

Memorandum

Florida Department of Environmental Protection

PERMIT COVER MEMO

TO: *for 6/4* Pamela Vazquez, Acting District Director

FROM/THROUGH:

Susan Pelz, P.E. *6/4*, ENVIRONMENTAL ADMINISTRATOR

Steve Morgan, SOLID WASTE PERMITTING *6/1/12*

Nancy Gaskin *6/1*, SOLID WASTE PERMITTING

DATE: June 1, 2012

MODIFICATION #21375-021-SO/MM

#21375-022-SO/MM

FILE NAME: Citrus County Central Class I LF PERMIT #: 21375-018-SO/01

Leakage Action Rate & Leachate Force Main Modifications

PROGRAM : Solid Waste

COUNTY : Citrus

TYPE OF PERMIT ACTION: ISSUE PERMIT MODIFICATIONS

PERMIT SUMMARY: These minor permit modifications are to amend the leakage action rate in Cell 3 from 189 gal/day to 100 gal/acre/day based on revised calculations and to allow the construction and operation of a leachate force main from current connection to the on-site treatment plant to a off-site County wastewater transmission line and the subsequent decommissioning of the on-site treatment plant.

PROFESSIONAL RECOMMENDATION: X APPROVE DENY

EVALUATION SUMMARY: The applicant has provided sufficient information to demonstrate compliance with Department Rules.

Permit Modification #21375-021-SO/MM

TIH= 71; TTP=71 (to 6/01/12)		TTP
Application rec'd	03/22/12	
Application complete	03/22/12	
Final permit for routing	06/01/12	71

DAY 90/30 FOR THIS ACTION IS: ASAP Day 90=06/20/12

Permit Modification #21375-022-SO/MM

TIH= 28; TTP=28 (to 6/01/12)		TTP
Application rec'd	05/04/12	
Application complete	05/04/12	
Supplemental Information rec'd	05/24/12	
Supplemental Information rec'd	05/31/12	
Final permit for routing	06/01/12	28

DAY 90/30 FOR THIS ACTION IS: ASAP Day 90=08/01/12



Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

CERTIFIED MAIL #7011 3500 0000 3205 0098
RETURN RECEIPT REQUESTED

June 4, 2012

NOTICE OF PERMIT

Mr. Casey Stephens, Director
Citrus County Solid Waste Division
P.O. Box 340
Lecanto, Fl. 34460-0340

RE: Citrus County Central Class I Landfill
Permit Modification #21375-021-SO/MM - Leakage Action Rate Modification &
Permit Modification #21375-022-SO/MM - Leachate Force Main Construction
to existing Operation Permit #21375-018-SO/01, Citrus County
WACS # SWD/09/39859

Dear Mr. Stephens:

Attached is modified Operation Permit #21375-018-SO/01, issued pursuant to Section(s) 403.087(1), Florida Statutes. The following Conditions have been revised in Permit Modification Nos. 21375-021-SO/MM: and 21375-022-SO/MM:

SPECIFIC CONDITIONS	FROM	TO	TYPE OF MODIFICATION
Page 1 of 42	Existing	Amended	Permit modifications #21375-021-SO/MM & #21375-022-SO/MM referenced.
A.2.e. A.2.f.	-	New	Additional permitting documents referenced.
B.1.b.	-	New	Construction of leachate force main authorized.
C.8.f.	Existing	Amended	Leakage action rate for Phase 3 amended from 189 gallon per day to 100 gal/acre/day.
C.8.h.(1)	Existing	Amended	Description of leachate disposal amended to include off-site disposal through leachate force main.

This letter and its attachments constitute a **complete permit** and **replace** all previous permits and permit modifications for the above referenced facility.

A person whose substantial interests are affected by this modification of permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel, 3900 Commonwealth Blvd., Mail Station 35, Tallahassee, 32399-3000, within fourteen (14) days of receipt of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within fourteen (14) days shall constitute a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

- (a) The petition shall contain the following information;
The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of Department's action, or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends warrant reversal or modification of the Department's action or proposed action;
and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C. Mediation is not available in this proceeding.

PERMITTEE: Citrus County Board of Permit Modification Nos. 21375-021-SO/MM &
County Commissioners 21375-022-SO/MM

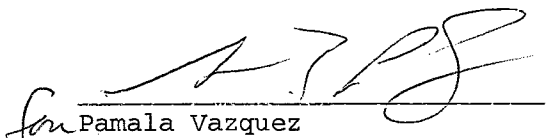
Citrus Co. Central Class I LF

This modified permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rules 62-110 and 28-106, F.A.C. Upon timely filing of a petition or a request for an extension of time this transfer of permit will not be effective until further Order of the Department.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Blvd., Mail Station 35, Tallahassee, 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Pamala Vazquez
Acting District Director
Southwest District

Attachment

Copies furnished to:

Citrus County Officials/Notification List
Dominique Bramlett, P.E., SCS Engineers, DBramlett@SCSEngineers.com
Troy Burrell, P.E., Burrell Engineering, Inc. troyburrell@bellsouth.net
Chris McGuire, OGC Tallahassee (e-mail)
Nancy Gaskin, FDEP Tampa (e-mail)
Susan Pelz, P.E., FDEP Tampa (e-mail)

PERMITTEE: Citrus County Board of Permit Modification Nos. 21375-021-SO/MM &
County Commissioners 21375-022-SO/MM

Citrus Co. Central Class I LF

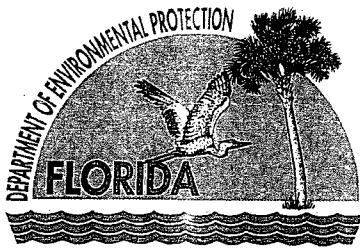
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this **NOTICE OF PERMIT** and all copies were mailed or transmitted electronically to the addressee and the listed persons before the close of business on June 4, 2012.
(date stamp)

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52(10), Florida Statutes, with the designated Department, Clerk, receipt of which is hereby acknowledged.

Anna Brantley
Clerk

6/4/2012
Date



Florida Department of Environmental Protection

Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926
Telephone: 813-632-7600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

PERMITTEE

Citrus County Board of County
Commissioners
110 N. Apopka Avenue
Inverness, FL 34450

Attention:

Mr. Casey Stephens, Director
Citrus County Public Works,
Division of Solid Waste Mgmt

PERMIT/CERTIFICATION

WACS ID No: SWD/09/39859
Permit No: 21375-018-SO/01
Date of Issue: 12/20/2010
Expiration Date: 12/20/2015
County: Citrus
Lat/Long: 28° 51' 07"
82° 26' 12"
Sec/Town/Rge: 1/19S/18E
Project: Citrus County Central
Class I Landfill

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, 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 **operate** a Class I landfill with leachate storage and treatment, and related facilities (approx. 80.0 acres), and to provide long-term care, monitoring, and maintenance of a the closed Class I landfill (approx. 60.0 acres), referred to as the **Citrus County Central Landfill** subject to the specific and general conditions attached, located near **S.R. 44, 3 miles east of Lecanto, Citrus County, Florida**. The specific conditions attached are for the operation and maintenance of:

1. Class I Landfill, Leachate Storage and Treatment Facility
2. Closed Class I Landfill and related appurtenances
3. Gas Collection and Control System

General Information - Phase I, Cells 1, 1A, 2, & 3

Disposal acres	25.8 acres
Bottom liner design & LCS design	Phase 1 - 16.5 acres - Single, 60 mil HDPE, Primary LCS piping Phase 1A - 3.3 acres - Double, 60 mil HDPE, Primary LCS piping, Geonet LDS Phase 2 - 6 acres - Double, 60 mil HDPE, Primary LCS piping, Triplanar Geonet LDS Phase 3 - 6.8 acres - See Construction Permit #21375-013-SC/01, or its successors
Bottom elevation of cell	Phase 1A - min. +35.35 feet NGVD at sump Phase 2 - min +35.00 feet NGVD Phase 3 - min 48.00 feet NGVD, in primary sump
Final top elevation at buildout (including cover)	max. +218.1 feet NGVD (max 215 feet NGVD in Phase 1/1A) [ref. SC#A.2.a(4), Sheet 4 of 9]
Slopes	max. 3H:1V side slopes, 3-5% top slope [ref. SC#A.2.a(4), Sheet 4 of 9]
Gas Collection and Control System	See Construction Permit #21375-016-SC/08, or its successors

Replaces Permit No. 21375-008-SO/01 and modifications

Includes modification No. 21375-019-SO/MM, dated 03/15/2011; 21375-021-SO/MM, dated 6/4/2012; and 21375-022-SO/MM, dated 6/4/2012.

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 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 operated, monitored, and maintained in accordance with all applicable requirements of Chapters 62-4, 62-302, 62-330, 62-520, 62-522 and 62-701, Florida Administrative Code.

2. **Permit Application Documentation.** This permit is valid for **operation** of the Phases 1, 1A, 2, and 3 of the Class I landfill and other related facilities, and long-term care, monitoring, and maintenance of the closed Class I landfill and related systems, in accordance with all applicable requirements of Department rules and in accordance with the reports, plans and information submitted by SCS Engineers (SCS), (unless otherwise noted), as follows:

a. Citrus County Class I Central Landfill Operations Permit Renewal Application, (one 3-ring binder and plan set) dated and received February 1, 2010, prepared by SCS Engineers, as revised, replaced or amended (information inserted into original*) dated and received April 21, 2010, July 12, 2010, and September 30, 2010. This information includes, but is not limited to:

- 1) "Operations Plan" (Attachment K-1) dated July 12, 2010;
- 2) "Water Quality and Leachate Monitoring Plan, Central Landfill, Citrus County, Florida," prepared by SCS Engineers, dated September 22, 2010;
- 3) "Closure Plan" (Attachment O-1);
- 4) Plan Sheets titled, Citrus County Solid Waste Management Division Central Landfill Operations Permit Renewal Drawings (9 sheets) dated February 2010 (received February 1, 2010), including revised Sheets 1, 3, 4, & 7 of 9, received April 21, 2010 (revised sheets inserted into original plan set*); and
- 5) "Emergency Incidents and Contingency Plan" (Op. Plan, Appendix B) dated March 2010.

b. Consent Agreement #05-1078, executed September 20, 2005.

c. Citrus County Central Landfill, Request for Minor Modification - Leachate Effluent Regulatory Level Change, dated and received January 20, 2011 (permit application fee received January 21, 2011), prepared by SCS Engineers, as revised, replaced or amended by information received February 18, 2011. This information includes but is not limited to:

- 1) Table 1 - Arsenic Concentrations in Leachate, Citrus County Central Landfill;
- 2) Table 2 - Arsenic Concentrations in Current Background and Compliance Monitoring Wells, Citrus County Central Landfill.

New 03/15/2011.

d. Citrus County Central Landfill, Request for Minor Modification - Phase 1/1A Leachate Riser Rehabilitation Pump, dated and received February 22, 2011, prepared by SCS Engineers.

New 03/15/2011.

e. Citrus County Central Landfill, Request for Minor Modification - Leachate Leakage Action Rate Change, dated March 21, 2012 (received March 22, 2012), prepared by SCS Engineers.

New 6/4/2012.

* see OCULUS for un-collated submittals

SPECIFIC CONDITIONS: PART A, Solid Waste Facility General Requirements

(Specific Condition #C.2., cont'd)

f. Citrus County Central Landfill, Request for Minor Modification - Leachate Force main; dated and received May 3, 2012, prepared by Burrell Engineering, Inc., as revised, replaced or amended by information received May 24, 2012 and May 31, 2012. This information includes, but is not limited to:

1) Operations Plan, Section 8 - Leachate Management, dated April 30, 2012 [inserted into Operations Plan referenced in SC #A.2.a.(1), above]; and

2) Sheets 1, 3, 40, and 41 of the plan set titled Construction Plans for Central Landfill Leachate Force Main, dated April 27, 2012 (received May 3, 2012).

New 6/4/2012.

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 changes to the operations at the facility may 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.

b. This permit authorizes the **operation** of the Phase 1, 1A, 2, and 3 Class I disposal facility, the leachate storage and treatment facility, the landfill gas collection and control system and related appurtenances.

c. This permit authorizes the **long-term care, monitoring, and maintenance** of the closed 60 acre Class I landfill, and related systems.

d. This permit does not authorize the **operation** of the Phase 3 portion of the Class I landfill (including filling over Phases 1, 1A, & 2 associated with Phase 3 operation) until the provisions of Specific Condition #C.1.b. have been completed and approved by the Department.

4. Permit Renewal. On or before June 15, 2015 the permittee shall notify the Department in writing or electronically of its intent to apply for renewal of this permit and of the anticipated date of submittal of the permit renewal application. **No later than October 15, 2015**, 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 62-4.090, F.A.C. and Rule 62-701.320(10)(b), F.A.C. In the event that the regulations governing this operation are revised, the permit renewal shall include modification of those specific operation conditions which are affected by the revision of regulations to incorporate those revisions in accordance with Specific Condition A.8. Operation permit renewal shall include, but not be limited to, an updated Operations Plan and Site Plans for sequence of filling with cross-sections of lifts, a water quality monitoring plan evaluation, and revised (not inflation-adjusted) financial assurance cost estimates.

SPECIFIC CONDITIONS: PART A, Solid Waste Facility General Requirements

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 January 6, 2010, 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.
9. **Prohibitions.**
 - a. The prohibitions of Rule 62-701.300, F.A.C., shall not be violated by the activities at this facility.
 - b. In the event that surface depressions which may be indicative of sinkhole activity, or subsurface instability, are discovered onsite, or within 500 feet of the site, the Department shall be notified in accordance with Specific Condition #C.6.b, below. Written notification shall be submitted **within 7 days of discovery**. The written notification shall include a description of the depression, the location and size of the depression 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. Waste Burning. 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., below.

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. Construction of the Phase 3 portion of the Class I landfill and related appurtenances is authorized by **Construction Permit 21375-013-SC/01**, (including modifications, if any), or its successors.

b. Construction of the leachate force and decommissioning of the on-site leachate treatment plant is authorized in accordance with the information provided in **Permit Modification 21375-022-SO/MM**. Certification of construction completion of the leachate force main shall be submitted to the Department in accordance with Specific Condition #B.2.a. and approved by the Department prior to use of the leachate force main.

New 6/4/2012.

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. At the completion of construction, information listed below shall be provided to the Department as part of the Certification of Construction Completion.

a. **Within sixty (60) days** after any specified construction has been completed or as otherwise specified in this permit, the following activities shall be completed and submitted by the permittee to the Department. Operation of the constructed systems, structures, equipment, etc., shall not be initiated prior to Department approval of the information required by this Specific Condition.

1) The owner or operator shall submit a Certification of Construction Completion, Form 62-701.900(2), signed and sealed by the professional engineer responsible for the construction 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 and the cause of the deviations, and certification by the design engineer to the Department.

4) The engineer of record shall provide a report to verify conformance with the project specifications. The report including all related testing results shall be submitted to the Department along with the completion of construction documents.

SPECIFIC CONDITIONS: PART C - Operation Requirements

1. Facility Operation Requirements.

a. The permittee shall operate this facility in accordance with Rule 62-701.500, F.A.C., the **Operations Drawings** [ref.SC#A.2.a(4)], the **Operations Plan** [ref.SC#A.2.a(1)], the **Emergency Incidents and Contingency Plan** [EIC Plan] [ref.SC#A.2.a(5)], and any other applicable requirements.

1) Operation of the Waste Tire Collection Center shall be in accordance with Chapters 62-701 and 62-711, F.A.C., and **Permit #126602-003-WT/02** (including modifications, if any), or its successors.

2) Construction and operation of the proposed Class I transfer station, new Customer Service Area, Yard and Wood Waste Processing Facility, Household Hazardous Waste Facility, and Recycling Collection Center at the existing Citrus Central Solid Waste Management Facility site shall be in accordance with Chapters 62-701, F.A.C., and **Permit #296143-001-SO/30** (including modifications, if any), or its successors.

b. This permit does not authorize the operation of Cell 3 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., of Construction Permit No. 21375-013-SC/01, or its successors;

2) Construction details for the proposed compliance wells MW-20 and MW-21 as required by Specific Conditions #E.3., #E.5.b., and #E.5.d.; the results of the "initial sampling event" conducted at constructed wells for the parameters listed in Specific Condition #E.4.b., to meet the reporting requirements of Specific Condition #E.10.a.;

3) Documentation of compliance with the financial assurance requirements of Specific Condition #D.4.c.

c. This permit does not authorize waste filling in Phases 1 and 1A in accordance with the Step 4 through 7 Fill Sequences, as depicted on the Sheet 5 of 9 of the **Operation Drawings** until the following requirements have been completed and submitted by the permittee, and approved by the Department:

1) Completion of the Phase 1/1A Leachate Riser Rehabilitation and submittal of a final report in accordance with Specific Condition #C.8.j.

d. Waste shall not be disposed (unloaded, spread, or compacted) during non-daylight hours, unless sufficient lighting is provided to adequately assess the materials and remove unacceptable wastes [ref. Op. Plan, Sec. 5].

e. 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.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.1., cont'd)

f. Top gradients of intermediate cover shall be designed to prevent ponding or low spots and minimize erosion. **Daily**, the owner or operator shall operate the facility, maintain grades, or utilize berms and swales, to prevent ponded water within the disposal areas.

g. The Class I disposal area shall be operated to limit the leachate head to one foot above the liner.

h. Site Inspections.

1) The owner or operator shall inspect the site for erosion and settlement (low spots and improperly graded areas) daily on operating days. Erosion and settlement shall be repaired in accordance with Specific Condition #C.6.

2) The owner or operator shall inspect the landfill facility for the presence of objectionable odors at the property boundary **daily on operating days**. In the event that objectionable odors are detected at the property boundary, the owner or operator shall abate the odors in accordance with Specific Condition #C.5.

3) The owner or operator shall inspect the normal traffic areas of the facility for litter **daily** [ref. Op. Plan, Sec. 7.9]. The property boundaries shall be inspected for litter **at least weekly**. Litter shall be collected and disposed of in the Class I landfill, **at least once per day**, or more often as necessary. In the event that the litter control program is ineffective, the operator shall notify the Department, and implement additional litter control measures **within 30 days**.

i. In the event of fire, hurricane or other severe natural event, inoperable equipment, lack of qualified personnel, or stormwater control problems which allow prolonged (**greater than 72 hours**) contact of ponded water with waste, the facility shall cease disposing waste in the affected area until appropriate drainage has been restored.

j. Equipment. In the event of equipment breakdown or scheduled maintenance, the owner or operator shall ensure that sufficient reserve equipment is operating at the site within 24 hours of the occurrence [ref. Op. Plan, Sec. 11.2]. In the event that sufficient reserve equipment is not obtained within 24 hours, the permittee shall notify the Department in accordance with Specific Condition #C.6.b., below and provide a schedule for corrective actions.

k. Fires.

1) In accordance with Rule 62-701.320(16), F.A.C., in the event of a fire which requires offsite assistance from the local fire protection authorities, the operator shall implement the procedures outlined in the facility **Operations Plan** [ref. Op. Plan, Sec. 2.3.4; EIC Plan, Sec. G.1.], and shall promptly report the incident to the Department in accordance with Specific Condition #C.6., below. Trenches cut into the waste shall not be used to extinguish fires without prior Department approval.

2) Hot loads that are inadvertently accepted at the facility shall be managed in accordance with the procedures in Section 2.3.4 of the facility **Operations Plan**. Residue from extinguished hot loads shall be disposed of offsite as Class I waste.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.1.k., cont'd)

3) In the event of a fire within the disposal area, a temporary area, within the disposal footprint away from the affected area, will be established for waste acceptance until the fire is completely extinguished [ref. Op. Plan, Sec. 2.3.4].

1. Temporary Transfer Operation. In the event that the permittee elects to operate a temporary transfer station at the facility, the Department shall be notified at least 48 hours prior to operation. This notification shall specify the final disposal location for the transferred waste, and shall include a site plan (reduced size) that shows the location and configuration of the transfer station within the lined landfill area. Leachate from the temporary transfer station shall not be discharged outside the landfill liner or leachate collection system. The temporary transfer operation shall:

1) be operated as described in Section 2.3.5. of the **Operations Plan**;

2) be operated for a maximum of 30 days. In the event that the permittee elects to operate the temporary transfer station for greater than 30 days, then a separate permit or modification of this Operation Permit may be required.

m. Waste streams generated by the operation or maintenance of the facility and equipment shall be managed such that any residual contaminants (such as gasoline, oil, paint, antifreeze, PCBs, etc.) shall be stored such that the residues or constituents thereof are not spilled, leaked, dumped, or otherwise discharged onto the ground or into surface or groundwaters.

2. Operating Personnel.

a. A trained operator (trained in accordance with the facility Training Plan) [ref. Op. Plan, Sec. 2.1] shall be on duty at the facility whenever the facility is operating and shall be responsible for operating and maintaining the facility in an orderly, safe, and sanitary manner.

b. A sufficient number of trained spotters (at least one trained spotter) shall be at the tipping areas (i.e. Citizen's Service Area (CSA) and landfill working face) at all times that waste is being accepted at the facility to inspect each load of waste as it is unloaded and spread, and shall remove prohibited materials prior to processing [ref. Op. Plan, Sec. 2.4]. Training of spotters shall be in accordance with the facility Training Plan [ref. Op. Plan, Sec. 2.1].

c. A sufficient trained personnel shall be available, to adequately operate the facility in compliance with this permit and Department rules. In the event that a trained operator or spotter is not available at the site, the facility shall be closed and shall not accept waste. In the event that unacceptable wastes are not adequately removed from the waste prior to disposal, additional trained spotters shall be required.

d. The permittee shall notify the Department in writing of a change of the County's primary on-site supervisor within 7 days of the effective start date of this new responsible individual. Training documentation shall be maintained at the landfill site, and copies shall be provided to the Department upon request.

SPECIFIC CONDITIONS: PART C - Operation Requirements

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. [ref. Op. Plan, Sec. 5]. Adequate access to the working face shall be provided for all weather conditions while the facility is receiving waste for disposal [ref. Op. Plan, Sec. 2.3.3].
4. **Monitoring of Waste.**
 - a. Wastes shall be monitored as required by Rule 62-701.500(6), F.A.C., including a load checking program and associated activities. The owner or operator shall conduct three random load checks per week at the active working face. Documentation of the three random load checks, including descriptions (type and quantity) of unacceptable wastes discovered, shall be maintained on-site, and copies provided to the Department upon request. Load checks shall document the occurrence, type of unacceptable wastes, removal and disposition of unauthorized wastes discovered in the loads [ref. Op. Plan, Sec. 6.1].
 - b. The permittee shall not accept hazardous waste or any hazardous substance for disposal 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.7. Hazardous waste shall be managed and disposed of in accordance with the procedures in Sections 2.4 and 6.2 of the **Operations Plan**.
 - c. The permittee shall maintain a program which prohibits the disposal of bulk industrial wastes which operating personnel reasonably believe to either be or contain hazardous waste, without first obtaining a chemical analysis of the material showing the waste to be non-hazardous. The chemical analysis of any such material so placed in the landfill, along with the customer's name and date of disposal, shall be kept on file by the operating authority on-site.
 - d. Sludges generated from onsite processes (e.g., stormwater or leachate collection, removal or treatment system maintenance) shall be dewatered and adequately characterized as nonhazardous prior to disposal.
5. **Control of Nuisance Conditions.**
 - a. The owner or operator shall control odors, vectors (mosquitoes, other insects, rodents), and fugitive particulates (dust, smoke) arising from the operation so as to protect the public health and welfare. Such control shall minimize the creation of nuisance conditions on adjoining property. Complaints confirmed by Department personnel upon site inspection, shall constitute a nuisance condition, and the permittee must take immediate corrective action to abate the nuisance.
 - b. The owner or operator shall inspect the site at least **daily** for the presence of offsite odors [ref. Op. Plan, Sec. 9.5]. In the event that odors are detected at or beyond the property boundary, the owner or operator shall abate the odors in accordance with Section 9.5 of the **Operations Plan**.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.5., cont'd)

c. In the event that the odor control measures performed at the facility, do not sufficiently abate objectionable odors offsite, **within sixty (60) days** of initial detection, the owner or operator shall submit an odor abatement plan to the Department for approval. The odor abatement plan shall include at a minimum, a description of the proposed corrective actions and a schedule for implementation [ref. Op. Plan, Sec. 9.5].

d. Dust control activities (i.e. application of water sprays from a water tank truck) shall be implemented such that they do not cause the discharge of contact storm water or leachate from the lined disposal areas.

6. Facility Maintenance and Repair.

a. The site shall be properly maintained including maintenance of access roads to disposal areas, equipment, stormwater and leachate management systems, cover systems and berms, gas monitoring system, landfill gas collection and control system, surface water monitoring system, and groundwater monitoring system. Erosion and ponded water in intermediately covered or final covered disposal areas shall be prevented. Erosion in the stormwater management system shall be minimized.

b. In the event of damage to any portion of the landfill site facilities, unauthorized leachate discharge, failure of any portion of the landfill systems, damaged or dry groundwater monitoring wells, damage to the liner or leachate collection, removal or treatment systems, fire, explosion, the development of sinkhole(s) or other subsurface instability at the site, landfill gas exceedances in onsite structures, etc., the permittee shall **immediately (within 24 hours)** notify the Department explaining such occurrence and remedial measures to be taken, method to prevent reoccurrence, 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 or gradient 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., or as otherwise approved by the Department.

d. In the event that the stormwater or leachate management systems or liner system is damaged or is not operating effectively, corrective actions shall be implemented **within thirty (30) days** of the written notification specified in Specific Condition #C.6.b., unless otherwise approved by the Department.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.6., cont'd)

e. Intermediately covered areas, or areas which discharge to the stormwater management system, which exhibit significant erosion shall be repaired as specified below:

1) **Within 3 days** if the soil cover materials have eroded such that greater than 50% of the soil in that location has been eroded [ref. Op. Plan, Sec. 7.10.3], or

2) **By the end of the next working day** if waste or liner is exposed.

f. In the event that the intermediately covered side slopes exhibit chronic, "significant" erosion as defined above, a corrective action plan shall be submitted to the Department **within thirty (30) days** of written notification and request from the Department and corrective actions shall be implemented in accordance with the Department approved corrective action plan.

g. Settlement. Areas which exhibit settlement (low spots and improperly graded areas) that may cause ponding of water shall be repaired (additional soil placed, regraded, then seeded, sodded or mulched) **within seven (7) days**.

7. Stormwater System Management.

a. 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 the mixing of stormwater with leachate, 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. All stormwater conveyances shall be inspected at least weekly to verify adequate performance. Conveyances not performing adequately shall be repaired within three (3) working days. Documentation of all inspections and repairs shall be kept on file at the facility.

b. All stormwater conveyances shall be inspected weekly and after a significant rainfall event (greater than 2" rainfall in a 24-hr. period) to verify adequate performance. Conveyances not performing adequately shall be repaired in accordance with the procedures specified in the **Operations Plan** [ref. Op. Plan, Sec. 10]. Documentation of all inspections and repairs shall be kept on file at the facility.

c. Maintenance of the surface water management system shall be conducted in accordance with Section 10.2 of the **Operations Plan**.

d. The permittee shall operate the facility, maintain grades, or utilize berms and swales, to minimize ponded water within the disposal areas [ref. Op. Plan, Sec. 7.10].

SPECIFIC CONDITIONS: PART C - Operation Requirements

8. Leachate Management.

a. Leachate shall be managed in accordance with the requirements of Rule 62-701.500(8), F.A.C., Section 8 of the **Operations Plan**, and other applicable Department rules.

b. The leachate storage tanks (including leachate storage, and treatment, tanks) shall be inspected as required by Rule 62-701.400(6)(c)9., F.A.C.

c. Leachate, which has accumulated in low areas within the disposal area, shall be removed **daily** for disposal.

d. Leachate Collection and Removal System (LCRS)
Inspections/Maintenance.

1) **Between June 15, 2015 and September 15, 2015**, the entire leachate collection and removal system shall be water pressure cleaned and/or video inspected to verify adequate performance [ref. Op. Plan, Sec. 8.9]. Components not performing adequately shall be cleaned and/or repaired. **No later than October 15, 2015**, a *final* report summarizing the inspection results (with a copy of the inspection report) and describing the related corrective actions (repairs) if required (with photographic documentation for all repairs and a copy of the inspection videotape, if applicable) shall be submitted to the Department, to verify adequate performance of the leachate collection and removal system. The *final* report shall be signed and sealed by a professional engineer. The permittee shall retain a copy of the final report, each inspection report and any inspection videotape at the facility for reference.

2) Unless otherwise specified in this permit, the leachate collection and removal system components shall be inspected and maintained as described in Section 8.2 of the **Operations Plan**.

3) The leachate level indicators in the disposal cells, leachate storage tanks and leachate treatment tanks shall be inspected **at least once each business day**, or more frequently if needed, to ensure proper operation [ref. Op. Plan, Sec. 8.2].

4) In the event that the pumps, pump stations or level sensors are not operating as designed, the Department shall be notified in accordance with Specific Condition #C.6.b. Otherwise, documentation of all inspections shall be kept on file at the facility, and provided to the Department upon request.

5) Each pump and pump station and related sensors and controller mechanisms shall be inspected on a semi-annual basis. Pump performance shall be verified and current draw recorded. Pumps showing reduced performance shall be removed for maintenance and repair, and a replacement pump installed if required for continued compliance. Documentation of all inspections shall be kept on file at the facility, and provided to the Department upon request.

SPECIFIC CONDITIONS: PART C - Operation Requirements

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

6) Upon the discovery of any defective (obstructed, separated, deformed) portion of the leachate collection system, the disposal of waste in the affected area shall cease in the affected area until the leachate collection system performance has been restored. Construction of improvements to any part of the LCRS, including significant repairs to the leachate collection system, may require a permit modification pursuant to Specific Condition #A.3. The design and related supporting documents for the construction of improvements shall be substantially equivalent to those required for new construction.

e. Leachate quantities.

1) In the event of a failure of leachate metering or pumping equipment which is not corrected **within 24 hours of detection**, the Department shall be notified, and corrective actions implemented in accordance with Specific Condition #C.6.

2) Leachate generation reports shall be compiled monthly and submitted to the Department **quarterly, by January 15th, April 15th, July 15th and October 15th each year**. Leachate generation reports shall include the number of open, intermediate and closed acres, and the quantities of leachate collected, recirculated, treated and disposed on-site, and hauled/piped off-site to a wastewater treatment facility, and daily precipitation amounts greater than one tenth of an inch. The reports shall include quantities for the leachate collection and leakage detection systems separately [ref. Op. Plan, Sec. 8.2].

f. Leachate Leakage Action Rates. Leakage into the leakage detection systems (LDS) in Phases 1A and 2 should not exceed 930 gpd and 600 gpd respectively (9.3 acres and 6 acres @ 100 gal/acre/day, respectively); and in Phase 3 should not exceed 100 gal/acre/day based on EPA recommended action leakage rates published in the Federal Register/Vol. 57 No. 19/ Wednesday January 29, 1992/Rules and Regulations. Exceedance of the leakage action rate indicates that deficiencies in the primary liner system may exist. In the event that the quantity of leachate that is removed from the LDS exceeds the action leakage rate, the Department shall be notified and a corrective action plan provided in accordance with Specific Condition C.6.b. The approved plan of action shall be implemented within 15 days of Department approval, or in accordance with an alternate schedule approved by the Department.

Amended 6/4/2012.

g. Leachate Tank System Operation.

1) In the event of damage to any portion of the leachate storage tanks systems, the permittee shall **immediately (within 24 hours)** notify the Department explaining such occurrence and remedial measures to be taken and time needed for repairs. Written detailed notification shall be submitted to the Department **within seven (7) days** following the occurrence.

2) The exposed exterior of the leachate storage tank containment area, truck loadout area, and other leachate tank system appurtenances shall be inspected **at least monthly** for defects, leaking and other deficiencies. The containment area and other leachate tank system appurtenances shall be inspected at least daily for leakage or other damage.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.8.g., cont'd)

3) The leachate storage tank system (including leachate storage, and treatment, tanks) shall be inspected as required by Rule 62-701.400(6)(c)9., F.A.C., and in accordance with the conditions of this permit. **No later than November 1, 2012 and November 1, 2015** the interior of the tank shall be inspected. A copy of the inspection report shall be submitted to the Department **within 30 days** of the inspection. In the event that deficiencies are noted in the inspection report, **within fifteen (15) days** of the owner's receipt of the written inspection report, the owner or operator shall propose corrective measures (including a schedule for implementation) to the Department. The deficiencies shall be corrected in accordance with the schedule approved by the Department.

h. Leachate Disposal.

1) The primary leachate disposal method is treatment in the on-site leachate treatment plant and effluent disposal in on-site effluent ponds until the constructed leachate force main is in operation, at which time operation of the on-site leachate treatment plant shall be discontinued. On site treatment and disposal and subsequent off-site leachate transmission and disposal shall be in accordance with Section 8.5 of the **Operations Plan.**

Amended 6/4/2012.

2) In the event that the on-site treatment system is unable to accept leachate for disposal, leachate shall be transported to one of several Citrus County Utilities WWTF [ref. Op. Plan, Sec. 8.2]. The landfill owner or operator shall notify the Department and shall explain the contingency measures and corrective actions which will be implemented in accordance with Specific Condition C.6.b. The contingency measures shall be implemented **within seven (7) days** of the cessation of leachate acceptance at the on-site treatment system or in accordance with an alternate schedule approved by the Department.

3) Leachate shall not be discharged to the environment from leaks, spills or other unpermitted discharges from the force main piping or pumps. Trucking loading shall be operated to prevent to prevent leachate spills from discharging to the environment. In the event that the leaks, spills or other evidence of leachate discharge is observed at the facility, corrective actions shall be required to ensure that appropriate procedures and/or designs are used to prevent discharge of leachate to the environment.

i. Leachate Recirculation.

1) Spray irrigation of leachate effluent from the leachate treatment facility is allowed only within the bermed working face in Phases 2 and 3 from a spray bar mounted on the rear of a tank truck in accordance with the procedures in Section 8 of the **Operations Plan.** Under no circumstance shall leachate be allowed to discharge as runoff to adjacent storm water systems or conveyance ditches. Leachate effluent shall not be sprayed during weather conditions or in quantities that may cause runoff, surface seeps, wind-blown spray, or exceedances of limits of leachate head on the liner. The spray irrigation of treated leachate effluent shall not cause ponding on landfilled areas [ref. Op. Plan, Sec 8].

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.8.i., cont'd)

2) Leachate may be applied in Phase 3 once 30 ft. of waste is in place at a maximum rate of 3,552 gals/day. Once 70 ft of waste is in place in Phases 2 and 3, a maximum of 4,663 gals/day may be applied [ref. Op. Plan, Sec 8].

j. Phase 1/1A Leachate Riser Rehabilitation.

1) Within 30 days of issuance of this permit, the permittee shall provide a rehabilitation completion report that includes, a narrative description of the work conducted, a video inspection of the repair, detail drawings of the rehabilitated leachate riser pipes and leachate pump system, and information demonstrating that the rehabilitated side slope riser system will adequately function to remove leachate from the Phase 1/1A leachate collection system.

2) Within 30 days of Department approval of the Phase 1/1A leachate riser rehabilitation completion report, the permittee shall either submit a minor permit modification in accordance with Specific Condition #D.2.b. to revise Section 8 of the **Operations Plan** to describe the operation of the revised Phase 1/1A leachate collection system, based on the rehabilitation of the of the side slope riser system or provide written notification that no revision to the **Operations Plan** is required.

9. **Special Wastes Handling Requirements.** The design, operation, and monitoring of disposal or control of any "special wastes" shall be in accordance with the procedures in Section 2.4 of the **Operations Plan**; Rules 62-701.300(8) and 62-701.520, F.A.C.; and any other applicable Department rules, to protect the public safety, health and welfare. The special wastes shall be stored and managed such that discharge of contaminants to the environment is prevented. The special wastes shall be handled on a first-in, first-out basis. The special wastes shall be stored in a location, which does not interfere with the sequence of filling.

a. Wastes which may include residual contaminants (such as gasoline, oil, paint, antifreeze, PCBs, etc.) shall be stored and managed such that the residues or constituents thereof are not spilled, leaked, dumped, or otherwise discharged onto the soil or into surface or groundwaters.

b. Special wastes (such as lead acid batteries, white goods, etc.), found at the working face, shall be stored in locations which do not adversely affect the sequence of filling, and shall be managed as described in Section 2.4 of the **Operations Plan**.

c. The special wastes shall be handled on a first-in, first-out basis and stored in the designated areas as identified in Section 2.4 of the Operations Plan. Unless otherwise specified in this permit, special wastes shall be removed from the facility for recycling and/or disposal **within 30 days of receipt or when the designated storage area/container is full, whichever occurs first**, unless another frequency for removal is approved in writing by the Department.

d. Asbestos. Asbestos shall be managed in accordance with Section M.3 of the Engineering Report [ref. SC#A.2.a., Eng. Report, Sec M.3], Rule 62-701.520(4), F.A.C., and all other applicable federal and Department rules.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.9., cont'd)

- e. Contaminated Soil. Contaminated soil (except dredge spoil) shall be disposed within the working area and shall have representative analytical results that demonstrate that the material is not hazardous and that the material has been adequately dewatered prior to delivery so that the material passes the paint filter test [ref. SC#A.2.a., Eng. Report, Sec. M.4].
- f. White Goods. White goods, which may contain chlorofluorocarbons (CFCs, such as freon), shall be stored and managed at the CSA in a manner such that the CFCs are not discharged to the atmosphere. White goods which have had the refrigerant appropriately removed shall be clearly marked.
- g. Scrap metals. Scrap metals which may include residual contaminants such as gasoline, oil, paint, antifreeze, PCBs, etc., shall be stored and managed at the CSA such that the residues or constituents thereof are not spilled, leaked, dumped, or otherwise discharged onto the soil or into surface or groundwaters. Scrap metals storage containers shall be tarped at the end of each working day and in the event of inclement weather. The maximum quantity of scrap metal which may be stored at the CSA is limited to 50 tons [ref. EIC Plan, Appendix Three].
- h. Lead acid batteries. The batteries shall be stored on two pallets at the CSA in a manner which prevents the discharge of contaminants to the environment. The maximum quantity of batteries which may be stored at the CSA is limited to 150 batteries (50-75 per pallet). [ref. EIC Plan, App. Three].
- i. Yard Waste. Yard waste shall be managed in accordance with the **Operations Plan**, the facility's Source-Separated Organics Processing Facility Registration, and Rule 62-701.320, F.A.C. [ref. Op. Plan, Sec 2.4]. A 50/50 mixture of mulched yard trash/land clearing debris and soil may be used for sideslope stabilization and erosion control in the Class I Landfill.
- j. Tires. Storage shall be limited to 115 tons of tires. Tires removed from the incoming waste stream shall be managed at the facility's waste tire processing facility in accordance with Chapters 62-701 and 62-711, F.A.C., and **Permit #126602-003-WT/02** (including modifications, if any), or its successors.
- k. The household hazardous waste collection/storage ("HHW C/S") facility shall be operated in accordance with the **Hazardous Waste Facility Emergency Incidents and Contingency Plans** [ref. EIC Plan, Appendix Five)], as follows [ref. Op. Plan, Sec 2.4]:
 - 1) HHW received at the Citizen Convenience Center shall be identified, and then relocated for storage within the containment area of the HHW Collection/Storage Facility at the end of each collection day.
 - 2) Spillage shall be removed and properly packaged for disposal. Soils which have been contaminated by spills shall be removed and packaged for proper disposal on the same day as the spill occurred.
 - 3) Liquids, including contaminated rainwater, shall not be discharged outside of the containment structures.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.9.k., cont'd)

- 4) Latex paints shall be stored within a secondary containment area and may either be collected by a contractor or used in an approved alternate daily cover (ADC) process.
 - 5) Waste received at the HHW C/S Facility shall be stored within containment areas at all times.
 - 6) Records on the quantities of HHW collected and removed for disposal shall be compiled quarterly and maintained at the facility for Department review upon request.
1. Used Oil & Antifreeze. Used oil and antifreeze are each placed into double-wall containers within the CSA and collected by a contractor.

m. Citizen Service Area [CSA]: The operation of the citizen waste drop-off facility shall comply with the following procedures:

- 1) Only residential customers and self-haul businesses shall use the facilities, that is, no solid waste collectors or commercial haulers will be allowed usage.
- 2) An attendant shall be at the CSA when waste is being received. Operating hours shall be posted, and fencing and gates shall be used to prevent unauthorized access when the facility is closed.
- 3) Only roll-off containers and/or dumpsters shall be utilized for waste storage. No compactors of any type shall be used.
- 4) All processable and non-processable solid waste, with the exception of recyclables, shall be removed from the site at least daily or when a container is full. At the close of business each day, or in the event of inclement weather, all processable and non-processable waste shall be covered with a waterproof tarp until the facility is again receiving solid waste.
- 5) The CSA shall be inspected for unauthorized materials and household hazardous waste at least daily. Unauthorized wastes and household hazardous wastes shall be removed from the CSA daily on operating days.
- 6) The maximum quantities of waste/materials that shall be stored in the CSA are as indicated in Appendix Three of the **Emergency Incidents and Contingency Plan**.

SPECIFIC CONDITIONS: PART C - Operation Requirements

10. Waste Handling Requirements.

a. Unauthorized Wastes. A sufficient number of spotters shall be utilized at the facility for removing unacceptable wastes. Unauthorized wastes shall be removed from the site for proper disposal in accordance with the **Operations Plan** [ref. Op. Plan, Sec. 2.4]. Spotting may be conducted at the working face from the equipment (i.e., not from the ground) while waste is being disposed, under the following conditions:

- 1) The heavy equipment operator is trained as an operator or spotter;
- 2) When unauthorized waste is discovered, the heavy equipment operator shall either move the unauthorized waste away from the active area for subsequent removal and proper management by another person on the ground, or shall stop operation and notify another person on the ground or on other equipment who shall come to the active area and remove the unauthorized waste before operations are resumed; and
- 3) Each load of waste must be visually inspected for unauthorized waste prior to being compacted or covered.

b. A trained spotter shall be at the working face, the CSA, and other special waste management areas at all times that wastes are received.

11. Waste Covering Requirements. All solid waste disposed of in the Class I landfill shall be covered as required by Rule 62-701.500(7), F.A.C.

a. Initial Cover. Initial cover shall be applied and maintained at the end of each working day in the Class I landfill in accordance with Rule 62-701.500(7)(e), F.A.C., so as to protect the public health and welfare.

1) All solid waste disposed of in the Class I landfill must be covered with at least 6 inches of compacted earth or other suitable material as approved by the Department (in writing), at the end of each working day [ref. Op. Plan, Sec. 2.8.2]. Working areas which have received initial cover and exhibit erosion which results in exposed waste shall be repaired **by the end of the next working day.**

2) A 50/50 mixture of mulched yard trash/land clearing debris and soil may be spread over initial cover for soil stabilization and erosion control [ref. Op. Plan, Sec 2.8.2].

3). Alternate daily cover materials (ADCM) shall be approved by the Department prior to use at the facility. Tarps, ProGuard SB alternate daily cover material, ConCover, Posi-Shell and FINN Waste Cover alternate daily cover material, and 50/50 mixtures of soil/mulch are approved for use as alternate initial cover [ref. Op. Plan, Sec. 2.8.2]. ADCM shall be utilized as described in Section 2.8.2 of the **Operations Plan**. Other Department-approved ADCM may be used as initial cover only, but shall not be used outside of bermed working face area without specific prior Department approval.

SPECIFIC CONDITIONS: PART C - Operation Requirements

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

b. Intermediate Cover. Intermediate cover shall be applied and maintained in accordance with Rules 62-701.500(7)(a) and (f), F.A.C. Cover materials other than soil (unless identified herein) shall not be used for intermediate cover without prior written Department approval.

1) An intermediate cover of 12 inches of compacted soil and 6 inches of mulch for erosion control and slope stabilization, in addition to the six (6) inch initial cover shall be applied within seven (7) days of cell completion if final cover or an additional lift is not to be applied within 180 days of cell completion. A 50/50 mixture of soil/mulch is approved for use as alternate intermediate cover [ref. Op. Plan, Sec. 2.8.2.].

2) Soil materials, which have been previously used for intermediate or initial cover, shall not be re-used for intermediate cover. These materials may be re-used as initial cover provided the runoff from these areas is managed as leachate.

12. Working Face.

a. As required by Rule 62-701.500(7)(d), F.A.C., the permittee shall minimize the size of the working face to minimize leachate, and unnecessary use of cover material. The permittee shall maintain the working face of a cell only wide enough to efficiently accommodate the maximum quantity of vehicles discharging waste simultaneously and to minimize the exposed area [ref. Op. Plan, Sec. 7.4].

b. Interceptor berms shall be maintained around the active working area to prevent leachate runoff from the working face from entering the stormwater management system. Runoff from outside the working face area will not be considered stormwater if the flow passes over areas which have not been intermediately covered as defined by Rule 62-701.200(55), F.A.C., and stabilized to control erosion, or waste is exposed.

13. Method and Sequence of Filling.

a. The method and sequence of filling shall be in accordance with the **Operations Drawings** [ref. SC#A.2.a.(4), Sheet 5 of 9], and as described in the **Operations Plan** [ref. Op. Plan, Sec. 2.8.1], or as otherwise approved in writing by the Department.

b. Waste shall be spread in 2 ft thick layers and compacted to 1 ft thickness before applying the next layer of waste and in accordance with the method, procedures, and sequence described in the facility **Operations Plan** [ref. Op. Plan, Sec. 2.7]. Slopes shall be maintained in accordance with the **Operations Drawings**.

c. Initial Waste Placement.

1) Protective sand layer placement and rain tarp removal prior to initial waste placement shall be in accordance with the procedures in Section 2.9.1 of the **Operations Plan**.

2) 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.

SPECIFIC CONDITIONS: PART C - Operation Requirements

(Specific Condition #C.13.c., cont'd)

3) The first lift of waste shall be a minimum of four (4) 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 2.8.1 of the **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.

d. The permittee shall clearly stake/mark the location of the edge of the liner and maintain the locations as the landfill increases in elevation.

e. 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. **Annually, no later than January 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 survey shall demonstrate that the above-grade sideslopes are no greater than the design slopes, that the top elevation does not exceed design elevation, and that all other design features and related improvements conform to the Department-approved permit drawings. The capacity estimate shall include updated design life calculations.

SPECIFIC CONDITIONS: PART D - Recordkeeping

1. Report Submittals.

a. Unless specified otherwise in this permit, all submittals, notifications, or requests for permit modification shall be provided to the Southwest District Solid Waste Section, 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926.

2. Operation Plan and Operating Record.

a. Each landfill owner or operator shall have an operational plan which meets the requirements of Rule 62-701.500(2), F.A.C. A copy of the Department approved permit, operational 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., are part of the operations plan, and shall also be maintained at the site.

b. Proposed changes to the current Department-approved **Operations Plan** shall be submitted in writing to the Department for review and may require a permit modification in accordance with Specific Condition #A.3. The **Operations Plan** shall be updated as operations change and for renewal of the permit. Revised pages shall be provided as replacement pages with revisions noted (deletions may be struckthrough (~~struckthrough~~) and additions may be underlined (underlined) or a similar method may be used) and each page numbered with the document title and date of revision.

3. Waste Records.

a. Waste records shall be maintained as required by Rule 62-701.500(4), F.A.C. The owner or operator of the facility shall weigh each load of waste as it is received (with scales at the facility) and record, in tons per day, the amount of waste debris and material received. This information shall be compiled **monthly** and submitted to the Department (Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, M.S. 4565, Tallahassee, Florida 32399-2400) **quarterly, by January 15th, April 15th, July 15th and October 15th of each year.** In the event that the scales become inoperable, waste may be received for disposal for a maximum time period of 24 hours or as otherwise approved by the Department, until normal operations resume.

b. The following reports, documents and other information shall be kept at the facility for reference, and copies shall be provided to the Department upon request:

1) Waste quantity reports required by Rule 62-701.500(4), F.A.C.

2) A log of the facility operator's daily and weekly inspections, and any subsequent corrective actions;

3) Load checking records;

4) A list of incidents of disposal of contaminated soil or other industrial wastes or sludges. This list should include the generator's name and address, and a description of the waste disposed; and

5) Operator and spotter training certificates and other documentation;

6) Log of odor complaints and corrective action;

SPECIFIC CONDITIONS: PART D - Recordkeeping

(Specific Condition #D.3.b., cont'd)

- 7) Records as described in Rule 62-701.500(13). These records shall include all certifications for construction completion;
- 8) Documentation of incidents reported pursuant to Specific Condition C.6.; and
- 9) Water quality and gas monitoring reports.
- 10) Gas collection and control system monitoring records [ref. Op. Plan, Sec.2.9.1.3].

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 for approval **annually, by September 1st each year** to: Solid Waste Manager, Solid Waste Section, Department of Environmental Protection, 13051 North Telecom Parkway, Temple Terrace, Florida 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, Tallahassee, Florida 32399-2400.
- c. 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 Phase 3 portion of the landfill.

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, leachate influent, leachate treatment plant effluent, and leachate treatment plant sludge samples shall be conducted in accordance with the Standard Operating Procedures (SOPs) described in DEP-SOP-001/01 (revised March 31, 2008, effective December 3, 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 certification 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 shall extend horizontally 100 feet from the limits of the landfill disposal areas or to the property boundary, whichever is less, and shall extend vertically to the first semi-confining unit within the upper Floridan 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(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 landfill disposal areas.

3. Ground Water Monitor Well Locations. The ground water monitoring network is designed and shall be constructed in accordance with the document entitled "Water Quality and Leachate Monitoring Plan, Central Landfill, Citrus County, Florida," prepared by SCS Engineers, dated September 22, 2010 [ref.SC#A.2.a.(2)]. The ground water monitor wells are located on the figure entitled "Attachment 1, Site Plan," prepared by SCS Engineers, received September 30, 2010 (**attached**), as follow:

<u>Well #</u>	<u>Scheduling Notes</u>	<u>WACS Testsite #</u>	<u>Aquifer Monitored</u>	<u>Well Designation</u>	<u>Location</u>
MW-3	A	150	Floridan	Background	See figure
MW-7	A	179	Floridan	Background	See figure
MW-10	A	22010	Floridan	Compliance	See figure
MW-11	A	22011	Floridan	Compliance	See figure
MW-12	A	22012	Floridan	Compliance	See figure
MW-13	A	22013	Floridan	Compliance	See figure
MW-14	A	22014	Floridan	Compliance	See figure
MW-15	A	22015	Floridan	Compliance	See figure
MW-17	A	22017	Floridan	Compliance	See figure
MW-20	B, X	23691	Floridan	Compliance	See figure
MW-21	B, Y	27449	Floridan	Compliance	See figure

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.3., continued)

<u>Well #</u>	<u>Scheduling Notes</u>	<u>WACS Testsite #</u>	<u>Aquifer Monitored</u>	<u>Well Designation</u>	<u>Location</u>
MW-18	A	22709	Floridan	Assessment	See figure
MW-19	A	22710	Floridan	Assessment	See figure
MW-6	A	168	Floridan	Intermediate	See figure
MW-1R	A, Z	165	Floridan	Piezometer	See figure
MW-2	A	149	Floridan	Piezometer	See figure
MW-5	A	167	Floridan	Piezometer	See figure
MW-8R	A	180	Floridan	Piezometer	See figure
MW-9	A	181	Floridan	Piezometer	See figure
MW-16	A	22016	Floridan	Piezometer	See figure
MW-AA	A	169	Floridan	Piezometer	See figure
MW-B	A	65	Floridan	Piezometer	See figure
MW-E	A	171	Floridan	Piezometer	See figure
PZ-1	A	22711	Floridan	Piezometer	See figure
PZ-2	A	22712	Floridan	Piezometer	See figure

Scheduling Notes:

A = existing well/piezometer; construction details previously submitted.

B = proposed compliance wells MW-20 and MW-21 shall be installed in accordance with the construction details provided in Attachment 2 of the document entitled "Water Quality and Leachate Monitoring Plan, Central Landfill, Citrus County, Florida," prepared by SCS Engineers, dated September 22, 2010 [ref.SC#A.2.a(2)]; a ground water "initial sampling event" shall be conducted **within 7 days of well installation and development** for the parameters referenced in Specific Condition #E.5.c.

X = documentation of well construction details prepared in accordance with Specific Conditions #E.5.b., and #E.5.d., and the results of the ground water "initial sampling event" shall be **submitted as part of the certification of the Phase 3 construction completion** [ref.SC#B.3.a(9) of permit #21375-013-SC/01].

Y = documentation of well construction details prepared in accordance with Specific Conditions #E.5.b., and #E.5.d., and the results of the ground water "initial sampling event" shall be **submitted within 30 days of receipt of laboratory results**.

Z = the designation of existing "background well" MW-1R will change to "piezometer" upon initiation of waste disposal in the Phase 3 expansion area.

All monitor wells and piezometers are to be clearly labeled and easily visible at all times. Bollards or other devices shall be installed to protect the monitor wells located in areas of high traffic flow within the facility. The permittee shall keep all monitor wells locked to minimize unauthorized access.

4. Ground Water Sampling. 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 Rule 62-520.420(1), F.A.C., and with the ground water minimum criteria referenced in Rule 62-520.400(1), F.A.C. Ground water samples for analysis of metals may be field-filtered if the criteria listed in the Department's 1994 technical document entitled *Determining Representative Ground Water Samples, Filtered or Unfiltered* are met, and shall be limited to the monitor wells that are screened in unconsolidated sandy sediments. Otherwise, compliance with ground water standards shall be based on the analysis of unfiltered samples.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.4., continued)

a. Ground water levels shall be measured at all active wells and piezometers listed in Specific Condition #E.3., during all sampling events described in Specific Conditions #E.4.b., #E.4.c., and #E.4.d., to a precision of 0.01 foot. The ground water surface contour maps prepared for each sampling event shall include ground water elevations (using a consistent, nationally recognized datum) calculated for each well and piezometer.

b. All active background wells (MW-3, and MW-7) and compliance wells (MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-20 and MW-21) listed in Specific Condition #E.3., shall be sampled **semi-annually** (during the periods from Jan. 1 - June 30, and from July 1 - Dec. 31) for analysis of the following parameters:

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

Prior to the initiation of waste disposal in the Phase 3 expansion area, existing background well MW-1R shall be included in the routine, semi-annual sampling events. Following completion of the ground water "initial sampling event," proposed compliance wells MW-20 and MW-21 shall be included in subsequent routine, semi-annual sampling events.

c. Intermediate well MW-6 shall be sampled **semi-annually** (during the periods from Jan. 1 - June 30, and from July 1 - Dec. 31) for analysis of the following parameters:

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

d. Assessment wells MW-18 and MW-19 shall be sampled **semi-annually** (during the periods from Jan. 1 - June 30, and from July 1 - Dec. 31) for analysis of the following parameters:

<u>Field Parameters</u>	<u>Laboratory Parameters</u>
Static water levels	Benzene
before purging	Methylene chloride
Specific conductivity	Vinyl chloride
pH	
Dissolved oxygen	
Temperature	
Turbidity	
Colors & sheens (by obs.)	

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 and piezometers, or as stated below:

a. Prior to construction of all new or replacement wells and piezometers (excluding the proposed compliance wells listed in Specific Condition #E.3.), the permittee shall request and receive Department approval of a minor permit modification in accordance with Specific Condition #A.3.

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 #62-701.900(30), Monitoring Well Completion Report (attached).

c. **Within one week of well completion and development**, each new or replacement well shall be sampled for the parameters listed in 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 62-532.500(5), F.A.C., and the rules of 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.

7. **Verification/Evaluation Monitoring.** If at any time monitoring parameters are detected in concentrations that are significantly above background water quality or that are at levels above the Department's water quality standards or minimum criteria specified in Chapter 62-520, F.A.C., in any detection well, the permittee has 30 days from receipt of the sampling results to resample the monitor well(s) to verify the original analysis. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate evaluation monitoring as described in Rules 62-701.510(7)(a) and 62-701.510(7)(b), F.A.C. If monitoring parameters are detected and confirmed at concentrations that exceed both background water quality and the Department's water quality standards or minimum criteria in any compliance well, the permittee shall notify the Department within 14 days of this finding and shall initiate corrective actions as described in Rule 62-701.510(7)(c), F.A.C.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

8. **Surface Water Sampling.** 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.). It is not anticipated that the existing stormwater management system will discharge from the property. However, in the event that surface water discharge occurs from the stormwater management system, representative samples of each discharge event shall be collected for analysis of the parameters listed in Specific Condition #E.8.b. In the event that any modifications to the stormwater management system associated with future uses of the landfill 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 reported at or below the surface water criteria established for the individual parameters in Chapter 62-302, F.A.C., to demonstrate compliance with Class III surface water (predominantly freshwater) criteria. 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 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:

Field parameters

Specific conductivity
pH
Dissolved oxygen
Turbidity
Temperature
Colors and sheens
(by obs.)

Laboratory parameters

Unionized ammonia	Total organic carbon (TOC)
Total hardness	Total nitrogen
(as mg/L CaCO ₃)	Chemical oxygen demand (COD)
Total phosphorus	Fecal coliform
(as mg/L P)	Biochemical oxygen demand (BOD ₅)
Iron	Chlorophyll A
Mercury	Total dissolved solids (TDS)
Nitrate	Total suspended solids (TSS)
Those parameters listed in 40 CFR, Part 258, Appendix I	

9. **Leachate Sampling.**

a. **Leachate Influent Sampling.** Grab samples of leachate influent (unfiltered) shall be collected for the sampling events described in Specific Conditions #E.9.a.(2) and #E.9.a.(3). Method Detection Limits must be reported at or below the regulatory levels established for the individual parameters to demonstrate compliance with 40 CFR, Part 261.24. 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.

1) Representative leachate influent samples shall be collected from the locations depicted on the figure entitled "Attachment 1, Site Plan," prepared by SCS Engineers, received September 30, 2010 (**attached**), as follow:

Landfill	WACS	Leachate Sampling Location Description
Phase #	Testsite #	
Phases 1/1A	172	Master lift station
Phase 2	21790	Primary pump sampling port
Phase 3	23692	Side slope riser pipe sampling port
Composite	27352	Composite leachate influent sample from Phases 1/1A, Phase 2 and Phase 3

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.9.a.(1), continued)

The leachate influent samples collected from Phases 1/1A, Phase 2, and Phase 3 may be composited and submitted for laboratory analysis except that individual samples of leachate influent shall be collected from each of the phases for analysis of volatile organic compounds.

2) **Annual** leachate influent sampling (for the periods from Jan. 1 to Dec. 31) shall be conducted for analysis of the following parameters:

Field Parameters

Specific conductivity
pH
Dissolved oxygen
Turbidity
Temperature
Colors & sheens
(by obs.)

Laboratory Parameters

Total ammonia - N	Iron
Nitrate	Mercury
Chlorides	Sodium
Total alkalinity (as mg/L CaCO ₃)	
Total dissolved solids (TDS)	
Biochemical oxygen demand (BOD ₅)	
Chemical oxygen demand (COD)	
<u>Those parameters listed in</u>	
40 CFR, Part 258, Appendix II	

3) If the annual leachate influent analysis indicates that a contaminant listed in 40 CFR, Part 261.24 exceeds the regulatory level listed therein, the permittee shall initiate **monthly** sampling at the individual Phase locations listed in Specific Condition #E.9.a.(1) for analysis of the parameters listed in Specific Condition #E.9.a.(2), and shall notify the Department in writing in accordance with Specific Condition #C.6.b. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

b. Leachate Treatment Plant Effluent Sampling. Grab samples of treated leachate effluent (unfiltered) shall be collected at the discharge from the chlorine contact tank (WACS Testsite #175) as shown on the figure entitled "Attachment 1, Site Plan," prepared by SCS Engineers, received September 30, 2010 (**attached**), to comply with the ground water standards and minimum criteria referenced in Rules 62-520.420 and 62-520.400, F.A.C., respectively, as listed in Specific Condition #E.9.b.(2), below.

If two consecutive routine monitoring events conducted at intermediate well MW-6 (as described in SC#E.4.c.) report arsenic, sodium, chloride or TDS at concentrations that exceed ground water standards, the Department shall be notified within 24 hours of discovery. A supplemental sampling event shall be conducted within 30 days of receipt of the results of the second routine monitoring event at well MW-6 for analysis of the affected parameter(s). In the event that the ground water standard exceedance(s) are confirmed, within 24 hours of receipt of the resampling event results the permittee shall notify the Department, cease discharge into the percolation ponds and provide off-site disposal for its leachate and/or effluent. Within 7 days of receipt of the resampling event results the permittee shall submit a written evaluation of the exceedance(s) to the Department that determines the appropriateness of establishing an alternate maximum concentration in the leachate effluent for the affected parameter(s) or indicates that use of the percolation pond shall be discontinued. The permittee shall not resume discharge of effluent into the percolation pond until approved by the Department. In lieu of conducting a resampling event and preparing the written evaluation described above, the permittee may notify the Department that the use of the percolation pond shall be permanently discontinued.

Amended 03/15/2011.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.9.b., continued)

1) Leachate effluent shall be sampled at the frequency listed in Specific Condition #E.9.b.(2), and the analytical results shall be submitted **quarterly**, as follows: Quarter 1 results shall be submitted by **April 15th**; Quarter 2 by **July 15th**; Quarter 3 by **October 15th**; and, Quarter 4 by **January 15th**.

2) Leachate effluent samples shall be collected for analysis of the following parameters [Table F(2) (b), ref. SC#A.2.a.(2)]:

Parameter	Unit	Minimum	Maximum	Frequency
Flow	gpd	N/A	30,000	Daily
pH	STD UNITS	6.00	8.50	Daily
CBOD ₅	mg/l	N/A	20	Monthly
TSS	mg/l	N/A	20	Monthly
Nitrate - N	mg/l	N/A	10	Monthly
Chloride	mg/l	N/A	N/A	Quarterly
Sodium	mg/l	N/A	N/A	Quarterly
TDS	mg/l	N/A	N/A	Quarterly
Arsenic	mg/l	N/A	N/A	Quarterly
Total ammonia - N	mg/L	N/A	2.8	Quarterly
Benzene	µg/l	N/A	1	Quarterly
Toluene	µg/l	N/A	40	Quarterly
Ethylbenzene	µg/l	N/A	30	Quarterly
Total Xylenes	µg/l	N/A	20	Quarterly
Vinyl Chloride	µg/L	N/A	1	Quarterly
Ethylene dibromide (EDB)	µg/l	N/A	0.02	Quarterly
Total Trihalomethanes	µg/l	N/A	100	Semi-annually*
Barium	mg/l	N/A	2	Annually
Cadmium	mg/l	N/A	0.005	Annually
Chromium	mg/l	N/A	0.1	Annually
Iron	mg/l	N/A	0.3	Annually
Mercury	mg/l	N/A	0.002	Annually
Lead	mg/l	N/A	0.015	Annually
Selenium	mg/l	N/A	0.05	Annually
Silver	mg/l	N/A	0.1	Annually

* =to be conducted concurrently with the semi-annual ground water sampling events described in Specific Conditions #E.4.b., and #E.4.c.

If in any two consecutive leachate effluent sampling events the same listed parameter exceeds the regulatory level indicated above, the permittee shall immediately cease discharge into the percolation pond and provide off-site disposal for its leachate and/or effluent, until acceptable leachate treatment is demonstrated and resumption of on-site discharge into the percolation pond is approved by the Department.

Amended 03/15/2011.

3) **Annually**, the leachate effluent shall be analyzed for those parameters listed in 40 CFR, Part 258, Appendix I, however the effluent shall be analyzed for those parameters listed in 40 CFR, Part 258, Appendix II during the annual sampling event conducted prior to permit renewal.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.9., continued)

c. Leachate Treatment Plant Sludge Sampling. Waste sludge from the leachate treatment plant shall be sampled and analyzed **annually** using Department SOPs for the following parameters:

- Toxicity Characteristic Leaching Potential Test (TCLP) for the organics, metals and pesticides listed in 40 CFR, Part 261.24, Table 1
- pH (standard units)
- Solids (percent)

Waste sludge that is not classified as hazardous waste (Rule 62-730.030, F.A.C.) may be disposed in the Class I landfill. Based upon the results of the analyses, the Department may require further testing and alternative disposal to assure compliance with all Department rules and regulations. The Department shall be notified within thirty (30) days of alternative sludge disposal activities.

10. Water Quality and Leachate Reporting Requirements. The results of each ground water, surface water, leachate influent, leachate treatment plant effluent, and leachate treatment plant sludge sampling event conducted at the Citrus Central landfill to comply with the Specific Conditions of this permit shall be included in Electronic Data Deliverable (EDD) reports that provide:

a. Required water quality and leachate (influent, effluent, and sludge) 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 monitoring EDD reports 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: <http://www.dep.state.fl.us/waste/categories/shw/pages/ADaPT.htm>. 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 Department Form #62-701.900(31);
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.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

(Specific Condition #E.10., continued)

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

1. Specific Conditions #E.4.b., #E.4.c., #E.4.d. - results of ground water routine 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-Dec. 31, and Jan. 1-June 30, respectively;
2. Specific Condition #E.5.c. - results of ground water "initial sampling events" shall be submitted **within 30 days from completion of laboratory analyses;**
3. Specific Condition #E.7. - results of ground water verification events shall be submitted **within 60 days from completion of laboratory analyses;**
4. Specific Condition #E.8.b. - results of surface water "discharge sampling events" shall be submitted **within 60 days from completion of laboratory analyses;**
5. Specific Condition #E.9.a.(2) - results of leachate influent routine annual sampling events shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th of each year** for the periods Jan. 1-Dec. 31;
6. Specific Condition #E.9.a.(3) - results of leachate influent monthly sampling events shall be submitted **within 30 days from completion of laboratory analyses;**
7. Specific Condition #E.9.b.(1) - results of leachate treatment plant effluent periodic sampling events [see SC #E.9.b.(2)] shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th, April 15th, July 15th and October 15th of each year** for the periods Oct. 1-Dec. 31, Jan. 1-Mar. 31, Apr. 1-June 30, and July 1-Sep. 30, respectively;
8. Specific Condition #E.9.b.(3) - results of leachate treatment plant effluent routine annual sampling events shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th of each year** for the periods Jan. 1-Dec. 31; and;
9. Specific Condition #E.9.c. - results of leachate treatment plant sludge sampling events shall be submitted **within 60 days from completion of laboratory analyses and no later than January 15th of each year** for the periods Jan. 1-Dec. 31.

SPECIFIC CONDITIONS: PART E - Water Quality Monitoring Requirements

11. Monitoring Plan Evaluation.

a. By May 15, 2013 and by October 15, 2015, the permittee shall submit an evaluation of the water quality and leachate monitoring data. The periods of time to be covered by the evaluations are summarized below:

<u>Water Quality Monitoring Data Evaluation Due Date</u>	<u>Starting Sampling Event</u>	<u>Ending Sampling Event</u>
May 15, 2013	First half 2010	Second half 2012
October 15, 2015	First half 2013	First half 2015

The evaluations shall include the applicable information as listed in Rule 62-701.510(9)(b), F.A.C., and shall include assessment of the effectiveness of the existing facility design and operation as related to the prevention of ground water and surface water contamination. Any contamination that may exist shall be addressed as part of evaluation monitoring conducted at the facility in accordance with Rule 62-701.510(7), F.A.C. The evaluations shall be sent to: Solid Waste Section, Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926.

b. The permittee shall implement corrective actions at the facility to address exceedances of ground water standards reported for monitor wells at the south and west property boundaries in accordance with Consent Order OGC File No. 05-1078 [ref.SC#A.2.b.]. Any proposed changes to the monitoring plan (monitoring well locations, sampling frequency or monitoring parameters) that result from the implementation of these corrective actions shall require a modification to the permit in accordance with Specific Conditions #A.3., and #E.5., prior to the implementation of the monitoring plan changes.

SPECIFIC CONDITIONS: PART F - Landfill Gas Management

1. Landfill Gas - NSPS and Title V Air Requirements.

a. This solid waste permit will meet the statutory requirement to obtain an air construction permit before modifying or constructing a source of air pollution, except for those landfills that are subject to the prevention of significant deterioration (PSD) requirements of Chapter 62-212, F.A.C. Facilities that are subject to the PSD requirements shall obtain an air construction permit from the Bureau of Air Regulation prior to beginning construction or modification pursuant to Rule 62-210.400, F.A.C.

b. The permittee shall comply with any applicable Title V air operation permit application requirements of Chapter 62-213, F.A.C., and 40 CFR 60, Subparts WWW and Cc, as adopted by reference at Rule 62-204.800, F.A.C. Title V Permit applications shall be submitted to the District Air Program Administrator or County Air Program Administrator with air permitting authority for the landfill.

c. The permittee shall submit to the Division of Air Resources Management, Department of Environmental Protection, Mail Station 5500, 3900 Commonwealth Blvd., Tallahassee, FL 32399-3000, any amended design capacity report and any Non-Methane Organic Compound (NMOC) emission rate report, as applicable, pursuant to 40 CFR 60.757(a)(3) and (b).

2. Gas Monitoring and Control.

a. Landfills that receive biodegradable wastes shall have a gas management and control system designed to prevent explosions and fires, and to minimize off-site odors, lateral migration of gases and damage to vegetation. Landfill gas shall be monitored and controlled as required by Rule 62-701.530, F.A.C.

b. Landfill gas shall be monitored to demonstrate compliance with the criteria established in Rule 62-701.530(1)(a), F.A.C. (less than 25% of the lower explosive limit (LEL) for combustible gases in structures and less than 100% of the LEL for combustible gases at or beyond the property boundary).

c. The results of **quarterly gas monitoring** required by Rule 62-701.530(2)(c), F.A.C., conducted at the locations listed in Specific Condition #F.3., shall be submitted to the Department by the following dates:

Measured During

Quarter 1
Quarter 2
Quarter 3
Quarter 4

Report Submitted By

April 15th of each year
July 15th of each year
October 15th of each year
January 15th of each year

SPECIFIC CONDITIONS: PART F - Landfill Gas Management

3. **Gas Monitoring Locations.** The enclosed structures and gas monitoring probes shown on Figure 9-1 entitled "Landfill Gas Monitoring Probe Locations, Citrus County Central Landfill," prepared by SCS Engineers, received April 21, 2010 (**attached**), shall be sampled at least **quarterly** for concentrations of combustible gases determined as a percent of the LEL calibrated to methane, as described in Rule 62-701.530(2), F.A.C.

Monitoring Probes

Active Landfill
(Phases 1/1A, 2, 3)

Closed 60-acre Landfill

Location Description

Existing GP-12, GP-13, GP-14, GP-15, GP-16,
GP-17, GP-18 and GP-19

Existing GP-1, GP-2, GP-3, GP-4, GP-5, GP-6,
GP-7, GP-8, GP-9, GP-10 and GP-11

Ambient

Monitoring Locations

Scale House

Administrative Building

Leachate Treatment Plant

Gun Range

Location Description

Along baseboards, at cracks in concrete slab
or flooring, ground-level cabinets,
electrical outlets and panels

Along baseboards, at cracks in concrete slab
or flooring, ground-level cabinets,
electrical outlets and panels

At cracks in concrete slab or flooring,
ground-level cabinets, electrical outlet
and panels

At cracks in concrete slabs, concrete slab
penetrations, electrical outlets and
switches

All gas monitoring probes are to be clearly labeled and easily visible at all times.

4. **Gas Remediation.**

a. If the results of gas monitoring show that combustible gas concentrations exceed 25% of the LEL calibrated to methane in structures or 100% of the LEL calibrated to methane at the property boundary, the permittee shall immediately take all necessary steps to ensure protection of human health and notify the Department. **Within 7 days** of detection, a gas remediation plan detailing the nature and extent of the problem and the proposed remedy shall be submitted to the Department for approval. The remedy shall be completed **within 60 days** of detection unless otherwise approved by the Department.

b. In the event that the remediation activities required by Consent Agreement OGC File No. 05-1078 for landfill gas migration result in additional gas monitoring locations or gas management systems, the permittee shall request a modification of this permit pursuant to Specific Condition #A.3., above, to incorporate the new systems and monitoring locations.

5. **Gas Collection and Control System.**

a. The permittee shall operate, monitor, and maintain the landfill gas collection and control system in accordance with the procedures provided in the Operations Plan [ref. Op. Plan, Secs. 2.9.1 through 2.9.1.7; Appendices I through M] and any other applicable requirements.

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

1. **Closure Permit Requirements.** 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, to assure conformance with all applicable Department rules. A closure permit is required prior to implementing closure related activities.
2. **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.
3. **Long-Term Care Requirements.**
 - a. The permittee shall perform long-term care for the facility in accordance with Rule 62-701.620, F.A.C., and the information submitted as part of this permit application. [ref. SC #A.2.a., Eng. Report, Section Q].
 - b. 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.
4. **Use of Closed Landfill Areas.**
 - a. The use of an approximately six-acre area in the southwest corner of the closed 60-acre Class I landfill has been approved by the Department, as follows:
 - **Firearms Training Facility (existing)** - the Citrus County School Board, Withlatchoochee Technical Institute (WTI) operates the Criminal Justice Academy (CJA) which includes firearms training. The existing firearms training facility includes five shooting ranges (3 pistol ranges, 1 rifle range, 1 tactical range), each of which contain earthen berms on 3 sides. The CJA provides firearms training for: law enforcement, correctional and correctional probation officer basic recruits and sworn officers; firearms instructors; retired law enforcement officers; hunter safety for the general public through the Florida Fish and Wildlife Conservation Commission (FWC); tactical training for specialty teams; and to provide hunter safety training for the general public through the FWC. Shooting shall be limited into the constructed earthen berms, no skeet or trap shooting shall be allowed.
 - **Firearms Training Facility Maintenance** - areas within the firearms training facilities shall be maintained to provide adequate surface slopes for drainage to the existing storm water retention area. No penetrations of the closed landfill cover system shall be allowed without first obtaining written approval from the Department. Lead removal shall be conducted at least yearly (or more often depending on soil testing results) by a Department-licensed company for proper treatment or disposal. Documentation of soil testing locations and results, lead removal, and subsequent soil treatments to maintain neutral pH shall be maintained by the WTI and made available to the Department upon request. Soil testing and lead removal shall be performed to comply with the Department's document entitled "Best Management Practices for Environmental Stewardship of Florida Shooting Ranges," dated 2004, or successor document.

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

(Specific Condition #G.4.a., continued)

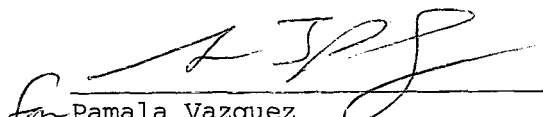
- **Temporary Soil Stockpile Area** - Soils temporarily stockpiled on a portion of the closed landfill area, shall be stockpiled in the area and manner shown on plan sheet titled, "Proposed Soil Stockpile Area", and in accordance with the procedures described in the Section Q.6 of the Engineering Report received November 26, 2008, or as otherwise approved in writing by the Department.

b. Use of closed landfill areas requires consultation with and approval by the Department prior to conducting these activities in accordance with Rule 62-701.610(7), 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 cover, drainage, final cover materials (soil and vegetation), leachate collection system, bottom liner, monitoring systems or stormwater controls. A plan detailing the proposed activities and evaluation of the potential effects on the landfill systems (including engineering designs, calculation and plans, as appropriate) shall be submitted for Department review to comply with the requirements of the Department's document entitled "Guidance for Disturbance and Use of Old Closed Landfills or Waste Disposal Areas in Florida, Version 2.1", dated February 3, 2011, or successor document. Authorization to use the Citrus County Central Landfill for activities not described in Specific Condition #G.4.a., may require a modification of this permit to comply with Specific Condition #A.3.

Amended 03/15/2011.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


for Pamala Vazquez
Acting District Director
Southwest District

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
A.4	On or before June 15, 2015 No later than October 15, 2015	Notification of date of permit renewal application submittal Submit application for permit renewal
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, etc.
C.1.1.	At least 48 hrs prior to operation	Notification of temporary transfer operation
C.6.b.	Within 24 hours of discovery Within 7 days of verbal notification	Notification of: hazardous waste receipt, failure of landfill systems or equipment Written notification & corrective action plan
C.6.c.	Within 60 days of written notification	Complete corrective actions for gradient or groundwater monitoring system
C.6.d.	Within 30 days of written notification	Implement corrective actions for leachate management system
C.8.d.(1)	No later than October 15, 2015	Submit leachate collection system assessment report, videotape, inspection results, etc.
C.8.e.(2) F.2.c.	Quarterly, by January 15 th April 15 th July 15 th October 15 th each year	Submit leachate generation reports Submit gas monitoring results
C.13.a(1)	No later than January 15, 2006	Submit permit modification for sequence of filling and stormwater management system
C.8.g.(1)	Within 24 hours of discovery Within 7 days of verbal notification	Notification of damage to leachate tank system Written notification and corrective action plan
C.8.g.(3)	No later than November 1, 2012 and November 1, 2015 Within 30 days of completion of tank inspection	Conduct inspection of interior of leachate tanks Submit written inspection report
C.8.j.	Within 30 days of permit issuance	Submit Phase 1/1A leachate riser rehabilitation report

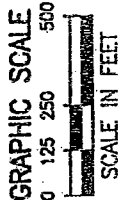
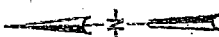
ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
C.13.e.	Annually, by January 15 th each year	Submit Topographic survey & remaining capacity calculations
D.4.a.	Annually, by September 1 st each year	Submit revised cost estimates
D.4.b.	Annually	Submit proof of funding
D.4.c.	No later than 60 days prior to waste acceptance in Phase 3	Submit proof of initial funding for Phase 3 closure
E.3.	Within 45 days of permit #21375-018-SO/01 issuance	Install proposed compliance well MW-21
E.3.	Within 30 days of receipt of ground water "initial sampling event" results	Provide documentation of well MW-21 construction and "initial sampling event" results
E.4.b.	Semi-annually	Sample background and compliance wells
E.4.c.	Semi-annually	Sample MW-6
E.4.d.	Semi-annually	Sample assessment wells
E.5.a., E.5.b., E.5.d.	Within 90 days of installation of new wells	Request permit modification, provide construction details for wells, submit survey
E.5.c.	Within 1 week of well development	Conduct ground water "initial sampling event"
E.6.	Within 30 days of abandonment	Submit documentation of abandonment
E.8.b.	Each discharge event	Conduct surface water sampling
E.9.b.(1)	Quarterly, by Jan. 15 th , April 15 th , July 15 th , and Oct. 15 th each year	Submit results of routine leachate effluent sampling events
E.10.b.	Within 60 days from completion of laboratory analyses Within 30 days from completion of laboratory analyses	Submit results of: - Ground water verification sampling - Surface water discharge sampling Submit results of: - Ground water initial sampling - Leachate influent monthly sampling (SC#E.9.a.(3))
E.10.b.	Semi-annually, by Jan. 15 th and July 15 th each year Annually, by Jan. 15 th each year	Submit results of ground water routing sampling (SC#E.4.b., #E.4.c., #E.4.d.) Submit results of leachate influent, effluent and sludge analyses (SC#E.9.a.(2), #E.9.b.(3), #E.9.c.)

ATTACHMENT 1		
Specific Condition	Submittal Due Date	Required Item
E.11.	By May 15, 2013 and by October 15, 2015	Submit water quality monitoring plan evaluations
F.4.a.	Within 7 days of detection	Submit gas remediation plan
	Within 60 days of detection	Complete corrective actions
G.1.	No later than 90 days prior to the date when wastes will no longer be received	Submit Closure Permit application

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

SEP 30 2010

SOUTHWEST DISTRICT
TAMPA

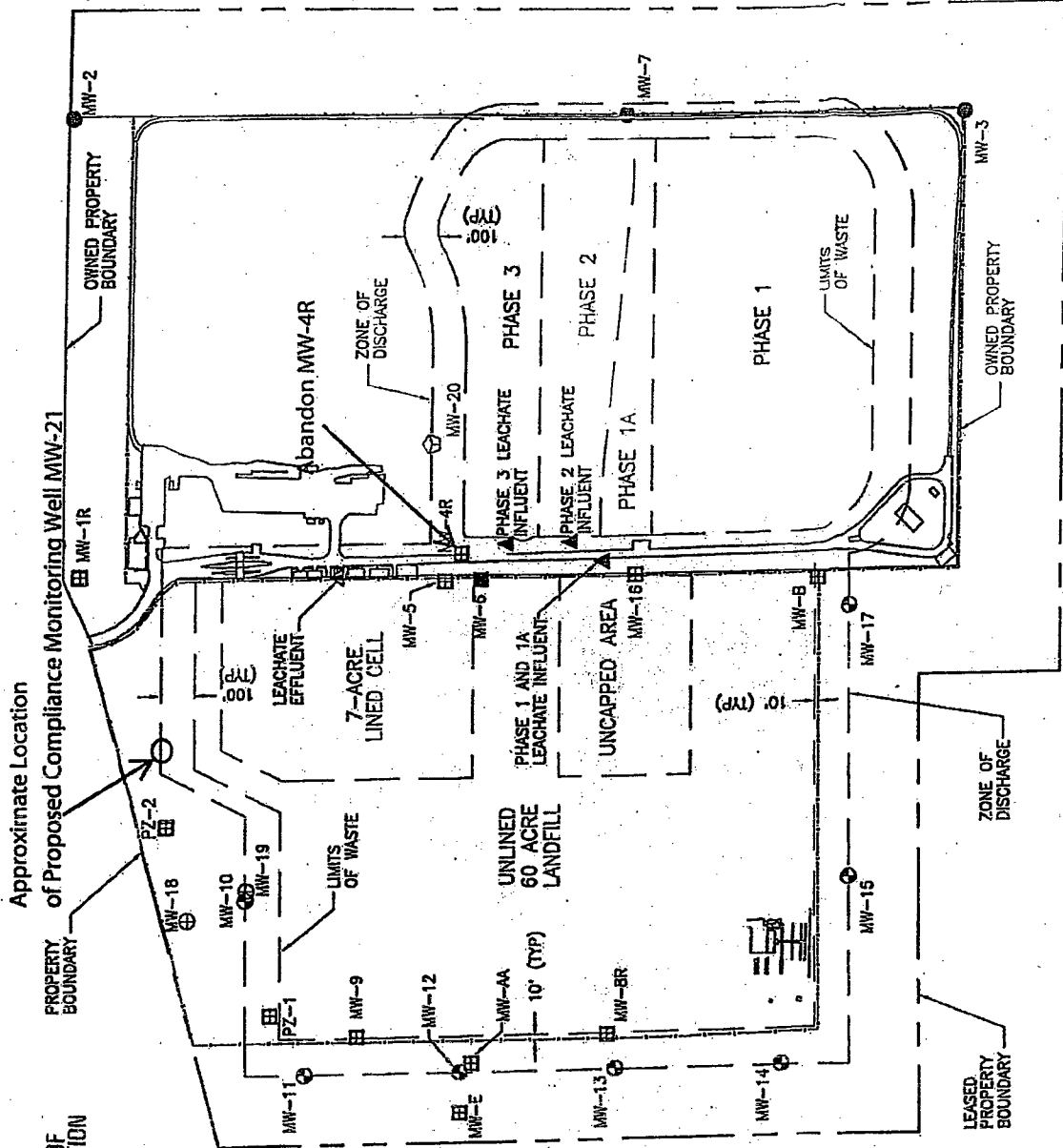


LEGEND

- BACKGROUND WELLS
- ⊕ COMPLIANCE MONITORING WELL
- ⊕ ASSESSMENT MONITORING WELL
- ⊕ INTERMEDIATE WELL
- ⊕ PIEZOMETERS
- ⊕ PROPOSED COMPLIANCE WELL
- ▲ LEACHATE INFLUENT SAMPLING LOCATION
- △ LEACHATE EFFLUENT SAMPLING LOCATION
- ZONE OF DISCHARGE
- PROPERTY BOUNDARY (OWNED BY COUNTY)
- LIMITS OF WASTE
- PROPERTY BOUNDARY (LEASED BY COUNTY)

NOTE: THIS MAP REFLECTS CHANGES TO THE MONITORING NETWORK PROPOSED WITH THE PHASE 3 EXPANSION

Plotted: 11/20/08 3:52pm thys



ATTACHMENT 1 SITE PLAN
CITRUS COUNTY CENTRAL LANDFILL

Modified by SCS Engineers to add proposed compliance monitoring well location and proposed piezometer abandonment-

September 22, 2010

JONES EDMUNDS

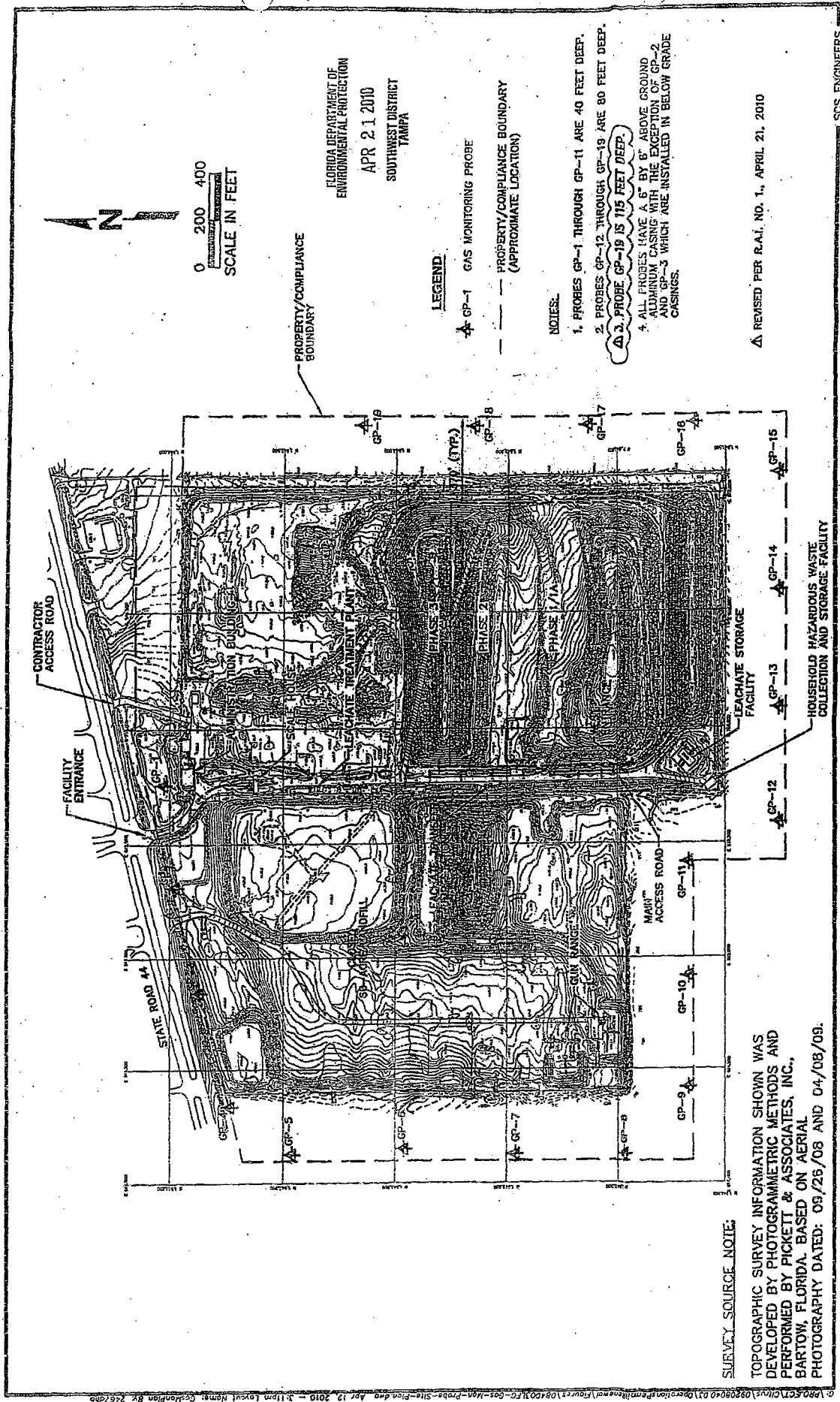


Figure 9-1. Landfill Gas Monitoring Probe Locations, Citrus County Central Landfill



Department of Environmental Protection

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

DEP Form # 62-701.900(30)
Form Title: Monitoring Well Completion Report
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(3)

MONITORING WELL COMPLETION REPORT

DATE: _____

FACILITY NAME: _____

DEP PERMIT NO.: _____ WACS_FACILITY: _____

WACS MONITORING SITE_NUM.: _____ WACS_WELL: _____

WELL_TYPE: BACKGROUND _____ DETECTION _____ COMPLIANCE _____

LATITUDE AND LONGITUDE (see back for requirements): _____

Coordinate Accuracy _____ Datum _____ Elevation Datum _____

Collection Method _____ Collection Date _____

Collector Name _____ Collector Affiliation _____

AQUIFER MONITORED: _____

DRILLING METHOD: _____ DATE INSTALLED: _____

INSTALLED BY: _____

BORE HOLE DIAMETER: _____ TOTAL DEPTH: _____ (BLS)

CASING TYPE: _____ CASING DIAMETER: _____ CASING LENGTH: _____

SCREEN TYPE: _____ SCREEN SLOT SIZE: _____ SCREEN LENGTH: _____

SCREEN DIAMETER: _____ SCREEN INTERVAL: _____ TO _____
(BLS)

FILTER PACK TYPE: _____ FILTER PACK GRAIN SIZE: _____

INTERVAL COVERED: _____ TO _____ (BLS)

SEALANT TYPE: _____ SEALANT INTERVAL: _____ TO _____ (BLS)

GROUT TYPE: _____ GROUT INTERVAL: _____ TO _____ (BLS)

TOP OF CASING ELEVATION (NGVD): _____ GROUND SURFACE ELEVATION (NGVD): _____

DESCRIBE WELL DEVELOPMENT: _____

POST DEVELOPMENT WATER LEVEL ELEVATION (NGVD): _____

DATE AND TIME MEASURED: _____

REMARKS: _____

NAME OF PERSON PREPARING REPORT: _____

(Name, Organization, Phone No., E-mail)

NOTE: ATTACH AS-BUILT MW CONSTRUCTION DIAGRAM AND LITHOLOGIC LOG. (NGVD) NATIONAL GEODETIC
VERTICAL DATUM OF 1988 (BLS) = BELOW LAND SURFACE

Latitude must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

Longitude must be measured in degrees, minutes and seconds, to at least two (2) decimal places.

Eastings and northings (State Plane Coordinates) must be converted to latitude and longitude.

Coordinate Accuracy: the measured, estimated degree of correctness of the measurement. An accuracy of 15 feet or 5 meters is preferred.

Datum: the horizontal reference for measuring locations on the Earth's surface. NAD83-North American Datum of 1983 is preferred.

Elevation Datum: the reference datum from which elevation measurements are made. NGVD88 (National Geodetic Vertical Datum of 1988) is preferred.

Collection Method: the method or mechanism used to derive the measurements, e.g. GPS, map, aerial photo, etc.

Collection Date: the date and time on which the measurements were taken.

Collector Name: the name of the person taking the measurement.

Collector Affiliation: the agency or company for whom the collector works.

Brantley, Anna

From: Brantley, Anna
Sent: Monday, June 04, 2012 1:42 PM
To: 'dbramlett@scsengineers.com'; 'troyburrell@bellsouth.net'; McGuire, Chris; Pelz, Susan; Commissioner Dennis Damato; Commissioner Joe Meek; Commissioner John J. Kenney; Commissioner Rebecca Bays; Commissioner Winn Webb; County Administrator Brad Thorpe; Eber E. Brown, Interim County Administrator; Representative Ron Schultz; Senator Charles Dean; Senator Mike Fasano
Cc: Gaskin, Nancy
Subject: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]
Attachments: Citrus Central Class I 21375-021-SO-MM & 21375-022-SO-MM permit mod SWD-09-39859 WACS 39859] 6-4-2012.pdf

Attached please find Notice of Permit and Final Permit for the subject Solid Waste Facility. These are the only copies you will receive. Hard copy was mailed to addressee only.

NOTE: If you have questions concerning the content of these documents, please contact the DEP permit processor nancy.gaskin@dep.state.fl.us

Acrobat Reader 6.0 or greater is required to read these documents. It is available for downloading at: <http://www.adobe.com/products/acrobat/readstep.html>

Anna

Anna Brantley
Administrative Assistant II
FL DEP / SWD / Waste Management
13051 North Telecom Parkway
Temple Terrace FL 33637-0629
Tel: 813/632-7600, Ext. 377
Fax: 813/632-7664
anna.brantley@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Hershel T. Vinyard Jr. is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

Brantley, Anna

From: Microsoft Exchange
To: Commissioner Dennis Damato; Commissioner Joe Meek; Commissioner John J. Kenney;
Commissioner Rebecca Bays; Commissioner Winn Webb; County Administrator Brad Thorpe; Eber
E. Brown, Interim County Administrator
Sent: Monday, June 04, 2012 1:42 PM
Subject: Relayed: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

Commissioner Dennis Damato

Commissioner Joe Meek

Commissioner John J. Kenney

Commissioner Rebecca Bays

Commissioner Winn Webb

County Administrator Brad Thorpe

Eber E. Brown, Interim County Administrator

Subject: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Sent by Microsoft Exchange Server 2007

Brantley, Anna

From: Microsoft Exchange
To: 'dbramlett@scsengineers.com'
Sent: Monday, June 04, 2012 1:42 PM
Subject: Relayed: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

'dbramlett@scsengineers.com'

Subject: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Sent by Microsoft Exchange Server 2007

Brantley, Anna

From: Microsoft Exchange
To: Gaskin, Nancy; McGuire, Chris
Sent: Monday, June 04, 2012 1:42 PM
Subject: Delivered: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Your message has been delivered to the following recipients:

Gaskin, Nancy

McGuire, Chris

Subject: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Sent by Microsoft Exchange Server 2007

Brantley, Anna

From: Microsoft Exchange
To: Pelz, Susan
Sent: Monday, June 04, 2012 1:42 PM
Subject: Delivered: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Your message has been delivered to the following recipients:

Pelz, Susan

Subject: Notice of Permit Modifications - Citrus County Central Class I Landfill [WACS 39859]

Sent by Microsoft Exchange Server 2007

Morgan, Steve

From: Troy Burrell, Jr. [troyburrell@bellsouth.net]
Sent: Thursday, May 31, 2012 2:10 PM
To: Morgan, Steve
Subject: RE: Citrus County Central Landfill FM
Attachments: PDF Leachate Management Sec 8 modified.pdf

Categories: Oculus Entry

Final Section 8

Steve,

I appreciate your assistance on this project. Per your request please find attached the modified section 8. Let me know if submittal by email is acceptable or if I need to make a more formal submittal

Thanks

Troy E. Burrell, Jr., PE
Burrell Engineering, Inc.
12005 N. Florida Ave.
Dunnellon, FL 34434
Ph 352-489-4144
Fax 352-489-4741

From: Morgan, Steve [mailto:Steve.Morgan@dep.state.fl.us]
Sent: Thursday, May 31, 2012 9:52 AM
To: troyburrell@bellsouth.net
Cc: Gaskin, Nancy
Subject: FW: Citrus County Central Landfill FM

Troy:

Attached is a revised version of Section 8 [LEACHATE MANAGEMENT Sec 8 Rev3], which revises your LEACHATE MANAGEMENT Sec 8 Rev2. The text in blue is text from the current Section 8 that we suggest be put back into the corresponding subsections and the text in red are other suggested text changes to identify current operation procedures versus operation procedures once the transmission line is constructed and approved and use of the on-site treatment plant is discontinued. Please take a look at the revisions and send a final version of Section 8 back to Nancy. Thanks for your continued assistance in finalizing this permit application.

Please feel free to e-mail or call me if you have any further questions.

Steven G. Morgan, Solid Waste Section
Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

phone - (813) 632-7600 x385
fax - (813) 632-7664
e-mail - steve.morgan@dep.state.fl.us

Please take a few minutes to share your comments on the service you received from the department by clicking on this link [DEP Customer Survey](#).

From: Gaskin, Nancy
Sent: Wednesday, May 30, 2012 9:51 AM

To: Morgan, Steve
Subject: FW: Citrus County Central Landfill FM

Nancy Gaskin
Solid Waste Section
FDEP South West District
13051 N. Telecom Parkway
Temple Terrace, FL 33637
(813)632-7600 x 375
(813)632-7664 FAX
Nancy.Gaskin@Dep.State.Fl.us

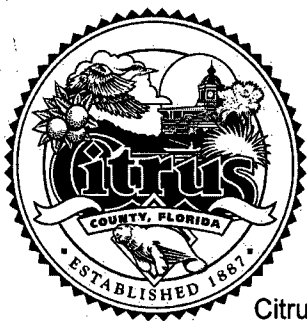
From: Troy Burrell, Jr. [<mailto:troyburrell@bellsouth.net>]
Sent: Wednesday, May 30, 2012 9:49 AM
To: Gaskin, Nancy
Subject: Citrus County Central Landfill FM

Nancy,

Please forward this to Steve Morgan.

Thanks

Troy E. Burrell, Jr., PE
Burrell Engineering, Inc.
12005 N. Florida Ave.
Dunnellon, FL 34434
Ph 352-489-4144
Fax 352-489-4741



Board of County Commissioners

DEPARTMENT OF PUBLIC WORKS

SOLID WASTE MANAGEMENT DIVISION

P.O. Box 340, Lecanto, Florida 34460

Telephone: (352) 527-7670 FAX: (352) 527-7672

email: landfillinfo@bocc.citrus.fl.us

TDD Telephone: (352) 527-5303

Citrus Springs/Dunnellon/Inglis/Yankeetown area Toll Free (352) 489-2120

Document Transmittal

TO: Ms. Nancy Gaskin
Solid Waste Section
FDEP South West District
13051 N Telecom Parkway
Temple Terrace, FL 33637

FROM: Cathy Winter, Contract Services Specialist
Citrus County, Division of
Solid Waste Management
Fax #352/527-7672
Phone 352/527-7670

**Re: Proof of Publication – FDEP Notice of Application for Minor Permit Modification
for the Citrus County Central Landfill**

Transmittal Date: May 25, 2012

Please find the following document(s) for your records:

- Original Proof of Publication

Thank you.

Dept. of Environmental
Protection
MAY 31 2012

Southwest District
Dept. of Environmental Protection
MAY 31 2012
Southwest District

Proof of Publication

from the
CITRUS COUNTY CHRONICLE
Crystal River, Citrus County, Florida
PUBLISHED DAILY

STATE OF FLORIDA
COUNTY OF CITRUS

Before the undersigned authority personally appeared

Mary Ann Naczi and/or Theresa J. Savery

Of the Citrus County Chronicle, a newspaper published daily at Crystal River, in Citrus County, Florida, that the attached copy of advertisement being a public notice in the matter of the

892-0518 FCRN PUBLIC NOTICE State of Florida
Department of Environmental Protection Notice of
Application The Department announces the receipt of an
application for permits from Citrus County Board of County
Commissioners, Mr. Casey Stevens, Director, Di

Court, was published in said newspaper in the issues of
May 18th, 2012.

Affiant further says that the Citrus County Chronicle is a Newspaper published at Crystal River in said Citrus County, Florida, and that the said newspaper has heretofore been continuously published in Citrus County, Marion County and Levy County, Florida, each week and has been entered as second class mail matter at the post office in Inverness in said Citrus County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Mary Ann Naczi

The foregoing instrument was acknowledged before me

This 18th day of May 2012

By: Mary Ann Naczi and/or Theresa
Savery

who is personally known to me and who did take an oath

Deborah L. McPherson
Notary Public

892-0518 FCRN
PUBLIC NOTICE
State of Florida
Department of Environmental Protection
Notice of Application

The Department announces the receipt of an application for permits from Citrus County Board of County Commissioners, Mr. Casey Stevens, Director, Division of Waste Management for minor modification to the construction and operation of an existing Class I Landfill facility known as the Citrus County Central Landfill, subject to Department rules, located at 230 West Gulf to Lake Highway, Lecanto, Florida.

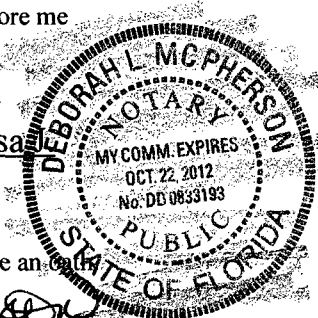
This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m. Monday through Friday, except legal holidays, at the Department of Environmental Protection, Southwest District Office, 13051 N. Telecom Parkway, Temple Terrace, Fl. 33637-0926.

May 18, 2012.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

MAY 31 2012

SOUTHWEST DISTRICT
TAMPA



Gaskin, Nancy

From: Troy Burrell, Jr. [troyburrell@bellsouth.net]
Sent: Friday, May 25, 2012 1:36 PM
To: Gaskin, Nancy
Cc: Casey Stephens
Subject: RE: Citrus Co. Central Landfill Leachate FM
Attachments: pg1.pdf

Categories: Oculized

App form page

Nancy,

Please find the revised page 1 attached.

Thanks

Troy E. Burrell, Jr., PE
Burrell Engineering, Inc.
12005 N. Florida Ave.
Dunnellon, FL 34434
Ph 352-489-4144
Fax 352-489-4741

From: Gaskin, Nancy [mailto:Nancy.Gaskin@dep.state.fl.us]
Sent: Friday, May 25, 2012 1:25 PM
To: 'Troy Burrell, Jr.'
Cc: Casey Stephens
Subject: RE: Citrus Co. Central Landfill Leachate FM

Troy,

That is fine with us. I forgot to mention it, but we also need a replacement page 1 of the application form. The form submitted indicates this is a construction mod, but we are processing it as an operation mod. So we need the form to have the box checked that says operation mod. This is not time sensitive or critical.

Thanks,

Nancy Gaskin
Solid Waste Section
FDEP South West District
13051 N. Telecom Parkway
Temple Terrace, FL 33637
(813)632-7600 x 375
(813)632-7664 FAX
Nancy.Gaskin@Dep.State.Fl.us

From: Troy Burrell, Jr. [mailto:troyburrell@bellsouth.net]
Sent: Friday, May 25, 2012 12:53 PM
To: Gaskin, Nancy
Cc: Casey Stephens
Subject: RE: Citrus Co. Central Landfill Leachate FM

Nancy,

Gaskin, Nancy

From: Troy Burrell, Jr. [troyburrell@bellsouth.net]
Sent: Thursday, May 24, 2012 10:42 AM
To: Gaskin, Nancy
Cc: Casey Stephens
Subject: Citrus Co. Central Landfill Leachate FM
Attachments: RevSec8wFig8-1.pdf

Replaced 5/31/12

Peris

Nancy,

Please find attached a revised Section 8 with Figure 8-1 included. As discussed we have modified figure 8-1 to conform to our proposed plan as well as adjusted section 8.7 to correctly discuss how metering will be accomplished. Please let me know if you require any modified plan sheets and I will send them to you ASAP.

Thanks

Troy E. Burrell, Jr., PE
Burrell Engineering, Inc.
12005 N. Florida Ave.
Dunnellon, FL 34434
Ph 352-489-4144
Fax 352-489-4741

**Southwest District
Permitting Application**

New Site

Site Name:
Site ID:
County:
Type/Subcode:
Fee submitted: () correct () incorrect
Total Fee Required \$ _____ Need \$ _____ Refund \$ _____

Existing Site

WACS #39859

Site ID: 21375-022
Project Name: CITRUS CENTRAL CLIFF FORCE MAIN MOD
Type/Subcode: SO/MM
New / <u>Modification</u> / Renewal
Fee submitted: 250 ⁰⁰ ☒ correct () incorrect
Total Fee Required \$ _____ Need \$ _____ Refund \$ _____

Applicant Information

Name: CASEY STEPHENS
Role: APPLICANT
Company: CITRUS CO BOCC
Address:
City: OW-FILL
Zip Code:
Phone:

Fee verified by: S. MORGAN

Application Assigned To: M. GASKIN Date: 5/4/12

SCS ENGINEERS

March 21, 2012
File No. 09207049.02

Steven G. Morgan
Solid Waste Section Southwest District
Florida Department of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Fl. of Environmental
Protection
MAR 22 2012
Southwest District

Subject: Citrus County Central Landfill
Request for Minor Permit Modification - Leachate Leakage Action Rate Change
Permit No.: 21375-018-SO/01, Citrus County
WACS No.: SWD/09/39859

Dear Mr. Morgan:

SCS Engineers (SCS) is submitting this minor permit modification on behalf of the Citrus County Solid Waste Management Division (County) for the Central landfill located in Citrus County, Florida. SCS is submitting this letter request to modify the existing operations permit regarding the leachate leakage action rate in the Phase 3 and check for \$250 for processing this request. Specifically the County is requesting that the revised calculations for the action leakage rate (ALR) using the Giroud et al. [1997] for the biplanar geocomposite be acceptable by the Department.

We believe that this increase in permit rate is justifiable because the previous 2 Phases were approved by the Department.

SPECIFIC CONDITION C.8.f.

Specific Condition C.8.f of FDEP Permit No. 21375-018-SO/01 requires that the leakage into the leakage detection system (LDS) in Phases 1A and 2 should not exceed 930 gpd and 600 gpd respectively (9.3 acres and 6 acres @ 100 gal/acre/day, respectively); and in Phase 3 should not exceed 189 gpd based on EPA recommended action leakage rates published in Federal Register/Vol. 57 No. 19/Wednesday January 29, 1992/Rules and Regulations. Exceedance of the leakage action rate indicates that deficiencies in the primary liner system may exist. In the event that the quantity of leachate that is removed from the LDS exceeds the action leakage rate, the Department shall be notified and a correction action plan provided in accordance with Specific Condition C.6.b. The approved plan of action shall be implemented within 15 days of Department approval, or in accordance with an alternate schedule approved by the Department.

During a recent review of the leakage detection system the rate within the detection system exceeded the ALR set forth in the permit for the Phase 3 area. Upon discovery, Citrus County



contacted FDEP for clarification of the Federal Register citation and whether the ALR should be based on a weekly average as cited in the Federal Register.

BACKGROUND INFORMATION RELATED TO THE CONSTRUCTION PERMIT APPLICATION

In conjunction with the submission of the construction permit application, the leakage action rate calculations to establish a leakage action rate that triggers corrective actions was submitted. Please refer to response to Request for Addition Information (RAI) No. 1, Attachment H-8 for the leak detection system action leakage rate. The action leakage rate calculated for this submission was based upon the HELP Model Analysis with 10 ft of waste. It should be noted that this method in developing action leakage rates is not normally considered due to its low value in comparison to that of leakage through defects.

METHOD OF ANALYSIS

The calculation methodology used to calculate the ALR is given in Attachment B. The U.S. Environmental Protection Agency (USEPA) first developed the ALR concept for double-lined hazardous waste landfills and proposed regulations for ALR were published in 1987. USEPA did not finalize the regulations governing ALRs and Response Action Plan (RAP) for hazardous waste landfills until 1992. The calculation methodology used to calculate the ALR is given in the Preamble to the 29 January USEPA final rules (57 FR 3473).

The design of the leachate management system for the Phase 3 Expansion area includes a system of collection pipes and drainage geocomposites that lead to a side slope sump. The side slope sump is located at the low-point at the west side of the Phase 3 area. The low-point acts as the sump for both the collection and detection systems. For leachate removal, the collection riser and the leak detection riser includes submersible pumps. A 4-inch diameter force main conveys the leachate from the leachate sump to the existing 6-inch diameter force main adjacent to the Landfill's main access road. From that point, the leachate is conveyed to the Leachate Storage Tanks, then pumped directly to the Leachate Treatment Plant for treatment or sprayed on top of the Phase 2 and Phase 3 portion of the landfill. Following treatment, the effluent is discharged to the on-site percolation basin.

The leakage flow rate will be measured daily at the side slope riser for the leachate detection system during the active life and closure period and monthly during the post-closure care period. The action leakage rate (ALR) is the maximum flow rate the detection system can accommodate without flooding the LDS. For the Phase 3 expansion area, the ALR calculated using the method of Giroud et al. [1997] for the biplanar geocomposite was estimated to be 390 gallons per acre per day (gpac).

Mr. Steve Morgan
March 21, 2012
Page 3

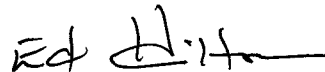
Please refer to Attachment A for the calculations and Attachment B for the references.

If you have any questions or require any additional information regarding this application, please contact us.

Sincerely,



Dominique H. Bramlett, P.E.
Project Manager
SCS ENGINEERS



C. Ed Hilton, Jr., P.E.
Solid Waste Director
SCS ENGINEERS

ATTACHMENT A
CALCULATIONS

Citrus County Central Landfill
Action Leakage Rate Computation for Phase 3 Expansion Area

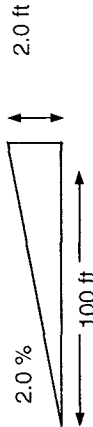
Assumptions for Computation of Head on top of secondary liner (t_o) versus Leakage Rate (Q)

Geocomposite Transmissivity = $T_{allow} = 1.48E-04$ m²/s
 Geocomposite Thickness = $t_{CL} = 5.29$ mm = 0.00529 m (250 mils including reduction factor)
 Hydraulic Conductivity of Geocomposite = $k = 0.024$ m/s = 2.40 cm/s

Assumptions for Computation of Leakage Rate (Q) versus leachate flow width (W_{max} or B)

Slope of the Liner System = 2 %
 Computation Angle = $\beta = 0.0200$ radians

Horizontal Length of Leachate Collection Layer, L = 280 feet = 85.34 meters



$\sin \beta = \frac{opp}{adj}$
 $\beta = \frac{1.146}{0.0200}$ degree radians

Assumptions for Computation of ALR

Factor of Safety = FS = 2

Leachate Thickness (t_o)			Leakage Rate (Q)			Maximum Width of Leachate Flow (W_{max})		ALR = $(k * t_{CL} * \tan \beta * W_{max}) / FS$		
m	mm	inches	m ³ /s	lpd	gpd	m	ft	m ³ /as	lpad	gpad
0.004	4	0.16	3.441E-07	30	8	11.7	38.4	1.485E-05	1283	339
0.005	5	0.20	5.980E-07	52	14	13.1	42.9	1.660E-05	1434	379
0.00529	5.29	0.21	6.716E-07	58	15	13.4	44.1	1.708E-05	1476	390
0.006	6	0.24	8.519E-07	74	19	14.3	47.0	1.819E-05	1572	415
0.007	7	0.28	1.106E-06	96	25	15.5	50.8	1.965E-05	1698	449

Summary and Conclusions

The ALR calculated using the method of Giroud et al. [1997] for the Phase 3 Expansion Area is 390 gpad (gallons per acre per day). To determine if the ALR has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data, to an average daily flow rate (gallons per acre per day) for the sump. Unless a different calculation is approved, the average daily flow rate for the sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period.

Purpose

From the GSE technical department, the following Transmissivity (T) values are known: (Based on GSE Drainage Design Manual). Refer to graph in references.

@ 2% Gradient		
Load (psf)	T (m ² /sec)	
1,000	1.00E-03	(per product specifications)
2,500	9.25E-04	(interpolated value)
4,000	8.50E-04	(interpolated value)
5,000	8.00E-04	(per product specifications)
5,500	7.80E-04	(interpolated value)
9,000	6.40E-04	(interpolated value)
10,000	6.00E-04	(per product specifications)
11,000	5.48E-04	(interpolated value)
15,000	3.40E-04	(per product specifications)

thickness, $t =$ 250 mil
0.25 inches

0.635 cm

RF-Biological Clogging, RF_{BC} RF-Creep, RF_{CR}

FS - Factor of Safety

$$T_{allow} = \frac{T_{ultimate}}{RF_{IN} * RF_{CC} * RF_{BC} * RF_{CR} * FS}$$

$$t' = \frac{t}{RF_{CB}}$$

$$k = \frac{T_{\text{allow}}}{t'}$$

Chemical Clogging $RF_{CC} = 1.5$ to 2.0

Biological Clogging $RF_{BC} = 1.1$ to 1.3

Obtained from GRI Standard
GC8 page GC8-9 provided in
reference.

Chemical Clogging $RF_{CC} = 1.1$ to 1.5

Biological Clogging $RF_{BC} = 1.1$ to 1.3

Obtained from GRI Standard
GC8 page GC8-9 provided in
reference.

BIPLANAR (SECONDARY COLLECTION SYSTEM)

NO WASTE (CASE 1) AND 10 FEET WASTE (CASE 2)

Reduction Factors

$RF_{IN} = 1.0$
 $RF_{CC} = 1.0$
 $RF_{BC} = 1.0$
 $RF_{CR} = 1.0$
 $FS = 2.0$

thickness, $t = 250$ mil
 0.25 inches
 0.635 cm

@ 2.0% Gradient					
Load (psf)	T (m ² /sec)	T _{allow} (m ² /sec)	T _{allow} (cm ² /sec)	t' (cm)	k (cm/sec)
1,000	1.00E-03	5.00E-04	5.0	0.635	7.9

$t' = 0.250$ inches

WASTE LOAD 2,500 PSF (CASE 3) & 4,000 PSF (CASE 4) TO 5,000 PSF (CASE 5)

Reduction Factors

$RF_{IN} = 1.0$
 $RF_{CC} = 1.1$
 $RF_{BC} = 1.1$
 $RF_{CR} = 1.1$
 $FS = 2.0$

thickness, $t = 250$ mil
 0.25 inches
 0.635 cm

@ 2.0% Gradient						
Load (psf)	T (m ² /sec)	T _{allow} (m ² /sec)	T _{allow} (cm ² /sec)	t' (cm)	k (cm/sec)	
2,500	9.25E-04	3.47E-04	3.5	0.577	6.0	case 3
4,000	8.50E-04	3.19E-04	3.2	0.577	5.5	
5,000	8.00E-04	3.01E-04	3.0	0.577	5.2	
5,500	7.80E-04	2.93E-04	2.9	0.577	5.1	case 4

$t' = 0.227$ inches

WASTE LOAD 9,000 PSF (CASE 6) TO 10,000 PSF

Reduction Factors

$RF_{IN} = 1.0$
 $RF_{CC} = 1.5$
 $RF_{BC} = 1.2$
 $RF_{CR} = 1.2$
 $FS = 2.0$

thickness, $t = 250$ mil
 0.25 inches
 0.635 cm

@ 2.0% Gradient					
Load (psf)	T (m ² /sec)	T _{allow} (m ² /sec)	T _{allow} (cm ² /sec)	t' (cm)	k (cm/sec)
9,000	6.40E-04	1.48E-04	1.5	0.529	2.8
10,000	6.00E-04	1.39E-04	1.4	0.529	2.6
11,000	5.48E-04	1.27E-04	1.3	0.529	2.4

case 5

$t' = 0.208$ inches

WASTE LOAD 15,000 PSF

Reduction Factors

$RF_{IN} = 1.0$
 $RF_{CC} = 1.5$
 $RF_{BC} = 1.3$
 $RF_{CR} = 1.3$
 $FS = 2.0$

thickness, $t = 250$ mil
 0.25 inches
 0.635 cm

@ 2.0% Gradient					
Load (psf)	T (m ² /sec)	T _{allow} (m ² /sec)	T _{allow} (cm ² /sec)	t' (cm)	k (cm/sec)
15,000	3.40E-04	6.71E-05	0.7	0.488	1.4

$t' = 0.192$ inches

ATTACHMENT B

REFERENCES

(j), and (k) as paragraphs (g), (h), (i), (j), (k), and (l), respectively, by revising paragraphs (c) and (d), and by adding new paragraph (f) to read as follows:

§ 264.301 Design and operating requirements.

(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners. "Construction commences" is as defined in § 260.10 of this chapter under "existing facility".

(1)(i) The *liner system* must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(ii) The liners must comply with paragraphs (a)(1) (i), (ii), and (iii) of this section.

(2) The *leachate collection and removal system* immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (3)(c) (iii) and (iv) of this section.

(3) The *leachate collection and removal system* between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a *leak detection system*. This leak detection system must be

capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of 1×10^{-2} cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of 3×10^{-5} m²/sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Regional Administrator may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Regional Administrator that such design and operating practices, together with location characteristics:

(1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(f) The owner or operator of any replacement landfill unit is exempt from paragraph (c) of this section if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

13. New § 264.302 is added to read as follows:

§ 264.302 Action leakage rate.

(a) The Regional Administrator shall approve an action leakage rate for surface impoundment units subject to § 264.301(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under § 264.303(c), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Regional Administrator approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under § 264.303(c).

14. Section 264.303 is amended by adding new paragraph (c) to read as follows:

§ 264.303 Monitoring and inspection.

(c)(1) An owner or operator required to have a leak detection system under § 264.301(c) or (d) must record the amount of liquids removed from each leak detection system sump at least

APPENDIX C6-LEA
LDS ACTION LEAKAGE RATE
LATERAL EXPANSION AREA

GEOSYNTEC CONSULTANTS

COMPUTATION COVER SHEET

Client: Waste Management Project: Tontitown Landfill Expansion Project/Proposal #: GG3274 Task #: 02

TITLE OF COMPUTATIONS APPENDIX C6-LEA: LDS ACTION LEAKAGE RATE
LATERAL EXPANSION AREA

COMPUTATIONS BY:

Signature

DATE

Printed Name

Basak Gulec

and Title

Senior Staff Engineer

ASSUMPTIONS AND PROCEDURES

CHECKED BY:

(Peer Reviewer)

Signature

DATE

Printed Name

Raj Gondhalekar

and Title

Project Engineer

COMPUTATIONS CHECKED BY:

Signature

DATE

Printed Name

Raj Gondhalekar

and Title

Project Engineer

COMPUTATIONS

BACKCHECKED BY:

(Originator)

Signature

DATE

Printed Name

Basak Gulec

and Title

Senior Staff Engineer

APPROVED BY:

(PM or Designate)

Signature

DATE

Printed Name

Majdi Othman

and Title

Associate

APPROVAL NOTES:

REVISIONS (Number and initial all revisions)

NO.

SHEET

DATE

BY

CHECKED BY

APPROVAL

Written by _____ Date: _____ Reviewed by: Raj Date: _____
Client: Waste Management Project: Tontitown Landfill Lateral Expansion Project/Proposal No.: GG3274 Task No.: 02

LEAK DETECTION SYSTEM (LDS) ACTION LEAKAGE RATE

PURPOSE

The purpose of this analysis is to establish the Action Leakage Rate (ALR) for the Tontitown Landfill Lateral Expansion Area (LEA). The ALR is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The liner system layout for the LEA is presented in Figure 1. Detail of the cell floor liner system is shown in Figure 2. The liner system includes a geocomposite drainage layer below the top liner (geomembrane and GCL components) as part of the Leak Detection System (LDS). The function of the LDS drainage layer is to quickly remove liquids that may migrate through the primary geomembrane liner and convey them to the sumps. The liquids are then pumped out of the landfill. The average daily pumpage rates will be monitored as required by the regulations, and if LDS flow rates exceed the ALR established in this package, appropriate response actions will be implemented.

METHOD OF ANALYSIS

The ALR concept was first developed by the U.S. Environmental Protection Agency (USEPA) for double-lined hazardous waste landfills and proposed regulations for ALR were published in 1987. 1987 USEPA proposed rule based ALR on the hydraulic rate of top liner leakage and recommended that if the ALR is exceeded, the owner or operator is required to initiate implementation of the Response Action Plan (RAP). The USEPA proposed rule also defined the rapid and large leakage rate (RLL) as the maximum design LDS flow rate under a hydraulic head of 1 foot for granular LDSs or under a head equal to the thickness of the LDS for geosynthetic LDS. The RAP did not require partial closure of the RLL was exceeded.

USEPA did not finalize the regulations governing ALRs and RAPs for hazardous waste landfills until 1992. The final rule stated that the ALR was the maximum design flow rate that the LDS can remove without the fluid head on the bottom liner exceeding 1 ft. Thus, in the final rule, USEPA defined ALR as a function of the maximum gravity flow rate in the LDS, not as a function of expected

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top liner performance (as was the case in the 1987 draft rule). The ALR in the final rule is analogous to the RLL in the draft rule.

Arkansas Department of Environmental Quality (ADEQ) Regulation 22 addresses the permitting, design, operation, closure, compliance monitoring, corrective action, and financial assurance of Class 1, 3, and 4 landfills. Regulation 22 requires that if the ALR is exceeded for an area, waste disposal in that area must cease until appropriate response actions are implemented and ADEQ approval to re-start operations is given. The ALR as defined under Regulation 22 (i.e., a flow rate that would result in the cessation of operations) is analogous to the RLL of the original 1987 USEPA draft rule, and the ALR of the 1992 USEPA final rule.

The calculation methodology used to calculate the ALR is given in the Preamble to the 29 January 1992 USEPA final rule. This calculation methodology was previously used for the Tontitown Class 1 Landfill by GeoSyntec Consultant (in the "Evaluation of LCS and LDS Flows and Liner System Integrity" report dated June 2002) and was approved by the State of Arkansas. Additional information about this calculation methodology is provided below.

In the Preamble to the 29 January 1992 final rule, USEPA provides the following equation for establishing an action leakage rate at RCRA hazardous waste landfills (57 FR 3473):

$$\rightarrow ALR = (k_d h_d \tan \beta) W / FS \quad (1)$$

where:

ALR = action leakage rate, defined as a flow rate per unit area (e.g., gallons per acre per day (gpac));

k_d = hydraulic conductivity of LDS drainage medium (cm/s);

h_d = lesser of a hydraulic head of 12 inches, or the thickness of the LDS drainage layer;

$\tan \beta$ = tangent of the slope angle of the bottom of the landfill;

W = width of flow in the LDS, measured in a direction perpendicular to flow (ft); and

FS = factor of safety.

For the evaluation of width of flow in the LDS occurring from a leak in the top liner, methodology presented in Giroud et al. [1997] was adopted. It is assumed that the leakage is due to a

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hole that penetrates both the geomembrane component and GCL component of the top layer. Cell 5 was selected for this analysis because it is the widest of all cells in the LEA. The following equation is provided in Giroud [1997] for W_{max} calculation:

$$W_{max} = \frac{t_{LCL}}{\sin \beta} \left(1 + \frac{Q}{kt_{LCL}^2}\right) \left[1 + \frac{4L \sin \beta}{t_{LCL} \left(1 + \frac{Q}{kt_{LCL}^2}\right)}\right]^{1/2} \quad (2)$$

where:

W_{max} = maximum width of wetted zone;

t_{LCL} = geocomposite thickness;

β = angle of the slope of the liner system;

Q = steady-state rate of leachate flow rate in the LDS;

k = hydraulic conductivity of LDS material; and

L = horizontal projection of the length of the LDS.

Q (Equation 4), steady-state rate of leachate flow rate in the LDS, is derived from the following equation [Giroud et al. 1997]:

$$t_{LCL} = t_o \left(1 - \sqrt{1 - \frac{Q}{kt_o^2}}\right) \quad (3)$$

$$Q = kt_o^2 \left[1 - \left(1 - \frac{t_{LCL}}{t_o}\right)^2\right] \quad (4)$$

where:

t_{LCL} = thickness of geocomposite;

t_o = thickness of leachate;

Q = steady-state rate of leachate flow rate in the LDS; and

k = hydraulic conductivity of LDS material.

Written by _____ Date: _____ Reviewed by: Raj Date: _____Client: Waste Management Project: Tontitown Landfill Lateral Expansion Project/Proposal No.: GG3274 Task No.: 02**PARAMETERS USED IN ANALYSES**

- t_{LCL} = thickness of geocomposite = 0.005588 m (220 mils);
- k = hydraulic conductivity of geocomposite drainage medium = 1.33 cm/s (most conservative value considering decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressure, etc.; see Table 1);
- β = angle of the slope of the liner system = 0.03 radians
- L = horizontal projection of the length of the LDS = 150 feet (average length of flow in Cell 5) (Figure 1).
- h_d = lesser of a hydraulic head of 12 inches, or the thickness of the LDS drainage layer = thickness of geocomposite = 0.005588 m (220 mils);
- FS = factor of safety = 2

CALCULATIONS

See Table 2 and Figure 3.

SUMMARY AND CONCLUSIONS

The ALR calculated using the method of Giroud et al. [1997] was in the range of 199 gpad to 635 gpad. A reasonable value for the ALR of the Tontitown Lateral Expansion Area is the average of this range, 450 gpad.

To determine if the ALR has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data, to an average daily flow rate (gallons per acre per day) for each sump. Unless a different calculation is approved, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period.

Based on available information on the performance of double-lined facilities, it is anticipated that much lower flow rates are expected in the LDS of Tontitown Landfill Lateral Expansion Area than 450 gpad [Bonaparte and Gross, 1990, 1993; Gross et al., 1990; Bonaparte et al., 1996]. Therefore, It is believed that a much lower flow rate than 450 gpad should prompt an initial investigation of the sources

ALR

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and the causes of the elevated flow rates. It is recommended that a flow rate of 40 gpad be used as an initial response leakage rate. This initial response leakage rate and the ALR should not apply to temporary higher flows that may occur in the first few months of operation as a result of continuing drainage of construction water for example.

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Table 1. Drainage Layer Transmissivity Design Values for LCS and LDS.

Operational Conditions	θ_{measured} (m ² /s)	Thickness		θ_{LTS} (m ² /s)	θ_{design} (m ² /s)	k_{design} (cm/s)
		(mil)	(mm)			
Case IA, IIA, and Case IV	5.00E ⁻⁰⁴	220	5.59	5.00E ⁻⁰⁴	5.00E ⁻⁰⁴	8.95
Case IB	5.00E ⁻⁰⁴	220	5.59	3.79E ⁻⁰⁴	2.53E ⁻⁰⁴	4.52
Case II B	5.00E ⁻⁰⁴	220	5.59	1.12E ⁻⁰⁴	7.44E ⁻⁰⁵	1.33
Case III	5.00E ⁻⁰⁴	220	5.59	3.13E ⁻⁰⁴	2.09E ⁻⁰⁴	3.73

Note: Table 1 taken from the "Geocomposite Drainage Layer Transmissivity Design" calculation package.

Southwest District
Permitting Application

Steve

New Site

Site Name:		
Site ID:	WACS ID#:	
County:		
Type/Subcode:		
Fee submitted:	() correct	() incorrect
Total Fee Required \$ _____ Need \$ _____ Refund \$ _____		

Existing Site

Site ID: 21375 - 021		
Project Name: CITRUS CENTRAL CLIF	WACS ID#: 39859	
Type/Subcode: SO/MM	New / <u>Modification</u> / Renewal	
Fee submitted: \$250.00	(X) correct	() incorrect
Total Fee Required \$ _____ Need \$ _____ Refund \$ _____		

Applicant Information

Name: CASEY STEPHENS		
Role: APPLICANT		
Company: ABERDEEN CITRUS CO DIV OF SOLID WASTE MGMT		
Address:		
City: JWL - FL	State:	Zip Code:
Phone:		

Fee verified by: S. moran

Application Assigned To: S. moran

Date:

3/22/12