

Re: MSW Mining (Stockpiling) and Daily Cover
West Pasco Class I Landfill
Case No.: PA87-23, Pasco County

Dear Mr. Mannella:

In response to your October 7, 1996 letter, the following information is requested for clarification:

1. A detailed description for placement, covering and removal of MSW from SW-1 including a list of all equipment and methods for loading and hauling (the Department suggests "stockpiling" rather than mining since the waste will be removed within 12 months and has not substantially decomposed, nor received intermediate or final cover);
2. An explanation and supporting calculations to demonstrate that all stockpiled MSW and shredded tires will be removed and burned in the W-T-E facility within 12 months of the date placed in SW-1 as proposed (Has any MSW been stockpiled in SW-1 for longer than 12 months? When was the earliest date MSW was received in SW-1 that has not been removed?); and
3. A detailed description for cover made of yard trash and soil mixed including yard trash maximum particle size and percent passing 3/4 inch screen, and method of mixing the yard trash with soil.

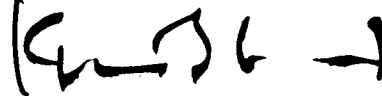
Please submit this information as a supplement to the current operation plan, Section 8.0 of the Engineering Report by Law Engineering received on January 17, 1995.

Mr. Vince Mannella, P.E.
Solid Waste Management

December 5, 1996
Page Two

On all future correspondence, please include Robert Butera on distribution. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

A handwritten signature in black ink, appearing to read 'KBF', with a stylized flourish at the end.

Kim B. Ford, P.E.
Solid Waste Section
Division of Waste Management

KBF/ab

cc: Douglas Bramlett, Pasco County
 lb Robert Butera, P.E., FDEP Tampa
 Steve Morgan, FDEP Tampa
 Danielle Nichols, FDEP Tampa