

# PERMIT DATA FORM

CHECK IF NEW: \_\_\_\_\_

0078767

MOD\_\_NEW\_\_RENEWAL

SITE WAFR # AIR #

**SITE/WAFER/FACILITY NAME:** Tomoka Farms 16d d/

**PROJECT NAME:** \_\_\_\_\_

DESC: \_\_\_\_\_

TYPE CODE: 50 SUBCODE: T3 CHECK IF GP EXEMPT NPDES

**CORRECT FEE:** \$4000 -

**PROCESSOR:** He

AMOUNT RCV'D: 4000-

**AMOUNT REFUND:** \_\_\_\_\_

**MONIES DUE:** \_\_\_\_\_

RED \_\_\_ YELLOW \_\_\_ GREEN \_\_\_ NO PERMIT REQ \_\_\_

## HISTORY SHEET

**SITE/WAFR/AIR#:** 64-0078767-026 **TYPE:** 2 **SUBTYPE:** 13

**SITE/WAFR/AIR**  
**NAME:** UCSW/ Tomoka Farms Rd

## PROJECT

**NAME:** \_\_\_\_\_

[illegible]

THE COUNTY OF VOLUSIA

DELAND, FLORIDA

BANK OF AMERICA, N.A.  
DAYTONA BEACH, FLORIDA 32114

ACCOUNTS PAYABLE  
ACCOUNT

498913

NOT VALID AFTER 90 DAYS

04-17-09 00498913

CHECK DATE CHECK NO.

CHARGEABLE TO

VOLUSIA COUNTY COUNCIL  
ACCOUNTS PAYABLE ACCOUNT

FOUR THOUS & 00/100 DOLLARS

\*\*\*\*\*4,000.00

PAY TO  
THE ORDER OF: 92091600030  
FLORIDA DEPT OF ENVIRONMENTAL  
PROTECTION-RECEIPTS SECTION  
PO BOX 3070

TALLAHASSEE FL 32315-3070

*J. Deinen*  
*Charlene Weaver*

Environmental Consultants

501 North Grandview Avenue, Suite 400  
Daytona Beach, FL 32118386-238-7770  
FAX 386-238-7046

## SCS ENGINEERS

TO Mr. F. Thomas Lubozynski, P.E.  
Waste Program Administrator  
Florida Department of Environmental Protection  
3319 Maguire Blvd, Suite 232 Orlando, FL 32803

DATE June 25, 2009JOB NO. 09208007.07

ATTENTION \_\_\_\_\_

Re: Class III Permit Renewal

## WE ARE SENDING YOU

Volusia County Tomoka Farms Road Landfill☒ Attached ☐ Under separate cover via \_\_\_\_\_☐ Shop drawings ☐ Prints☐ Copy of letter ☐ Change Order☐ The following items: ☐ Plans ☐ Samples☐ Specifications ☐ \_\_\_\_\_

| COPIES | DATE | DESCRIPTION   |
|--------|------|---|
| 4      |      | Application to Renew the Class III Operating Permit |
|        |      |   |
|        |      |   |
|        |      |   |

## THESE ARE TRANSMITTED as check below:

- ☐ For approval ☐ Approved as submitted ☐ Resubmit \_\_\_\_\_ Copies for approval  
☐ For your use ☐ Approved as noted ☐ Submit \_\_\_\_\_ Copies distribution  
☐ As requested ☐ Returned for corrections ☐ Return \_\_\_\_\_ Corrected prints  
☐ For review and comment ☐ \_\_\_\_\_  
☐ FOR BIDS DUE \_\_\_\_\_ 20 \_\_\_\_\_ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Enclosed are four copies of the application to renew the operation permit for Volusia County's Tomoka Farms Road  
Landfill Class III cell, with the permit fee of \$4000.

RECEIVED

JUN 25 2009

DEP Central Dist.

COPY TO Leonard Marion, Volusia CountySIGNED: Lee Powell, P.E.

If enclosures are not as noted, kindly notify us at once.



CC. M. HEIDORN, P.G.  
 G. DEPRADINE  
 S. JANWADKAR

**Application to Renew  
Operation Permit  
Tomoka Farms Road Landfill  
Class III Disposal Cell  
Volusia County, Florida**

Presented to:

**Volusia County Solid Waste Division**  
3151 East New York Avenue  
DeLand, Florida 32724

Prepared by:

**SCS ENGINEERS**  
501 North Grandview Avenue, Suite 400  
Daytona Beach, Florida 32118  
(386) 238-7770

June 23, 2009  
File No. 09208007.07

*[Handwritten Signature]*  
23 JUN 09  
FLORIDA



Florida Department of Environmental Protection  
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

|  |
|--|
| DEP Form # 62-701.900(1)                                 |
| Form Title <u>Solid Waste Management Facility Permit</u> |
| Effective Date <u>05-27-01</u>                           |
| DEP Application No. _____<br>(Filled by DEP)             |

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

APPLICATION INSTRUCTIONS AND FORMS

Northwest District  
400 Governmental Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way, Ste. B200  
Jacksonville, FL 32256-7590  
904-448-4300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
3804 Coconut Palm Dr.  
Tampa, FL 33619  
813-744-6100

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
941-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
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 minimum of four copies of the application shall be submitted to the Department's District 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,B, D through T
- B. Asbestos Monofills - Submit parts A,B,D,E,F,G,J,L,N, P through S, and T
- C. Industrial Solid Waste Facilities - Submit parts A,B, D through T
- D. Non-Disposal Facilities - Submit parts A,C,D,E,J,N,S and T

**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,C and D 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,M, O through T
- B. Asbestos Monofills - Submit parts A,B,N, P through T
- C. Industrial Solid Waste Facilities - Submit parts A,B, M through T
- D. Non-Disposal Facilities - Submit parts A,C,N,S and T

**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: | NON-DISPOSAL FACILITY GENERAL INFORMATION                    |
| PART D: | PROHIBITIONS   |
| PART E: | SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL |
| PART F: | LANDFILL PERMIT REQUIREMENTS                                 |
| PART G: | GENERAL CRITERIA FOR LANDFILLS                               |
| PART H: | LANDFILL CONSTRUCTION REQUIREMENTS                           |
| PART I: | HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS                   |
| PART J: | GEOTECHNICAL INVESTIGATION REQUIREMENTS                      |
| PART K: | VERTICAL EXPANSION OF LANDFILLS                              |
| PART L: | LANDFILL OPERATION REQUIREMENTS                              |
| PART M: | WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS           |
| PART N: | SPECIAL WASTE HANDLING REQUIREMENTS                          |
| PART O: | GAS MANAGEMENT SYSTEM REQUIREMENTS                           |
| PART P: | LANDFILL CLOSURE REQUIREMENTS                                |
| PART Q: | CLOSURE PROCEDURES   |
| PART R: | LONG TERM CARE REQUIREMENTS                                  |
| PART S: | FINANCIAL RESPONSIBILITY REQUIREMENTS                        |
| PART T: | 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

**A. GENERAL INFORMATION**

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

- ☒ Disposal  
    ☐ Class I Landfill                      ☐ Ash Monofill  
    ☐ Class II Landfill                     ☐ Asbestos Monofill  
    ☒ Class III Landfill                    ☐ Industrial Solid Waste  
    ☐ Other Describe: \_\_\_\_\_
- ☐ Non-Disposal  
    ☐ Incinerator For Non-biomedical Waste  
    ☐ Waste to Energy Without Power Plant Certification  
    ☐ Other Describe: \_\_\_\_\_

**NOTE:** Waste Processing Facilities should apply on Form 62-701.900(4), FAC;  
Land Clearing Disposal Facilities should notify on Form 62-701.900(3), FAC;  
Compost Facilities should apply on Form 62-701.900(10), FAC; and  
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:

- ☐ Construction  
☒ Operation  
☐ Construction/Operation  
☐ Closure

3. Classification of application:

- ☐ New                                      ☐ Substantial Modification  
☒ Renewal                                  ☐ Intermediate Modification  
    ☒ Minor Modification

4. Facility name: Tomoka Farms Road Landfill Class III Disposal Cell

5. DEP ID number: \_\_\_\_\_ County: Volusia

6. Facility location (main entrance): 1990 Tomoka Farms Road  
Daytona Beach, FL 32124

7. Location coordinates:

Section: 10 Township: 16S Range: 32E  
Latitude: 29 ° 07 ' 53 " Longitude: 81 ° 05 ' 31 "

8. Applicant name (operating authority): Volusia County Solid Waste Division
- Mailing address: 3151 East SR 44 DeLand FL 32724  
Street or P.O. Box City State Zip
- Contact person: Leonard Marion Telephone: ( 386 ) 943-7889
- Title: Director of Solid Waste
- lmarion@co.volusia.fl.us  
E-Mail address (if available)
9. Authorized agent/Consultant: SCS Engineers
- Mailing address: 501 N. Grandview Ave., Ste. 400 Daytona Beach, FL 32118  
Street or P.O. Box City State Zip
- Contact person: Lee A. Powell, P.E. Telephone: ( 386 ) 238-7770
- Title: Project Manager
- lpowell@scsengineers.com  
E-Mail address (if available)
10. Landowner(if different than applicant): \_\_\_\_\_
- Mailing address: Same  
Street or P.O. Box City State Zip
- Contact person: \_\_\_\_\_ Telephone: (     ) \_\_\_\_\_
- \_\_\_\_\_ E-Mail address (if available)
11. Cities, towns and areas to be served: Volusia and Flagler Counties
- \_\_\_\_\_
12. Population to be served:  
Current: 614,893 Five-Year Projection: 678,248
13. Date site will be ready to be inspected for completion: Currently operating
14. Expected life of the facility: 18 years
15. Estimated costs:  
Total Construction: \$ N/A Closing Costs: \$ 7.4 million
16. Anticipated construction starting and completion dates:  
From: \_\_\_\_\_ To: Currently operating
17. Expected volume or weight of waste to be received:  
       yds<sup>3</sup>/day 700 tons/day        gallons/day

B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:

Volusia County is applying for a permit to renew the existing operation permit for the Tomoka Farms Road  
Landfill Class III cell. This application also includes modifications of the access road and operation of the  
previously permitted expansion.

2. Facility site supervisor: Chet Purves

Title: Supervisor Telephone: (386) 947-2952

cpurves@co.volusia.fl.us

E-Mail address (if available)

3. Disposal area: Total 89.9 acres; Used 21.4 acres; Available 68.5 acres.

4. Weighing scales used: ☒ Yes ☐ No

5. Security to prevent unauthorized use: ☒ Yes ☐ No

6. Charge for waste received: \_\_\_\_\_ \$/yds<sup>3</sup> 28 \$/ton C&D

7. Surrounding land use, zoning: (\$23/ton yard waste)

☒ Residential  
☒ Agricultural  
☐ Commercial

☐ Industrial  
☒ None  
☐ Other Describe: PUD

8. Types of waste received:

|  |   |
|--|---|
| <input checked="" type="checkbox"/> Residential                            | <input checked="" type="checkbox"/> C & D debris      |
| <input checked="" type="checkbox"/> Commercial                             | <input type="checkbox"/> Shredded/cut tires           |
| <input type="checkbox"/> Incinerator/WTE ash                               | <input checked="" type="checkbox"/> Yard trash        |
| <input type="checkbox"/> Treated biomedical                                | <input type="checkbox"/> Septic tank                  |
| <input type="checkbox"/> Water treatment sludge                            | <input checked="" type="checkbox"/> Industrial        |
| <input type="checkbox"/> Air treatment sludge                              | <input checked="" type="checkbox"/> Industrial sludge |
| <input checked="" type="checkbox"/> Agricultural                           | <input type="checkbox"/> Domestic sludge              |
| <input checked="" type="checkbox"/> Asbestos                               |   |
| <input checked="" type="checkbox"/> Other Describe: <u>Class III Waste</u> |   |

9. Salvaging permitted: ☐ Yes ☒ No

10. Attendant: ☒ Yes ☐ No Trained operator: ☒ Yes ☐ No

11. Spotters: Yes ☒ No ☐ Number of spotters used: 1 per working face

12. Site located in: ☐ Floodplain ☐ Wetlands ☒ Other Uplands

13. Property recorded as a Disposal Site in County Land Records: ☒ Yes ☐ No
14. Days of operation: 7 days/week, 362 days/year excluding Thanksgiving, Christmas, & New Year's Day
15. Hours of operation: M-F 7:00 a.m. - 5:30 p.m., Saturday and Sunday 8:00 a.m. - 3:00 p.m.
16. Days Working Face covered: Once per week
17. Elevation of water table: 26 Ft. (NGVD 1929)
18. Number of monitoring wells: 54
19. Number of surface monitoring points: 9
20. Gas controls used: ☐ Yes ☒ No Type controls: ☐ Active ☐ Passive  
Gas flaring: ☐ Yes ☒ No Gas recovery: ☐ Yes ☒ No
21. Landfill unit liner type:  
☐ Natural soils ☐ Double geomembrane  
☐ Single clay liner ☐ Geomembrane & composite  
☐ Single geomembrane ☐ Double composite  
☐ Single composite ☒ None  
☐ Slurry wall  
☐ Other Describe: \_\_\_\_\_
22. Leachate collection method:  
☐ Collection pipes ☐ Sand layer  
☐ Geonets ☐ Gravel layer  
☐ Well points ☐ Interceptor trench  
☐ Perimeter ditch ☒ None  
☐ Other Describe: \_\_\_\_\_
23. Leachate storage method:  
☐ Tanks  
☐ Surface impoundments  
☒ Other Describe: N/A
24. Leachate treatment method:  
☐ Oxidation ☐ Chemical treatment  
☐ Secondary ☐ Settling  
☐ Advanced  
☐ None  
☒ Other N/A

25. Leachate disposal method: N/A
- |  |  |
|--|--|
| <input type="checkbox"/> Recirculated        | <input type="checkbox"/> Pumped to WWTP              |
| <input type="checkbox"/> Transported to WWTP | <input type="checkbox"/> Discharged to surface water |
| <input type="checkbox"/> Injection well      | <input type="checkbox"/> Percolation ponds           |
| <input type="checkbox"/> Evaporation         |  |
| <input type="checkbox"/> Other _____         |  |
26. For leachate discharged to surface waters:
- Name and Class of receiving water: N/A
27. Storm Water:
- Collected: ☒ Yes    ☐ No
- Type of treatment: Detention and Natural Treatment
- Name and Class of receiving water: On-site wetland
28. Environmental Resources Permit (ERP) number or status: MS64-218726
- \_\_\_\_\_

C. NON-DISPOSAL FACILITY GENERAL INFORMATION

This section is not applicable.

1. Provide brief description of the non-disposal facility design and operations planned under this application:

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2. Facility site supervisor: \_\_\_\_\_

Title: \_\_\_\_\_ Telephone: (\_\_\_\_) \_\_\_\_\_

\_\_\_\_\_  
E-Mail address (if available)

3. Site area: Facility \_\_\_\_\_ acres; Property \_\_\_\_\_ acres

4. Security to prevent unauthorized use: ☐ Yes ☐ No

5. Site located in: ☐ Floodplain ☐ Wetlands ☐ Other \_\_\_\_\_

6. Days of operation: \_\_\_\_\_

7. Hours of operation: \_\_\_\_\_

8. Number of operating staff: \_\_\_\_\_

9. Expected useful life: \_\_\_\_\_ Years

10. Weighing scales used: ☐ Yes ☐ No

11. Normal processing rate: \_\_\_\_\_ yd<sup>3</sup>/day \_\_\_\_\_ tons/day \_\_\_\_\_ gal/day

12. Maximum processing rate: \_\_\_\_\_ yd<sup>3</sup>/day \_\_\_\_\_ tons/day \_\_\_\_\_ gal/day

13. Charge for waste received: \_\_\_\_\_

14. Storm Water Collected: ☐ Yes ☐ No

Type of treatment: \_\_\_\_\_

Name and Class of receiving water: \_\_\_\_\_

15. Environmental Resources Permit (ERP) number or status: MS64-218726

16. Final residue produced:

\_\_\_\_\_ % of normal processing rate \_\_\_\_\_ % of maximum processing rate

\_\_\_\_\_ Tons/day \_\_\_\_\_ Tons/day

Disposed of at:

Facility name: \_\_\_\_\_ County: \_\_\_\_\_

17. Estimated operating costs: \$ \_\_\_\_\_

Total cost/ton: \$ \_\_\_\_\_ Net cost/ton: \$ \_\_\_\_\_

18. Provide a site plan, at a scale not greater than 200 feet to the inch, which shows the facility location and identifies the proposed waste and final residue storage areas, total acreage of the site, and any other features which are relevant to the prohibitions or location restrictions in Rule 62-701.300, FAC, such as water bodies or wetlands on or within 200 feet of the site, and potable water wells on or within 500 feet of the site.
19. Provide a description of how the waste and final residue will be managed to not be expected to cause violations of the Department's ground water, surface water or air standards or criteria
20. Provide an estimate of the maximum amount of waste and final residue that will be store on-site.
21. Provide a detailed description of the technology use at the facility and the functions of all processing equipment that will be utilized. The descriptions shall explain the flow of waste and residue through all the proposed unit operations and shall include: (1) regular facility operations as they are expected to occur; (2) procedures for start up operations, and scheduled and unscheduled shut down operations; (3) potential safety hazards and control methods, including fire detection and control; (4) a description of any expected air emissions and wastewater discharges from the facility which may be potential pollution sources; (5) a description and usage rate of any chemical or biological additives that will be used in the process; and (6) process flow diagrams for the facility operations.
22. Provide a description of the loading, unloading and processing areas.
23. Provide a description of the leachate control system that will be used to prevent discharge of leachate to the environment and mixing of leachate with stormwater. Note: Ground water monitoring may be required for the facility depending on the method of leachate control used.
24. Provide an operation plan for the facility which includes: (1) a description of general facility operations, the number of personnel responsible for the operations including their respective job descriptions, and the types of equipment that will be used at the facility; (2) procedures to ensure any unauthorized wastes received at the site will be properly managed; (3) a contingency plan to cover operation interruptions and emergencies such as fires, explosions, or natural disasters; (4) procedures to ensure operational records needed for the facility will be adequately prepared and maintained; and (5) procedures to ensure that the wastes and final residue will be managed to not be expected to cause pollution.
25. Provide a closure plan that describes the procedures that will be implemented when the facility closes including: (1) estimated time to complete closure; (2) procedures for removing and properly managing or disposing of all wastes and final residues; (3) notification of the Department upon ceasing operations and completion of final closure.

D. PROHIBITIONS (62-701.300, FAC)

| <u>S</u> | <u>LOCATION</u>     | <u>N/A</u> | <u>N/C</u> |   |
|----------|---------------------|------------|------------|---|
| ✓        | <u>Section D.1</u>  | —          | —          | 1. Provide documentation that each of the siting criteria will be satisfied for the facility;<br>(62-701.300(2), FAC)                                     |
| ✓        | <u>Section D.2</u>  | —          | —          | 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (16), FAC, then document this qualification(s).          |
| ✓        | <u>Section D.3</u>  | —          | —          | 3. Provide documentation that the facility will be in compliance with the burning restrictions;<br>(62-701.300(3), FAC)                                   |
| ✓        | <u>Section D.4</u>  | —          | —          | 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions;<br>(62-701.300(4), FAC)                           |
| ✓        | <u>Section D.5</u>  | —          | —          | 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions;<br>(62-701.300(5), FAC)                              |
| ✓        | <u>Section D.6</u>  | —          | —          | 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions;<br>(62-701.300(6), FAC)                          |
| ✓        | <u>Section D.7</u>  | —          | —          | 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions;<br>(62-701.300(7), FAC)                     |
| ✓        | <u>Section D.8</u>  | —          | —          | 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)                  |
| —        | —                   | ✓          | —          | 9. Provide documentation that the facility will be in compliance with the special waste for waste-to-energy facilities restrictions; (62-701.300(9), FAC) |
| ✓        | <u>Section D.10</u> | —          | —          | 10. Provide documentation that the facility will be in compliance with the liquid restrictions;<br>(62-701.300(10), FAC)                                  |
| ✓        | <u>Section D.11</u> | —          | —          | 11. Provide documentation that the facility will be in compliance with the used oil restrictions;<br>(62-701.300(11), FAC)                                |



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

S      LOCATION      N/A      N/C

- |               |                             |               |               |   |
|---------------|-----------------------------|---------------|---------------|---|
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)   |
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 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)  |
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC)   |
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)  |
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 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)   |
| <u>✓</u>      | <u>                    </u> | <u>      </u> | <u>      </u> | 6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 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) |
| <u>✓</u>      | <u>Section L&amp;P</u>      | <u>      </u> | <u>      </u> | 7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)  |
| <u>✓</u>      | <u>Section L</u>            | <u>      </u> | <u>      </u> | 8. Contingency Plan; (62-701.320(7)(e)2, FAC)   |
|               |                             |               |               | 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; (62-702.320(7)(f), FAC)  |
| <u>✓</u>      | <u>Attachment F-1</u>       | <u>      </u> | <u>      </u> | a. A regional map or plan with the project location;  |
| <u>✓</u>      | <u>Attachment F-1</u>       | <u>      </u> | <u>      </u> | b. A vicinity map or aerial photograph no more than 1 year old;   |
| <u>      </u> | <u>                    </u> | <u>      </u> | <u>✓</u>      | c. A site plan showing all property boundaries certified by a registered Florida land surveyor;   |

S      LOCATION      N/A      N/C

PART E CONTINUED

- |   |              |       |       |  |
|---|--------------|-------|-------|--|
| ✓ | _____        | _____ | _____ | d. Other necessary details to support the engineering report.  |
| ✓ | Section E.10 | _____ | _____ | 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)  |
| ✓ | Section E.11 | _____ | _____ | 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)              |
| ✓ | Section E.12 | _____ | _____ | 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 this state; (62-701.320(7)(i), FAC) |
| ✓ | Section E.13 | _____ | _____ | 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; (62-702.320(8), FAC)  |
| ✓ | Section E.14 | _____ | _____ | 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)   |
| ✓ | Section E.15 | _____ | _____ | 15. Explain how the operator training requirements will be satisfied for the facility; (62-701.320(15), FAC)   |

F. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |   |
|----------|-----------------|------------|------------|---|
| ✓        | Section F.1     | —          | —          | 1. Vicinity map or aerial photograph no more than 1 year old and of appropriate scale showing land use and local zoning within one mile of the landfill and of sufficient scale to show all homes or other structures, water bodies, and roads other significant features of the vicinity. All significant features shall be labeled; (62-701.330(3)(a), FAC) |
| ✓        | Section F.2     | —          | —          | 2. Vicinity map or aerial photograph no more than 1 year old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(b), FAC)  |
| ✓        | Attachment F-1  | —          | —          | 3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(c), FAC)  |
| ✓        | Attachment F-1  | —          | —          | a. Dimensions;  |
| ✓        | Attachment F-1  | —          | —          | b. Locations of proposed and existing water quality monitoring wells;   |
| —        | —               | ✓          | —          | c. Locations of soil borings;   |
| ✓        | Attachment F-1  | —          | —          | d. Proposed plan of trenching or disposal areas;  |
| ✓        | Attachment F-1  | —          | —          | e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;  |
| ✓        | Attachment F-1  | —          | —          | f. Any previously filled waste disposal areas;  |
| ✓        | Attachment F-1  | —          | —          | g. Fencing or other measures to restrict access.  |
| —        | —               | —          | —          | 4. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3)(d), FAC):  |
| ✓        | Attachment F-1  | —          | —          | a. Proposed fill areas;   |
| ✓        | Attachment F-1  | —          | —          | b. Borrow areas;  |
| ✓        | Attachment F-1  | —          | —          | c. Access roads;  |
| ✓        | Attachment F-1  | —          | —          | d. Grades required for proper drainage;   |
| ✓        | Attachment F-1  | —          | —          | e. Cross sections of lifts;   |

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**PART F CONTINUED**

✓      Sheet 7      \_\_\_\_\_      \_\_\_\_\_

✓      Sheet 2      \_\_\_\_\_      \_\_\_\_\_

✓      Sheet 3      \_\_\_\_\_      \_\_\_\_\_

f.      Special drainage devices if necessary;

g.      Fencing;

h.      Equipment facilities.

5.      A report on the landfill describing the following;  
(62-701.330(3)(e), FAC)

✓      Section F.5.a      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section F.5.b      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section F.5.c      \_\_\_\_\_      \_\_\_\_\_

c.      The anticipated facility life;

✓      Section F.5.d      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section F.6      \_\_\_\_\_      \_\_\_\_\_

6.      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)(h), FAC)

✓      Section F.7      \_\_\_\_\_      \_\_\_\_\_

7.      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)(i), FAC)

**G.      GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)**

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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(4)(b), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

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(4)(c), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

3.      Describe what methods shall be taken to screen the landfill from public view where such screening can practically be provided; (62-701.340(4)(d), FAC)

H. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400,FAC)

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1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill; (62-701.400(2),FAC)

2. Landfill liner requirements; (62-701.400(3),FAC)

a. General construction requirements; (62-701.400(3)(a),FAC):

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(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;

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(2) Document foundation is adequate to prevent liner failure;

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(3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;

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(4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;

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(5) Installed to cover all surrounding earth which could come into contact with the waste or leachate.

b. Composite liners; (62-701.400(3)(b),FAC)

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(1) Upper geomembrane thickness and properties;

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(2) Design leachate head for primary LCRS including leachate recirculation if appropriate;

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(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component.

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**PART H CONTINUED**

c. Double liners; (62-701.400(3)(c), FAC)

- (1) Upper and lower geomembrane thicknesses 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  $\leq 1$  inch, head not to exceed thickness of drainage layer);

d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)

- (1) Field seam test methods to ensure all field seams are at least 90 percent of the yield strength for the lining material;
- (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 24-inch-thick protective layer.
- (5) HDPE geomembranes, if used, meet the specifications in GRI GM13;
- (6) PVC geomembranes, if used, meet the specifications in PGI 1197;
- (7) Interface shear strength testing results of the actual components which will be used in the liner system;
- (8) Transmissivity testing results of geonets if they are used in the liner system;
- (9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

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PART H CONTINUED

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

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

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

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

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

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

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

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

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

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

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

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

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

f.      Standards for soil components  
(62-710.400(3)(f), FAC):

\_\_\_\_\_      \_\_\_\_\_      ✓      \_\_\_\_\_

(1)      Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;

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# PART H CONTINUED

(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, Atterberg limits, 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.

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)

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(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 method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;



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**PART H CONTINUED**

b. Primary LCERS requirements;  
(62-701.400(4)(b), 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;
- (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.

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

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- 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;
- 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;
- e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;
- 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 LOCATION N/A N/C

PART H CONTINUED

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

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

- (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
- (2) Designed in segments to allow for inspection and repair as needed without interruption of service;
- (3) General design requirements;
  - (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
  - (b) Leak detection and collection system with hydraulic conductivity  $\geq 1$  cm/sec;
  - (c) Lower geomembrane placed on subbase  $\geq 6$  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;
  - (d) Design calculation to predict potential leakage through the upper liner;
  - (e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
- (4) Description of procedures to prevent uplift, if applicable;
- (5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
- (6) Procedures for controlling disease vectors and off-site odors.

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# PART H CONTINUED

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

- (1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
- (2) Describe procedures for cathodic protection if needed for the tank;
- (3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
- (4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
- (5) Describe design to remove and dispose of stormwater from the secondary containment system;
- (6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;
- (7) Inspections, corrective action and reporting requirements;
  - (a) Overfill prevention system weekly;
  - (b) Exposed tank exteriors weekly;
  - (c) Tank interiors when tank is drained or at least every three years;
  - (d) Procedures for immediate corrective action if failures detected;
  - (e) Inspection reports available for department review.

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

- (1) Describe materials of construction;
- (2) A double-walled tank design system to be used with the following requirements;

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# PART H CONTINUED

(a) Interstitial space monitoring at least weekly;

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

(c) Interior tank coatings compatible with stored leachate;

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

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

(4) Inspection reports available for department review.

d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e), FAC)

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

a. Provide CQA Plan including:

(1) Specifications and construction requirements for liner system;

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

(3) Identification of supervising professional engineer;

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

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

(6) Description of CQA reporting forms and documents;

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PART H CONTINUED

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

7. Soil Liner CQA (62-701.400(8)FAC)

- 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;
- b. Description of field test section construction and test methods to be implemented prior to liner installation;
- c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation.

8. Surface water management systems; (62-701.400(9),FAC)

- a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;
- b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;
- c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;

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

- 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;

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)

✓      Sheet 8

I. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(1), FAC)

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1. Submit a hydrogeological investigation and site report including at least the following information:
  - a. Regional and site specific geology and hydrogeology;
  - b. Direction and rate of ground water and surface water flow including seasonal variations;
  - 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 landfill site that may be affected by the landfill;
  - 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 landfill 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, and all community water supply wells within 1000 feet, of the waste storage and disposal areas;
2. Report signed, sealed and dated by PE or PG.

J. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(2), FAC)

S      LOCATION      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, lineaments and sink holes;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

c. Estimates of average and maximum high water table across the site;

d. Foundation analysis including:

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

(1) Foundation bearing capacity analysis;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

(2) Total and differential subgrade settlement analysis;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

(3) Slope stability analysis;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      ✓

2. Report signed, sealed and dated by PE or PG.

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

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |   |
|----------|-----------------|------------|------------|---|
| —        | —               | —          | ✓          | 1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill or adversely affect the closure design of the existing landfill;                |
| —        | —               | —          | ✓          | 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;                                 |
| —        | —               | —          | ✓          | 3. Provide foundation and settlement analysis for the vertical expansion;   |
| —        | —               | —          | ✓          | 4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected; |
| —        | —               | —          | ✓          | 5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;   |
| —        | —               | —          | ✓          | 6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;  |
| —        | —               | —          | ✓          | 7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.   |



**L. LANDFILL OPERATION REQUIREMENTS (62-701.500,FAC)**

|   |             |     |     |    |   |
|---|-------------|-----|-----|----|---|
| ✓ | Section L.1 | ___ | ___ | 1. | Provide documentation that 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)   |
|   |             |     |     | 2. | Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)  |
|   |             |     | ✓   | a. | Designating responsible operating and maintenance personnel;  |
|   |             |     | ✓   | b. | Contingency operations for emergencies;   |
|   |             |     | ✓   | c. | Controlling types of waste received at the landfill;  |
|   |             |     | ✓   | d. | Weighing incoming waste;  |
|   |             |     | ✓   | e. | Vehicle traffic control and unloading;  |
|   |             |     | ✓   | f. | Method and sequence of filling waste;   |
|   |             |     | ✓   | g. | Waste compaction and application of cover;  |
|   |             |     | ✓   | h. | Operations of gas, leachate, and stormwater controls;   |
| ✓ | Section M   | ___ | ___ | i. | Water quality monitoring.   |
|   |             | ✓   | ___ | j. | Maintaining and cleaning the leachate collection system;  |
| ✓ | Section L.3 | ___ | ___ | 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. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3),FAC) |
| ✓ | Section L.4 | ___ | ___ | 4. | Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4),FAC)  |
| ✓ | Section L.5 | ___ | ___ | 5. | Describe methods of access control; (62-701.500(5),FAC)   |
| ✓ | Section L.6 | ___ | ___ | 6. | Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6),FAC)   |
|   |             |     |     | 7. | Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7),FAC)  |
| ✓ | Section L.7 | ___ | ___ | a. | Waste layer thickness and compaction frequencies;   |

**PART L CONTINUED**

- b. Special considerations for first layer of waste placed above liner and leachate collection system;
- c. Slopes of cell working face and side grades above land surface, 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) Disease 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.

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

- a. Leachate level monitoring, sampling, analysis and data results submitted to the Department;
- b. Operation and maintenance of leachate collection and removal system, and treatment as required;
- c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
- d. Agreements for off-site discharge and treatment of leachate;
- e. Contingency plan for managing leachate during emergencies or equipment problems;

S LOCATION N/A N/C

PART L CONTINUED

|       |              |       |       |
|-------|--------------|-------|-------|
| _____ | _____        | ✓     | _____ |
| _____ | _____        | ✓     | _____ |
| _____ | _____        | ✓     | _____ |
| ✓     | Section L.9  | _____ | _____ |
| ✓     | Section L.10 | _____ | _____ |
| ✓     | Section L.11 | _____ | _____ |
| ✓     | Section L.11 | _____ | _____ |
| ✓     | Section L.11 | _____ | _____ |
| _____ | _____        | _____ | ✓     |
| _____ | _____        | _____ | ✓     |
| _____ | _____        | _____ | ✓     |
| _____ | _____        | _____ | ✓     |
| ✓     | Section L.12 | _____ | _____ |
| ✓     | Section L.13 | _____ | _____ |

- f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;
- g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;
- h. Procedures for water pressure cleaning or video inspecting leachate collection systems.
- 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)
- 10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9); (62-701.500(10), FAC)
- 11. Equipment and operation feature requirements; (62-701.500(11), FAC)
  - a. Sufficient equipment for excavating, spreading, compacting and covering waste;
  - b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
  - c. Communications equipment;
  - d. Dust control methods;
  - e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
  - f. Litter control devices;
  - g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
- 12. Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12), FAC)
- 13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |
|----------|-----------------|------------|------------|
| ✓        | Section L.13    | ___        | ___        |
| ✓        | Section L.13    | ___        | ___        |
| ✓        | Section L.13    | ___        | ___        |
| ✓        | Section L.13    | ___        | ___        |

#### PART L CONTINUED

- a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
- b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
- 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;
- d. Procedures for archiving and retrieving records which are more than five year old.

M. WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (62-701.510, FAC)

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |  |
|----------|-----------------|------------|------------|--|
| —        | —               | —          | ✓          | 1. Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements; |
| —        | —               | —          | ✓          | a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a), FAC)  |
| —        | —               | —          | ✓          | 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) Well screen locations properly selected;   |
| —        | —               | —          | ✓          | (7) Procedures for properly abandoning monitoring wells;   |
| —        | —               | ✓          | —          | (8) Detailed description of detection sensors if proposed.   |

| S | LOCATION | N/A | N/C |
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#### PART M CONTINUED

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. Leachate sampling locations proposed;  
(62-701.510(5), FAC)

f. Initial and routine sampling frequency and requirements; (62-701.510(6), FAC)

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

(2) Routine leachate sampling and analysis requirements;

(3) Routine monitoring well sampling and analysis requirements;

(4) Routine surface water sampling and analysis requirements.

g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7), FAC)

h. Water quality monitoring report requirements;  
(62-701.510(9), FAC)

(1) Semi-annual report requirements;

(2) Bi-annual report requirements signed, dated and sealed by PG or PE.

**N. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)**

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

**O. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530, FAC)**

|          |                 |            |            |   |
|----------|-----------------|------------|------------|---|
|          |                 |            |            | 1. Provide the design for a gas management systems that will (62-701.530(1), FAC):  |
| ✓        | Section O.1     | —          | —          | a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;   |
| ✓        | Section O.1     | —          | —          | b. Be designed for site-specific conditions;  |
| ✓        | Section O.1     | —          | —          | c. Be designed to reduce gas pressure in the interior of the landfill;  |
| ✓        | Section O.1     | —          | —          | d. Be designed to not interfere with the liner, leachate control system or final cover.   |
| ✓        | Section O.2     | —          | —          | 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): |
| —        | Section O.3     | —          | —          | 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):   |
| —        | —               | ✓          | —          | 4. Landfill gas recovery facilities; (62-701.530(5), FAC):  |
| —        | —               | ✓          | —          | a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;   |
| —        | —               | ✓          | —          | b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;   |
| —        | —               | ✓          | —          | c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;   |
| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> | <b>PART O CONTINUED</b>   |
| —        | —               | ✓          | —          | d. Description of procedures for condensate sampling, analyzing and data reporting provided;  |

\_\_\_\_\_ ✓ \_\_\_\_\_

e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;

\_\_\_\_\_ ✓ \_\_\_\_\_

f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

**P. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600, FAC)**

1. Closure schedule requirements; (62-701.600(2), FAC)

✓ Section P.1.a \_\_\_\_\_

a. Documentation that a written notice including a schedule for closure will be provided to the Department at least one year prior to final receipt of wastes;

✓ Section P.1.b \_\_\_\_\_

b. Notice to user requirements within 120 days of final receipt of wastes;

✓ Section P.1.c \_\_\_\_\_

c. Notice to public requirements within 10 days of final receipt of wastes.

2. Closure permit general requirements; (62-701.600(3), FAC)

✓ Section P.2.a \_\_\_\_\_

a. Application submitted to Department at least 90 days prior to final receipt of wastes;

b. Closure plan shall include the following:

✓ Section P.2 \_\_\_\_\_

(1) Closure report;

✓ Section P.2 \_\_\_\_\_

(2) Closure design plan;

✓ Section P.2 \_\_\_\_\_

(3) Closure operation plan;

✓ Section P.2 \_\_\_\_\_

(4) Closure procedures;

✓ Section P.2 \_\_\_\_\_

(5) Plan for long term care;

✓ Section P.2 \_\_\_\_\_

(6) A demonstration that proof of financial responsibility for long term care will be provided.

3. Closure report requirements; (62-701.600(4), FAC)

✓ Section P.3.a \_\_\_\_\_

a. General information requirements;

(1) Identification of landfill;



| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |
|----------|-----------------|------------|------------|
| ✓        | Section P.3.a   | —          | —          |
| ✓        | Section P.3.a   | —          | —          |
| ✓        | Section P.3.a   | —          | —          |
| ✓        | Section P.3.a   | —          | —          |
| ✓        | Section P.3.a   | —          | —          |
| ✓        | Section P.3.b   | —          | —          |
| ✓        | Section P.3.c   | —          | —          |
| ✓        | Section P.3.d   | —          | —          |
| ✓        | Section P.3.e   | —          | —          |
| ✓        | Section P.4     | —          | —          |
| ✓        | Section P.4     | —          | —          |
| ✓        | Section P.4     | —          | —          |
| ✓        | Section P.4     | —          | —          |
| ✓        | Section P.4     | —          | —          |
| ✓        | Section P.4.f   | —          | —          |

# PART P CONTINUED

- (2) Location, description and vicinity map;
- (3) Total acres of disposal areas and landfill property;
- (4) Legal property description;
- (5) History of landfill;
- (6) Identification of types of waste disposed of at the landfill.
- b. Geotechnical investigation report and water quality monitoring plan required by Rule 62-701.330(3), FAC;
- c. Land use information report indicating: identification of adjacent landowners; zoning; present land uses; and roads, highways right-of-way, or easements.
- d. Report on actual or potential gas migration at landfills containing degradable wastes which would allow migration of gas off the landfill property;
- e. Report assessing the effectiveness of the landfill design and operation including results of geotechnical investigations, surface water and storm water management, gas migration and concentrations, condition of existing cover, and nature of waste disposed of at the landfill;
4. Closure design requirements to be included in the closure design plan: (62-701.600(5), FAC)
  - a. Plan sheet showing phases of site closing;
  - b. Drawings showing existing topography and proposed final grades;
  - c. Provisions to close units when they reach approved design dimensions;
  - d. Final elevations before settlement;
  - e. Side slope design including benches, terraces, down slope drainage ways, energy dissipators and discussion of expected precipitation effects;
  - f. Final cover installation plans including:
    - (1) CQA plan for installing and testing final cover;

S      LOCATION      N/A      N/C

PART P CONTINUED

✓      Section P.4.f      \_\_\_\_\_      \_\_\_\_\_

(2)      Schedule for installing final cover after final receipt of waste;

✓      Section P.4.f      \_\_\_\_\_      \_\_\_\_\_

(3)      Description of drought-resistant species to be used in the vegetative cover;

✓      Section P.4.f      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section P.4.f      \_\_\_\_\_      \_\_\_\_\_

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

g.      Final cover design requirements:

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

(1)      Protective soil layer design;

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

(2)      Barrier soil layer design;

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

(3)      Erosion control vegetation;

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

(4)      Geomembrane barrier layer design;

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

(5)      Geosynthetic clay liner design if used;

✓      Section P.4.g      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section P.4.h      \_\_\_\_\_      \_\_\_\_\_

h.      Proposed method of stormwater control;

✓      Section P.4.i      \_\_\_\_\_      \_\_\_\_\_

i.      Proposed method of access control;

✓      Section P.4.j      \_\_\_\_\_      \_\_\_\_\_

j.      Description of proposed final use of the closed landfill, if any;

✓      Section P.4.k      \_\_\_\_\_      \_\_\_\_\_

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

5.      Closure operation plan shall include:  
(62-701.600(6),FAC)

✓      Section P.5      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section P.5      \_\_\_\_\_      \_\_\_\_\_

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

✓      Section P.5      \_\_\_\_\_      \_\_\_\_\_

c.      Describe proposed method for demonstrating financial responsibility;

✓      Section P.5      \_\_\_\_\_      \_\_\_\_\_

d.      Indicate any additional equipment and personnel needed to complete closure.

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |
|----------|-----------------|------------|------------|
| ✓        | Section P.5     | —          | —          |
| ✓        | Section P.5     | —          | —          |
| —        | —               | ✓          | —          |

**PART P CONTINUED**

- e. Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.
- f. Development and implementation of gas management system required in Rule 62-701.530, FAC.
- 6. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(7),FAC)

**Q. CLOSURE PROCEDURES (62-701.610, FAC)**

| <u>S</u> | <u>LOCATION</u> | <u>N/A</u> | <u>N/C</u> |
|----------|-----------------|------------|------------|
|----------|-----------------|------------|------------|

|   |             |     |     |   |
|---|-------------|-----|-----|---|
| ✓ | Section Q.1 | ___ | ___ | 1. Survey monuments; (62-701.610(2), FAC)                                 |
| ✓ | Section Q.2 | ___ | ___ | 2. Final survey report; (62-701.610(3), FAC)                              |
| ✓ | Section Q.3 | ___ | ___ | 3. Certification of closure construction completion; (62-701.610(4), FAC) |
| ✓ | Section Q.4 | ___ | ___ | 4. Declaration to the public; (62-701.610(5), FAC)                        |
| ✓ | Section Q.5 | ___ | ___ | 5. Official date of closing; (62-701.610(6), FAC)                         |
| ✓ | Section Q.6 | ___ | ___ | 6. Use of closed landfill areas; (62-701.610(7), FAC)                     |
| ✓ | Section Q.7 | ___ | ___ | 7. Relocation of wastes; (62-701.610(8), FAC)                             |

**R. LONG TERM CARE REQUIREMENTS (62-701.620, FAC)**

|   |             |     |     |   |
|---|-------------|-----|-----|---|
| ✓ | Section R.1 | ___ | ___ | 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)                     |
| ✓ | Section R.2 | ___ | ___ | 2. Right of property access requirements; (62-701.620(6), FAC)                                    |
| ✓ | Section R.3 | ___ | ___ | 3. Successors of interest requirements; (62-701.620(7), FAC)                                      |
| ✓ | Section R.4 | ___ | ___ | 4. Requirements for replacement of monitoring devices; (62-701.620(9), FAC)                       |
| ✓ | Section R.5 | ___ | ___ | 5. Completion of long term care signed and sealed by professional engineer (62-701.620(10), FAC). |

**S. FINANCIAL RESPONSIBILITY REQUIREMENTS (62-701.630, FAC)**

|   |             |     |     |  |
|---|-------------|-----|-----|--|
| ✓ | Section S.1 | ___ | ___ | 1. Provide cost estimates for closing, long term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC). |
| ✓ | Section S.2 | ___ | ___ | 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).                               |
| ✓ | Section S.3 | ___ | ___ | 3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5), (6), &(9), FAC).  |

1. Applicant:

\_\_\_\_\_ is aware that statements made in this form and attached information are an application for a Class III Landfill Operation Renewal 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.

---

E-Mail address (if available)

Telephone Number

Date: \_\_\_\_\_

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.

35992

Florida Registration Number  
(please affix seal)

---

Telephone Number

Date: 25/11/09

**Table of Contents**

| <b>Section</b>   | <b>Page</b> |
|--|-------------|
| Letter of Transmittal .....                                  | attached    |
| Cover Sheet .....  | attached    |
| Application Form .....                                       | attached    |
| <br>   |             |
| A General Requirements .....                                 | A-1         |
| B Disposal Facility General Information .....                | B-1         |
| C Non-Disposal Facility General Information .....            | C-1         |
| D Prohibitions .....   | D-1         |
| D.1 General .....  | D-1         |
| D.2 Exemptions .....   | D-2         |
| D.3 Burning .....  | D-2         |
| D.4 Hazardous Waste .....                                    | D-2         |
| D.5 PCBs .....   | D-2         |
| D.6 Biomedical Waste .....                                   | D-3         |
| D.7 Class I Surface Waters .....                             | D-3         |
| D.8 Special Wastes for Landfills .....                       | D-3         |
| D.9 Special Wastes for Waste to Energy Facilities .....      | D-3         |
| D.10 Liquid Restrictions .....                               | D-3         |
| D.11 Used Oil .....  | D-4         |
| E Solid Waste Management Facility General Requirements ..... | E-1         |
| E.1 Permit Package .....                                     | E-1         |
| E.2 Engineers Certification .....                            | E-1         |
| E.3 Transmittal Letter .....                                 | E-1         |
| E.4 Application Form .....                                   | E-1         |
| E.5 Permit Fee .....   | E-1         |
| E.6 Engineering Report .....                                 | E-2         |
| E.7 Operation Plan and Closure Plan .....                    | E-2         |
| E.8 Contingency Plan .....                                   | E-2         |
| E.9 Drawings .....   | E-2         |
| E.10 Property Ownership .....                                | E-2         |
| E.11 Recycling Goals .....                                   | E-2         |
| E.12 Enforcement Action .....                                | E-3         |
| E.13 Proof of Publication .....                              | E-3         |
| E.14 Airport Safety .....                                    | E-3         |
| E.15 Operator Training .....                                 | E-4         |

**CONTENTS (Continued)**

| <b>Section</b> | <b>Page</b>   |
|----------------|---|
| <b>F</b>       | <b>Landfill Permit Requirements ..... F-1</b>               |
| F.1            | Aerial Map..... F-1   |
| F.2            | Airport Location Map..... F-1                               |
| F.3            | Plot Plan..... F-1  |
| F.4            | Topographic Map..... F-1                                    |
| F.5            | Landfill Report..... F-1                                    |
| F.5.a          | Current and Projected Population..... F-2                   |
| F.5.b          | Type and Quantity of Solid Waste..... F-2                   |
| F.5.c          | Facility Life ..... F-4                                     |
| F.5.d          | Cover Material ..... F-5                                    |
| F.6            | Testing Laboratory ..... F-5                                |
| F.7            | Financial Assurance..... F-5                                |
| <b>G</b>       | <b>General Criteria for Landfills..... G-1</b>              |
| <b>H</b>       | <b>Landfill Construction Requirements ..... H-1</b>         |
| H.1            | Filling Sequence ..... H-1                                  |
| H.2            | Bottom Liner Design ..... H-1                               |
| H.3            | Leachate Collection and Removal System..... H-2             |
| H.4            | Leachate Recirculation ..... H-2                            |
| H.5            | Leachate Surface Impoundment..... H-2                       |
| H.6            | Geomembrane Construction Quality Assurance Plan..... H-2    |
| H.7            | Soil Construction Quality Assurance Plan ..... H-2          |
| H.8            | Surface Water Management System ..... H-2                   |
| H.9            | Landfill Gas Control System ..... H-2                       |
| H.10           | Landfill Gas Recovery Facilities ..... H-3                  |
| H.11           | Construction in the Water Table ..... H-3                   |
| <b>I</b>       | <b>Hydrogeological Investigation Requirements ..... I-1</b> |
| <b>J</b>       | <b>Geotechnical Investigation Requirements..... J-1</b>     |
| <b>K</b>       | <b>Vertical Expansion of Landfills..... K-1</b>             |
| <b>L</b>       | <b>Landfill Operation Requirements..... L-1</b>             |
| L.1            | Landfill Operations Staff ..... L-1                         |
| L.2            | Landfill Operation Plan ..... L-1                           |
| L.3            | Landfill Operation Records..... L-1                         |
| L.4            | Monthly Records..... L-1                                    |
| L.5            | Access Control and Site Security ..... L-1                  |
| L.6            | Load Checking ..... L-2                                     |

**CONTENTS (Continued)**

| <b>Section</b>   | <b>Page</b> |
|--|-------------|
| L.7 Spreading and Compacting Waste .....                                       | L-2         |
| L.8 Leachate Management .....  | L-2         |
| L.9 Gas Monitoring .....   | L-2         |
| L.10 Stormwater Management System Operation.....                               | L-2         |
| L.11 Equipment and Operation Requirements .....                                | L-2         |
| L.12 On-Site Roads .....   | L-3         |
| L.13 Additional Record Keeping.....  | L-3         |
| M Water Quality and Leachate Monitoring Requirements .....                     | M-1         |
| N Special Waste Handling Requirements .....                                    | N-1         |
| N.1 Motor Vehicles.....  | N-1         |
| N.2 Shredded Waste .....   | N-1         |
| N.3 Asbestos.....  | N-1         |
| N.4 Contaminated Soil .....  | N-1         |
| N.5 Biological Waste.....  | N-1         |
| O Gas Management System Requirements.....                                      | O-1         |
| O.1 Gas Management Systems .....   | O-1         |
| O.2 Gas Monitoring .....   | O-1         |
| O.3 Gas Remediation Plan .....   | O-1         |
| O.4 Landfill Gas Recovery.....   | O-1         |
| P Final Closure Requirements .....   | P-1         |
| P.1 Closure Schedule.....  | P-1         |
| P.2 Closure Permit General Requirements .....                                  | P-1         |
| P.3 Closure Report.....  | P-2         |
| P.4 Closure Design.....  | P-2         |
| P.4.a Phases of Site Closing .....   | P-2         |
| P.4.b Existing Topography and Proposed Final Grades .....                      | P-2         |
| P.4.c Provision to Close Units When they Reach Approved Final Dimensions ..... | P-2         |
| P.4.d Final Elevations .....   | P-2         |
| P.4.e Side Slope Design.....   | P-3         |
| P.4.f Final Cover Installation.....  | P-3         |
| P.4.g Final Cover Design .....   | P-3         |
| P.4.h Proposed Method of Stormwater Control .....                              | P-3         |
| P.4.i Proposed Method of Access Control.....                                   | P-4         |
| P.4.j Proposed Final Use .....   | P-4         |
| P.4.k Gas Management System .....  | P-4         |
| P.5 Closure Operation Plan .....   | P-4         |



**CONTENTS (Continued)**

| <b>Section</b> | <b>Page</b>   |
|----------------|---|
| <b>Q</b>       | <b>Closure Procedures ..... Q-1</b>                           |
| Q.1            | Survey Monuments .....Q-1                                     |
| Q.2            | Final Survey Report .....Q-1                                  |
| Q.3            | Certification of Closure Construction Completion.....Q-1      |
| Q.4            | Declaration to the Public .....Q-1                            |
| Q.5            | Official Date of Closing .....Q-1                             |
| Q.6            | Use of Closed Landfill Areas .....Q-1                         |
| Q.7            | Relocation of Wastes .....Q-2                                 |
| <b>R</b>       | <b>Long-Term Care Requirements .....R-1</b>                   |
| R.1            | Gas Collection and Monitoring .....R-1                        |
| R.2            | Property Access.....R-1                                       |
| R.3            | Successors .....R-1   |
| R.4            | Monitoring Devices .....R-1                                   |
| R.5            | Completion of Long-Term Care.....R-2                          |
| <b>S</b>       | <b>Financial Responsibility Requirements .....S-1</b>         |
| S.1            | Closure Cost Estimate .....S-1                                |
| S.2            | Annual Cost Adjustments.....S-1                               |
| S.3            | Proof of Financial Responsibility Funding Mechanisms .....S-1 |

**Attachments**

Attachment F-1 Project Drawings

Attachment S-1 Financial Assurance

## SECTION A

### GENERAL REQUIREMENTS

This report presents information supporting the application to renew the operation permit for the Tomoka Farms Road Landfill Class III cell in Volusia County (County), Florida. The cell is operated under Permit No. SO64-0078767-019, issued by the Florida Department of Environmental Protection (FDEP) on November 10, 2004. This permit expires on August 25, 2009. Specific Condition 33 of that permit requires the County to submit an application to renew the operation permit at least 60 days prior to the expiration date of that permit, which is June 26, 2009. This application is submitted in compliance with that permit condition.

On January 21, 2009, the FDEP issued Permit No. SC64-0078767-024, a modification of Permit No. SO64-078767-019, authorizing the construction of a lateral and vertical expansion to the Class III disposal cell. On March 20, 2009, SCS submitted a certification report demonstrating, based on 31 borings, that there is a minimum of twelve inches of existing cover soil over the Class I waste in the area of the proposed Class III cell expansion. This certification was submitted in accordance with Specific Condition 39 of the expansion construction permit. Specific Condition 46 of that permit requires that the County obtain an operating permit for the expansion area. This application to renew the existing operation permit includes modifying the permit to include operation of the expansion area, in compliance with that permit condition.

This application includes a modification to the location of the service road for the Class III cell, as discussed in Section H paragraph H.1 Fill Sequence.

This report was prepared by SCS Engineers (SCS) on behalf of Volusia County. The report is divided into sections following the permit application form.

## SECTION B

### DISPOSAL FACILITY GENERAL INFORMATION

The requested information is provided on the permit application form.

## SECTION C

### NON-DISPOSAL FACILITY GENERAL INFORMATION

Part C does not apply to this application.

## SECTION D

### PROHIBITIONS

#### D.1 GENERAL

Volusia County will not store, process, or dispose of solid waste except as permitted. The County will not store or dispose of solid waste in a manner or location that causes air or water quality standards to be violated.

There are eight siting restrictions listed in Rule 62-701.300(2), Florida Administrative Code (F.A.C.).

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in an area where geological formations or other subsurface features will not provide support for the solid waste. This is addressed in Part J, Geotechnical Investigation Requirements in the application to construct the Class III expansion dated July 11, 2008.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 500 feet of an existing or approved potable water well.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in a dewatered pit.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in an area subject to frequent and periodic flooding. This is addressed in Part G, General Criteria for Landfills in the application to construct the Class III expansion dated July 11, 2008.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed in any natural or artificial body of water including ground water.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the FDEP. The Class III cell is constructed on top of an old Class I cell and a former Construction and Demolition Debris (C&D) disposal area. The area proposed for continuing disposal of Class III waste is outside the 200-foot limit. The County will continue to carry out side slope and drainage maintenance activity on the former Class I and C&D areas that were previously constructed within the 200-foot limit.

- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed on the right of way of any public highway, road, or alley.
- Solid waste disposed of at the Tomoka Farms Road Landfill Class III cell will not be placed within 1000 feet of an existing or approved potable water well serving a community water system as defined in Rule 62-550.200(9), F.A.C.

## D.2 EXEMPTIONS

There are five general exemptions contained in Rule 62-701.300(12) through (16), F.A.C.

- Paragraph (12) applies to yard trash only. This provision does not apply to the facilities included in this Class III permit application.
- Paragraph (13) applies to waste stored in tanks. This provision does not apply to the facilities included in this Class III permit application.
- Paragraph (14) applies to indoor storage. This provision does not apply to the facilities included in this Class III permit application.
- Paragraph (15) applies to storage in vehicles. This provision does not apply to the facilities included in this Class III permit application.
- Paragraph (16) applies to facilities constructed prior to May 27, 2001. A portion of the Class III cell was permitted and constructed prior to May 27, 2001 and remains subject to the prohibitions that were in effect at the time the construction permit was issued. A lateral and vertical expansion to the Class III cell was approved in the construction permit issued by the FDEP on January 21, 2009

## D.3 BURNING

Open burning will not be performed in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

## D.4 HAZARDOUS WASTE

Hazardous waste will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

## D.5 PCBS

Liquids containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater, or non-liquid PCBs at concentrations of 50 parts per million or greater in the form of

contaminated soil, rags, or other debris, will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

#### D.6 BIOMEDICAL WASTE

Biomedical waste will not be disposed of in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

#### D.7 CLASS I SURFACE WATERS

There are no Class I surface waters within 3000 feet of the Class III cell. The Tomoka River north of Interstate Highway 4 is classified as "Special Waters" under Rule 62-302.700(9) F.A.C. The minimum separation between the Class III area and this portion of the Tomoka River is approximately 5700 feet. Spruce Creek south of the northern section line of Section 23 Township 16S Range 32E is also classified as "Special Waters" under Rule 62-302.700(9) F.A.C. The minimum separation between the Class III area and this portion of Spruce Creek is approximately 9,600 feet.

#### D.8 SPECIAL WASTES FOR LANDFILLS

The following special wastes identified in Rule 62-701.300(8) F.A.C. are not disposed of in the Class III cell:

- Lead-acid batteries
- Used oil
- White goods
- Whole waste tires

Yard trash, identified as a special waste in Rule 62-701.300(8) F.A.C., may be accepted for disposal in the Class III cell, in accordance with Rule 62-701.200(14) F.A.C.

This is addressed in Part L, Landfill Operation Requirements.

#### D.9 SPECIAL WASTES FOR WASTE TO ENERGY FACILITIES

This section is not applicable to this application.

#### D.10 LIQUID RESTRICTIONS

Liquid waste is not accepted for disposal in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.

### D.11 USED OIL

Used Oil is not accepted for disposal in the Class III cell. This is addressed in Part L, Landfill Operation Requirements.



## SECTION E

### SOLID WASTE MANAGEMENT FACILITY GENERAL REQUIREMENTS

#### E.1 PERMIT PACKAGE

The permit package consists of:

- Transmittal Letter
- Application Form
- Engineers Certification Sheet
- Engineering Report (containing supporting data, reports, and attachments)
- Review Application Fee

Four copies of the completed permit package are being submitted to the Florida Department of Environmental Protection.

#### E.2 ENGINEERS CERTIFICATION

The last page of the permit application form has been signed and sealed by the Engineer of Record. Also, a one page certification sheet has been signed and sealed by the Engineer of Record and is submitted as part of the permit package. The certification sheet outlines the contents of the engineering report.

#### E.3 TRANSMITTAL LETTER

The letter of transmittal is submitted as part of the permit package.

#### E.4 APPLICATION FORM

A completed application form is submitted as part of the permit package.

#### E.5 PERMIT FEE

The permit fee of \$4,000 in accordance with Rule 62-701.315(2)(c), F.A.C. is enclosed as part of the permit package.

## E.6 ENGINEERING REPORT

The engineering report is comprised of responses to the permit application form, and includes engineering plans, reports, supporting documents, and attachments.

## E.7 OPERATION PLAN AND CLOSURE PLAN

The operation plan is discussed in Part L, Operation Plan Requirements. The closure plan is discussed in Part P, Final Closure Requirements.

## E.8 CONTINGENCY PLAN

The contingency plan is discussed in Part L, Landfill Operation Requirements.

## E.9 DRAWINGS

The Project Drawings included in F-1 are as follows:

- Sheet 1 Cover Sheet
- Sheet 2 Aerial Photograph Site Plan
- Sheet 3 Existing Topography Site Plan
- Sheet 4 Final Closure Site Plan
- Sheet 5 Sections
- Sheet 6 Details - 1
- Sheet 7 Details - 2
- Sheet 8 Passive Vent System Site Plan

## E.10 PROPERTY OWNERSHIP

The Tomoka Farms Road Landfill was constructed on an 827-acre site owned by Volusia County. The County has since purchased an additional 2,660 acres, bringing the acreage of the County-owned site to 3,487 acres. A document verifying property ownership was presented as Attachment D-2 in the 1999 permit application to construct the Class III cell.

## E.11 RECYCLING GOALS

The Tomoka Farms Road Landfill, including the Class III cell, contributes toward the County's achievement of its recycling goals.

Facilities at the Tomoka Farms Road Landfill recycle used tires, yard waste, roofing shingles, appliances, and scrap metal. The paint exchange program, conducted by the County at the landfill site, also assists by diverting approximately 300 gallons of paint per month from the

waste stream and allowing it to be beneficially used. The Household Hazardous Waste Collection Center diverts used oil, batteries, paint, contaminated gasoline, fluorescent light bulbs, and other hazardous materials that might otherwise have ended up in the Class I waste stream. Municipal waste sludge is processed to produce a soil product at the privately owned and operated lime stabilization facility and landfill gas collected in the active Class I cell and from the adjacent closed Class I cell is used to generate electricity.

## E.12 ENFORCEMENT ACTION

Within the last three years Volusia County has received two consent orders or warning letters. Consent Order OGC File No. 06-2215, dated November 8, 2006, referenced wind-blown litter control at the Tomoka Farms Road Landfill. Warning Letter OWL-AP-07-710, dated August 10, 2007, referenced landfill gas collection at the Class I cell at the Tomoka Farms Road Landfill.

On March 19, 2009, the FDEP approved a Limited Scope Remedial Action Plan addressing groundwater issues near the B5 well at the Tomoka Farms Road Landfill. The County has submitted a Site Assessment Plan to the FDEP for approval addressing groundwater at the County's Plymouth Avenue Landfill.

The County has proposed evaluation monitoring of groundwater in the vicinity of the lined leachate ponds.

## E.13 PROOF OF PUBLICATION

Rule 62-701.320(8)(a), FAC, requiring proof of publication does not apply to applications to renew an operating permit.

## E.14 AIRPORT SAFETY

Rule 62-701.320(13) F.A.C. prohibits landfills from being located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, unless the facility is designed and is operated so that it does not pose a bird hazard to aircraft. The airport nearest the Class III cell is the Daytona Beach International Airport. This airport is located approximately 16,000 feet from the Class III cell.

Rule 62-701.320(13) F.A.C. also requires that applicants proposing to construct new landfills within a six mile radius, and applicants proposing to construct lateral expansions of existing landfills within a five-mile radius, of any licensed and operating airport runway used by turbine powered or piston engine aircraft notify the affected airport, the Federal Aviation Administration, and the Florida Department of Transportation when the application is filed with the FDEP, and provide evidence of such notification to the FDEP. Rule 62-701.320(13) F.A.C. exempts solid waste management facilities which do not accept putrescible waste for disposal, processing, or recycling from the above notification requirements. The Class III cell does not accept putrescible

wastes for disposal, processing, or recycling and therefore the notification requirements do not apply.

### E.15 OPERATOR TRAINING

In accordance with Rule 62-701.320(15), FAC, staff at the Tomoka Farms Road Landfill receive initial and continuing training in landfill operations. This training program is described in Section 2 of the Operation Plan, submitted as Attachment L-1 of this application.

## SECTION F

### LANDFILL PERMIT REQUIREMENTS

#### F.1 AERIAL MAP

An aerial photograph showing land use within one mile of the Class III cell was included as Figure F-1 in the County's July 11, 2008 application to construct an expansion to the Class III cell.

There have been no significant changes to the site since the aerial was flown.

#### F.2 AIRPORT LOCATION MAP

A vicinity map showing airports within five miles of the landfill was included as Figure F-2 in the County's July 11, 2008 application to construct an expansion to the Class III cell. Two airports are within this range: the Daytona Beach International Airport located approximately 3.0 miles from the Class III cell and the Spruce Creek Airport, a private airport approximately 4.2 miles from the Class III cell.

#### F.3 PLOT PLAN

A plot plan for the overall Tomoka Farms Road Landfill site is provided on Sheet 2 of the Project Drawings included in Attachment F-1. The total contiguous property owned by the County is approximately 3487 acres, and the Class III disposal area, with the approved expansion, is approximately 88 acres.

The plot plan shows the location of existing structures (i.e., groundwater monitoring wells, buildings, power poles, fences, etc.), and areas for disposal.

#### F.4 TOPOGRAPHIC MAP

An aerial topographic survey of the Class III area dated April 7, 2009 is provided on Sheet 2 of the Project Drawings included in Attachment F-1. The proposed final topography of the landfill is presented in Sheet 5 of the Project Drawings included in Attachment F-1. The final side slopes are designed not to exceed a 25 percent grade and the final top slopes are designed not to be less than 5 percent.

#### F.5 LANDFILL REPORT

The Class III cell is located on a closed Class I landfill located at the County's Tomoka Farms Road Landfill site.

**F.5.a Current and Projected Population**

The Tomoka Farms Road Landfill serves the populations of Volusia and Flagler County. The population of the two counties in the service area, taken from the August 2008 Florida Legislature Office of Economic and Demographic Research Demographic Estimating Conference.

**Table F-1. Service Area Population  
Tomoka Farms Road Class III Cell  
Volusia County, Florida**

| <b>Year</b> | <b>Volusia County<br/>Population</b> | <b>Flagler County<br/>Population</b> | <b>Total Service Area<br/>Population</b> |
|-------------|--------------------------------------|--------------------------------------|--|
| 2006        | 503,844                              | 89,075                               | 592,919                                  |
| 2007        | 508,014                              | 93,568                               | 601,582                                  |
| 2008        | 510,109                              | 96,172                               | 606,281                                  |
| 2009        | 515,392                              | 99,501                               | 614,893                                  |
| 2010        | 522,490                              | 103,537                              | 626,027                                  |
| 2011        | 530,966                              | 108,369                              | 639,335                                  |
| 2012        | 539,280                              | 113,593                              | 652,873                                  |
| 2013        | 546,889                              | 118,923                              | 665,812                                  |
| 2014        | 554,013                              | 124,235                              | 678,248                                  |
| 2015        | 560,993                              | 129,448                              | 690,441                                  |
| 2016        | 568,002                              | 134,492                              | 702,494                                  |
| 2017        | 575,121                              | 139,411                              | 714,532                                  |
| 2018        | 582,280                              | 144,245                              | 726,525                                  |
| 2019        | 589,453                              | 149,040                              | 738,493                                  |
| 2020        | 596,480                              | 153,805                              | 750,285                                  |
| 2021        | 603,327                              | 158,566                              | 761,893                                  |
| 2022        | 610,045                              | 163,327                              | 773,372                                  |
| 2023        | 616,819                              | 168,118                              | 784,937                                  |
| 2024        | 623,681                              | 172,932                              | 796,613                                  |
| 2025        | 630,728                              | 177,782                              | 808,510                                  |
| 2026        | 637,431                              | 182,506                              | 819,937                                  |
| 2027        | 643,929                              | 187,137                              | 831,066                                  |

**F.5.b Type and Quantity of Solid Waste**

The Class III cell accepts wastes defined as Class III wastes in Rule 62-701.200(14), including yard trash, construction and demolition debris, processed tires, carpet, cardboard, paper, glass, plastic, furniture other than appliances, and other materials approved by the FDEP. These materials are not expected to produce leachate which would pose a threat to public health or the

environment. The quantities of solid waste and cover material placed in the Class III cell during the calendar years 2006 through 2008 are shown in Table F-2.

**Table F-2. Historic Class III Waste Loading  
Tomoka Farms Road Class III Cell  
Volusia County, Florida**

| <b>Year</b> | <b>Class III Tons</b> | <b>Total Service<br/>Area<br/>Population</b> | <b>Class III<br/>Tons/Capita</b> |
|-------------|-----------------------|--|----------------------------------|
| 2006        | 122,306               | 592,919                                      | 0.2063                           |
| 2007        | 108,145               | 601,582                                      | 0.1798                           |
| 2008        | 69,742                | 606,281                                      | 0.1150                           |
| Average     |                       |  | 0.17                             |

Per capita waste generation rates are influenced by many factors including economic conditions. To project future Class III loading, an average generation rate of 0.17 tons per capita was used.

In-place density was computed by comparing the elevations shown on the September 6, 2008 and April 7, 2009 aerial photography. The volume difference between the two aerial survey events is 74,737 cubic yards. During that same period, 34,262 tons of Class III waste were placed in the cell for disposal. Assuming a daily cover of approximately five percent, the in-place waste density is estimated to be 963 pounds per cubic yard. Assuming additional settlement and compaction will occur over time, an in-place density of 1,000 pounds per cubic yard was used to estimate future in-place density.

Combining the above population projections, the per capita loading for Class III waste, and in-place density results in the load projections shown in Table F-3.

**Table F-3. Anticipated Class III Waste Loading  
Tomoka Farms Road Class III Cell  
Volusia County, Florida**

| <b>Year</b> | <b>Class III<br/>Tons/Year</b> | <b>Class III Cubic<br/>Yards/Year</b> | <b>Cover Material<br/>Cubic<br/>Yards/Year</b> | <b>Total Cubic<br/>Yards/Year</b> |
|-------------|--------------------------------|---------------------------------------|--|-----------------------------------|
| 2009        | 104,532                        | 209,064                               | 10,453   | 219,517                           |
| 2010        | 106,425                        | 212,849                               | 10,642   | 223,492                           |
| 2011        | 108,687                        | 217,374                               | 10,869   | 228,243                           |
| 2012        | 110,988                        | 221,977                               | 11,099   | 233,076                           |
| 2013        | 113,188                        | 226,376                               | 11,319   | 237,695                           |
| 2014        | 115,302                        | 230,604                               | 11,530   | 242,135                           |
| 2015        | 117,375                        | 234,750                               | 11,737   | 246,487                           |
| 2016        | 119,424                        | 238,848                               | 11,942   | 250,790                           |
| 2017        | 121,470                        | 242,941                               | 12,147   | 255,088                           |
| 2018        | 123,509                        | 247,019                               | 12,351   | 259,369                           |
| 2019        | 125,544                        | 251,088                               | 12,554   | 263,642                           |
| 2020        | 127,548                        | 255,097                               | 12,755   | 267,852                           |
| 2021        | 129,522                        | 259,044                               | 12,952   | 271,996                           |
| 2022        | 131,473                        | 262,946                               | 13,147   | 276,094                           |
| 2023        | 133,439                        | 266,879                               | 13,344   | 280,223                           |
| 2024        | 135,424                        | 270,848                               | 13,542   | 284,391                           |
| 2025        | 137,447                        | 274,893                               | 13,745   | 288,638                           |
| 2026        | 139,389                        | 278,779                               | 13,939   | 292,718                           |
| 2027        | 141,281                        | 282,562                               | 14,128   | 296,691                           |

#### **F.5.c Facility Life**

The active life of the Class III cell will be influenced by various factors, including service area growth, future disposal rates, types of materials disposed, amount of cover material used, and the in-place densities achieved. Comparing the elevations shown on the April 7, 2009 aerial photography to the permitted final contours shows the remaining capacity as of that date to be 5,134,324 cubic yards. Allowing 435,116 cubic yards for the three feet of final cover, the useful remaining capacity for waste disposal and daily cover is 4,699,208 cubic yards. Using the waste loading projections shown in Table F-3, the Class III cell may stay in service until 2027, as shown in Table F-4.



**Table F-4. Anticipated Service Life  
Tomoka Farms Road Class III Cell  
Volusia County, Florida**

| <b>Year</b>       | <b>Volume Available<br/>Cubic Yards</b> | <b>Volume Disposed<br/>Cubic Yards</b> | <b>Remaining Available<br/>Volume Cubic Yards</b> |
|-------------------|---|--|---|
| Apr 8-Apr 30 2009 | 4,699,208                               | 13,833                                 | 4,685,375   |
| May-Dec 2009      | 4,685,375                               | 146,345                                | 4,539,031   |
| 2010              | 4,539,031                               | 223,492                                | 4,315,539   |
| 2011              | 4,315,539                               | 228,243                                | 4,087,297   |
| 2012              | 4,087,297                               | 233,076                                | 3,854,221   |
| 2013              | 3,854,221                               | 237,695                                | 3,616,526   |
| 2014              | 3,616,526                               | 242,135                                | 3,374,392   |
| 2015              | 3,374,392                               | 246,487                                | 3,127,904   |
| 2016              | 3,127,904                               | 250,790                                | 2,877,114   |
| 2017              | 2,877,114                               | 255,088                                | 2,622,026   |
| 2018              | 2,622,026                               | 259,369                                | 2,362,656   |
| 2019              | 2,362,656                               | 263,642                                | 2,099,014   |
| 2020              | 2,099,014                               | 267,852                                | 1,831,163   |
| 2021              | 1,831,163                               | 271,996                                | 1,559,167   |
| 2022              | 1,559,167                               | 276,094                                | 1,283,073   |
| 2023              | 1,283,073                               | 280,223                                | 1,002,851   |
| 2024              | 1,002,851                               | 284,391                                | 718,460   |
| 2025              | 718,460                                 | 288,638                                | 429,822   |
| 2026              | 429,822                                 | 292,718                                | 137,104   |
| Jan1-Jun 18, 2027 | 137,104                                 | 136,559                                | 545   |

#### **F.5.d Cover Material**

The soil used for intermediate and final cover systems will be taken from on-site borrow pits. This material is classified as a silty-sand.

#### **F.6 TESTING LABORATORY**

The County has contracted with Advanced Environmental Laboratories, Inc. (AEL), an environmental laboratory to provide sampling and analysis of ground and surface water at the Tomoka Farms Road Landfill. AEL is certified for environmental analysis and drinking water analysis. AEL also has an approved quality assurance plan.

#### **F.7 FINANCIAL ASSURANCE**

Financial assurance is discussed in Part S, Financial Responsibility Requirements.

ATTACHMENT F-1  
PROJECT DRAWINGS  
(Bound Separately)

# VOLUSIA COUNTY DEPARTMENT OF PUBLIC WORKS SOLID WASTE DIVISION

## TOMOKA FARMS ROAD LANDFILL

### CLASS III CELL OPERATION PERMIT RENEWAL

VOLUSIA COUNTY, FLORIDA  
JUNE 2009

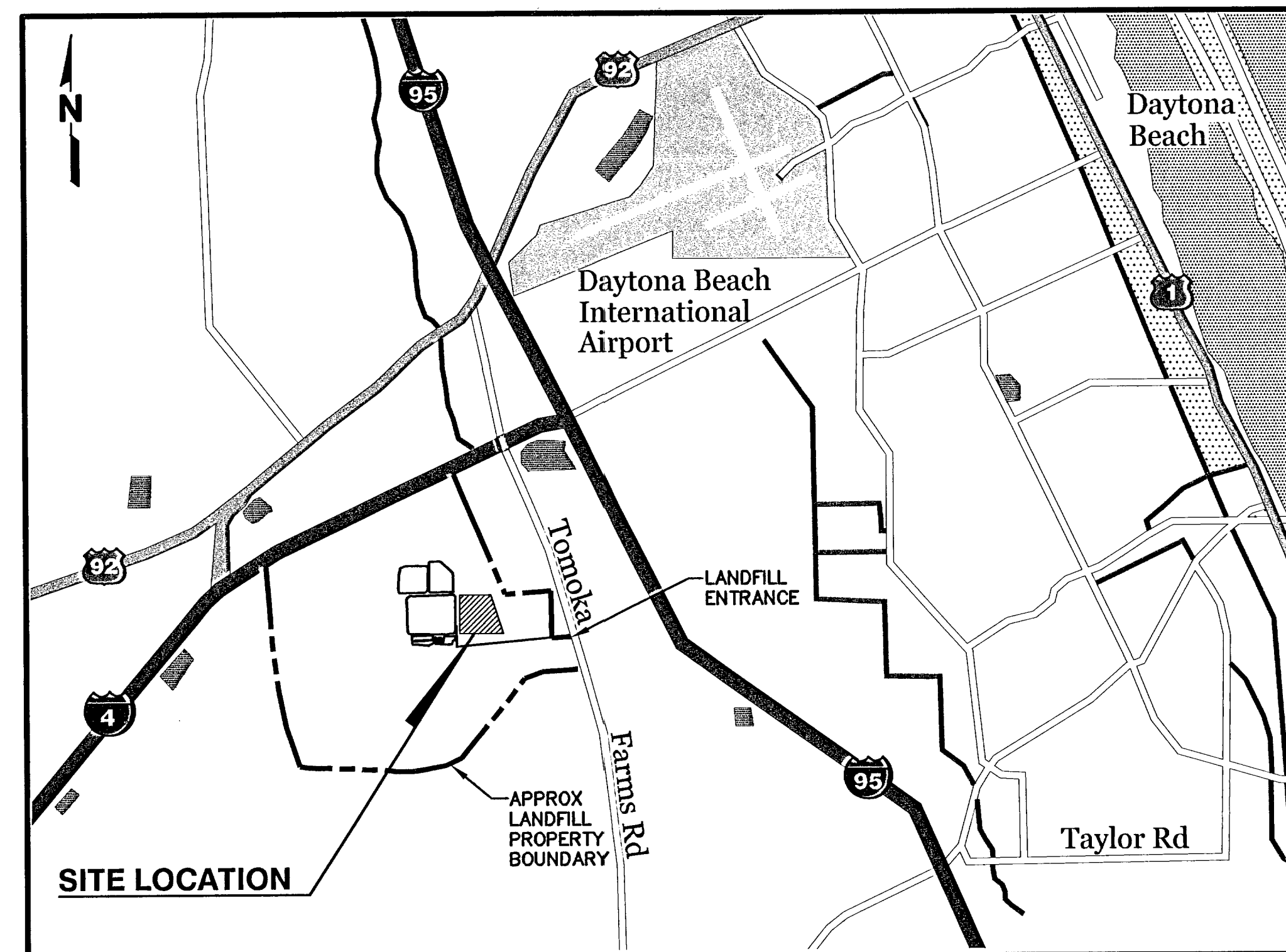
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#### Volusia County Council Members

Frank Bruno Jr., County Chair  
Joie Alexander, At-Large, Vice Chair  
Andy Kelly, District 1  
Josh Wagner, District 2  
Jack Hayman, District 3  
Carl G. Persis, District 4  
Pat Northey, District 5



0 1 MILE 2 MILES

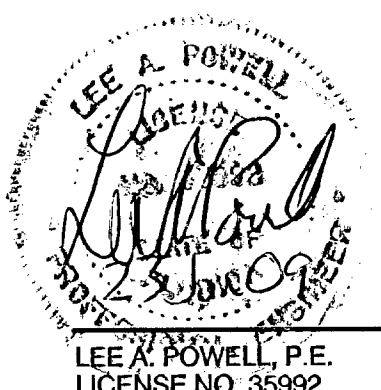
APPROX SCALE

**LOCATION MAP**

#### **DRAWING INDEX**

| DRAWING NO. | DRAWING TITLE                 |
|-------------|-------------------------------|
| 1           | COVER SHEET                   |
| 2           | AERIAL PHOTOGRAPH SITE PLAN   |
| 3           | EXISTING TOPOGRAPHY SITE PLAN |
| 4           | FINAL CLOSURE SITE PLAN       |
| 5           | SECTIONS                      |
| 6           | DETAILS - 1                   |
| 7           | DETAILS - 2                   |
| 8           | PASSIVE VENT SYSTEM SITE PLAN |

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD, SUITE 100  
TAMPA, FLORIDA 33610  
PH (813) 621-0080 FAX NO. (813) 623-6757  
Florida Certificate of Authorization No. 00004892  
WWW.SCSENGINEERS.COM  
SCS PROJECT NO. 09208007.07



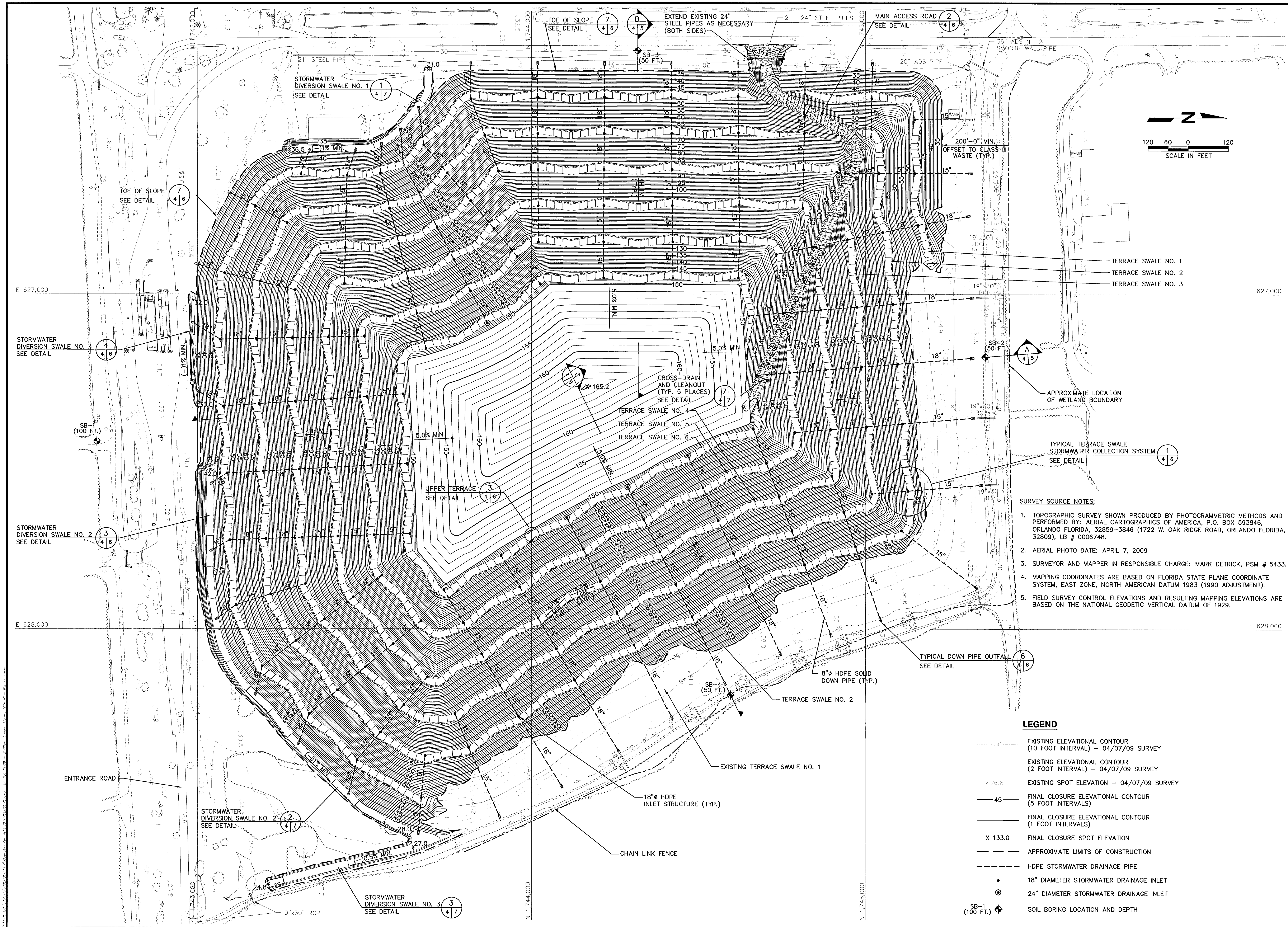










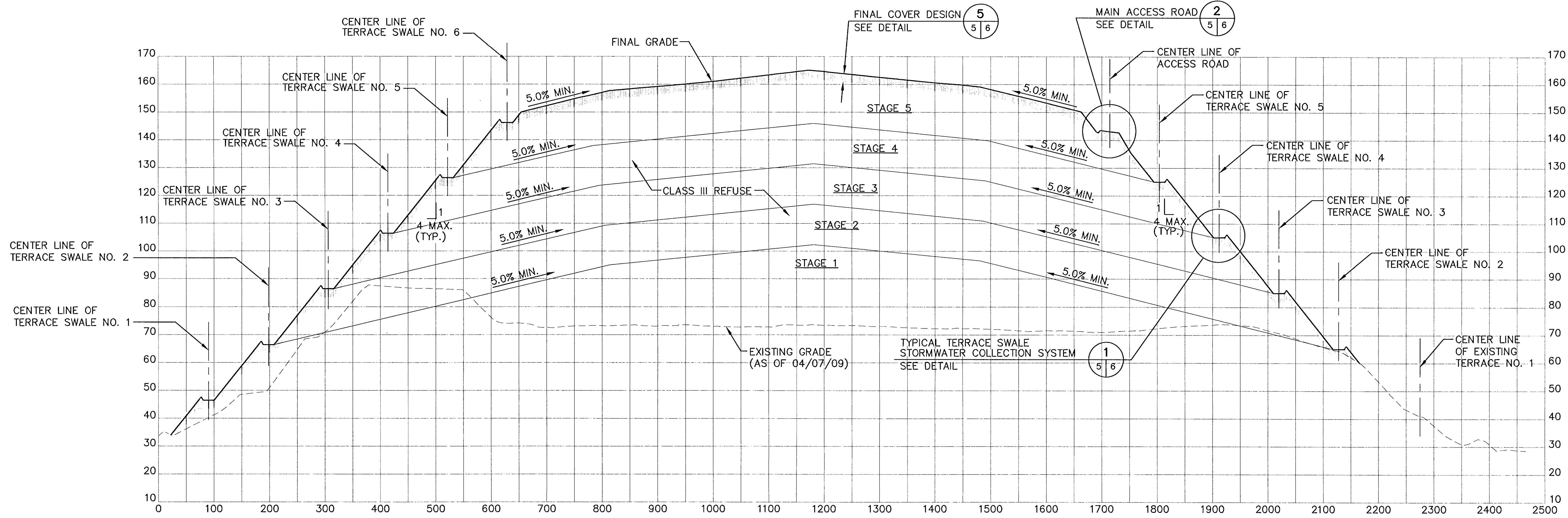


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  2. AERIAL PHOTO DATE: APRIL 7, 2009
  3. SURVEYOR AND MAPPER IN RESPONSIBLE CHARGE: MARK DETRICK, PSM # 5433.
  4. MAPPING COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983 (1990 ADJUSTMENT).
  5. FIELD SURVEY CONTROL ELEVATIONS AND RESULTING MAPPING ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

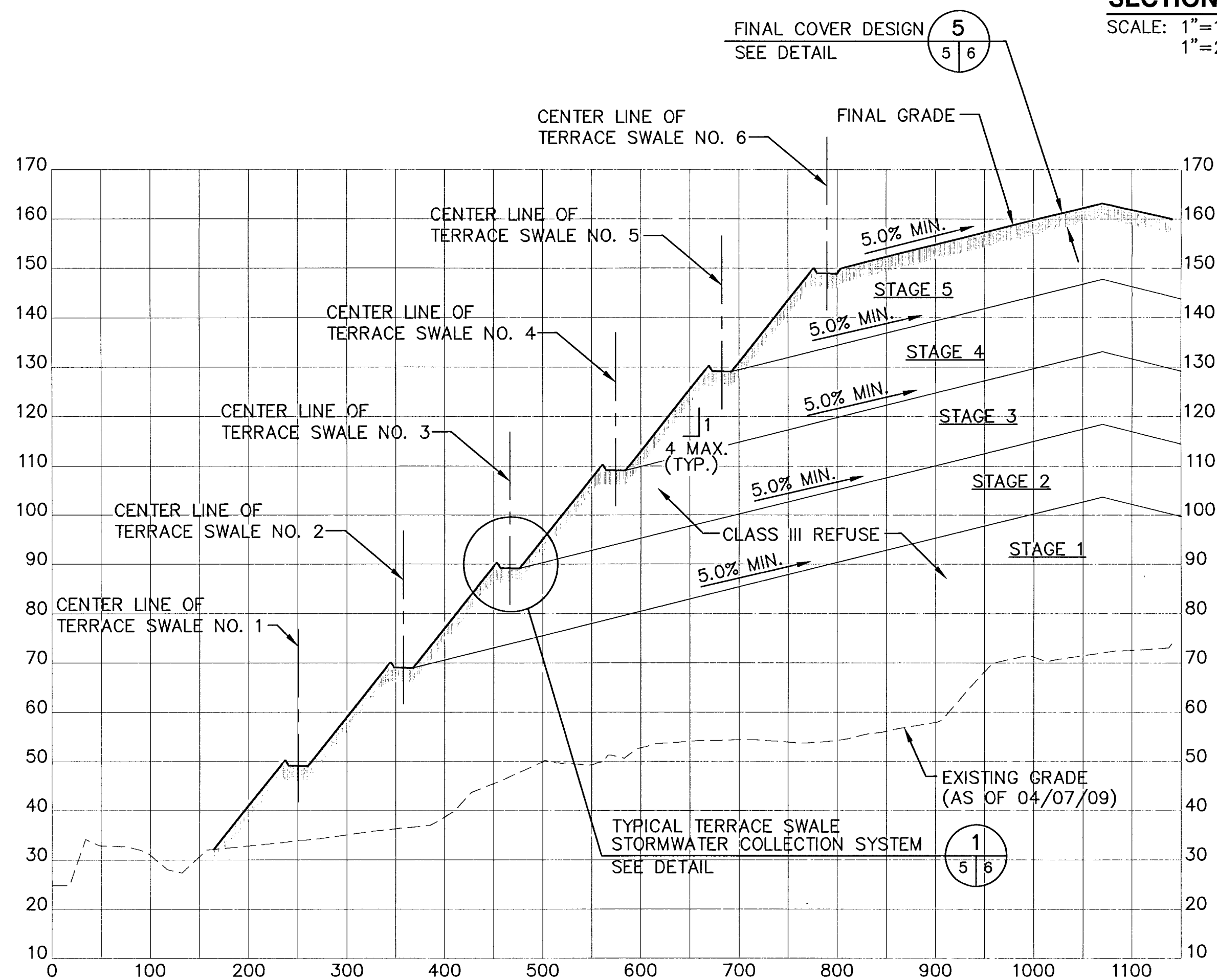
- LEGEND**
- 30 --- EXISTING ELEVATIONAL CONTOUR (10 FOOT INTERVAL) - 04/07/09 SURVEY
  - 26.8 --- EXISTING ELEVATIONAL CONTOUR (2 FOOT INTERVAL) - 04/07/09 SURVEY
  - 26.8 --- EXISTING SPOT ELEVATION - 04/07/09 SURVEY
  - 45 --- FINAL CLOSURE ELEVATIONAL CONTOUR (5 FOOT INTERVALS)
  - 133.0 --- FINAL CLOSURE ELEVATIONAL CONTOUR (1 FOOT INTERVALS)
  - X 133.0 FINAL CLOSURE SPOT ELEVATION
  - --- APPROXIMATE LIMITS OF CONSTRUCTION
  - --- HDPE STORMWATER DRAINAGE PIPE
  - 18" DIAMETER STORMWATER DRAINAGE INLET
  - ⊙ 24" DIAMETER STORMWATER DRAINAGE INLET
  - SB-1 (100 FT.) SOIL BORING LOCATION AND DEPTH

|                         |  |  |  |  |  |   |  |
|-------------------------|--|--|--|--|--|---|--|
| BY                      |  | DESCRIPTION  |  | DATE   |  | REV   |  |
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| FINAL CLOSURE SITE PLAN |  | TOMOKA FARMS ROAD LANDFILL CLASS III CELL OPERATION PERMIT RENEWAL |  | VOLUSIA COUNTY DEPARTMENT OF PUBLIC WORKS SOLID WASTE DIVISION DELAND, FLORIDA |  | STEARN, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD, SUITE 100, TAMPA, FL 33610 813 821 4080 FAX 813 823 6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004882 |  |
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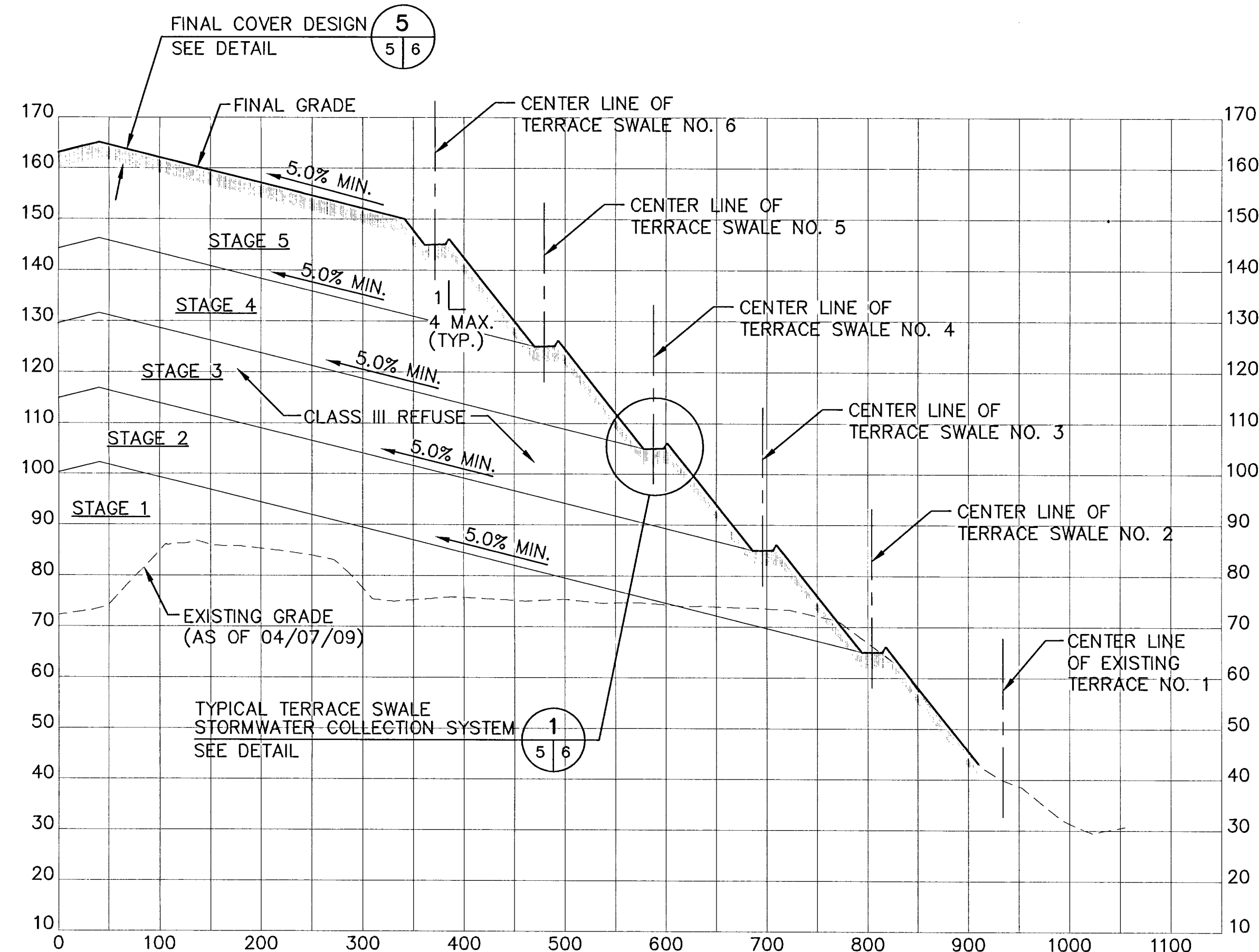




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1"=20' VERT.



**SECTION B**  
SCALE: 1"=100' HORIZ.  
1"=20' VERT.



**SECTION C**  
SCALE: 1"=100' HORIZ.  
1"=20' VERT.

BY: [Signature]  
DATE: 2/3/09  
LEE A. POWELL, P.E.  
LICENSE NO. 35992

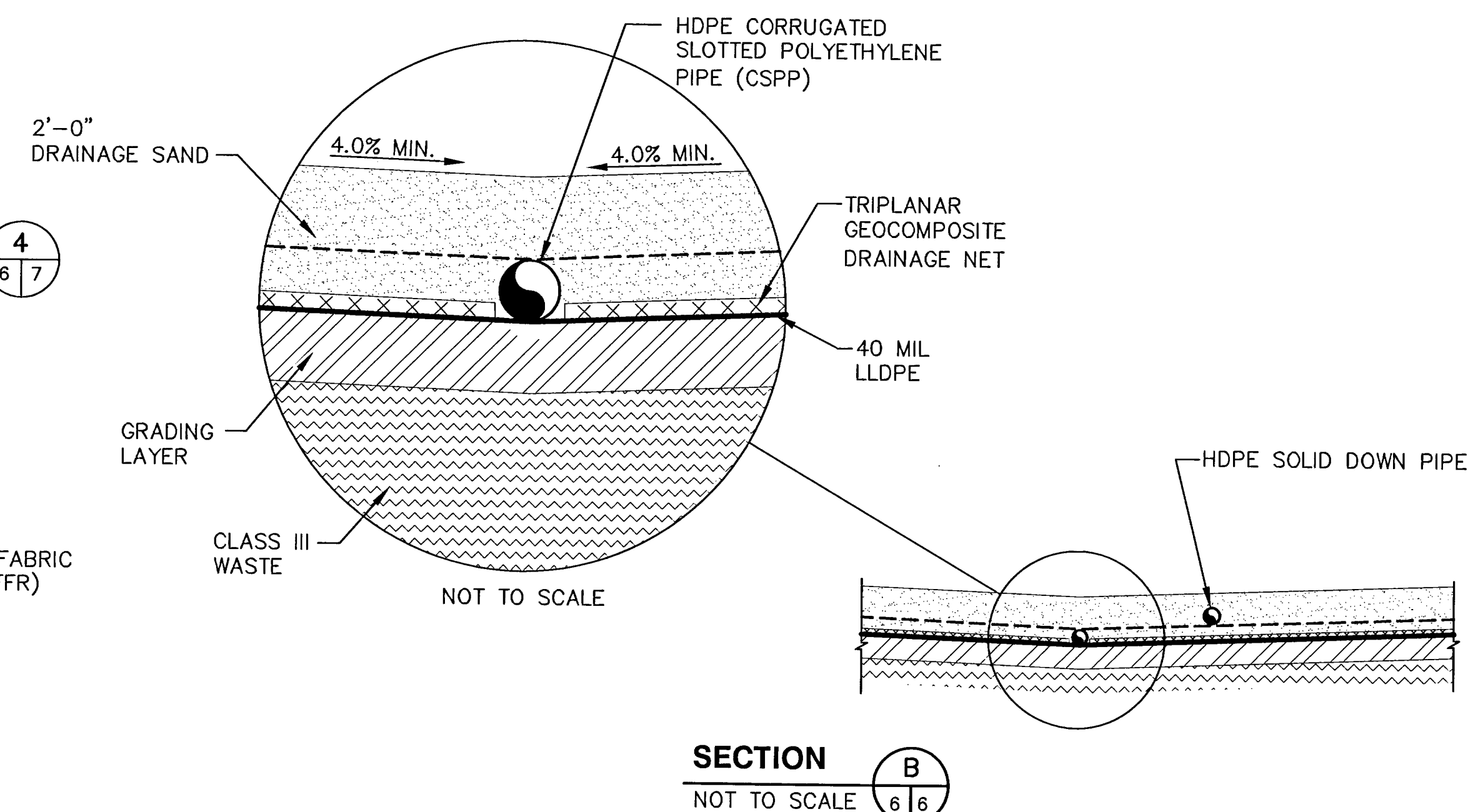
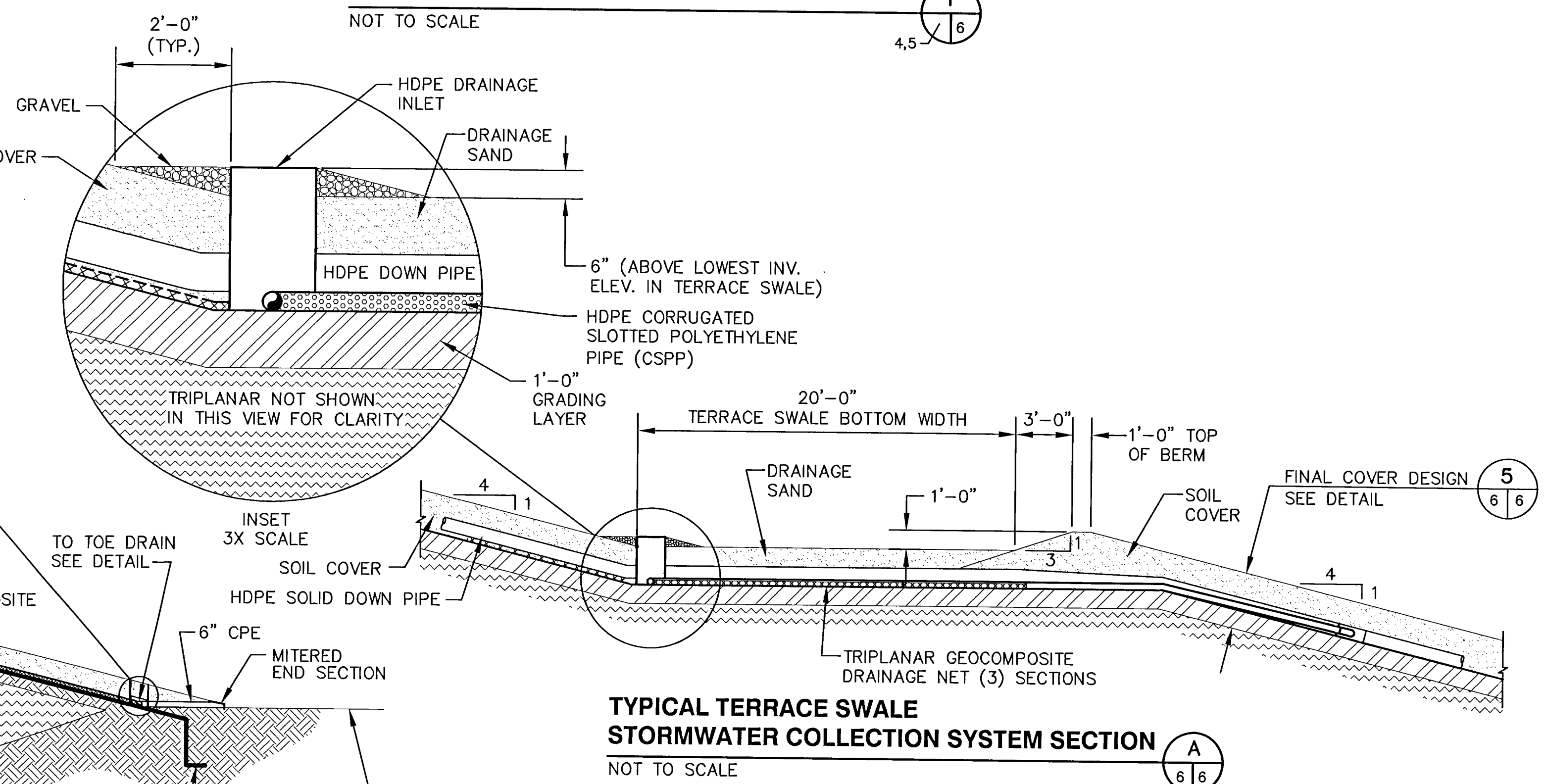
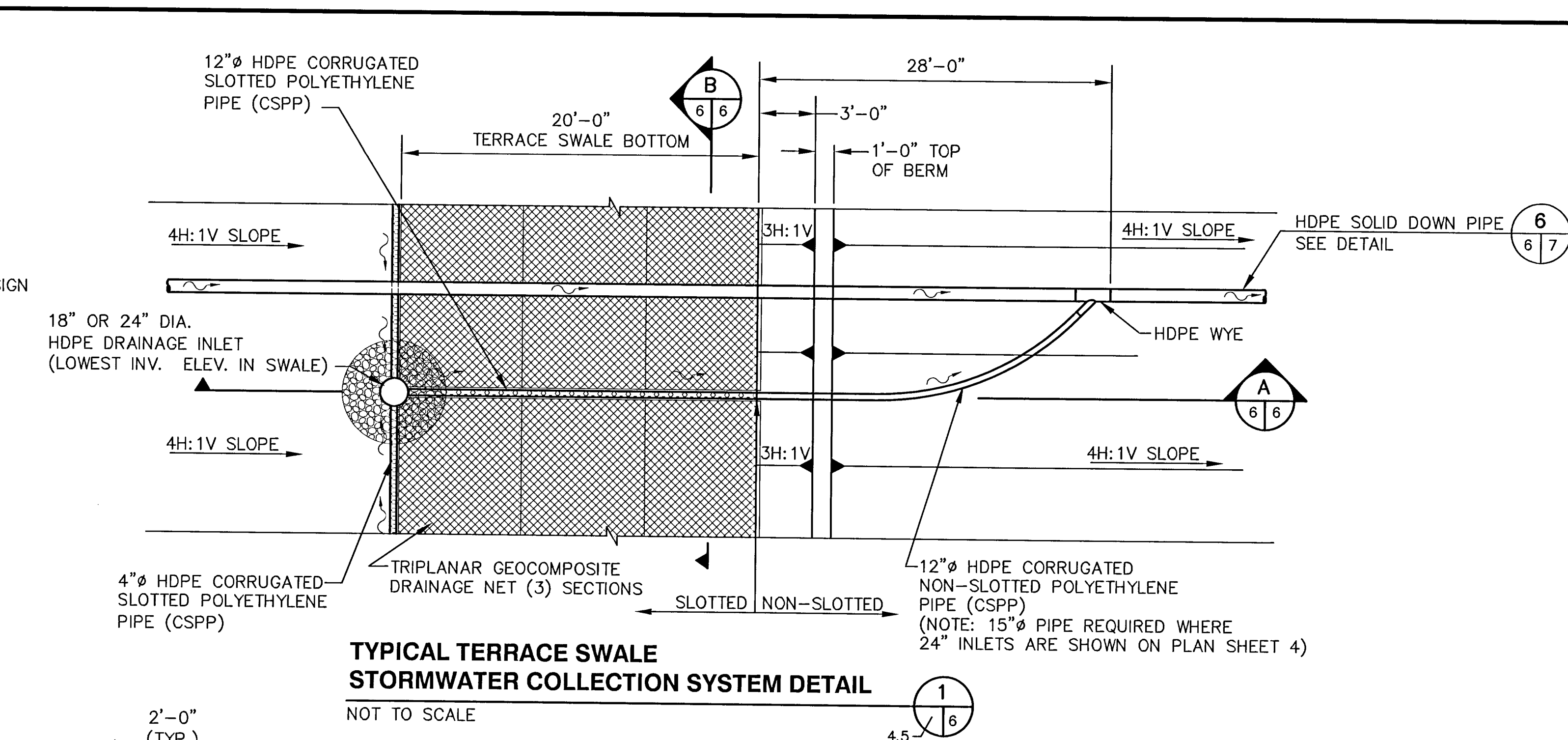
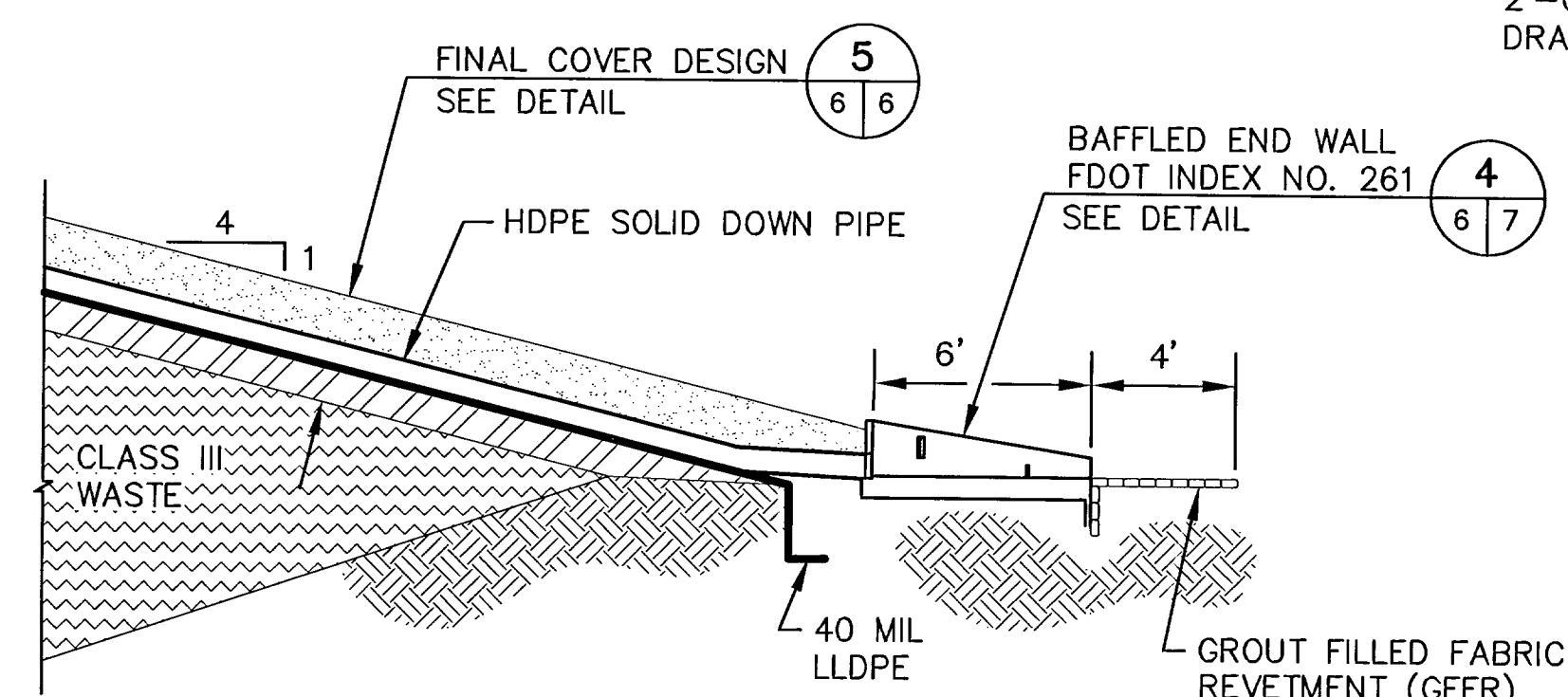
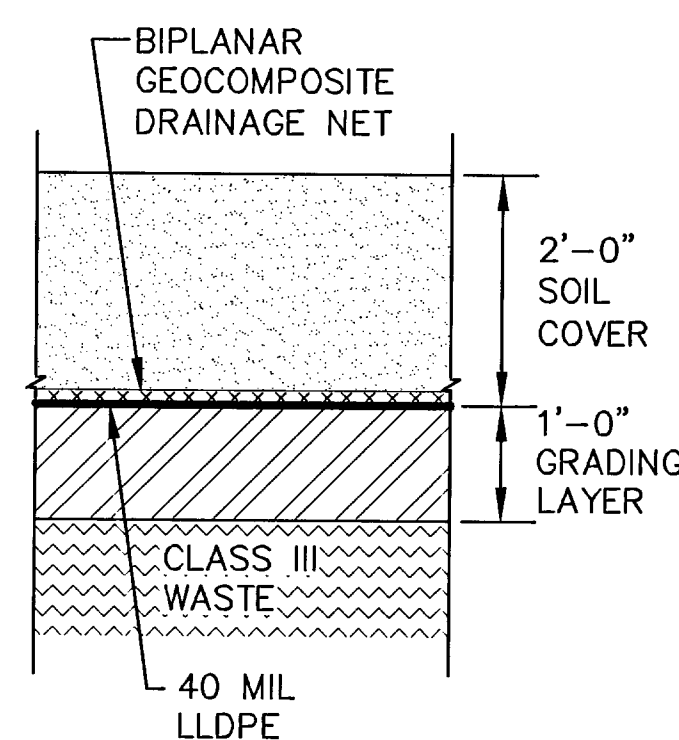
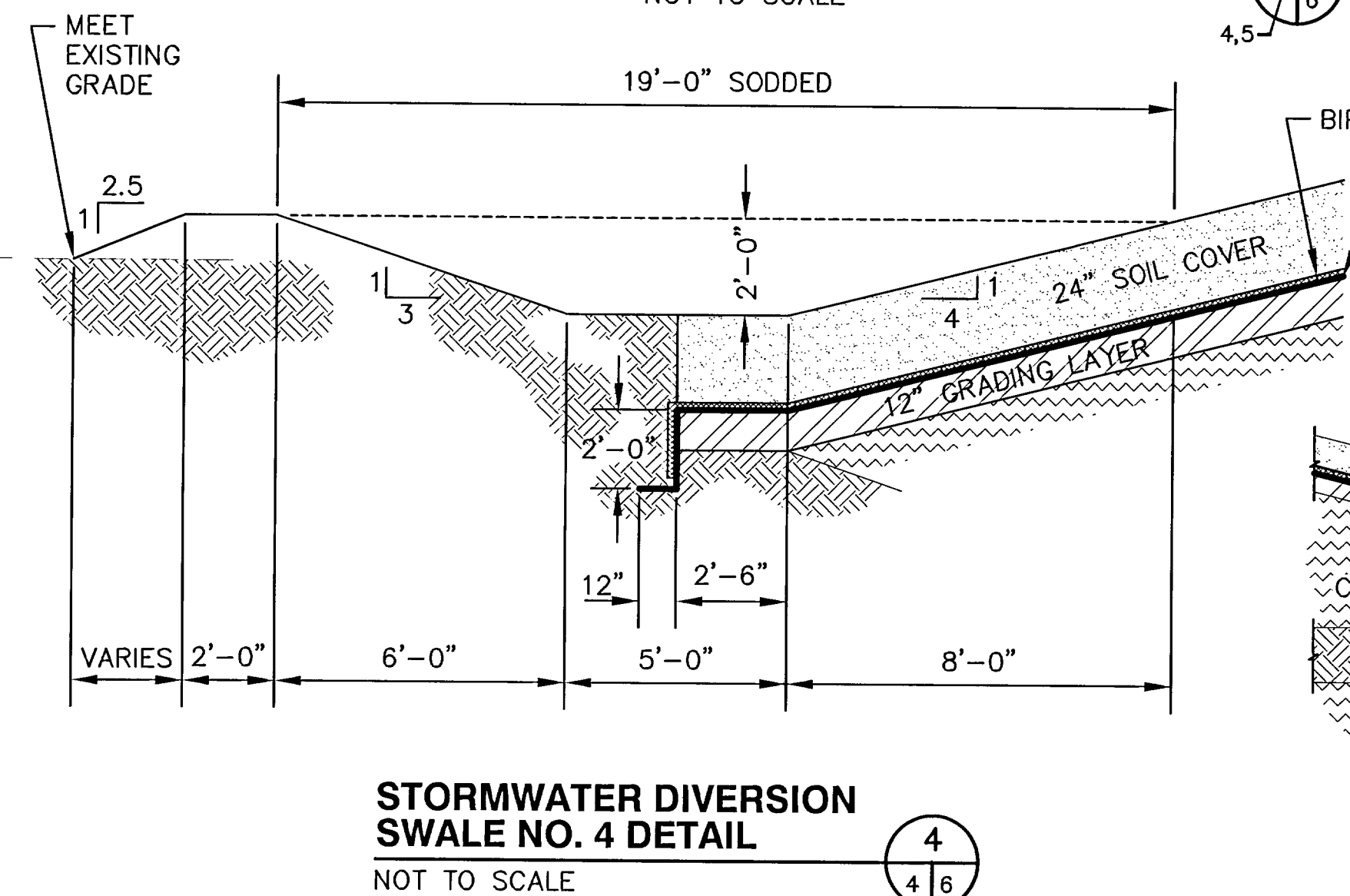
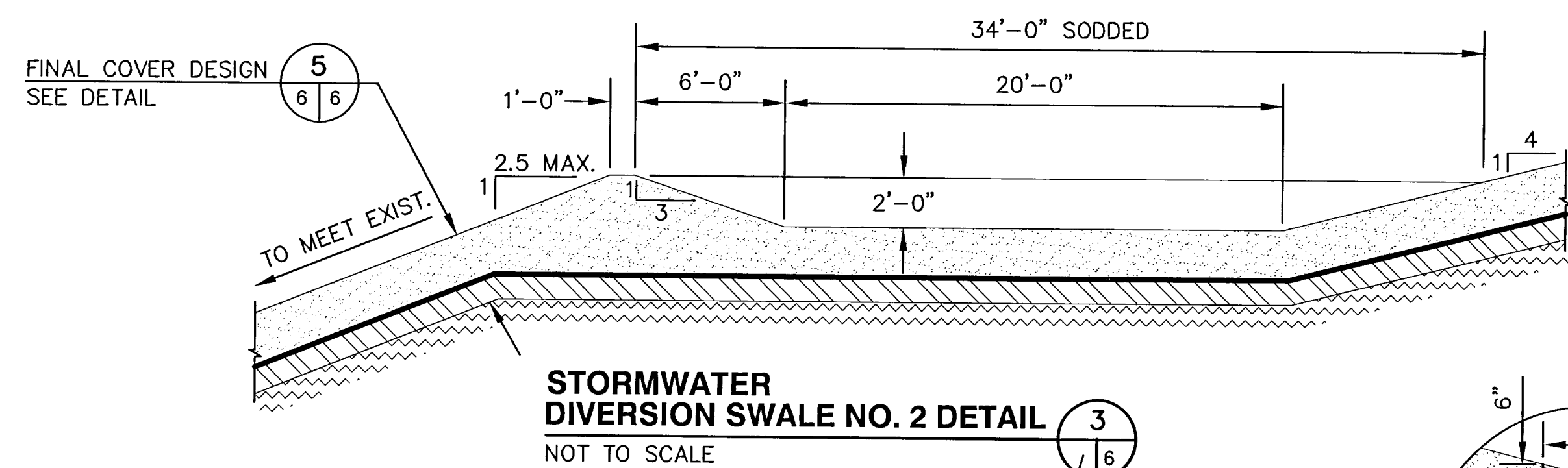
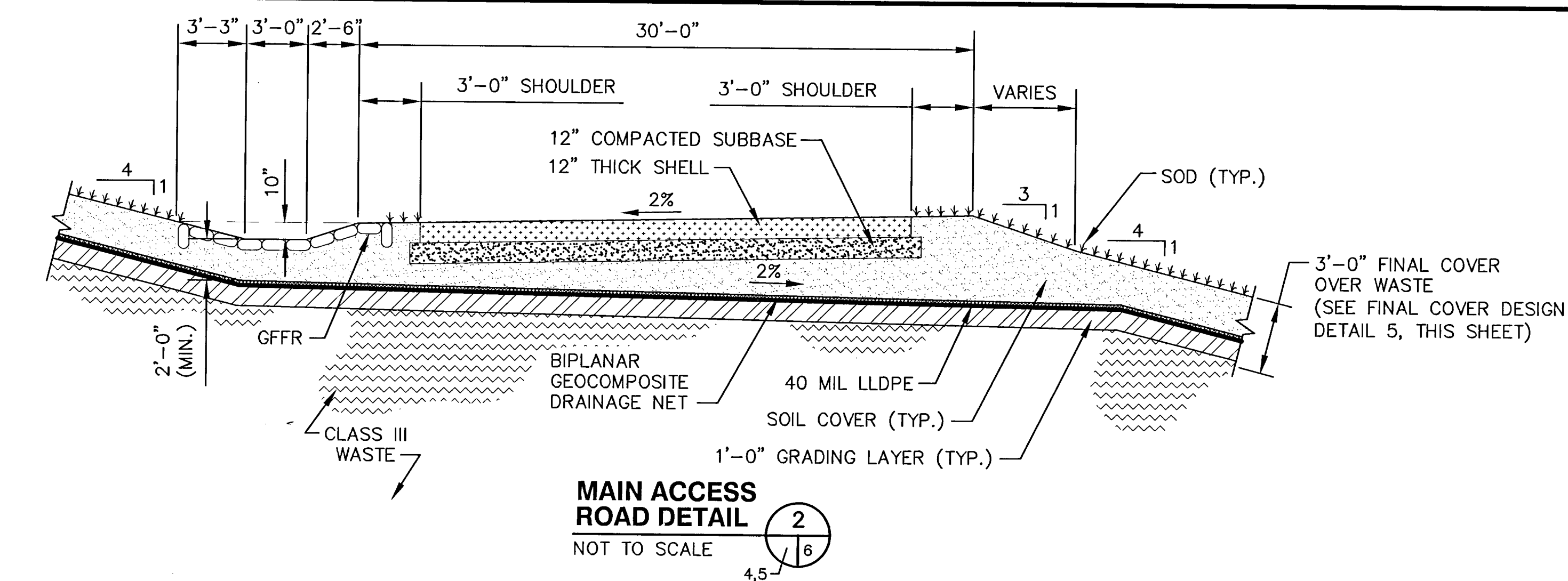
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**SECTIONS**  
DRAWING TITLE  
PROJECT TITLE  
TOMOKA FARMS ROAD LANDFILL  
CLASS III CELL  
OPERATION PERMIT RENEWAL

CLIENT  
VOLUSIA COUNTY  
DEPARTMENT OF PUBLIC WORKS  
SOLID WASTE DIVISION  
DELAND, FLORIDA

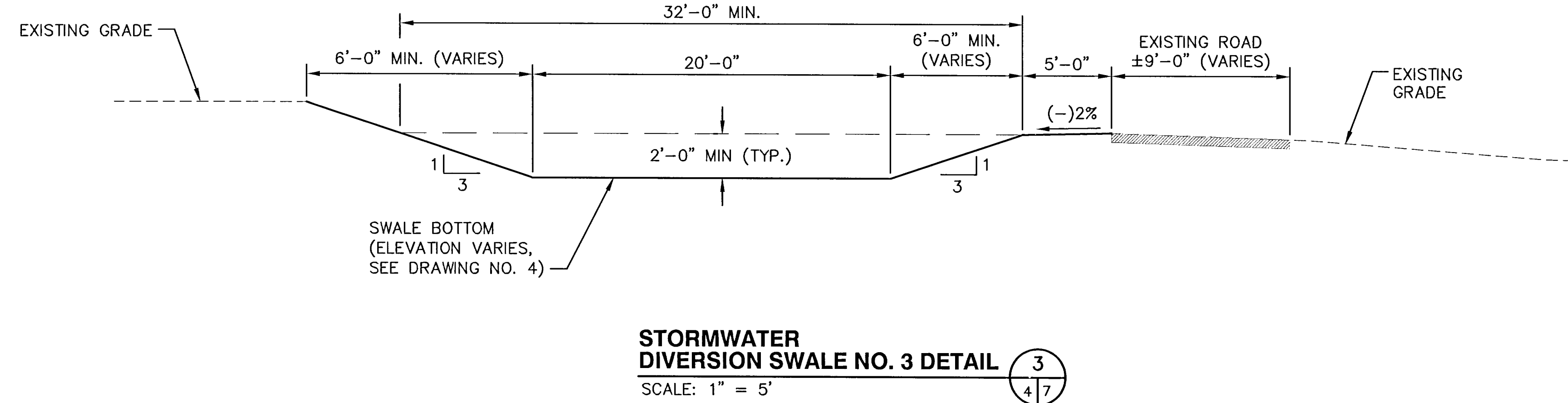
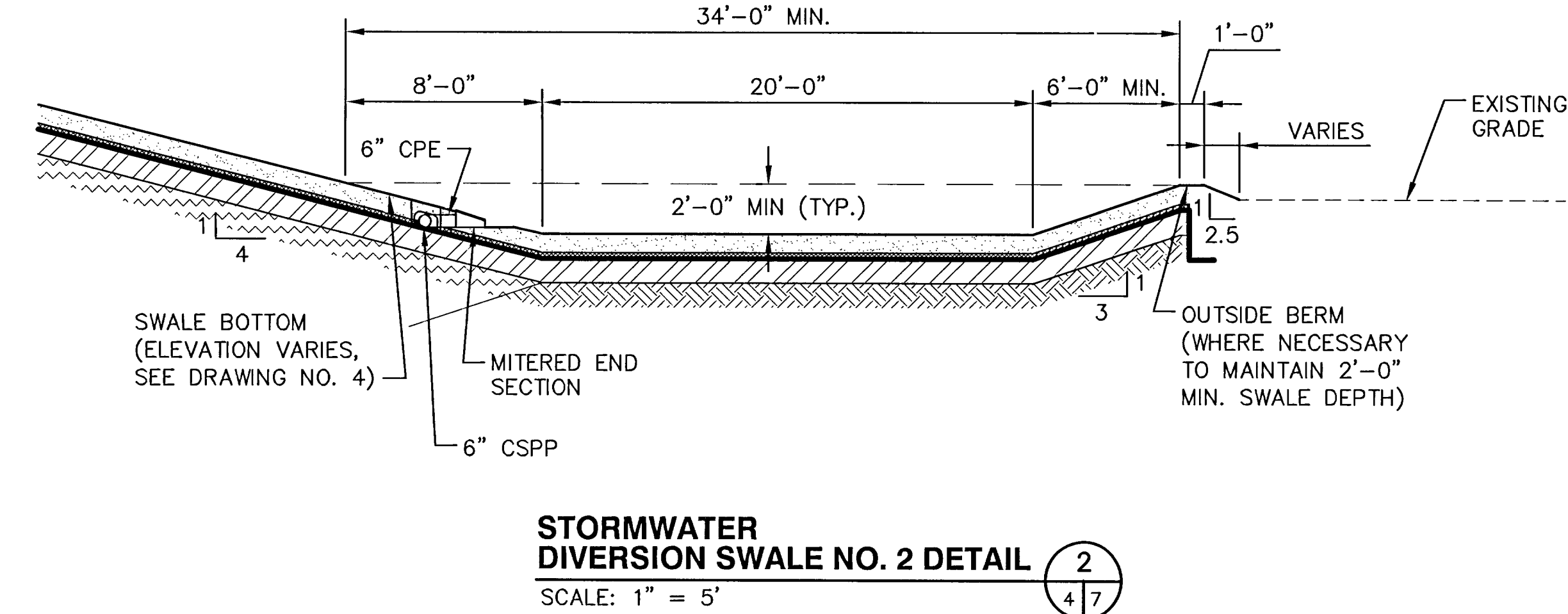
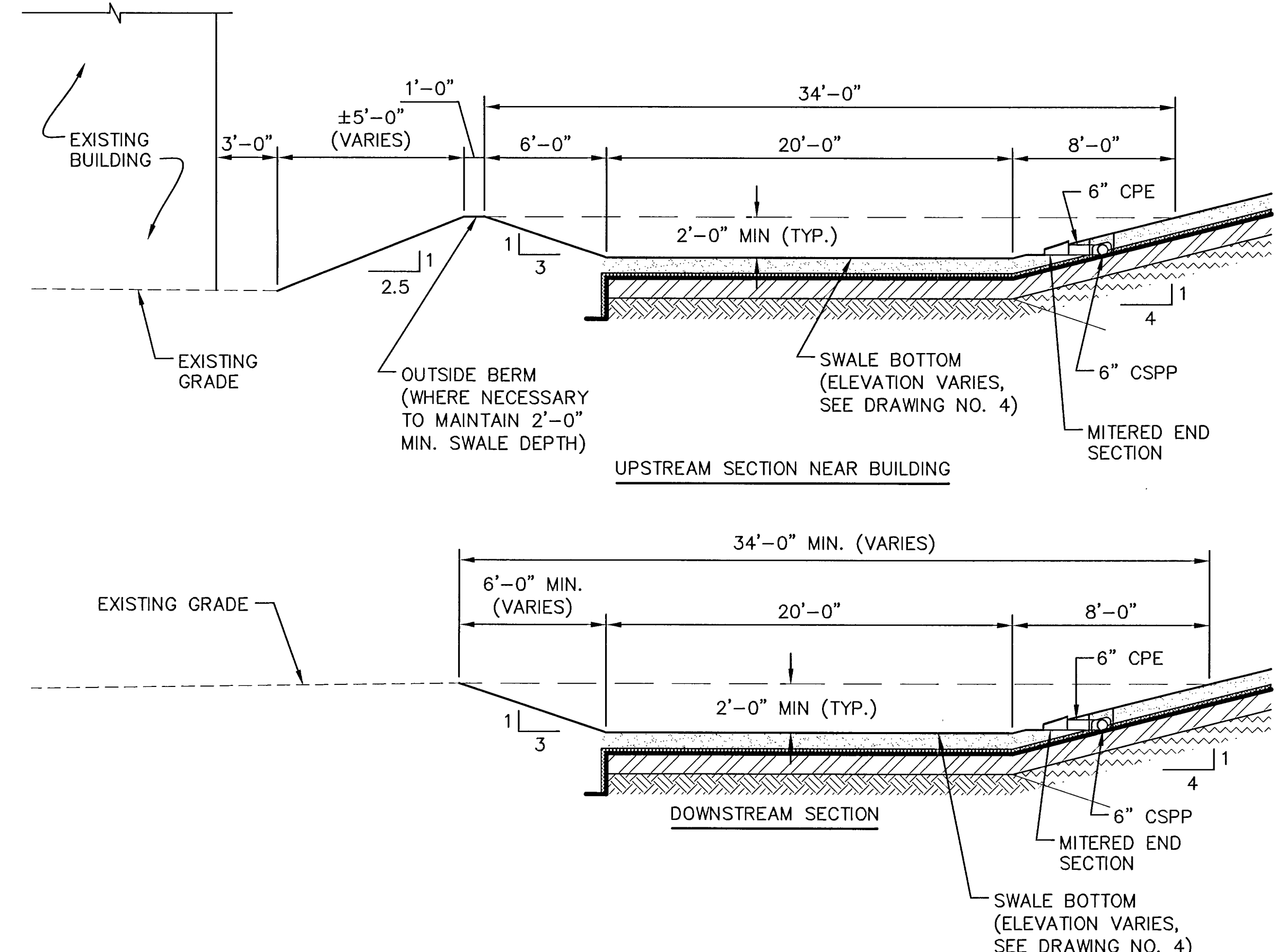
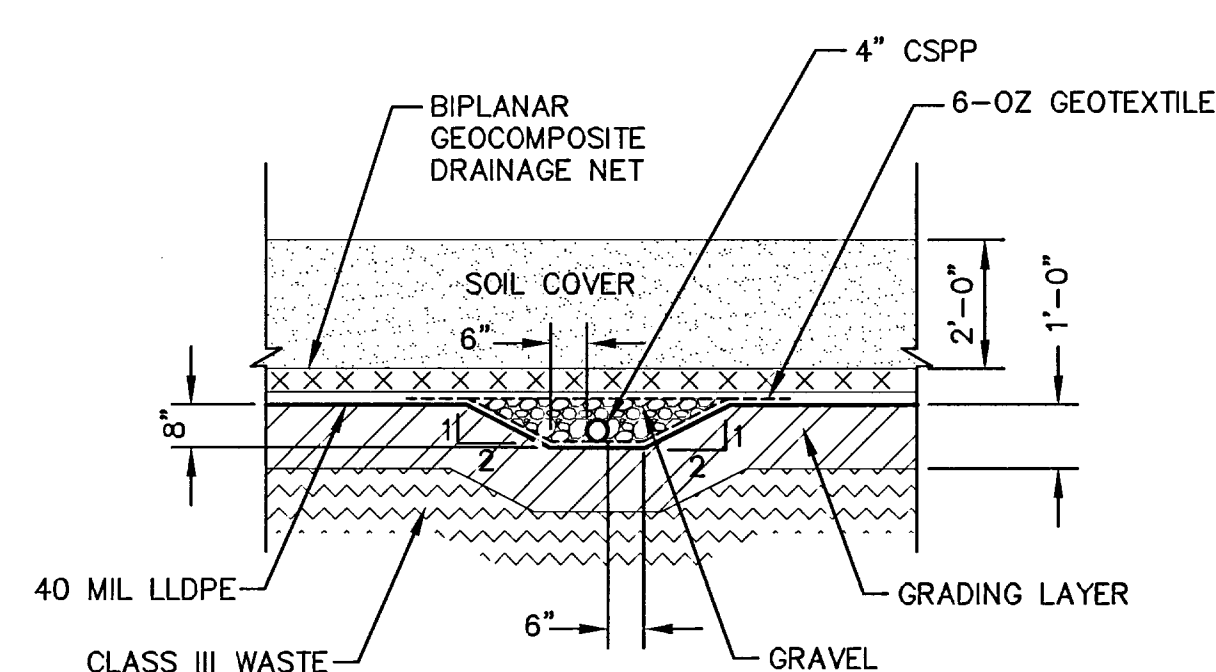
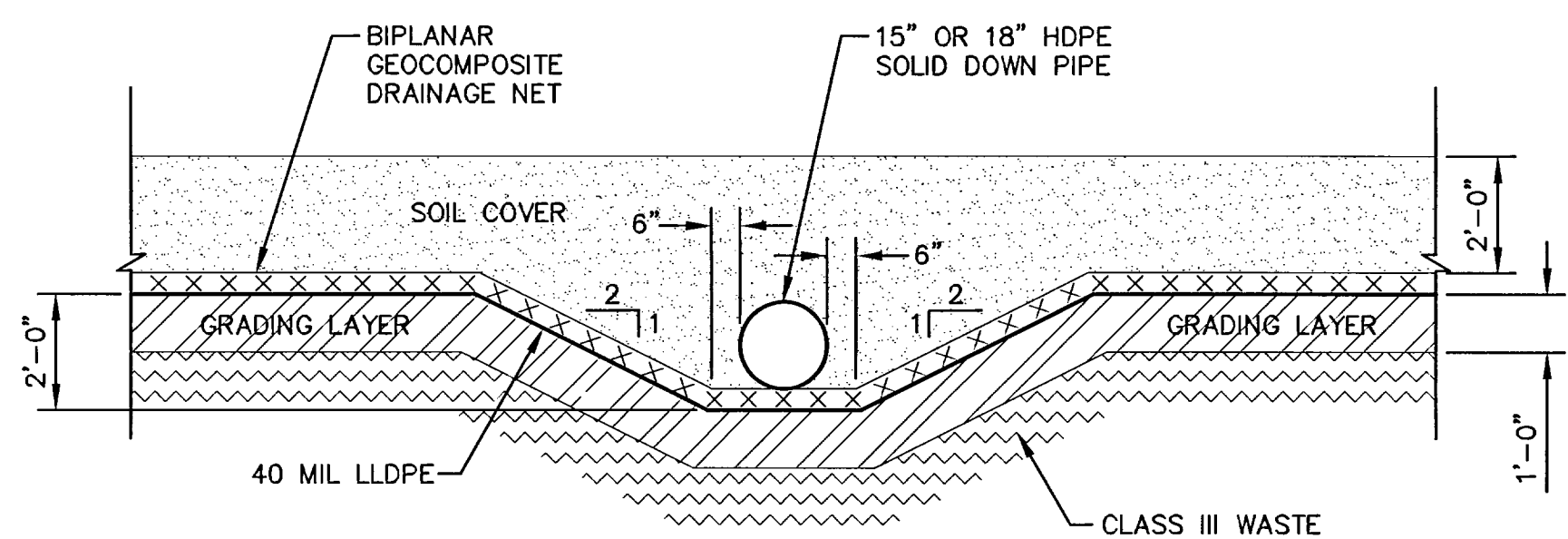
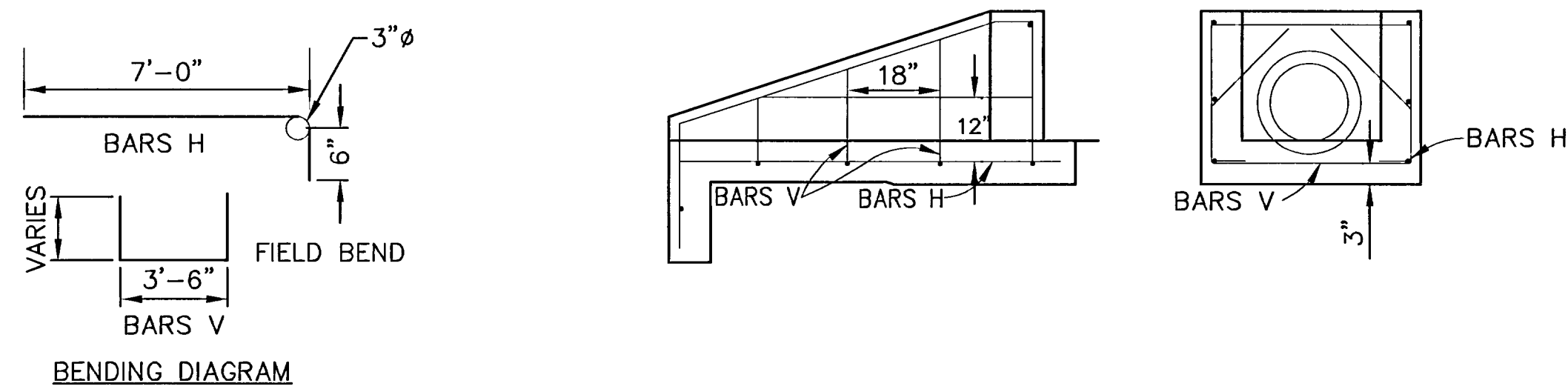
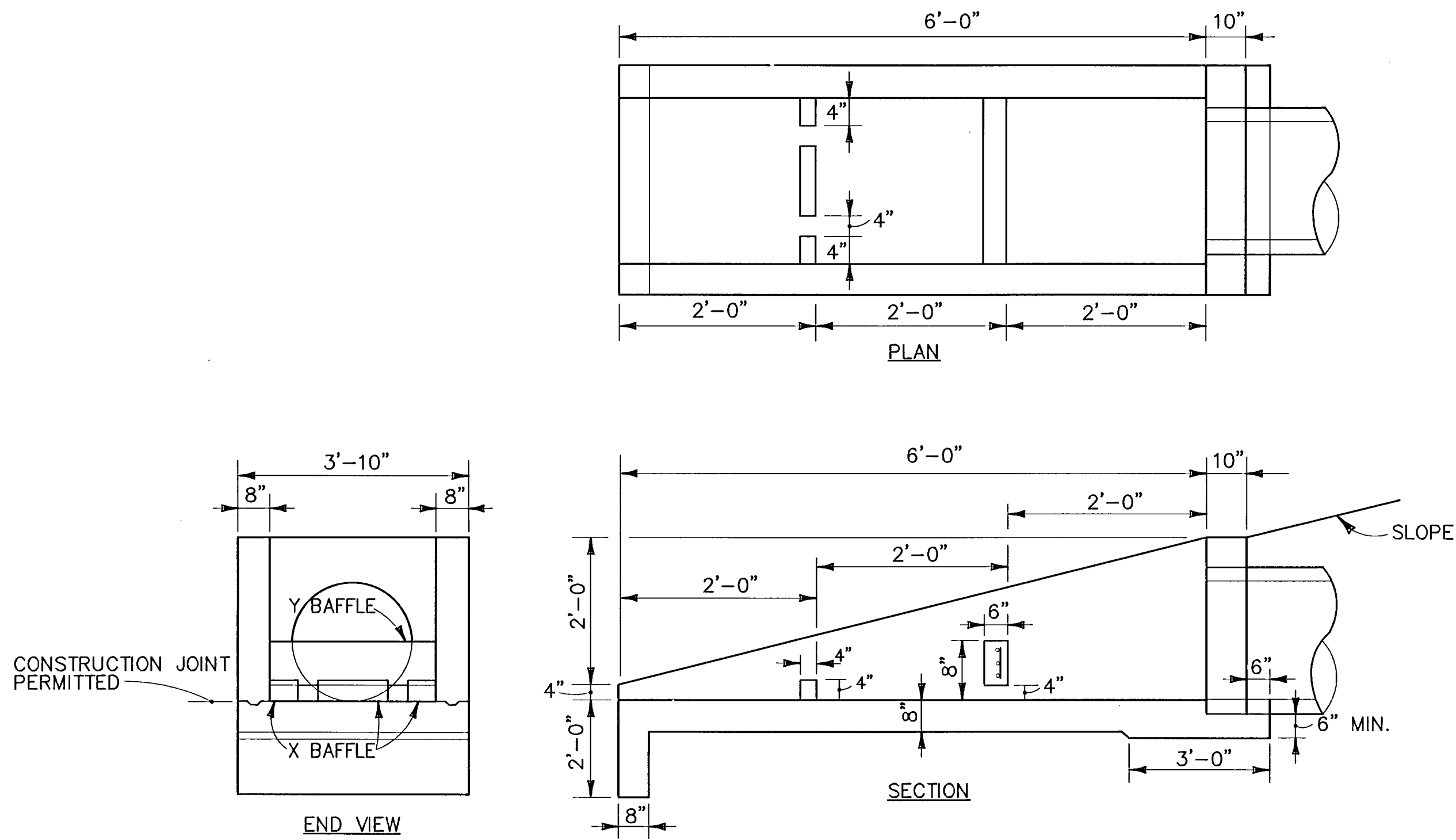
**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610  
813 821-0080 FAX 813 823-8757  
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004882  
PROJ. NO. 080707  
DATE: 09/28/07  
DRAWN BY: SDA  
CHECKED BY: LAP  
APP. BY: RJD

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JUNE 2009  
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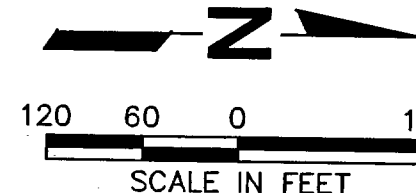
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|  | CADD FILE:<br>0807070DTEL1  |  | PROJECT TITLE<br><b>TOMOKA FARMS ROAD LANDFILL</b><br><b>CLASS III CELL</b><br><b>OPERATION PERMIT RENEWAL</b> |  |                                  |
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| <div>SCS ENGINEERS</div> <div>STEARNS, CONRAD AND SCHMIDT</div> <div>CONSULTING ENGINEERS</div> <div>401 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610</div> <div>813 871-0080 FAX 813 633-6757</div> <div>FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892</div> <div>PROJ. NO. 080707.07</div> <div>DATE: 06/01/09</div> <div>BY: JCH</div> <div>CHK: LAP</div> <div>APP: RJD</div> | CLIENT        |              | VOLUSIA COUNTY |       | DEPARTMENT OF PUBLIC WORKS |           | SOLID WASTE DIVISION       |        | DELAND, FLORIDA          |          |  |
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|  |               |              |                |       |                            |           |                            |        | OPERATION PERMIT RENEWAL |          |  |
|  |               |              |                |       |                            |           |                            |        |                          |          |  |
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## SECTION G

### GENERAL CRITERIA FOR LANDFILLS

General criteria for landfills, including floodplains, property boundary offsets, and screening, were addressed in Section G of the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information previously submitted.

## SECTION H

### LANDFILL CONSTRUCTION REQUIREMENTS

#### H.1 FILLING SEQUENCE

The proposed fill sequence is shown on Sheet 5 of the Project Drawings. The landfill is designed with terraces after every 20 feet of vertical rise. The County will construct the terraces and install final cover including a rolled sod vegetative cover on areas that reach final grade. During each of the five stages shown on Sheet 5, the top portion of the cell will be constructed to a slope of 5 percent to promote drainage. Operational phasing may require that lifts be placed in multiple stages prior to completing any single stage.

The access road to the Class III cell is currently located on the western side of the cell, approximately 650 feet south of the northwest corner of the cell, as shown on Sheet 3 of the Project Drawings. The permitted final closure plan shows the future access road entering the Class III cell from the northwest corner of the cell, as shown on Sheet 5 of the construction permit application drawings dated April 2008. The final closure access road connects to an existing three-way intersection from the southeast. From the intersection, the road to the north leads to the recycling and household hazardous waste collection center, the road to the west leads to the sludge processing facility, the landfill gas processing facility, and the active Class I cell, and the road to the south leads to the scale house and the entrance to the site. The final closure plans for the North Class I Cell show the future access road to the North Cell entering the same intersection from the northwest.

To improve traffic safety, the County is relocating the proposed permanent access road to the Class III cell away from the existing intersection back to its present location, as shown on Sheet 4 of the Project Drawings.

#### H.2 BOTTOM LINER DESIGN

The bottom liner design of the Class III cell was addressed in Section H of the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information previously submitted.

On March 20, 2009, SCS submitted a certification report demonstrating, based on 31 borings, that there is a minimum of twelve inches of existing cover soil over the Class I waste in the area of the proposed Class III cell expansion. This certification was submitted in accordance with Specific Condition 39 of the expansion construction permit.

### H.3 LEACHATE COLLECTION AND REMOVAL SYSTEM

Not Applicable.

### H.4 LEACHATE RECIRCULATION

Not Applicable.

### H.5 LEACHATE SURFACE IMPOUNDMENT

Not applicable.

### H.6 GEOMEMBRANE CONSTRUCTION QUALITY ASSURANCE PLAN

A construction quality assurance (CQA) plan for constructing the LLDPE geomembrane cap was included in Attachment H-1 in the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information previously submitted.

### H.7 SOIL CONSTRUCTION QUALITY ASSURANCE PLAN

The Construction Quality Assurance Plan included in Attachment H-1 in the County's July 11, 2008 application to construct an expansion to the Class III cell addresses the soil component of the final cover system. There is no change to the information previously submitted.

### H.8 SURFACE WATER MANAGEMENT SYSTEM

The surface water management facilities for the Class III cell were addressed in Section H.8 of the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information previously submitted.

The design calculations for the surface water management system are presented in Attachment H-2 in the County's July 11, 2008 application to construct an expansion to the Class III cell.

### H.9 LANDFILL GAS CONTROL SYSTEM

At the present time, any gas generated in the underlying closed landfill or in the existing C&D or Class III landfill escapes through the cover soil and through the working face. When the final cover is constructed, passive gas vents will be constructed to allow gas to continue to vent to atmosphere.

## H.10 LANDFILL GAS RECOVERY FACILITIES

There are no landfill gas recovery facilities currently planned for the Class III area.

## H.11 CONSTRUCTION IN THE WATER TABLE

The Surficial groundwater level in the Class III area is partially controlled by the dewatering ditch adjacent to the closed South Class I Cell, which is kept at or below elevation 26.0 NGVD.

Based on the recorded water level readings in Zones 1 and 2, the seasonal high water table in the Class III area is 28.0 NGVD. The base of the Class III cell varies with a low of 31 NGVD. The Class III cell is therefore constructed above the seasonal high water table.

## SECTION I

### HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

The Hydrogeologic Investigation was discussed in Section I in the County's July 11, 2008 application to construct an expansion to the Class III cell.

Rule 62-701.510(9)(b) requires that:

*A technical report, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department every two years, and shall be updated at the time of permit renewal.*

The most recent biennial report, dated February 3, 2009, was submitted on 2009. There has been no water quality monitoring since the completion of this report and the February 3 report qualifies as the update submitted at the time of permit renewal.

## SECTION J

### GEOTECHNICAL INVESTIGATION REQUIREMENTS

The geotechnical investigation was discussed in Section J in the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information presented in the report.



## SECTION K

### VERTICAL EXPANSION OF LANDFILLS

Construction of the Class III cell on top of the closed Class I cell is discussed in Section K in the County's July 11, 2008 application to construct an expansion to the Class III cell. There is no change to the information previously submitted.

## SECTION L

### LANDFILL OPERATION REQUIREMENTS

#### L.1 LANDFILL OPERATIONS STAFF

The County always has at least one trained operator on the site when the Class III cell is open. Staffing is discussed in the Operation Plan, submitted to the FDEP with the application for a minor modification of the Class I permit on August 8, 2008, and modified in response to RAI #1 dated September 4, 2008, and in response to RAI #2 dated October 29, 2008.

#### L.2 LANDFILL OPERATION PLAN

The Operation Plan for the proposed landfill including the Class III facility was submitted to the FDEP with the application for a minor modification of the Class I permit on August 8, 2008, and modified in response to RAI #1 dated September 4, 2008, and in response to RAI #2 dated October 29, 2008. No change to this plan is proposed.

#### L.3 LANDFILL OPERATION RECORDS

Operation records, including records, reports, analytical results, demonstrations, and notifications required by this Rule 62-701 FAC; construction, operation, and closure permits, including modifications to those permits, along with copies of the permit application and drawings, and the training records required by Rule 62-701.320(15), FAC, are kept at the landfill site in the administration building in the office of the Environmental Specialist. These documents are available for inspection during normal operating hours by FDEP personnel.

#### L.4 MONTHLY RECORDS

The County will compile waste records on the quantity and type of waste received at the site monthly and submit them to the FDEP on a quarterly basis, in accordance with Specific Condition No. 31 of the existing operation permit

#### L.5 ACCESS CONTROL AND SITE SECURITY

The overall Tomoka Farms Road Landfill site is surrounded by a security fence.

## L.6 LOAD CHECKING

In addition to providing a spotter at the working face, County personnel perform three random load checks per week on vehicles delivering material to the Class III cell. Load checking is described in Section 6 of the Operation Plan previously submitted.

## L.7 SPREADING AND COMPACTING WASTE

Site operations are described in the Operation Plan previously submitted.

## L.8 LEACHATE MANAGEMENT

There is no leachate collection system at the Class III cell.

## L.9 GAS MONITORING

The County monitors for landfill gas on a quarterly basis in accordance with Specific Condition No. 23 of the existing operation permit.

## L.10 STORMWATER MANAGEMENT SYSTEM OPERATION

The permitted stormwater system consists of vegetated sideslopes, terraces, sand filter trenches, and downpipes. It will be necessary to keep the surface of the sand filter trench clear of silt and debris that would interfere with percolation through the sand. The downpipes may need to be flushed out if they become blocked with debris or animal nests.

## L.11 EQUIPMENT AND OPERATION REQUIREMENTS

The County has adequate equipment to operate the Class III cell. At the present time, operational equipment at the landfill includes the following:

- One – Cat 836H Compactor
- One - Cat 836GII Compactor
- One - Cat 826GII Compactor
- Two - Cat D6R II Dozers
- One - Cat D6R II - 6-way blade Dozer
- One - Cat D6XW - C-frame Dozer
- One - Cat D6N - 6-way blade Dozer
- One - Cat D8T WH Dozer
- One - Cat D7R II Dozer
- Six - Cat 725 End-Dump Trucks
- One - Cat 725 5000 gal. Water Wagon

- Two - Cat 966H Front Loaders
- One - Cat 966G Front Loader
- One - Cat 330 CL Excavator
- One - LinkBelt 300L Excavator
- One - Cat 12H Motor Grader

The Tomoka Farms Road Landfill has additional equipment available through other County agencies and from private contractors. Telephones are available at the scale house, the administration building, and at the maintenance building. The site foremen have portable radios. This allows for good communication from the working face to the administration building. The spotters also have radios at the working face. Personnel and sanitary facilities are available at the maintenance building and at the administration building.

### L.12 ON-SITE ROADS

The access road is paved from Tomoka Farms Road to the entrance to the Class III cell. The paved road also serves the Class I cell, the recycling facility, and the household hazardous waste facility, and the sludge processing facility. The County maintains all-weather access roads from the entrance to the Class III cell to the working face, as well as to the monitor wells, borrow areas, and other on-site facilities.

### L.13 ADDITIONAL RECORD KEEPING

The additional records described in 62-701.500(13), FAC are kept at the administration building and are available for FDEP review. Records of monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all records required by the permit are kept for at least ten years. Background water quality records and records pertaining to the operation of the landfill are kept for the active life of the landfill. An estimate of the remaining life of the facility is prepared annually and is submitted to the FDEP.

*Records which are more than five years old may be archived, provided that the landfill operator can retrieve them for inspection within seven days. At the present time, all records are kept at the administration building.*

## SECTION M

WATER QUALITY AND LEACHATE MONITORING  
REQUIREMENTS

The County monitors ground and surface water in accordance with the groundwater monitoring plan included as Exhibit I in the existing operation permit for the Class I landfill. No changes to this plan are proposed at this time.

## SECTION N

### SPECIAL WASTE HANDLING REQUIREMENTS

#### N.1 MOTOR VEHICLES

Motor vehicle bodies are not accepted for disposal in the Class III cell.

#### N.2 SHREDDED WASTE

Shredded tires or shredder fluff is not accepted in the Class III cell.

#### N.3 ASBESTOS

Asbestos waste is disposed of in the Class III cell in accordance with 40 CFR Part 61.154. Friable asbestos waste must be wetted and enclosed in a double plastic bag. The waste must be accompanied by a manifest providing the name and contact information of the generator and shipper and the quantity of waste. The County must receive 24 hours advanced notice of the shipment. Landfill personnel bury the bagged asbestos waste in a separate pit at the Class III cell.

#### N.4 CONTAMINATED SOIL

Contaminated soils are not accepted for disposal in the Class III cell.

#### N.5 BIOLOGICAL WASTE

Biological waste as defined by Rule 62-701.200(9) is not accepted for disposal in the Class III cell.

## SECTION O

### GAS MANAGEMENT SYSTEM REQUIREMENTS

#### O.1 GAS MANAGEMENT SYSTEMS

There is no gas collection system in the Class III cell. Class III waste includes yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, and furniture. These materials do not produce landfill gas at as high a rate or in as great a quantity as Class I wastes. During the active life of the Class III cell, gas generated in the buried waste will be allowed to vent to atmosphere through the soil cover. The existing landfill gas monitoring program has documented that concentrations of combustible gasses do not exceed 25 percent of the lower explosive limit (LEL) in structures or 100 percent of the LEL at the property boundary. When the final cover is constructed, the County will install passive gas vents as shown on the Project Drawings. If an active landfill gas recovery system is developed, an application for a permit modification will be submitted to the FDEP.

#### O.2 GAS MONITORING

The Tomoka Farms Road Landfill has a gas monitoring plan that includes the Class III cell. Soil probes are monitored on a quarterly basis for the presence of landfill gas. This gas monitoring plan was submitted to the FDEP on May 18, 2001 and received by the FDEP on May 29, 2001. No changes to this plan are proposed.

#### O.3 GAS REMEDIATION PLAN

If gas or odor becomes a problem in the Class III cell, specific remediation measures will be undertaken.

#### O.4 LANDFILL GAS RECOVERY

There is no gas recovery system in the Class III cell.

## SECTION P

### FINAL CLOSURE REQUIREMENTS

#### P.1 CLOSURE SCHEDULE

The County will notify the FDEP in writing at least one year prior to final receipt of waste in the Class III cell. This notice will include a schedule for completion of the required closure tasks. Users of the facility will be notified of the planned closure within 120 days of final receipt of wastes, and the general public will be notified of the planned closure within 10 days of final receipt of wastes.

#### P.2 CLOSURE PERMIT GENERAL REQUIREMENTS

The County understands that a closure plan must be submitted to the FDEP at least 90 days prior to the date when waste will no longer be accepted. This plan will include the following:

- Closure Report
- Closure Design Plan
- Closure Operation Plan
- Closure Procedures
- Plan for Long Term Care
- Proof of Financial Responsibility

Within 30 days of closing the Class III cell, the County will submit a certification of closure construction completion. A final survey will also be performed and a survey report will be submitted to the FDEP showing the final contours and grades.

Proposed final contours and details are shown on the Project Drawings. The proposed final cover, from bottom to top, consists of 12 inches of soil cover, a 40-mil, Linear Low Density Polyethylene (LLDPE) geomembrane, 18 inches of soil, six inches of soil capable of supporting vegetative growth, and a rolled sod vegetative cover. The final cover for the thirty acres above elevation 110 includes a biplanar geocomposite drainage layer immediately above the geomembrane. The County has been constructing the final soil cover on the existing Class III cell using landfill personnel and equipment as areas of the site reach the proposed final grade. Rolled sod has been used to provide the vegetative cover. The County intends to continue constructing the final cover as a part of on-going landfill operation in the manner described above.



### P.3 CLOSURE REPORT

A closure report will be submitted to the FDEP at least 90 days prior to final receipt of waste. The closure report will address the following:

- General information on the Class III cell
- Geotechnical investigation report
- Water quality monitoring plan
- Land use information
- Gas migration report
- Landfill design and operation effectiveness report

### P.4 CLOSURE DESIGN

A detailed closure design plan will be submitted to the FDEP at least 90 days prior to final receipt of waste.

#### P.4.a Phases of Site Closing

The County intends to construct the terrace drainage system and final cover in phases as each terrace level is completed. After the last terrace is completed the final phase to be closed will be the top area above the upper terrace.

#### P.4.b Existing Topography and Proposed Final Grades

Sheet 3 of the Project Drawings shows the existing topography of the Class III cell area as of April 7, 2009. The proposed final grades are shown on Sheet 4 of the Project Drawings.

#### P.4.c Provision to Close Units When They Reach Approved Final Dimensions

The County intends to construct terraces and final cover over areas that have reached the permitted final grade.

#### P.4.d Final Elevations

Final elevations before settlement are shown on Sheet 4 of the Project Drawings.

**P.4.e Side Slope Design**

The Class III cell is designed with side slopes of four horizontal to one vertical, with 20-foot wide terraces after every 20 feet of vertical rise. Surface runoff is collected on the terraces and directed to the toe of slope through downpipes, as shown on the Project Drawings. Energy dissipation at the toe of slope is provided by concrete energy dissipation structures, as shown on the Project Drawings.

**P.4.f Final Cover Installation**

A Construction Quality Assurance (CQA) Plan for installation of the final cover was included as Attachment H-1 in the July 11, 2008 permit application. The final cover will be installed within 180 days after an area reaches final grade. Rolled Bahia sod will be used for vegetative final cover. The top gradient is designed to slope at 4 to 5 percent grade to promote runoff. Soil will be stockpiled on site to provide material for cover maintenance after closure construction is complete.

**P.4.g Final Cover Design**

Proposed final contours and details are shown on the Project Drawings. The proposed final cover, from bottom to top, consists of 12 inches of soil cover, a 40-mil LLDPE geomembrane, a geocomposite drainage layer, 18 inches of soil, six inches of soil capable of supporting vegetative growth, and a rolled sod vegetative cover constructed at a slope of four horizontal to one vertical. This cover design has proven to be stable at other closed landfills. The site will be graded to promote drainage, minimize erosion, and prevent ponding.

**P.4.h Proposed Method of Stormwater Control**

Runoff from the Class III disposal cell is collected and treated on terraces and ultimately discharged to the wetland area east of the landfill by way of swales and ditches located along the perimeter of the cell. On the side slopes, terraces are constructed after every 20 feet of vertical rise. Each terrace receives runoff from the side slope area immediately above the terrace. The terrace has a 20-foot wide sand filter underlain by a triplanar geocomposite drainage net. The terrace drains at a four per cent slope toward downpipes located every 200 feet along the side slope. Surface runoff from the side slope percolates through the sand filter to the drainage net, drains to the downpipe, and is discharged on the perimeter of the landfill.

The upper portion of the landfill above the upper terrace drains at a five percent slope toward the upper terrace. This final cover has a biplanar geocomposite drainage net on top of the geomembrane cover. The purpose of the geonet is to keep the two feet of cover soil from becoming saturated. With the geonet under the two feet of soil cover, most precipitation percolates into the cover soil and drains through the geonet to the upper terrace, minimizing runoff from this area.

The design calculations for the surface water management system were presented in Attachment H-2 in the July 11, 2008 permit application.

#### **P.4.i Proposed Method of Access Control**

The Class III cell is part of the overall Tomoka Farms Road Landfill facility. This facility is fenced to prevent unauthorized access. The site will be used for active solid waste processing and disposal for the foreseeable future, so County staff will be on-site to control unauthorized entry and use of the facility.

#### **P.4.j Proposed Final Use**

The Class III cell is part of the overall Tomoka Farms Road Landfill facility. The County intends to use the facility for solid waste processing and disposal for the foreseeable future. The County has no plans for active development of the Class III cell area after the overall facility is closed. Possible end uses include conservation and passive recreation uses.

#### **P.4.k Gas Management System**

The Class III gas management plan is described in Section O.

### **P.5 CLOSURE OPERATION PLAN**

A closure operation plan will be submitted to the FDEP at least 90 days prior to final receipt of waste. The closure operation plan will include the following:

- Detailed description of action which will be taken to close the Class III cell;
- Time schedule for completion of closing and long term care;
- Method for demonstrating financial responsibility;
- Equipment and personnel needed to complete closure;
- Development and implementation of the water quality monitoring plan; and
- Development and implementation of the gas management system.

## SECTION Q

### CLOSURE PROCEDURES

#### Q.1 SURVEY MONUMENTS

Survey monuments already exist at the Tomoka Farms Road Landfill. The final elevations of the Class III cell are more than 20 feet above the natural land surface. In accordance with Rule 62-701.610(2), FAC, additional survey monuments are not required.

#### Q.2 FINAL SURVEY REPORT

A final topographic survey will be performed after closure is complete to confirm that final contours and elevations are in accordance with the plans as approved in the closure permit.

#### Q.3 CERTIFICATION OF CLOSURE CONSTRUCTION COMPLETION

A certification of closure construction completion of the Class III cell, signed, dated, and sealed by a professional engineer will be provided to the FDEP upon completion of closure in accordance with Rule 62-701.610(4), FAC.

#### Q.4 DECLARATION TO THE PUBLIC

After all Tomoka Farms Road Landfill cells are closed and inspected and approved by the FDEP, a declaration to the public in the deed records in the office of Clerk of Volusia County, Florida will be published in accordance with Rule 62-701.610(5), FAC.

#### Q.5 OFFICIAL DATE OF CLOSING

In accordance with Rule 62-701.610(6), FAC, the FDEP will determine the official date of closing.

#### Q.6 USE OF CLOSED LANDFILL AREAS

Consultation with the FDEP is required prior to conducting activities at closed landfills in accordance with Rule 62-701.610(7), FAC.

## Q.7 RELOCATION OF WASTES

After the landfill is closed, permission from the FDEP is required to move waste from one point to another within the footprint of the waste disposal area in accordance with Rule 62-701.610(8), FAC.

## SECTION R

### LONG-TERM CARE REQUIREMENTS

#### R.1 GAS COLLECTION AND MONITORING

There is no gas collection system existing or proposed for the Class III cell. The proposed passive gas vents will be maintained and repaired if damaged during the long-term care period. If gas collection becomes necessary, it will be constructed and maintained for the long-term care period of the Class III cell. The County may request that the FDEP allow the County to abandon the gas collection system prior to the expiration of the 30-year long-term care period if the landfill has stabilized to the point where there is no significant production of combustible gases or objectionable odors. The gas monitoring system will be maintained during the long-term care period as part of the overall Tomoka Farms Road Landfill gas monitoring.

#### R.2 PROPERTY ACCESS

The County will continue to make the site available for inspection by the FDEP after closure.

#### R.3 SUCCESSORS

The County recognizes that any future property owner would be required to abide by permit and other regulatory requirements. Currently, there are no plans for selling the property.

#### R.4 MONITORING DEVICES

After closure, the County will continue to monitor and maintain the Class III cell for at least 30 years or longer if requested by the FDEP. Monitoring activities will include inspection of the side slopes and soil cover, monitoring for evidence of gas formation, and checking for unauthorized use of the site for debris disposal. Ground water monitoring will be conducted under the requirements of the closure permit. The Class III cell is part of the overall Tomoka Farms Road Landfill site which is protected by the perimeter fencing and security procedures in place at that facility.

Long-term maintenance consists of periodic inspection, repairing erosion damage to the side slopes, maintaining and re-establishing the vegetative cover, mowing, repair and replacement of groundwater monitor wells, and cleaning and maintenance of the stormwater control structures. The County will conduct these activities in conjunction with the maintenance and repair activities required at the other Tomoka Farms Road Landfill facilities.

Long-term care will be more fully described in the closure permit application, which will be submitted at least 90 days prior to final receipt of wastes.

## R.5 COMPLETION OF LONG-TERM CARE

Following completion of the long-term care period for the Class III cell, the County will notify the FDEP that a certification, signed and sealed by a professional engineer, verifying that long-term care has been completed in accordance with the closure plan has been placed in the operating record with a copy forwarded to the FDEP.

## SECTION S

### FINANCIAL RESPONSIBILITY REQUIREMENTS

#### S.1 CLOSURE COST ESTIMATE

Estimates of the probable cost of closure and long term care were presented in Section S in the County's July 11, 2008 application to construct an expansion to the Class III cell. This cost estimate was approved by the FDEP on January 21, 2009 when the FDEP issued a permit to construct the expansion to the Class II cell. A copy of this estimate is included in Attachment S-1.

The County intends to complete the required closure activities as portions of the facility reach final grade. At the time of closure, required activities would include a small area of final cover, the final survey, and certification of closure construction. If the site were to be closed prior to reaching final grade, additional grading and soil cover would be required. Attachment S-1 presents the estimate of probable closure cost based on an outside contractor being brought in to complete the required closure. The estimate assumes that sufficient cover soil and topsoil is available on-site, and that the County will have this material stockpiled for use by the closure contractor.

#### S.2 ANNUAL COST ADJUSTMENTS

The County updates the Closure and Long-term Care Cost Estimates as required by Rule 62-701.630(4), F.A.C., and certified copies are submitted to FDEP on an annual basis for review and approval in accordance with regulatory requirements.

#### S.3 PROOF OF FINANCIAL RESPONSIBILITY FUNDING MECHANISMS

A description of the County's proof of financial responsibility is included in Attachment S-1.



ATTACHMENT S-1  
FINANCIAL ASSURANCE



**Florida Department of Environmental Protection**  
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

|                     |  |
|---------------------|--|
| DEP Form #          | 62-701.900(28)                         |
| Form Title          | Financial Assurance Cost Estimate Form |
| Effective Date      | 05-27-01                               |
| DEP Application No. | (Filled by DEP)                        |

**FINANCIAL ASSURANCE COST ESTIMATE FORM**

Date: June 23, 2009

Date of FDEP Approval: \_\_\_\_\_

**I. GENERAL INFORMATION:**

Facility Name: Tomoka Farms Road Class III Landfill WACS or GMSID #: \_\_\_\_\_  
Permit / Application No.: SO64-0078767-019 Expiration Date: August 25, 2009  
Facility Address: 1990 Tomoka Farms Road, Daytona Beach, Florida  
Permittee: Volusia County  
Mailing Address: 3151 East New York Avenue, DeLand, Florida 32724  
  
Latitude: 29° 07' 53" Longitude: 81° 05' 31" or UTM: \_\_\_\_\_

**Solid Waste Disposal Units Included in Estimate:**

| Phase / Cell | Acres         | Date Unit Began Accepting Waste | Design Life of Unit From Date of Initial Receipt of Waste |
|--------------|---------------|---------------------------------|---|
| Class III    | 81.4 existing | 1998                            | 18  |
|              | 8 expansion   |                                 |   |
|              |               |                                 |   |
|              |               |                                 |   |
|              |               |                                 |   |
|              |               |                                 |   |
|              |               |                                 |   |
|              |               |                                 |   |

Total Landfill Acreage included in this estimate. 89.4 Closure 89.4 Long-Term Care

Type of Landfill: \_\_\_\_\_ Class I \_\_\_\_\_ X Class III \_\_\_\_\_ C&D Debris

**II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)**

\_\_\_\_\_ Letter of Credit \* \_\_\_\_\_ Insurance Certificate  
\_\_\_\_\_ Performance Bond \* \_\_\_\_\_ X Escrow Account  
\_\_\_\_\_ Guaranty Bond \* \_\_\_\_\_ Financial Test

\*Indicates mechanisms that require use of a Standby Trust Fund Agreement

Northwest District  
160 Governmental Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way, Ste. B200  
Jacksonville, FL 32256-7590  
904-448-4300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
3804 Coconut Palm Dr.  
Tampa, FL 33619  
813-744-6100

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
941-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600

### III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

#### ☐ (a) Inflation Factor Adjustment

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste Financial Coordinator at (850)-488-0300.

This adjustment is based on the Department approved closure cost estimate dated: \_\_\_\_\_

| Latest Department Approved<br>Closure Cost Estimate: |   | Current Year<br>Inflation Factor |   |       |  | Inflation Adjusted<br>Closure Cost Estimate: |
|--|---|----------------------------------|---|-------|--|--|
| _____  | x | _____                            | = | _____ |  | _____  |

This adjustment is based on the Department approved long-term care cost estimate dated: \_\_\_\_\_

| Latest Department Approved<br>Annual Long-Term Care Cost<br>Estimate: |   | Current Year<br>Inflation Factor |   |       |  | Inflation Adjusted<br>Annual Long-Term Care<br>Cost Estimate |
|---|---|----------------------------------|---|-------|--|--|
| _____   | x | _____                            | = | _____ |  | _____  |

Number of Years of Long Term Care Remaining: \_\_\_\_\_ x \_\_\_\_\_

Inflation Adjusted Long-Term Care Cost Estimate: \_\_\_\_\_ = \_\_\_\_\_

#### ☒ (b) Recalculate Estimates (see section V)

### IV. CERTIFICATION BY ENGINEER

This is to certify that the Financial Assurance Cost Estimates pertaining to the engineering features of the this solid waste management facility have been examined by me and found to conform to engineering principals applicable to such facilities. In my professional judgement, the cost Estimates are a true, correct and complete representation of the financial liabilities for closing and long-term care of the facility and comply with the requirements of Florida Administrative Code (F.A.C.), Rule 62-701.630 and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Financial Assurance Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.

Signature of Engineer

Lee A. Powell, P.E.  
Name & Title (please type)

FL # 35992  
Florida Registration Number (affix seal)

SCS Engineers  
501 North Grandview Ave., Suite 400  
Daytona Beach, FL 32118  
Mailing Address

(386) 238-7770  
Telephone Number

Signature of Owner/Operator

Leonard Marion, Solid Waste Director  
Name & Title (please type)

(386) 943-7889  
Telephone Number

## V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing **most expensive**.

**\*\* Third Party Estimate / Quote must be provided for each item**

**\*\* Costs must be for a third party providing all material and labor**

| DESCRIPTION  | UNIT | QUANTITY                                     | UNIT COST                     | TOTAL       |
|--|------|--|-------------------------------|-------------|
| 1. Proposed Monitoring Wells   |      | (Do not include wells already in existence.) |                               |             |
|  |      |  |                               |             |
| 2. Slope and Fill (bedding layer between waste and barrier layer): (12") |      |  |                               |             |
| Excavation   | CY   |  |                               |             |
| Placement and Spreading  | CY   | 40,000                                       | 3.00                          | \$120,000   |
| Compaction   | CY   |  |                               |             |
| Off Site Material  | CY   |  |                               | \$0         |
| Delivery   | CY   | 40000  | 1.50                          | \$60,000    |
|  |      |  | Subtotal Slope and Fill:      | \$180,000   |
| 3. Cover Material (Barrier Layer):                                       |      |  |                               |             |
| Off-Site Clay  | CY   |  |                               |             |
| Synthetics - 40 mil  | SY   | 433,000                                      | 5.40                          | \$2,338,200 |
| Synthetics - GCL   | SY   |  |                               |             |
| Synthetics - Geonet  | SY   | 433,000                                      | 4.00                          | \$1,732,000 |
| Synthetics - Other   | SY   |  |                               |             |
|  |      |  | Subtotal Barrier Layer Cover: | \$4,070,000 |
| 4. Top Soil Cover: (24" protective soil)                                 |      |  |                               |             |
| Off-Site Material  | CY   | 0  | 0.000                         | \$0         |
| Delivery   | CY   | 289,000                                      | 1.500                         | \$433,500   |
| Spread   | CY   | 289,000                                      | 3.000                         | \$867,000   |
|  |      |  | Subtotal Top Soil Cover       | \$1,301,000 |

| DESCRIPTION                   | UNIT | QUANTITY  | UNIT COST | TOTAL     |
|-------------------------------|------|-----------|-----------|-----------|
| 5. Vegetative Layer           |      |           |           |           |
| Sodding                       | SY   | 433,000   | 1.60      | \$692,800 |
| Hydroseeding                  | AC   |           |           |           |
| Fertilizer                    | AC   |           |           |           |
| Mulch                         | AC   |           |           |           |
| Other                         | SY   |           |           |           |
| Subtotal Vegetative Layer:    |      |           |           | \$693,000 |
| 6. Stormwater Control System: |      |           |           |           |
| Earthwork                     | CY   |           |           |           |
| Grading                       | SY   |           |           |           |
| Piping                        | LF   | 19,000.00 | 27.00     |           |
| Ditches                       | LF   |           |           |           |
| Berms                         | LF   |           |           |           |
| Terrace Structures            | LS   | 162.00    | 1,500.00  | \$243,000 |
| Discharge Structures          | EA   | 39        | 1,500.00  | \$58,500  |
| Subtotal Stormwater Controls: |      |           |           | \$302,000 |
| 7. Gas Controls: Passive      |      |           |           |           |
| Wells                         | EA   | 42        | 7,000     | \$294,000 |
| Pipe and Fittings             | LF   |           |           |           |
| Monitoring Probes             | EA   |           |           |           |
| NSPS/Title V requirements     | LS   |           |           |           |
| Subtotal Passive Gas Control: |      |           |           | \$294,000 |

| DESCRIPTION                       | UNIT | QUANTITY | UNIT COST | TOTAL |
|-----------------------------------|------|----------|-----------|-------|
| 8. Gas Control: Active Extraction |      |          |           |       |
| Traps                             | EA   | 0.00     |           | \$0   |
| Sump                              | EA   | 0.00     |           | \$0   |
| Flare Assembly                    | EA   | 0.00     |           | \$0   |
| Flame Arrestor                    | EA   | 0.00     |           | \$0   |
| Mist Eliminator                   | EA   | 0.00     |           | \$0   |
| Flow Meter                        | EA   | 0.00     |           | \$0   |
| Blowers                           | EA   | 0.00     |           | \$0   |
| Collection System                 | LF   | 0.00     |           | \$0   |
| Other (describe)                  |      | 0.00     |           | \$0   |
| Subtotal Active Gas Extraction:   |      |          |           | \$0   |

#### 9. Security System

|                           |    |      |      |     |
|---------------------------|----|------|------|-----|
| Fencing                   | LF | 0.00 | 0.00 | \$0 |
| Gate(s)                   | EA | 0.00 | 0.00 | \$0 |
| Sign(s)                   | EA | 0.00 | 0.00 | \$0 |
| Subtotal Security System: |    |      |      | \$0 |

#### 10. Engineering:

|                          |    |      |        |          |
|--------------------------|----|------|--------|----------|
| Closure Plan report      | LS | 1.00 | 60,000 | \$60,000 |
| Certified Engineer       | LS |      |        |          |
| NSPS/Title V Air Permit  | LS |      |        |          |
| Final Survey             | LS | 1.00 | 12,000 | \$12,000 |
| Certification of Closure | LS | 1.00 | 20,000 | \$20,000 |
| Other (detail)           |    |      |        |          |
| Subtotal Engineering:    |    |      |        | \$92,000 |

# 11. Professional Services

|                    | Contract Management |           | Quality Assurance |           |          |
|--------------------|---------------------|-----------|-------------------|-----------|----------|
|                    | Hours               | UNIT COST | Hours             | UNIT COST | TOTAL    |
| P.E. Supervisor    | 60                  | 140       |                   |           | \$8,400  |
| On-Site Engineer   |                     |           |                   |           |          |
| Office Engineer    | 180                 | 110       |                   |           | \$19,800 |
| On-Site Technician |                     |           | 1,000             | 90        | \$90,000 |
| Other (Explain)    |                     |           |                   |           |          |
| Reimbursables      |                     | 2,000     |                   | 10,000    | \$12,000 |

| DESCRIPTION               | UNIT | QUANTITY | UNIT COST | TOTAL    |
|---------------------------|------|----------|-----------|----------|
| Quality Assurance Testing | LS   | 1        | 20,000    | \$20,000 |

Subtotal Professional Services: \$150,000

**Subtotal of 1-11 Above:** \$7,082,000

12. Contingency % of Total 5.00%

**Closing Cost Subtotal:** \$7,436,100

# 13. Site Specific Costs (explain)

|  |  |
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Subtotal Site Specific Costs: \$0

**TOTAL CLOSING COSTS:** \$7,436,100

# VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

☐ 5 years    ☐ 20 years    ☒ 30 years    ☐ Other

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

**\*\* Third Party Estimate / Quote must be provided for each item**

**\*\* Costs must be for a third party providing all material and labor**

**All items must be addressed.** Attach a detailed explanation for all items marked not applicable (N/A).

| DESCRIPTION   | Sampling<br>Frequency<br>(events/yr.) | Number of<br>Wells                               | \$/Well/Event | \$ / Year |
|---|---------------------------------------|--|---------------|-----------|
| 1. Groundwater Monitoring (62-701.510(6), and (8)(a))   |                                       | Included with Class I Cell Operation and Closure |               |           |
| Monthly (Gradient)                                      | 12                                    |  |               |           |
| Quarterly   | 4                                     | 0  | 0             | \$0       |
| Semi-Annual   | 2                                     | 0  | 0             | \$0       |
| Annual  | 1                                     |  |               |           |
| Subtotal Groundwater Monitoring:                        |                                       |  |               | \$0       |
| 2. Surface Water Monitoring (62-701.510(4), and (8)(b)) |                                       | Included with Class I Cell Operation and Closure |               |           |
| Monthly   | 12                                    |  |               |           |
| Quarterly   | 4                                     |  |               |           |
| Semi-Annual   | 2                                     | 0  | 0             | \$0       |
| Annual  | 1                                     |  |               |           |
| Subtotal Surface Water Monitoring:                      |                                       |  |               | \$0       |
| 3. Gas Monitoring                                       |                                       | Included with Class I Cell Operation and Closure |               |           |
| Monthly   | 12                                    |  |               |           |
| Quarterly   | 4                                     | 0  | 0             | \$0       |
| Semi-Annual   | 2                                     | 0.00   | 0.00          | \$0       |
| Annual  | 1                                     | 0.00   | 0.00          | \$0       |
| Subtotal Gas Monitoring:                                |                                       |  |               | \$0       |



| DESCRIPTION   | Sampling<br>Frequency<br>(events/yr.) | Number of<br>Wells | \$/Well/Event | \$ / Year |
|---|---------------------------------------|--------------------|---------------|-----------|
| 4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c)) |                                       |                    |               |           |
| Monthly   | 12                                    |                    |               |           |
| Quarterly   | 4                                     |                    |               |           |
| Semi-Annual   | 2                                     |                    |               |           |
| Annual  | 1                                     | 0                  | 0             | \$0       |
| Other   |                                       |                    |               |           |
| Subtotal Groundwater Monitoring:                                    |                                       |                    |               | \$0       |

| DESCRIPTION  | UNIT        | QUANTITY | UNIT COST | ANNUAL COST |
|--|-------------|----------|-----------|-------------|
| 5. Leachate Collection/Treatment Systems Maintenance |             |          |           |             |
| Maintenance  |             |          |           |             |
| Collection Pipes                                     | LF          | 0.00     | 0.00      | \$0         |
| Sumps, Traps   | EA          | 0.00     | 0.00      | \$0         |
| Lift Stations  | EA          | 0        | 0         | \$0         |
| Cleaning   | LS          |          |           |             |
| Tanks  | EA          |          |           |             |
| Impoundments   |             |          |           |             |
| Liner Repair   | LS          |          |           |             |
| Sludge Removal                                       | CY          |          |           |             |
| Aeration Systems                                     | CY          |          |           |             |
| Floating Aerators                                    | EA          |          |           |             |
| Spray Aerators                                       | EA          |          |           |             |
| Disposal   |             |          |           |             |
| Off-site<br>(Include Transportation and Disposal)    | 1000 gallon | 0        | 0         | \$0         |

## 6. Leachate Collection/Treatment Systems Operation

| Operation  |    | Hours | \$/Hour | Total  |
|--|----|-------|---------|--------|
| P.E. Supervisor  | HR |       |         |        |
| On-Site Engineer   | HR |       |         |        |
| Office Engineer  | HR | 0     | 0       | \$0.00 |
| On-site Technician   | HR | 0     | 0       | \$0.00 |
| Transducers  | LS | 0     | 0       | \$0.00 |
| Subtotal Leachate Collection/Treatment System Maintenance & Operation: |    |       |         | \$0.00 |

## 7. Maintenance of Groundwater Monitoring Wells

|   |    |   |   |        |
|---|----|---|---|--------|
| Monitoring Wells                                  | EA | 0 | 0 | \$0    |
| Replacement                                       | EA | 0 | 0 | \$0    |
| Abandonment                                       | EA |   |   |        |
| Subtotal Groundwater Monitoring Well Maintenance: |    |   |   | \$0.00 |

| DESCRIPTION | UNIT | QUANTITY | UNIT COST | ANNUAL COST |
|-------------|------|----------|-----------|-------------|
|-------------|------|----------|-----------|-------------|

## 8. Gas System Maintenance

|                      |    |      |     |         |
|----------------------|----|------|-----|---------|
| Piping, Vents        | EA | 42   | 100 | \$4,200 |
| Blowers              | EA | 0.00 |     | \$0.00  |
| Flaring Units        | EA | 0.00 |     | \$0.00  |
| Meters, Valves       | EA | 0.00 |     | \$0.00  |
| Compressors          | EA | 0.00 |     | \$0.00  |
| Flame Arrestors      | EA | 0.00 |     | \$0.00  |
| Operation            | LS | 0.00 |     | \$0.00  |
| Subtotal Gas System: |    |      |     | \$4,200 |

## 9. Landscape

|                                 |    |    |     |          |
|---------------------------------|----|----|-----|----------|
| Mowing                          | AC | 90 | 150 | \$13,500 |
| Fertilizer                      | AC |    |     |          |
| Subtotal Landscape Maintenance: |    |    |     | \$13,500 |

| DESCRIPTION                                     | UNIT       | QUANTITY     | UNIT COST       | ANNUAL COST |
|---|------------|--------------|-----------------|-------------|
| 10. Erosion Control & Cover Maintenance         |            |              |                 |             |
| Sodding   | SY         | 3,000        | 1.80            | \$5,400     |
| Regrading                                       | LS         | 1            | 2,000           | \$2,000     |
| Liner Repair                                    | SY         | 20           | 100.00          | \$2,500     |
| Clay  | CY         |              |                 |             |
| Subtotal Erosion Control and Cover Maintenance: |            |              |                 | \$9,900     |
| 11. Storm Water Management System Maintenance   |            |              |                 |             |
| Conveyance Maintenance                          | LS         | 1            | 5,000           | \$5,000     |
| Subtotal Storm Water System Maintenance:        |            |              |                 | \$5,000     |
| 12. Security System Maintenance                 |            |              |                 |             |
| Fences  | LF         | 10           | 25.00           | \$250       |
| Gate(s)   | EA         | 1            | 30              | \$30        |
| Sign(s)   | EA         | 0            | 0               | \$0         |
| Subtotal Security System:                       |            |              |                 | \$280       |
| 13. Utilities                                   | LS         | 0            | 0               | \$0         |
| 14. Administrative                              |            |              |                 |             |
|   |            | <u>Hours</u> | <u>\$/ Hour</u> |             |
| P.E. Supervisor                                 | HR         | 20.00        | 140.00          | \$2,800     |
| On-Site Engineer                                | HR         |              |                 |             |
| Office Engineer                                 | HR         |              |                 | \$0         |
| On-site Technician                              | HR         | 80           | 65              | \$5,200     |
| Other (explain)                                 |            |              |                 |             |
| Subtotal Administrative:                        |            |              |                 | \$8,000     |
| 15. Contingency                                 | % of Total | \$40,880.00  | 10%             | \$4,000     |
| Subtotal Contingency:                           |            |              |                 | \$4,000     |

16. Site Specific Costs (explain)

UNIT COST

|  |           |               |
|--|-----------|---------------|
|  | <u>LS</u> | <u>\$0.00</u> |
|  | <u>LS</u> | <u>\$0.00</u> |
|  | <u>LS</u> | <u>\$0.00</u> |

**ANNUAL LONG-TERM CARE COST (\$/Year):** \$44,880

**NUMBER OF YEARS OF LONG-TERM CARE** 30

**TOTAL LONG-TERM CARE COST (\$):** \$1,346,400