



Florida Department of Environmental Protection

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PERMITTEE

Sarasota County
Solid Waste Operations
Mr. Frank Coggins, Manager
4000 Knights Trail Road
Nokomis, Florida 34275

PERMIT/CERTIFICATION

WACS ID No: SWD/58/51614
Permit No: 130542-006-SC/01
Date of Issue:
Expiration Date:
County: Sarasota
Lat/Long: 27°12'6.57"N
82°23'34.07"W
Sec/Town/Rge: 3/38S/19E
Project: Central County Solid Waste
Disposal Complex (CCSWDC),
Class I Landfill Phase II
Construction

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 62-4, 62-302, 62-330, 62-520, 62-522, 62-550, and 62-701. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or referenced in Specific Condition #A.2., and made a part hereof and specifically described as follows:

To **construct** an expansion of a Class I landfill (approximately 55.0 acres), referred to as the Central County Solid Waste Disposal Complex (CCSWDC), Class I Landfill (Phase II), subject to the specific and general conditions attached, located at the north end of Knights Trail Road, 2 miles east of I-75, northeast of Venice, Sarasota County, Florida. The specific conditions attached are for the construction of:

1. Class I Landfill, Phase II and related appurtenances

Replaces Permit No.: N/A, new

This permit contains compliance items summarized in **Attachment 1** that shall be complied with and submitted to the Department by the dates noted. If the compliance dates are not met and submittals are not received by the Department on the dates noted, enforcement action may be initiated to assure compliance with the conditions of this permit.

General Information:

Disposal acres	Approx. 55.0 acres (Phase II only) [ref. SC#A.2.a., Part B.1.]
Lowest Bottom elevation of cell (secondary liner leak detection at north pipe penetration)	+22.0 ft. NGVD [ref. SC#A.2.a.(4), Sheet C-01]
Top elevation at final buildout	max. +121.0 feet NGVD [ref. SC#A.2.a.(4), Sheet C-05]
Sideslopes max.	3H:1V [ref. SC#A.2.a.(4), Sheet C-05]
Liner system (bottom to top) [Phase II, Cells 1-4] [see SC#A.2.a.(4), Detail 1/Sheet C-12]	60 mil textured HDPE geomembrane (under GCL at el. 22ft NGVD or below) [ref. SC#A.2.a.(4), Section A/Sheet C-15], Geosynthetic clay liner (GCL) (5×10^{-11} cm/sec), [Spec. 02776-2.2.A.4.] 60 mil textured (both sides) HDPE geomembrane, 330 mil geocomposite (non-woven GT/geonet/non-woven GT), [ref. SC#A.2.a., Attachment H.2, Misc. Calcs.] 60 mil textured (both sides) HDPE geomembrane, 330 mil geocomposite (non-woven GT/geonet/non-woven GT), 2-foot protective sand layer (1×10^{-3} cm/sec) [Spec. 02240-2.1.A.6.c.]; clean glass cullet optional in upper 12" of protective layer [Spec. 02240-2.1.A.4.]
Liner system (bottom to top) [Phase I overlay] [ref. SC#A.2.a.(4), Detail 2/Sheet C-13A]	2 foot intermediate cover over waste 60 mil textured (both sides) HDPE geomembrane, 330 mil geocomposite (non-woven GT/geonet/non-woven GT), 2-foot sand layer (1×10^{-3} cm/sec) [see SC#A.2.a., Part H.2.d.]
LCS drainage system	Drainage/protective sand $\geq 1 \times 10^{-3}$ cm/sec [ref. SC#A.2.a., Part H.2.c.; SC#A.2.a.(4), Detail 1/Sheet C-12] One trench draining from south to north in center of each cell. (toe drain in Cells 1 & 4) 8-inch SDR 11 HDPE perforated LCS piping. [ref. SC#A.2.a., Part H.3.a; SC#A.2.a.(4), Detail 3/Sheet C-15] Slope=0.34% after settlement at buildout [ref. SC#A.2.a., Attachment H.2, Misc. Calc.] LCS pipe penetrates liner and drains through metering manhole to leachate collection manhole north of Cells 1, 3, and 4, then drains via gravity pipe to leachate pump station north of Cell 2 (Slope=0.5%) (Cell 2 LCS pipe drain directly to pump station. Leachate is pumped from leachate pump station to existing on-site 1.8 Mg leachate storage tank via leachate force main [ref. SC#A.2.a.(4), Sheet C-02]
LDS drainage system	Geocomposite to center trench and 6-inch SDR 11 HDPE perforated LDS piping. [ref. SC#A.2.a., Part H.3.a; SC#A.2.a.(4), Detail 3/Sheet C-15], slope same as LCS. LDS pipe penetrates liner and drains to leachate detection manhole and then to leachate collection manhole north of Cells 1, 3, and 4, (Cell 2 LDS pipe drain from manhole to leachate pump station). [ref. SC#A.2.a.(4), Detail 1/Sheet C-16]
Action leakage rate (ALR)	100 gal/ac/day [ref. SC#A.2.a., Attachment H.2, Misc. Calc.]
Design life	10 years (Phase II Cells 1-4) [ref. SC#A.2.a., Attachment F.2A]
Interface friction angles	All interfaces=23.0° [Spec. 02775-2.3.C.; Spec. 02776-2.3.B.2.; Spec. 02777-2.3.B.4.]

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - (a) Have access to and copy any records that must be kept under conditions of the permit;
 - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

GENERAL CONDITIONS:

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, Florida Administrative Code, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- (a) Determination of Best Available Control Technology (BACT)
- (b) Determination of Prevention of Significant Deterioration (PSD)
- (c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
- (d) Compliance with New Source Performance Standards

GENERAL CONDITIONS:

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

1. **Facility Designation.** This site shall be classified as a Class I landfill 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.) and all applicable requirements of Department rules.

2. **Permit Application Documentation.** This permit is valid for construction of Phase II of the Class I landfill and related systems (including bottom liner system, leachate collection and detection systems), at the Central County Solid Waste Disposal Complex in accordance with Department rules and the reports, plans and other information prepared by HDR Engineering, Inc. (HDR) (unless otherwise specified) as follows:

a. Central County Solid Waste Disposal Complex Class I Landfill Phase II Expansion Construction/Operation Permit Application (two 3-ring binder volumes and plan sets) dated February 2007 (received February 20, 2007), as revised, replaced or amended (replacement pages inserted into original) dated and received June 22, 2007, dated September 21, 2007 (received September 27, 2007), dated January 11, 2008 (received January 16, 2008, dated March 18, 2008 (received March 19, 2008), dated April 24, 2008 (received April 25, 2008), and dated June 5, 2008 (received June 6, 2008). This information includes, but is not limited to:

- 1) *Technical Specifications*, Attachment H.1 [Specs.];
- 2) *CQA Plan*, Appendix B [CQAP];
- 3) *Water Quality Monitoring Plan*, Appendix C; and
- 4) Plan Set titled, Phase II Class I Landfill Expansion Central County Solid Waste Disposal Complex (34 Sheets) dated March 2008 (received March 19, 2008) including Sheets G-02, G-05, C-04, C-05A through C-12 and C-14 through C-21 received January 16, 2008 (inserted into March 2008 plan set);
- 5) Document entitled "Ground Water Monitoring Plan Addendum," prepared by SCS Engineers, dated June 28, 2002, with revisions dated July 24, 2002 [Section 2 - Leachate Sampling Parameters] and September 16, 2002 [Appendix A], received June 28, 2002, July 29, 2002, and September 20, 2002; including revisions to Section 4 [Ground Water Sampling and Parameters], prepared by PBS&J dated February 22, 2007, received February 26, 2007 (copy inserted into Water Quality Monitoring Plan, Appendix C referenced in Specific Condition #A.2.a.(3), above).

c) Document entitled "Ground Water Monitoring Plan Addendum," prepared by SCS Engineers, dated June 28, 2002, with revisions dated July 24, 2002 [Section 2 - Leachate Sampling Parameters] and September 16, 2002 [Appendix A], received June 28, 2002, July 29, 2002, and September 20, 2002; including revisions to Section 4 [Ground Water Sampling and Parameters], prepared by PBS&J dated February 22, 2007, received February 26, 2007.

3. **Permit Modifications.**

a. Any construction or operation not previously approved as part of this permit shall require a separate Department permit unless the Department determines a permit modification to be more appropriate. Any significant changes to the construction or operation at the facility shall require a permit modification. Permits shall be modified in accordance with the requirements of Rule 62-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

(Specific Condition #A.3., cont'd)

- b. This permit does not authorize landfill operation or closure. Construction, operation, or other activities not previously approved as part of this permit shall require a separate Department permit unless the Department determines a permit modification to be more appropriate, or unless otherwise approved in writing by the Department.
- c. This permit authorizes the construction of the bottom liner system, including leachate collection and detection systems and other related appurtenances for the Phase II portion of the landfill, only.
 - 1) In the event that the Department or permittee determines that the construction of Phase II needs to be revised based on the conclusions of the SAR referenced in paragraph 10 of Consent Order #08-1728, the permittee shall request a modification of this permit, in accordance with Specific Condition A.3.a. above, to accommodate the appropriate construction changes.
4. **Permit Renewal.** No later than April 15, 2013, the permittee shall apply for a renewal of a permit on forms and in a manner prescribed by the Department, in order to assure conformance with all applicable Department rules. Permits shall be renewed at least every five years as required by Rule 62-701.320(10)(b), F.A.C.
 - a. In the event that the regulations governing this permitted construction are revised, the permit renewal shall include modification of those specific construction conditions which are affected by the revision of regulations to incorporate those revisions in accordance with Specific Condition A.8.
5. **Professional Certification.** Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.), Florida Statutes, applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.
6. **General Conditions.** The permittee shall be aware of and operate under the "General Conditions." General Conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes.
7. **Permit Acceptance.** By acceptance of this Permit, the Permittee certifies that he/she has read and understands the obligations imposed by the Specific and General Conditions contained herein and also including date of permit expiration and renewal deadlines. It is a violation of this permit for failure to comply with all conditions and deadlines.
8. **Regulations.** Chapter 62-701, F.A.C., effective May 27, 2001, is incorporated into this permit by reference. In the event that the regulations governing this permitted operation are revised, the Department shall notify the permittee, and the permittee shall request modification of those specific conditions which are affected by the revision of regulations to incorporate those revisions.

SPECIFIC CONDITIONS: PART A -Solid Waste Facility General Requirements

9. **Prohibitions.** 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, the excavation/construction activities shall cease 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 a plan of action which ensures that groundwater will not be adversely affected by the continued construction and operation of the facility. Excavation or construction activities shall not resume in the affected area until the Department-approved plan of action has 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 Specific Condition #C.6.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.

c. Open burning of solid waste is prohibited except in accordance with Rule 62-701.300(3) and Chapter 62-256, F.A.C. All fires which require longer than one (1) hour to extinguish must be promptly reported to the Department in accordance with Specific Condition #C.6.b.

SPECIFIC CONDITIONS: PART B - Construction Requirements

1. **Construction.** All significant construction activities shall be approved by the Department prior to initiating work, unless specifically authorized otherwise.

a. This permit authorizes the phased construction of the Phase II (Cells 1&2 & Cells 3&4) bottom liner system, including leachate collection and detection systems and related appurtenances.

2. **Certification of Construction Completion.** All information required by this Specific Condition shall be signed and sealed by a registered professional engineer or land surveyor as appropriate.

a. **Within sixty (60) days** after each phase of construction has been completed and prior to the acceptance of waste, the following activities shall be completed and submitted by the permittee, and shall be approved by the Department:

1) The owner or operator shall submit a Certification of Construction Completion, Form 62-701.900(2), signed and sealed by the professional engineer in charge of construction and quality assurance to the Department for approval, and shall arrange for Department representatives to inspect the construction in the company of the permittee, the engineer, and the facility operator.

2) The owner or operator shall submit Record Drawings/Documents showing all changes (i.e. all additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations). The Record Documents shall include as-built plans details and elevations (survey) as appropriate.

3) The owner or operator shall submit a narrative indicating all changes in plans, the cause of the deviations, and certification of the Record Drawings/Documents by the Engineer to the Department.

4) The professional engineer of record shall submit to the Department a final report to verify conformance with the plans and specifications in accordance with Rules 62-701.400(7) and (8), F.A.C.

3. **Record Drawings/Documents.**

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;

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.3.a., cont'd)

- 6) A compact disc or other electronic media that includes all available photographs documenting all stages of the construction project. Each photograph shall include the camera date stamp.
- 7) The information listed in CQAP 11.2.5.
- 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 Specific Condition #E.4.b.

4. Pre-Construction Submittals.

a. **At least thirty (30) days prior** to initiation of any construction activity, unless otherwise specified, the permittee 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). All changes shall be noted using strikethrough (~~strikethrough~~) for deletions, and shading (shading) or underline (underline) for additions. All changes in the plans, specifications and CQA Plan shall be accompanied by a narrative indicating the change. Significant changes in the plans, as determined by the Department, shall require a permit modification. All changes in the plans shall be noted on the plans and the cause of the deviation and a re-certification of the alternate design by the design engineer shall be provided. These alternate designs shall be approved by the Department prior to construction. If **no** changes have been made to the construction plans, Specifications or CQA Plan, the permittee shall notify the Department in writing that no changes have been made, and re-submittal of these documents will not be required prior to construction;

- 2) The role and name of the specific company/organization for each of the parties in the Project team [CQAP Fig. 1];

b. **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 23.0 degrees with no cohesion for all interfaces [Spec. 02775-2.3.C.; Spec. 02776-2.3.B.2.; Spec. 02777-2.3.B.4.].

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.4., cont'd)

c. **No later than 2 weeks** prior to construction of the following components of the project, the Department shall be notified of the initiation of construction of these components (for each phase of construction) to allow the Department to observe the construction of:

- 1) Seaming performed using a method other than double-fusion (wedge) or extrusion welding;
- 2) Bottom liner tie-in (with Phase I) areas;
- 3) Any liner penetrations/boots; and
- 4) manholes and lift station.

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

- 1) Initiation of any excavation activity - Submit a dewatering plan for the removal and disposal of groundwater encountered and required to be removed as part of construction, as leachate [see Spec. 02220-3.2.1.];
- 2) Initiation of placing drainage sand - Submit permeability test results for the drainage sand [Spec. 02240-2.1.]; and
- 3) Initiation of placement of backfill - Submit SPLP test results for the backfill required by Specific Condition #B.10.j.

e. To allow for observation, at least 72 hours prior to initiation, the Department shall be notified of any spark testing.

5. **Pre-Construction Meeting Notification.** Department Solid Waste Permitting staff shall be notified **at least one (1) week prior** to all pre-construction meetings. Prior to initiating construction activities, the permittee shall make arrangements for the Engineer of Record to meet on site and discuss all plan changes with Department Solid Waste Permitting Staff. A copy of the minutes from the pre-construction conference shall be submitted to the Department within two (2) weeks of the conference.

6. **Construction Schedule and Progress Report.**

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 **monthly, by the 15th of each month**. The monthly 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 monthly 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) Weekly progress meeting minutes [CQAP, Sec. 11.1.2];

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.6.b., cont'd)

3) Problem or work deficiency meeting minutes [CQAP, Sec. 11.1.3];
and

4) Color copies of photographs which are representative of the typical construction activities for the reporting period, and photographs which show overall views and details of major stages of construction (e.g., leachate trench, Phase I liner tie-ins, manhole and lift station construction, etc.). Photographs shall be date stamped.

7. Construction Tolerances.

a. The construction tolerance for elevations for grading shall be ± 0.10 ft. (vertical) for general grading and $+0.10$ ft. (vertical) for the liner subgrade [Spec. 02220-3.7.C.]

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 [CQAP, Sec. 10.5].

c. All soil layers shall be constructed to the thicknesses listed in the Specifications and CQA Plan, which are minimum requirements.

d. Leachate collection pipe invert elevations shall be surveyed/recorded every 50 linear feet along the pipe and at each change in direction [CQAP, Sec. 10.5]. The construction tolerance for pipe elevations shall be ± 0.02 ft. for the leachate collection/detection lines and ± 0.1 ft. for the cleanout risers [CQAP, Sec. 10.7].

8. Construction Quality Assurance.

a. CQA Plan and Observation.

1) Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the construction requirements. The Construction Quality Assurance Plan shall be in accordance with Rules 62-701.400(7) and (8), F.A.C., the CQA Plan [ref. SC#A.2.a(2)], and the conditions of this permit.

2) The professional engineer or his designee shall be on-site at all times during construction (including liner system and leachate collection/detection systems) to monitor construction activities.

3) The CQA Engineer and Inspectors 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. [CQAP, Secs. 2.1.4 & 2.4.5]

4) The CQA Laboratories shall be independent of the Contractors, Installers, and Manufacturers. [CQAP, Sec. 2.4.3] The CQA Laboratories are responsible for conducting interface friction angle testing, internal shear testing (GCL), and liner seams peel and shear testing.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.8., cont'd)

- b. Construction Documents. A complete set of construction drawings and shop drawings, which include daily additions, deletions and revisions, shall be maintained on-site at all times for reference. Drawings which show the locations of geomembrane panel seams and repairs shall be kept on-site at all times for reference. Work shall not be concealed until required information is recorded.
- c. 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 Specific Condition #C.6.b. of all fuel, oils, greases, solvents, lubricants, etc., that are spilled or leaked in areas that may discharge outside the liner system. The permittee 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.
- d. Defective work. Unsatisfactory, defective or non-conforming work shall be reported to the Engineer and shall be corrected, or the reasons for not correcting the work shall be recorded and maintained on-site for reference and inspections. Documentation of the corrections or reasons for not correcting the work shall be submitted with the Record Documents required by Specific Conditions #B.2 and #B.3. All areas not meeting the requirements of the contract specifications and CQA Plan shall be reworked by the Contractor to meet the specifications, CQA Plan and requirements of this permit.
- e. Night work. Construction activities such as geomembrane seaming, QA/QC testing of the geosynthetics or soil materials, surveying, etc. shall not be carried out in 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 which will be used to provide adequate illumination to ensure that the quality of the construction is not compromised.
- f. 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.
 - 2) Required dewatering shall be conducted in accordance with the dewatering plan submitted in accordance with Specific Condition B.4.d.(1). The dewatering plan shall include provisions for collection and analysis of one dewatered groundwater sample in each work area to be dewatered for the parameters listed in Rule 62-701.510(8)(a), F.A.C. prior to redistributing the water to areas outside the immediate work area and provisions for the removal and proper disposal of dewatered groundwater that exceeds Department water quality standards.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.8., cont'd)

- g. Sandbags or other temporary anchoring devices shall be removed prior to subsequent placement of materials over the geosynthetics.
 - h. Where sod is used over lined areas, pegging of sod shall not damage the liner.
 - i. All portions of the bottom liner system including leachate collection/detection system components, shall be observed and documented by the CQA Monitor [CQAM].
 - j. CQA daily reports shall include weather conditions (e.g., precipitation, temperature).
 - k. Runoff from stockpiled soils shall not discharge to surface water bodies or wetlands such that Department surface water standards are violated at the point of discharge.
 - l. No solid waste shall be used for backfill.
 - m. 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 Specific Condition C.6.b.
9. **Laboratory and Field Testing Requirements.** Field and laboratory testing during the construction activities shall be conducted by a qualified testing laboratory, independent of the manufacturer or installer, representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during construction. The field technician shall work under the supervision of a professional engineer registered in the State of Florida with experience in landfill liner construction.
10. **Soil Materials.**
- a. The subgrade (material under GCL) shall be compacted to a minimum of 95% Standard Proctor maximum dry density. [Spec. 02220-3.6.E.; Spec. 02776-3.1.F.4.] The backfill material shall meet the requirements of Specification Part 02220-2.1 and CQAP Section 3.1.1.
 - b. Surfaces adjacent to geosynthetics shall be smooth and free of rocks/stones (greater than 3 inch dia.), and sticks, roots, sharp objects, or debris of any kind [Spec. 02220-2.1.A.; CQAP, Sec. 3.1.2].
 - c. The protective cover soil shall have a minimum permeability of 1×10^{-3} cm/sec [Spec. 02240-2.1.A.6.] 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 in accordance with CQAP Table 3-4. Alternately clean glass cullet, meeting the requirements of Specification Section 02240-2.1.A.6., may be utilized in the upper 12-inches of the protective layer [Spec. 02240-2.1.A.4.].
 - d. The leachate collection trench gravel shall be a well-graded gravel that meets the requirements of Specification Part 02240-2.1.A.7.
 - e. All laboratory tests required for the borrow sources for backfill, sand and gravel shall be done by an independent soils testing agency retained by the Owner.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.10., cont'd)

f. Soil CQA testing frequencies for the final subgrade lift shall be doubled for the first five acres of liner system construction. Earthwork shall be tested by the CQAM for the tests and frequencies specified in CQAP Table 3-2.

g. 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.

h. 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.

i. 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. The CQAM shall observe the condition of the subgrade and note areas of inadequacy, erosion or other deterioration in the Daily Reports.

j. The CQA consultant shall conduct leaching (SPLP) test for arsenic on the subgrade materials. The frequency shall be one test for each 50,000 c.y. of material, tested at the source, which is delivered for use as backfill. The results shall demonstrate that the subgrade material will not leach arsenic in excess of Department groundwater standard (10 µg/l). The results shall be reported with Method Detection Limits (MDLs) that are equal to or below the Department's water quality standard.

11. Geosynthetic Materials.

a. Conformance testing.

1) The CQA Consultant or designee (independent from the Contractor) shall take conformance samples of the geosynthetics materials in accordance with the test methods and frequencies referenced in Specific Condition B.11.a.(3) below. In all cases, the test results shall meet or exceed the property values in the Specifications and CQA Plan.

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.

3) The geosynthetic materials shall conform to the following:

- a) Woven geotextile separator: Spec. 02778-2.2.A.4.c.; CQAP Table 6.1
- b) Non-woven cushion geotextile: Spec. 02778-2.2.A.4.a.; CQAP Table 6.1
- c) Non-woven geotextile in geocomposite (CDN): Spec. 02778-2.2.A.4.b.; CQAP Table 6.1
- d) Geocomposite (min. 330 mil): Spec. 02777-2.2. & 02777-2.3.a.; CQAP Table 7.2; SC#A.2.a., Attachment H.2, Misc. Calcs.
- e) GCL: Spec. 02776-2.2.A.4.; CQAP Table 4.1
- f) Geomembrane: Spec. 02775-2.2.A.7.; CQAP, Sec. 5.1.5

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.11.a., cont'd)

- 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. [ref. Spec. 02775-2.2.A.7].
- b. Seaming.
- 1) Seaming processes other than fusion or extrusion welding shall be approved by the Engineer and submitted to the Department prior to implementation.
 - 2) Trial seam testing shall meet the requirements of Spec. 02775-3.2.B. Seaming apparatus or personnel which have failed trial welds shall not be used for seaming until passing welds are achieved [Spec. 02775-3.2.B.2.d.].
 - 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. No geomembrane seaming shall be performed unless the CQA manager/inspector is on-site.
 - 4) The full-time resident CQA inspector shall observe no more than two geosynthetics seaming crews at any given time.
 - 5) The procedure used to temporarily bond adjacent geomembrane panels together shall not damage the geomembrane. Solvent or adhesive shall not be used to bond geomembrane panels.
 - 6) All seaming operations shall cease upon the presence of any precipitation (drizzle, sprinkle, fog, dew, etc.).
 - 7) Seams shall be oriented parallel to the line of maximum slope, i.e., oriented along, not across the slope. [Spec. 02775-3.1.B.2.b.(1)]
 - 8) All geomembrane seams, including tail seams, shall have peel strength of 90 ppi (fusion & extrusion welds), and must exhibit an FTB failure. Shear strength shall be 120 ppi (fusion) and 115 ppi (extrusion). [Spec. 02775-3.2.D.3.]
- c. 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. [CQAP 5.2.4.; Spec. 02775-3.2.D.1.]

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.11.c., cont'd)

- 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 each test method (peel and shear) [Spec. 02775-3.2.D.2.c.]. Four out of five of the samples shall meet the minimum strength requirements for each test method (peel and shear) listed in Geomembrane Specifications (02775-3.2.D.3.). 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.
 - 4) All areas that fail nondestructive testing shall be marked by the on-site CQA inspector.
 - 5) All welds shall be tested in shear and peel. Geomembrane seams shall not be tested by "hand" exclusively.
- d. Transmissivity.
- 1) The transmissivity test results required by the Specifications shall be submitted to the Engineer for review before the proposed materials are approved for use on the project.
 - 2) The transmissivity of the geocomposite shall be a minimum of $3 \times 10^{-3} \text{ m}^2/\text{sec}$ based upon a gradient of 0.01 and a normal load of 15000 psf. [Spec. 02777-2.2.C. & 2.3.A.1.]. CQA conformance transmissivity testing shall be conducted on the actual materials that will be used in the project.
- e. Interface friction angles.
- 1) The minimum interface friction angle (peak) for all interfaces shall be **23.0 degrees with no cohesion** [Spec. 02775-2.3.C.; Spec. 02776-2.3.B.2.; Spec. 02777-2.3.B.4.]. Deviation from this requirement shall require a permit modification and shall demonstrate that adequate slope stability will be achieved.
- f. 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 Plan.
- g. The liner system shall not be damaged by excessive traffic [Spec. 02775-3.1.B.2.] .
- h. 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.

SPECIFIC CONDITIONS: PART B - Construction Requirements

(Specific Condition #B.11., cont'd)

- i. The geomembrane shall always be kept dry and protected from wind damage. Sandbags or other temporary anchoring devices shall be removed prior to subsequent placement of materials over the geosynthetics. Temporary loading and/or anchoring devices (such as sand bags) shall be removed prior to placing the next layer (i.e., geocomposite or soil) over the geomembrane.
 - j. The CQA Monitor shall inspect the geomembrane for imperfections, faulty work and suspect areas [CQAP, Sec 5.2.3].
 - k. The geomembrane shall be clean at the time when it is examined for defects, and during testing of repairs.
 - l. The GCL shall have a saturated hydraulic conductivity of no greater than 5×10^{-11} cm/sec [Spec. 02776-2.2.A.4.]
 - m. GCL that has become prematurely hydrated or has become hydrated with no confining pressure shall not be used on this project [CQAP 4.2.1.].
 - n. 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.
12. **Leachate collection and removal system.**
- a. HDPE pipe or fittings shall not be dropped during loading, unloading or placement.
 - b. Under no circumstances shall pipe be laid in water, and no pipe shall be laid when trench or weather conditions are unsuitable for such work [Spec. 02221-3.2.C.5.]. Heat fusion weld beads projecting into the interior of the piping shall be removed so that the internal weld is flush with the interior of the pipe [Spec. 15067-3.5.A.1.].
 - c. All non-pressurized (perforated and non-perforated) HDPE piping shall be jet cleaned and video inspected prior to final acceptance in accordance with Specification Section 15067-3.6.B.2. The cleaning report and videotapes shall be provided as part of the Record Documents required in Specific Condition #B.3.
 - d. All pressurized HDPE piping shall be pressure tested in accordance with Specification Section 15067-3.7.
 - e. Markers used to observe the depth of the protective soil cover shall be removed after use and shall not be abandoned in place.

SPECIFIC CONDITIONS: PART C - Operation Requirements

1. Facility Operation Requirements.

a. The permittee shall operate this facility in accordance with Chapter 62-701, F.A.C., and Operation Permit No. 130542-007-SO/01 or its successors.

b. Leachate shall not be deposited, injected, dumped, spilled, leaked, or discharged in any manner to soils, surface water or groundwater outside the liner and leachate management systems at any time during the construction or operation of this facility.

c. In no event shall waste be accepted for disposal in the Phase II portion of the CCSWDC Class I landfill until the following requirements have been completed and submitted by the Permittee, and approved by the Department:

- 1) Certification of Construction Completion requirements of Specific Conditions #B.2. and #B.3.,
- 2) Financial assurance requirements of Specific Condition #D.4.b.,
- 3) Construction of groundwater monitoring wells as required by Specific Conditions #E.3.,
- 4) Completion of initial sampling of new monitoring wells as required by Specific Condition #E.3.
- 5) Construction of the stormwater management system,
- 6) Issuance of Operation Permit No. 130542-007-SO/01 or its successors that authorizes operation of Phase II. The separate permit shall include operational procedures for protecting the liner system particularly during the placement of the first layer of waste in Phase II.

2. Facility Personnel. The owner or operator shall provide adequate personnel for constructing, operating, monitoring and maintaining the facility in an orderly, safe, and sanitary manner.

3. Control of Access. Access to, and use of, the facility shall be controlled as required by Rule 62-701.500(5), F.A.C.

4. Monitoring of Waste. The permittee shall not accept hazardous waste or any hazardous substance at this site. Hazardous wastes are wastes listed in 40 CFR 261 Subpart D as hazardous or are wastes characterized in 40 CFR 261 Subpart C as hazardous. Hazardous substances are those defined in Section 403.703, Florida Statute or in any other applicable state or federal law or administrative rule. Sludges or other wastes which may be hazardous should be disposed of in accordance with Rules 62-701.300(4) and 62-701.500(6)(b), F.A.C. In the event that hazardous wastes are discovered, the Department shall be notified in accordance with Specific Condition C.6.b. below.

5. Control of Nuisance Conditions. The owner or operator shall control odors, vectors (mosquitoes, other insects, rodents), and fugitive particulates (dust, smoke) arising from the construction so as to protect the public health and welfare. Such control shall minimize the creation of nuisance conditions on adjoining property. Complaints received from the general public, and confirmed by Department personnel upon site inspection, shall constitute a nuisance condition, and the permittee must take immediate corrective action to abate the nuisance.

SPECIFIC CONDITIONS: PART C - Operation Requirements

6. Facility Maintenance and Repair.

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, gas venting and/or monitoring and management systems, surface water management system, and groundwater monitoring system. Erosion and ponded water within landfill footprint shall be prevented.

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 permittee shall **immediately (within 24 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 Specific Condition #C.6.b., unless otherwise approved by the Department. Corrective actions which include relocation or installation of new groundwater monitoring wells shall be in accordance with Specific 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 Specific Condition #C.6.b., unless otherwise approved by the Department.

7. Stormwater Management. 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. The stormwater management system shall be inspected for damage and proper operation daily.

8. Leachate Management.

a. Leachate shall be managed in accordance with the requirements of Operation Permit No. 130542-007-SO/01 or its successors, Rule 62-701.500(8), F.A.C., and other applicable Department rules.

SPECIFIC CONDITIONS: PART D - Recordkeeping

1. **Report submittals.** Unless otherwise specified, all submittals, notifications, requests for permit modification, reports for compliance with this permit, 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. **Operation Plan and Operating Record.** Each landfill owner or operator shall have an operational (long-term care, monitoring and maintenance) plan. A copy of the Department approved permit, plan, construction reports and record drawings, and supporting information shall be kept at the facility at all times for reference and inspections. Operating records as required by Rule 62-701.500(3), F.A.C., shall be maintained at the site.
3. **Waste Records.** The permittee shall maintain all records required by the construction specifications, CQA Plan and this permit on-site during construction, and shall provide copies to the Department upon request, unless specified otherwise.
4. **Financial Assurance.** The permittee shall provide adequate financial assurance for this facility and related appurtenances in accordance with Rule 62-701.630, F.A.C.
 - a. All costs for closure shall be adjusted and submitted **annually, by September 1st each year** to: Solid Waste Manager, Solid Waste Section, Department of Environmental Protection, 13051 North Telecom Parkway, Temple Terrace, Fl. 33637-0926.
 - b. Proof that the financial mechanism has been adequately funded shall be submitted **annually** to: Financial Coordinator, Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, MS#4565, Tallahassee, Florida 32399-2400.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

1. **Water Quality Monitoring Quality Assurance.**
 - a. 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 February 1, 2004 [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 by the permit and shall be implemented by all persons performing sample collection or analysis related to this permit. 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, including the collection of quality control samples, shall be in accordance with methods approved by the Department in accordance with Rule 62-4.246 and Chapter 62-160, F.A.C. Approved methods published by the Department or as published in Standard Methods, A.S.T.M., or EPA methods shall be used.
2. **Zone of Discharge.**
 - a. The zone of discharge for this site shall extend horizontally 100 feet from the limits of the landfill liner (all active, inactive and closed disposal areas), or to the property boundary, whichever is less, and shall extend vertically to the bottom of the surficial aquifer.
 - b. The permittee 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, F.A.C., and that the ground water minimum criteria referenced in Rule 62-520.400, F.A.C., will not be exceeded outside the footprint of the disposal areas.
3. **Ground Water Monitor Well Locations.** The ground water monitoring system locations for the combined Phase I and Phase II footprint are designed and shall be constructed in accordance with the document entitled "Central County Solid Waste Disposal Complex, Water Quality Monitoring Plan Addendum," prepared by HDR Engineering, Inc., dated February 2007, revised June 2007, September 2007, January 2008 and March 2008 [ref.SC#A.2.a(5)]. The ground water monitor wells and piezometers are located on Figure 1, "Water Quality Monitoring Plan," prepared by HDR Engineering, Inc., received March 19, 2008 (attached), as follow:

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.3., continued)

Well #	WACS	Scheduling	Aquifer	Designation	Location
	Testsite ID #				
MW-1R	20585	A, X	Surficial	Background	See Figure 1
MW-8A	21455	A, X	Surficial	Detection	↓
MW-9	4509	A, X	Surficial	Detection	↓
MW-10R	4510	A, X	Surficial	Detection	↓
MW-13	23029	B, Y	Surficial	Detection	See Figure 1
MW-14	23030	B, Y	Surficial	Detection	↓
MW-15	23031	B, Y	Surficial	Detection	↓
MW-16	23032	B, Y	Surficial	Detection	↓
MW-17	23033	C, Y	Surficial	Detection	↓
MW-18	23034	C, Y	Surficial	Detection	↓
MW-19	23035	C, Y	Surficial	Detection	↓
MW-20	23036	C, Y	Surficial	Detection	↓
MW-11R	20588	A, Z	Surficial	Detection	See Figure 1
MW-12R	20589	A, Z	Surficial	Detection	↓
CW-11R	22886	A, Z	Surficial	Compliance	↓
P-S1	NA	A, Z	Surficial	Piezometer	↓
P-D1 (shallow)	NA	A, Z	Surficial	Piezometer	↓
P-D1 (deep)	NA	A, Z	Surficial	Piezometer	↓
P-S2	NA	A, Z	Surficial	Piezometer	↓
P-D2 (shallow)	NA	A, Z	Surficial	Piezometer	↓
P-D2 (deep)	NA	A, Z	Surficial	Piezometer	↓
P-S3	NA	A, Z	Surficial	Piezometer	↓
P-S4	NA	A, Z	Surficial	Piezometer	↓
MW-3	4503	A	Surficial	Piezometer	See Figure 1
MW-5	4505	A	Surficial	Piezometer	↓

Proposed surficial aquifer monitor wells shall be constructed in accordance with the details provided in Table 2-2 ("Proposed Monitoring Well Construction Information") and Figure 2.0 ("Typical Proposed Ground Water Monitoring Well"), received January 14, 2008 as referenced in the document entitled "Central County Solid Waste Disposal Complex, Water Quality Monitoring Plan Addendum," prepared by HDR Engineering, Inc. [ref. SC#A.2.a(5)].

A = existing monitor well/piezometer

B = proposed monitor well to be installed at least 30 days prior to initiation of debris disposal in Phase II, Cell 1; to be abandoned prior to initiation of construction activities for Phase II, Cell 3; documentation of monitor well abandonment shall be submitted in accordance with Specific Condition #E.6.

C = proposed monitor well to be installed at least 30 days prior to initiation of debris disposal in Phase II, Cell 3

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 Specific Condition #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 Specific Condition #E.4.b.

Z = existing monitor well to be abandoned prior to initiation of construction activities for Phase II, Cell 1; documentation of monitor well abandonment shall be submitted in accordance with Specific Condition #E.6.

All monitor wells and piezometers are to be clearly labeled and easily visible at all times. The permittee should keep all monitor wells and piezometers locked to minimize unauthorized access.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

4. **Ground Water Sampling.** The locations, parameters, and frequencies specified herein represent the minimum requirements for ground water monitoring. The ground water monitoring system analytical parameter lists for initial and routine sampling events are described in Section 4 of the document entitled "Ground Water Monitoring Plan Addendum, Central County Solid Waste Disposal Complex," prepared by SCS Engineers, dated June 24, 2002, revised by PBS&J, dated February 2007 [ref.SC#A.2.a(5)]. 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, F.A.C., and with the ground water minimum criteria referenced in Chapter 62-520.400, 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 and piezometers listed in Specific Condition #E.3., and surface water elevations shall be measured at staff gauges #STW-1 through #STW-4, #STW-5A, #STW-5B, #STW-6 and #STW-7 during all sampling events described in Specific Conditions #E.4.b., #E.4.c., and #E.8.c., to a precision of 0.01 foot. The water table surface elevation contour maps of the surficial 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 and piezometer, and surface water elevations (using a consistent, nationally recognized datum) calculated for each staff gauge. The contour maps shall be submitted to the Department in the reports for the routine ground water sampling events (SC#E.10.) and the monitoring plan evaluation reports (SC#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	Total ammonia - N	Calcium
before purging	Bicarbonate	Iron
Specific conductivity	Carbonate	Magnesium
pH	Chlorides	Mercury
Dissolved oxygen	Nitrate	Potassium
Temperature	Sulfate	Sodium
Turbidity	Total dissolved solids (TDS)	
Colors & sheens	Those parameters listed in	
(by observation)	<u>40 CFR Part 258, Appendix II</u>	

Results of the initial sampling event conducted at wells MW-13 through MW-16 shall be submitted as part of the certification of construction completion prepared for Phase II, Cells 1 and 2. Results of the initial sampling event conducted at wells MW-17 through MW-20 shall be submitted as part of the certification of construction completion prepared for Phase II, Cells 3 and 4.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

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. Prior to construction of all new or replacement wells (excluding proposed wells MW-13 through MW-20) or piezometers the permittee shall request and receive Department approval of a minor permit modification in accordance with Specific Condition #A.3.a.
- b. 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. 62-522.900(3), Monitor Well Completion Form (attached) [or as replaced by Department Form #62-701.900(30)].
- c. Within one week of well completion and development, each new or replacement monitor well shall be sampled for the parameters listed in Specific Condition #E.4.b., to comply with the requirements of Rules 62-701.510(8)(a) and (8)(d), F.A.C.
- d. A surveyed drawing shall be submitted in accordance with Rule 62-701.510(3)(d)(1), F.A.C., showing the location of all monitor wells and piezometers (active and abandoned) horizontally located in degrees, minutes and seconds of latitude and longitude, and the elevation of the top of the well casing and ground surface by the well casing to the nearest 0.01 foot, using a consistent, nationally recognized datum. The surveyed drawing shall include the monitor well and piezometer identification numbers, locations and elevations of all permanent benchmarks and/or corner monument markers at the site. The survey shall be conducted by a Florida Licensed Professional Surveyor and Mapper.

6. **Well Abandonment.** All monitor wells and piezometers not a part of the approved Water Quality Monitoring Plan and not listed in Specific 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 permittee 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.

PERMITTEE: Sarasota County Solid Waste Operations PERMIT NO: 130542-006-SC/01
Mr. Frank Coggins, Manager Central County SW Disposal Complex Phase II Construction

SPECIFIC CONDITIONS: PART F - Landfill Gas Management

[Landfill gas requirements are provided in Operation Permit No. 130542-007-SO/01 or its successors.]

SPECIFIC CONDITIONS: PART G - Closure and Long-Term Care Requirements

1. **Closure Requirements.**
 - a. Long-Term Care Requirements.
 - 1) The owner or operator shall perform long-term care for the site in accordance with Rule 62-701.620, F.A.C., and the conditions of Operation Permit No. 130542-007-SO/01 or its successors.
 - 2) Long-term care includes, but is not limited to, water quality, leachate and gas monitoring, maintenance of the final cover system, maintenance of the leachate collection and removal system, erosion control, and the prevention of ponding within disposal areas.
 - b. Closing Requirements.
 - 1) **No later than ninety (90) days** prior to the date when wastes will no longer be accepted for portions of the landfill which have reached closure design dimensions, the landfill owner or operator shall submit a closure permit application to the Department, in order to assure conformance with all applicable Department rules. A closure permit is required prior to implementing closure related activities.
2. **Use of Closed Landfill Areas.**
 - a. There are currently no closed portions of the Central County Solid Waste Disposal Complex Class I Landfill.
 - b. Use of closed landfill areas requires consultation with and approval by the Department prior to conducting these activities in accordance with Rules 62-701.610(7) and (8), F.A.C. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill drainage systems; leachate collection, removal and storage systems; bottom liner system; final cover system (soil and vegetation); water quality monitoring systems; gas management and monitoring systems; and stormwater controls. **Prior to implementation**, the owner or operator shall submit a plan for any proposed uses of the closed portions of the landfill to the Department for approval. This plan shall include a description of the proposed use, and evaluation of the impact on the existing landfill systems (e.g. final cover, leachate collection, bottom liner), engineering designs, calculations and plans as appropriate, etc. The proposed activity shall not be initiated without prior Department approval, and may require a permit modification or separate permit.
3. **Final Cover.** Portions of the landfill which have been filled with waste to the extent of designed dimensions shall be closed (shall receive final cover) within 180 days after reaching design dimensions, in accordance with Rule 62-701.500(7)(g), F.A.C. and all applicable requirements of Department rules.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Deborah A. Getzoff
District Director
Southwest District

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
A.4.	April 15, 2013	Submit permit renewal application
A.9.a.	Within 24 hours of discovery Within 7 days of verbal notification	Notification of sinkholes or subsurface instability Written notification & corrective action plan
B.2.a.	Within 60 days of completion	Submit certification of construction completion, record drawings, updated LMP, etc.
B.4.a.	At least 30 days prior to construction	Submit complete plans, specification, CQA plan, or statement that no changes have occurred, 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.	No later than 2 weeks prior to construction	Notify of tie-in construction, non-standard seaming methods, construction of penetrations/boots, construction of manholes & lift station
B.4.d.	At least 10 days prior	Submit dewatering plan, SPLP test results for backfill, sand permeability tests
B.4.e.	At least 72 hours prior	Notify of spark testing
B.5.	At least 1 week prior	Notify of preconstruction meeting
B.6.a.	No later than 1 week after pre-construction meeting	Submit meeting minutes
B.6.b.	Monthly, by the 15 th each month	Submit monthly progress report & schedule
B.9.e.	At least 1 week prior for schedule makeup and 1 day prior for weather emergencies	Notify of night work
C.6.b.	Within 24 hours of discovery Within 7 days of verbal notification	Notification of: sinkholes, failure of landfill systems or equipment, etc. Written notification & corrective action plan
C.6.c.	Within 60 days of notification	Corrective actions completed for dry or damaged wells
C.6.d.	Within 30 days of notification	Corrective actions completed for leachate management system
D.4.a.	Annually, by September 1 st each year	Submit revised cost estimates
D.4.b.	Annually	Submit proof of funding
D.4.c.	No later than 60 days after permit issuance No later 30 days after approval	Submit revised cost estimate for Phases I & II only Submit proof of initial funding

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
E.4.b.	Within 7 days of new well installation and development	Conduct initial sampling event
E.4.c.	Semi-annually	Sample background and detection wells
E.5.a.	Prior to installation of new wells	Request and received permit modification
E.5.b.	Within 90 days of installation of new wells	Provide construction details for wells
E.5.c.	Within 1 week of well development	Conduct initial sampling
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