

26 June 2019

Mr. Cory Dilmore, P.E.
Florida Department of Environmental Protection
Permit Processing Central District
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399

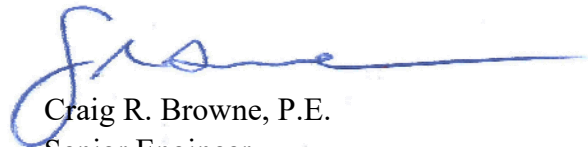
Subject: Minor Modification Permit Application
Operation Plan Revisions
J.E.D. Solid Waste Management Facility (WACS #89544)
Osceola County, Florida

Dear Mr. Dilmore:

Transmitted herewith are two copies of the J.E.D. Solid Waste Management Facility (JED facility) Minor Modification Permit Application (Application) for a revision to the permitted Operation Plan. This Application is submitted on behalf of Waste Connections of Osceola County LLC (WCOC) for the JED facility located in St. Cloud, Florida. This Application package contains one hard copy of the Application and one check in the amount of \$250 (in accordance with Rule 62-701.315(4), F.A.C.). One electronic copy of the Application is also being sent via email.

If you have any questions or need additional information, please do not hesitate to contact the undersigned.

Sincerely,



Craig R. Browne, P.E.
Senior Engineer
Florida P.E. No. 68613

Attachment

Copies to: Kirk Wills, Waste Connections

26 June 2019

Mr. Cory Dilmore, P.E.
Florida Department of Environmental Protection
Permit Processing Central District
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399

Subject: Minor Modification Permit Application
Operation Plan Revisions
J.E.D. Solid Waste Management Facility (WACS ID #89544)
Osceola County, Florida

Dear Mr. Dilmore:

Geosyntec Consultants, Inc. (Geosyntec) prepared this minor modification permit application on behalf of Waste Connections of Osceola County LLC (WCOC) for the J.E.D. Solid Waste Management Facility (JED facility) located in St. Cloud, Florida. This minor modification permit application is prepared in accordance with applicable sections of Chapter 62-701 of the Florida Administrative Code (F.A.C.) and the Florida Department of Environmental Protection (FDEP) Form 62-701.900(1) – *Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility*, which is completed and included in **Attachment 1** of this submittal.

A check in the amount of \$250 (in accordance with Subsection 62-701.320(4) and Paragraph 62-050(4)(s), F.A.C.) and FDEP Form 62-701.900(1) are submitted herein.

BACKGROUND

The JED facility is currently operating under operation Permit No. 0199726-033-SO-01 (and subsequent modifications) issued by the FDEP on June 13, 2017. This 10-year operation permit expires on June 13, 2027. The permit authorizes operation of Phases 1 through 5, which includes Cells 1 through 15, representing a disposal area of approximately 208 acres.

PURPOSE

Currently, the JED facility applies initial cover material over waste placement areas at the end of each working day and may also use alternate initial cover materials including: tarps, auto shredder residue, tire chips, mulch mixed with soil at a maximum 50/50 ratio, and petroleum contaminated soils. WCOC is proposing to also use Posi-Shell spray-on product as an alternate initial cover at the landfill and is clarifying that other initial cover

materials already allowed by rule or approved by FDEP can be used. Included with this minor modification, WCOC is describing the procedures that will be used for managing non-hazardous industrial waste materials. Finally, WCOC is updating the Operation Plan to state that leachate is currently being disposed of at the Aqua Clean Environmental Company rather than at the City of St. Cloud's wastewater treatment plant (WWTP).

MINOR MODIFICATION PERMIT APPLICATION

Geosyntec has completed FDEP Form No. 62-701.900(1) – *Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility*, which is included in **Attachment 1** of this submittal. Those items for which responses have not substantially changed from previous submittals to FDEP have been marked on the application form in Appendix A as “N/C” for no change. The permit application is duly certified by the applicant and a professional engineer registered in the State of Florida.

A revised Operation Plan (Rev. 02) is presented in **Attachment 2** that: (1) includes the proposed use of Posi-Shell spray-on alternate initial cover; (2) clarifies other initial cover materials authorized by rule or already approved by FDEP can be used; (3) clarifies the management practices of non-hazardous, industrial wastes; and (4) updates the off-site WWTP for leachate disposal. Changes from the previous version have been implemented in ~~striketrough~~ (deletions) and underline (insertions) format to facilitate review. Only the Operation Plan text has been included in Attachment 2; the appendices have not been included as they have not changed. Other operational procedures for the JED facility are not proposed to change from the approved documents currently on file with FDEP.

The Posi-Shell spray-on initial cover product is a non-hazardous, non-flammable mixture of sodium montmorillonite clay, synthetic fibers and water that dries quickly to form a thin cover layer over the waste. It will be applied with the Posi-Shell Applicator Model PSA-1000 that has been acquired by WCOC. Posi-Shell has already been approved for use by the FDEP at several landfills in Florida. More information on Posi-Shell is included in **Attachment 3**.

When applied in accordance with the manufacturer's instructions, Posi-Shell can meet the criteria of subsection 62-701.200(53), F.A.C. This includes the criteria of minimizing vector breeding, animal attraction, and fire potential, preventing blowing litter, controlling odors and improving landfill appearance. WCOC intends to use this product in a way that will achieve compliance with this subsection.

Other materials are authorized for use as alternate initial covers by rule in paragraph 62-701.500(7)(e), F.A.C. Further, additional alternate initial cover products are approved for use by the FDEP and are listed at: <https://floridadep.gov/waste/permitting-compliance-assistance/content/solid-waste-guidance-memos-documents>. Edits to the Operation Plan

Mr. Cory Dilmore
26 June 2019
Page 3

are being made to clarify that WCOC is authorized to use these additional materials as initial cover. All alternate initial covers will be used in a way to ensure they meet the criteria of subsection 62-701.200(53), F.A.C

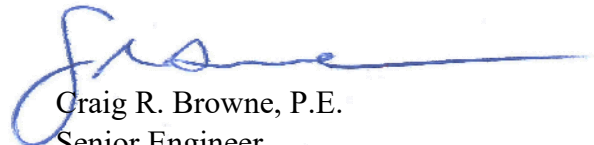
Included with this minor modification permit application are edits to the Operation Plan (**Attachment 2**) clarifying that no new, non-routine solid waste is accepted for disposal at the JED facility without first being evaluated to ensure the material is allowed for disposal as a Class I waste and, if not prohibited, to ensure it is then properly managed at the landfill. This evaluation process of new waste streams has been standard practice for WCOC at the JED facility in the past, and the update to the Operation Plan merely acknowledges this existing practice.

Finally, as stated previously, WCOC is updating the Operation Plan to state that leachate from the landfill is currently being disposed of at the Aqua Clean Environmental Company rather than at the City of St. Cloud's WWTP.

CLOSURE

If you have any questions or need additional information, please do not hesitate to contact the undersigned or Mr. Kirk Wills at (813) 388-1026.

Sincerely,



Craig R. Browne, P.E.
Senior Engineer
Florida P.E. No. 68613

Geosyntec Consultants
Certificate of Authorization 4321
12802 Tampa Oaks Blvd., Suite 151
Tampa, Florida 33637

Attachments

Copies to: Kirk Wills, WCOC

ATTACHMENT 1
FDEP Form 62-701.900(1)



Florida Department of Environmental Protection

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

DEP Form #: 62-701.900(1), F.A.C.

Form Title: Application to Construct, Operate, Modify, or
Close a Solid Waste Management Facility

Effective Date: February 15, 2015

Incorporated in Rule: 62-701.330(3), F.A.C.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION TO CONSTRUCT, OPERATE, MODIFY, OR CLOSE A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental Street
Suite 308
Pensacola, FL 32502-5794
850-595-8300

Northeast District
7777 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7590
904-256-1700

Central District
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803-3767
407-897-4100

Southwest District
13051 North Telecom Pkwy
Temple Terrace, FL 33637
813-470-5700

South District
2295 Victoria Ave, Suite 364
P.O. Box 2549
Fort Myers, FL 33901-3881
239-344-5600

Southeast District
3301 Gun Club Road
MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A permit application shall be submitted in accordance with the requirements of Rule 62-701.320(5)(a), F.A.C., to the appropriate Department office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "Not Applicable" or "No Substantial Change". Information provided in support of the application shall be marked "Submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

II. Application Parts Required for Construction and Operation Permits

- A. Landfills and Ash Monofills - Submit Parts A through S
- B. Asbestos Monofills - Submit Parts A, B, C, D, E, F, I, K, M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A through S

NOTE: Portions of some Parts may not be applicable.

NOTE: For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A, B and C type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

III. Application Parts Required for Closure Permits

- A. Landfills and Ash Monofills - Submit Parts A, B, L, N through S
- B. Asbestos Monofills - Submit Parts A, B, M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A, B, L through S

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.

V. Application Codes

- S - Submitted
- LOCATION - Physical location of information in application
- N/A - Not Applicable
- N/C - No Substantial Change

VI. Listing of Application Parts

- PART A: GENERAL INFORMATION
- PART B: DISPOSAL FACILITY GENERAL INFORMATION
- PART C: PROHIBITIONS
- PART D: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL
- PART E: LANDFILL PERMIT REQUIREMENTS
- PART F: GENERAL CRITERIA FOR LANDFILLS
- PART G: LANDFILL CONSTRUCTION REQUIREMENTS
- PART H: HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
- PART I: GEOTECHNICAL INVESTIGATION REQUIREMENTS
- PART J: VERTICAL EXPANSION OF LANDFILLS
- PART K: LANDFILL OPERATION REQUIREMENTS
- PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
- PART M: SPECIAL WASTE HANDLING REQUIREMENTS
- PART N: GAS MANAGEMENT SYSTEM REQUIREMENTS
- PART O: LANDFILL CLOSURE REQUIREMENTS
- PART P: OTHER CLOSURE PROCEDURES
- PART Q: LONG-TERM CARE
- PART R: FINANCIAL ASSURANCE
- PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE A
SOLID WASTE MANAGEMENT FACILITY**

Please Type or Print

PART A. GENERAL INFORMATION

1. Type of disposal facility (check all that apply):

- | | |
|------------------------------------------------------|--------------------------------------------|
| <input checked="" type="checkbox"/> Class I Landfill | <input type="checkbox"/> Ash Monofill |
| <input type="checkbox"/> Class III Landfill | <input type="checkbox"/> Asbestos Monofill |
| <input type="checkbox"/> Industrial Solid Waste | |
| <input type="checkbox"/> Other (describe): | |
-
-
-

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
Yard Trash Disposal Facilities should notify on Form 62-701.900(3), FAC;
Compost Facilities should apply on Form 62-709.901(1), FAC; and
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:

- Construction
 Operation
 Construction/Operation
 Closure
 Long-term Care Only

3. Classification of application:

- | | |
|----------------------------------|--------------------------------------------------------|
| <input type="checkbox"/> New | <input type="checkbox"/> Substantial Modification |
| <input type="checkbox"/> Renewal | <input type="checkbox"/> Intermediate Modification |
| | <input checked="" type="checkbox"/> Minor Modification |

4. Facility name: J.E.D. Solid Waste Management Facility

5. DEP ID number: 89544 (WACS) County: Osceola

6. Facility location (main entrance):
1501 Omni Way, St. Cloud, FL 34773

7. Location coordinates:

Section: 11,13,14,17, & 18 Township: 28S Range: 32E & 33E
Latitude: 28 ° 3 ' 32 " Longitude: 81 ° 5 ' 46 "
Datum: WGS84 Coordinate method: DGPS

Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

8. Applicant name (operating authority): Waste Connections of Osceola County LLC
Mailing address: 1501 Omni Way St. Cloud FL 34773
Street or P.O. Box City State Zip
Contact person: Kirk Wills Telephone: (813) 388-1026
Title: Southern Region Engineer
kirk.wills@wasteconnections.com
E-Mail address (if available)

9. Authorized agent/Consultant: Geosyntec Consultants
Mailing address: 12802 Tampa Oaks Blvd. Ste 151 Tampa FL 33637
Street or P.O. Box City State Zip
Contact person: Craig Browne, P.E. Telephone: (813) 558-0990
Title: Senior Engineer
cbrowne@geosyntec.com
E-Mail address (if available)

10. Landowner (if different than applicant): N/A
Mailing address: _____
Street or P.O. Box City State Zip
Contact person: _____ Telephone: (____) _____

E-Mail address (if available)

11. Cities, towns, and areas to be served:
Primarily Osceola, Brevard, Indian River, Okeechobee, Orange, Polk, Volusia, Sumter, Lake, Seminole,
Pasco, Hillsborough, Hardee, and Highlands Counties. Other Florida counties are served as waste
streams are available.

12. Population to be served:
Current: 6,266,000 (approx.) Five-Year Projection: 6,500,000 (approx.)

13. Date site will be ready to be inspected for completion: N/A

14. Expected life of the facility: 22 years

15. Estimated costs:
Total Construction: \$ _____ Closing Costs: \$ 13,337,525.34

16. Anticipated construction starting and completion dates:
From: 2019 To: 2027

17. Expected volume or weight of waste to be received:
_____ yds³/day 6000 tons/day _____ gallons/day

PART B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:
This minor modification permit application is being submitted to allow the use of Posi-Shell
as alternate initial cover at the landfill, to clarify that other initial covers are allowed by rule and
previous approvals by the FDEP, and to update the off-site leachate disposal facility.

2. Facility site supervisor: Benjamin Gray
Title: District Manager Telephone: (407) 932-8672
BenjaminG@WasteConnections.com
E-Mail address (if available)

3. Disposal area: Total acres: 360 Used acres: 171 Available acres: 189

4. Weighing scales used: Yes No

5. Security to prevent unauthorized use: Yes No

6. Charge for waste received: _____ \$/yds³ 35 _____ \$/ton

7. Surrounding land use, zoning:

- | | |
|--------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Residential | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Agricultural | <input type="checkbox"/> None |
| <input type="checkbox"/> Commercial | <input type="checkbox"/> Other (describe): |

8. Types of waste received:

- | | |
|------------------------------------------------------------|--------------------------------------------------------|
| <input checked="" type="checkbox"/> Household | <input checked="" type="checkbox"/> C & D debris |
| <input checked="" type="checkbox"/> Commercial | <input checked="" type="checkbox"/> Shredded/cut tires |
| <input checked="" type="checkbox"/> Incinerator/WTE ash | <input type="checkbox"/> Yard trash |
| <input checked="" type="checkbox"/> Treated biomedical | <input type="checkbox"/> Septic tank |
| <input checked="" type="checkbox"/> Water treatment sludge | <input checked="" type="checkbox"/> Industrial |
| <input type="checkbox"/> Air treatment sludge | <input checked="" type="checkbox"/> Industrial sludge |
| <input type="checkbox"/> Agricultural | <input checked="" type="checkbox"/> Domestic sludge |
| <input checked="" type="checkbox"/> Asbestos | <input checked="" type="checkbox"/> Other (describe): |

Waste tires and liquid waste for solidification.

9. Salvaging permitted: Yes No unless volume of recyclable goods is sufficient

10. Attendant: Yes No Trained operator: Yes No

11. Trained spotters: Yes No Number of spotters used: Minimum of 1 per work face

12. Site located in: Floodplain Wetlands Other (describe):

13. Days of operation: Monday through Sunday

14. Hours of operation: Mon-Fri: 5am to 4pm, Sat: 6am to 12pm, Sun: 6am to 10am

15. Days working face covered: each working day

16. Elevation of water table: 79 ft. Datum Used: NGVD 1929

17. Number of monitoring wells: 63

18. Number of surface monitoring points: 2

19. Gas controls used: Yes No Type controls: Active Passive

Gas flaring: Yes No Gas recovery: Yes No

20. Landfill unit liner type:

- | | |
|---------------------------------------------|----------------------------------------------------------------------------------|
| <input type="checkbox"/> Natural soils | <input type="checkbox"/> Double geomembrane |
| <input type="checkbox"/> Single clay liner | <input checked="" type="checkbox"/> Geomembrane & composite (Cells 5 through 23) |
| <input type="checkbox"/> Single geomembrane | <input checked="" type="checkbox"/> Double composite (Cells 1 through 4) |
| <input type="checkbox"/> Single composite | <input type="checkbox"/> None |
| <input type="checkbox"/> Slurry wall | <input checked="" type="checkbox"/> Other (describe): |

A GCL layer is provided below primary geomembrane liner in the sump area in Cells 5 through 23.

21. Leachate collection method:

- | | |
|------------------------------------------------------------|---------------------------------------------|
| <input checked="" type="checkbox"/> Collection pipes | <input type="checkbox"/> Double geomembrane |
| <input checked="" type="checkbox"/> Geonets (geocomposite) | <input type="checkbox"/> Gravel layer |
| <input type="checkbox"/> Well points | <input type="checkbox"/> Interceptor trench |
| <input type="checkbox"/> Perimeter ditch | <input type="checkbox"/> None |
| <input checked="" type="checkbox"/> Other (describe): | |

Sand layer above geocomposite.

22. Leachate storage method:

- Tanks Surface impoundments
 Other (describe):

23. Leachate treatment method:

- Oxidation Chemical treatment
 Secondary Settling
 Advanced None
 Other (describe):

Oxidation performed through aeration in the uncovered Cell of the leachate storage area.

24. Leachate disposal method:

- Recirculated Pumped to WWTP
 Transported to WWTP Discharged to surface water/wetland
 Injection well Percolation ponds
 Evaporation Spray irrigation
 Other (describe):

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: Yes No

Type of treatment:

Dry and wet retention for landfill and dry retention for access road.

Name and Class of receiving water:

Bull Creek, Class III

27. Environmental Resources Permit (ERP) number or status:

Current ERP Numbers are ERP49-0199752-001-EI (Phase 1 Individual), ERP49-0199752-002-EI (Conceptual), ERP-49-0199752-003-EI (Phase 2 Individual), ERP49-0199752-004-EM (Phase 3 Individual), ERP-49-0199752-006-EM (Conceptual Permit Mod.), ERP-49-0199752-007-EM (Leachate Storage Facility), ERP-49-0199752-008 (Leachate Storage Facility Mod.), ERP49-0199752-010-EI (Phase 4 Individual).

PART C. PROHIBITIONS (62-701.300, FAC)

LOCATION

- S _____ N/A N/C 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
- S _____ N/A N/C 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12), (13) and (16) through (18), FAC, then document this qualification(s);
- S _____ N/A N/C 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
- S _____ N/A N/C 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
- S _____ N/A N/C 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
- S _____ N/A N/C 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
- S _____ N/A N/C 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
- S _____ N/A N/C 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
- S _____ N/A N/C 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
- S _____ N/A N/C 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC)
- S _____ N/A N/C 11. Provide documentation that the facility will be in compliance with the CCA treated wood restrictions; (62-701.300(14), FAC)
- S _____ N/A N/C 12. Provide documentation that the facility will be in compliance with the dust control restrictions; (62-701.300(15), FAC)

PART D. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL (62-701.320, FAC)

LOCATION

- | | | | |
|---------------------------------------|----------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S <input checked="" type="checkbox"/> | <u>Attached</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 1. A minimum of one completed electronic application form, all supporting data and reports; (62-701.320(5)(a), FAC) |
| S <input checked="" type="checkbox"/> | <u>Letter Report</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 2. Engineering and/or professional certification (signature, date, and seal) provided on the applications and all engineering plans, reports, and supporting information for the application; (62-701.320(6), FAC) |
| S <input checked="" type="checkbox"/> | <u>Attached</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC) |
| S <input checked="" type="checkbox"/> | <u>Attachment 1</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC) |
| S <input checked="" type="checkbox"/> | <u>Attached</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC) |
| S <input checked="" type="checkbox"/> | <u>Letter Report</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 ½ inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC) |
| S <input checked="" type="checkbox"/> | <u>Attachment 2</u> | N/A <input type="checkbox"/> N/C <input type="checkbox"/> | 7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 8. Contingency Plan; (62-701.320(7)(e)2, FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing: (62-701.320(7)(f), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. A regional map or plan with the project location in relation to major roadways and population centers; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. A vicinity map or aerial photograph no more than one year old showing the facility site and relevant surface features located within 1000 feet of the facility; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum, and identifying the method used for collecting latitude and longitude data; |

LOCATION

PART D CONTINUED

- S _____ N/A N/C 10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g), FAC)
- S _____ N/A N/C 11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706, FS; (62-701.320(7)(h), FAC)
- S _____ N/A N/C 12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders, or permit conditions relating to the operation of any solid waste management facility in the state; (62-701.320(7)(i), FAC)
- S _____ N/A N/C 13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-701.320(8), FAC)
- S _____ N/A N/C 14. Provide a description of how the requirements for airport safety will be achieved, including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13), FAC)
- S _____ N/A N/C 15. Explain how the operator and spotter training requirements and special criteria will be satisfied for the facility; (62-701.320(15), FAC)

PART E. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

LOCATION

- S _____ N/A N/C 1. Regional map or aerial photograph no more than five years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a), FAC)
- S _____ N/A N/C 2. Plot plan with a scale not greater than 200 feet to the inch showing: (62-701.330(3)(b), FAC)
- S _____ N/A N/C a. Dimensions;
- S _____ N/A N/C b. Locations of proposed and existing water quality monitoring wells;
- S _____ N/A N/C c. Locations of soil borings;
- S _____ N/A N/C d. Proposed plan of trenching or disposal areas;
- S _____ N/A N/C e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;

LOCATION

PART E CONTINUED

S _____ N/A N/C

f. Any previously filled waste disposal areas;

S _____ N/A N/C

g. Fencing or other measures to restrict access;

S _____ N/A N/C

3. Topographic maps with a scale not greater than 200 feet to the inch with five foot contour intervals showing: (62-701.330(3)(c), FAC)

S _____ N/A N/C

a. Proposed fill areas;

S _____ N/A N/C

b. Borrow areas;

S _____ N/A N/C

c. Access roads;

S _____ N/A N/C

d. Grades required for proper drainage;

S _____ N/A N/C

e. Cross sections of lifts;

S _____ N/A N/C

f. Special drainage devices if necessary;

S _____ N/A N/C

g. Fencing;

S _____ N/A N/C

h. Equipment facilities;

S _____ N/A N/C

4. A report on the landfill describing the following: (62-701.330(3)(d), FAC)

S _____ N/A N/C

a. The current and projected population and area to be served by the proposed site;

S _____ N/A N/C

b. The anticipated type, annual quantity, and source of solid waste expressed in tons;

S _____ N/A N/C

c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation;

S _____ N/A N/C

d. The source and type of cover material used for the landfill;

S _____ N/A N/C

5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC)

S _____ N/A N/C

6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC)

PART F. GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)

LOCATION

- S _____ N/A N/C 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC)
- S _____ N/A N/C 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC)

PART G. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400, FAC)

LOCATION

- S _____ N/A N/C 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC)
- S _____ N/A N/C 2. Landfill liner requirements; (62-701.400(3), FAC)
- S _____ N/A N/C a. General construction requirements; (62-701.400(3)(a), FAC)
- S _____ N/A N/C (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;
- S _____ N/A N/C (2) Document foundation is adequate to prevent liner failure;
- S _____ N/A N/C (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
- S _____ N/A N/C (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
- S _____ N/A N/C (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate;

LOCATION

PART G CONTINUED

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

- b. Composite liners; (62-701.400(3)(b), FAC)
 - (1) Upper geomembrane thickness and properties;
 - (2) Design leachate head for primary leachate collection and removal system (LCRS) including leachate recirculation if appropriate;
 - (3) Design thickness in accordance with Table A and number of lifts planned for lower soil component;
- c. Double liners; (62-701.400(3)(c), FAC)
 - (1) Upper and lower geomembrane thickness and properties;
 - (2) Design leachate head for primary LCRS to limit the head to one foot above the liner;
 - (3) Lower geomembrane sub-base design;
 - (4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);
- d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)
 - (1) Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;
 - (2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
 - (3) Design of 24-inch-thick protective layer above upper geomembrane liner;
 - (4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above a 24-inch-thick protective layer;
 - (5) HDPE geomembranes, if used, meet the specifications in GRI GM13, and LLDPE geomembranes, if used, meet the specifications in GRI GM17;
 - (6) PVC geomembranes, if used, meet the specifications in PGI 1104;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(7) Interface shear strength testing results of the actual components which will be used in the liner system;

S _____ N/A N/C

(8) Transmissivity testing results of geonets if they are used in the liner system;

S _____ N/A N/C

(9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

S _____ N/A N/C

e. Geosynthetic specification requirements; (62-701.400(3)(e), FAC)

S _____ N/A N/C

(1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;

S _____ N/A N/C

(2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;

S _____ N/A N/C

(3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs;

S _____ N/A N/C

(4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance;

S _____ N/A N/C

(5) Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

S _____ N/A N/C

(6) Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;

S _____ N/A N/C

(7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

f. Standards for soil liner components; (62-701.400(3)(f), FAC)

- (1) Description of construction procedures including over-excavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil components in layers;
- (2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100, or an equivalent test method;
- (3) Procedures for testing in situ soils to demonstrate they meet the specifications for soil liners;
- (4) Specifications for soil component of liner including at a minimum:
 - (a) Allowable particle size distribution, and Atterberg limits including shrinkage limit;
 - (b) Placement moisture and dry density criteria;
 - (c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
 - (d) Minimum thickness of soil liner;
 - (e) Lift thickness;
 - (f) Surface preparation (scarification);
 - (g) Type and percentage of clay mineral within the soil component;
- (5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field;

g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved;

LOCATION

PART G CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)

a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)

(1) Constructed of materials chemically resistant to the waste and leachate;

(2) Have sufficient mechanical properties to prevent collapse under pressure;

(3) Have granular material or synthetic geotextile to prevent clogging;

(4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;

b. Other LCRS requirements; (62-701.400(4)(b), (c) and (d), FAC)

(1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;

(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;

(3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;

(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;

(5) Schedule provided for routine maintenance of LCRS.

4. Leachate recirculation; (62-701.400(5), FAC)

a. Describe general procedures for recirculating leachate;

b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;

c. Describe procedures for preventing perched water conditions and gas buildup;

LOCATION

PART G CONTINUED

S _____ N/A N/C

d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;

S _____ N/A N/C

e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

S _____ N/A N/C

f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover, and provide documentation that irrigation does not contribute significantly to leachate generation;

S _____ N/A N/C

5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

S _____ N/A N/C

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

S _____ N/A N/C

(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

S _____ N/A N/C

(2) Designed in segments to allow for inspection and repair, as needed, without interruption of service;

S _____ N/A N/C

(3) General design requirements;

S _____ N/A N/C

(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

S _____ N/A N/C

(b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

S _____ N/A N/C

(c) Lower geomembrane placed on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

S _____ N/A N/C

(d) Design calculation to predict potential leakage through the upper liner;

S _____ N/A N/C

(e) Daily inspection requirements, and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

S _____ N/A N/C

(4) Description of procedures to prevent uplift, if applicable;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;

S _____ N/A N/C

(6) Procedures for controlling vectors and off-site odors;

S _____ N/A N/C

b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC)

S _____ N/A N/C

(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;

S _____ N/A N/C

(2) Describe procedures for cathodic protection for the tank, if needed;

S _____ N/A N/C

(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;

S _____ N/A N/C

(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;

S _____ N/A N/C

(5) Describe design to remove and dispose of stormwater from the secondary containment system;

S _____ N/A N/C

(6) Describe an overflow prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overflowing;

S _____ N/A N/C

(7) Inspections, corrective action, and reporting requirements;

S _____ N/A N/C

(a) Weekly inspection of overflow prevention system;

S _____ N/A N/C

(b) Weekly inspection of exposed tank exteriors;

S _____ N/A N/C

(c) Inspection of tank interiors when tank is drained, or at least every three years;

S _____ N/A N/C

(d) Procedures for immediate corrective action if failures detected;

S _____ N/A N/C

(e) Inspection reports available for Department review;

S _____ N/A N/C

c. Underground leachate storage tanks; (62-701.400(6)(d), FAC)

LOCATION

PART G CONTINUED

S _____ N/A N/C

(1) Describe materials of construction;

S _____ N/A N/C

(2) A double-walled tank design system to be used with the following requirements:

S _____ N/A N/C

(a) Interstitial space monitoring at least weekly;

S _____ N/A N/C

(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

S _____ N/A N/C

(c) Interior tank coatings compatible with stored leachate;

S _____ N/A N/C

(d) Cathodic protection inspected weekly and repaired as needed;

S _____ N/A N/C

(3) Describe an overflow prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overflowing, and provide for weekly inspections;

S _____ N/A N/C

(4) Inspection reports available for Department review;

S _____ N/A N/C

6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)

S _____ N/A N/C

a. Provide CQA Plan including:

S _____ N/A N/C

(1) Specifications and construction requirements for liner system;

S _____ N/A N/C

(2) Detailed description of quality control testing procedures and frequencies;

S _____ N/A N/C

(3) Identification of supervising professional engineer;

S _____ N/A N/C

(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

S _____ N/A N/C

(5) State qualifications of CQA professional engineer and support personnel;

LOCATION

PART G CONTINUED

S _____ N/A N/C

(6) Description of CQA reporting forms and documents;

S _____ N/A N/C

b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

S _____ N/A N/C

7. Soil liner CQA; (62-701.400(8), FAC)

S _____ N/A N/C

a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;

S _____ N/A N/C

b. Description of field test section construction and test methods to be implemented prior to liner installation;

S _____ N/A N/C

c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;

S _____ N/A N/C

8. For surface water management systems at aboveground disposal units, provide documentation showing the design of any features intended to convey stormwater to a permitted or exempted treatment system; (62-701.400(9), FAC)

S _____ N/A N/C

9. Gas control systems; (62-701.400(10), FAC)

S _____ N/A N/C

a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

S _____ N/A N/C

10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11), FAC)

PART H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(2), FAC)

LOCATION

S _____ N/A N/C

1. Submit a hydrogeological investigation and site report including at least the following information:

S _____ N/A N/C

a. Regional and site specific geology and hydrology;

S _____ N/A N/C

b. Direction and rate of ground water and surface water flow including seasonal variations;

LOCATION

PART H CONTINUED

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

- c. Background quality of ground water and surface water;
- d. Any on-site hydraulic connections between aquifers;
- e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the site that may be affected by the disposal facility;
- f. Description of topography, soil types, and surface water drainage systems;
- g. Inventory of all public and private water wells within a one mile radius of the site including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique, and static water level;
- h. Identify and locate any existing contaminated areas on the site;
- i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

2. Report signed, sealed, and dated by P.E. and/or P.G.

PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(3) and (4), FAC)

LOCATION

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

- 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:
 - a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;
 - b. Investigate for the presence of muck, previously filled areas, soft ground, and lineaments;
 - c. Estimates of average and maximum high water table across the site;
 - d. Evaluation of potential for fault areas and seismic impact zones;
 - e. Foundation analysis including:

LOCATION

PART I CONTINUED

S _____ N/A N/C

(1) Foundation bearing capacity analysis;

S _____ N/A N/C

(2) Total and differential subgrade settlement analysis;

S _____ N/A N/C

(3) Slope stability analysis;

S _____ N/A N/C

f. Evaluation of potential for sinkholes and sinkhole activity at the site that is based upon the investigations required in Rule 62-701.410(3)(f), F.A.C.;

S _____ N/A N/C

g. A geotechnical report providing a description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, conclusions, and a description of any engineering measures proposed for the site;

S _____ N/A N/C

2. Report signed, sealed, and dated by P.E. and/or P.G.

PART J. VERTICAL EXPANSION OF LANDFILLS (62-701.430, FAC)

LOCATION

S _____ N/A N/C

1. Describe how the vertical expansion shall not cause or contribute to any violations of water quality standards or criteria, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;

S _____ N/A N/C

2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;

S _____ N/A N/C

3. Provide foundation and settlement analysis for the vertical expansion;

S _____ N/A N/C

4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;

S _____ N/A N/C

5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;

S _____ N/A N/C

6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;

S _____ N/A N/C

7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

PART K. LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

LOCATION

- | | | | | |
|---------------------------------------|---------------------|------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 1. Provide documentation that the landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | a. Designating responsible operating and maintenance personnel; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC; |
| S <input checked="" type="checkbox"/> | <u>Attachment 2</u> | N/A <input type="checkbox"/> | N/C <input type="checkbox"/> | c. Controlling types of waste received at the landfill; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | d. Weighing incoming waste; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | e. Vehicle traffic control and unloading; |
| S <input checked="" type="checkbox"/> | <u>Attachment 2</u> | N/A <input type="checkbox"/> | N/C <input type="checkbox"/> | f. Method and sequence of filling waste; |
| S <input checked="" type="checkbox"/> | <u>Attachment 2</u> | N/A <input type="checkbox"/> | N/C <input type="checkbox"/> | g. Waste compaction and application of cover; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | h. Operations of gas, leachate, and stormwater controls; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | i. Water quality monitoring; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | j. Maintaining and cleaning the leachate collection system; |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 3. Provide a description of the landfill operation record to be used at the landfill, details as to location of where various operational records will be kept (i.e. DEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 5. Describe methods of access control; (62-701.500(5), FAC) |
| S <input type="checkbox"/> | _____ | N/A <input type="checkbox"/> | N/C <input checked="" type="checkbox"/> | 6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized waste at the landfill; (62-701.500(6), FAC) |

LOCATION

PART K CONTINUED

- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S Attachment 2 N/A N/C
- S Attachment 2 N/A N/C
- S Attachment 2 N/A N/C
- S Attachment 2 N/A N/C
- S Attachment 2 N/A N/C
- S Attachment 2 N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C
- S _____ N/A N/C

7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)

- a. Waste layer thickness and compaction frequencies;
- b. Special considerations for first layer of waste placed above the liner and leachate collection system;
- c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation;
- d. Maximum width of working face;
- e. Description of type of initial cover to be used at the facility that controls:
 - (1) Vector breeding/animal attraction;
 - (2) Fires;
 - (3) Odors;
 - (4) Blowing litter;
 - (5) Moisture infiltration;
- f. Procedures for applying initial cover, including minimum cover frequencies;
- g. Procedures for applying intermediate cover;
- h. Time frames for applying final cover;
- i. Procedures for controlling scavenging and salvaging;
- j. Description of litter policing methods;
- k. Erosion control procedures;

LOCATION

PART K CONTINUED

S _____ N/A N/C

8. Describe operational procedures for leachate management including: (62-701.500(8), FAC)

S _____ N/A N/C

a. Leachate level monitoring;

S _____ N/A N/C

b. Operation and maintenance of leachate collection and removal system, and treatment as required;

S _____ N/A N/C

c. Procedures for managing leachate if it becomes regulated as a hazardous waste;

S Attachment 2 _____ N/A N/C

d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;

S _____ N/A N/C

e. Contingency plan for managing leachate during emergencies or equipment problems;

S _____ N/A N/C

f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;

S _____ N/A N/C

g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;

S _____ N/A N/C

h. Procedures for water pressure cleaning or video inspecting leachate collection systems;

S _____ N/A N/C

9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)

S _____ N/A N/C

10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9), FAC; (62-701.500(10), FAC)

S _____ N/A N/C

11. Equipment and operation feature requirements; (62-701.500(11), FAC)

S _____ N/A N/C

a. Sufficient equipment for excavating, spreading, compacting, and covering waste;

S _____ N/A N/C

b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;

S _____ N/A N/C

c. Communications equipment;

LOCATION

PART K CONTINUED

S _____ N/A N/C

d. Dust control methods;

S _____ N/A N/C

e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

S _____ N/A N/C

f. Litter control devices;

S _____ N/A N/C

g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions;

S _____ N/A N/C

12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC)

S _____ N/A N/C

13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

S _____ N/A N/C

a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;

S _____ N/A N/C

b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years;

S _____ N/A N/C

c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department;

S _____ N/A N/C

d. Procedures for archiving and retrieving records which are more than five years old;

PART L. WATER QUALITY MONITORING REQUIREMENTS (62-701.510, FAC)

LOCATION

S _____ N/A N/C

1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements:

S _____ N/A N/C

a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC)

LOCATION

PART L CONTINUED

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

S _____ N/A N/C

b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)

c. Ground water monitoring requirements; (62-701.510(3), FAC)

(1) Detection wells located downgradient from and within 50 feet of disposal units;

(2) Downgradient compliance wells as required;

(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;

(4) Location information for each monitoring well;

(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells, unless site specific conditions justify alternate well spacings;

(6) Properly selected well screen locations;

(7) Monitoring wells constructed to provide representative ground water samples;

(8) Procedures for properly abandoning monitoring wells;

(9) Detailed description of detection sensors, if proposed;

d. Surface water monitoring requirements; (62-701.510(4), FAC)

(1) Location of and justification for all proposed surface water monitoring points;

(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;

e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC)

(1) Initial background ground water and surface water sampling and analysis requirements;

LOCATION

PART L CONTINUED

- S _____ N/A N/C (2) Routine monitoring well sampling and analysis requirements;
- S _____ N/A N/C (3) Routine surface water sampling and analysis requirements;
- S _____ N/A N/C f. Describe procedures for implementing evaluation monitoring, prevention measures, and corrective action as required; (62-701.510(6), FAC)
- S _____ N/A N/C g. Water quality monitoring report requirements; (62-701.510(8), FAC)
- S _____ N/A N/C (1) Semi-annual report requirements; (see paragraphs 62-701.510(5)(c) and (d), FAC for sampling frequencies)
- S _____ N/A N/C (2) Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit;
- S _____ N/A N/C (3) Two and one-half year, or annual, report requirements, or every five years if in long-term care, signed dated, and sealed by P.G. or P.E.;

PART M. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

LOCATION

- S _____ N/A N/C 1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC)
- S _____ N/A N/C 2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC)
- S _____ N/A N/C 3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC)
- S _____ N/A N/C 4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
- S _____ N/A N/C 5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

PART N. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530, FAC)

LOCATION

- | | | |
|----------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 1. Provide documentation for a gas management system that will: (62-701.530(1), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Be designed for site specific conditions; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. Be designed to reduce gas pressure in the interior of the landfill; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Be designed to not interfere with the liner, leachate control system, or final cover; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 2. Provide documentation that will describe locations, construction details, and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 4. Landfill gas recovery facilities; (62-701.530(5), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Provide information required in Rules 62-701.320(7) and 62-701.330(3), FAC; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Provide information required in Rule 62-701.600(4), FAC, where relevant and practical; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. Provide estimates of current and expected gas generation rates and description of condensate disposal methods; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Provide description of procedures for condensate sampling, analyzing, and data reporting; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | e. Provide closure plan describing methods to control gas after recovery facility ceases operation, and any other requirements contained in Rule 62-701.400(10), FAC; |

PART O. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600, FAC)

LOCATION

- | | | |
|----------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 1. Closure permit requirements; (62-701.600(2), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Application submitted to the Department at least 90 days prior to final receipt of wastes; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Closure plan shall include the following: |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (1) Closure design plan; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (2) Closure operation plan; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (3) Plan for long-term care; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (4) A demonstration that proof of financial assurance for long-term care will be provided; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | 2. Closure design plan including the following requirements: (62-701.600(3), FAC) |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | a. Plan sheet showing phases of site closing; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | b. Drawings showing existing topography and proposed final grades; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | c. Provisions to close units when they reach approved design dimensions; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | d. Final elevations before settlement; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters, and description of expected precipitation effects; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | f. Final cover installation plans including: |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (1) CQA plan for installing and testing final cover; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (2) Schedule for installing final cover after final receipt of waste; |
| S <input type="checkbox"/> _____ | N/A <input type="checkbox"/> N/C <input checked="" type="checkbox"/> | (3) Description of drought resistant species to be used in the vegetative cover; |

LOCATION

PART O CONTINUED

S _____ N/A N/C

(4) Top gradient design to maximize runoff and minimize erosion;

S _____ N/A N/C

(5) Provisions for cover material to be used for final cover maintenance;

S _____ N/A N/C

g. Final cover design requirements;

S _____ N/A N/C

(1) Protective soil layer design;

S _____ N/A N/C

(2) Barrier soil layer design;

S _____ N/A N/C

(3) Erosion control vegetation;

S _____ N/A N/C

(4) Geomembrane barrier layer design;

S _____ N/A N/C

(5) Geosynthetic clay liner design, if used;

S _____ N/A N/C

(6) Stability analysis of the cover system and the disposed waste;

S _____ N/A N/C

h. Proposed method of stormwater control;

S _____ N/A N/C

i. Proposed method of access control;

S _____ N/A N/C

j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC;

S _____ N/A N/C

3. Closure operation plan shall include: (62-701.600(4), FAC)

S _____ N/A N/C

a. Detailed description of actions which will be taken to close the landfill;

S _____ N/A N/C

b. Time schedule for completion of closing and long-term care;

S _____ N/A N/C

c. Describe proposed method for demonstrating financial assurance for long-term care;

S _____ N/A N/C

d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC;

S _____ N/A N/C

e. Development and implementation of gas management system required in Rule 62-701.530, FAC;

LOCATION

PART O CONTINUED

- S _____ N/A N/C 4. Certification of closure construction completion and final reports including: (62-701.600(6), FAC)
- S _____ N/A N/C a. Survey monuments; (62-701.600(6)(a), FAC)
- S _____ N/A N/C b. Final survey report; (62-701.600(6)(b), FAC)
- S _____ N/A N/C c. Closure construction quality assurance report; (62-701.400(7), FAC)
- S _____ N/A N/C 5. Declaration to the public; (62-701.600(7), FAC)
- S _____ N/A N/C 6. Official date of closing; (62-701.600(8), FAC)
- S _____ N/A N/C 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC)

PART P. OTHER CLOSURE PROCEDURES (62-701.610, FAC)

LOCATION

- S _____ N/A N/C 1. Describe how the requirements for use of closed solid waste disposal areas will be achieved; (62-701.610(1), FAC)
- S _____ N/A N/C 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)

PART Q. LONG-TERM CARE (62-701.620, FAC)

LOCATION

- S _____ N/A N/C 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
- S _____ N/A N/C 2. Stabilization report requirements; (62-701.620(6), FAC)
- S _____ N/A N/C 3. Right of access; (62-701.620(7), FAC)
- S _____ N/A N/C 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC)
- S _____ N/A N/C 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC)

PART R. FINANCIAL ASSURANCE (62-701.630, FAC)

LOCATION

S _____ N/A N/C

1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a P.E. for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3) & (7), FAC)

S _____ N/A N/C

2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4) & (8), FAC)

S _____ N/A N/C

3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC)

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Waste Connections of Osceola County LLC

_____ is aware that statements made in this form and attached information are an application for a Minor Modification permit from the Florida Department of Environmental Protection, and certifies that the information in this application is true, correct, and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Kirk Wills

Digitally signed by Kirk Wills
Date: 2019.06.25 11:01:34 -04'00'

Signature of Applicant or Agent

Kirk Wills, Southern Region Engineer

Name and Title (please type)

kirk.wills@wasteconnections.com

E-Mail Address (if available)

1501 Omni Way

Mailing Address

St. Cloud, FL 34773

City, State, Zip Code

(813) 388-1026

Telephone Number

Date: June 25, 2019

Attach letter of authorization if agent is not a government official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

Signature

Craig R. Browne, Senior Engineer

Name and Title (please type)

68613

Florida Registration Number (please affix seal)

This document has been electronically signed and sealed by Craig R. Browne, PE on 6/26/2019 using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

12802 Tampa Oaks Blvd, Ste 151

Mailing Address

Tampa, FL 33637

City, State, Zip Code

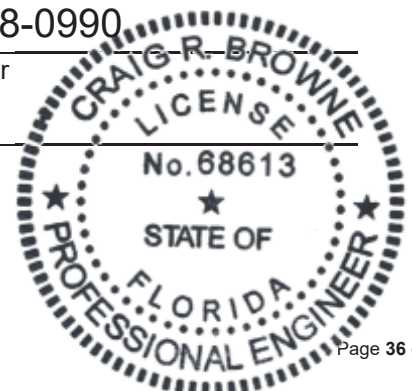
cbrowne@geosyntec.com

E-Mail Address (if available)

(813) 558-0990

Telephone Number

Date: _____



ATTACHMENT 2
Revised Operation Plan
(text changes only – Attachments not included)

Prepared for:



~~Omni Waste~~ Waste Connections of Osceola County, LLC.

1501 Omni Way
St. Cloud, Florida 34773

**OPERATION PLAN
J.E.D. SOLID WASTE MANAGEMENT FACILITY
Rev. 0201**

Prepared by:

Geosyntec
consultants

12802 Tampa Oaks Blvd.~~13101 Telecom Drive~~, Suite 151420
Tampa Temple Terrace, Florida 33637
Authorization Number: 4321
Project Number FL36162987

June 2019~~June 2018~~



Craig Browne~~Alex Rivera~~, P.E.
Florida Registration No. 6861378210
Date: _____

This document has been electronically signed and sealed by Craig R. Browne, PE on 6/26/2019 using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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ATTACHMENTS

- ATTACHMENT A: TRAINING PLAN
- ATTACHMENT B: WASTE INSPECTION PLAN
- ATTACHMENT C: WASTE TIRE STORAGE AND PROCESSING PLAN
- ATTACHMENT D: LFGTE FACILITY OPERATION PLAN
- ATTACHMENT E: OPERATION PLAN FOR LEACHATE RECIRCULATION
- ATTACHMENT F: WASTE SOLIDIFICATION OPERATION PLAN
- ATTACHMENT G: EMERGENCY RESPONSE AGENCIES

1 INTRODUCTION

1.1 Terms of Reference

This Operation Plan has been prepared by Geosyntec Consultants (Geosyntec) on behalf of ~~Omni~~-Waste Connections of Osceola County, LLC (~~Omni~~WCOC) for a Class I landfill known as the J.E.D. Solid Waste Management (JED) facility. The Operation Plan for the JED facility has been prepared to comply with the requirements of Chapter 62-701, Florida Administrative Code (F.A.C.).

1.2 Purpose and Scope of the Operation Plan

The Operation Plan provides a detailed description of the daily operations at the JED facility, including contingency operations as required by subparagraphs 62-701.320(7)(e)1,2, and Rule 62-701.500, F.A.C. The primary purpose of the Operation Plan is to describe the framework to operate and manage the JED facility so that the landfill is operated and maintained in a condition that protects the public health and the environment. This Operation Plan also provides a description of borrow area operations for obtaining fill material during both the construction and operation phases of the landfill.

1.3 Operation Plan Organization

The organization of the Operation Plan is described below:

- Section 2 describes personnel requirements, landfill entrance procedures, traffic routing, and facilities for the Class I landfill;
- Section 3 discusses landfill operations including basic landfilling procedures, waste handling, waste relocation, equipment, on-site roads, and general maintenance procedures for drainage swales;
- Section 4 discusses environmental controls including leachate containment and control, surface-water control, facility inspection, maintenance, monitoring, landfill active area controls, and record keeping;
- Section 5 describes the contingency plan for emergencies at the site;
- Section 6 describes the safety plan for the site;
- Section 7 discusses final closure of the JED facility; and
- Section 8 describes operation of the borrow area.

2 LANDFILL PERSONNEL AND FACILITIES

2.1 Personnel Requirements

2.1.1 Numbers and Types

The positions and number of personnel anticipated to be employed for each position are presented in Table 1. OmniWCOC will have at least one trained operator at the landfill during active operations and at least one trained spotter at each working face. Spotter(s) will be located on heavy equipment spreading wastes while at the working face. All heavy equipment operators performing spotting duties while operating heavy equipment will be trained as an operator or spotter. The staffing levels presented in Table 1 provide for absences due to vacation, illness, holidays, or other reasons. Peak solid waste receipt periods, or other emergency conditions may require additional personnel and/or staff working overtime. These staffing levels are based on the assumption that work activities will generally take place 10 hours per day, 5 days per week and a half day on Saturday and Sunday.

If the daily volume at the landfill increases enough to require additional equipment, the staff will be increased as required to supply the personnel to operate and maintain the additional equipment. The minimum crew required to operate the landfill for receipt of waste is also presented in Table 1. In addition to the permanent staff, casual labor may be hired for area clean-up, ground maintenance, and other intermittent activities as required.

2.1.2 Employee Training

Employees of the landfill will receive initial and continued training in accordance with requirements of subsection 62-701.320(15), F.A.C., and other OmniWCOC on-the-job training in the safe and environmentally secure operation of the landfill. In accordance with subparagraph 62-701.320(15)(b)1, F.A.C., the operators at the landfill will complete 24 hours of initial training and pass the examination as part of the initial training. Within three years of the initial training, and every three years thereafter, landfill operators will complete additional 16 hours of continued training. In accordance with paragraph 62-701.320(15)(c), F.A.C., the spotters at the landfill will complete 8 hours of initial training as described in this Operation Plan. Within three years of the initial training, and every three years thereafter, landfill spotters will complete additional 4 hours of continued training. All certified training (initial and continuing education) will be provided by a Florida Department of Environmental Protection (FDEP) approved, qualified, independent third party in accordance with Section 403.716, Florida Statutes (F.S.).

OmniWCOC will maintain training records for current employees at the facility and will make all records available to FDEP upon request. The requirements of the training

program will also be documented in writing. Examples of subjects to be covered in the employee training program include the following:

- overview of this Operation Plan;
- review of permits and regulations for operators and other key personnel;
- general landfill safety procedures pertaining to work around solid waste, landfill gases, and leachate;
- instruction in the operation and maintenance of equipment, machinery, and systems which the employee must operate, service, or monitor during his/her daily job duties;
- instruction in emergency response procedures for landfill fires or explosions, leachate pumping system failure or leaks, or other emergency situations;
- instruction in emergency shutdown procedures; and
- appropriate procedures for spotters and equipment operators, scale masters and other key personnel including recognition of hazardous wastes and reporting procedures for discovery of unauthorized wastes.

A list of trained spotters and operators at the JED facility and a list and schedule of the classes offered to the public, which may be attended by the JED facility's operators and spotters, is presented in **Attachment A**.

2.2 Landfill Entrance Procedures

2.2.1 Hours and Days of Operation

Typical landfill hours for acceptance of waste are:

Monday through Friday: 4:00 am to 4:00 pm

Saturday: 6:00 am to 12:00 pm

Sunday: 6:00 am to 10:00 am

Construction, daily cell preparation, hauling/excavating, road building, leachate management, or all non-disposal waste acceptance can be performed both within and outside of the posted operating hours. The actual hours of operation will be posted at the main entrance to the landfill. The landfill may be closed on Sundays, Thanksgiving, Christmas, and New Year's Day.

2.2.2 Processing Customers

Upon entering the site, all landfill users entering the disposal area will be required to stop at the weigh station. The scale master will record the weight and type of waste for each waste load brought to the landfill. All waste loads will be visually inspected for hazardous or other unauthorized wastes in accordance with the waste inspection plan, which is presented in **Attachment B**. Unauthorized waste includes yard trash which cannot be disposed in a Class I facility. Customers will be directed to the City of St. Cloud, Osceola County, or other registered/permitted yard trash processing facility. A load-checking program will be used at the landfill to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program consists of the following:

- Trained staff are required to examine at least three random loads each week. The selected waste hauling vehicles are to be directed to discharge their loads at a designated location within the landfill for a detailed inspection of the discharged material for any hazardous waste.
- If any regulated hazardous wastes are identified by the random load inspection or otherwise discovered to be improperly deposited at the landfill, the Landfill Site Management will promptly notify FDEP, and if known the person responsible for shipping the wastes to the landfill, and the generator of the wastes. The area where the hazardous wastes are found will be immediately cordoned off from public access and properly removed from the designated location/work face. If the generator or hauler cannot be identified, the landfill operator will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.
- A record of information and observations gathered during each random waste load inspection will be maintained. This documentation will include: the date and time of inspection; load weight; names of the hauling firm and driver of the vehicle; vehicle license plate number; source of waste as indicated by the driver; and observations made by the inspector during the detailed inspection. The responsible inspector will sign each waste inspection record. The random waste load inspection documentation will be maintained at the landfill for a period of at least three years.

Vehicles will be directed to the appropriate disposal area by signs or other means. Verbal instructions will be given by facility personnel when necessary. The appropriate area depends on whether the waste is typical municipal solid waste, white goods, used tires, or waste that should be placed in a particular location for special handling.

2.2.3 Public Use

Small, private vehicles will be directed to place their load in the appropriate disposal area by the scale master. Private vehicles will typically be directed to unload in two 20-yard roll-off containers located in the administrative area. However, private vehicles with a dump trailer will be directed to the landfill. These vehicles will be directed to unload in an area away from the commercial waste trucks and will be assisted to unload and return as quickly as practical.

2.2.4 Vehicle Inspection

A plan will be implemented by the Landfill Site Management to prevent the on-site disposal of unauthorized wastes. A copy of the Waste Inspection Plan prepared for the Class I landfill is presented in **Attachment B**. This plan will be implemented by the Landfill Site Management or designee to prevent the on-site disposal of unauthorized wastes.

The Landfill Site Management or designee (Inspector) will be in charge of inspecting waste vehicles arriving at the site. The Inspectors will receive training in unauthorized waste identification. The training provides the opportunity to improve the inspector's knowledge and ability to effectively screen incoming waste.

2.3 Traffic Routing

2.3.1 Access Points/Signs

Access by all vehicles shall be via a single secured site entrance located on highway US 441. The entrance will allow for safe and orderly traffic flow into and out of the facility. The site entrance gate will be locked outside of operation hours.

Signs will be posted at the site entrance indicating the name of the facility, name of the operating authority, and hours and days of operation. In addition, a sign which clearly states "NO HAZARDOUS WASTES ACCEPTED" will be located at the entrance to the landfill. Traffic control and safety requirement signs will be located at and near the entrance to the facility as required.

2.3.2 On-Site Traffic Flow

Once vehicles delivering wastes have been weighed, they will follow directions or signs posted along the haul road(s) to the current active work areas of the landfill, or designated offloading area for waste solidification and waste tire storage and processing operations. Trucks will then proceed to deposit their loads at the appropriate working face. Signs or

the scale master will direct small public vehicles to deposit their loads in the appropriate disposal area.

2.4 On-Site Structures

The site includes the following structures:

- office building/ticket office/weigh station
- scales
- maintenance shop
- storage area

2.5 Communication Facilities

The following communication facilities will be provided for routine communication and for use in emergencies at the site:

- cellular and/or conventional telephone in the office building; and
- on-site two-way radios.

3 LANDFILL OPERATIONS

3.1 Basic Landfilling Procedures

This section describes the procedures that constitute the daily landfill operations, the sequence of landfilling, working face practices, and control of the first and subsequent lifts. The landfill will be operated in accordance with these procedures and filled in the general sequence as indicated on the Permit Drawings.

3.1.1 Method of Operations

Landfilling areas will generally progress from north to south and from west to east. When a cell is opened, waste lifts will be placed in areas that do not have a rain cover to a depth of 10 to 15 feet to reduce leachate generation prior to placement to higher elevations in a cell.

Controlling truck routes and properly spotting loads will facilitate the spreading, compaction, and covering of refuse. During construction of the first lift, trucks will be positioned on a lift of previously compacted waste adjacent to the first lift being placed. In subsequent lifts, unloading at the toe of the working face and pushing uphill may be the preferred method. Lateral confinement or small work faces will be maintained to avoid wasting soil cover material. Temporary barricades or flags may be used as daily width markers for guiding equipment operators and for traffic control.

Vehicles transporting refuse and cover material to the working face will be routed over previously filled areas, whenever possible, for additional compaction of refuse and soil. Vehicles will not be routed over areas of the final cover system unless on a road specifically designed for hauling waste. Disposal vehicles will not be routed over a lined area before a lift of waste has been placed, in order to prevent damage to the liner.

Signs will also be posted in the operational areas if and when required. These signs will direct traffic, identify buildings, and specify types of material to be deposited in particular areas, including the waste solidification and waste tire storage areas. Safety signs will also be posted to identify certain safety requirements such as no smoking, speed limits, and stop signs.

The refuse may consist of household wastes, non-hazardous industrial wastes and sludges, and commercial wastes, construction and demolition (C&D) debris, and other similar materials, as allowed by regulations for Class I landfills. These readily compactable wastes lend themselves to the typical operations described in Sections 3.1.2 and 3.1.3. Any new, non-routine solid waste stream will be evaluated (i.e., waste profile) before it is received at

the landfill to ensure it is allowed for disposal as a Class I waste and, if not prohibited, to ensure it is then properly managed at the landfill.

3.1.2 Working Face Practices

3.1.2.1 Start-Up and First Lift

To assure protection of the landfill liner system, no disposal vehicles will be operated directly on the liner protective cover. Soil platforms or similar protective measures will be placed adjacent to the working face to keep vehicles off the liner protective cover. Landfill personnel will be positioned at the working face for the start-up of each new area to direct vehicles to their unloading points.

The first lift of waste on the liner protective cover will be placed with great care, using special methods to protect the liner from damage. The first lift of waste will be a minimum of 4 feet in compacted thickness and consist of select wastes containing no large rigid objects that may damage the liner or leachate collection system. Equipment will not be allowed on the liner protective cover and equipment will not spread waste in a manner that displaces the liner protective cover soil. Landfill personnel will closely monitor the placement, compaction, and covering of the first layer of waste. Landfill personnel will maintain grade control and inspect the filling techniques. Inadvertent damage or suspected damage to the liner system will be reported to the Landfill Site Management and restored prior to filling in the damaged area.

To protect the liner system, the bulldozer will normally be used as the primary spreading and compacting machine for the first lift. The compactor will only be operated on top of the waste and not on the landfill base or on the waste side-slopes. The equipment operators will also make sure that no bulky waste or other material, which could damage the liner system is placed within the first lift.

To reduce the quantity of leachate generated during the initial stages of waste placement, plastic sheeting may be deployed to collect storm water generated in those portions of the cell where waste materials have not yet been placed. The area of the cell covered by the rain cover will be modified as necessary to accommodate waste placement. Temporary berms will be constructed down gradient of the working face such that impacted storm water from the operations area and the deposited waste will not be able to co-mingle with the un-impacted storm water. The temporary sheeting will be secured with sand bags, tires, or other equivalent ballasting that will not puncture the temporary sheeting. The temporary sheeting will extend from the top of the intercell and side slope berms across the entire width of the cell.

Un-impacted storm water will be collected in a temporary sump, constructed on top of the liner protective layer and pumped to the existing storm water management system.

Dedicated storm water pumps, (i.e., electric submersibles or gasoline powered trash pumps) will pump the storm water from the top of the plastic sheeting. The un-impacted storm water will be pumped to the nearest storm water down chute such that the pumped water will flow out of the down chute onto the rip rap placed at the end of the outlet structure. The pump head of this type pump is placed in the low point of the cell and is capable of drawing down liquid to within approximately 12 inches of the containment bottom.

The rain cover will be removed prior to placement of waste in cell areas such that waste is placed in direct contact with the liner protective layer.

3.1.2.2 Subsequent Lifts

After the first lift is properly in place, normal operating procedures will be used for the second lift and all subsequent lifts. Trucks and compactors are permitted to operate on these lifts. Bulky wastes delivered to the facility and any stockpiled bulky wastes received during construction of the first lift will be placed in subsequent lifts. The daily operating procedures including routing of traffic, placement, spreading and compaction of refuse, and application of initial and/or intermediate cover will be followed for the subsequent lifts of waste. Soil erosion control and site maintenance tasks will be implemented throughout the development of all lifts. Once the final landfill elevations have been reached over a suitably sized area, final cover may be applied to the landfill during the next construction season and vegetated during the customary planting season. Areas at final grade and interior slopes with intermediate cover may be covered with a temporary exposed geomembrane cover for erosion control purposes until such time final closure occurs or waste filling operations resume.

At the end of each working day, initial cover material (e.g., soil or alternate material) will be applied. When soil is placed as initial cover, an excavator, loader and truck will be used to load and haul soil from the stockpile area to the working face where it will be temporarily stockpiled or spread directly over the waste. Alternate initial cover materials are listed in Section 3.1.4.2, and will be used as described in that Section. Intermediate cover will be applied on areas that will be exposed for more than 180 days (i.e., outside side slopes and the top of the final lift or portions of other lifts not soon to be covered by additional refuse.) ~~An alternative to the soil, which is used as initial cover may consist of contaminated soils, auto shredder residuals, processed tires, mulch mixed with soils, tarps, or other approved material.~~ As previously noted, a temporary exposed geomembrane cover may be installed over the intermediate cover for erosion control.

Material from on-site stockpile or borrow areas will be used to supply initial and intermediate soil cover requirements. To conserve soils and landfill space, the initial and intermediate cover will be scraped back immediately before placement of additional solid waste on top of the lift, and then reused as cover material if appropriate, or will be

incorporated into the working face. Areas with initial, intermediate, and temporary exposed geomembrane cover will be graded to drain away from the active work area.

3.1.3 Filling Procedures

After the first lift, waste materials will be placed in approximately 2-ft thick horizontal layers when possible and compacted to approximately 1-ft thickness or as thin a layer as practical before the next lift is applied. Lift depths will typically not exceed 10-ft in thickness and the working face slope will not be greater than 3-ft horizontal to 1-ft vertical rise. However, a lift thickness of 10 to 15-ft may be necessary at times during days of higher waste acceptance rates and fill transition at outer slopes and change in direction. The need for an increased lift thickness is highly dependent on the fill configuration on that particular day and actual waste acceptance rate. An increased lift thickness is allowed by paragraph 62-701.500(7)(c), F.A.C. When operating with an increased lift thickness, ~~Omni~~WCOG will maintain adequate widths and spacing of operations as further described below to ensure safe operating practices.

The refuse cell is the basic building block of a landfill. It is composed of multiple compacted layers of waste and enclosed by cover material (i.e., initial, intermediate and/or final cover). Basic instructions for constructing the refuse cell are outlined below.

3.1.3.1 Width of Working Face

The working face is the portion of the uncompleted cell on which additional waste is spread and compacted. To maintain sanitary operation, the working face will be kept as narrow as possible. By keeping the working face narrow, equipment movement, cover material requirements, and the area of exposed waste is minimized. In order to facilitate proper unloading and waste placement operations, two working faces may be required from time to time.

The optimal daily working face width will vary depending on the number of vehicles bringing waste to the site. The working face will be wide enough to prevent a large backlog of trucks.

3.1.3.2 Unloading

When unloading waste from top of the refuse cell, the waste will be discharged as close to the edge of the active working face as safe operations permit and pushed down slope. For safety reasons, a minimum 8 to 10 ft separation will be maintained between the refuse trucks and the landfill equipment.

When unloading waste from the bottom of the refuse cell, the waste will be discharged approximately 10 ft from the toe of the working face and pushed up the slope. Truck and

landfill equipment separation, as discussed above, will be maintained. In order to prevent loads of waste from being discharged too far away from the toe, refuse trucks can be backed toward the toe, following a path created by the equipment pushing refuse into the working face.

3.1.3.3 *Pushing, Spreading, and Compacting*

Proper refuse cell construction involves pushing, spreading, and compacting the waste. These functions will be accomplished with a bulldozer and/or a compactor.

Pushing the waste is the action of moving the waste from the discharge location into the working face. This function will be accomplished with a bulldozer and/or compactor.

Spreading of the waste can be done by either a bulldozer or compactor. The purpose of the spreading action is to distribute the waste over the working face in a thin layer (approximately 2 ft thick). High in-place compacted unit weight of the waste is achieved by compacting in thin layers (i.e., 2 ft thick).

Good compaction is achieved by operating the landfill compactor up and down the working face after the refuse has been spread into a thin layer. Proper compaction of the waste will extend landfill life, while reducing litter and vector problems. To maximize compaction of the waste, the working face and inside temporary slopes will not exceed a maximum slope of 3H:1V. The Landfill Site Management will periodically verify the compaction procedures and make corrections as necessary.

3.1.3.4 *Daily Clean-Up*

The area receiving wastes will be policed daily for loose waste and litter. Such waste, as well as litter along the litter fences, will be removed. The litter may be stored in trash bags until it can be deposited in the landfill.

3.1.4 **Cover**

3.1.4.1 *Stockpiling*

Cover soil stockpile locations, if needed, will change throughout the life of the landfill depending on site conditions and the location of the active working face. Landfill equipment will begin pushing or spreading the cover over the active cell area when and where it has reached its limit for the day.

3.1.4.2 *Application and Phasing of Cover Materials*

A 6-in. thick soil initial ~~earth~~-cover will be placed on top of all exposed waste on the working face at the end of each day's operation unless additional waste is to be deposited on the working face within 18 hours. The initial cover may also consist of alternative

materials— provided their use meets the criteria of subsection 62-701.200(53), F.A.C. Alternate initial cover materials that may be used at this landfill include Posi-Shell, including tarps, processed tire chips, auto shredder residuals, auto-shredded residuals, mulch mixed with soil at a maximum 50/50 ratio, petroleum and-contaminated soils, the additional materials authorized by rule in paragraph 62-701.500(7)(e), F.A.C., and the alternate initial cover products already approved by the FDEP that are listed at: <https://floridadep.gov/waste/permitting-compliance-assistance/content/solid-waste-guidance-memos-documents>. All alternate initial covers will be used in a way to ensure they meet the criteria of subsection 62-701.200(53), F.A.C. Posi-Shell will be prepared and used in accordance with the manufacturer’s instructions and will be applied to the waste working face with appropriate equipment such as a commercial hydro-seeding unit.

A 12-in. thick intermediate earth cover will be placed over the initial cover within 7 days of completion of an area if no additional solid waste will be deposited within 180 days. As noted in Section 3.1.2, a temporary exposed geomembrane cover may be placed over the intermediate cover materials to facilitate erosion control.

Final cover will be placed over the areas of the landfill that have reached final design elevations. Final cover will be placed within 180 days of reaching the final design elevations. Temporary exposed geomembrane covers will be removed, if present, prior to placement of final cover. The final cover system will be as described in Section 7 of this Operation Plan. Vegetation will be maintained over the final cover areas throughout the life of the landfill and the post closure care period. Maintenance of the final cover swales, and access roads will also be performed throughout the life of the landfill and the post closure care period.

3.2 Equipment

3.2.1 Primary Equipment

Based on the available range of handling capacities and the initial projected waste receipts, the allocation of heavy, primary equipment presented in Table 2 will be sufficient to handle the wastes received at the landfill. The primary functions of heavy landfill equipment are spreading and compacting solid waste, and excavating, hauling, and spreading cover material. Equipment similarities allow different equipment to perform functions as necessary. For example, when a compactor breaks down, a bulldozer can perform the compaction operation.

3.2.2 Back-Up Equipment

The equipment selection guide indicated in Table 2 will be adequate even if one of the pieces of equipment is temporarily out of service. If a piece of equipment is out of service

for an extended period or if additional equipment is required on a temporary basis, this equipment is available for rental from several heavy equipment rental companies listed in Table 3.

3.2.3 Support Equipment

In addition to the heavy equipment used for operating and maintaining the landfill, other support equipment may be used to perform work not essential to the operations. This equipment will be present at the site most of the time, but some may be off-site, temporarily out of service, or rented for a specific occasion.

One 3,000-gallon or larger water truck will remain on site at all times and will be used for dust control and fire protection. The water truck will normally be positioned close to the working face for fire protection and will be equipped with spray bars so it can be used for dust control.

A utility tractor will be used to perform site maintenance activities. It will be fitted with attachments for mowing grassed areas. A backhoe or small excavator will assist the small dozer in maintaining drainage courses and ditches and for other site maintenance activities.

Pumps will be used for filling the portable water storage tank. These pumps will also be used to dewater any ponded water that forms in low areas around the site, including roads and lined landfill areas not in use.

3.2.4 Equipment Care

Routine preventive maintenance will be performed near the active landfilling area or at the maintenance facility to minimize equipment downtime and increase equipment service life.

Preventive maintenance varies with each piece of equipment. Therefore, the operation and maintenance (owner's) manual for each should be consulted. However, three applicable maintenance activities, which will be implemented at the site are:

- establish a routine equipment inspection program
- lubricate according to manufacturer's recommendations
- keep maintenance records

3.3 Roads

3.3.1 Road Construction

The main access road from the site entrance area to the scale house will be paved or covered with suitable aggregate material. Haul roads from the scale house to the active

work area in the landfill will be improved, all weather, rock/recycled concrete surfaced or paved. A perimeter maintenance road will provide all weather access to leachate management systems, groundwater monitoring wells, landfill gas monitoring wells, and storm water management structures. The perimeter maintenance road and roads in the active work area will be surfaced with suitable aggregate material.

3.3.2 Maintenance of Roads

3.3.2.1 Filling of Potholes

Potholes will be filled with materials compatible with the road construction material. Potholes will be filled on a routine basis so that they are not allowed to remain open for extended periods. Before placing patches in holes, all loose material will be removed from the hole. New material will then be placed in the hole and compacted so that it will be approximately as dense as the materials originally used in the road.

3.3.2.2 Grading

As unpaved, all-weather roads become uneven due to traffic-caused rutting or displacement of stone, fresh rock or recycled crushed concrete will be applied to the surface and smoothed to an evenly sloped grade to promote drainage.

3.3.2.3 Restoring Settlement

When all-weather roads are built on fill areas, settlement of the filled area may cause cracks to appear in a road or cause the slope of a road to change. Cracks will be filled with material that is compatible with the roadbed. Areas of a sloped road, where the slope has changed drastically, will be built up with material compatible with the roadway and constructed utilizing acceptable construction methods until the desired elevation is achieved or the road section is rebuilt.

3.3.2.4 Cleaning of Public Access Roads

Proper operation of the landfill will result in little or no debris being found on public roads. The public roads adjacent to the site entrance area will be inspected daily. If debris from the wheels of vehicles departing the landfill reaches the public access road at the entrance to the landfill, that road will be cleaned to a distance of 0.25 mi or as required in both directions, if necessary, from the entry point onto the road.

3.3.2.5 Removal of Materials from Landfill Roadways

Any significant accumulation of dirt, brush, and other debris will be removed from the landfill roadways. Dirt left on asphalt roadbeds may cause dust problems during dry weather or mud problems during wet weather. A program of road cleaning will be

implemented to prevent any buildup. Unpaved roads will be watered as needed to minimize dust.

3.3.2.6 *Maintenance of Drainage Swales*

Drainage swales along road beds will be kept free of obstructions. During the wet weather seasons, inspection of all drainage ditches and structures will be made in accordance with the site Stormwater Pollution Prevention Plan (SWPPP), and debris removed as required.

3.4 **Drainage Features**

- Inspections will be performed in accordance with the site SWPPP (outlined in Section 4.2.3).
- Channels, Pipes, and Inlet Structures: Drainage structures will be cleaned of debris as soon as practical after problems are identified to prevent ponding. When unlined channels silt up, routine cleaning will be performed to restore the original capacity of the channels.
- Repair of Structures: Damaged structures will be permanently repaired during dry weather periods. During rainy periods, temporary repairs may be made to prevent further damage to the structure or erosion of soil.
- Sediment Barriers: Sediment barriers will be visually inspected periodically for damage, and to determine if sediment has accumulated behind them. Sediment will not be allowed to accumulate to a height exceeding half that of the barrier. Barriers will be replaced when visibly damaged. Barrier footings will also be inspected to ensure that drainage is not flowing beneath the barrier unless designed to do so.

3.5 **Salvaging/Recycling**

No scavenging will be permitted at the landfill. Waste tires will be accepted, temporarily stored and transported to a licensed tire processor. Processed tires may be directly disposed in the landfill or used as initial/daily cover. Other recycling uses of processed tires may be proposed as markets are developed. Waste tire and processing operations are described in the Waste Tire Storage and Processing Plan provided in **Attachment C**. If the volume of other recyclable goods is sufficient, as determined by the Landfill Site Management, those items may be separated from the waste which is to be disposed. Landfill gas is planned to be converted to electric energy as described in the Landfill Gas to Energy Operation Plan provided in **Attachment D**.

4 ENVIRONMENTAL CONTROLS

This section presents the basic components of the environmental controls at the JED Class I landfill. The major components of this section are the Facility Inspection Plan, Facility Maintenance Plan, and the Facility Monitoring Plan. In this section, a discussion of each of these components is presented, including a discussion of groundwater and surface-water protection controls, leachate collection system (LCS), and surface water controls, where appropriate. The discussion also includes general facility controls, including initial, intermediate and final cover, temporary exposed geomembrane cover, and access roads.

4.1 Environmental Control Systems

The purpose and function of each of the major environmental control systems are described below. Specific construction and design details are presented in the construction documents, the closure plan, post-closure plan, and the design report with attached plans.

4.1.1 Leachate Containment and Control

The Class I landfill is equipped with a double-composite liner system, which directs any liquid entering the landfill that may have contacted refuse to an LCS. The LCS drains liquid collected on the primary liner into a sump. Leachate in the sump is pumped into an on-site leachate storage ponds and trucked to the Aqua Clean Environmental Company~~City of St. Cloud wastewater treatment plant (WWTP)~~ or other permitted WWTPs for disposal or recirculated back into the lined landfill area in accordance with the procedures described in the Operation Plan for Leachate Recirculation provided in **Attachment E**. The on-site water truck will be used to recirculate leachate under the Surface Leachate Application method described in **Attachment E**. After each use of the water truck for leachate recirculation, one load of clean fresh water will be sprayed within the lined disposal boundary prior to using the water truck for dust control purposes outside of the disposal boundary limits. Quantities of leachate collected by the LCS will be recorded in gallons per day and maintained as part of the landfill operating record.

A recording rain gauge will be installed, operated, and maintained to record precipitation at the landfill. Precipitation records will be maintained as part of the landfill operating record and used to compare with leachate generation rates.

4.1.2 Surface Water Controls

The surface-water management system for the JED facility consists of a system of drainage swales to move storm water to either permanent dry retention basins or interim dry retention basin, depending on the stage of landfill construction. All dry retention basins are surrounded by an earth berm designed to contain all runoff from a 100-year, 24-hour

storm event. Where runoff must pass through a roadway, appropriately sized culverts will be installed.

4.2 Facility Inspection Plan

4.2.1 Leachate Collection System (LCS)

The LCS will be water pressure cleaned or inspected using a video camera after construction but prior to placement of any waste. The pump(s) will be tested in the sump to assure that the system operates properly. Deficiencies will be repaired prior to initial deposition of waste.

The LCS includes manholes, pumps, a leachate wet well and a force main. The LCS pumps will be removed and inspected every 2 years. This 2-year inspection will consist of pressure testing of the pump. Pumps located in active areas, or areas without final cover, will be inspected on a monthly basis to confirm normal operation. Additional inspection, preventative maintenance, and checking of the electrical components will be performed in a manner and frequency in accordance with manufacturer's recommendations. The leachate transmission manholes will be inspected weekly for accumulation of leachate in the manhole and to verify integrity of the force main.

4.2.2 Leachate Storage Facility

The exposed exterior of the polyethylene leachate storage ponds will be inspected weekly for leaks, deterioration, and maintenance deficiencies. The leachate level and overflow control equipment will also be inspected weekly to ensure it is in good working order. The leachate levels in the ponds are inspected and recorded on a daily basis.

If inspection reveals a storage container or equipment deficiency, leak, or any other deficiency that could result in failure of the storage system to contain the leachate, remedial measures will be taken immediately to eliminate the leak or correct the deficiency. Inspection reports will be maintained and made available to FDEP upon request for the lifetime of the leachate storage facility.

4.2.3 Surface Water Control System

Surface-water culverts may contain landfill gas. Prior to accessing piping, protective measures will be taken to avoid explosion(s), fire(s), and asphyxiation(s).

Drainage swales, inlets, structures, and the surface-water management areas will be visually inspected in accordance with the site SWPPP. The frequency of dry inspections may be modified as appropriate based on progressive experience with the landfill drainage system, however, in no case will inspections be less frequent than quarterly. Regardless of

the inspection frequency, the system will be inspected following each 25-year, 24-hour storm event (i.e., 9 inches of rain in 24-hour period) or greater storm event.

Drainage swales, inlets, and structures will be cleared of obstructing debris as soon as practical after a problem is identified. If channels become filled with an accumulation of debris or soil, cleaning may be required to restore original flow capacity.

Erosion control measures will be employed to correct any erosion that exposes waste or causes malfunction of the storm water management system. The control measures to repair erosion will be implemented within three days of occurrence. If the erosion cannot be corrected within seven days of the occurrence, a proposed correction schedule will be provided to FDEP.

4.2.4 Landfill Cover System

Areas that have received intermediate or final cover will be visually inspected periodically for signs of erosion, cracks and depressions due to settlement, and leachate seeps. Areas where waste or geosynthetics have been exposed by erosion will be filled and regraded to minimize any subsequent erosion. Significant depressions (1 ft or more) will be filled with soil, compacted, and regraded to promote positive drainage. If leachate seeps appear in the uncapped area of the landfill, the seep area will be excavated and backfilled with highly permeable material to promote seepage through the landfill. The intermediate cover will be reworked to seal the area.

Areas that have received temporary exposed geomembrane cover will be visually inspected periodically for signs of damage (e.g., puncture, tearing, etc.) and depressions due to settlement. Geomembrane damage will be repaired if it is resulting in significant undercutting (1 ft or more) of the geomembrane cover. Significant depressions (1 ft or more) that result in water ponding on top of the temporary exposed geomembrane cover will be remediated as follows: i) the geomembrane will be removed from the depression area, ii) the depression will be backfilled with compacted soil and regraded to promote positive drainage, and iii) the temporary exposed geomembrane cover will be placed back over the regraded area.

4.2.5 Facility Inspection Schedule

Daily	Levels in leachate storage ponds
Weekly	Exterior of HDPE leachate storage containers and overflow control equipment
Monthly (Visual)	Leachate collection pumps Surface-water management system

	Cover in completed areas
	Leachate force main
Quarterly	Surface-water control system (or after a 25-year, 24-hour storm event)
Annually	Surface-water control system pipes and structures
	Topographic survey of landfill
Bi-Annually (every 2 years)	LCS pumps and pipelines
	Leachate collection and detection flow meters, valves, and risers

4.3 Facility Maintenance Plan

In conjunction with the inspection plan, a regular schedule of maintenance will be prepared and implemented. This section refers specifically to the maintenance of the environmental controls installed at the landfill. It does not include the regularly scheduled maintenance of landfill roads or equipment such as vehicles, scales, or buildings. Maintenance requirements in this section refer primarily to the mechanical equipment associated with environmental controls. In addition, each piece of equipment will be inspected and maintained in accordance with all manufacturer’s recommendations.

4.3.1 Leachate Collection System

The electrical controls, pumps, flow meters, valves, and couplings will be maintained on at least a bi-annual basis (i.e., every two years). In addition, parts that tend to wear out on a regular basis, including bearings on pumps, seals, and gaskets, will be replaced during regular maintenance. After replacing maintained parts, the equipment will be tested to assure proper performance.

4.3.2 Surface-Water Control System

The surface-water control system does not include mechanical systems that require regular maintenance, however, the system is to be inspected in accordance with the site SWPPP. The swales, drainage structures, inlets, and pipelines will be repaired and maintained as soon as practical following identification of any damage or deficiencies. This includes repair of lined and unlined ditches in the active landfilling areas, on intermediate and final cover and diversion ditches around the landfill.

4.3.3 Final Cover Maintenance

Maintenance of the final cover includes all the components of the cap, i.e., the geomembrane, drainage geocomposite, protective soil layer and vegetation. The periodic inspections will help in assessing the final cover condition to verify the integrity of the cap

(e.g., check for cracking of protective cover layer due to differential settlement or erosion and exposure of cover geomembrane/geocomposite), and the condition of the vegetation.

Areas of ponding or substantial differential settlement (1ft or more) will be checked to determine the cause. If a significant problem with the cover, vegetation, perimeter berms, erosion, or drainage structures is identified, work orders will be issued to correct the problems. Repair work shall be initiated as quickly as possible.

The timing of the repairs will be dependent on the nature of the repair. Minor filling to eliminate ponding, and the reseeding and fertilizing disturbed or problem areas will be accomplished with little delay. Major repairs, such as extreme erosion, significant local instability of slopes, or substantial settlement, might require geotechnical evaluation and design prior to implementing final repairs. In some cases, the need for analysis and design of the severely damaged areas will delay repair activities.

If repairs are necessary to the cover system swales, inlets, or downdrains to correct the runoff containment system deficiencies, the repairs will be undertaken prior to start of the wet weather season.

Repair of damages to the cover system resulting from erosion and differential settlement may include locally removing geosynthetics and backfilling depressions beneath the geomembrane, repairing geosynthetics, backfilling soil layers, and revegetating disturbed areas. Additional drainage facilities may be provided to prevent future erosion.

4.4 Water Quality Monitoring Plan

The groundwater and surface water quality monitoring plan for the JED facility is presented in Appendix E of the 2011 Renewal Permit Application.

4.5 Landfill Gas Monitoring Plan

The landfill gas monitoring plan proposed for the JED facility will allow early detection of the lateral migration of landfill gas and verification of the landfill gas management system performance in accordance with the requirements of subsection 62-701.530(1), F.A.C. The following types of landfill gas monitoring will be performed at the site: (i) monitoring for landfill gas in on-site buildings; (ii) monitoring for landfill gas migration along the perimeter berm; and (iii) monitoring at the property boundary for objectionable odors. The following subsections provide a description of the gas monitoring that will be performed at the JED facility.

4.5.1 Monitoring of On-Site Buildings

The on-site buildings will be located in the entrance area of the landfill. All buildings located within 500 feet of the waste limits on the property will be routinely monitored for methane. Continuous monitoring devices used within on-site buildings will be located in work areas, near any penetrations or cracks in building foundation, or at points where methane might enter the building.

If methane is detected at a concentration greater than 25 percent of the lower explosive limit (LEL) in any on-site building, OmniWCOC will perform the activities described in Section 4.5.4.

4.5.2 Monitoring for Landfill Gas Along Property Boundary

Gas monitoring probes along the property boundary (or the storm water berm where property boundary is far away from the waste limits) will be used to detect lateral migration of landfill gases. The gas monitoring probes located around the perimeter of the site will be monitored quarterly for methane. Should the results of the quarterly monitoring indicate lateral migration of landfill gases, OmniWCOC will install additional gas monitoring probes, as needed, in the area(s) of concern and/or perform additional monitoring. If methane is detected at a concentration greater than the LEL in the gas monitoring probes at the property boundary, OmniWCOC will perform the activities described in Section 4.5.4 below.

4.5.3 Monitoring for Objectionable Odors at the Property Boundary

OmniWCOC's on-site personnel will operate the facility to control objectionable odors and will perform monitoring for objectionable odors at the property boundary on a regular basis. It should be noted that no off-site occupied structures currently exist near the property boundary. Upon notification from the FDEP that objectionable odors have been confirmed beyond the property boundary, OmniWCOC will:

- Immediately take steps to reduce the objectionable odors. Such steps may include applying or increasing initial cover, reducing the size of the working face, and ceasing operations in the areas where odors have been detected;
- Submit to FDEP for approval an odor remediation plan for the gas or odor releases. The plan shall describe the nature and extent of the problem and the proposed long-term remedy. The remedy shall be initiated within 30 days of approval;
- Implement a routine odor monitoring program to determine the timing and extent of any off-site odors, and to evaluate the effectiveness of the odor remediation plan.

4.5.4 Detecting Exceedances of the Regulations

Should the results of the gas monitoring indicate that the requirements of subsection 62-70.530(1), F.A.C., have been exceeded at the facility, OmniWCOC will:

- immediately take all necessary steps to ensure protection of human health and notify the FDEP;
- within 7 days of an observed exceedance, OmniWCOC will submit to the FDEP for approval, a plan to remediate the landfill gas migration; and
- within 60 days of an observed exceedance, OmniWCOC will complete the remediation, unless otherwise directed by FDEP.

4.6 Landfill Active Area Controls

4.6.1 Litter Control

Maintaining proper litter control is essential to the operation of a landfill. When working in areas below natural grade, litter is less likely to escape than when working above natural grade. Litter control procedures for the landfill are discussed below.

4.6.1.1 Prevention of Litter on the Working Face

Litter will be minimized as follows:

- Following proper techniques at the working face may prevent a considerable amount of potential litter by reducing the amount of refuse exposed to the wind. Where possible, the exposed face of the cell will be oriented into the wind. This will cause the wind to blow any loose litter back into the working face and helps keep waste away from the undercarriages of unloading vehicles, which may track the waste along the public roadway as they exit the facility. The compacted waste already on the face helps trap litter.
- When top discharging, refuse will be placed as usual and spread downward. When possible, the exposed face of the fill will be oriented away from the wind for the same reasons bottom discharging is oriented into the wind.
- Compacted waste will be covered as soon as practical to minimize blowing litter.

4.6.1.2 Control of Litter with Litter Fences

Litter that escapes from the working face of the fill area may be controlled by litter fences. Movable/permanent fences may be positioned near the working face as wind and fill

operations change. Permanent litter fences may also be placed around the perimeter of the fill areas for additional litter control.

4.6.2 Buffer Maintenance

Litter may occur even with proper litter controls. The following clean-up and maintenance procedures will be followed on a routine basis to maintain the buffer areas:

- Litter clean-up from along fences and buffer vegetation: Litter will be removed from and along litter fences and vegetation as necessary. Litter will not be allowed to accumulate in buffer vegetation.
- Clean-up along on-site roads and buffer areas: Litter occurring along on-site roads and in buffers will not be allowed to accumulate. This litter will be cleaned up as necessary.
- Clean-up at entrance area and entrance road: The site entrance and the road leading to the entrance (¼ mile each direction) will be inspected daily. These locations will be cleared of litter as necessary.
- Vegetation will be maintained and supplemented as necessary in order to provide an adequate visual screen.

4.6.3 Dust Control

Dust control will be practiced during operation of the landfill by the application of water sprays from a water tank truck. The frequency of application of water for dust control will depend on site conditions and specific operation being performed. When necessary, water will be sprinkled on all heavily used roads. The main access road will be regularly sprayed to control dust when required.

4.6.4 Vector Control

Vectors, animals, or insects will be minimized. Maintaining the working face as narrow as possible, providing initial cover on exposed areas, and eliminating water ponding are the primary safeguards against vector problems. Well-compacted wastes and cover material effectively prevent vectors emerging from or burrowing into wastes. Inspections of the waste tire storage area will be performed as necessary to monitor the area for the presence of rodents and mosquitoes.

If problems with rodents or insects occur, monitoring and surveys for vectors will be conducted to verify the effectiveness or identify and implement improved vector control practices, including the use of traps and insecticides.

4.6.5 Noise Control

All equipment powered by internal combustion engines will have mufflers installed and maintained in good repair. Screening berms will also be used, when possible, to deflect sound upward.

4.6.6 Recordkeeping

An operating record will be maintained at the site including all records, reports, analytical results, demonstrations and notifications; any construction, operation, and closure permits, including all modifications to those permits, issued by the FDEP, along with the engineering drawings and supporting information; as well as training verifications. This record will be kept with the operation plan at or near the landfill facility, or in an alternate location designated in the operating permit which is readily accessible to landfill operators. The operating record will be available for inspection at reasonable times by the FDEP and maintained for the design period of the landfill.

As part of the operating record, waste records will be maintained. These waste records will indicate the amount of each type of solid waste received each day, and the reporting and record keeping procedures outlined in the Waste Tire Storage and Processing Plan (**Attachment C**), LFGTE Facility Operation Plan (**Attachment D**), and Waste Solidification Operation Plan (**Attachment F**). Waste reports, summarizing the waste records will be compiled monthly and copies will be provided to FDEP annually. The waste records will be kept with the operation plan at the landfill and will be available for inspection at reasonable times by the FDEP. Weight receipt records will be kept for a minimum of five years.

The operating record will also include the information and observations resulting from each random inspection of a waste load conducted as part of the load checking program as described previously in Section 2.2.2.

The operating record will also include:

- the quantities of leachate collected by the primary leachate collection and removal system, and the secondary leachate detection and removal system, in gallons per day; and
- a record of the daily precipitation at the landfill based on the rain gauge installed, operated and maintained at the landfill.

This data will be used to calculate the monthly leachate generation rates expressed as a percentage of the monthly precipitation.

In addition, the operating record will also include the following:

- records of all information used to develop or support the permit applications and any supplemental information required;
- records of all monthly information, including calibration and maintenance records, and water quality records; and
- an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining life and capacity of other permitted areas not yet constructed. This estimate will be reported annually to FDEP.

The operating records will be maintained at the landfill throughout the design life of the landfill. Records that are more than five years old which are required to be retained may be archived, provided that the landfill operator can retrieve them for inspection within seven days.

5 EMERGENCY CONTINGENCY PLAN

5.1 Introduction

This section identifies a set of unplanned circumstances that may occur at the landfill. If handled correctly, the damage or impacts from these problems can be minimized. This section presents procedures to follow for dealing with problems as they occur. Operating personnel will become familiar with the procedures in order to prevent environmental contamination or damage to landfill facilities.

The entrance to the facility allows emergency vehicles immediate access to the landfill by police, fire, and ambulance.

Attachment G presents a list of individuals responsible for implementation of this Emergency Contingency Plan, and facility and emergency response agencies to contact. This list will be posted near all telephones on-site to provide "ready" access to emergency response agencies.

Within 24-hours, FDEP, Central District, shall be notified of any fire or other emergency which poses an unanticipated threat to the public health or the environment. The notification can be made by telephone or e-mail at the contact information listed in **Attachment G**.

This plan is organized by subsection and contains specific plans to address each type of occurrence listed below:

- fire
- accident or injury
- release of contamination to environment
- hazardous waste
- uncooperative customers
- inclement weather
- problems with the leachate collection and leachate removal systems

5.2 Fire Control Plan

The procedures below will be followed in the event of a fire at the facility. Additional fire prevention measures for the waste tire storage and processing operations are presented in Section 6 of the Waste Tire Storage and Processing Plan provided in **Attachment C**.

5.2.1 When Fire Occurs

The following procedures will be followed in the event of a fire at the facility:

- extinguish small fires with fire extinguisher or smother with soil - do not remain near large fires or explosive materials;
- determine location, extent, type, and, if possible, cause of fire or explosion;
- notify on-site personnel and implement safety and fire control procedures;
- if the fire is located at the waste tire storage and processing area, determine if there is a possibility of discharge of oily materials generated by burning tires. If so, implement measures to contain the oily materials within the storage area (i.e., blocking the storm water discharge pipe at the storage pad and installing absorbent sock type materials);
- notify Landfill Site Management if the fire cannot be immediately controlled;
- notify fire department if necessary. Clearly state:
 - location of landfill,
 - location of fire or explosion in landfill,
 - extent of fire or explosion,
 - type of fire or explosion,
 - actions now being taken, and
 - injuries;
- notify rescue squad, if necessary;
- notify health care facility, if necessary;
- notify sheriff, if necessary; and
- notify cleanup company for oily material generated at waste tire storage area, if necessary.

5.2.2 "Hot Load" Procedures

In the unlikely event that a "hot load" is not identified before entrance into the facility, the following procedures are implemented:

- the truck carrying the "hot load" is to be directed to discharge the load in the landfill but away from the working face and any exposed liner;
- the load is to be placed on top of intermediate cover which will provide sufficient protection between the "hot load" and the underlying waste;

- soil will be spread over the load to smother the "hot load"; and
- the "hot load" will be monitored until there is no evidence of smoldering or high temperatures.

At the end of the day or when appropriate, the load will be worked into the active working face. Areas where "hot loads" are extinguished varies depending on the location of the working face, but will always be away from the working face and any exposed liner.

5.2.3 Fire Extinguishers and First Aid Kits

Fire extinguishers and first aid kits will be installed in the following locations:

- office building/ticket house/weigh station/maintenance shop
- selected on-site vehicles and equipment
- waste tires storage location

5.3 Accident or Injury

5.3.1 When an Injury Occurs

When an injury occurs, the following procedures will be implemented:

- shut down equipment in the immediate vicinity as is appropriate;
- determine extent of injuries (location, seriousness);
- if injuries are minor, administer First Aid, if trained, and notify Landfill Site Management;
- if injuries are serious, contact phone rescue squad (911) and provide the following:
 - clearly state location, and
 - describe injuries;
- if victim is not breathing and has a pulse, administer rescue breathing, if trained in CPR while waiting for emergency response (911);
- if not trained, immediately notify facility personnel certified in administering CPR/First Aid; and
- notify Landfill Site Management.

5.3.2 Procedures After an Accident

The following procedures will be implemented in the event of an accident:

- Accident Investigation - The Landfill Site Management will make a complete investigation of the accident and events leading up to the time of the accident. The investigation will be started as soon as possible after the accident. All witnesses to the accident and persons involved in the accident will be interviewed.
- Determination of Cause - After the facts about the accident have been gathered, the Landfill Site Management will make a determination as to the cause(s) of the accident.
- Filing of Reports - The Landfill Site Management will complete and file the appropriate accident report forms.
- Corrective Steps - After a thorough investigation and determination of the cause(s) of an accident, the Landfill Site Management will take corrective steps so that the same type of accident will not re-occur. These corrective steps may take the form of repair of faulty equipment, installation of safety equipment, or instruction of personnel in safe operating procedures.
- Discussion with Employees - If it is determined that the cause(s) of the accident were related to employee work habits and that remedial safety instructions would be helpful, a meeting with site employees will be held. The accident and the corrective measures that will be taken will be discussed to prevent another accident. All employees will be instructed in proper safety procedures which should be followed.
- Follow-up - The Landfill Site Management will follow-up the corrective measures to make certain that proper safety precautions are being taken. All unsafe practices will be called to the attention of the employees.

5.4 Release of Contamination to Environment (Remedial Response)

5.4.1 Response

If contamination is released to the environment, the following procedures will be implemented:

- determine location, extent, type, and, if possible, cause of release (e.g., leachate, contaminated surface water, fuel spill, etc.);
- notify Landfill Site Management and implement safety and emergency response procedures; and
- notify proper authorities including the Florida "Hot Line".

A list of individuals and emergency response agencies to contact in the event of a release of contamination to the environment is provided in **Attachment G**.

5.4.2 Follow-Up

Unless the occurrence of a contaminant release is clearly due to very unusual circumstances, the Landfill Site Management will take corrective action to prevent recurrence of the release. The corrective action will be approved by the FDEP.

A report will be filed at the landfill by the Landfill Site Management in order to have further reference for inquiries by authorities or ~~Omni~~WCOOC personnel. The report will state:

- time/date of incident or its discovery
- type of release and effects
- source
- response and effectiveness
- agencies contacted
- corrective actions planned and scheduled

5.5 Hazardous or Other Unauthorized Materials

In the event that a substance known to be or suspected of being hazardous or other unauthorized material is dumped from any vehicle at the waste disposal facility, the actions described below will be taken immediately.

5.5.1 The Observer

5.5.1.1 *Known or Suspected Hazardous Material*

The Observer will take the following actions:

- Immediately report the incident to the Landfill Site Management or their designee.
- Avoid exposure to the substance in question. Stay upwind.
- Observe where the material was dumped, by whom (which vehicle), how much was dumped, whether the container appears sound or is leaking, and what the substance looked and smelled like. Such observations will only be made with extreme caution and with the utmost regard for safety. DO NOT SMELL OR TOUCH THE SUBSTANCE.
- Ask the individual who dumped the suspect load where the material was obtained.
- Isolate the approximate area of the suspected load before it is covered or mixed with wastes from other vehicles.

- Ask the driver of the vehicle to remain at the dumping point to ensure adequate vehicle identification. If the driver attempts to leave the discharge point, the observer should inform the Scale master and/or the Landfill Site Management.

5.5.1.2 *Other Unauthorized Material*

When other unauthorized waste is discovered by a heavy equipment operator while working at the active face area, the heavy equipment operator will either immediately stop operation of the heavy equipment and remove the unauthorized waste to an isolated area away from the active disposal operations or will radio for other site personnel to assist in removing the unauthorized waste to the isolated location. Operations will resume upon removal of the unauthorized waste. All unauthorized waste staged in the isolated location will be removed at the end of the day and temporarily stored in a designated onsite location for proper management/disposal. Unauthorized putrescible waste will be removed from the site within 48 hours and non-putrescible waste within 30 days.

5.5.2 **Landfill Site Management**

The Landfill Site Management will take the following actions if a known or hazardous material is discovered:

- Notify the FDEP.
- Record all pertinent facts regarding vehicle, including but not limited to: name of carting company; license plate number; where the load was obtained, if known; any visible evidence identifying the waste substance; and quantity and state of the substance (e.g., solid or liquid or if contained or loose).
- Maintain careful records of other costs incurred as a result of the dumping incident including, but not limited to, security costs in isolating the area, costs of removal (by contract or otherwise) of the suspect material, other costs of intermediate or ultimate treatment and/or disposal, and any other pertinent costs.
- Coordinate the removal of the unacceptable waste with the proper authorities.

5.5.3 **Non-Discharged Load**

If, before a waste load can be discharged (e.g., during inspection), it is discovered to contain, or is suspected of containing hazardous or other unauthorized materials, the same reporting procedures by the Observer and Landfill Site Management described for the discharged loads still apply, except concerning the discharging itself. In addition:

- inform the driver that his load is unacceptable and why;
- do not permit the load to be discharged; and

- suggest to the driver that he phone the FDEP to determine what he should do with the load.

5.6 **Uncooperative Customers**

The following actions will be implemented if a customer will not obey site rules or cooperate with site personnel.

- if the customer is creating a substantial problem involving their or other's safety, or significantly interfering with disposal operations, the Landfill Site Management will decide what action should be taken;
- if the customer is creating a minor nuisance and does not respond to polite suggestions, the employee will record the vehicle description and license number, and report the incident to the Landfill Site Management or home office management; and
- in a case where a customer causes or threatens to cause harm to landfill property or personnel, or otherwise interferes with safe operation of the landfill, the Landfill Site Management will contact the Sheriff.

5.7 **Inclement Weather**

5.7.1 **Operation in Wet Weather**

<u>Problem</u>	<u>Solution</u>
Saturated Unloading Area	<ol style="list-style-type: none"> 1) Stockpile well-drained soil and apply as necessary. 2) Keep compactors off area; use dozers on unloading area. Unload and push refuse perpendicular to area. 3) Grade unloading area slightly to permit runoff.
Mud Carried Onto Access/Public Roads	<ol style="list-style-type: none"> 1) Carefully scrape mud from pavement. 2) Provide clean rock dressing to internal access roads. If internal access roads are properly maintained, then dirt on the tires of disposal vehicles will be thrown off prior to reaching public access roads.
Cover is Wet/Unworkable	<ol style="list-style-type: none"> 1) Maintain compacted, sloped stockpiles. 2) Use alternate cover approved by permit.

5.7.2 **Preparation for Inclement Weather**

The following preparations will be made for inclement weather:

- Wet weather areas will be prepared during periods of dry soil conditions. The wet weather area will be constructed close to an all weather road. Work on the wet weather area will be performed at various times when personnel and equipment are not required for other higher priority assignments.
- Access roads around the site will be maintained as necessary. These roads will be maintained in a serviceable condition with the use of the available equipment on site, such as grader, water truck, dozer and loader. Major repairs will be scheduled, if required.
- Drainage structures, ditches, and sediment control will be checked to ensure they are in good condition and free of significant debris prior to anticipated heavy rains.
- Temporary (Operations Area) Drainage Control - cover material, rock/sand, aggregate, and corrugated metal pipe, will be stockpiled for use in an emergency situation.
- When periods of high wind are predicted, litter fencing will be moved to close proximity of the working face and in the expected downwind direction. Cover may be required frequently during the day.

5.7.3 Preparation for Severe Weather or Hurricanes

In addition to the activities listed in Section 5.7.2 above, the following preparations will be made for severe weather or hurricanes. The following activities will be performed before and after the severe weather condition.

72 hours prior to event

- Pick up any loose debris from the site
- Call supplier to top off all on-site fuel tanks
- Assess inventory
- Test generators
- Make final supply run for non-perishable food items and drinking water

48 hours prior to event

- Continue with housekeeping efforts
- Perform administrative building flood prevention (to protect documents, equipments, furniture, etc.)
- Continue to evaluate situation pertaining to alternate sites

- Inform customers of expected service
- Supply written instructions to all employees (by ~~Omni~~WCOOC human resource department)
- Allow employees time to secure their respective belongings

24 hours prior to event

- Continue with housekeeping efforts
- Fit plywood shutters where necessary
- Distribute phone numbers to all employees
- Inform customers & corporations of possible cessation of operations

12 hours prior to event

- Secure the facility
- Fuel all vehicles and heavy equipment
- Park all track machines and rubber tire equipment close together (at ground level, i.e., off the top of the landfill)

Post - Event

- Key personnel (facility manager, operations manager, and certified operators) to assess site
- Contact all employees
- Initiate clean up/recovery of the facility
- Use of non-essential office staff for miscellaneous duties
- Resume limited or complete operations

5.8 Problems Affecting the Leachate Collection and Removal Systems

5.8.1 Interruption of Power Service to the Landfill

The ability to switch over to the secondary power supply allows the leachate collection and removal systems to continue operating with virtually no interruption. In the event that the main power service to the landfill is interrupted for more than 24 hours, the site will be switched over to the secondary power supply system consisting of diesel generators.

5.8.2 Interruption of Flow to Leachate Storage Facility

In the event that leachate flow to the leachate storage facility is temporarily interrupted, the leachate will be stored in the active cell(s). If the system cannot be restored within a reasonably acceptable period, leachate will be pumped directly from the sump to tanker trucks for off-site treatment.

5.8.3 Primary Leachate Sump Alarm Level Switch

An alarm level switch will be installed in one of the primary leachate sumps to notify the operator in the event that leachate levels in the sumps reach this level. The intent of the alarm is to notify the operator of a potential problem with the leachate pumps or piping. The alarm may indicate that either one or possibly both of the primary leachate pumps may have stopped working, the pumping capacity of both pumps has been exceeded, the storage containers are full, or there is possible blockage in the leachate transmission line. The operator shall observe the leachate pumps, pump control panels and flow meter to determine if either or both of the pumps are working. If at least one of the pumps is operational and there is no blockage in the leachate transmission line the operator will open the gate valve located in the secondary leachate manhole. By opening this valve leachate from the adjacent primary sump may flow into the secondary leachate sump for pumping. The operator shall record the flow meter reading on the secondary leachate sump pump prior to opening the gate valve. The operator shall also record the date and time of the occurrence and reason why the valve was opened (i.e., primary pumps failed, excessive leachate flow, etc.). The operator shall monitor the pumping of leachate to determine if the high leachate levels were associated with the pumps. The operator shall also examine the leachate transmission line manholes, piping and storage tanks assess any other potential problem. The leachate pumping system will require troubleshooting to determine the cause of the leachate build-up in the primary sumps and malfunctioning/inoperable pumps shall be replaced or repaired as soon as practical.

5.8.4 Managing Hazardous Leachate

In the event the leachate quality monitoring indicates the leachate is a hazardous material, the leachate will be managed in accordance with Chapter 62-730, F.A.C.

6 SAFETY PLAN

6.1 Emergency Procedures

- Posting of Procedures - All emergency procedures (Emergency Contingency Plan - Section 6 of this Operation Plan) will be updated as appropriate and after each emergency, if required. All emergency procedures will be posted in the Landfill Site Management's office, in conspicuous places at the site, and at the gate house.
- The name, location, and telephone number of the nearest doctors, medical treatment facilities, and ambulance services (contained in **Attachment G** of this plan) will be posted in the Landfill Site Management's office and all occupied buildings (i.e., maintenance building, gate house and office).
- Instructions on Procedures - All new personnel will be instructed on the emergency procedures used at the landfill. All employees will be informed of any changes in emergency procedures.
- Responsibility of Employee - It is the responsibility of every employee to know and remember their role in each emergency procedure at the site.

6.2 General Safety Practices

- Knowledge of Procedures - All employees at the landfill will know the proper procedures for reporting accidents, injuries, and fires.
- Posting of Information – Roadway limits within the landfill footprint will be clearly posted as necessary. Site speed limits will be clearly posted on the main access road. Direction of travel and location of curves will also be posted. The location of disposal areas will be clearly indicated.
- Site User Rules - Site user rules will be posted at the entrance to the landfill. Employees will watch for violations. Employees will explain rules to violators, stressing that the rules are for their protection. As a last resort, the Landfill Site Management will notify the County Sheriff's Office for further action.
- Discharging Loads - For safe operations, the discharging area will be only slightly sloped (for drainage) at all times and equipment maintained in good repair.
- Safety Devices - Proper safety devices, such as roll-over protective cabs, will be installed on all equipment and kept in good repair.
- Fire Extinguishers - Fire extinguishers will be provided in buildings and on equipment. Each extinguisher will be appropriate for the types of fires likely and they should be checked or serviced as appropriate. Discharged (even partially) fire extinguishers will be removed and replaced with fully charged units.

- First Aid Kits – First aid kits will be maintained in the main office building and in select site vehicles. An inventory of the first aid supplies should be maintained in order to re-supply the first aid kits when items used.
- Safety Meetings - Safety meetings will be regularly scheduled. Situations that can cause accidents and ways to prevent them will be discussed. Also, the effectiveness of corrective actions following accidents at the site will be discussed.
- NO SMOKING will be allowed within the landfill area or near fuel storage facilities.

6.3 Safety Equipment

Certain safety equipment is specified for equipment operator protection. It is the responsibility of every employee to ensure that their safety equipment is in good condition. All employees are to use their safety equipment at appropriate times. The safety equipment recommended for equipment operators is listed in Table 4.

6.4 Site User Rules

The following set of rules will be observed at the landfill.

- No Smoking - Users will not smoke on the site.
- Children and Pets in Vehicles - Individuals (children and pets) not involved in unloading refuse will remain in the vehicle.
- Persons Unloading to Remain Near Vehicle - Persons unloading will remain within 10 ft (3 m) of their vehicle at all times.
- No one will be allowed to ride on the outside of a vehicle while on site.
- Discharge Waste Behind Vehicle - Whenever possible, waste will be discharged immediately behind the unloading vehicle.
- Unloading - No unloading by non-mechanized trucks or passenger cars is to be done using rapid acceleration or deceleration of the vehicle.
- Keep Tools in Vehicle - Tools, removable tailgates, sideboards, wheelbarrows, ladders, and tarps will be kept in, on, or under the vehicles being unloaded to prevent damage to other vehicles or site equipment.
- Speed Limit - The posted speed limit within the landfill site will be enforced. Operating personnel will direct users to further reduce their speed when justified by site conditions.
- No Scavenging - Scavenging is not permitted at the landfill site.

- No Shooting - Firearms are not permitted at the landfill site.
- No Explosives - Explosives are not permitted at the landfill site.

7 CLOSURE PLAN

7.1 Introduction

The purpose of this Closure Plan is to describe the general aspects of the landfill closure design for the JED facility. In general, the JED facility will be closed as sections of the landfill reach final design elevations (e.g. close-as-you-go) to minimize leachate generation in the landfill. The remainder of this Closure Plan describes (i) the final cover system design (Section 7.2); (ii) surface water drainage system (Section 7.3); (iii) final cover system components; and (iv) erosion minimization activities (Section 7.4).

7.2 Final Cover System Design

The final cover system will include 3H:1V side slopes (between benches) with 15-ft wide benches every 40 vertical feet (at elevations 138, 178, 218, 258, and 298 feet, NGVD) and the top slopes will be graded at 5 percent.

7.3 Surface-Water Drainage System

Drainage swales are incorporated in the final cover system on the top and on the side slopes of the landfill. The drainage swales will convey water to the downdrains. The downdrains will convey the storm water runoff to the storm water retention basins at the toe of the landfill. The downdrains consist of corrugated HDPE pipes that tie into energy dissipater/junction boxes located at the toe of the waste slope.

As required, the swales, downchutes, culverts, and perimeter ditches will be maintained on a regular basis. Significant sediment and debris, which has accumulated in the swales, culverts, and perimeter ditches will be removed to facilitate flow and prevent overflow. Significant sediment and debris is considered any amount that impedes flow in the swale or any buildup greater than 0.5 feet.

7.4 Final Cover System Components

The cross section of the final cover system on the top slopes of the landfill is shown in the permit drawings and consists of, from top to bottom:

- a 0.5-ft (0.15-m) thick vegetative layer;
- a 1.5-ft (0.45-m) thick vegetative support layer;
- a 40-mil (1-mm) thick polyethylene (PE) geomembrane; and
- a 1-ft (0.3-m) thick intermediate cover layer.

The cross section of the final cover system on the side slopes of the landfill is shown in the permit drawings and consists of, from top to bottom:

- 0.5-ft (0.15-m) thick vegetative layer;
- a 1.5-ft (0.45-m) thick vegetative cover layer;
- a geocomposite drainage layer;
- a 40-mil (1-mm) thick PE geomembrane; and
- a 1-ft (0.3-m) thick intermediate cover layer.

The final cover system incorporates a geomembrane, which significantly reduces infiltration into the landfill cells. The grades of the final cover system are 3H:1V on the side slopes between benches and 5.0 percent on the top slopes.

7.4.1 Vegetation

The surface of the final cover system will be vegetated either by seeding or sodding. The grass seed or sod will be Bahia, which has a high tolerance to drought. The contractor may use an alternate grass seed contingent upon proof that the grass is drought-resistant. The minimum requirements of the grass seed and sod are presented in the Technical Specifications on file with FDEP.

7.4.2 Vegetative and Cap Protective Layer

The upper 6 inches of the final cover system will consist of loosely placed vegetative layer and will be vegetated to minimize erosion. The cap protective layer below the vegetative layer will consist of 18 inches of on-site soil (or approved equal). The cap protective layer will be compacted in the upper 6 inches during construction to inhibit root penetration into the drainage layer underlying the cap protective layer on the side slopes.

7.4.3 Geocomposite Drainage Layer

A geocomposite drainage layer consisting of a geotextile filter, a geonet drainage layer, and a geotextile friction layer will be placed beneath the cap protective layer on the 3H:1V side slopes. The geotextile filter, the geonet drainage layer, and the geotextile friction layer are bonded together to form the geocomposite drainage layer. The function of the proposed geotextile filter is to prevent soil particles of the overlying cap protective layer from penetrating and clogging the underlying geonet drainage layer. The purpose of the drainage layer is to remove the storm water reaching the geonet and to minimize the potential of pore water pressure build-up in the overlying cap protective layer. The purpose of the geotextile friction layer is to increase the interface friction between the geomembrane and the geonet and thereby increase the stability of the final cover system.

7.4.4 Geomembrane

A geomembrane is proposed as a component of the final cover system to reduce infiltration of the storm water through the final cover system into the waste. The specified geomembrane is a 40-mil thick textured polyethylene geomembrane on the 3H:1V side slopes and a smooth polyethylene geomembrane on the 5 percent top deck surface. The texturing is necessary to increase the stability of the final cover system. Specified property values for the final cover geomembrane are provided in the Technical Specifications on file with FDEP. The specified geomembrane meets the requirements of Section 62-701.600(3)(g), FAC.

7.5 Erosion Minimization

Erosion of the final cover system will be minimized by final cover swales. The swales will intercept sheet flow from the final cover system. The final cover swales will direct the collected surface-water runoff to downchutes and the perimeter swale.

A vegetative cover will be placed on the final cover slopes of the landfill as described in Section 7.4.2. This vegetative cover will minimize erosion and reduce soil loss from the final cover system. The final cover system will be periodically inspected and erosion damage or vegetative stress observed during these inspections will be repaired before significant erosion has a chance to develop.

An initial watering schedule will be developed at the time of closure, and will be dependent on whether the landfill is closed in the dry season or the rainy season. The grass will be watered and fertilized, as necessary, to ensure continued growth.

8 BORROW AREA OPERATIONS

8.1 Overview

Fill material needed for the JED facility construction and daily operations will be borrowed from excavations, or pits, located in the areas indicated on the Permit Drawings. Prior to any borrow activities in the location designated as Borrow Area A, the storm water management berm, in its interim configuration, will be constructed and vegetated. The outside toe of this berm will be constructed no closer than 25 feet to the nearest wetland boundary. In subsequent stages of the landfill development, the storm water management berm around Borrow Area A will be raised to its final height prior to the edge of the borrow excavation getting closer than 250 feet from the inside toe of the berm.

The development of Borrow Area C will be undertaken in future phases of the JED facility development. It is anticipated that this borrow area will be developed in a manner similar to Borrow Area A.

Two methods are proposed for excavating fill material from the borrow areas. These methods include: (i) mechanical excavation without dewatering (i.e. wet excavation) and/or (ii) dewatering the borrow area (i.e. dry excavation) and excavating fill using conventional earth moving equipment. Both methods are to be implemented in a manner which will minimize impacts to adjacent wetlands.

8.2 Wet Excavation

Wet excavation is expected to be the primary method of borrow area operation during construction at the JED facility. This method of borrow area operation will require removal of soil materials from the pit without first dewatering the pit. Initially, the area will be cleared and grubbed and the topmost organic soil layers will be stripped and used for construction of the perimeter berm or stockpiled for future use. Next, typical excavation equipment such as a dragline or backhoe excavator will be positioned to remove soils and temporarily stockpile the material on the surface adjacent to the excavation. The slope of the temporary stockpile area will be maintained to channel excess water back to the open excavation or to allow infiltration. A bucket-loader or other suitable equipment will maintain the temporary stockpile and will load trucks or pans used to haul the material to the area of current construction or to designated stockpile areas.

All borrow areas will be developed from the center of the designated area towards the outer perimeter. The excavation equipment will continuously move around the perimeter of the borrow area excavation. After digging to the equipment's optimum depth, the equipment will move in a clockwise or counterclockwise direction to continually expand the pit until it reaches the final planned dimensions.

8.3 Dry Excavation

Dry excavation will be the alternative method of borrow area operation at the JED facility. This method of borrow area operation requires dewatering of the borrow area prior to removal of soil materials. Initially, the borrow area will be cleared and grubbed and the topmost organic soil layers will be stripped and used for construction of the perimeter berm or stockpiled for future use. Next, a ditch recharge system will be constructed between the area to be dewatered and adjacent wetland areas, which may be affected by the dewatering activities. The purpose of the ditch recharge system is to maintain a ground water level between the dewatered pit and the adjacent wetland, which will prevent detrimental affects to the wetland area. It is anticipated that ~~Omni~~WCOC may be required to obtain a water use permit from the South Florida Water Management District for the dewatering system if daily pumping quantities exceed 100,000 gallons. In conjunction with the water use permit application, a detailed layout of the recharge ditches, sequence of developing the dry pit, and location of pumps will be prepared.

The groundwater will be lowered in the borrow pit as the soil is excavated to provide trafficability in the excavation for equipment performing the excavation. It is anticipated that earth will be moved using self-loading pans, dump trucks loaded by backhoe, or other suitable heavy equipment, which will cycle through the borrow area to load and to the construction or stockpile site for unloading. As the excavation is progressively deepened, the ground water elevation in the excavation will be lowered ahead of the excavation bottom elevation. All water taken from the pit will be deposited in the recharge ditches, where it will maintain the ground water level in adjacent wetlands.

**TABLE 1
PERSONNEL REQUIREMENTS
FOR RECEIPT OF UP TO 3,000 TONS OF WASTE PER DAY*
JED FACILITY**

Personnel Classification	Total Number of Personnel Employed	Minimum Number of Personnel Required for Receipt of Waste
Office Administrator	1	0
Scale master	1	1
Landfill Equipment Operator (s)/Spotter(s)**	8	2
Landfill Site Manager/Operator***	1	1

Notes:

- * For receipt of volumes greater than 3,000 tons of waste per day, site staffing will be increased accordingly.
- ** Equipment Operators will perform spotting duties while operating heavy equipment
- *** Random load waste inspector or designee

**TABLE 2
HEAVY EQUIPMENT REQUIREMENTS⁽¹⁾
FOR RECEIPT OF UP TO 3,000 TONS OF WASTE PER DAY⁽²⁾
JED FACILITY**

Equipment On-site	Quantities
Chevy 1500 1/2 ton pick-up	1
Caterpillar 12G Motor Grader	1
CAT 613 Water Wagon	<u>1</u>
6" water pumps	1
4" water pumps	1
Caterpillar D6 Dozer	1
Volvo Articulating Hauling Truck	2
Caterpillar 330 Excavator	1
Caterpillar 836 compactor	2

Note:

- (1) Equipment manufacturers' names are provided to indicate the approximate size and/or capacity of the equipment. The specific manufacturer for this equipment is not required but similar size is.
- (2) For receipt of volumes greater than 3,000 tons of waste per day, heavy equipment requirements will be increased accordingly.

TABLE 3
HEAVY EQUIPMENT RENTAL COMPANIES
JED FACILITY

Name of Rental Business	Phone Number
United Rental	(407) 332 – 1470
Lundquist Excavating	(407) 847 – 9419

TABLE 4
OPERATOR PROTECTIVE EQUIPMENT
JED FACILITY

Equipment: Each piece of heavy equipment should be provided with:

- Safety restraint belt
- Roll-over bars
- Backup warning system
- Fire extinguisher

Personal: Equipment operators should have the following personal protective clothing and accessories:

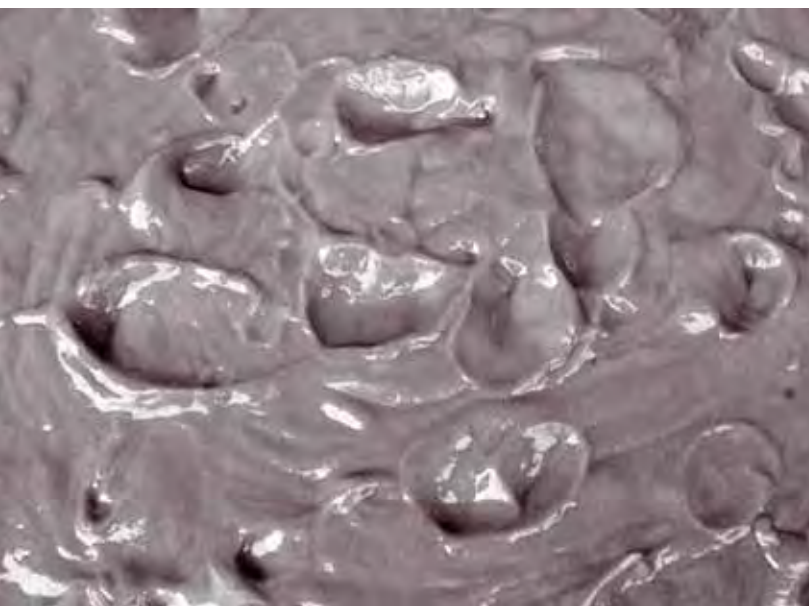
- Ear muffs or ear plugs
- Safety glasses or face shields
- Rubber or leather (steel toe, shank) boots
- Work gloves
- Hard hats

ATTACHMENT 3
Posi-Shell Information

The most effective,
cost-efficient and versatile
cover system on the market

- Erosion Control
- Dust Control
- Waste Cover





**Contact us today for
more information.**



LSC Environmental Products, LLC
800-800-7671 or 607-625-3050
www.lscenv.com

Composition

Posi-Shell® is a patented blend of clay binders, reinforcing fibers, and polymers that, when mixed with water, produces a spray-applied mortar forming a thin layer of durable stucco. Posi-Shell will adhere to any surface or topography.

Posi-Shell's unique properties also enable the use of durability enhancers to achieve long-term coatings that remain resilient to erosion for more than a year.

Mixing and Application

Mixing is accomplished using LSC Equipment or standard hydroseeding units.

Mixing and application can be completed with one operator, and typically takes 45-60 minutes. Clean up takes about 10 minutes.

Brief Specifications

- Non-flammable
- Adheres to any surface
- Up to 95% water shed (run off)
- Durability from overnight to years with minimal maintenance

Packaging

Bags: 50 lb. (22.7 kg.)
60 Bags per pallet

Bulk Sacks: 500 lb (227 kg.) 4 sacks per pallet

Technology described herein may be covered by one or more patents or pending patent applications. See website for patent details. Posi-Shell is registered with the U.S. Patent and Trademark Office.



ENVIRONMENTAL COATINGS

Use Posi-Shell® to effectively address multiple landfill challenges:

- Daily Waste Cover
- Intermediate Cover
- Erosion Control
- Odor Suppression
- Coal Ash
- Landfill Emergencies
- Fire Supression
- Waste Latex Recycling
- Waste Transport Cover
- Leachate Prevention and Recycling

Brief Specifications

- Non-flammable
- Adheres to any surface
- Up to 95% water shed (run off)
- Durability from overnight to years with minimal maintenance

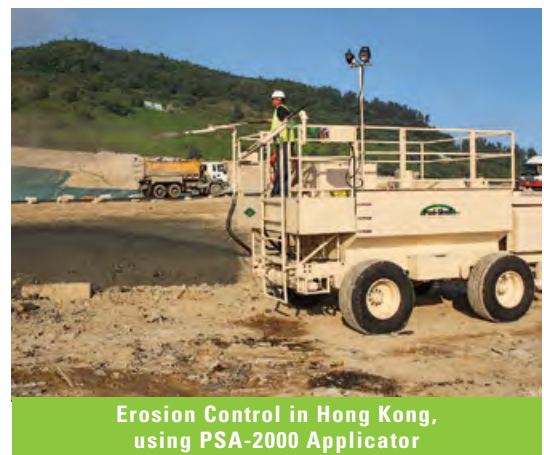
Use Posi-Shell® to reduce your operational costs, extend your landfill life, and address many of your site’s daily challenges.

Using Posi-Shell® instead of natural soil for daily cover is your ticket to achieving maximum airspace utilization. Posi-Shell® is the one system that gives you easy access to every cubic yard of airspace formerly consumed by thick soil covers.

Posi-Shell® is affordable in your existing landfill budget as it allows you to reduce equipment usage and manpower hours.

Mixing and application

Mixing is accomplished using LSC Equipment or standard hydroseeding units. Mixing and application can be completed with one operator, and typically takes 45-60 minutes. Clean up takes about 10 minutes.



Erosion Control in Hong Kong, using PSA-2000 Applicator

Packaging

Bags: 50 lb. (22.7 kg.)

60 bags per pallet

Bulk Sacks: 500 lb (227 kg.)

4 sacks per pallet

For technical services or to locate your nearest Posi-Shell® dealer:



ENVIRONMENTAL PRODUCTS, LLC™

Call: **1-800-800-7671** • Email: **Sales@LSCenv.com**

Visit LSC online at: **www.LSCenv.com**

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2183 Pennsylvania Ave., Apalachin, NY 13732



PSL0219

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**ENVIRONMENTAL
PRODUCTS, LLC**

**"Adaptable for over-the-road or
rugged industrial applications."**

**Posi-Shell® Applicator
Model PSA-1000**

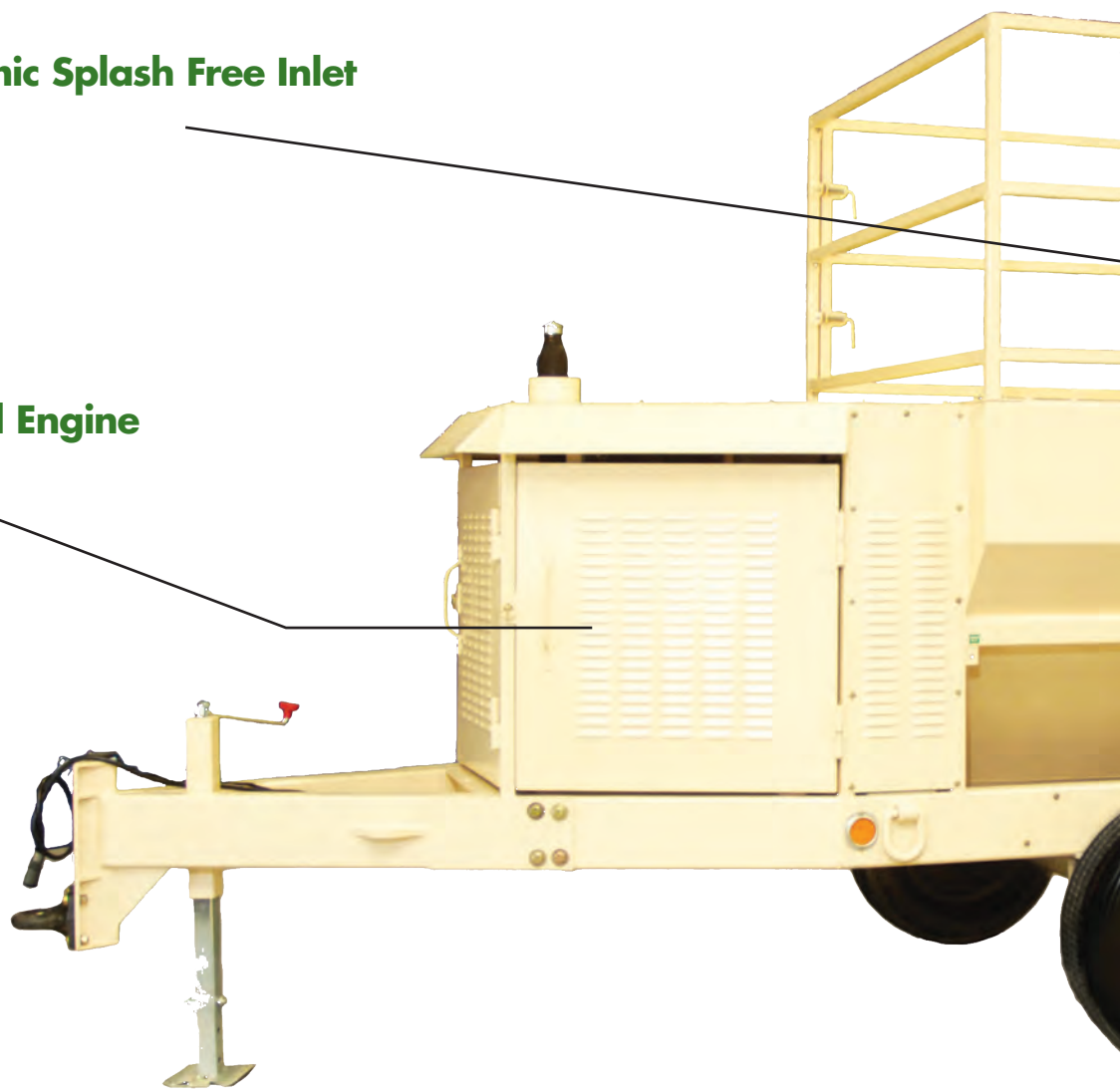


"A true hybrid, the PSA 1000 can be towed by pick-up trucks or bulldozers."

Ergonomic Splash Free Inlet

Heavy Duty Diesel Engine

Adjustable Height Draw Bar



Posi-Tru™ Ground Clearance*

*Posi-Tru™ Ground Clearance indicates ground clearance to the most critical point on the unit, the axles.



Simple Operator Controls



On Board Reserve Water Tank & Pump



Optional Solid Rubber Tires

19"



Specifications

STANDARD ITEMS		
Width / Height / Overall Length: 7'6" / 9'8" / 19'2"	Electrical: 12 Volt/105 AMP Electrical Ignition 4D Heavy Duty Battery Audible Alarms Emergency Shut Down Operator Signal Horn Auxiliary Lighting Port Electric Brakes w/ Optional DOT Trailer Lighting	Nozzles: Long Range Solid Stream 15° Flat Spray 25° Flat Spray 50° Flat Spray 25° Low Flow Spray
Empty Weight / Full Weight: 7,720 lbs. / 19,015 lbs.	Operator Controls: Morse Throttle Controller Mixer, Pump, & Water Pump Rocker Switches	Suspension: Two (2) 10,000 lbs. TORFLEX Ind. Suspension Axles Total Capacity: 20,000 lbs.
Product Tank: Capacity: 1,105 Gallons Material Thickness: 3/16" Interior Coating: Coal Tar Epoxy	Product Pump: 3" Positive Displacement Gear Pump (Reversible) Maximum Flow Rating of 232 GPM @ 400 RPM	Posi-Tru™ Ground Clearance: 17"– 21" Depending on Wheel Selection
Mixer Shaft & Paddles: 8' Long X 3" Diameter D.O.M. Shaft 10 Mid-Shaft Paddles – 4 End Shaft Paddles Optional: Reversible	Reserve Water Tank: Capacity: 170 Gallon Electric Over Hydraulic Centrifugal Pump 114 GPM @ 180 PSI	Main Frame & Hitch Beams: 4" X 8" Rectangular Tubing
Engine: 51 HP Diesel @ 3000 RPMs 4 cyl. Water Cooled Air Cleaner w/ Service Indicator Fuel Capacity: 21 Gallons		Draw Bar: 4" X 8" Rectangular Tubing 10,000 lbs. Draw Bar Jack 60,000 lbs. Tow Ring w/ 4 Position Height Adjustment
Hydraulic System: Open Loop Gear Drive Filtration: Supply/Return/Charge Loop Tank Capacity: 32 Gallon 15W40		Miscellaneous: Nozzle Storage Box Nozzle Rinse Bucket Scraper Grease Gun Tow Bar Jack Recirculation Hose Clean-off Hose
OPTIONAL ITEMS		
Wheels: Pneumatic: 18 Ply 235/75R17.5 Extreme Duty Rubber Tires Foam Filled: 18 Ply 235/75R17.5 Extreme Duty Rubber Foam Filled Tires Solid Rubber: 12" Wide X 38" Diameter Solid Rubber Tires	Reversible Mixer Shaft	Hose Reel Manual Hose Storage Reel Layflat Hose – Total Length: 125' X 1½" (50' and 75' sections) Electric Hose Reel 150' X 1¼" Rigid Hose
	Skid-Mounted Unit Fenders & Tail Lights	Night Application Light Package

The LSC Family of Products



2183 Pennsylvania Ave. • Apalachin, NY 13732 • Phone: 800.800.7671

Posi-Shell® Applicator
Model PSA-1000



Erosion Control



Odor Control

Posi-Shell[®]

Application Minimum Requirements Guideline

	<u>SHORT TERM COVER</u> (Depending on conditions cover can last overnight to several weeks)	<u>MEDIUM TERM COVER</u> (Depending on conditions cover can last several weeks to several months)	<u>LONG TERM COVER</u> (Depending on conditions cover can last several months to one year)
SLURRY MIXTURE*	Posi-Shell [®] Base Posi-Shell [®] EC-1 (See next page for mixtures)	Posi-Shell [®] EC-2 Posi-Shell [®] EC-4 (See next page for mixtures)	Posi-Shell [®] EC-2 Posi-Shell [®] EC-4 (See next page for mixtures)
APPLICATION RATE	Approx. 8-10 ft ² /gal.** (0.20 to 0.25 m ² /L.)	Approx. 6-8 ft ² /gal. (0.15 to 0.20 m ² /L.)	Approx. 4-6 ft ² /gal. (0.10 to 0.15 m ² /L.)
COVERAGE METHOD	Apply from two directions to eliminate spray shadow.	Apply from two directions to eliminate spray shadow.	Apply from two directions to eliminate spray shadow. For slope coverage extend cover 3-4 feet (0.9 to 1.2 meters) beyond crest of slope.
COVERAGE THICKNESS	Finished cover should be Approx. 1/8" (3.5 mm)	Finished cover should be Approx. 1/4" (6.5 mm)	Finished cover should be Approx. 3/8" (9.5 mm)
COVERAGE APPEARANCE	No waste/soil visible from any angle.	No waste/soil visible from any angle. Cover should have a "stucco-like" texture.	No waste/soil visible from any angle. Cover should have a "stucco-like" texture.
COVERAGE MAINTENANCE	None. Waste is placed over cover next working day.	Cover should be inspected periodically and touched up if waste/soil becomes visible.	Cover should be inspected periodically and touched up if waste/soil becomes visible.

* These are manufacturer's recommendations. Use and practice will determine the best mixture for each situation.

** Depending on conditions and desired quality, up to 40 ft²/gal. (0.75m²/L.) can be achieved.

Posi-Shell® Formulations Guide

Materials	Base	EC Series			Xtreme Rain Shield™ Series (XRS)		
		EC-1	EC-2	EC-4	Light	Medium	Heavy
Water or Leachate (Gallons)*	800	800	800	800	800	800	800
Posi-Shell® Base Mix: 50 lb Bag	10	10 (500 lbs.)	10 (500 lbs.)	10 (500 lbs.)	10 (500 lbs.)	5 (250 lbs.)	5 (250 lbs.)
Portland cement (lbs)	-	500	1000	2000	500	1000	2000
Xtreme Rain Shield™ (50 lb Bag)	-	-	-	-	0.50 (25 lbs.)	2 (100 lbs.)	4 (200 lbs.)
Finished Product (Gallons)	800	850	900	1000	850	900	1000
Rain Guide (Inches)**	0.0-0.25	0.0-0.5	0.0-0.5	0.0-0.5	0.5-1.0	1.0-2.0	>2.0

*Amount of rainfall product typically sustains without washing.

**Some leachate, hard water, and salty water may require more Posi-Shell® Base Mix to achieve proper thickness.

Materials	Base	EC Series			Xtreme Rain Shield™ Series (XRS)		
		EC-1	EC-2	EC-4	Light	Medium	Heavy
Water or Leachate (Liters)	3030	3030	3030	3030	3030	3030	3030
Posi-Shell® Base Mix: 50 lb Bag	10	10 (225 kg.)	10 (225 kg.)	10 (225 kg.)	10 (225 kg.)	6 (138 kg.)	5 (138 kg.)
Portland cement (kgs)	-	225	450	900	225	450	900
Xtreme Rain Shield™ (23 kg Bag)	-	-	-	-	0.50	2	4
Finished Product (Liters)	3030	3218	3407	3786	3218	3407	3786
Rain Guide (Centimeters)	0.0-1.25	0.0-1.25	0.0-1.25	0.0-1.25	1.25-2.54	2.54-5.08	>5.08



GHS Safety Data Sheet

SDS

LSC Environmental Products, LLC
Issue Date: June 15, 2015

Posi-Shell® Base Mix

Page 1 of 4

1 Identification

Supplier	LSC Environmental Products, LLC 2183 Pennsylvania Ave Apalachin, NY 13732
Telephone:	607-625-3050
Fax:	607-625-2688
Web:	www.lscenv.com
Product Name	Posi-Shell® Base Mix
Description:	Sodium Montmorillonite Clay (SMC) with Synthetic Fibers and Coloring
CAS Number:	N/A
Recommended Use:	Spray Applied Environmental Coatings.

2 Hazards Identification

Route of Entry:	Eye Contact, Skin Contact, Inhalation								
Hazards:	<table> <tr> <td>Eye:</td> <td>May cause mechanical irritation.</td> </tr> <tr> <td>Skin:</td> <td>May cause drying resulting in dermatitis.</td> </tr> <tr> <td>Ingestion:</td> <td>No known health effects.</td> </tr> <tr> <td>Inhalation:</td> <td> <p>Acute: Short term exposure may cause mechanical irritation resulting in dry cough. May aggravate existing respiratory illness.</p> <p>Chronic: Repeated inhalation of respirable* crystalline silica above exposure limits can cause lung disease, including silicosis and lung cancer.</p> </td> </tr> </table>	Eye:	May cause mechanical irritation.	Skin:	May cause drying resulting in dermatitis.	Ingestion:	No known health effects.	Inhalation:	<p>Acute: Short term exposure may cause mechanical irritation resulting in dry cough. May aggravate existing respiratory illness.</p> <p>Chronic: Repeated inhalation of respirable* crystalline silica above exposure limits can cause lung disease, including silicosis and lung cancer.</p>
Eye:	May cause mechanical irritation.								
Skin:	May cause drying resulting in dermatitis.								
Ingestion:	No known health effects.								
Inhalation:	<p>Acute: Short term exposure may cause mechanical irritation resulting in dry cough. May aggravate existing respiratory illness.</p> <p>Chronic: Repeated inhalation of respirable* crystalline silica above exposure limits can cause lung disease, including silicosis and lung cancer.</p>								

NFPA: Not regulated, Non-hazardous

3 Composition / Information on Ingredients

Component	CAS#	Amount
Sodium Montmorillonite Clay (SMC)*	N/A	> 90%

*Typical western SMC contains 1-6% crystalline silica as quartz CAS# 14808-60-7.

4 First-Aid Measures

Eye:	Flush eyes and under eye lids with plenty of water until irritation ceases. Contact physician if irritation persists.
Skin:	Wash with soap and water until clean. Contact physician if irritation develops.
Ingestion:	None known.
Inhalation:	Move to area free from dust. If symptoms of irritation persist, contact physician. Inhalation may aggravate existing respiratory illness.



GHS Safety Data Sheet

SDS

LSC Environmental Products, LLC
Issue Date: June 15, 2015

Posi-Shell® Base Mix

Page 2 of 4

5 Fire Fighting Measures

Flammability: Non-flammable

6 Accidental Release Measures

Personal Precaution: Avoid breathing dust; wear respirator approved for silica bearing dust.
Cleanup: Vacuum to avoid generating airborne dust. Avoid using water. Material becomes slippery when wet.

7 Handling and Storage

Handling: Use NIOSH/MSHA respirators approved for silica bearing dust when airborne SMC dust levels exceed PEL/TLVs. Clean up spills promptly to avoid making dust. Storage area floors may become slippery if wetted.
Storage: Store in a dry place.

8 Exposure Controls / Personal Protection

Exposure Guidelines (Inhalation):

Component	OSHA PEL (8 hr TWA)	ACGIH TVL
Crystalline Silica as Quartz	0.1 mg/m ³	0.1 mg/m ³
Particles not Otherwise Regulated		
Total Dust	15 mg/m ³	N/A
Respirable Dust	5 mg/m ³	N/A

Engineering Controls: None required for outdoor mixing and application. Use local ventilation to maintain PELs/TLVs if handling indoors.

Personal Protective Equipment:

Eye and Face Protection: Wear safety glasses or goggles during loading and application to protect from dust, splashing, and spray mist.
Skin Protection: Wear gloves and overalls to protect skin and clothing from contact with product. Personal hygiene measures, such as washing hands and face after working with materials, are recommended.
Respiratory Protection: When handling generates dust levels above exposure limits, use respirators approved by NIOSH/MSHA for silica bearing dust.

9 Physical and Chemical Properties

Appearance: Off-white dry powder. Small quantity of brown powder and fine white fibers also present in package.



GHS Safety Data Sheet

SDS

LSC Environmental Products, LLC
Issue Date: June 15, 2015

Posi-Shell® Base Mix

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Odor:	Not Determined
pH:	8-10 (5% aqueous suspension)
Relative Density (H ₂ O=1):	2.45-2.55
Bulk Density (at 20° C):	55 lbs/cu ft as dry product
Melting Point:	Approx. 1450° C
Solubility in Water:	<2% soluble by weight.
Flammability:	Non-flammable

10 Stability and Reactivity

Stability:	Stable
Hazardous Decomposition Products:	None under normal handling conditions.
Hazardous Polymerization:	Will not occur.
Incompatible Materials:	Hydrofluoric Acid.

11 Toxicological Information

- Carcinogenicity:
- Sodium Montmorillonite Clay is not listed by ACGIH, IARC, NTP, or OSHA.
 - IARC, 1997, concludes that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources (IARC Class 1), that carcinogenicity was not detected in all industrial circumstances studied and that carcinogenicity may depend on characteristics of the crystalline silica or on external factors affecting its biological activity. NTP classifies respirable crystalline silica as "known to be a human carcinogen" (NTP 9th Report on Carcinogens - 2000). ACGIH classifies crystalline silica quartz as a suspected human carcinogen (A2).

12 Ecological Information

No information available.

13 Disposal Considerations

Bury in licensed landfill according to local, state, and federal regulations.

14 Transportation Information

US DOT: Non-regulated

15 Regulatory Information

None of the components in this product are known to be regulated by national or international regulatory bodies.



GHS Safety Data Sheet

SDS

LSC Environmental Products, LLC
Issue Date: June 15, 2015

Posi-Shell® Base Mix

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Other Information

SDS Status: Revised from MSDS format in 2015 to comply with GHS requirements.

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.

No warranty or guarantee, expressed or implied, is made by LSC Environmental Products, LLC as to this information or as to the safety, toxicity, or effect of the use of this product.