



Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

August 24, 2009

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Bruce E. Kennedy
Assistant County Administrator
Pasco County Utilities
7530 Little Road
New Port Richey, Fl. 34654

RE: Pasco County Resource Recovery Facility
DEP Case Number PA87-23
Postcertification Submittal dated May, 2006

Dear Mr. Kennedy:

The Pasco County Resource Recovery Facility (PCRRF) is certified pursuant to the Power Plant Siting Act (PPSA), 403.501-518, Florida Statutes (F.S.). The original PCRRF site certification application included a landfill/ashfill described as being divided into 15 cells to be installed in several phases.

Pursuant to Sections XIII.D of the Conditions of Certification (COC) the Class I landfill disposal units associated with this site shall be constructed in accordance with all applicable requirements of Chapter 62-701, Florida Administrative Code (F.A.C.). The same Condition requires that Pasco County submit a complete set of plans to be used for construction to the Department of Environmental Protection (DEP or Department) for review prior to the commencement of construction of the landfill disposal units.

On May 15 2006, the DEP Southwest District Office (SWD) received a post-certification submittal from Camp Dresser & McKee, Inc. (CDM) on behalf of Pasco County Waste and Recycling Services for approval of construction plans for Cell A-4 at the PCRRF.

The SWD issued Requests for Additional Information regarding the submittal on six separate occasions. Additional information was submitted to the SWD as follows:

- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. One, prepared by CDM, dated July 2006 (received July 28, 2006)[3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 2, prepared by CDM, dated July 2008 (received July 28, 2008)[3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 3, prepared by CDM, dated December 2008 (received December 10, 2008)[3-ring binder and plan set]

- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 4, prepared by CDM, dated January 2009 (received January 14, 2009)[3-ring binder]
- Response to FDEP Letter Dated February 12, 2009, prepared by CDM, dated and received February 25, 2009 [letter w/ attachments]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 6, prepared by CDM, dated June 5, 2008 (received June 8, 2009)[3-ring binder]

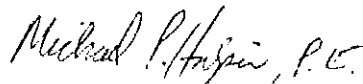
Pursuant to PPSA Rule 62-17.191, F.A.C., within 90 days after complete information has been submitted for post-certification review, the Department shall give written notification to the licensee of its assessment of whether there is reasonable assurance of compliance with the Conditions of Certification. The County is required to comply with the Conditions of Certification and applicable rules and regulations of the Department.

Attached to this determination is a list compiled by the SWD Solid Waste Section of applicable Department rules and requirements specific to this project (Cell A-4 expansion), and consistent with your submitted information. These are not new requirements, but are clarifications of existing Conditions of Certifications and Department rules.

The SWD has reviewed your submittals, and based on the information received on May 15, 2006 and the additional supporting information listed above, the Department has determined that there is reasonable assurance that the ash monfill expansion of Cell A-4 will comply with the Conditions of Certification including applicable Department rules and the attached clarifications.

If you have any questions regarding this determination please contact Cindy Mulkey in the Siting Office at (850) 245-2175 or Susan Pelz in the SWD at (813) 632-7600 x 386.

Sincerely,



Michael P. Halpin
Administrator,
Siting Coordination Office

Attachments

CC by email:

William Kutash, DEP SWD, william.kutash@dep.state.fl.us

Susan Pelz, DEP SWD, susan.pelz@dep.state.fl.us

Mara Nasca, DEP SWD, mara.nasca@dep.state.fl.us

Jeff Greenwell, DEP SWD, jeff.greenwell@dep.state.fl.us

David Dee, Young Van Assenderp, ddee@yvlaw.com

**Florida Department of
Environmental Protection**

Memorandum

TO: Michael Halpin, Administrator, Power Plant Siting

THROUGH: William Kutash, P.G., Waste Program Administrator

FROM: Susan Pelz, P.E., Solid Waste Program Manager

DATE: August 13, 2009

SUBJECT: Post Certification Submittal
Cell A-4 Ash Monofill Construction & Operation
Pasco County Resource Recovery Facility PA87-23

cc: Mara Nasca, Air Administrator
Jeff Greenwell, P.E., Water Facilities Administrator

I have reviewed the following submittals related to construction and operation of Ash Monofill Cell A-4 at the Pasco County Resource Recovery Facility:

- Engineering Report for Resource Recovery Landfill Cell A-4 Construction Submittal, prepared by CDM, dated May 2006 (received May 15, 2006) [3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. One, prepared by CDM, dated July 2006 (received July 28, 2006) [3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 2, prepared by CDM, dated July 2008 (received July 28, 2008) [3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 3, prepared by CDM, dated December 2008 (received December 10, 2008) [3-ring binder and plan set]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 4, prepared by CDM, dated January 2009 (received January 14, 2009) [3-ring binder]
- Response to FDEP Letter Dated February 12, 2009, prepared by CDM, dated and received February 25, 2009 [letter w/ attachments]
- West Pasco County Landfill Cell A-4 Construction Power Plant Site Certification No. PA87-23 Response to RAI No. 6, prepared by CDM, dated June 5, 2008 (received June 8, 2009) [3-ring binder]

The solid waste section does not object to the proposed construction and operation of Cell A-4 of the Pasco County Resource Recovery Facility subject to the Conditions of Certification PA87-23 and the following clarifying conditions:

PART A -Solid Waste Facility General Requirements

1. **Facility Designation [Rule 62-701.340(3), F.A.C.]**.. This site shall be classified as a Class I ash monofill landfill [ref.Eng. Report, Sec.1] and shall be constructed, operated, closed, monitored and maintained in accordance with all applicable requirements of Chapters 62-4, 62-302, 62-330, 62-520, 62-522, 62-550, and 62-701, Florida Administrative Code (F.A.C.), all applicable requirements of Department rules and Conditions of Certification PA 87-23B [COC].

2. **Permit Application Documentation [Rule 62-701.320(5) (b), F.A.C.]**. This post certification submittal approval includes **construction and operation** of the Cell A-4 Class I ash monofill landfill and related systems (including bottom liner system, leachate collection and detection systems), at the Pasco County Resource Recovery Facility in accordance with Department rules, and is based on the reports, plans and other information prepared by CDM (unless otherwise specified) as follows:
 - a. **Engineering Report for the Resource Recovery Landfill Cell A-4 Construction Submittal** (two collated 3-ring binders and plan set), dated May 2006 (received May 15, 2006), as revised, replaced or amended (replacement pages inserted into original) dated and received July 28, 2006, dated and received July 28, 2008, dated December 9, 2008 (received December 10, 2008) dated January 13, 2009 (received January 14, 2009), dated January 16, 2009 (received via e-mail January 19, 2009), dated and received via e-mail January 26, 2009, dated February 11, 2009 (received via e-mail February 12, 2009), and dated June 5, 2009 (received June 8, 2009). This information includes, but is not limited to:
 - 1) Engineering Report, [Eng. Report];
 - 2) Appendix K - *Technical Specifications*, [Specs.];
 - 3) Appendix H - *CQA Manual*, [CQAM];
 - 4) Appendix I - *Water Quality Monitoring Plan*;
 - 5) Attachment 17 - *Operation Plan*, dated December 2008 [Op. Plan]; and
 - 6) Plan Set titled, West Pasco Class I Landfill Cell A-4 Construction (28 Sheets), dated November 2008 (received December 10, 2008) including Sheets CD-3 and CD-4, received January 14, 2009 (inserted into December 10, 2008 plan set)

3. **Post Certification Submittal Approval Modifications [Rule 62-701.320(1), F.A.C.]**. Any construction or operation not previously approved as part of this post certification submittal shall require a separate post certification submittal unless the Department determines a site certification modification to be more appropriate. Any significant changes to the construction or operation at the facility shall require approval of a post certification submittal.

4. **Regulations**. Chapter 62-701, F.A.C., effective May 27, 2001, is incorporated into this post certification submittal approval by reference. In the event that the regulations governing this permitted operation are revised, the Department shall notify the licensee, and the licensee shall request modification of those conditions which are affected by the revision of regulations to incorporate those revisions.

5. **Prohibitions [COC XIV.D.1.a.]**. The prohibitions of Rule 62-701.300, F.A.C., shall not be violated by the activities at this facility.
- a. In the event that limestone is encountered during excavation or construction activities, excavation/construction activities in the immediate area shall cease, the exposed limestone area shall be over excavated and backfilled in accordance with Condition #B.8.d, and the Department shall be notified **within 24 hours of discovery**. Written notification shall be submitted **within 7 days of discovery**. The written notification shall include the location, elevation, and extent of limestone noted on a plan sheet, a description of the materials encountered, and documentation of completion of specified over excavation and backfilling activities. Excavation or construction activities shall not resume in the affected area until the specified over excavation and backfilling activities have been completed.
- b. In the event that surface depressions or other occurrences which may be indicative of sinkhole activity or subsurface instability, are discovered on-site, or within 500 feet of the site, the Department shall be notified in accordance with Condition #C.2.b. The written notification shall include a description of the incident, the location and size of the affected area shown on an appropriate plan sheet, and a corrective action plan which describes the actions necessary to prevent the unimpeded discharge of waste or leachate into ground or surface water.

PART B - Construction Requirements

1. **Construction [Rule 62-701.320(1), F.A.C.]**. All significant construction activities shall be approved by the Department prior to initiating work, unless specifically authorized otherwise.
- a. This post certification submittal approval authorizes the construction of the Cell A-4 bottom liner system, including leachate collection and detection systems and related appurtenances.
2. **Certification of Construction Completion**. **Within sixty (60) days** after Cell A-4 construction has been completed and prior to the acceptance of waste, the owner or operator shall submit a Certification of Construction Completion in accordance with Condition of Certification # XIII.D.6.
3. **Record Drawings/Documents [COC XIII.D.6.]**.
- a. The Record Drawings/Documents shall include, but not be limited to, the following information:
- 1) Location of all anchor trenches and limits of liner;
 - 2) Daily construction reports;
 - 3) As-built drawings showing the geomembrane panel installation layout, locations of fabricated and field seams, type of seams, destructive sampling locations, locations of all repairs, panel designations, geomembrane booting and connection details;
 - 4) As-built elevations for the leachate collection pipes (including elevations in the trenches and inverts at the manholes and leachate pump station);
 - 5) All geomembrane destructive test results;
 - 6) A compact disc or other electronic media that includes all photographs documenting all stages of the construction project.
 - 7) The information listed in CQAP Section 4.3.
 - 8) Documentation that demonstrates that all leachate collection system piping has been video inspected and pressure cleaned. This documentation shall also detail all deficiencies discovered and corrective actions taken; and
 - 9) Construction details for groundwater monitoring wells and initial sampling as required by Condition #E.5.c.

10) Documentation of any geotechnical improvements to the subgrade during cell preparation.

4. **Pre-Construction Submittals [COC XIII.D.2.].**

a. **At least thirty (30) days prior** to initiation of any construction activity, unless otherwise specified, the licensee shall submit the following information to the Department:

1) A **complete set** of Plans, Specifications and CQA Plan to be used for construction which includes all changes (i.e., all additions, deletions, revisions to the plans previously approved by the Department).

2) The role and name of the specific company/organization for each of the parties in the Project team [CQAM Table 1.1];

b. **Rule 62-701.400(3)(d)7., F.A.C. At least 30 days prior to initiation** of installation of the liner, the results of the interface friction testing using actual construction materials shall be submitted to the Department. The results must demonstrate that the all interfaces each exhibit a minimum safety factor of 1.5 against sliding. Placement of the geomembrane shall not proceed prior to the Engineer's receipt of the results of the interface friction testing which meet the requirements of this condition. The minimum specified interface friction angle is 14.0 degrees with no cohesion for all interfaces [Spec. 02775-1.03.A.3].

c. **At least ten (10) days prior to** initiation of the following activities, the licensee shall submit the following information:

1) Initiation of any dewatering activity - Submit a dewatering plan for the removal and disposal of groundwater encountered and required to be removed as part of construction [Spec. 02140-1.01.B.];

2) Initiation of placing liner protective layer sand - Submit permeability test results for the liner protective layer sand [Spec. 02230-1.03.A].

5. **Construction Schedule and Progress Report [COC #XIII.C.1.].**

a. **No later than one (1) week after** the pre-construction conference, the owner or operator shall submit a construction schedule which includes estimated dates for each portion of the construction to the Department. The Engineer of Record or another qualified professional engineer shall make periodic inspections during construction to ensure that design integrity is maintained.

b. An updated construction schedule and progress report shall be submitted to the Department **quarterly, by the 15th of following month**. The quarterly progress report should be submitted in an appropriately labeled three-ring binder of sufficient size to store the monthly progress reports for the entire project, or may be submitted electronically. The quarterly progress reports shall include, but not be limited to:

1) A narrative explaining the status (and any delays) of major stages of the construction (i.e., liner, piping, etc.),

2) Progress meeting minutes [CQAM, Sec. 2.1.3];

3) Color copies of photographs which are representative of the typical construction activities for the reporting period and details of major stages of construction (e.g., geotechnical improvements to the subgrade, leachate trench, Cell A-2 & A-3

liner tie-ins, manhole and lift station construction, etc.). [Spec. 01390-1.02] Photographs shall be date stamped.

6. **Construction Tolerances [Rule 62-701.400(1), F.A.C.] .**
- a. For the liner subgrade, the construction tolerances shall be ± 0.10 ft. (vertical) for elevation and $\pm 0.10\%$ for slope [see Spec. 01050-1.06.C.1.a].
 - b. As-built topographic surveys shall demonstrate that the liner and protective soil cover were constructed within the tolerance required by the Drawings and Specifications. Grid spacing shall be no greater than a 100 ft. grid [Spec. 01050-1.06.C].
 - c. All soil layers shall be constructed to the thicknesses listed in the Specifications and CQA Plan, which are minimum requirements [Rule 62-701.400(3)(f)4.d., F.A.C.].
 - d. Leachate collection pipe invert elevations shall be surveyed/recorded every 50 linear feet along the pipe and at each change in direction [see Spec. 01050-1.06.C.1.a.(2)(b)]. The construction tolerance for pipe elevations shall be ± 0.1 ft. for the leachate collection/detection lines.
7. **Construction Quality Assurance [COC #XIII.C.1.] .**
- a. CQA Plan and Observation.
 - 1) The Engineer's Field Representative (EFR) and CQA support personnel shall evaluate contractor activities; review and evaluate submittals, and MQC and CQC results; perform and evaluate CQA tests; and notify the Engineer of defective or non-conforming work [CQAM, Sec. 1.2.4.2].
 - 2) The CQA Laboratories shall be independent of the Contractors, Installers, and Manufacturers. [CQAM, Sec. 1.2.8] The CQA Laboratories are responsible for conducting interface friction angle testing, internal shear testing (GCL), GCL hydraulic conductivity testing, and liner seams peel and shear testing.
 - b. Spills.
 - 1) Leachate shall not be deposited, injected, dumped, spilled, leaked, or discharged in any manner to the land, surface water or groundwater at any time during the construction activities.
 - 2) The Department shall be notified in accordance with Condition #C.2.b. of all fuel, oils, greases, solvents, lubricants, etc., that are spilled or leaked in areas that may discharge outside the liner system. The licensee shall ensure that all personnel working on the landfill site (including contractors and subcontractors) shall utilize all appropriate measures to prevent spills and leaks of fuel, solvents, lubricants, oils, etc.
 - c. Night work. Construction activities such as geomembrane seaming, QA/QC testing of the geosynthetics or soil materials, surveying, etc. shall not be carried out during non-daylight hours without prior Department approval. If these activities will be conducted during nighttime hours, the Department shall be notified **at least 1 week** in advance for schedule makeup, and 1 day for weather emergencies, to allow for Department observation. This notification shall include a description of the methods to be used to provide adequate illumination to ensure that the quality of the construction is not compromised [Rule 62-701.400(1), F.A.C.].

- d. Dewatering.
- 1) All excavations shall be maintained free from standing water. Except for the stormwater management system construction, no construction, including pipe laying, shall be allowed in water. In the event that it appears that the excavation is being impacted by groundwater, the contractor shall take the corrective actions necessary to demonstrate that the groundwater is sufficiently below the bottom of the excavation [Spec. 02140-3.01].
 - 2) Dewatering shall be conducted in accordance with the dewatering plan submitted in accordance with Condition B.4.c(1).
- e. Sandbags or other temporary anchoring devices shall be removed prior to subsequent placement of materials over the geosynthetics [CQAM, Sec. 5.1.2.3].
- f. Monitoring wells shall be protected at all times during construction. In the event that a monitoring well is damaged, the Department shall be notified in accordance with Condition C.6.b.

8. **Soil Materials.**

- a. Compaction.
- 1) The subgrade (material under geocomposite clay layer) shall be compacted to a minimum of 95% Standard Proctor maximum dry density [Spec. 02200-3.09.A; CQAM, Sec. 5.1.2.1.d]. The backfill material shall meet the requirements of Specification Section 02200-Part 2.01.
 - 2) Compaction equipment used for proofing-rolling of the subgrade shall be a vibratory drum roller capable of exerting a minimum 50,000 lbs. of dynamic force. A minimum of 5 passes, each at walking speed, shall be required in two perpendicular directions [CQAM, Sec. 5.6.1].
 - 3) Compaction equipment used for subgrade backfill installation or installation of soil layer above the geocomposite clay layer on the excavated side slopes shall be a pneumatic or vibratory roller capable of obtaining the densities specified [Spec. 02200-3.09.B.].
- b. Surfaces adjacent to geosynthetics shall be smooth and free of rocks/stones, sticks, roots, sharp objects, or debris [Spec. 02776-3.01.B].
- c. During the preparation of the subgrade, the entire site shall be inspected under the direction of a geotechnical engineer and shall be evaluated for soils that may pump, rut or settle, or that would indicate soft or loose conditions. The licensee shall notify the Department **within 24 hours of discovery** of any such conditions and shall ensure that the foundation is geotechnically improved in these areas [Rule 62-701.400(1), F.A.C.].
- d. In the event that limestone is encountered during excavation or construction activities, the exposed limestone area shall be over excavated, backfilled with a minimum of 24 inches of soil having a maximum hydraulic conductivity of 1×10^{-5} cm/sec, and the subgrade prepared in accordance with Specification Section 02200-Part 3.09.A.
- e. The protective cover soil shall have a minimum hydraulic conductivity of 1×10^{-3} cm/sec [Spec. 02230-2.01.A.5] and shall be a minimum of 24-inches thick. The frequency of permeability tests to be performed

on the drainage sand material to demonstrate the required permeability shall be 1 per 10,000 CY of protective cover soil.

f. The leachate collection trench gravel shall be a well-graded gravel that meets the requirements of Specification Part 02230-2.01.B.

g. Soil CQA testing frequencies for the final subgrade shall be doubled for the first five acres of liner system construction. Earthwork shall be tested by the EFR for the tests and frequencies specified in CQAM Section 5.6.3. [Rule 62-701.400(1), F.A.C.].

h. Soil cover material shall be placed over the geocomposite such that the geocomposite is not damaged and no tensile stress is induced in the materials [Spec. 02230-3.01.C.].

i. Prior to placement of materials on the subgrade, an as-built topographic survey shall be provided to the Engineer to verify conformance with the Drawings and Specifications. The subgrade shall be accepted by the Liner Installer and Engineer in writing before placement of the next layer [Spec. 02275-3.01.C.].

j. During the construction of, and until the GCL is placed on the subgrade, the subgrade shall be inspected daily for signs of desiccation, excessive moisture, or other damage. In the event that the condition of the subgrade deteriorates, corrective actions shall be implemented immediately. Washouts or erosion of the subgrade shall be repaired immediately [Spec. 02275-3.01.B.]. The EFR shall observe the condition of the subgrade and note areas of inadequacy, erosion or other deterioration in the Daily Reports.

9. **Geosynthetic Materials.**

a. Conformance testing [Rule 62-701.400(3)(e)4.b., F.A.C.].

1) The EFR or designee (independent from the Contractor) shall take conformance samples of the geosynthetic materials in accordance with the test methods and frequencies referenced in Condition B.9.a.(3) below. In all cases, the test results shall meet or exceed the property values in the Specifications and CQA Manual.

2) The geosynthetic materials shall not be accepted for use on the project until the results of the CQA conformance testing that indicate that the geosynthetics meet the specifications have been received [Spec. 02274-2.05.C.; Spec. 02275-2.03.C.; Spec. 02776-2.03.C.].

3) The geosynthetic materials shall conform to the following:

- a) GCL: Spec. 02275-Table A-1A
- b) Geomembrane: Spec. 02776-Table A1
- c) Geocomposites: Spec. 02274-2.02.E -Table 1 & 02774-2.05
- d) Non-woven cushion geotextile: Spec. 02772-2.02A.1. & 02772-2.04.A.

4) Certificates of Compliance from the Manufacturer are acceptable in lieu of CQA testing for the following properties: resin certificates for raw materials for geosynthetics, water vapor transmission rates through geomembranes, Oxidation Induction Time (OIT), general chemical compatibility ratings.

b. Prior to placement of the geomembrane, the GCL layer shall be inspected and accepted by the geomembrane liner Installer and Engineer in writing [CQAM, Sec. 5.1.2.1].

c. Seaming.

- 1) Seaming processes other than fusion or extrusion welding shall be approved by the Engineer and submitted to the Department prior to implementation [Rule 62-701.400(3)(e)4.d., F.A.C.]..
- 2) Trial seam testing shall meet the requirements of Specification Section 02776-Part 3.06.A.. Seaming apparatus or personnel which have failed trial welds shall not be used for seaming until passing welds are achieved [CQAM, Sec. 5.1.2.6.a.(1)].
- 3) Geomembrane seaming activities shall only be conducted during daylight hours and within the weather requirements of the Specifications, unless otherwise specifically approved by the Department. Seaming shall only take place with the "master seamer" present [Spec. 02776-1.06.B]. No geomembrane seaming shall be performed unless the EFR or designee is on-site [CQAM, Sec. 1.2.4.2.w].
- 4) The full-time resident EFR inspector shall observe no more than two geosynthetics seaming crews at any given time [Rule 62-701.400(1), F.A.C.].
- 5) All seaming operations shall cease upon the presence of any precipitation (drizzle, sprinkle, fog, dew, etc.) [Spec. 02776-3.05.A].
- 6) On side slopes, seams shall be oriented parallel to the line of maximum slope, i.e., oriented along, not across the slope [Spec. 02776-3.04.J].
- 7) All geomembrane seams, including trial seams, shall have peel strength of 95 ppi for fusion welds and 78 ppi for extrusion welds, and must exhibit an FTB failure. Shear strength shall be 120 ppi for fusion and extrusion welds [Spec. 02776-Table A2].

d. Destructive testing.

- 1) Destructive tests of the geomembrane seams shall be taken at random locations, at a minimum frequency of one test location per 500 feet of seam. This frequency shall not be based on an average throughout the entire facility [CQAM Sec. 5.1.2.6.c.(1); Spec. 02776-3.07.A].
- 2) In all cases destructive tests conducted on the geomembrane field seams shall demonstrate that the failure is outside of the seam area. Five specimens shall be tested for shear and peel. [CQAM Sec. 5.1.2.6.e.3.; Spec. 02776-3.07.E]. All samples shall meet the minimum strength requirements for each test method (peel and shear) listed in Geomembrane Specifications (02776-Table A2). The strength results shall not be averaged and both sides of fusion welds shall be tested.
- 3) Work shall not proceed with any materials which will cover locations which have been destructively tested or repaired until laboratory test results which demonstrate passing values are provided to the on-site CQA manager/inspector [Rule 62-701.400(1), F.A.C.].
- 4) All areas that fail nondestructive testing shall be marked by the on-site CQA inspector [CQAM, Sec. 1.2.4.2.w].

- e. Geocomposite Drainage Layer.
- 1) Transmissivity.
 - a) The transmissivity of the geocomposite shall be in accordance with the minimum transmissivities specified by and based upon the gradients and loads specified in Specification Section 02774-2.02.E, Table 1. CQA conformance transmissivity testing shall be conducted on the actual materials that will be used in the project.
 - 2) The geocomposite drainage net (CDN) material and geotextile shall be handled (stored, placed, etc.) in a manner which prevents the infiltration of dirt and protects the CDN and geotextile from abrasion, punctures and excessive moisture. Geocomposite that is clogged by dirt shall be cleaned prior to placement [Spec. 02274-3.02.A].
- f. Interface friction angles. The minimum interface friction angle (peak) for all interfaces of the landfill liner system shall be **14.0 degrees with no cohesion** [Spec. 02775-1.03.A.3.]. Deviation from this criteria shall require a post certification submittal approval modification and shall demonstrate that adequate slope stability will be achieved.
- g. Wrinkles. The construction methods used shall minimize wrinkles in the geomembrane and geocomposites. Excessive wrinkles are wrinkles that fold over when stepped on or are at least 12 inches high. Excessive wrinkles shall be removed, and the areas repaired. Areas where wrinkles are removed shall be repaired and re-tested in accordance with the Specifications and CQA Manual [CQAM Sec. 5.1.2.8; Spec. 02776-3.07.I].
- h. The EFR and support personnel shall inspect the geomembrane for imperfections, faulty work and suspect areas [CQAM, Sec 1.2.4.2].
- i. Geocomposite Clay Layer.
- 1) The GCL shall have a saturated hydraulic conductivity of no greater than 5×10^{-9} cm/sec [Spec. 02275-Table A-1A].
 - 2) GCL that has become prematurely hydrated or has become hydrated with no confining pressure shall not be used on this project [Spec. 02275-3.03.B.16].
 - 3) Prior to placement of the GCL on the subgrade soil, the soil subgrade shall be accepted by the GCL liner Installer and Engineer in writing [CQAM, Sec. 5.1.2.1.i].
- j. No geomembrane shall be placed in an area that has become softened by precipitation or desiccated and cracked due to lack of moisture. No standing water or excessive moisture shall be allowed on the area to be lined before the geomembrane installation [CQAM Sec. 5.1.2.1.e].
10. **Leachate collection and removal system.**
- a. Perforated HDPE piping shall be installed such that the perforations face the bottom of the trench [Spec. 02623-3.01.D].
 - b. All non-pressurized (perforated and non-perforated) HDPE piping shall be jet cleaned and video inspected prior to final acceptance [Spec. 02623-3.03.A]. The cleaning report and videotapes shall be provided as part of the Record Documents required in Condition #B.3.

c. All gravity and pressurized HDPE piping outside the disposal footprint shall be pressure tested in accordance with Specification Section 01625-3.02.B [Spec. 02623-3.03.B].

PART C - Operation Requirements

1. Facility Operation Requirements.

a. The licensee shall operate this facility in accordance with Rule 62-701.500, F.A.C., the PA87-23A - Conditions of Certification, the Landfill Operations Plan [ref. Cond. #A.2.a(4)], the Construction Drawings [ref. Cond. #A.2.a(6), Sheets C-6 through C-15A], and any other applicable requirements.

1) This post certification submittal approval only authorizes the filling of Cell A-4 to elevation +122 ft NGVD as depicted on Sheets C-15 and C-15A of the Construction Drawings [ref. Cond. #A.2.a(6)].

b. **In no event** shall waste be accepted for disposal in the **Cell A-4** portion of the Pasco County Resource Recovery Facility until the following requirements have been completed and submitted by the Licensee, and approved by the Department:

- 1) Certification of Construction Completion requirements of Conditions #B.2. and #B.3.,
- 2) Financial assurance requirements of Condition #D.2.a.,
- 3) Construction of groundwater monitoring wells as required by Conditions #E.5.,
- 4) Completion of initial sampling of new monitoring wells as required by Condition #E.5.

2. Facility Maintenance and Repair [COC #XIV.D.1.j.].

a. The site shall be properly maintained including maintenance of access roads, equipment, stormwater and leachate management systems (including pumps and piping), cover systems and berms, surface water management system, and groundwater monitoring system. Erosion and ponded water within landfill footprint shall be minimized.

b. In the event of damage to any portion of the landfill site facilities, unauthorized leachate discharges, failure of any portion of the landfill systems (including damaged or dry groundwater monitoring wells), fire, explosion, the development of sinkhole(s) or other subsurface instability at the site, the licensee shall **immediately (within 72 hours)** notify the Department explaining such occurrence and remedial measures to be taken, method to prevent recurrence, and time needed for repairs. **Written, detailed notification shall be submitted to the Department within seven (7) days following the occurrence.** Routine maintenance does not require notification but shall be noted on daily reports.

c. In the event that any portion of the groundwater monitoring system is damaged or unable to be sampled, corrective actions shall be completed **within sixty (60) days** of the written notification specified in Condition #C.2.b., unless otherwise approved by the Department. Corrective actions which include relocation or installation of new groundwater monitoring wells shall be in accordance with Condition #E.5.a., or as otherwise approved by the Department.

d. In the event that the leachate management systems are damaged or are not operating effectively, corrective actions shall be initiated

within thirty (30) days of the written notification specified in Condition #C.2.b., unless otherwise approved by the Department.

3. **Stormwater Management [Rule 62-701.400(9), F.A.C.]**. The site shall have a surface water management system designed, constructed, operated, and maintained to prevent surface water from running on to waste filled areas, and a stormwater runoff control system designed, constructed, operated, and maintained to collect and control stormwater to meet the requirements of Chapter 62-330, F.A.C., and the requirements for management and storage of surface water in accordance with Rule 62-701.500(10), F.A.C., to meet applicable standards of Chapters 62-3, 62-302, and 62-330, F.A.C.

4. **Leachate Management [Rule 62-701.500(8), F.A.C.]**.

a. Leachate shall be managed in accordance with the requirements of the PA87-23A - Conditions of Certification, the Landfill Operations Plan, and other applicable Department rules.

b. Leachate Collection/Removal System (LCRS) Inspections/Maintenance. **Every two years after certification of construction of Cell A-4 is approved**, an inspection (videotape or other appropriate assessment as approved by the Department) of the leachate collection system (LCS) for Cell A-4 shall be conducted. **Within 60 days of the inspection, a final report** for this inspection including an evaluation of the effectiveness of the system, the location (indicated on a Site Plan drawn to scale) and cause of all obstructions encountered, proposed corrective actions and schedule for implementation of corrective actions as appropriate, (with a copy of the inspection report and a copy of the inspection videotape) shall be submitted to the Department. The *final report* shall be signed and sealed by a professional engineer [Rule 62-701.400(1), F.A.C.; Rule 62-701.500(8)(h), F.A.C.].

5. **Method and Sequence of Filling [Rule 62-701.500(2)(f), F.A.C.]**.

a. The method and sequence of filling shall be in accordance with the Construction Drawings [ref. Cond. #A.2.a(6), Sheets C-6 through C-15A] and as described in Section 3.6 of the Landfill Operations Plan [ref. Cond. #A.2.a(4)], or as otherwise approved in writing by the Department.

b. Initial Waste Placement [Rule 62-701.400(7)(b), F.A.C.].

1) No disposal vehicles shall be operated directly on the liner protective layer. During the initial placement of waste in each cell, soil platforms or similar protective measures shall be placed adjacent to the working face to keep vehicles off the liner protective cover [ref. Op. Plan, Sec. 8.2].

2) The first lift of waste shall be a minimum of five (5) feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the liner or leachate collection system and shall be conducted in accordance with the procedures in Section 8.2 of the Landfill Operations Plan. At least 7 days prior to the initiation of waste placement in each cell, the Department shall be notified in order to allow Department observation of the select waste type and placement.

c. The owner or operator shall conduct a topographic survey of, and shall estimate the remaining disposal capacity and site life of each disposal area as required by Rule 62-701.500(13)(c), F.A.C. [ref. Op. Plan, Sec. 13.3]. **Annually, no later than April 15th each year**, a copy of this survey, supporting capacity calculations, signed and sealed by a registered professional engineer and/or licensed professional land

surveyor as appropriate shall be submitted to the Department. The capacity estimate shall include updated design lifetime calculations.

PART D - Recordkeeping

1. **Report submittals.** Unless otherwise specified, all submittals, notifications, requests for post certification submittal approval modification, reports for compliance with this post certification submittal approval, etc. shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, Fl. 33637-0926.
2. **Financial Assurance.** The licensee shall provide adequate financial assurance for this facility and related appurtenances in accordance with Rule 62-701.630, F.A.C and Condition of Certification #XIV.D.1.g.
 - a. Proof of the initial funding of the financial assurance mechanism shall be submitted **no later than 60 days prior** to receipt of waste in the Cell A-4 portion of the landfill [Rule 62-701.630(2)(b), F.A.C.].

Part E - Water Quality and Leachate Monitoring Requirements

1. **Water Quality Monitoring Quality Assurance.**
 - a. [COC #XIV.C.3.a.(1)]

All field work done in connection with the facility's Water Quality Monitoring Plan regarding the collection of ground water, surface water and leachate samples shall be conducted in accordance with the Standard Operating Procedures (SOPs) described in DEP-SOP-001/01 dated March 31, 2008 [or as replaced by successor SOPs], as referenced in Rule 62-160.210(1), F.A.C. All laboratory analyses done in connection with the facility's Water Quality Monitoring Plan shall be conducted by firms that hold certificates from the Department of Health Environmental Laboratory Certification Program under Chapter 64E-1, F.A.C., as referenced in Rule 62-160.300(1), F.A.C. The SOPs utilized and the laboratory's list of certified test methods and analytes must specifically address the types of sampling and analytical work that are required at this facility and shall be implemented by all persons performing sample collection or analysis related to this facility. Alternate field procedures and laboratory methods may be used if approved according to the requirements of Rules 62-160.220 and 62-160.330, F.A.C., respectively.
 - b. The field testing, sample collection and preservation, and laboratory testing requirements are presented in **COC #XIV.C.3.a.(2)**.
2. **Zone of Discharge.**
 - a. The zone of discharge for this site is defined in **COC #XIV.C.3.b.(1)**.
 - b. [COC #XIV.C.3.b.(2)]

The Licensee shall ensure that the water quality standards for Class G-II ground water will not be exceeded at the boundary of the zone of discharge according to Rule 62-520.420(1), F.A.C., and that the ground water minimum criteria referenced in Rule 62-520.400(1), F.A.C., will not be exceeded outside the footprint of the disposal areas.
3. **Ground Water Monitor Well Locations.** [COC #XIV.C.3.e.]

The ground water monitoring system approved for the combined solid waste disposal footprint [solid waste disposal in Cells SW-1 and SW-2; ash disposal in Cells A-1, A-2, A-3 and A-4] is designed and shall be constructed in accordance with the document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill, Revision 1" prepared by Camp Dresser &

Pasco County Resource Recovery Facility

Site Certification No. PA87-23
Cell A-4 Construction and Operation

McKee, Inc., dated December 2008. The ground water monitor wells are located on Figure 1, "Monitor Wells at the West Pasco County Landfill," prepared by Camp Dresser & McKee, Inc., received December 10, 2008 (attached), as follow:

<u>Well #</u>	<u>WACS Testsite #</u>	<u>Scheduling Notes</u>	<u>Aquifer</u>	<u>Designation</u>	<u>Location</u>
2MW-1	2381	A, X	Surficial	Background	See Figure 1
4MW-1	2386	A, X	Floridan	Background	↓
2MW-2	2382	A, X	Surficial	Background	↓
4MW-2	2387	A, X	Floridan	Background	↓
2MW-6	2385	A, X	Surficial	Background	↓
4MW-6	2390	A, X	Floridan	Background	↓
2MW-15DA	19766	A, X	Floridan	Background	↓
2MW-27S	23449	B, Y	Surficial	Background	↓
2MW-27D	23450	B, Y	Floridan	Background	↓
4MW-27	23451	B, Y	Floridan	Background	↓
4MW-27D	23452	B, Y	Floridan	Background	↓
4MW-11D	2510	A, X	Floridan	Detection	See Figure 1
4MW-12D	2511	A, X	Floridan	Detection	↓
2MW-13D	2515	A, X	Surficial	Detection	↓
4MW-13D	19214	A, X	Floridan	Detection	↓
4MW-14D	2512	A, X	Floridan	Detection	↓
2MW-17S	19758	A, X	Surficial	Detection	↓
2MW-18D	19759	A, X	Floridan	Detection	↓
2MW-19D	19764	A, X	Floridan	Detection	↓
2MW-24S	23443	B, Y	Surficial	Detection	↓
2MW-24D	23444	B, Y	Floridan	Detection	↓
2MW-25S	23445	B, Y	Surficial	Detection	↓
2MW-25D	23446	B, Y	Floridan	Detection	↓
2MW-26S	23447	B, Y	Surficial	Detection	↓
2MW-26D	23448	B, Y	Floridan	Detection	↓
2MW-4	2383	A, X	Surficial	Compliance	See Figure 1
4MW-4	2388	A, X	Floridan	Compliance	↓
2MW-5	2384	A, X	Surficial	Compliance	↓
4MW-5	2389	A, X	Floridan	Compliance	↓
2MW-20D	19765	Z	Floridan	Abandoned	See Figure 1
MW-11A	NA	Z	Floridan	Abandoned	In Cell A4
MW-11B	NA	Z	Floridan	Abandoned	In Cell A4
DMW-5	NA	Z	Floridan	Abandoned	In Cell A4

Proposed background monitor wells shall be constructed in accordance with the details provided in Section 2.1.4 ("Proposed Additional Background Monitor Wells") and proposed detection monitor wells shall be constructed in accordance with the details provided in Section 2.1.3 ("Proposed Additional Detection Monitor Wells") in the document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill, Revision 1" prepared by Camp Dresser & McKee, Inc., dated December 2008.

A = existing monitor well

B = proposed monitor well to be installed at least 30 days prior to initiation of debris disposal in Cell A4

X = construction details and results of initial sampling event previously provided

Y = documentation of well construction shall be submitted within 30 days of installation in accordance with Conditions #E.5.b., and #E.5.d.; an initial sampling event shall be conducted within 7 days of well installation and development for the parameters listed in Condition #E.4.b.

Z = existing monitor well to be abandoned prior to initiation of construction activities for Cell A4; documentation of monitor well abandonment shall be submitted in accordance with Condition #E.6.

All monitor wells are to be clearly labeled and easily visible at all times. All monitor wells shall be locked to minimize unauthorized access.

4. **Ground Water Sampling. [COC #XIV.C.3.g.]**

The locations, parameters, and frequencies specified herein represent the minimum requirements for ground water monitoring. Additional samples, wells, and parameters may be required based upon subsequent analysis. Method Detection Limits must be reported at or below the Maximum Contaminant Levels established for the individual parameters to demonstrate compliance with the Class G-II ground water standards referenced in Chapter 62-520.420(1), F.A.C., and with the ground water minimum criteria referenced in Chapter 62-520.400(1), F.A.C. Compliance with ground water standards and minimum criteria shall be based on the analysis of unfiltered samples.

a. Ground water levels shall be measured at all active monitor wells listed in Condition #E.3., during all sampling events described in Conditions #E.4.b., and #E.4.c., to a precision of 0.01 foot. Ground water surface elevation contour maps of the surficial aquifer and Floridan aquifer shall be prepared for each set of water level measurements including the ground water surface elevation (using a consistent, nationally recognized datum) calculated for each monitor well. The contour maps shall be submitted to the Department in the reports for the routine ground water sampling events (Condition #E.10.) and the monitoring plan evaluation reports (Condition #E.11.).

b. An "initial sampling event" shall be conducted **within 7 days of installation and development** of all new and replacement monitor wells for analysis of the following parameters:

<u>Field Parameters</u>	<u>Laboratory Parameters</u>	
Static water levels before purging	Total ammonia - N	Iron
Specific conductivity	Chlorides	Mercury
pH	Nitrate	Sodium
Dissolved oxygen	Total dissolved solids (TDS)	
Temperature	<u>Those parameters listed in 40 CFR Part 258, Appx II</u>	
Turbidity		
Colors & sheen (by obs.)		

c. All background, detection and compliance wells listed in Condition #E.3., shall be sampled **semi-annually** (during the periods from January 1 to June 30, and from July 1 to December 31) for analysis of the following parameters:

<u>Field Parameters</u>	<u>Laboratory Parameters</u>	
Static water levels before purging	Total ammonia - N	Iron
Specific conductivity	Chlorides	Mercury
pH	Nitrate	Sodium
Dissolved oxygen	Total dissolved solids (TDS)	
Temperature	<u>Those parameters listed in 40 CFR Part 258, Appx I</u>	
Turbidity		
Colors & sheen (by obs.)		

Following the completion of the "initial sampling event" at all proposed wells in accordance with the schedule presented in Condition #E.3., the new background and detection wells shall be included in subsequent routine ground water sampling events.

5. **Ground Water Monitor Well Construction.** The following information shall be submitted **within 90 days of installation** of all new or replacement wells or piezometers, or as stated below:

a. [COC #XIV.C.3.f.]

Prior to construction of all new or replacement wells (excluding the proposed background and detection wells listed in Condition #E.3.) or piezometers, the Licensee shall request and receive the Department's written approval of revisions to the document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill, Revision 1" prepared by Camp Dresser & McKee, Inc., dated December 2008.

b. [COC #XIV.C.3.f.(1)]

Construction details (record drawings) for all new or replacement wells and piezometers shall be provided to the Department's Southwest District Office on Department Form No. 62-520.900(3), Monitor Well Completion Form (**attached**) [or as replaced by Department Form #62-701.900(30)].

c. [COC #XIV.C.3.f.(2)]

Within one week of well completion and development, each new or replacement monitor well shall be sampled for the parameters listed in Condition #E.4.b., to comply with the requirements of Rules 62-701.510(8)(a) and (8)(d), F.A.C.

d. The requirements for the preparation of a surveyed drawing showing the locations and elevations of all monitor wells are presented in **COC #XIV.C.3.f.(3)**.

6. **Well Abandonment.** [COC #XIV.C.3.h.]

All monitor wells and piezometers not a part of the approved Water Quality Monitoring Plan and not listed in Condition #E.3., are to be plugged and abandoned in accordance with Rule 62-532.440, F.A.C., and the Southwest Florida Water Management District (SWFWMD). Documentation of abandonment shall include a map showing well/piezometer locations and SWFWMD abandonment records. The operator shall submit a written report to the Department providing verification of the well/piezometer abandonment within 30 days of abandonment. A written request for exemption to the abandonment of a well must be submitted to the Department's Solid Waste Section for approval.

7. **Verification/Evaluation Monitoring.** [COC #XIV.C.2. and #XIV.C.3.i.]

If at any time monitoring parameters are detected at concentrations significantly above background water quality, or exceed the Department's ground water quality standards or minimum criteria in any detection well, the operator has 30 days from receipt of the sampling results to resample the monitor well(s) to verify the original analysis. Should the operator choose not to resample, the Department will consider the water quality analysis to be representative of current ground water conditions at the facility. If the data is confirmed, or if the Licensee chooses not to resample, the Licensee shall notify the Department within 14 days of this finding. Upon notification by the Department, the Licensee shall initiate evaluation monitoring as described in Rule 62-701.510(7)(a), F.A.C. If monitoring parameters are detected at concentrations significantly above background water quality, and exceed the Department's ground water quality standards or minimum criteria in any compliance well, the Licensee shall submit a preventive measures plan and initiate corrective action as described in Rule 62-701.510(7)(b), F.A.C.

8. **Surface Water Sampling.** [COC #XIV.C.3.d.]

All surface water bodies that may be affected by a contaminant release at the facility shall be monitored, except bodies of water contained completely within the property boundaries of the site which do not discharge from the site to surface waters (Rule 62-701.510(4), F.A.C.). As indicated in Section 2.3 ("Surface Water Monitoring System") of the document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill, Revision 1" prepared by Camp Dresser & McKee, Inc., dated December 2008, it is not anticipated that the existing stormwater management system will discharge from the property. However in the event that discharges from the stormwater management system leave the property, representative samples of each discharge event shall be collected for analysis of the parameters listed in Condition #E.8.b. In the event that any modifications to the stormwater management system associated with future uses of the facility result in periodic surface water discharges from the property, the Department may require the implementation of routine surface water monitoring.

a. The locations, parameters, and frequencies specified herein represent the minimum requirements for surface water monitoring. Additional samples, sampling locations, and parameters may be required based upon subsequent analysis. Method Detection Limits must be less than or equal to the criteria for each parameter established in Chapter 62-302, F.A.C., to demonstrate compliance with Class III (predominantly fresh water) surface water standards. Compliance with surface water criteria will be based on analysis of unfiltered samples.

b. Surface water sampling shall be conducted **per discharge event** in accordance with the Department's SOPs to comply with the requirements of Rules 62-701.510(4) and 62-701.510(6)(e), F.A.C. The Solid Waste Section of the Department's Southwest District office shall be notified of the occurrence of each discharge event **within 24 hours of discovery**. Surface water samples shall be analyzed for the following parameters:

<u>Field parameters</u>	<u>Laboratory parameters</u>	
Specific conductivity	Unionized ammonia	Total organic carbon (TOC)
pH	Total hardness	Total nitrogen
Dissolved oxygen	Total phosphates	Chemical oxygen demand (COD)
Turbidity	Chlorophyll A	Fecal Coliform
Temperature	Copper	Biochemical oxygen demand (BOD ₅)
Colors and sheens (by obs.)	Iron	Total dissolved solids (TDS)
Nitrate	Mercury	Total suspended solids (TSS)
	Zinc	
	Parameters listed in 40 CFR Part 258, Appendix I	

9. **Leachate Sampling.** [COC #XIV.C.3.c.]

Representative leachate samples (unfiltered) shall be collected from each of the locations described in Condition #E.9.a., for the sampling events described in Conditions #E.9.b., and #E.9.c. Leachate sampling shall be conducted in accordance with the Department's SOPs to comply with the requirements of Rules 62-701.510(5) and 62-701.510(6)(c), F.A.C.

a. Representative leachate samples shall be collected from each of the locations described in Section 2.2 ("Leachate Monitoring System") of the document entitled "Water Quality Monitoring Plan for the West Pasco County Class I Landfill, Revision 1" prepared by Camp Dresser & McKee, Inc., dated December 2008, as follow:

<u>Leachate Landfill Cell(s)</u>	<u>Sampling Point Description</u>	<u>WACS Testsite #</u>
SW-1	Primary holding tank associated with Cell SW-1 leachate collection system	2456
SW-2	Primary holding tank associated with Cell SW-2 leachate collection system	23453
A-1/A-2/A-3	Lift station associated with Cells A-1, A-2 and A-3 leachate collection/leak detection systems	19767
A-4	Primary leachate collection system manhole associated with Cell A-4	23454

The sample collected from the lift station associated with the leachate collection systems for Cells A-1, A-2 and A-3 shall represent the combined primary and secondary leachate generated in these cells. Otherwise, individual samples shall be collected that are representative of the primary leachate generated in Cells SW-1, SW-2 and A-4, as described for the above listed sampling points.

b. Annual leachate sampling shall be conducted for analysis of the following parameters:

<u>Field Parameters</u>	<u>Laboratory Parameters</u>	
Specific conductivity	Total ammonia - N	Iron
pH	Bicarbonate	Mercury
Dissolved oxygen	Chlorides	Sodium
Colors & sheens (by obs.)	Nitrate	
	Total dissolved solids (TDS)	
	<u>Those parameters listed in 40 CFR Part 258, Appx. II</u>	

c. If the leachate analyses indicate that a contaminant listed in 40 CFR Part 261.24 exceeds the regulatory level listed therein, the Licensee shall provide notification to the Department in accordance with Condition #C.6.b. In addition, the Licensee shall initiate **monthly** leachate sampling at the locations listed in Condition #E.9.a., for analysis of the parameters listed in Condition #E.9.b. Results of the **monthly** leachate sampling shall be submitted to the Department within 30 days of receipt from the analytical laboratory. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the Licensee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

10. **Water Quality and Leachate Reporting Requirements.** [COC #XIV.C.3.j.]

The results of each ground water, surface water, and leachate sampling event conducted at the facility shall be included in Electronic Data Deliverable (EDD) reports that include:

a. Required water quality and leachate monitoring reports and all analytical results shall be submitted electronically. Water quality and leachate monitoring reports shall be submitted in Adobe pdf file format. The water quality and leachate EDD shall be provided to the Department in an electronic format consistent with requirements for importing the data into the Department's databases as summarized on the Department's web site at: <ftp://ftp.dep.state.fl.us/pub/WACS-ADaPT>. Water quality and leachate monitoring reports shall be signed and sealed by a Florida registered professional geologist or professional engineer with experience in hydrogeological investigations, and shall provide the information required by Rules 62-701.510(9)(a)1 through 62-701.510(9)(a)10, F.A.C., including:

1. Cover letter;
2. Summary of exceedances and recommendations;
3. Ground water contour maps;
4. Chain of custody forms;
5. Water levels, water elevation table;
6. Ground Water Monitoring Report Certification, using the appropriate Department form;
7. Appropriate sampling information on Form FD 9000-24 (DEP-SOP-001/01); and,
8. Laboratory and Field data and error logs, as applicable. [In addition to the Adobe pdf file format, this data and associated error logs shall be submitted in an ADaPT-compatible, comma separated text file format.]

The report of results shall be submitted to:

- Department of Environmental Protection, Southwest District Office, Solid Waste Section, 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926; and,
- Department of Environmental Protection, Solid Waste Section 2600 Blair Stone Road, MS 4565, Tallahassee, FL 32399-2400.

b. The Licensee shall submit to the Department results of analyses conducted for each sampling event conducted at the facility by the following due dates:

1. Condition #E.4.b. - results of ground water "initial sampling events" shall be submitted **within 60 days from completion of laboratory analyses;**
2. Condition #E.4.c. - results of ground water semi-annual sampling events shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th and July 15th of each year** for the periods July 1 to December 31, and January 1 to June 30, respectively;
3. Condition #E.7. - results of ground water verification events shall be submitted **within 60 days from completion of laboratory analyses;**
4. Condition #E.8.b. - results of surface water discharge sampling events shall be submitted **within 60 days from completion of laboratory analyses;**
5. Condition #E.9.b. - results of leachate annual sampling events shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th of each year; and,**
6. Condition #E.9.d. - results of monthly leachate sampling events shall be submitted **within 30 days from completion of laboratory analyses.**

11. **Monitoring Plan Evaluation. [COC #XIV.C.3.k.]**

A technical report prepared, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations shall be submitted to the Department every two years as indicated in Rule 62-701.510(9)(b), F.A.C. The report shall contain the items included in Rule 62-701.510(9)(b)1 through 8, F.A.C. The next evaluation report shall include the data collected during 2009 and 2010, and shall be submitted by March 31, 2011, with subsequent reports to be submitted at two year intervals. The reports shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, FL 33637-0926.

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
A.5.a.	Within 24 hours of discovery	Notification of sinkholes or subsurface instability
	Within 7 days of verbal notification	Written notification & corrective action plan
B.2.a.	Within 60 days of completion	Submit certification of construction completion, record drawings, etc.
B.4.a.	At least 30 days prior to construction	Submit complete plans, specification, CQA plan, or statement that no changes have occurred, and org. chart with parties/roles.
B.4.b.	At least 30 days prior to installation of the liner	Submit interface friction testing results
B.4.c.	At least 10 days prior	Submit dewatering plan, drainage sand permeability tests
B.5.a.	No later than 1 week after pre-construction meeting	Submit meeting minutes
B.5.b.	Quarterly, by the 15 th of the following month	Submit monthly progress report & schedule
B.7.c.	At least 1 week prior for schedule makeup and 1 day prior for weather emergencies	Notify of night work
B.8.c.	Within 24 hours of discovery	Notify of discovery of soils requiring geotechnical improvement
C.2.b.	Within 24 hours of discovery	Notification of: sinkholes, failure of landfill systems or equipment, etc.
	Within 7 days of verbal notification	Written notification & corrective action plan
C.2.c.	Within 60 days of notification	Corrective actions completed for dry or damaged wells
C.2.d.	Within 30 days of notification	Corrective actions completed for leachate management system
D.2.a.	No later than 60 days prior to receipt of waste	Submit proof of initial funding for Cell 3

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
E.3.	Prior to initiation of construction activities for Cell A4 At least 30 days prior to initiation of debris disposal in Cell A4	Abandon existing wells 2MW-20D, MW-11A, MW-11B, DMW-5 Install, develop and initially sample the proposed background and detection wells
E.4.b.	Within 7 days of new well installation and development	Conduct initial ground water sampling event
E.4.c.	Semi-annually	Conduct routine ground water sampling events at background, detection and compliance wells
E.5.a.	Prior to installation of new wells	Request and received Department's written approval of Monitoring Plan revision
E.5.b.	Within 90 days of installation of new wells	Provide construction details for wells
E.5.c.	Within 1 week of new well development	Conduct initial ground water sampling event
E.5.d.	Within 90 days of installation of new wells	Provide survey drawing
E.6.	Within 30 days of well abandonment	Submit documentation of abandonment
E.7	Within 14 days of discovery	Notification of: monitoring parameters significantly above background water quality or exceeding ground water standards or minimum criteria
E.8.b.	Each discharge event from the storm water management system	Conduct surface water sampling event
E.9.b.	Annually	Conduct leachate sampling event
E.9.c.	Monthly	Conduct leachate sampling event
E.10.b.	Within 60 days from completion of laboratory analyses Within 30 days from completion of laboratory analyses	Submit results of: - Ground water initial sampling event - Ground water verification sampling event - Surface water discharge sampling event
	Semiannually, by January 15th and July 15th of each year	Submit results of: - Leachate monthly sampling event
E.10.	Annually, by January 15th of each year	Submit results of: - Semi-annual leachate sampling events
E.11.	March 31, 2011 and subsequent 2 year intervals thereafter	Submit monitoring plan evaluation reports

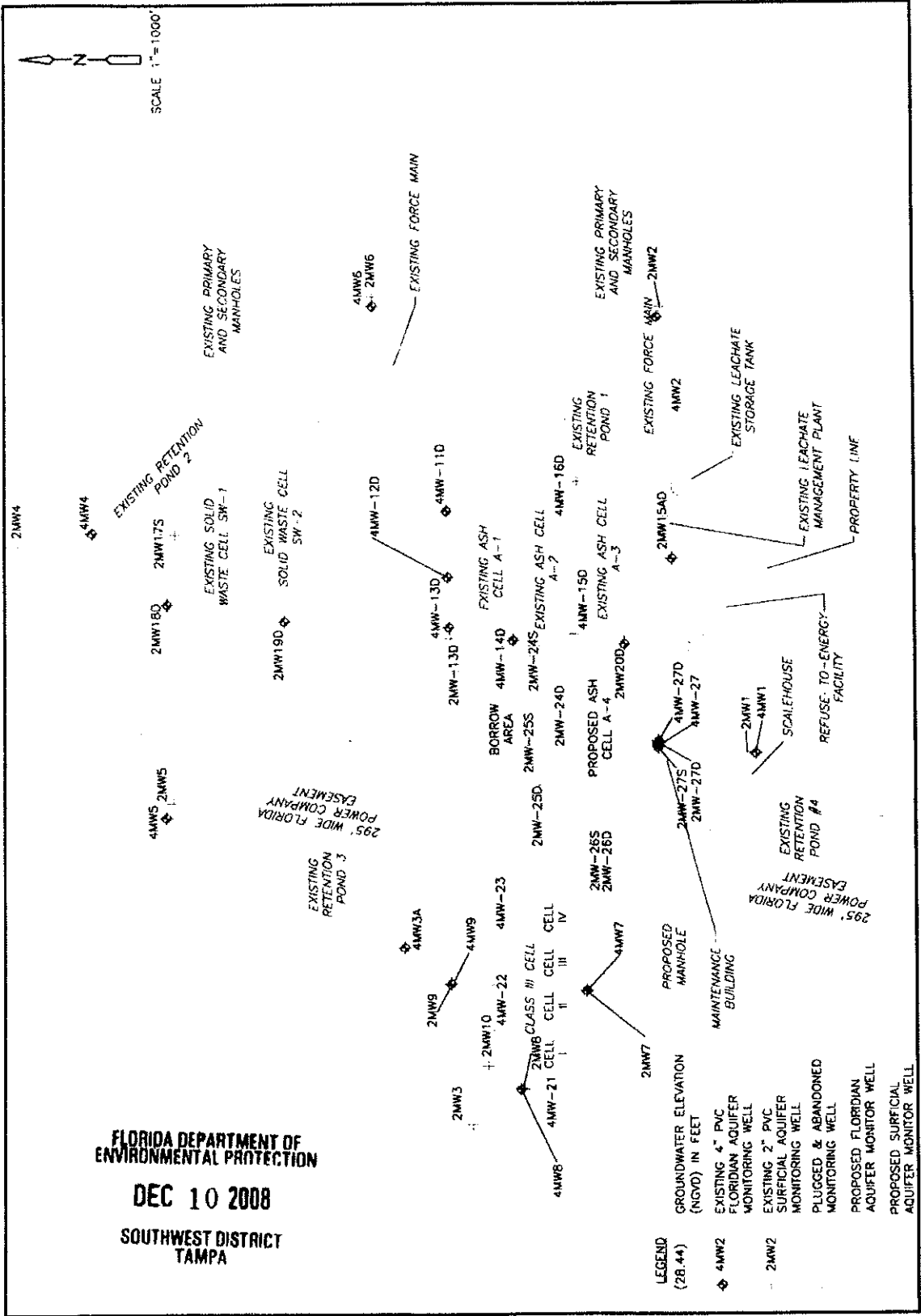


FIGURE NO. 1
MONITOR WELLS AT THE
WEST PASCO COUNTY LANDFILL



consulting • engineering • construction • operations

C:\Documents and Settings\Kopolov\My Desktop\Herr\AutoCAD drawings\West pasco class III landfill\WCM

DEP Form # 62-520.900(3)
Form Title <u>MONITORING WELL COMPLETION REPORT</u>
Effective Date <u>July 12, 2009</u>
DEP Application No. _____ (Filled in by DEP)

Florida Department of Environmental Protection

Bob Martinez Center, 2600 Blair Stone Road Tallahassee, Florida 32399-2400

MONITORING WELL COMPLETION REPORT

PART I: GENERAL INFORMATION

Well ID:	Site Name:	Well Install Date	
Facility ID	Alternate ID	FLUWID #	WMD Permit #
Well Purpose <input type="checkbox"/> Background <input type="checkbox"/> Intermediate <input type="checkbox"/> Compliance <input type="checkbox"/> Other (explain)			
Latitude (to nearest 0.1 seconds)		Longitude (to nearest 0.1 seconds)	
Latitude and Longitude collection method: <input type="checkbox"/> DGPS <input type="checkbox"/> AGPS <input type="checkbox"/> MAP <input type="checkbox"/> ZIPCODE <input type="checkbox"/> DPHO <input type="checkbox"/> UNKNOWN <input type="checkbox"/> OTHER			

PART II: WELL CONSTRUCTION DETAILS

Contractor Name			Contractor License #		
Company Name					
Construction Method: <input type="checkbox"/> Hollow Stem Auger <input type="checkbox"/> Solid Stem Auger <input type="checkbox"/> Water/Mud Rotary <input type="checkbox"/> Air Rotary <input type="checkbox"/> Cable Tool <input type="checkbox"/> Direct Push <input type="checkbox"/> Sonic <input type="checkbox"/> Other (describe)			Aquifer Monitored		
Top of Casing Elevation (NVGD or NAVD)			Ground Surface Elevation (NVGD or NAVD)		
Casing					
Material	Inside Diameter	Outside Diameter	Depth (ft.)		
			From	To	
Screen					
Material	Inside Diameter	Outside Diameter	Depth (ft.)		Slot Size
			From	To	
Annulus					
Material including additives for sealant	Size of Material	Amount (# of bags)	Depth (ft.)		Installation Method
			From	To	

