Locklear & Associates
Engineering & Environmental Consulting

March 20, 2015

Mr. Steve Morgan
Florida Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RE: Angelo's Aggregate Materials, Ltd.
Enterprise Road Class III Recycling & Disposal Facility, Pasco County
Operations Permit 177982-020-SO/T3 and
Construction Permit No.: 177982-019-SC/T3 Modifications Application
WACS Facility ID: 87895
WACS No.: SWD/29/41084

Dear Mr. Morgan,

On behalf of Angelo's Aggregate Materials, Ltd., we are submitting four copies of Florida Department of Environmental Protection (Department) form 62-701.900(1) *Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility* along with supporting documents to modify the existing operations and construction permits for the Enterprise Road Class III Landfill in Dade City, Florida.

The application includes the following proposed changes to the current operations and construction permits:

- Modifications to the fill sequence plan;
- Modifications to the closure and reclamation plan

Permit application fees are in accordance with the fee schedule in Rules 62-701.320(4)(b), F.A.C. and 62-4.050(4)(s)5, F.A.C are attached. Please contact me at (352) 672-6867 if you have any questions or comments regarding this submittal.

Sincerely,

John Locklear, P.G.
President

Xc: John Arnold, Angelo's Aggregate Materials, Ltd.

ATTACHMENTS:

Section 1	Permit Application
Section 2	Part I-2; Slope Stability Analysis
Section 3	Engineering Report
	Appendix 3-A; Operations Plan
Section 4	Plan Set Replacement Sheets

MINOR/INTERMEDIATE PERMIT MODIFICATION APPLICATION
FOR THE
ENTERPRISE ROAD CLASS III RECYCLING AND DISPOSAL FACILITY

WACS Facility ID: 87895
WACS No.: SWD/29/41084
Construction Permit No.: 177982-019-SC/T3
Operation Permit No.: 177982-020-SO/T3

Prepared for:

ANGELO'S AGGREGATE MATERIALS, LTD.
855 28th Street South
St. Petersburg, Florida 33712

Presented to:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID WASTE SECTION
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Prepared by:

LOCKLEAR AND ASSOCIATES, INC.
4140 NW 37 Place, Suite A
Gainesville, Florida 32606
Certificate of Authorization #30066

Project No.: 02000-144-14

March 2015

Performed Under the
Supervision of

Lisa D. Baker, P.E.
Florida P.E #74652

LISA D. BAKER
LICENSE NO. 74652
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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INTRODUCTION

Locklear & Associates, Inc. (L&A) is submitting four copies of the completed Form 62-701.900(1), F.A.C. and all supporting documentation for the modification of Solid Waste Construction Permit 177982-019-SC/T3 and Solid Waste Operations Permit 177982-020-SO/T3 on behalf of Angelo's Aggregate Materials, LTD (Applicant) for the Enterprise Road Class III Recycling and Disposal Facility (Facility) located in Pasco County, Florida. L&A has been authorized by the Applicant to act on its behalf in the preparation and submittal of this document.

In accordance with Rule 62-701.320, F.A.C., facility information that was submitted to the Department to support the current permits, and which is still valid, has not been re-submitted for permit modification. This permit modification application lists and reaffirms the information that was previously provided to the Department that is still valid. Information related to the specific modification requests has been revised/consolidated/updated and is being resubmitted as discussed herein.

Construction Permit

The Enterprise Road Class III Recycling and Disposal Facility solid waste Construction Permit 177982-019-SC/T3 currently authorizes construction of Cells 6, 6B (completed) and 7 of the Class III Landfill. Cells 1, 2, 3, 4, 5, 6, 6B and 15 have already been built and remain in operation. Cells 9, 10, 11, 12, 13, 14 and 16 remain designated as "future" cells. A summary of the changes and updates requested for solid waste Construction Permit (177982-019-SC) is provided as follows:

- Appendix 4 General Information Table to
  - Revise *Side slopes max*. to 3H:1V from toe of slope to elevation +125 ft NGVD; 4H:1V from +125 to +170 ft NGVD; 1% to 2% grade from +170 to +175 ft NGVD.

Operations Permit

The Enterprise Road Class III Recycling and Disposal Facility solid waste Operations Permit 177982-020-SO/T3 currently authorizes operations in Cells 1–7 and 15. A summary of the changes and updates requested for Solid Waste Operations Permit (177982-020-SO)/T3 is provided as follows:

- Appendix 4 General Information Table to
  - Revise *Side slopes max*. to 3H:1V from toe of slope to elevation +125 ft NGVD; 4H:1V from +125 to +170 ft NGVD; 1% to 2% grade from +170 to +175 ft NGVD.

SECTION 1

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

DEP FORM 62-701.900(1)

Florida Department of
Environmental Protection
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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

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

Effective Date: August 12, 2012

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

APPLICATION INSTRUCTIONS AND FORMS

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

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

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

Southwest District
13051 North Telecom Pkwy
Temple Terrace, FL 33637
813-632-7600

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

Southeast District
400 North Congress Avenue
Suite 200
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 appropriate Department office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

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

II. Application Parts Required for Construction and Operation Permits

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

NOTE: Portions of some Parts may not be applicable.

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

III. Application Parts Required for Closure Permits

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

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

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

V. Application Codes

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

VI. Listing of Application Parts

PART A: GENERAL INFORMATION

PART B: DISPOSAL FACILITY GENERAL INFORMATION

PART C: PROHIBITIONS

PART D: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

PART E: LANDFILL PERMIT REQUIREMENTS

PART F: GENERAL CRITERIA FOR LANDFILLS

PART G: LANDFILL CONSTRUCTION REQUIREMENTS

PART H: HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

PART I: GEOTECHNICAL INVESTIGATION REQUIREMENTS

PART J: VERTICAL EXPANSION OF LANDFILLS

PART K: LANDFILL OPERATION REQUIREMENTS

PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

PART M: SPECIAL WASTE HANDLING REQUIREMENTS

PART N: GAS MANAGEMENT SYSTEM REQUIREMENTS

PART O: LANDFILL CLOSURE REQUIREMENTS

PART P: OTHER CLOSURE PROCEDURES

PART Q: LONG-TERM CARE

PART R: FINANCIAL ASSURANCE

PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

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

Please Type or Print

PART A. GENERAL INFORMATION

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

- ☐ Class I Landfill
- ☑ Class III Landfill
- ☐ Industrial Solid Waste
- ☐ Other (describe):
- ☐ Ash Monofill
- ☐ Asbestos Monofill

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

2. Type of application:

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

3. Classification of application:

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

4. Facility name: Enterprise Road Class III Recycling and Disposal Facility

5. DEP ID number: SWD/51/87895 County: Pasco

6. Facility location (main entrance):

The main entrance gate is on the north side of Enterprise Road, 1.5 miles east C.R. 35 Alt. The address is 41111 Enterprise Road in Dade City, Florida 33525.

7. Location coordinates:

Section: 5 and 8 Township: 25 S Range: 22 E

Latitude: 28 ° 19 ' 53 " Longitude: 82 ° 08 ' 06 "

Datum: NGVD 29 Coordinate method: State Plane West

Collected by: Professional Land Surveyor Company/Affiliation: Picket Surveying and Photogrammetry

8. Applicant name (operating authority): Angelo's Aggregate Materials, Ltd.

Mailing address: 855 28th St. South St. Petersburg FL 33712
Street or P.O. Box City State Zip

Contact person: John Arnold, P.E. Telephone: (813) 477-1719

Title: Director of Engineering & Facilities

john.phillip.arnold@gmail.com
E-Mail address (if available)

9. Authorized agent/Consultant: Locklear & Associates, Inc.

Mailing address: 4140 NW 37th Place, Suite A Gainesville FL 32606
Street or P.O. Box City State Zip

Contact person: Lisa Baker, P.E. Telephone: (352) 672-6867

Title: Engineering Division Director

lisa@locklearconsulting.com
E-Mail address (if available)

10. Landowner (if different than applicant): Same as Applicant

Mailing address: _____
Street or P.O. Box City State Zip

Contact person: _____ Telephone: (____) _____

_____
E-Mail address (if available)

11. Cities, towns, and areas to be served:

Pasco County and surrounding areas

12. Population to be served:

Current: 464,697 (Pasco County 2010 Census) Five-Year Projection: 514,300 (Pasco County 2015)

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

14. Expected life of the facility: 9.5+ years

15. Estimated costs:

Total Construction: $ N/A Closing Costs: $ _____

16. Anticipated construction starting and completion dates:

From: Ongoing To: Ongoing

17. Expected volume or weight of waste to be received:

_____ yds^3/day 550 +/- tons/day _____ gallons/day

PART B. DISPOSAL FACILITY GENERAL INFORMATION

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

This application is submitted as a minor modification of operations and intermediate modification of construction for an existing, permitted Class III landfill. Please refer to the introduction for details on changes and updates submitted as part of this application.

2. Facility site supervisor: Alfredo "Freddie" Martinez

Title: Landfill Manager Telephone: (352) 567-7676

N/A
E-Mail address (if available)

3. Disposal area: Total acres: 60.9 Used acres: 50.5 Available acres: 10.4

4. Weighing scales used: ☑ Yes ☐ No

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

6. Charge for waste received: +/- $9.00 $/yds^3 _____ $/ton

7. Surrounding land use, zoning:

☐ Residential ☐ Industrial
☑ Agricultural ☐ None
☐ Commercial ☐ Other (describe):

Surrounding zoning is AC (Agricultural Commercial) and AR (Agricultural Residential).

8. Types of waste received:

☐ Household ☑ C & D debris
☐ Commercial ☑ Shredded/cut tires
☐ Incinerator/WTE ash ☑ Yard trash
☐ Treated biomedical ☐ Septic tank
☐ Water treatment sludge ☐ Industrial
☐ Air treatment sludge ☐ Industrial sludge
☐ Agricultural ☐ Domestic sludge
☑ Asbestos ☑ Other (describe):

Class III waste

9. Salvaging permitted: ☐ Yes ☑ No

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

11. Trained spotters: ☑ Yes ☐ No Number of spotters used: 1 - 2

12. Site located in: ☐ Floodplain ☐ Wetlands ☑ Other (describe):
Orange groves

13. Days of operation: Monday through Friday, Saturday

14. Hours of operation: 7 am to 6 pm (M-F); 7 am - 2 pm (Sat)

15. Days working face covered: Once per week

16. Elevation of water table: 55 - 70 ft. Datum Used: NGVD 29

17. Number of monitoring wells: 21

18. Number of surface monitoring points: 0

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

Gas flaring: ☐ Yes ☑ No Gas recovery: ☐ Yes ☑ No

20. Landfill unit liner type:

- ☐ Natural soils
- ☑ Single clay liner
- ☐ Single geomembrane
- ☐ Single composite
- ☐ Slurry wall
- ☐ Double geomembrane
- ☐ Geomembrane & composite
- ☐ Double composite
- ☐ None
- ☐ Other (describe):

21. Leachate collection method:

- ☐ Collection pipes
- ☐ Geonets
- ☐ Well points
- ☐ Perimeter ditch
- ☑ Other (describe):
- ☐ Double geomembrane
- ☐ Gravel layer
- ☐ Interceptor trench
- ☐ None

Gravity drainage to temporary stormwater ponds - Cells 14 and 16

22. Leachate storage method:

☐ Tanks ☐ Surface impoundments

☐ Other (describe):

None

23. Leachate treatment method:

☐ Oxidation ☐ Chemical treatment

☐ Secondary ☐ Settling

☐ Advanced ☑ None

☐ Other (describe):

24. Leachate disposal method:

☐ Recirculated ☐ Pumped to WWTP

☐ Transported to WWTP ☐ Discharged to surface water/wetland

☐ Injection well ☐ Percolation ponds

☐ Evaporation ☐ Spray irrigation

☐ Other (describe):

N/A

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: ☑ Yes ☐ No

Type of treatment:

25 year, 24 hour storm event (ERP 51-0172489-001) Temporary stormwater pond: 100 year, 24 hour event (ERP 51-0172489-001)

Name and Class of receiving water:

None

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

ERP 51-0172489-006

PART C. PROHIBITIONS (62-701.300, FAC)

LOCATION

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

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

LOCATION

S ☑	Section 1	N/A ☐	N/C ☐	1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)
S ☑	Section 1	N/A ☐	N/C ☐	2. Engineering and/or professional certification (signature, date, and seal) provided on the applications and all engineering plans, reports, and supporting information for the application; (62-701.320(6), FAC)
S ☑	Cover	N/A ☐	N/C ☐	3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC)

LOCATION				PART D CONTINUED
S ☑	Section 1	N/A ☐	N/C ☐	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)
S ☑	Cover	N/A ☐	N/C ☐	5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC)
S ☑	Section 3	N/A ☐	N/C ☐	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 ½ inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)
S ☑	Section 3, App. 3-A	N/A ☐	N/C ☐	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)
S ☐		N/A ☐	N/C ☑	8. Contingency Plan; (62-701.320(7)(e)2, FAC)
S ☑	Section 4	N/A ☐	N/C ☐	9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing: (62-701.320(7)(f), FAC)
S ☐		N/A ☐	N/C ☑	a. A regional map or plan with the project location in relation to major roadways and population centers;
S ☐		N/A ☐	N/C ☑	b. A vicinity map or aerial photograph no more than one year old showing the facility site and relevant surface features located within 1000 feet of the facility;
S ☐		N/A ☐	N/C ☑	c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper;
S ☑	Section 3	N/A ☐	N/C ☐	d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum, and identifying the method used for collecting latitude and longitude data;
S ☐		N/A ☐	N/C ☑	10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g), FAC)
S ☐		N/A ☑	N/C ☐	11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706, FS; (62-701.320(7)(h), FAC)

LOCATION				
S ☐	_____	N/A ☐	N/C ☑	12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders, or permit conditions relating to the operation of any solid waste management facility in the state; (62-701.320(7)(i), FAC)
S ☐	_____	N/A ☑	N/C ☐	13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-701.320(8), FAC)
S ☐	_____	N/A ☐	N/C ☑	14. Provide a description of how the requirements for airport safety will be achieved, including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13), FAC)
S ☐	_____	N/A ☐	N/C ☑	15. Explain how the operator and spotter training requirements and special criteria will be satisfied for the facility; (62-701.320(15), FAC)

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

LOCATION				
S ☐	_____	N/A ☐	N/C ☑	1. Regional map or aerial photograph no more than five years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a), FAC)
S ☑	Section 4	N/A ☐	N/C ☐	2. Plot plan with a scale not greater than 200 feet to the inch showing: (62-701.330(3)(b), FAC)
S ☑	Section 4	N/A ☐	N/C ☐	a. Dimensions;
S ☐	_____	N/A ☐	N/C ☑	b. Locations of proposed and existing water quality monitoring wells;
S ☐	_____	N/A ☐	N/C ☑	c. Locations of soil borings;
S ☑	Section 4	N/A ☐	N/C ☐	d. Proposed plan of trenching or disposal areas;
S ☑	Section 4	N/A ☐	N/C ☐	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
S ☑	Section 4	N/A ☐	N/C ☐	f. Any previously filled waste disposal areas;
S ☐	_____	N/A ☐	N/C ☑	g. Fencing or other measures to restrict access;

LOCATION				PART E CONTINUED
S ☑	Section 4	N/A ☐	N/C ☐	3. Topographic maps with a scale not greater than 200 feet to the inch with five foot contour intervals showing: (62-701.330(3)(c), FAC)
S ☑	Section 4	N/A ☐	N/C ☐	a. Proposed fill areas;
S ☐		N/A ☐	N/C ☑	b. Borrow areas;
S ☑	Section 4	N/A ☐	N/C ☐	c. Access roads;
S ☑	Section 4	N/A ☐	N/C ☐	d. Grades required for proper drainage;
S ☑	Section 4	N/A ☐	N/C ☐	e. Cross sections of lifts;
S ☐		N/A ☑	N/C ☐	f. Special drainage devices if necessary;
S ☐		N/A ☐	N/C ☑	g. Fencing;
S ☐		N/A ☐	N/C ☑	h. Equipment facilities;
S ☐		N/A ☐	N/C ☑	4. A report on the landfill describing the following: (62-701.330(3)(d), FAC)
S ☐		N/A ☐	N/C ☑	a. The current and projected population and area to be served by the proposed site;
S ☐		N/A ☐	N/C ☑	b. The anticipated type, annual quantity, and source of solid waste expressed in tons;
S ☐		N/A ☐	N/C ☑	c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation;
S ☐		N/A ☐	N/C ☑	d. The source and type of cover material used for the landfill;
S ☐		N/A ☐	N/C ☑	5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC
S ☐		N/A ☐	N/C ☑	6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC)

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

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC)

S ☐ _____ N/A ☐ N/C ☑ 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC)

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

LOCATION

S ☑ Section 3 N/A ☐ N/C ☐ 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC)

S ☐ _____ N/A ☐ N/C ☑ 2. Landfill liner requirements; (62-701.400(3), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. General construction requirements; (62-701.400(3)(a), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;

S ☐ _____ N/A ☑ N/C ☐ (2) Document foundation is adequate to prevent liner failure;

S ☐ _____ N/A ☑ N/C ☐ (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;

S ☐ _____ N/A ☑ N/C ☐ (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;

S ☐ _____ N/A ☑ N/C ☐ (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate;

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

S ☐ _____ N/A ☑ N/C ☐	(7)	Interface shear strength testing results of the actual components which will be used in the liner system;
S ☐ _____ N/A ☑ N/C ☐	(8)	Transmissivity testing results of geonets if they are used in the liner system;
S ☐ _____ N/A ☑ N/C ☐	(9)	Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;
S ☐ _____ N/A ☑ N/C ☐	e. Geosynthetic specification requirements; (62-701.400(3)(e), FAC)	
S ☐ _____ N/A ☑ N/C ☐	(1)	Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
S ☐ _____ N/A ☑ N/C ☐	(2)	Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;
S ☐ _____ N/A ☑ N/C ☐	(3)	Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs;
S ☐ _____ N/A ☑ N/C ☐	(4)	Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance;
S ☐ _____ N/A ☑ N/C ☐	(5)	Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
S ☐ _____ N/A ☑ N/C ☐	(6)	Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
S ☐ _____ N/A ☑ N/C ☐	(7)	Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

LOCATION				PART G CONTINUED
S ☐	_____	N/A ☑	N/C ☐	f. Standards for soil liner components; (62-701.400(3)(f), FAC)
S ☐	_____	N/A ☑	N/C ☐	(1) Description of construction procedures including over-excavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil components in layers;
S ☐	_____	N/A ☑	N/C ☐	(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;
S ☐	_____	N/A ☑	N/C ☐	(3) Procedures for testing in situ soils to demonstrate they meet the specifications for soil liners;
S ☐	_____	N/A ☑	N/C ☐	(4) Specifications for soil component of liner including at a minimum:
S ☐	_____	N/A ☑	N/C ☐	(a) Allowable particle size distribution, and Atterberg limits including shrinkage limit;
S ☐	_____	N/A ☑	N/C ☐	(b) Placement moisture and dry density criteria;
S ☐	_____	N/A ☑	N/C ☐	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
S ☐	_____	N/A ☑	N/C ☐	(d) Minimum thickness of soil liner;
S ☐	_____	N/A ☑	N/C ☐	(e) Lift thickness;
S ☐	_____	N/A ☑	N/C ☐	(f) Surface preparation (scarification);
S ☐	_____	N/A ☑	N/C ☐	(g) Type and percentage of clay mineral within the soil component;
S ☐	_____	N/A ☑	N/C ☐	(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;
S ☐	_____	N/A ☑	N/C ☐	g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved;

S ☐	_____	N/A ☑ N/C ☐	3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)
S ☐	_____	N/A ☑ N/C ☐	a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Constructed of materials chemically resistant to the waste and leachate;
S ☐	_____	N/A ☑ N/C ☐	(2) Have sufficient mechanical properties to prevent collapse under pressure;
S ☐	_____	N/A ☑ N/C ☐	(3) Have granular material or synthetic geotextile to prevent clogging;
S ☐	_____	N/A ☑ N/C ☐	(4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;
S ☐	_____	N/A ☑ N/C ☐	b. Other LCRS requirements; (62-701.400(4)(b) and (c), FAC
S ☐	_____	N/A ☑ N/C ☐	(1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{3}$ cm/sec;
S ☐	_____	N/A ☑ N/C ☐	(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
S ☐	_____	N/A ☑ N/C ☐	(3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
S ☐	_____	N/A ☑ N/C ☐	(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;
S ☐	_____	N/A ☑ N/C ☐	4. Leachate recirculation; (62-701.400(5), FAC)
S ☐	_____	N/A ☑ N/C ☐	a. Describe general procedures for recirculating leachate;
S ☐	_____	N/A ☑ N/C ☐	b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
S ☐	_____	N/A ☑ N/C ☐	c. Describe procedures for preventing perched water conditions and gas buildup;

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

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

S ☐ _____ N/A ☑ N/C ☐ f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover, and provide documentation that irrigation does not contribute significantly to leachate generation;

S ☐ _____ N/A ☑ N/C ☐ 5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

S ☐ _____ N/A ☑ N/C ☐ (2) Designed in segments to allow for inspection and repair, as needed, without interruption of service;

S ☐ _____ N/A ☑ N/C ☐ (3) General design requirements;

S ☐ _____ N/A ☑ N/C ☐ (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

S ☐ _____ N/A ☑ N/C ☐ (b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (c) Lower geomembrane place on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (d) Design calculation to predict potential leakage through the upper liner;

S ☐ _____ N/A ☑ N/C ☐ (e) Daily inspection requirements, and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

S ☐ _____ N/A ☑ N/C ☐ (4) Description of procedures to prevent uplift, if applicable;

LOCATION			PART G CONTINUED
S ☐	_____	N/A ☑ N/C ☐	(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
S ☐	_____	N/A ☑ N/C ☐	(6) Procedures for controlling vectors and off-site odors;
S ☐	_____	N/A ☑ N/C ☐	b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
S ☐	_____	N/A ☑ N/C ☐	(2) Describe procedures for cathodic protection for the tank, if needed;
S ☐	_____	N/A ☑ N/C ☐	(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
S ☐	_____	N/A ☑ N/C ☐	(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
S ☐	_____	N/A ☑ N/C ☐	(5) Describe design to remove and dispose of stormwater from the secondary containment system;
S ☐	_____	N/A ☑ N/C ☐	(6) Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling;
S ☐	_____	N/A ☑ N/C ☐	(7) Inspections, corrective action, and reporting requirements;
S ☐	_____	N/A ☑ N/C ☐	(a) Weekly inspection of overfill prevention system;
S ☐	_____	N/A ☑ N/C ☐	(b) Weekly inspection of exposed tank exteriors;
S ☐	_____	N/A ☑ N/C ☐	(c) Inspection of tank interiors when tank is drained, or at least every three years;
S ☐	_____	N/A ☑ N/C ☐	(d) Procedures for immediate corrective action if failures detected;
S ☐	_____	N/A ☑ N/C ☐	(e) Inspection reports available for Department review;
S ☐	_____	N/A ☑ N/C ☐	c. Underground leachate storage tanks; (62-701.400(6)(d), FAC)

S ☐	_____	N/A ☑ N/C ☐	(1) Describe materials of construction;
S ☐	_____	N/A ☑ N/C ☐	(2) A double-walled tank design system to be used with the following requirements:
S ☐	_____	N/A ☑ N/C ☐	(a) Interstitial space monitoring at least weekly;
S ☐	_____	N/A ☑ N/C ☐	(b) Corrosion protection provided for primary tank interior and external surface of outer shell;
S ☐	_____	N/A ☑ N/C ☐	(c) Interior tank coatings compatible with stored leachate;
S ☐	_____	N/A ☑ N/C ☐	(d) Cathodic protection inspected weekly and repaired as needed;
S ☐	_____	N/A ☑ N/C ☐	(3) Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling, and provide for weekly inspections;
S ☐	_____	N/A ☑ N/C ☐	(4) Inspection reports available for Department review;
S ☐	_____	N/A ☑ N/C ☐	d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e), FAC)
S ☐	_____	N/A ☑ N/C ☐	6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)
S ☐	_____	N/A ☑ N/C ☐	a. Provide CQA Plan including:
S ☐	_____	N/A ☑ N/C ☐	(1) Specifications and construction requirements for liner system;
S ☐	_____	N/A ☑ N/C ☐	(2) Detailed description of quality control testing procedures and frequencies;
S ☐	_____	N/A ☑ N/C ☐	(3) Identification of supervising professional engineer;
S ☐	_____	N/A ☑ N/C ☐	(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;
S ☐	_____	N/A ☑ N/C ☐	(5) State qualifications of CQA professional engineer and support personnel;

S ☐ _____ N/A ☑ N/C ☐ (6) Description of CQA reporting forms and documents;

S ☐ _____ N/A ☑ N/C ☐ b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

S ☐ _____ N/A ☑ N/C ☐ 7. Soil liner CQA; (62-701.400(8), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;

S ☐ _____ N/A ☑ N/C ☐ b. Description of field test section construction and test methods to be implemented prior to liner installation;

S ☐ _____ N/A ☑ N/C ☐ c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;

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

S ☐ _____ N/A ☑ N/C ☐ 9. Gas control systems; (62-701.400(10), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

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

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

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Submit a hydrogeological investigation and site report including at least the following information:

S ☐ _____ N/A ☐ N/C ☑ a. Regional and site specific geology and hydrology;

S ☐ _____ N/A ☐ N/C ☑ b. Direction and rate of ground water and surface water flow including seasonal variations;

S ☐ _____ N/A ☐ N/C ☑ c. Background quality of ground water and surface water;

S ☐ _____ N/A ☐ N/C ☑ d. Any on-site hydraulic connections between aquifers;

S ☐ _____ N/A ☐ N/C ☑ 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;

S ☐ _____ N/A ☐ N/C ☑ f. Description of topography, soil types, and surface water drainage systems;

S ☐ _____ N/A ☐ N/C ☑ 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;

S ☐ _____ N/A ☐ N/C ☑ h. Identify and locate any existing contaminated areas on the site;

S ☐ _____ N/A ☐ N/C ☑ i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

S ☐ _____ N/A ☐ N/C ☑ 2. Report signed, sealed, and dated by P.E. and/or P.G.;

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

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

S ☐ _____ N/A ☐ N/C ☑ a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

S ☐ _____ N/A ☐ N/C ☑ b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments, and sink holes;

S ☐ _____ N/A ☐ N/C ☑ c. Estimates of average and maximum high water table across the site;

S ☐ _____ N/A ☐ N/C ☑ d. Foundation analysis including:

S ☐ _____ N/A ☐ N/C ☑ (1) Foundation bearing capacity analysis;

LOCATION				
S ☑	Section 2, Part I-2	N/A ☐	N/C ☐	(2) Total and differential subgrade settlement analysis;
S ☑	Section 2, Part I-2	N/A ☐	N/C ☐	(3) Slope stability analysis;
S ☑	Section 2, Part I-2	N/A ☐	N/C ☐	e. Description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, and conclusions;
S ☐		N/A ☐	N/C ☑	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;
S ☑	Section 2, Part I-2	N/A ☐	N/C ☐	2. Report signed, sealed, and dated by P.E. and/or P.G.;

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

LOCATION				
S ☐		N/A ☑	N/C ☐	1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;
S ☐		N/A ☑	N/C ☐	2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;
S ☐		N/A ☑	N/C ☐	3. Provide foundation and settlement analysis for the vertical expansion;
S ☐		N/A ☑	N/C ☐	4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;
S ☐		N/A ☑	N/C ☐	5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;
S ☐		N/A ☑	N/C ☐	6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
S ☐		N/A ☑	N/C ☐	7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

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

LOCATION

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

S ☐	_____	N/A ☐	N/C ☑	7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)
S ☐	_____	N/A ☐	N/C ☑	a. Waste layer thickness and compaction frequencies;
S ☐	_____	N/A ☑	N/C ☐	b. Special considerations for first layer of waste placed above the liner and leachate collection system;
S ☐	_____	N/A ☐	N/C ☑	c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation;
S ☐	_____	N/A ☐	N/C ☑	d. Maximum width of working face;
S ☐	_____	N/A ☐	N/C ☑	e. Description of type of initial cover to be used at the facility that controls:
S ☐	_____	N/A ☐	N/C ☑	(1) Vector breeding/animal attraction;
S ☐	_____	N/A ☐	N/C ☑	(2) Fires;
S ☐	_____	N/A ☐	N/C ☑	(3) Odors;
S ☐	_____	N/A ☐	N/C ☑	(4) Blowing litter;
S ☐	_____	N/A ☐	N/C ☑	(5) Moisture infiltration;
S ☐	_____	N/A ☐	N/C ☑	f. Procedures for applying initial cover, including minimum cover frequencies;
S ☐	_____	N/A ☐	N/C ☑	g. Procedures for applying intermediate cover;
S ☐	_____	N/A ☐	N/C ☑	h. Time frames for applying final cover;
S ☐	_____	N/A ☐	N/C ☑	i. Procedures for controlling scavenging and salvaging;
S ☐	_____	N/A ☐	N/C ☑	j. Description of litter policing methods;
S ☐	_____	N/A ☐	N/C ☑	k. Erosion control procedures;

LOCATION				PART K CONTINUED
S ☐	_____	N/A ☑	N/C ☐	8. Describe operational procedures for leachate management including: (62-701.500(8), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Leachate level monitoring;
S ☐	_____	N/A ☑	N/C ☐	b. Operation and maintenance of leachate collection and removal system, and treatment as required;
S ☐	_____	N/A ☑	N/C ☐	c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
S ☐	_____	N/A ☑	N/C ☐	d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;
S ☐	_____	N/A ☑	N/C ☐	e. Contingency plan for managing leachate during emergencies or equipment problems;
S ☐	_____	N/A ☑	N/C ☐	f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;
S ☐	_____	N/A ☑	N/C ☐	g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;
S ☐	_____	N/A ☑	N/C ☐	h. Procedures for water pressure cleaning or video inspecting leachate collection systems;
S ☐	_____	N/A ☑	N/C ☐	9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)
S ☐	_____	N/A ☐	N/C ☑	10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9), FAC; (62-701.500(10), FAC)
S ☐	_____	N/A ☐	N/C ☑	11. Equipment and operation feature requirements; (62-701.500(11), FAC)
S ☐	_____	N/A ☐	N/C ☑	a. Sufficient equipment for excavating, spreading, compacting, and covering waste;
S ☐	_____	N/A ☐	N/C ☑	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
S ☐	_____	N/A ☐	N/C ☑	c. Communications equipment;

S ☐ _____ N/A ☐ N/C ☑ d. Dust control methods;

S ☐ _____ N/A ☐ N/C ☑ e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

S ☐ _____ N/A ☐ N/C ☑ f. Litter control devices;

S ☐ _____ N/A ☐ N/C ☑ g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions;

S ☐ _____ N/A ☐ N/C ☑ 12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC)

S ☐ _____ N/A ☐ N/C ☑ 13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

S ☐ _____ N/A ☐ N/C ☑ a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;

S ☐ _____ N/A ☐ N/C ☑ b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years;

S ☐ _____ N/A ☐ N/C ☑ c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department;

S ☐ _____ N/A ☐ N/C ☑ d. Procedures for archiving and retrieving records which are more than five years old;

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

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements:

S ☐ _____ N/A ☐ N/C ☑ a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC)

LOCATION				PART L CONTINUED
S ☐	_____	N/A ☐	N/C ☑	b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)
S ☐	_____	N/A ☐	N/C ☑	c. Ground water monitoring requirements; (62-701.510(3), FAC)
S ☐	_____	N/A ☐	N/C ☑	(1) Detection wells located downgradient from and within 50 feet of disposal units;
S ☐	_____	N/A ☐	N/C ☑	(2) Downgradient compliance wells as required;
S ☐	_____	N/A ☐	N/C ☑	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
S ☐	_____	N/A ☐	N/C ☑	(4) Location information for each monitoring well;
S ☐	_____	N/A ☐	N/C ☑	(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;
S ☐	_____	N/A ☐	N/C ☑	(6) Properly selected well screen locations;
S ☐	_____	N/A ☐	N/C ☑	(7) Monitoring wells constructed to provide representative ground water samples;
S ☐	_____	N/A ☐	N/C ☑	(8) Procedures for properly abandoning monitoring wells;
S ☐	_____	N/A ☑	N/C ☐	(9) Detailed description of detection sensors, if proposed;
S ☐	_____	N/A ☐	N/C ☑	d. Surface water monitoring requirements; (62-701.510(4), FAC)
S ☐	_____	N/A ☐	N/C ☑	(1) Location of and justification for all proposed surface water monitoring points;
S ☐	_____	N/A ☐	N/C ☑	(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
S ☐	_____	N/A ☐	N/C ☑	e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC)
S ☐	_____	N/A ☐	N/C ☑	(1) Initial background ground water and surface water sampling and analysis requirements;

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

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

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

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

LOCATION

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

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

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

LOCATION				
S ☑	Section 4	N/A ☐	N/C ☐	(4) Top gradient design to maximize runoff and minimize erosion;
S ☐		N/A ☐	N/C ☑	(5) Provisions for cover material to be used for final cover maintenance;
S ☐		N/A ☐	N/C ☑	g. Final cover design requirements;
S ☐		N/A ☐	N/C ☑	(1) Protective soil layer design;
S ☐		N/A ☐	N/C ☑	(2) Barrier soil layer design;
S ☐		N/A ☐	N/C ☑	(3) Erosion control vegetation;
S ☐		N/A ☑	N/C ☐	(4) Geomembrane barrier layer design;
S ☐		N/A ☑	N/C ☐	(5) Geosynthetic clay liner design, if used;
S ☑	Section 2, Part I-2	N/A ☐	N/C ☐	(6) Stability analysis of the cover system and the disposed waste;
S ☐		N/A ☐	N/C ☑	h. Proposed method of stormwater control;
S ☐		N/A ☐	N/C ☑	i. Proposed method of access control;
S ☐		N/A ☐	N/C ☑	j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC;
S ☐		N/A ☐	N/C ☑	3. Closure operation plan shall include: (62-701.600(4), FAC)
S ☐		N/A ☐	N/C ☑	a. Detailed description of actions which will be taken to close the landfill;
S ☐		N/A ☐	N/C ☑	b. Time schedule for completion of closing and long-term care;
S ☐		N/A ☐	N/C ☑	c. Describe proposed method for demonstrating financial assurance for long-term care;
S ☐		N/A ☐	N/C ☑	d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC;
S ☐		N/A ☐	N/C ☑	e. Development and implementation of gas management system required in Rule 62-701.530, FAC;

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 4. Certification of closure construction completion including: (62-701.600(6), FAC)

S ☐ _____ N/A ☐ N/C ☑ a. Survey monuments; (62-701.600(6)(a), FAC)

S ☐ _____ N/A ☐ N/C ☑ b. Final survey report; (62-701.600(6)(b), FAC)

S ☐ _____ N/A ☐ N/C ☑ 5. Declaration to the public; (62-701.600(7), FAC)

S ☐ _____ N/A ☐ N/C ☑ 6. Official date of closing; (62-701.600(8), FAC)

S ☐ _____ N/A ☐ N/C ☑ 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC)

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

LOCATION

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

S ☐ _____ N/A ☐ N/C ☑ 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)

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

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)

S ☐ _____ N/A ☐ N/C ☑ 2. Stabilization report requirements; (62-701.620(6), FAC)

S ☐ _____ N/A ☐ N/C ☑ 3. Right of access; (62-701.620(7), FAC)

S ☐ _____ N/A ☐ N/C ☑ 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC)

S ☐ _____ N/A ☐ N/C ☑ 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC)

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

LOCATION

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

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

S ☐ _____ N/A ☐ N/C ☑ 3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC)

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

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

Signature of Applicant or Agent

Name and Title (please type): John Arnold, P.E., Engineer

E-Mail Address (if available): John.PhillipArnold@gmail.com

Mailing Address: 855 28th Street South

City, State, Zip Code: St. Petersburg, FL 33712

Telephone Number: (813) 477-1719

Date: 3/20/15

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

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

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

Signature

Name and Title (please type): Lisa Baker, P.E., Engineering Division Director

Florida Registration Number (please affix seal): 74652

LISA J. BAKER LICENSE No. 74652 STATE OF FLORIDA PROFESSIONAL ENGINEER

Mailing Address: 4140 NW 37th Place, Suite A

City, State, Zip Code: Gainesville, FL 32606

E-Mail Address (if available): lisa@locklearconsulting.com

Telephone Number: (352) 672-6867

Date: _____

SECTION 2

PART I-2 SLOPE STABILITY ANALYSIS

11012 N. Ridgedale Road
Temple Terrace, Florida 33617
(813) 629-1965 office
(813) 914-7347 fax

March 20, 2015 Project No. 15-01-0111.01

Mr. John Locklear, P.G.
President
Locklear & Associates, Inc.
4140 NW 37th Place, Suite A
Gainesville, Florida 32606

RE: Slope Stability, Settlement, and Bearing Capacity Analysis
Enterprise Class III Landfill – Minor Modification of Existing Operations Permit
Dade City, Florida

Dear Mr. Locklear,

Civil Design Services, Inc. (CDS) is submitting the following Slope Stability, Settlement, and Bearing Capacity Analysis Report (Report) to Locklear & Associates, Inc. (L&A) for the modifications to the Class III solid waste operations at the Enterprise Class III Landfill (Landfill), located in Dade City, Florida. It is our understanding that the following modifications are proposed to the existing operations permit;

- Maintaining the sideslopes at a 3(h):1(v) ratio on the sideslopes below the first terrace at EL 125 (reference the Permit Drawings prepared by Kelner Engineering, Inc, dated December of 2012);
- Maintain the sideslopes at a 4(h):1(v) ratio on the sideslopes to a second proposed 10-foot wide terrace at at EL 150.
- Modify a new proposed sideslope at a 4(v):1(v) ratio from the second terrace to a crest elevation of EL 170.
- Modify the top slope of the disposal area from EL 170 to EL 175 (peak – top of cover soil).
- Maintain the Cell 7 floor design elevations to allow drainage toward the Cell 6 disposal area and eventually northward as permitted.

The purpose of this report is to evaluate the above proposed modifications and evaluate the stability of the waste materials with the proposed geometry, the settlement of the floor in Cells 6 and 7 due to the increased loading, and estimated bearing capacity of the foundation. Previous geotechnical and hydrogeological reports, submitted by others, evaluated the subsurface conditions for potential activity in the karst layers beneath the site and are the responsibility of others.

Reference Documents

The following documents were reviewed and information contained within these reference documents were used as part of the analyses. The reference documents are as follows;

Reference No 1. Universal Engineering Sciences – Geotechnical Exploration dated May 5, 2000.

- Boring logs B-1 through B-10.

Reference No 2. Hartman and Associates Response to RAI Number 1 dated April, 03, 2001.

- Boring logs B-11 through B-17.
- Boring logs (just soil identification no SPT data shown) for L-12 through L-17, dated September 9, 1999.
- Boring logs for DCL01-DCL-15 dated January of 2001.

Reference No 3. Jones Edmunds and Associates, Inc. – Angelo's Class III Operations Permit Renewal Request for Supplemental Information dated April 13, 2007.

Slope Stability Model Analysis

- L&A prepared the permit modification Plans (Plans) for the Landfill. These Plans were used as the basis for modeling the slope geometry.

- The most critical slope stability section is along a line running north to south through the waste units. This is most critical section since the slope is the highest (from the bottom of Pond No. 3 to the top of the landfill at EL 170 (crest) to EL 175 (peak). Soils borings B-4, B-5, B-6, and B-7 logs were used to create a model the subsurface soil strata along this critical section. Other site boring data indentified in the references were used to supplement the soil profiles used in the slope stability model.

- Slope stability models were also evaluated along a cross section running east to west through the waste mound, through the buildout of Cell 6, and initial excavation and construction of Cell 7. This is the most critical cross section in Cell 6 is at its peak elevation and Cell 7 has not waste within the cell that would provide a "buttress" to movement of the Cell 6 waste. Likewise, when Cell 7 is being filled, the existing slope of the hillside to the west provides a "buttress" against potential rotational failure planes in cell 7.

- The following table of soil and waste properties was reviewed and used in the slope stability models prepared by CDS;

Soil Description	Unit Weight	Phi (degree)	Cohesion (psf)
Sand / Clayey Sand (SP/SC)	105	26	0
Compacted Clay Base	110	34	0
Class III Waste	50	35	0
Clay (CH)	110	0	1,000
Clayey Sand (SC)	105	26	0
Limestone (Foundation)	*		

Sand / Clayey Sand (SP/SC) – Previous reference reports used a sand strength with a phi angle of 34 degrees. In our models, for this in-situ, medium dense sand/clayey sand (SPT N values of approximately 10) we used a lower strength soil with a phi angle of 28 degrees. This is conservative since the SP/SC soils are near the bottom of the disposal

units and the failure planes are more likely to pass through the upper soils layers when modeling.

Compacted Clay (SC - compacted) – Previous reference reports used a clay strength of c=1,000 psf. This is generally used for soils with high clay content. The clayey sands onsite generally have a higher percentage of sand content than clay content. The onsite clayey sands will be excavated, remolded, and compacted as part of the construction of the landfill base for the expansion areas. The clayey sands were modeled as a cohesionless soil layer with a strength of 34 degrees. This is more representative of the compacted clayey sands and conservative for slope stability modeling.

Class III – A unit weight of 50 lb/ft^3 (1,350 lb/cy) is more representative of Class III material than previous units weights of 65 lb/ft^3 (1,755 lb/cy) used in the reference reports. A unit weight of 65 lb/ft^3 is more representative of Class I waste material.

Clayey Soil Layers (CH) – Previous reports used a cohesive shear strength equal to 1,000 psf for this layer. We reviewed the soil borings and with SPT N valves of approximately 10 and the clay contents would generally be higher for deeper soils at the site, so we felt this was an acceptable approximation of this material.

Clayey Sand (SC) – It appears the neither reference report specifically assigned a value to this material but our review of the borings indicated there is a significant amount of the material near the limestone layer. The material in the borings is relatively dense and similar in characteristics to a SP/SC soil (depending on clay content). We conservatively modeled this layer as a lower strength SP/SC soil type with a phi angle of 26 degrees.

Limestone (Foundation) properties are difficult to estimate but the high SPT N-values indicate a very dense layer of soils and rocks. From a slope stability evaluation it can be reasonably be assumed that potential failure surfaces would not extend below the top of the limestone (foundation) layer.

- The waste equipment used in the analyses were a CAT D8T WH dozer; a CAT 826H compactor; and a CAT 740B off-road dump truck. All equipment types are used onsite and/or are representative of typical waste and construction equipment used at landfills. Refer to Attachment A of this Report for equipment loads and manufacturer data.

- The seasonal high groundwater table was estimated by L&A to be at EL 72. It is our understanding the previous measurements in local peizometers in the northeast corner of the facility were not representative of the groundwater and may have been perched water tables. For slope stability modeling, a piezometric groundwater elevation of 72 was used.

A review of the above reference information and modeling assumptions made above is reasonable for completing the slope stability analyses prepared by CDS for the proposed slope modifications at the Landfill.

Slope Stability Analysis

PCSTABL was used to model and estimate slope stability of the Landfill during operational conditions using typical site waste equipment and waste filling during operations and final buildout. Both BLOCK and ROTATIONAL failure modes were evaluated. BLOCK failure modes are used to evaluate sliding failure planes and ROTATIONAL failure modes are used to evaluate shallow and deep rotational stability of the waste and foundation soils.

The following scenarios evaluated by CDS were – 1) North/South cross section approximately through Borings B-1, B-2, B-7, and B-8; 2) East/West cross section approximately through Borings B-7, B-4, B-5, and B-6. Other site boring data indentified in the references were used to supplement the soil profiles used in the slope stability model.

All cross sections were modeled with, and without, temporary waste equipment loading conditions.

All equipment loads were modeled at the crest of the slope, a position that would induce the greatest stress on the slopes and thus generate the lowest Factor of Safety. A typical input file of the slope stability models for BLOCK and CIRCULAR searches is contained in Attachment B. In each scenario, the profile and failure search routines were adjusted to match that scenario.

Results

Table 1 summarized the results. As shown in Table 1, the slopes are stable and have a factor of safety above 1.5. The graphical output files of the slope stability analyses are contained in Attachment C.

Settlement Estimations

Settlement of the clay subbase for the landfill was evaluated. The evaluation looks at the effect of the proposal modification would have on the drainage patterns of the underlying clay subbase of the landfill.
Currently, the cells (Cell 1 through 5 &15) drain from south toward the north, with the exception of Cell 6 which drains from the west toward the east and into the existing cells. Cell 7 will slope toward Cell 6. Since the drainage in the existing cells (Cells 1 through 5, & 15) will continue to drain northward even with settlement the proposed modification will have not net effect in these cells. The slope on Cell 6 and 7 were evaluated for possible settlement that would interfere with the drainage to the east.

Settlement of the soils beneath the clay subbase liner will be a function of soil types, soil compressibility, and the change in stress induced on the soils after the overburden is removed and waste is added. Note: the landfill is being excavated to form the bottom of the cells. The soils will have been under the stress of the removed overburden and the waste place over the cells is roughly half of the weight of typical soil (soil is approximately 110 pcf while the waste is 50 pcf). Therefore unless the weight of the additional waste is "heavier" or adds more stress to the soil than the previous overburden soil no additional settlement will occur).

Soil Boring B1, B2, and B15 cover a line west to east across Cell 7 to Cell 6. Settlement points were calculated at the western edge of Cell 7 (refer to Point 1), Settlement Point 2 at the western edge of Cell 6, and Settlement Point 3 at the eastern edge of Cell 6. Attachment D contains calculations for soils properties, stresses on the soils, and estimated settlements at each point. In Table 1 is a summary of the settlement and changes to the slope of the clay subbase.

Table 1

Point ID	Location	Settlement (in)	Change in Slope	Comment
1	Westside of Cell 7	0	Maintains slope toward the east	The Westside of Cell 7 is currently being excavated and the soil removed. This is the outside edge of the landfill so no waste will be placed here – no stress increase = no settlement
2	Westside of Cell 6	0	Maintains slope toward the east	The ground surface was originally appox. EL 136. The cell floor is at El 83.5. Initial stress in soil is (52.5 ft X 100 pcf = 5250 psf; there is only 2,625 psf of stress due to the waste (52.5 ft x 50 pcf) = no stress increase in soils = no settlment
3	Eastside of Cell 6	2.4	EL 83.5 to EL 82 1.5 feet over 250 feet = 0.004 ft/ft (pre) 1.3 ft/250ft =0.0052 ft/ft	The area was excavated but ground surface was at EL 114 so the stress increase due to the waste is larger than the original stress in the soils. Settlement was estimated to be 0.2 feet (2.4 inches)

As shown in Table 1, the overall drainage is maintained toward the east.

<u>Bearing Capacity Estimation</u>

Bearing capacity is the capacity of the soils to support loads applied to the foundation soils. The bearing capacity of soil below the landfill disposal area is the maximum average contact loading, or pressure, exerted on the bottom of the landfill disposal cells and the loading (stress) on the foundation soils which should not produce a shear failure in the soil. This is a function of soil layers, waste unit weight, and depth of waste at that location.

To estimate the bearing capacity of the soils below the landfill disposal cell, the unit weight of the Class III waste was incrementally increased until the Factor of Safety was reduced below 1.5. Both Block and Circular failure planes were evaluated for different unit weights for the waste materials.

The unit weight of the waste was increased from 50 pounds per cubic foot (pcf) to 120 pcf for both the Block Failure for the Circular Failure Model until the Factor of Safety was reduced to 1.5. Based upon the model results, this would be representative of the ultimate bearing capacity of the foundation. Refer to Attachment E for bearing capacity models. The North South slope stability model was determined to be the most influenced by increases in the waste unit weight.

At the crest of the expansion, at EL 170, the underlying base of disposal cells 5 &15 is at approximately El 81 (+/-), thus 89 feet of waste will be placed over the landfill foundation at this location. The ultimate bearing capacity (maximum bearing capacity) was therefore estimated at 10,680 pounds per square foot (120 pcf * 89 feet). The proposed loading on the landfill foundation is estimated to be 4,450 psf (50 pcf *

89 feet), therefore the proposed expansion has sufficient additional foundation bearing capacity to accommodate the proposed design.

Conclusions

- **Based upon the PCSTABL Model results, and the assumptions stated in this Report, a minimum Factor of Safety of 1.5 or greater was achieved for all waste configurations.**

- **The proposed modification does not impact the overall drainage slopes of the clay subbase liner system from previously designs. Drainage in Cell 1 through 5 & 15 remains toward the north, and Cell 6 & 7 maintain a slope toward the east and into the existing cells as originally permitted.**

- **Based upon the model results, the foundation soils beneath have sufficient bearing capacity strength for the proposed landfill modifications.**

Please call the undersigned if you have any questions.

Sincerely,
Civil Design Services, Inc.

Joseph H. O'Neill, P.E.
Vice President

Attachment A – Equipment Loading Data
Attachment B – Slope Stability Model Inputs
Attachment C – Slope Stability Model Outputs
Attachment D - Settlement Calculations
Attachment E – Bearing Capacity Model Outputs

3/20/2015
Joseph H. O'Neill, P.E.
P.E. No. 52049

Civil Design Services, Inc.
11012 N. Ridgedale Road
Temple Terrace, Florida 33617
Certificate of Authorization 28923

TABLES

Table 1 Summary of Slope Stability Results.

NORTH / SOUTH SECTION

	Block Analysis	Circular Analysis
Waste Mound / No Equipment	2.3	2.6
CAT D8T WH	2.3	2.4
CAT 826H	2.3	2.5
CAT 740B	2.1	2.3

EAST/WEST SECTION

	Block Analysis	Circular Analysis
Waste Mound / No Equipment	2.8	2.3
CAT D8T WH	2.8	2.3
CAT 826H	2.8	2.3
CAT 740B	2.7	2.3

ATTACHMENT A

Civil Design Services, Inc.
11012 N. Ridgedale Road
Temple Terrace, FL 33617
(813) 629-1965 office
(813) 914-7347 fax
www.civildesignservicesinc.com

Project Name

Angleos Recycling and Disposal Facility
Class III Modification
41111 Enterprise Road
Dade City, Florida 33525-1589

Slope Stability Evaluation

Estimated Equipment Surface Loads

Equipment Surface Loads

Operations and Closure

CAT 8T WH Dozer

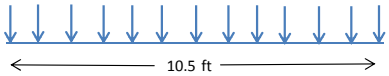
Equipment Weight (Operating) =	91,270.0	lbf
Weight per Track =	45,635.0	lbf (2 tracks)
Track Contact Area (both tracks)	5,554.0	in^2
Per Track	2,777.0	in^2
Track Length =	10.5	ft

Surface Loading

Load =	45,635.0	lbf
Area =	2,777.0	in2
Contact Pressure (Force/Area) =	16.43	psi
	2,366.38	psf

LOADING PATTERN

Approximately 2,400.00 psf

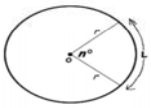


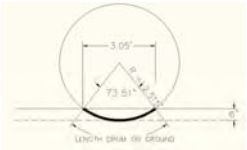
CAT 826H Compactor

Equipment Weight (Operating) =	81,498.0	lbf
Weight per Drum =	20,374.5	lbf (4 drums)
Drum Width =	3.94	ft
Drum Diameter =	5.03	ft
Drum Radius =	2.515	ft

Length of an Arc Formula

$$Length = \frac{n^\circ}{360^\circ} \times 2\pi r$$



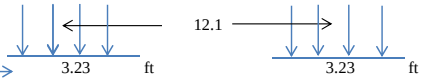


Assumption on Wheels	6	in Wheel pentration into waste (compacted)
n =	73.51	degrees (from CADD)
Drum Length on Ground L =	3.23	ft
Drum Width =	3.94	ft
Drum Length on Ground L =	3.23	ft
Area of Each Drum =	12.71	sf
Distance Centerline to Centerline Drum =	12.1	ft

Surface Loading

Load =	20,374.5	lbf
Area =	12.7	sf
Contact Pressure (Force/Area) =	1,602.61	psf

LOADING PATTERN



Approximately 1,700.00 psf

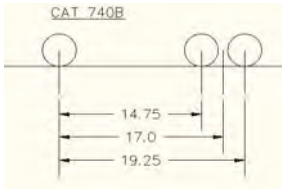
Equipment Surface Loads

Operations and Closure

Fully Loaded
Equipment Weight (Operating) = 165,311.0 lbf

Front Axle	50,977.0 lbf	per tire ===>	25,488.5 lbf
Center Axle	57,997.0 lbf	per tire ===>	28,998.5 lbf
Rear Axle	56,335.0 lbf	per tire ===>	28,167.5 lbf
	165,309.0 lbf		

(negligible difference of 2 lbf)

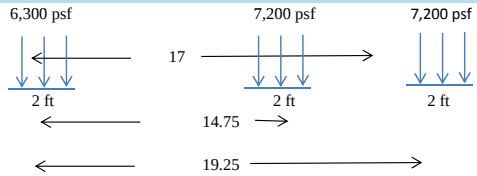


Tires 29R 25	Contact Area		Tires (Contact Area)
Front Axle	583 in^2 ==========>	4.049 ft^2	30.4 in wide
Center Axle	583 in^2 ==========>	4.049 ft^2	19.2 length
Rear Axle	583 in^2 ==========>	4.049 ft^2	

Pressure

Front Axle	Load per axle/area	43.7 psi	6,295.6 psf (Say 6,300 psf)
Center Axle	Load per axle/area	49.7 psi	7,162.6 psf (Say 7,200 psf)
Rear Axle	Load per axle/area	48.3 psi	6,957.3 psf (Say 7,000 psf)

LOADING PATTERN



CAT D8T WH DOZER

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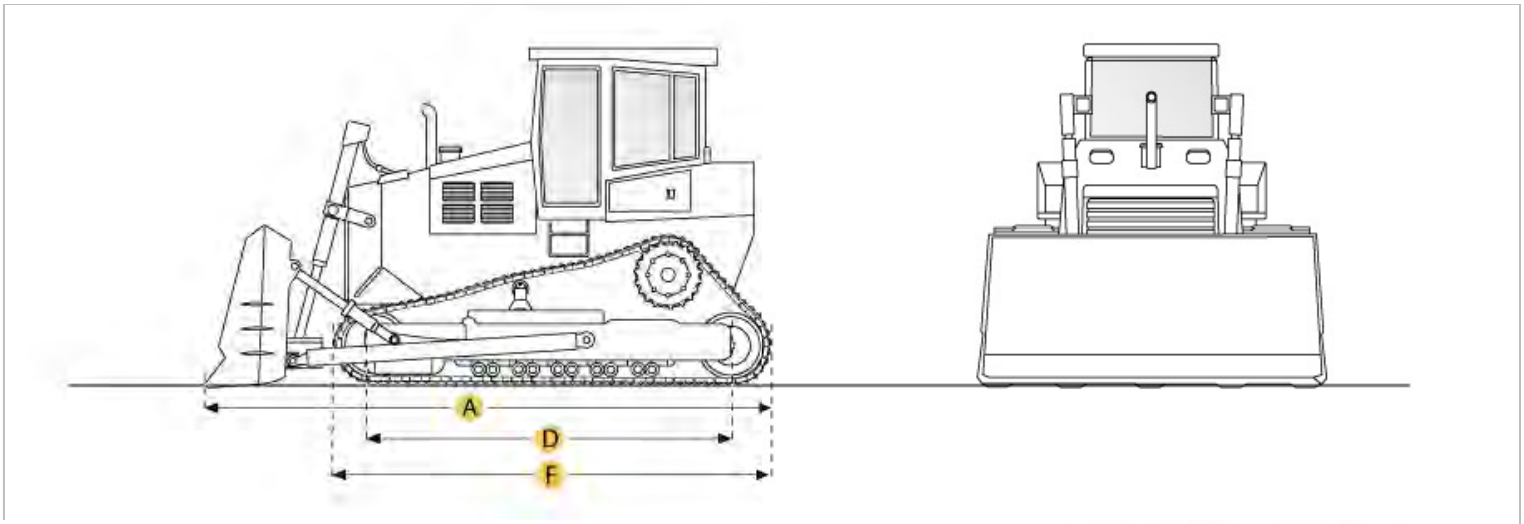

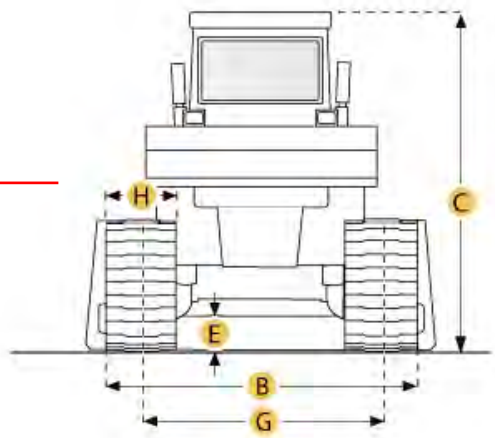

Selected Dimensions

Dimensions		
A. LENGTH W/ BLADE	21 ft in	6390 mm
B. WIDTH OVER TRACKS	8.9 ft in	2700 mm
C. HEIGHT TO TOP OF CAB	8.8 ft in	2670 mm
D. LENGTH OF TRACK ON GROUND	10.5 ft in	3210 mm
E. GROUND CLEARANCE	1.9 ft in	585 mm
F. LENGTH W/O BLADE	16.2 ft in	4930 mm
Undercarriage		
G. TRACK GAUGE	6.8 ft in	2080 mm
H. STANDARD SHOE SIZE	22 in	560 mm

Specification

Engine		
MAKE	Caterpillar	
MODEL	3406ETA	
GROSS POWER	305 hp	227.4 kw
POWER MEASURED @	2100 rpm	
DISPLACEMENT	890.9 cu in	14.6 L
NUMBER OF CYLINDERS	6	
Operational		
OPERATING WEIGHT	82880.6 lb	37594 kg
FUEL CAPACITY	165.1 gal	625 L
Transmission		
NUMBER OF FORWARD GEARS	3	
NUMBER OF REVERSE GEARS	3	
MAX SPEED - FORWARD	6.6 mph	10.6 km/h
MAX SPEED - REVERSE	8.6 mph	13.8 km/h
Undercarriage		

WASTE HANDLING DOZERS (/EN_US/PRODUCTS/NEW/EQUIPMENT/DOZERS/WASTE-HANDLING-DOZERS.HTML)

D8T WH (TIER 4 INTERIM/STAGE IIIB)

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1 of 2

SPECIFICATIONS BENEFITS & FEATURES RELATED PRODUCTS

OVERVIEW

The Cat® D8T Waste Handler has earned a reputation for best-in-class versatility, productivity and resale value. Landfill customers choose the D8T WH because it excels at multiple tasks from pushing trash and spreading cover to cell construction and closing. Cat Waste Handlers are designed and built from the frame up to handle the demands of landfill work – and they do it with industry leading comfort and reliability. The D8T WH meets U.S. Tier 4 Interim/EU Stage IIIB emission standards.

ENGINE

UNITS: US METRIC

Engine Model	Cat® C15 ACERT™
Flywheel Power	310.0 hp
Bore	5.4 in
Stroke	6.75 in
Displacement	928.0 in3
Emissions	U.S. Tier 4 Interim/EU Stage IIIB
Global Emissions	U.S. Tier 4 Interim/EU Stage IIIB
Gross Power – ISO 14396	318.0 hp
Gross Power – ISO 14396 (DIN)	322.0 hp
Gross Power – SAE J1995	348.0 hp
Net Power – EU 80/1269	310.0 hp
Net Power – ISO 9249	310.0 hp
Net Power – ISO 9249 (DIN)	314.0 hp
Net Power – SAE J1349	310.0 hp

SERVICE REFILL CAPACITIES

Cooling System	20.3 gal
Engine Crankcase*	10.0 gal
Final Drives (each)	3.3 gal
Hydraulic Tank	19.8 gal
Pivot Shaft Compartment	10.6 gal
Powertrain	41.0 gal
Roller Frames (each)	17.2 gal
Fuel Tank	170.0 gal

WEIGHTS

Operating Weight	85650.0 lb
Operating Weight – LGP WHA	91270.0 lb
Operating Weight – SU Blade WHA	85650.0 lb
Shipping Weight – LGP WHA	77840.0 lb
Shipping Weight – WHA	72220.0 lb

UNDERCARRIAGE

Track Gauge	82.0 in
Track Gauge – LGP	92.0 in
Length of Track on Ground	10.5 ft
Ground Contact Area	5554.0 in2
Track Rollers/Side	8
Ground Clearance	24.3 in
Ground Contact Area – LGP	9576.0 in2
Grouser Height	3.0 in
Number of Carrier Rollers	1 per side (optional)
Pitch	8.5 in
Shoe Type	Moderate Service
Shoes/Side	44
Width of Shoe	24.0 in
Width of Shoe – LGP	38.0 in

BLADES

Capacity (SAE J1265)	26.1 yd3
Capacity (SAE J1265)	32.4 yd3
Capacity (SAE J1265)	27.6 yd3

CAT 826H COMPACTOR

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CATERPILLAR 826H COMPACTOR

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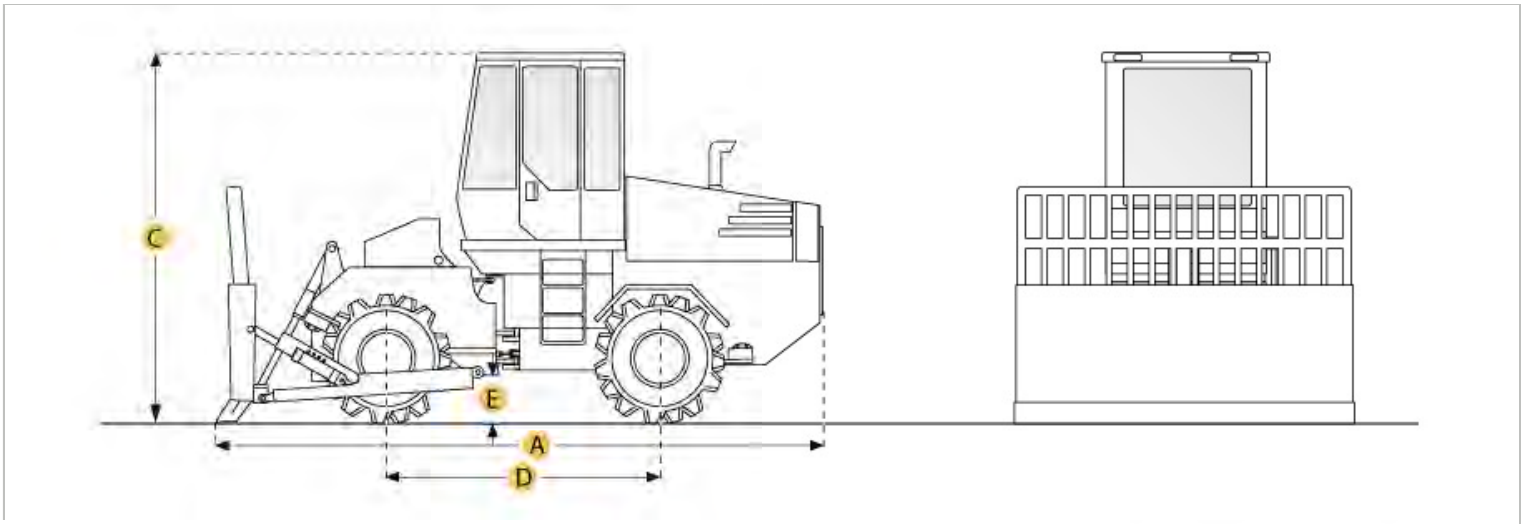
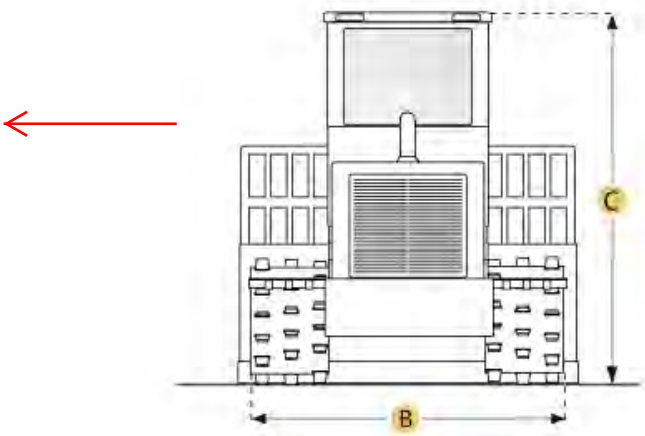


Selected Dimensions

Dimensions		
A. LENGTH WITH BLADE ON GROUND	27.3 ft in	8332 mm
C. HEIGHT TO TOP OF CAB	13.8 ft in	4193 mm
D. WHEELBASE	12.1 ft in	3700 mm
E. GROUND CLEARANCE	1.6 ft in	488 mm



Specification

Engine		
MAKE	Caterpillar	
MODEL	C15 diesel with ACERT Technology	
GROSS POWER	401 hp	299 kw
NET POWER	354 hp	264 kw
DISPLACEMENT	927.6 cu in	15.2 L
Operational		
OPERATING WEIGHT	81498 lb	36966.9 kg
FUEL CAPACITY	177.5 gal	672 L
HYDRAULIC SYSTEM FLUID CAPACITY	23.3 gal	88 L
ENGINE OIL CAPACITY	9 gal	34 L
COOLING SYSTEM FLUID CAPACITY	21.7 gal	82 L
TRANSMISSION FLUID CAPACITY	16.4 gal	62 L
Transmission		
NUMBER OF FORWARD GEARS	2	
NUMBER OF REVERSE GEARS	2	
MAX SPEED	6.6 mph	10.6 km/h
Wheels		
FRONT WHEELS DRUM WIDTH	47.2 in	1200 mm
FRONT WHEELS DRUM DIAMETER	60.3 in	1532 mm
REAR WHEELS DRUM WIDTH	47.2 in	1200 mm
REAR WHEELS DRUM DIAMETER	60.3 in	1532 mm

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826H

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MACHINE COMPARISON	(HTTP://WWW.SPECCHECK.COM/LITE/SELECT MODID=BTZ6AAWH38O.JQJQJ.&X=7IOLTELY
USED LANDFILL COMPACTORS	(HTTP://CATUSED.CAT.COM/EN/COMPACTOR RESULTS.HTML?PRODUCTFAMILYCATEGORY
RENT LANDFILL COMPACTORS	(HTTP://WWW.CATRENTALSTORE.COM/EQUI EQUIPMENT/LANDFILL-COMPACTORS)

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826H - 2011, Global Landfill Compactors

PHOTO 360 VIEW

SPECIFICATIONS BENEFITS & FEATURES EQUIPMENT

OVERVIEW

Caterpillar put the first 826 landfill compactor to work in 1978. Since then, customers like you have helped us improve the safety, reliability and productivity of this very popular machine. Our H Series model has enhanced visibility and comfort from a new ergonomic cab. Operators have greater line of sight to areas around the machine, and with CAES installed, the 826H has the ability to be more efficient, lowering your operating costs.

ENGINE

UNITS: US METRIC

Gross Power	401.0 hp
Net Power	354.0 hp
Engine Model	Cat® C15 ACERT™
Flywheel Power	354.0 hp
Torque Rise	19.0 %
Bore	5.4 in
Stroke	6.7 in
Displacement	927.56 in3
Peak Torque – Gross	1387.0 ft-lb

TRANSMISSION

Forward 1	3.6 mph
Forward 2	6.03 mph
Reverse 1	4.1 mph
Reverse 2	6.59 mph

HYDRAULIC SYSTEM

Vane Pump Output @ 2,000 rpm and 6900 kPa (1,000 psi)	93.0 gal/min
Relief Valve Setting	3506.29 psi
Lift Cylinder Bore x Stroke	120.65 mm × 915 mm (4.74 in × 36.02 in)

AXLES

Front	Planetary – Fixed
Oscillating Rear	±5°

BRAKES

Standards	Meet OSHA, SAE J1473 DEC84, ISO 3450:1985 standards

WHEELS – CHEVRON-PATTERN, CHOPPER BLADES

Drum Width	3.94 ft
Drum Diameter	5.03 ft
Diameter with Blades	6.07 ft
Blades per Wheel	24

STRAIGHT BLADE

Capacity	17.0 yd3
Width Over End Bits	14.77 ft
Moldboard Length	14.14 ft
Height	6.23 ft

U-BLADE

Capacity	21.84 yd3
Height	6.81 ft
Moldboard Straight Length	6.81 ft
Moldboard U-Length	4.09 ft
U-Angle	25°
Width Over End Bits	14.43 ft

SEMI U-BLADE

Capacity	18.97 yd3
Height	6.43 ft
Moldboard Semi U-Length	1.51 ft
Moldboard Straight Length	11.92 ft
Semi U-Angle	25°
Width Over End Bits	14.73 ft

SERVICE REFILL CAPACITIES

Fuel Tank	177.52 gal
Cooling System	21.66 gal
Crankcase	8.98 gal
Transmission	16.38 gal
Differentials and Final Drives – Front	23.78 gal
Differentials and Final Drives – Rear	23.78 gal
Hydraulic Tank	23.25 gal

WEIGHTS

Operating Weight	81498.0 lb

CAB

ROPS/FOPS	Meets SAE and ISO standards

SOUND PERFORMANCE

Standards	Meet ANSI/SAE and ISO standards

DIMENSIONS (APPROXIMATE)

Center Line of Rear Axle to Hitch	7.46 ft
Width over Wheels	12.5 ft
Width over Endbits (Blade)	14.77 ft
Turning Radius – Inside	10.57 ft
Turning Radius – Outside	24.06 ft

HYDRAULIC STEERING SYSTEM

Piston Pump Output @ 2,000 rpm and 7000 kPa (1,015 psi)	49.0 gal/min
Relief Valve Setting	3499.0 psi

CAT 740B OFF-ROAD DUMP TRUCK

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Select language

Current number of specifications

CATERPILLAR 740B ARTICULATED DUMP TRUCK

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Print specification

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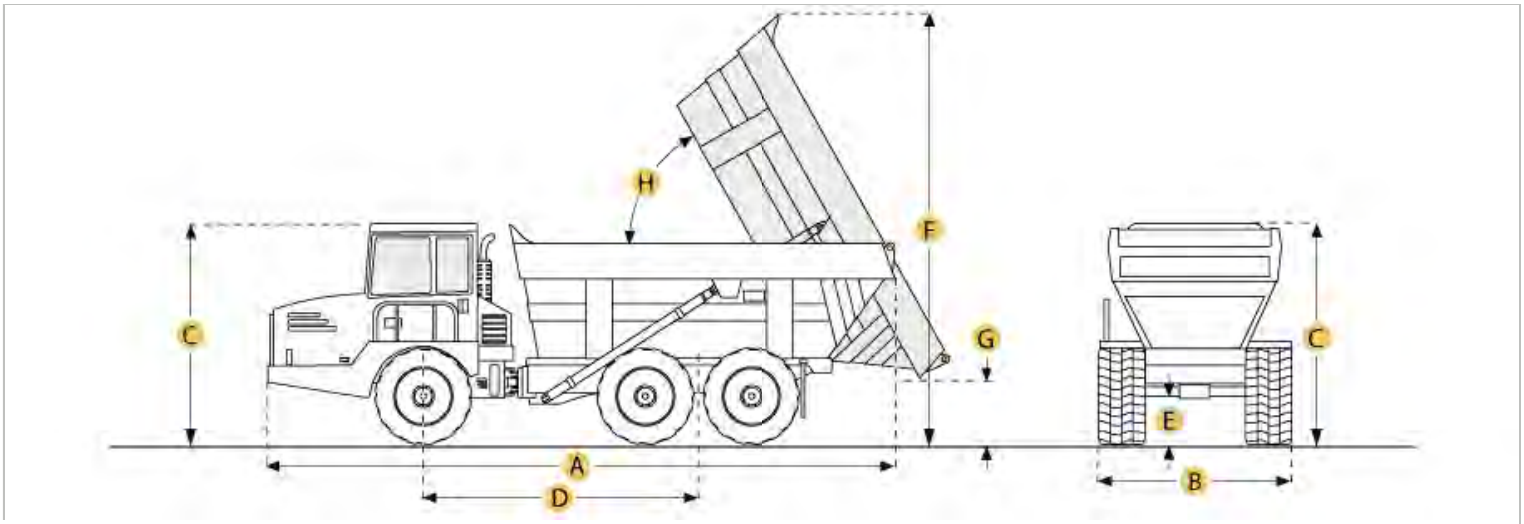
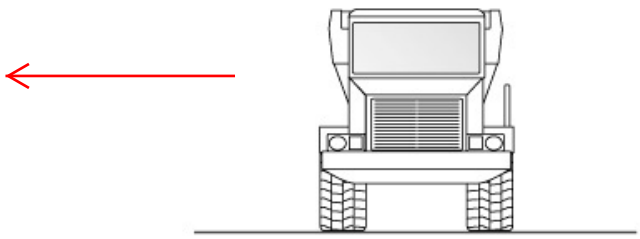
Need to sell equipment?

Just complete this form and a Ritchie Bros. representative will contact you.



Selected Dimensions

Dimensions		
A. OVERALL LENGTH	36.1 ft in	11000 mm
B. OVERALL WIDTH	12.4 ft in	3770 mm
C. OVERALL HEIGHT	13.3 ft in	4039 mm
D. WHEELBASE	17.2 ft in	5229 mm
E. GROUND CLEARANCE	1.9 ft in	577 mm
F. DUMP HEIGHT	23.3 ft in	7092 mm
G. DUMP GROUND CLEARANCE	2.3 ft in	697 mm
Dump		
H. DUMP ANGLE	70 degrees	



Specification

Engine		
MAKE	Caterpillar	
MODEL	C15	
GROSS POWER	489 hp	364.6 kw
NET POWER	474 hp	353.5 kw
POWER MEASURED @	1700 rpm	
DISPLACEMENT	926 cu in	15.2 L
TORQUE MEASURED @	1200 rpm	
MAX TORQUE	1819 lb ft	2466.2 Nm
Operational		
FUEL CAPACITY	147.9 gal	560 L
HYDRAULIC SYSTEM FLUID CAPACITY	86.6 gal	328 L
COOLING SYSTEM FLUID CAPACITY	21.1 gal	80 L
ENGINE OIL CAPACITY	10 gal	38 L
TRANSMISSION FLUID CAPACITY	19 gal	72 L
TIRE SIZE	29.5R25	
Transmission		

THREE AXLE ARTICULATED TRUCKS (/EN_US/PRODUCTS/NEW/EQUIPMENT/ARTICULATED-TRUCKS/THREE-AXLE-ARTICULATED-TRUCKS.HTML)

740B EJ

FINANCING & INSURANCE

See our Current Offers (/en_US/promotions/financing-solutions.html)

LOCATE YOUR DEALER

Enter Zip Code GO

REQUEST A QUOTE	(/EN_US/BUILD-QUOTE/REQUEST-A-QUOTE.HTML?PRODUCTPATHNEW=/CONTENT/CATDOTCOM/EN_US TRUCKS/THREE-AXLE-ARTICULATED-TRUCKS/178072
MACHINE COMPARISON	(HTTP://WWW.SPECCHECK.COM/LITE/SELECT.A MODID=C36.ZZXZZ.MAYW6GC.JQJQJ.&X=7IOLT
USED ARTICULATED TRUCKS	(HTTP://CATUSED.CAT.COM/EN/CATERPILLAR/A RESULTS.HTML?PRODUCTFAMILYCATEGORY=1
RENT ARTICULATED TRUCKS	(HTTP://WWW.CATRENTALSTORE.COM/EQUIPM TRUCKS)

VIEW PRODUCT DOWNLOADS

740B Ejector Articulated Trucks

PHOTO 360 VIEW

2 of 2

SPECIFICATIONS BENEFITS & FEATURES EQUIPMENT

OVERVIEW

The new Cat® 740B ej with 38 tonnes (42 tons) rated payload offers proven reliability and durability, high productivity, superior operator comfort and lower operating costs. The spacious two-person cab with forward facing passenger seat and off road oil/nitrogen front suspension cylinders keep the operator comfortable through out the working day. The true “on-the-go” Automatic Traction Control (ATC) automatically modulates the correct level of Inter-Axle and Cross-Axle differential lock engagement which will improve cycle times and productivity. No operator interaction. Strong, durable Cat ACERT™ engines with the Tier 4 Interim/EU Stage IIIB exhaust emission solution and electronically controlled smooth shifting transmissions deliver high productivity with low fuel consumption. There are significant changes/improvements to the engine/transmission software that result in smoother gear changes.

ENGINE

UNITS: US METRIC

Engine Model	Cat® C15 ACERT™
Gross Power – SAE J1995	489.0 hp
Net Power – SAE J1349	474.0 hp
Bore	5.4 in
Stroke	6.75 in
Displacement	926.0 in3
Engine Model Tier 4 Interim/EU Stage IIIB	Cat® C15 ACERT™
Net Power – ISO 14396	484.0 hp

WEIGHTS

Rated Payload	42.0 tons

BODY CAPACITIES

Heaped SAE 2:1	30.2 yd3
Struck	23.3 yd3

TRANSMISSION

Forward 1	5.5 mph
Forward 2	7.5 mph
Forward 3	10.2 mph
Forward 4	13.7 mph
Forward 5	18.6 mph
Forward 6	25.1 mph
Forward 7	34.0 mph
Reverse 1	5.2 mph
Reverse 2	7.2 mph

SOUND LEVELS

Interior Cab	79.0 dB(A)

OPERATING WEIGHTS

Front Axle – Empty	47357.0 lb
Center Axle – Empty	17919.0 lb
Rear Axle – Empty	16257.0 lb
Total – Empty	81536.0 lb
Front Axle – Rated Load	3620.0 lb
Center Axle – Rated Load	40078.0 lb
Rear Axle – Rated Load	40078.0 lb
Total – Rated Load	83776.0 lb
Front Axle – Loaded	50977.0 lb
Center Axle – Loaded	57997.0 lb
Rear Axle – Loaded	56335.0 lb
Total – Loaded	165311.0 lb

BODY PLATE THICKNESS

Front	0.24 in
Side	0.24 in
Base	0.39 in

SERVICE REFILL CAPACITIES

Fuel Tank	149.3 gal
Cooling System	21.1 gal
Hydraulic System	89.0 gal
Engine Crankcase	9.0 gal
Transmission	19.0 gal
Final Drives/Differential	60.8 gal

RL-4K (24/24)(L-4)

Tire Size: 29.5R25

Extra tread radial loader tire designed for use in rock or load and carry service.

For rock or load and carry service, here is a long wearing radial loader tire available in multiple tread configurations. The 24/24 (24 lugs per side) is ideally suited for both general and load and carry service.

Available in ply ratings: *, **
Available locations: North America, Europe / Africa / Mid East

PAGE OPTIONS

Printable Version

GOODYEAR
DEALER LOCATOR
Find OTR tires near you.

Features

- 150-Level tread depth--50% deeper than standard L-3
- High tensile steel belt package
- Radial construction
- Tire available in multiple tread configurations
- Unique synthetic / natural rubber compound

Benefits

- Extra tread for long wear
- Impact and cut resistant
- Improved treadwear and cooler running than bias construction
- 24/24 (24 lugs per side) appropriate for both general or load and carry service
- Long wearing tread and advanced cut resistance

Change unit of measure: (•) US ( ) Metric

Tire Specs | Loads and Inflations

Rim Width & Flange	Min. Dual Spacing (in)	Overall Width (in)	Overall Diameter (in)	Load Sect. & Growth (in)	Static Load Radius (in)	Revolutions per Mi	Gross Contact Area (in^2)	Tire Vol. (gal)	Tread Depth ($^1/_{32}$in)	TMPH (2S)	TMPH (4S)	TMPH (6S)
25.00-3.5		30.4	75.7	33.6	33	278	583	325	72		90	85

ATTACHMENT B

**** STABL6H ****
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 3/19/2015
Time of Run: 8:01PM
Run By: Civil Design Service, Inc
Input Data Filename: C:ew_fin~1.
Output Filename: C:ew_fin~1.OUT
Plotted Output Filename: C:ew_fin~1.PLT
PROBLEM DESCRIPTION Class III Modification - Enterprise LF
E_W_Final El 175 (CAT 740B- Block)

BOUNDARY COORDINATES
19 Top Boundaries
48 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	272.00	258.20	269.60	5
2	258.20	269.60	442.80	252.60	5
3	442.80	252.60	539.90	243.70	4
4	539.90	243.70	542.00	242.60	4
5	542.00	242.60	552.00	237.60	7
6	552.00	237.60	602.00	212.60	8
7	602.00	212.60	655.20	186.00	9
8	655.20	186.00	665.20	184.50	5
9	665.20	184.50	675.20	186.00	5
10	675.20	186.00	917.90	183.60	2
11	917.90	183.60	925.20	186.00	3
12	925.20	186.00	1042.20	225.00	3
13	1042.20	225.00	1052.20	225.00	3
14	1052.20	225.00	1152.20	250.00	3
15	1152.20	250.00	1162.20	250.00	3
16	1162.20	250.00	1242.20	270.00	3
17	1242.20	270.00	1252.20	270.00	3
18	1252.20	270.00	1546.36	275.00	3
19	1546.36	275.00	2500.00	275.00	3
20	.00	252.60	442.80	252.60	4
21	.00	242.60	542.00	242.60	7
22	.00	237.60	552.00	237.60	8
23	.00	212.60	602.00	212.60	9
24	917.60	183.60	925.20	183.50	2
25	925.20	183.50	2225.20	182.50	2
26	2225.20	182.50	2500.00	182.50	2
27	675.20	186.00	676.20	183.00	5
28	676.20	183.00	1332.80	180.20	5
29	1332.80	180.20	2225.20	179.50	7
30	2225.20	179.50	2500.00	179.50	7
31	1332.80	180.20	1608.00	173.50	5
32	1608.00	173.50	1807.80	173.30	4
33	1807.80	173.30	2329.30	175.90	5
34	2339.30	175.90	2500.00	175.90	5
35	.00	174.60	258.20	174.60	6
36	258.20	174.60	655.20	186.00	5
37	258.20	174.60	1008.20	169.90	6
38	1008.20	169.90	1332.80	175.00	7
39	1608.00	173.30	1807.80	168.30	5
40	1807.80	173.30	2329.30	160.90	4
41	2329.30	160.90	2500.00	160.90	4
42	1332.80	175.00	1807.80	156.30	7
43	1332.80	155.00	1807.80	156.30	6
44	1807.80	168.30	2329.30	155.90	5
45	2329.30	155.90	2500.00	155.90	5
46	1008.20	169.90	1332.80	155.00	6
47	1807.80	156.30	2329.30	150.90	6
48	2329.30	150.90	2500.00	150.90	6

ISOTROPIC SOIL PARAMETERS
9 Type(s) of Soil

Soil	Total	Saturated	Cohesion	Friction	Pore	Pressure	Piez.

Type No.	Unit Wt. (pcf)	Unit Wt. (pcf)	Intercept (psf)	Angle (deg)	Pressure Param.	Constant (psf)	Surface No.
1	105.0	115.0	.0	26.0	.00	.0	1
2	110.0	120.0	.0	30.0	.00	.0	1
3	50.0	50.0	.0	35.0	.00	.0	1
4	100.0	110.0	1000.0	.0	.00	.0	1
5	105.0	115.0	.0	26.0	.00	.0	1
6	125.0	135.0	.0	35.0	.00	.0	1
7	110.0	115.0	.0	26.0	.00	.0	1
8	110.0	120.0	.0	30.0	.00	.0	1
9	125.0	135.0	.0	35.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED
Unit Weight of Water = 62.40
Piezometric Surface No. 1 Specified by 2 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	172.00
2	1500.00	172.00

BOUNDARY LOAD(S)
3 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (lb/sqft)	Deflection (deg)
1	1242.20	1244.20	6200.0	.0
2	1256.95	1258.95	7200.0	.0
3	1261.45	1263.45	7200.0	.0

NOTE - Intensity Is Specified As A Uniformly Distributed
Force Acting On A Horizontally Projected Surface.
A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Sliding Block Surfaces, Has Been
Specified.
500 Trial Surfaces Have Been Generated.
2 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of
Sliding Block Is 10.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	930.00	180.00	1000.00	180.00	15.00
2	1050.00	180.00	1400.00	180.00	20.00

Following Are Displayed The Ten Most Critical Of The Trial
Failure Surfaces Examined. They Are Ordered - Most Critical
First.
* * Safety Factors Are Calculated By The Modified Janbu Method * *
Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	903.33	183.74
2	908.73	178.36
3	918.72	177.89
4	928.72	177.67
5	938.35	175.00
6	1172.26	177.81
7	1179.32	184.89
8	1185.37	192.85
9	1192.44	199.92
10	1196.49	209.07
11	1201.45	217.75
12	1208.29	225.04
13	1215.08	232.39
14	1222.13	239.48
15	1229.05	246.70
16	1236.07	253.82
17	1242.38	261.58
18	1243.43	270.00

*** 2.687 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	903.33	183.74
2	908.73	178.36
3	918.72	177.89

4	928.72	177.67
5	938.35	175.00
6	1172.26	177.81
7	1179.32	184.89
8	1185.37	192.85
9	1192.44	199.92
10	1196.49	209.07
11	1201.45	217.75
12	1208.29	225.04
13	1215.08	232.39
14	1222.13	239.48
15	1229.05	246.70
16	1236.07	253.82
17	1242.38	261.58
18	1243.43	270.00

*** 2.687 ***

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	919.52	184.13
2	925.92	183.23
3	935.66	180.97
4	943.78	175.13
5	953.68	173.76
6	1203.10	188.38
7	1210.13	195.49
8	1216.86	202.89
9	1223.63	210.26
10	1230.49	217.53
11	1235.10	226.40
12	1241.93	233.71
13	1248.26	241.45
14	1253.67	249.86
15	1260.32	257.33
16	1267.34	264.45
17	1267.65	270.26

*** 2.701 ***

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	919.52	184.13
2	925.92	183.23
3	935.66	180.97
4	943.78	175.13
5	953.68	173.76
6	1203.10	188.38
7	1210.13	195.49
8	1216.86	202.89
9	1223.63	210.26
10	1230.49	217.53
11	1235.10	226.40
12	1241.93	233.71
13	1248.26	241.45
14	1253.67	249.86
15	1260.32	257.33
16	1267.34	264.45
17	1267.65	270.26

*** 2.701 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	927.79	186.86
2	929.22	186.22
3	936.80	179.69
4	1219.85	176.45
5	1226.79	183.65
6	1233.46	191.10
7	1239.71	198.91
8	1244.93	207.44
9	1251.98	214.53

```
   10       1255.35      223.94
   11       1262.40      231.03
   12       1264.70      240.77
   13       1265.45      250.74
   14       1270.77      259.20
   15       1277.79      266.32
   16       1281.40      270.50
      ***     2.706   ***
Failure Surface Specified By 16 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        927.79      186.86
    2        929.22      186.22
    3        936.80      179.69
    4       1219.85      176.45
    5       1226.79      183.65
    6       1233.46      191.10
    7       1239.71      198.91
    8       1244.93      207.44
    9       1251.98      214.53
   10       1255.35      223.94
   11       1262.40      231.03
   12       1264.70      240.77
   13       1265.45      250.74
   14       1270.77      259.20
   15       1277.79      266.32
   16       1281.40      270.50
      ***     2.706   ***
Failure Surface Specified By 17 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        942.39      191.73
    2        948.80      187.73
    3        957.54      182.87
    4       1196.44      173.74
    5       1203.10      181.21
    6       1209.91      188.52
    7       1215.25      196.98
    8       1221.21      205.01
    9       1227.98      212.36
   10       1234.91      219.58
   11       1235.63      229.55
   12       1242.62      236.71
   13       1249.67      243.79
   14       1252.68      253.33
   15       1257.43      262.13
   16       1263.74      269.88
   17       1263.97      270.20
      ***     2.770   ***
Failure Surface Specified By 17 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1        942.39      191.73
    2        948.80      187.73
    3        957.54      182.87
    4       1196.44      173.74
    5       1203.10      181.21
    6       1209.91      188.52
    7       1215.25      196.98
    8       1221.21      205.01
    9       1227.98      212.36
   10       1234.91      219.58
   11       1235.63      229.55
   12       1242.62      236.71
   13       1249.67      243.79
   14       1252.68      253.33
   15       1257.43      262.13
   16       1263.74      269.88
   17       1263.97      270.20
      ***     2.770   ***
```

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	946.27	193.02
2	953.11	186.43
3	962.67	183.49
4	972.16	180.34
5	1222.33	179.07
6	1224.27	188.88
7	1231.28	196.02
8	1234.23	205.57
9	1236.30	215.35
10	1242.48	223.21
11	1248.76	231.00
12	1255.41	238.46
13	1261.73	246.22
14	1264.86	255.71
15	1271.41	263.27
16	1271.55	270.33

*** 2.774 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	946.27	193.02
2	953.11	186.43
3	962.67	183.49
4	972.16	180.34
5	1222.33	179.07
6	1224.27	188.88
7	1231.28	196.02
8	1234.23	205.57
9	1236.30	215.35
10	1242.48	223.21
11	1248.76	231.00
12	1255.41	238.46
13	1261.73	246.22
14	1264.86	255.71
15	1271.41	263.27
16	1271.55	270.33

*** 2.774 ***

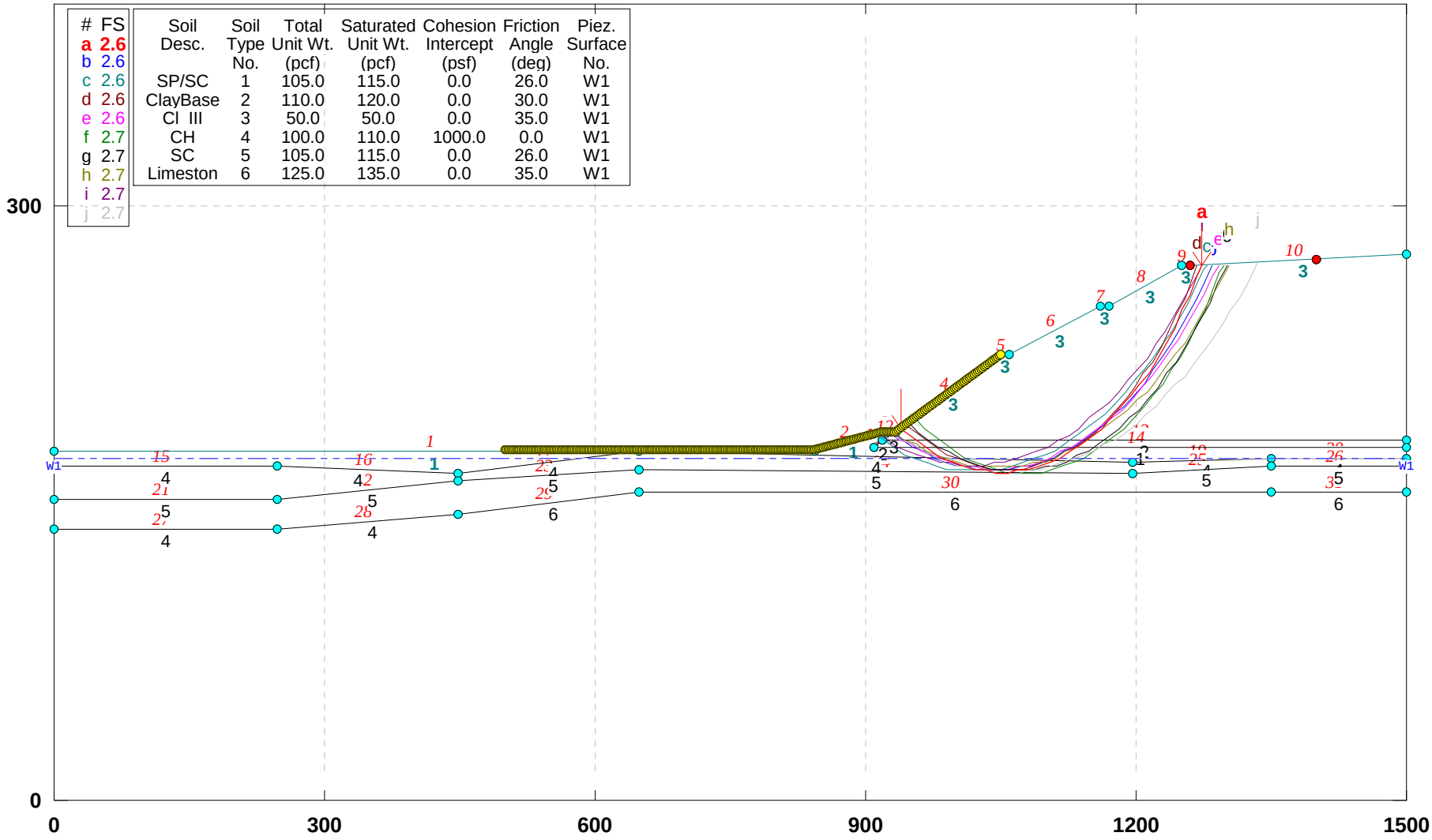
ATTACHMENT C

Class III Modification - Enterprise LF N_S_Final El 175 (No Equip - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 4:39PM

#	FS
a	2.6
b	2.6
c	2.6
d	2.6
e	2.6
f	2.7
g	2.7
h	2.7
i	2.7
j	2.7

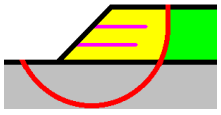
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1



STABL6H FSmin=2.6

Safety Factors Are Calculated By The Modified Bishop Method

STED



Class III Modification - Enterprise LF N_S_Final El 175 (No Equip_Block)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 2:58PM

#	FS
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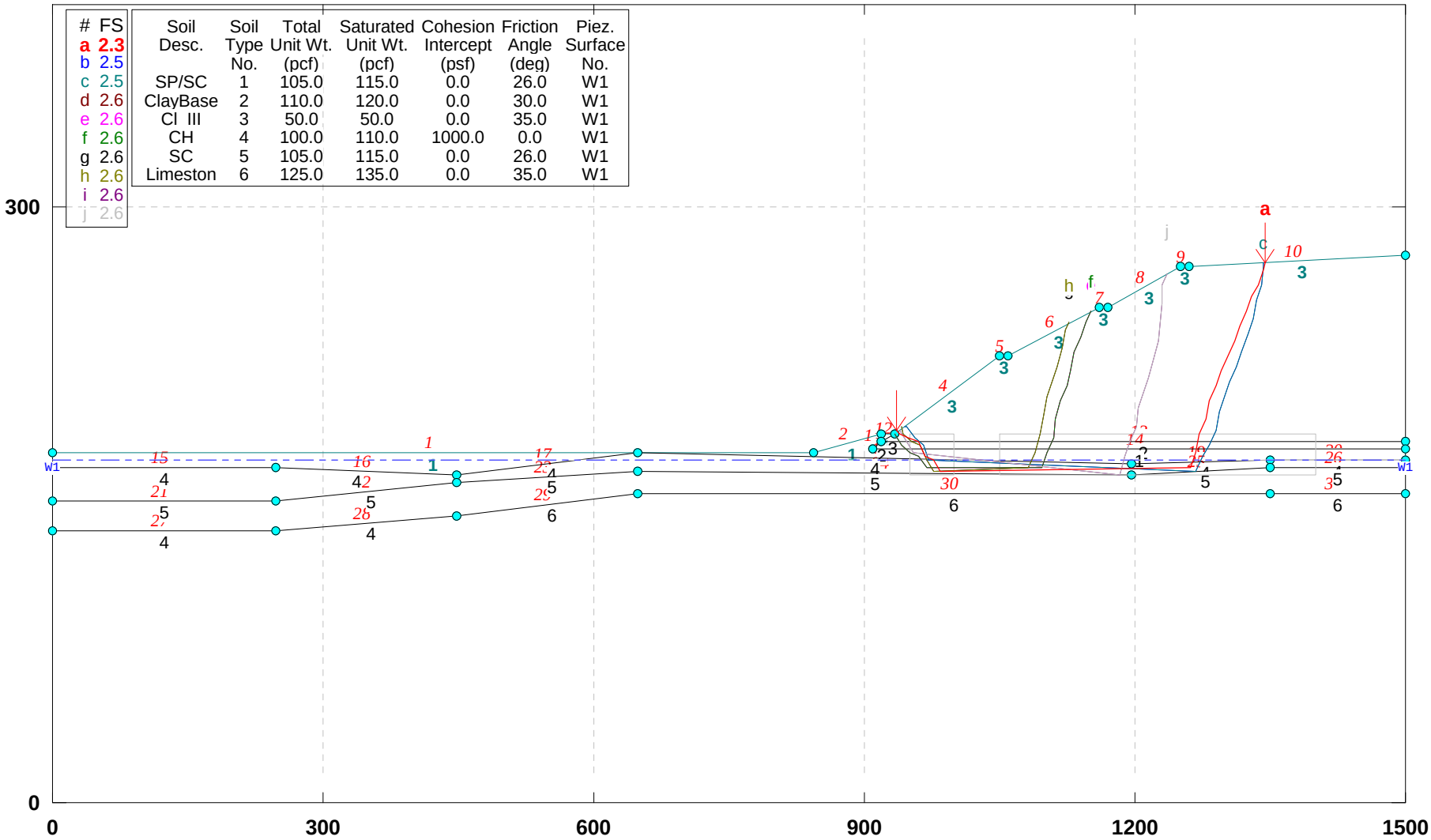
b	2.5
c	2.5
d	2.6
e	2.6
f	2.6
g	2.6
h	2.6
i	2.6
j	2.6

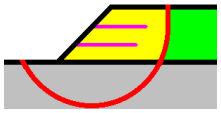
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Janbu Method

STED



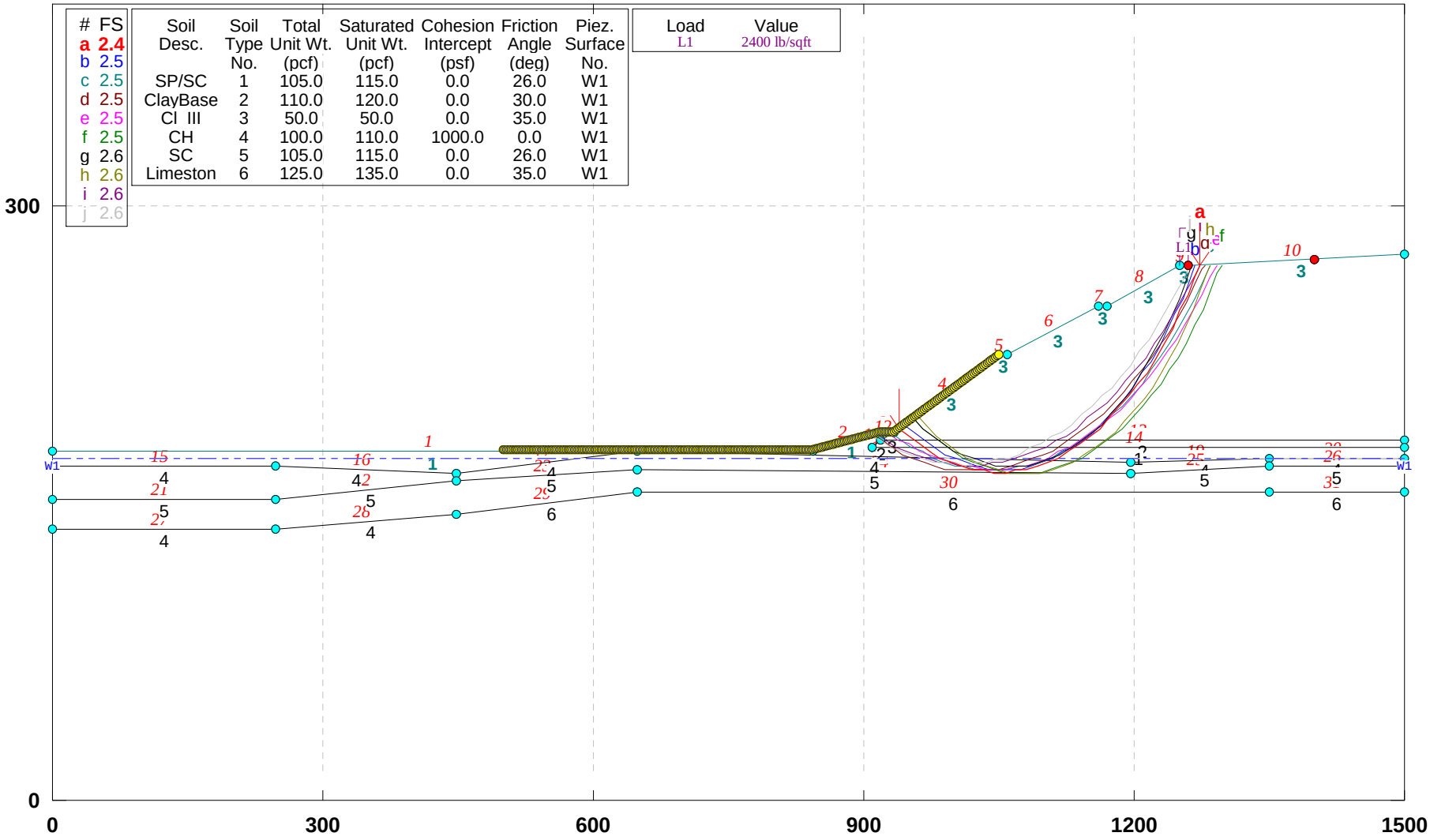
Class III Modification - Enterprise LF N_S_Final El 175 (CATD8 - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:49PM

#	FS
a	2.4
b	2.5
c	2.5
d	2.5
e	2.5
f	2.5
g	2.6
h	2.6
i	2.6
j	2.6

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

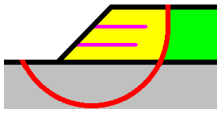
Load	Value
L1	2400 lb/sqft



STABL6H FSmin=2.4

Safety Factors Are Calculated By The Modified Bishop Method

STED



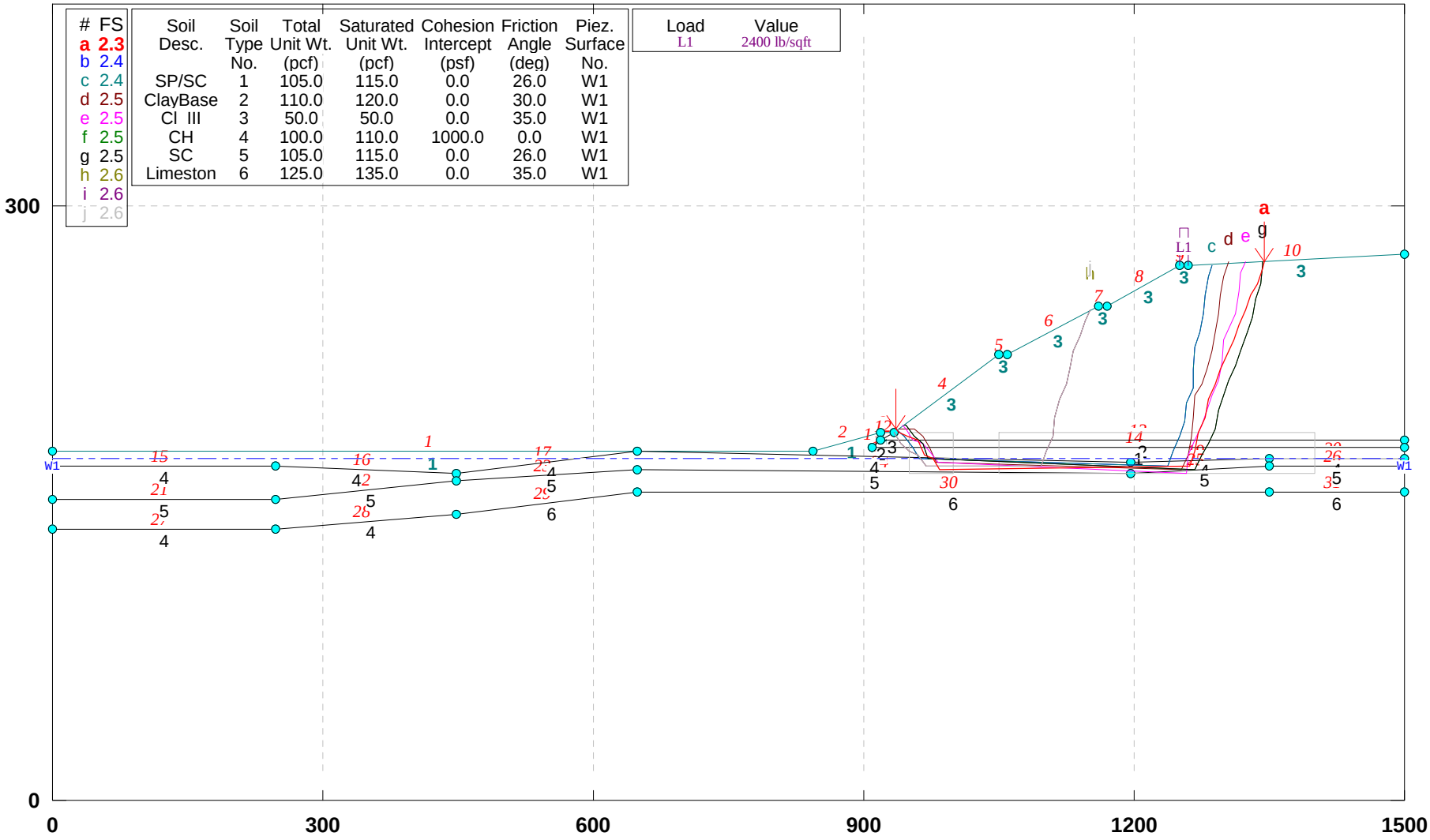
Class III Modification - Enterprise LF N_S_Final El 175 (CAT D8)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:07PM

#	FS
a	2.3
b	2.4
c	2.4
d	2.5
e	2.5
f	2.5
g	2.5
h	2.6
i	2.6
j	2.6

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

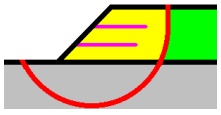
Load	Value
L1	2400 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Janbu Method

STED



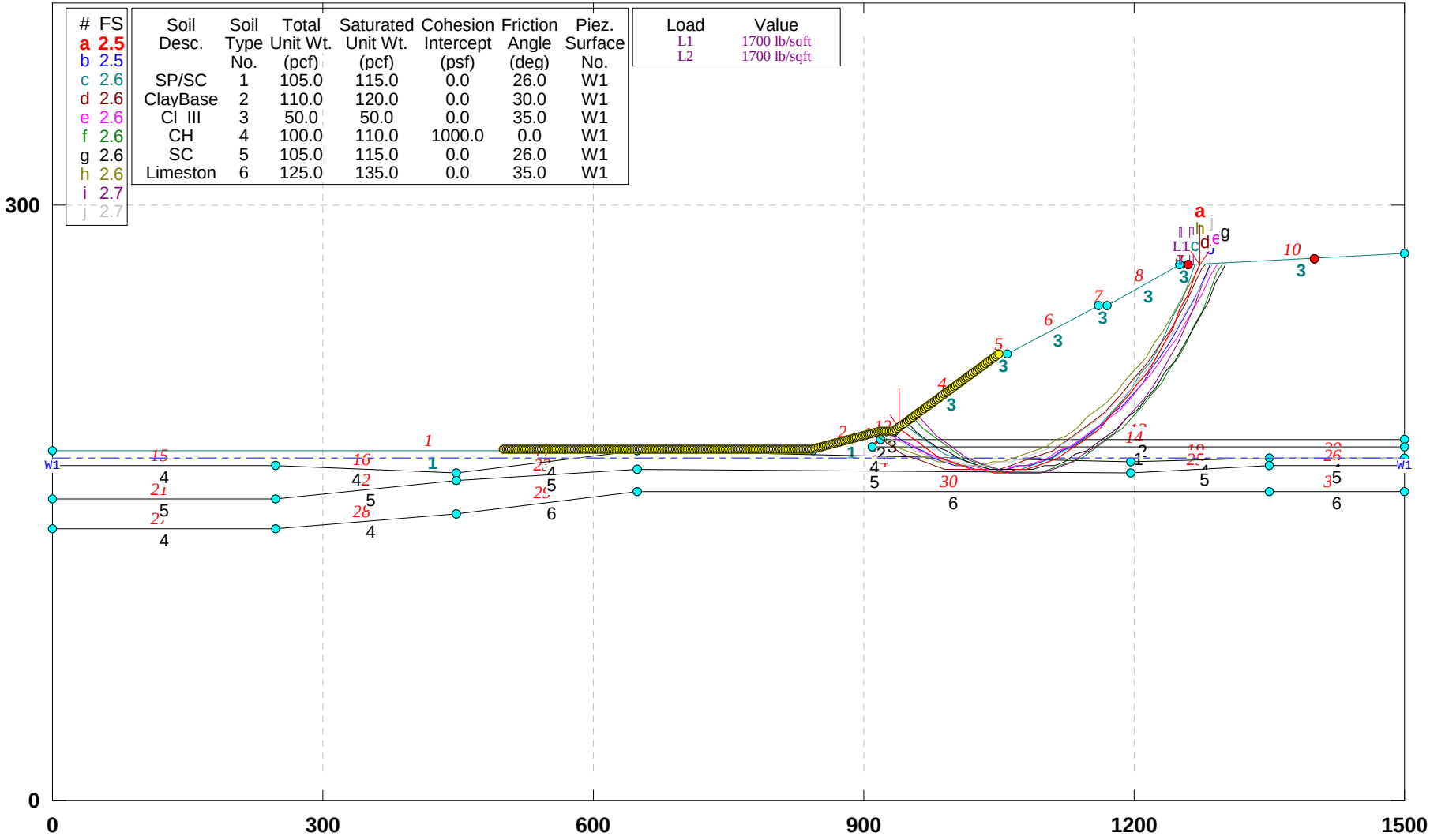
Class III Modification - Enterprise LF N_S_Final El 175 (CAT826H - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:42PM

#	FS
a	2.5
b	2.5
c	2.6
d	2.6
e	2.6
f	2.6
g	2.6
h	2.6
i	2.7
j	2.7

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

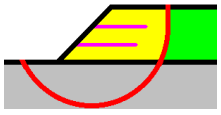
Load	Value
L1	1700 lb/sqft
L2	1700 lb/sqft



STABL6H FSmin=2.5

Safety Factors Are Calculated By The Modified Bishop Method

STED



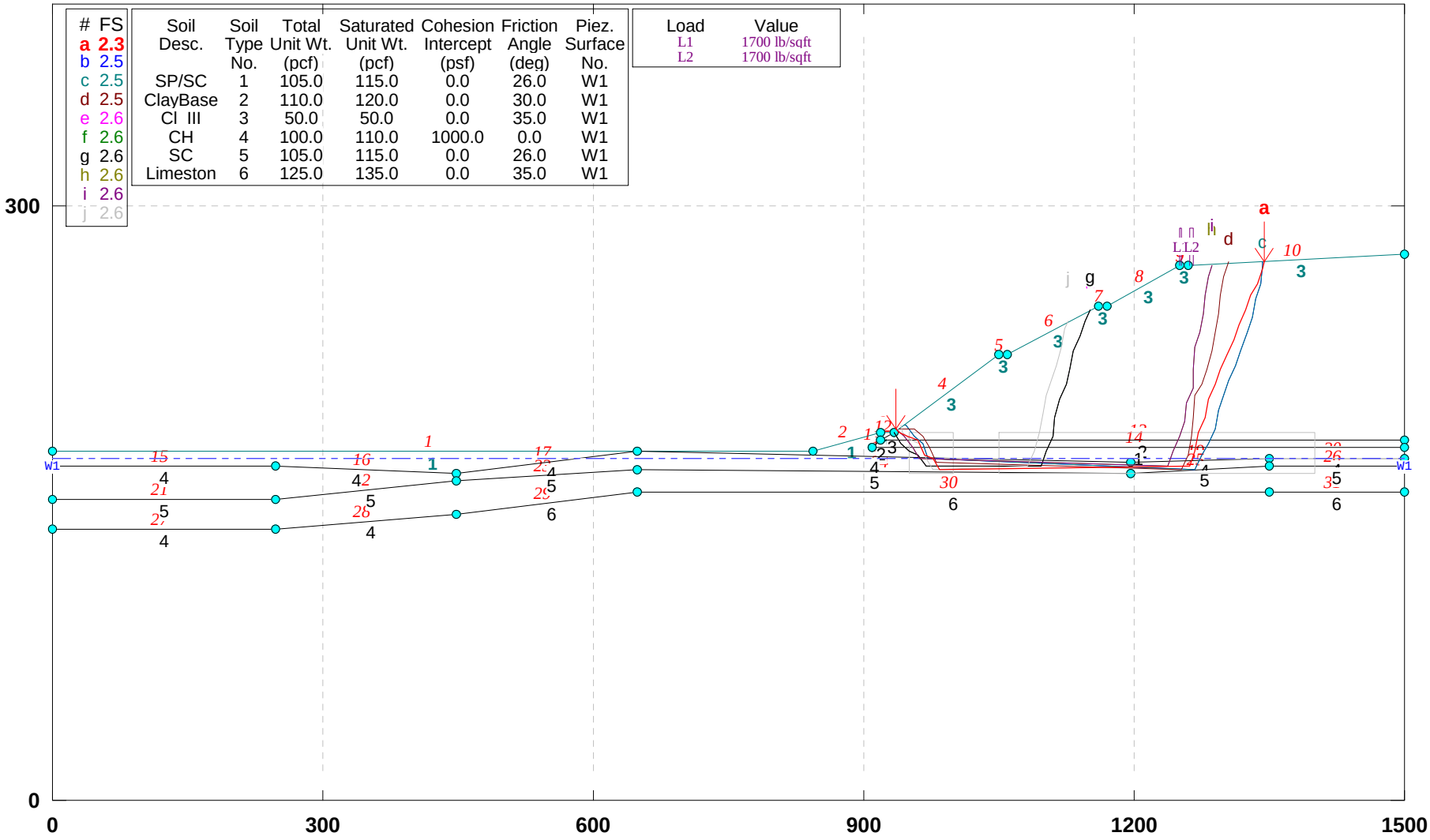
Class III Modification - Enterprise LF N_S_Final El 175 (CAT 826H)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:10PM

#	FS
a	2.3
b	2.5
c	2.5
d	2.5
e	2.6
f	2.6
g	2.6
h	2.6
i	2.6
j	2.6

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

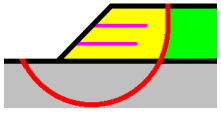
Load	Value
L1	1700 lb/sqft
L2	1700 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Janbu Method

STED



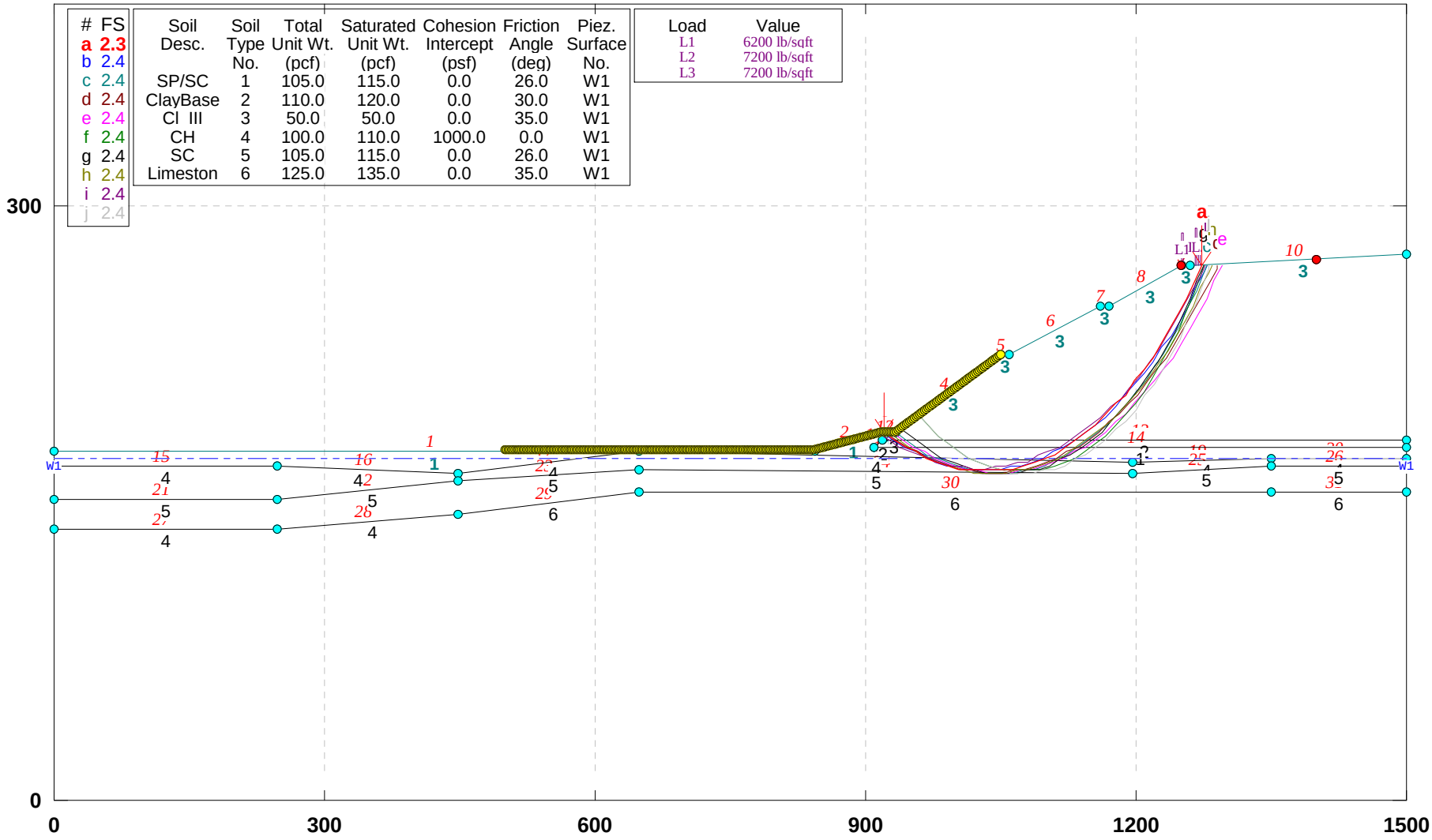
Class III Modification - Enterprise LF N_S_Final El 175 (CAT 740B)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:26PM

#	FS
a	2.3
b	2.4
c	2.4
d	2.4
e	2.4
f	2.4
g	2.4
h	2.4
i	2.4
j	2.4

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

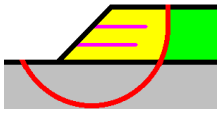
Load	Value
L1	6200 lb/sqft
L2	7200 lb/sqft
L3	7200 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Bishop Method

STED



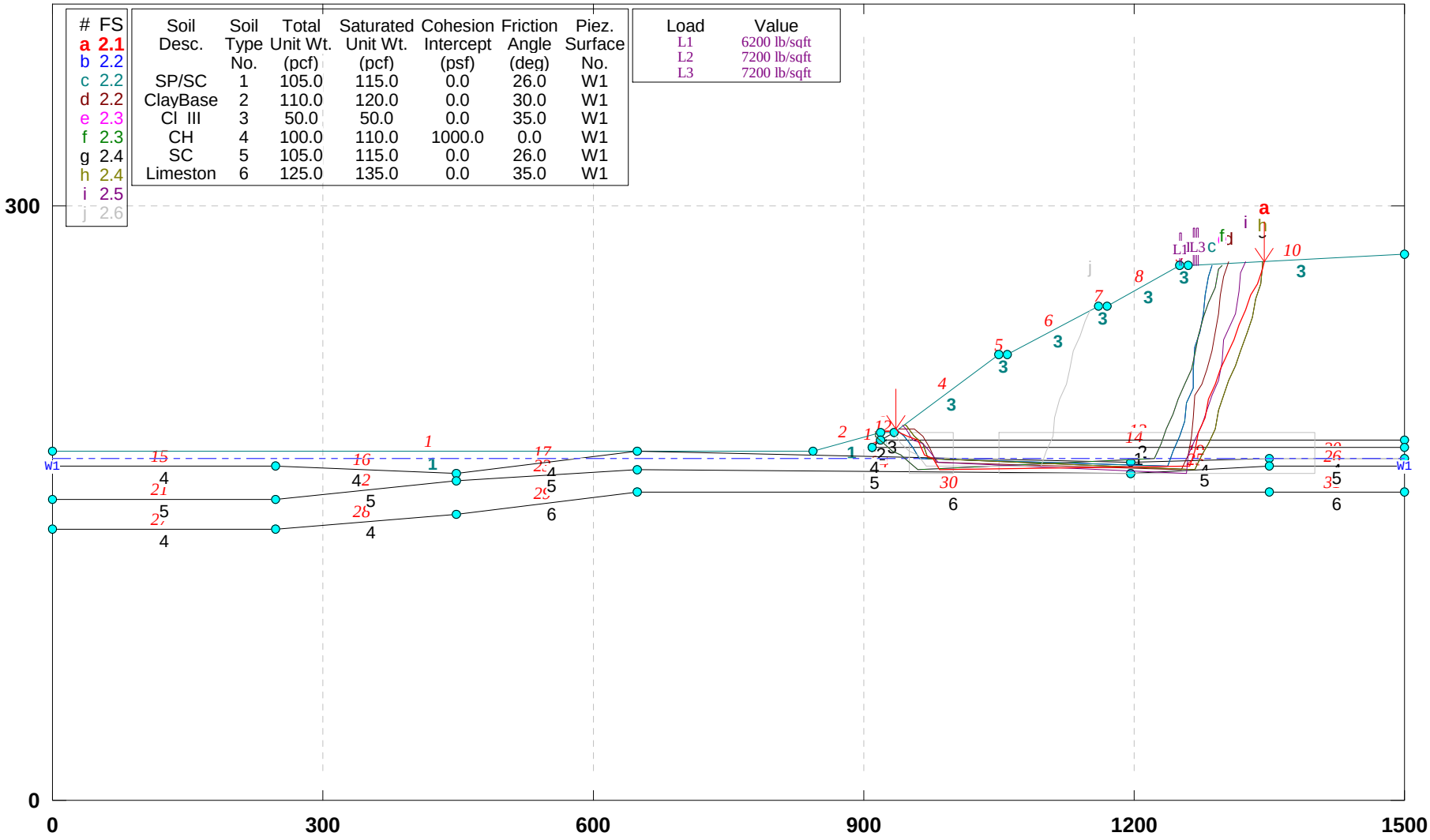
Class III Modification - Enterprise LF N_S_Final El 175 (CAT 740B)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:13PM

#	FS
a	2.1
b	2.2
c	2.2
d	2.2
e	2.3
f	2.3
g	2.4
h	2.4
i	2.5
j	2.6

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1

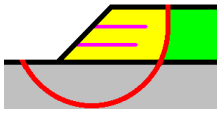
Load	Value
L1	6200 lb/sqft
L2	7200 lb/sqft
L3	7200 lb/sqft



STABL6H FSmin=2.1

Safety Factors Are Calculated By The Modified Janbu Method

STED

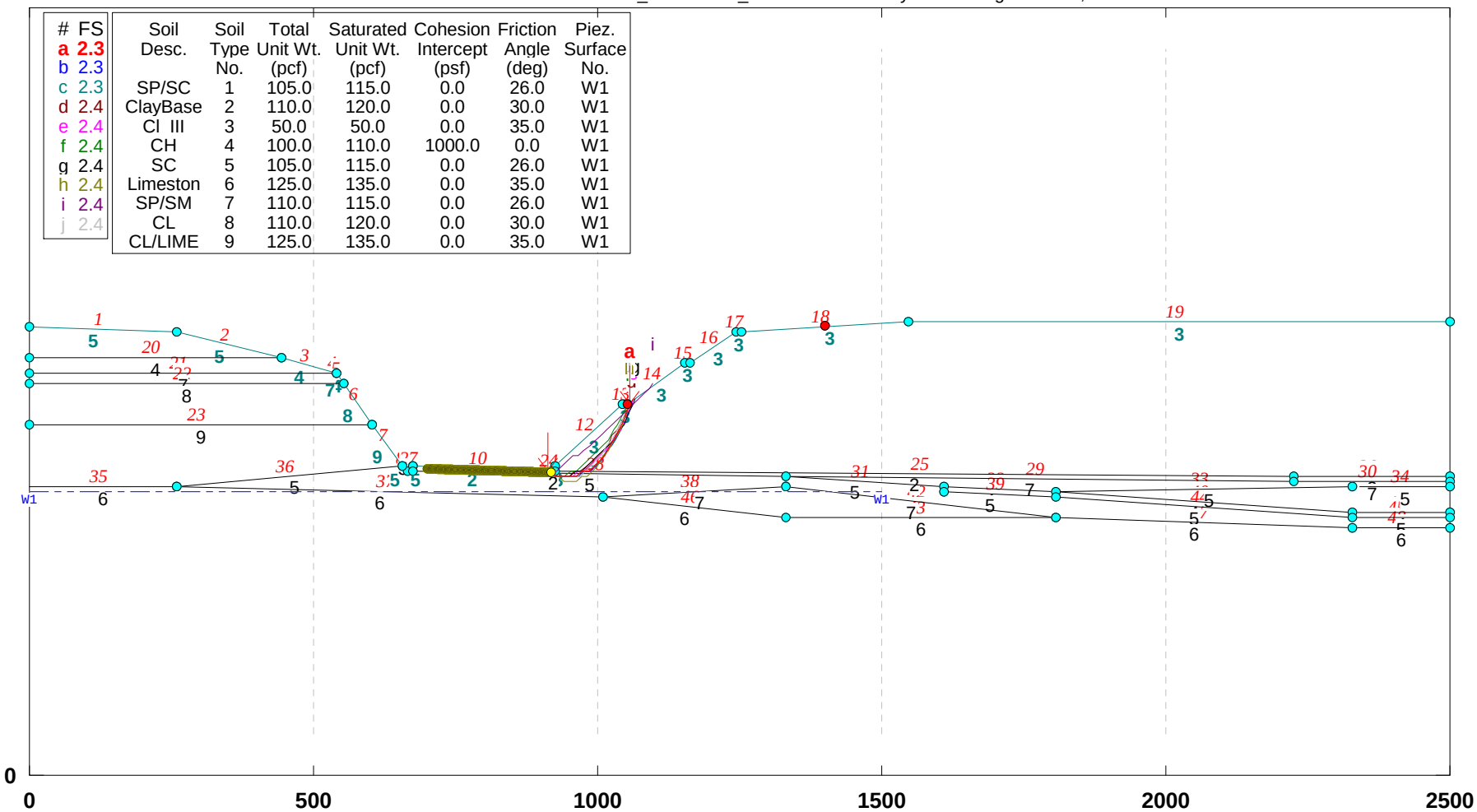


Class III Modification - Enterprise LF E_W_Final El 175 (No Equip - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:25PM

#	FS
a	2.3
b	2.3
c	2.3
d	2.4
e	2.4
f	2.4
g	2.4
h	2.4
i	2.4
j	2.4

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Bishop Method

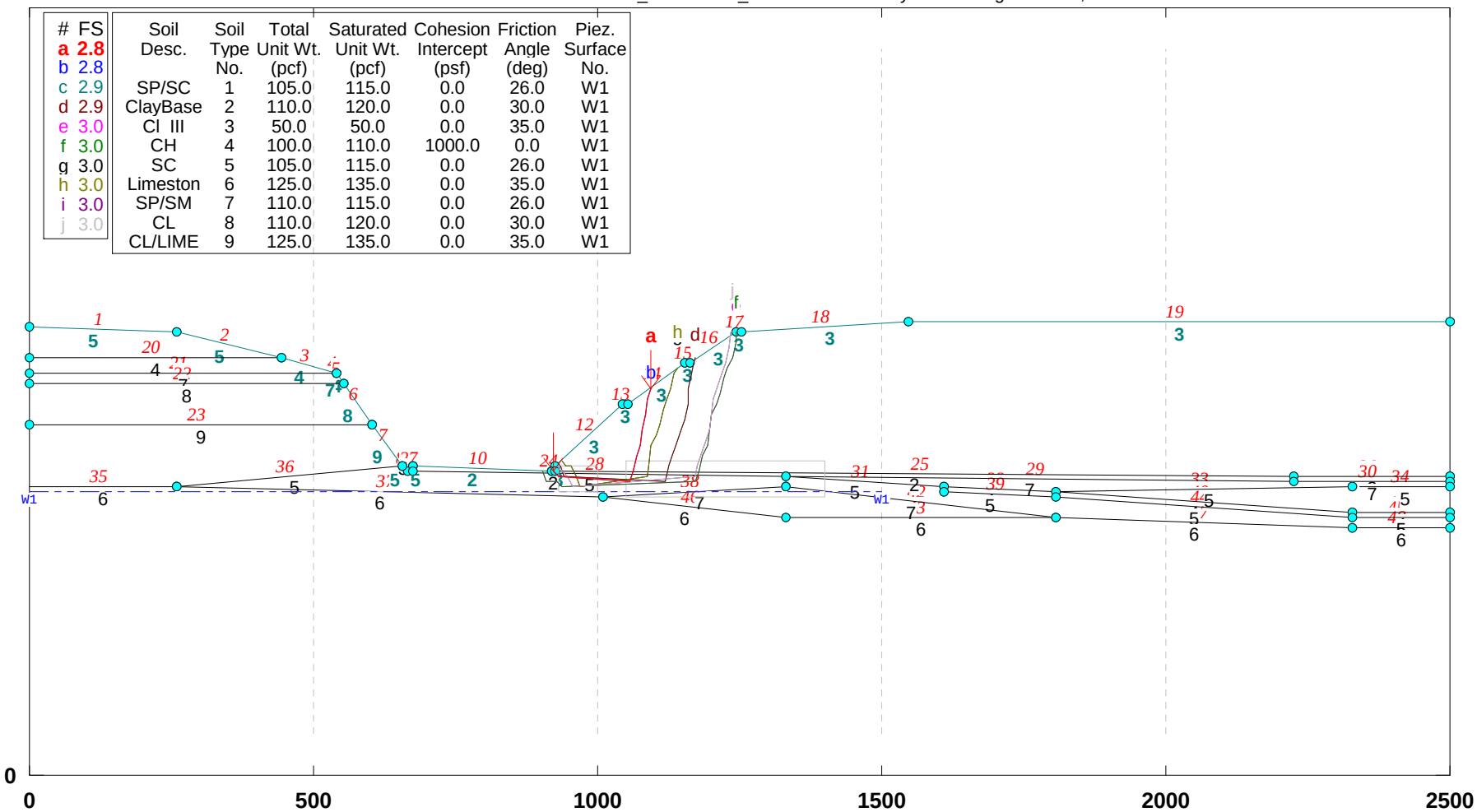
STED

Class III Modification - Enterprise LF E_W_Final El 175 (No Equip - Block)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:48PM

#	FS
a	2.8
b	2.8
c	2.9
d	2.9
e	3.0
f	3.0
g	3.0
h	3.0
i	3.0
j	3.0

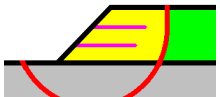
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1



STABL6H FSmin=2.8

Safety Factors Are Calculated By The Modified Janbu Method

STED



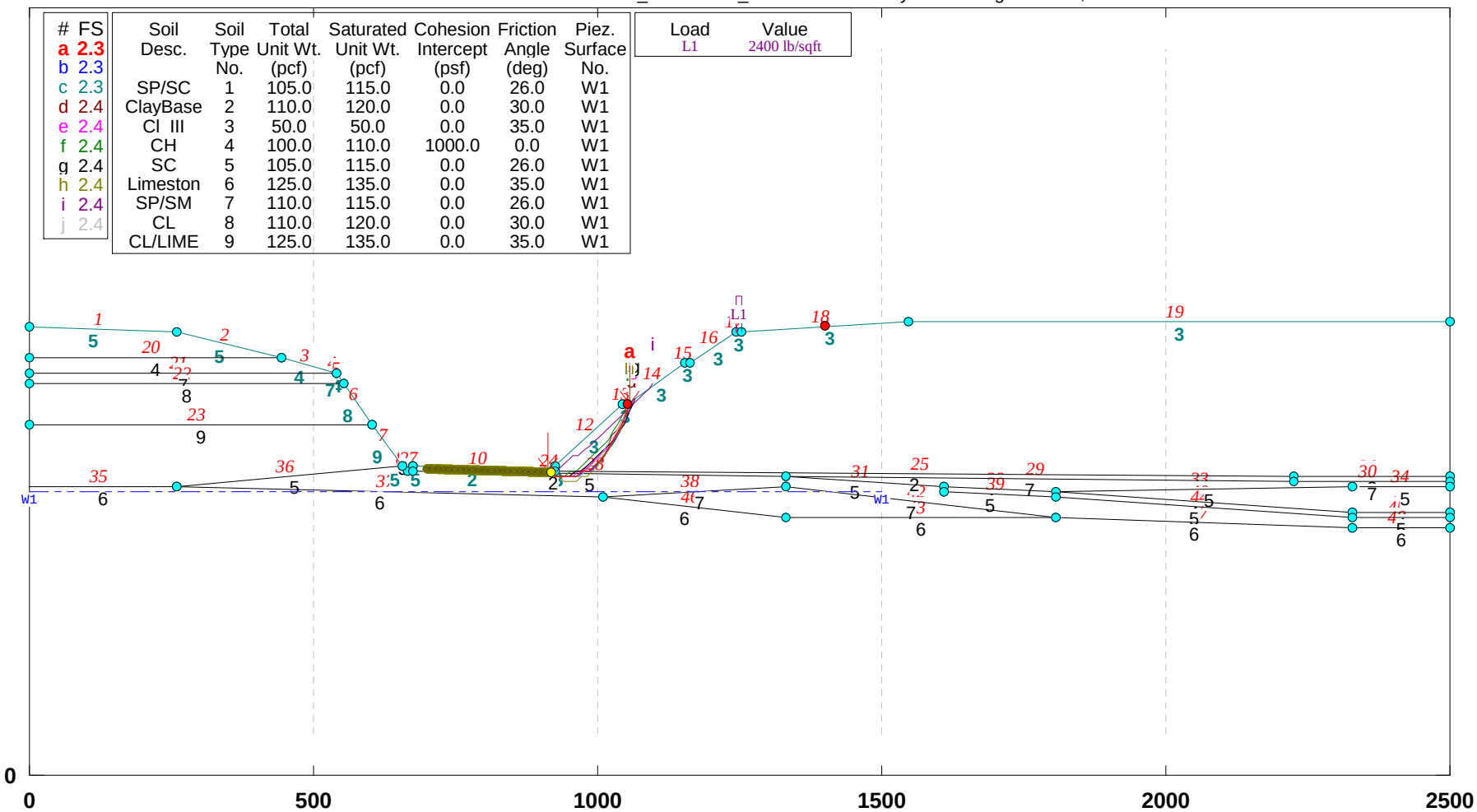
Class III Modification - Enterprise LF E_W_Final El 175 (CAT D8 - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:33PM

#	FS
a	2.3
b	2.3
c	2.3
d	2.4
e	2.4
f	2.4
g	2.4
h	2.4
i	2.4
j	2.4

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

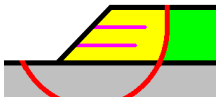
Load	Value
L1	2400 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Bishop Method

STED



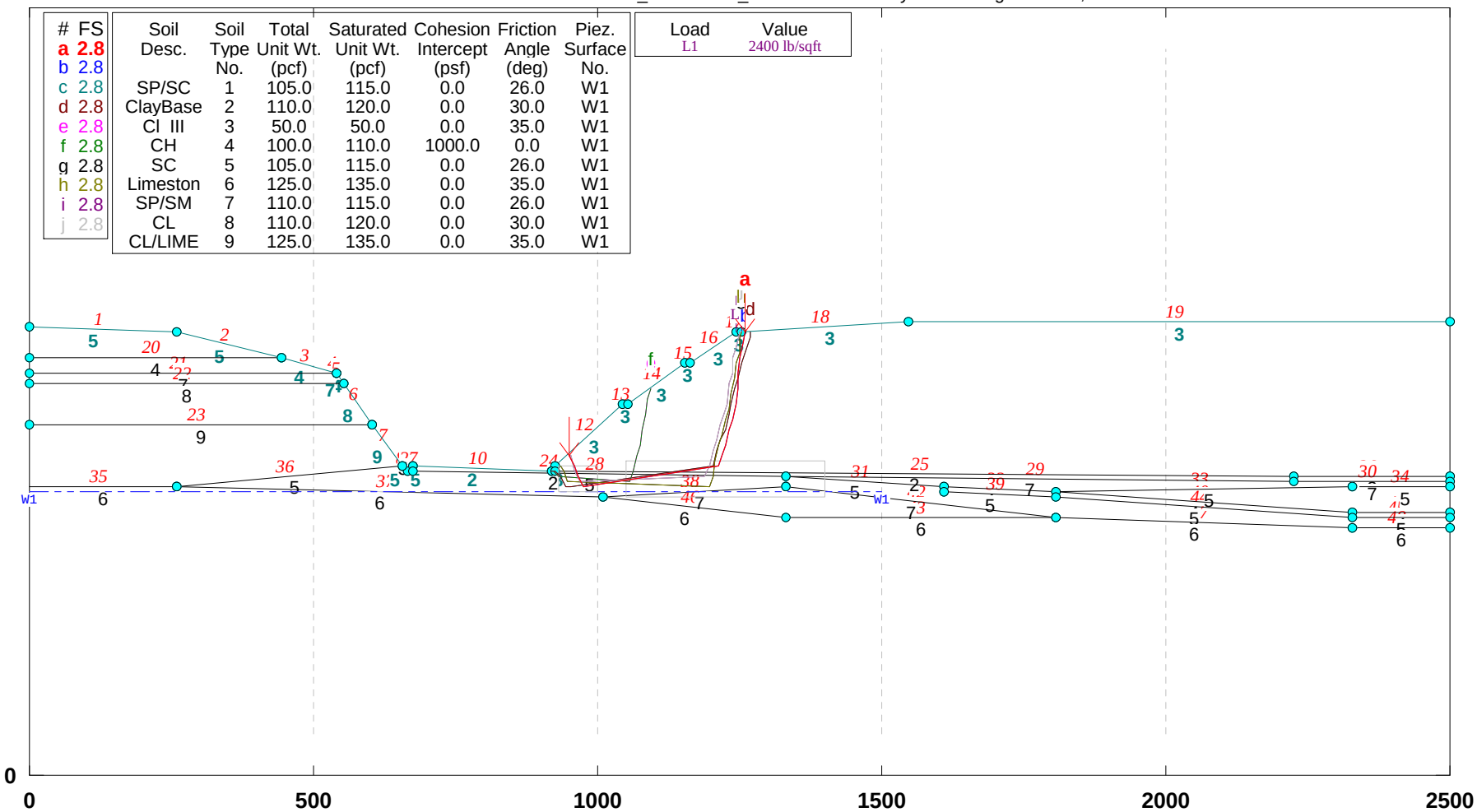
Class III Modification - Enterprise LF E_W_Final El 175 (CAT D8 - Block)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:56PM

#	FS
a	2.8
b	2.8
c	2.8
d	2.8
e	2.8
f	2.8
g	2.8
h	2.8
i	2.8
j	2.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

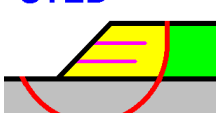
Load	Value
L1	2400 lb/sqft



STABL6H FSmin=2.8

Safety Factors Are Calculated By The Modified Janbu Method

STED



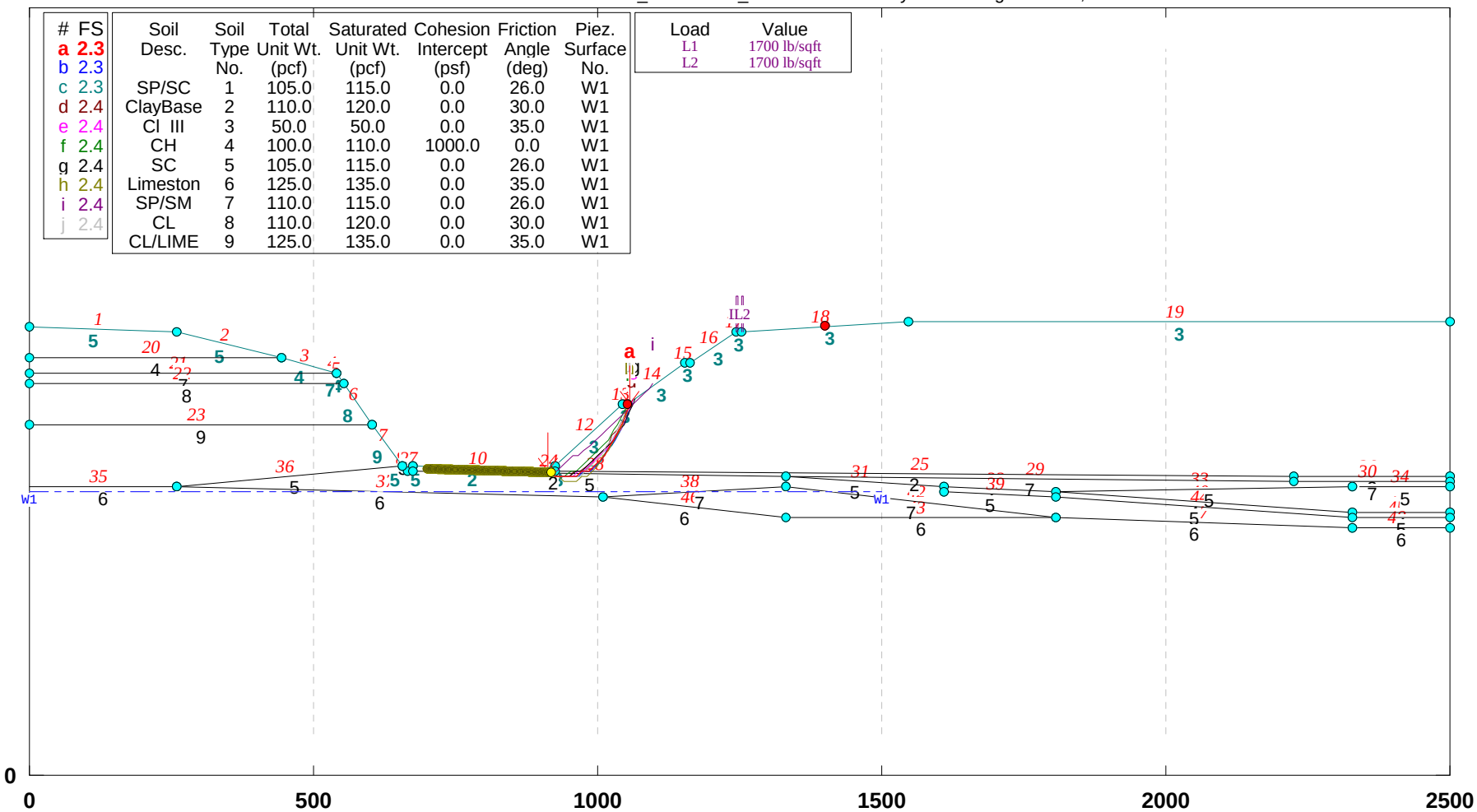
Class III Modification - Enterprise LF E_W_Final El 175 (CAT 826H - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:30PM

#	FS
a	2.3
b	2.3
c	2.3
d	2.4
e	2.4
f	2.4
g	2.4
h	2.4
i	2.4
j	2.4

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

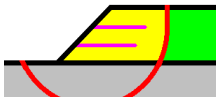
Load	Value
L1	1700 lb/sqft
L2	1700 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Bishop Method

STED



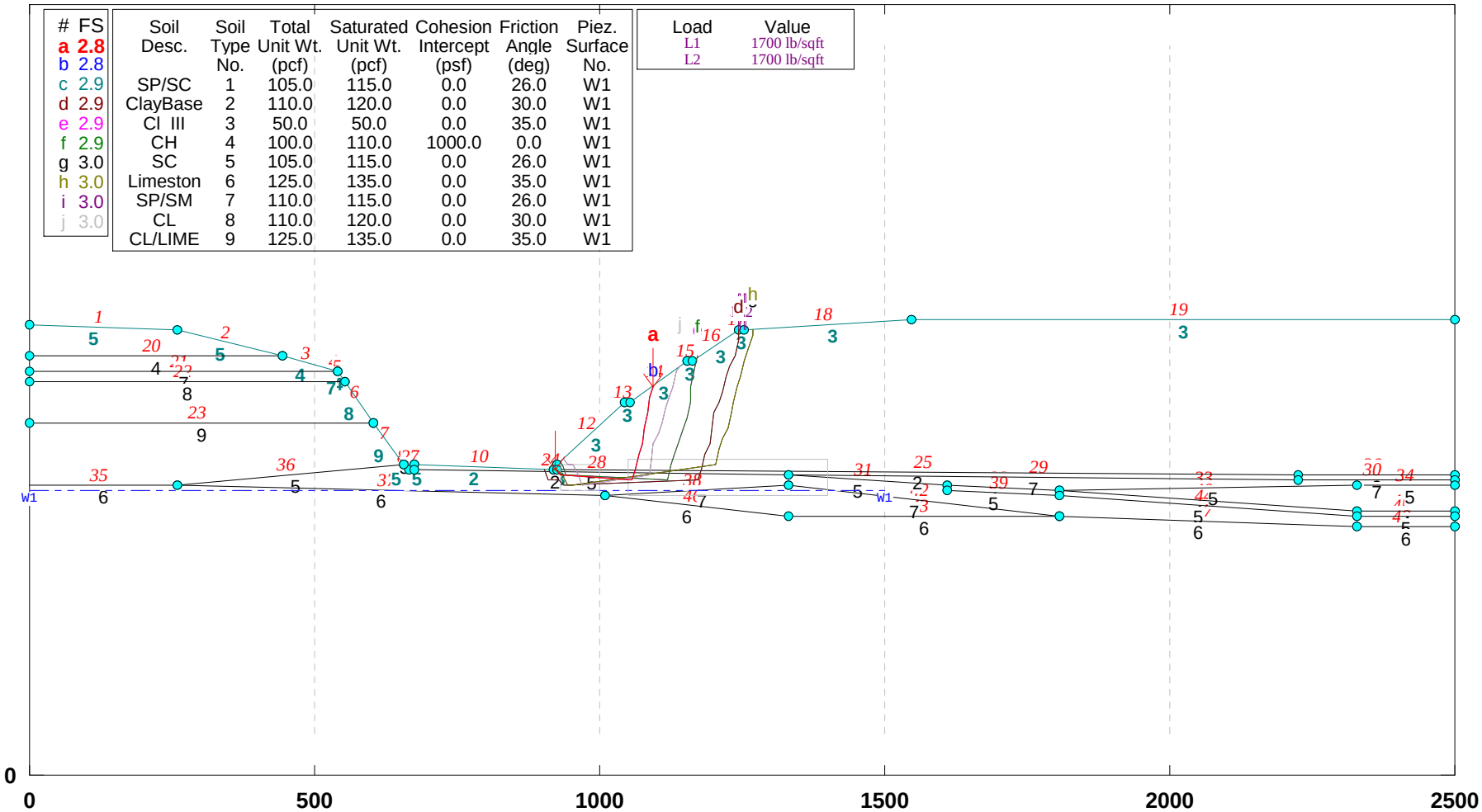
Class III Modification - Enterprise LF E_W_Final El 175 (CAT 826H - Block)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:54PM

#	FS
a	2.8
b	2.8
c	2.9
d	2.9
e	2.9
f	2.9
g	3.0
h	3.0
i	3.0
j	3.0

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

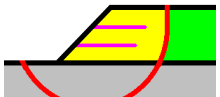
Load	Value
L1	1700 lb/sqft
L2	1700 lb/sqft



STABL6H FSmin=2.8

Safety Factors Are Calculated By The Modified Janbu Method

STED



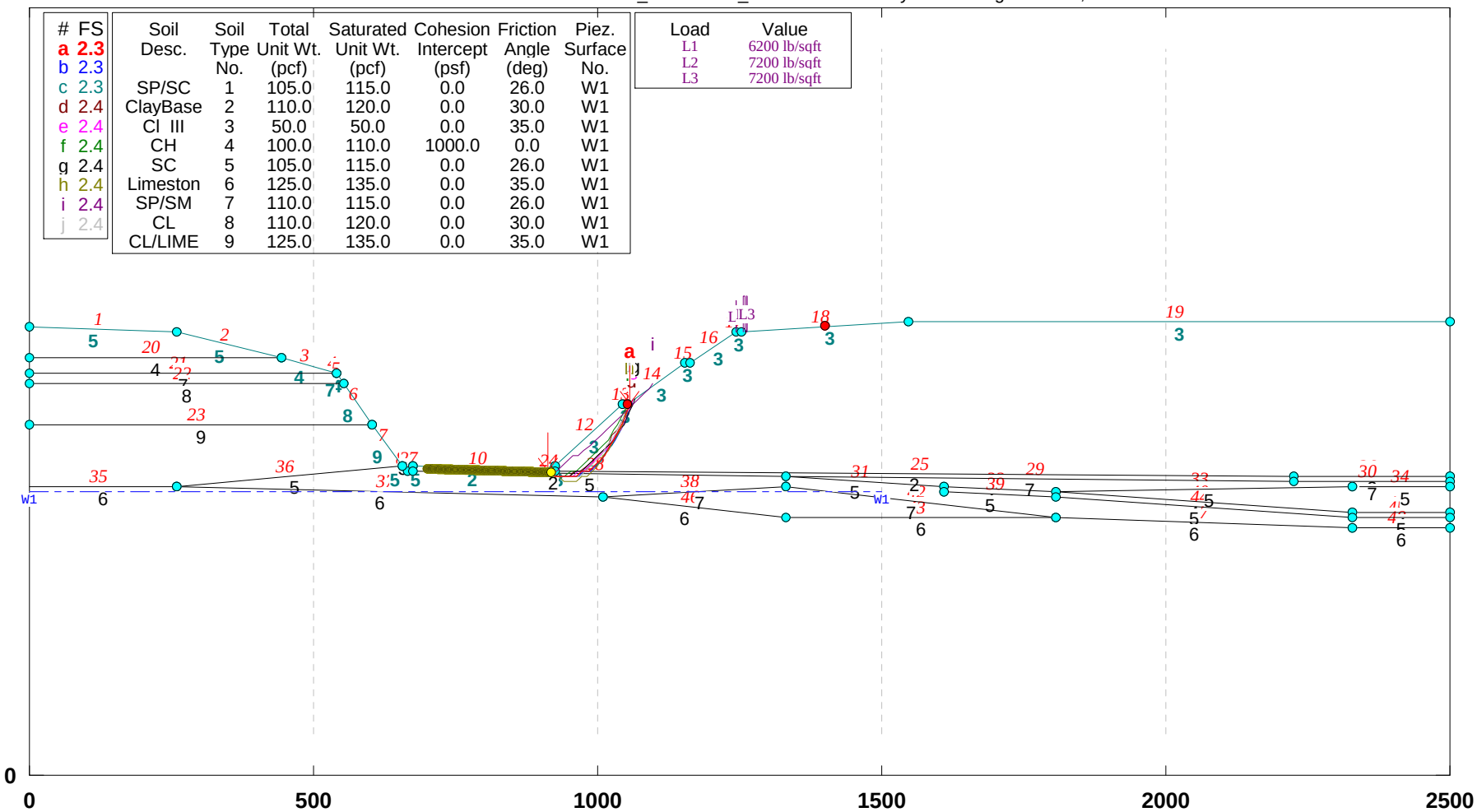
Class III Modification - Enterprise LF E_W_Final El 175 (CAT 740B - Circular)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\EW\EW_FIN~1.PL2 Run By: Civil Design Service, Inc 3/19/2015 7:38PM

#	FS
a	2.3
b	2.3
c	2.3
d	2.4
e	2.4
f	2.4
g	2.4
h	2.4
i	2.4
j	2.4

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

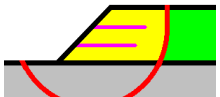
Load	Value
L1	6200 lb/sqft
L2	7200 lb/sqft
L3	7200 lb/sqft



STABL6H FSmin=2.3

Safety Factors Are Calculated By The Modified Bishop Method

STED



Class III Modification - Enterprise LF E_W_Final El 175 (CAT 740B - Block)

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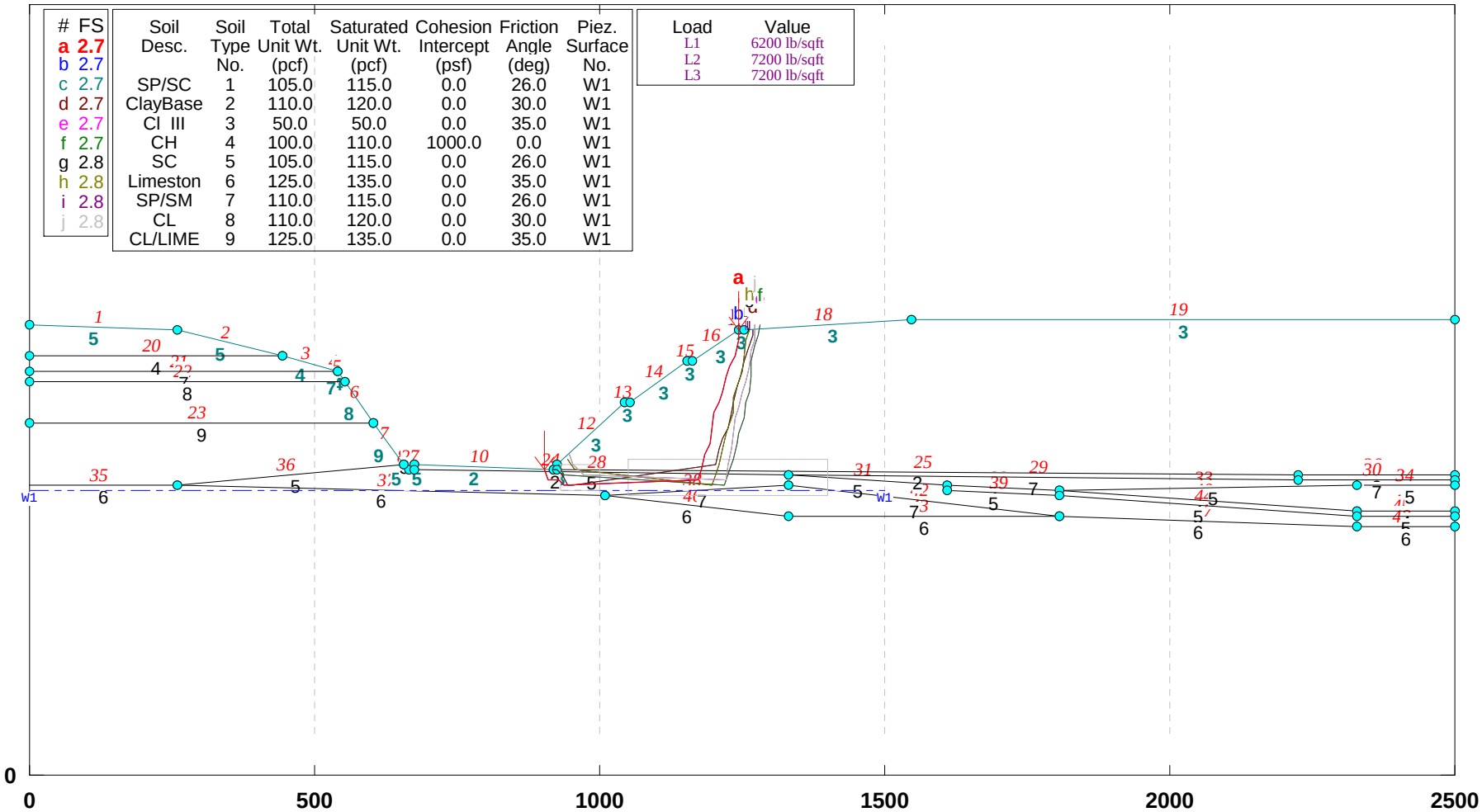
#	FS
a	2.7
b	2.7
c	2.7
d	2.7
e	2.7
f	2.7
g	2.8
h	2.8
i	2.8
j	2.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	50.0	50.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1
SP/SM	7	110.0	115.0	0.0	26.0	W1
CL	8	110.0	120.0	0.0	30.0	W1
CL/LIME	9	125.0	135.0	0.0	35.0	W1

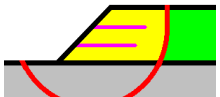
Load	Value
L1	6200 lb/sqft
L2	7200 lb/sqft
L3	7200 lb/sqft



STABL6H FSmin=2.7

Safety Factors Are Calculated By The Modified Janbu Method

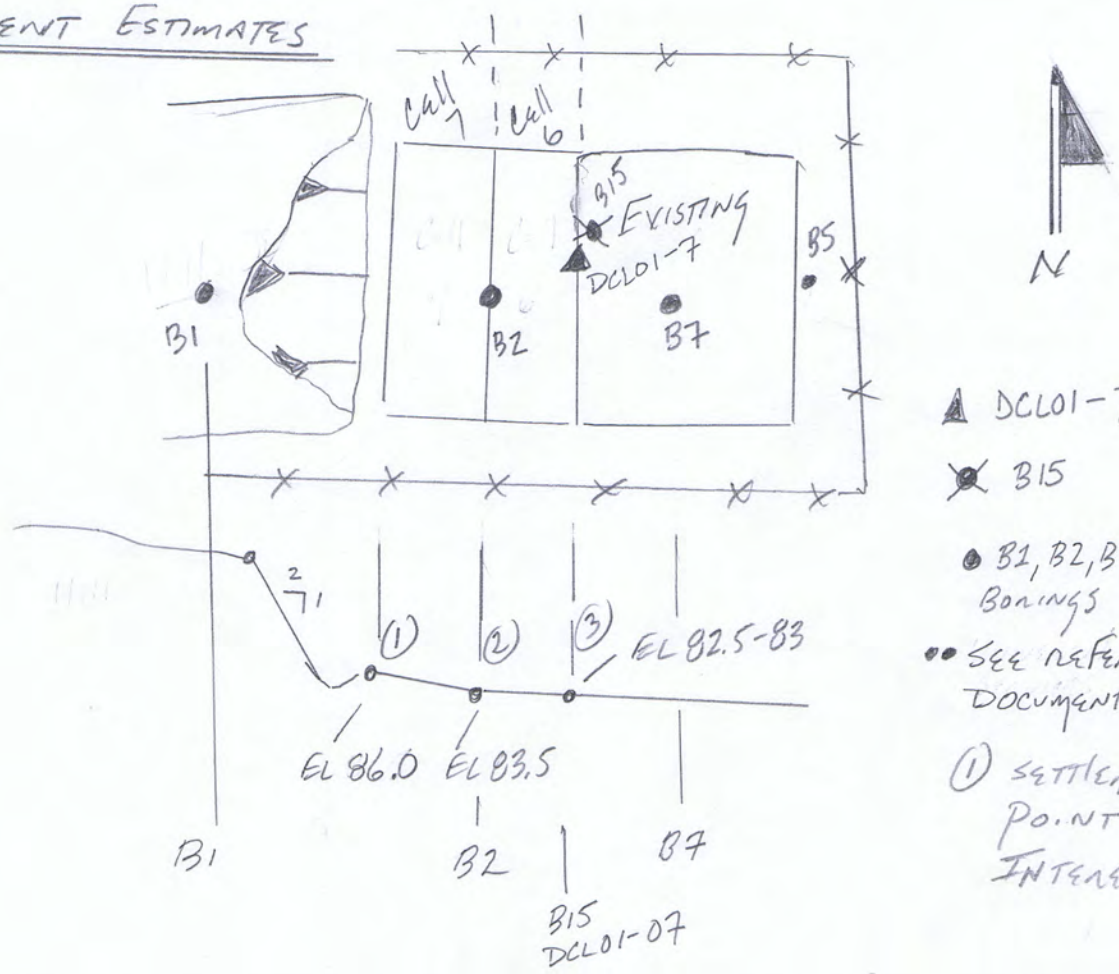
STED



ATTACHMENT D

Civil Design Services, Inc 11012 N. Ridgedale Road Temple Terrace, Florida 33617 (813) 629-1965 office (813)914-7347 fax	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
	Subject: Settlement Estimates	By: JHO Date: 3/19/2015
Client: Angelo's Recycled Materials 39699 Enterprise Road Dade City, Florida 33525		Page: 1

SETTLEMENT ESTIMATES



SETTLEMENT – 1) DETERMINE SOIL PROFILE (PRE / POST).

2) DETERMINE SOIL PROPERTIES & STRESS (PRE / POST).

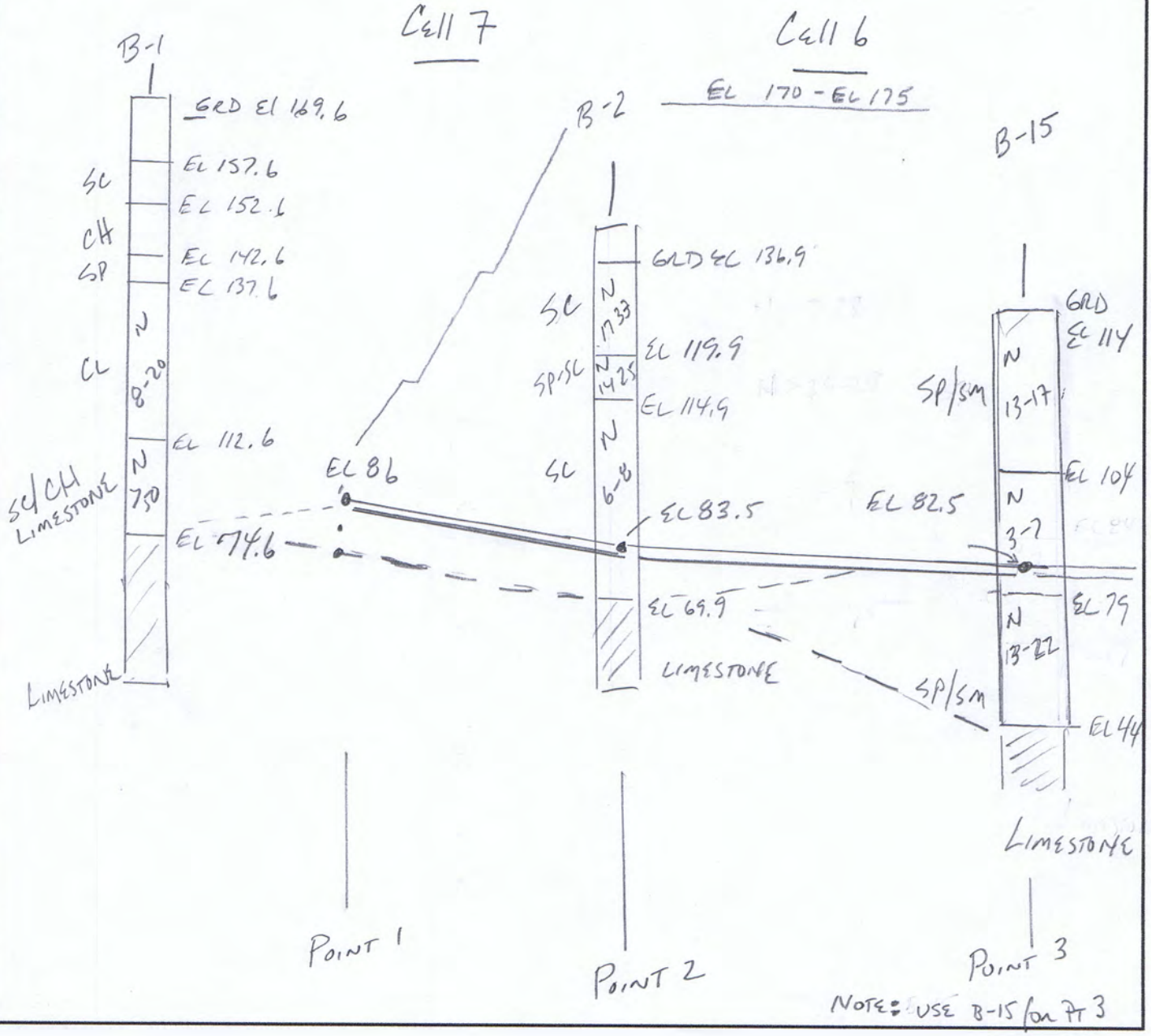
3) SETTLEMENT IS RELATED DIRECTLY TO CHANGES IN STRESS (OVERBURDEN) AND SOIL PROPERTIES.

4) AFTER COMPUTING SETTLEMENT; ESTIMATE CHANGES IN SLOPE AND DRAINAGE.

Civil Design Services, Inc 11012 N. Ridgedale Road Temple Terrace, Florida 33617 (813) 629-1965 office (813)914-7347 fax	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
	Subject: Settlement Estimates	By: JHO Date: 3/19/2015
Client: Angelo's Recycled Materials 39699 Enterprise Road Dade City, Florida 33525		Page: ~~2 of 2~~ 2

SETTLEMENT (CONT):

1) DETERMINE SOIL PROFILE @ EACH POINT



NOTE: USE B-15 for PT 3

Civil Design Services, Inc
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Temple Terrace, Florida 33617
(813) 629-1965 office
(813)914-7347 fax

Client: Angelo's Recycled Materials, 39699 Enterprise Road, Dade City, Florida 33525	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
	Subject: Settlement Estimates	By: JHO Date: 3/19/2015
		Page: 3

2) Soil Properties

From the Soil Profiles

SC N = 6-8 (7)

*Ref 1
$D_R = 5-30\%$

Use $D_R = 18$

$$D_R = \frac{e_{max} - e}{e_{max} - e_{min}}$$

*Ref 2
$e_{max} = 0.59$
$e_{min} = 0.17$

$$0.18 = \frac{0.59 - e}{0.59 - 0.17}$$

$e_{SC} = 0.5145$

$$\gamma_d = \frac{G_s \gamma_w}{1+e} = \frac{2.62(62.4)}{1+0.5145} = 107.9 \sim 108 \text{ pcf}$$

$$\gamma_{SAT} = \frac{(G_s + e)\gamma_w}{1+e} = 129.1 \sim 129 \text{ pcf}$$

Sp/Sm N = 13-22 (18)

*Ref 1
$D_R = 30-60\%$

Use $D_R = 40\%$

$e_{max} = 0.87$
$e_{min} = 0.31$

$$0.40 = \frac{0.87 - e}{0.87 - 0.31}$$

$e_{SP/SM} = 0.6460$

$\gamma_d = 99.3$ pcf ~ 99

$\gamma_{SAT} = 123.8$ pcf ~ 124 pcf

Sp/Sm N = 3-7 (5)

*Ref 1
$D_R = 5-30\%$

Use $D_R = 15\%$

e_{max}
$e_{max} = 0.87$
$e_{min} = 0.31$

$$0.18 = \frac{0.87 - e}{0.87 - 0.31}$$

$e_{SP/SM} = 0.7692$

$\gamma_d = 92.4$ ~ 93

$\gamma_{SAT} = 119.5$ ~ 120 pcf

Civil Design Services, Inc
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(813) 629-1965 office
(813)914-7347 fax

Client: Angelo's Recycled Materials
39699 Enterprise Road
Dade City, Florida 33525

Project Name: Class III Minor Modification

Subject: Settlement Estimates

Project No: 15-01-0111.01

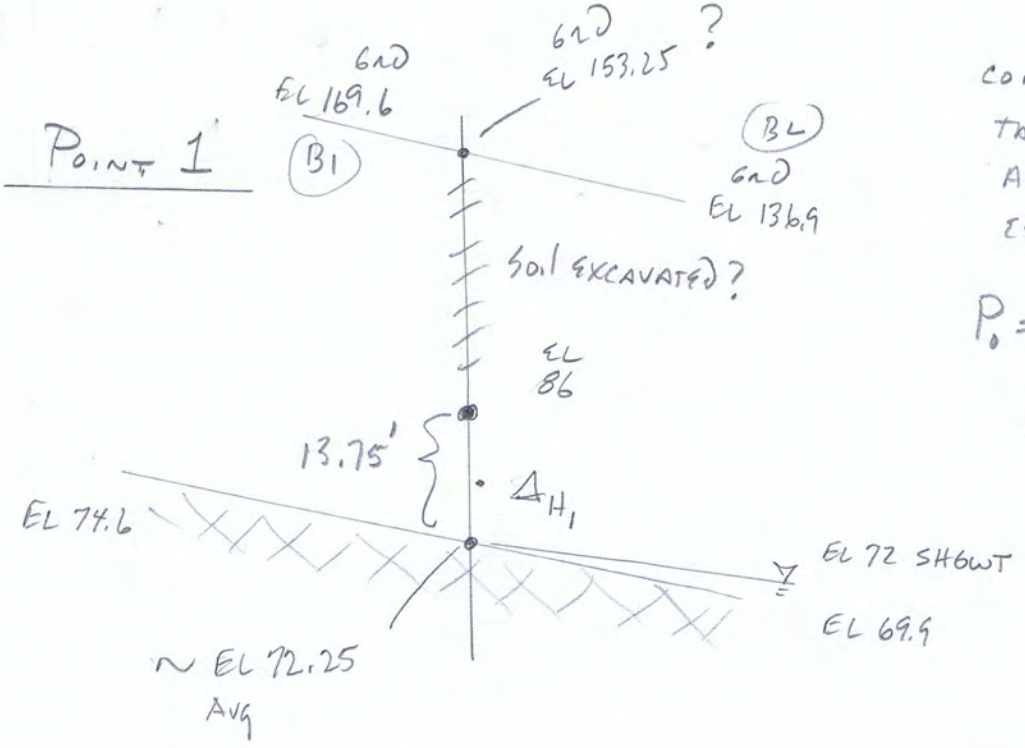
By: JHO
Date: 3/19/2015

2) Soil Properties (cont)

Sc N = 6-8	SP/SM N = 13-22	SP/SM N = 3-7
$C_c = a(e_{max} - b)$ (e_{min})	$C_c = (e_{max} - e_{min})a$	$C_c = (e_{max} - e_{min})a$
$a = 0.18 \rightarrow 0.29$	$a = 0.09 - 0.12$	$a = 0.09 - 0.12$
USE 0.23	USE 0.12 ← MAX SETTLEMENT	USE = 0.12
$C_c = 0.23(0.59 - 0.17)$	$C_c = 0.12(0.87 - 0.31)$	$C_c = 0.12(0.87 - 0.31)$
$= 0.0966$	$= 0.0672$	$= 0.0672$

2) STRESS

Point 1



CONSERVATIVELY TAKE STRESS (INTIAL) AS "AFTER" EXCAVATION

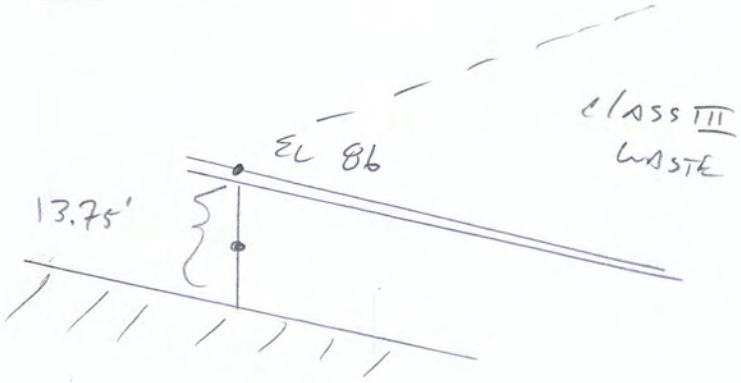
$P_0 = \frac{13.75'}{2}(108)$

$= 742.5$ psf

Civil Design Services, Inc 11012 N. Ridgedale Road Temple Terrace, Florida 33617 (813) 629-1965 office (813)914-7347 fax	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
	Subject: Settlement Estimates	By: JHO Date: 3/19/2015
Client: Angelo's Recycled Materials 39699 Enterprise Road Dade City, Florida 33525		Page: 5

2) STRESS

POINT 1



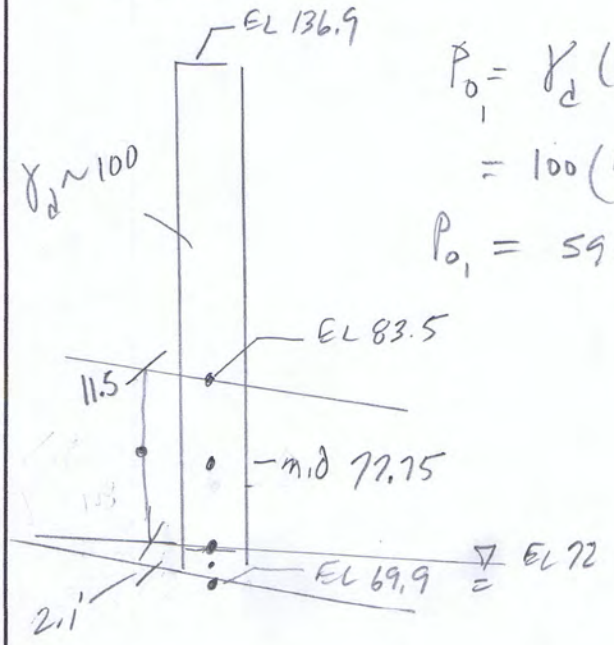
STRESS (final)

— No additional stress

$P_f = P_0 = 742.5$ psf

POINT 2

INITIAL



$P_{o_1} = \gamma_d (h_1) + \gamma'(h_2)$

$= 100(136.9 - 77.75)$

$P_{o_1} = 5915$ psf

$P_{o_2} = 5915 + 11.5(108) + \frac{2.1}{2}(129 - 62.4)$

$P_{o_2} = 7226.9$ psf

FINAL

Add waste — soil

EL 170 −
EL 83.5
86.5 x
50 pcf

P_{f_1} 4325 psf

− 56.4(100)

− 1315 psf

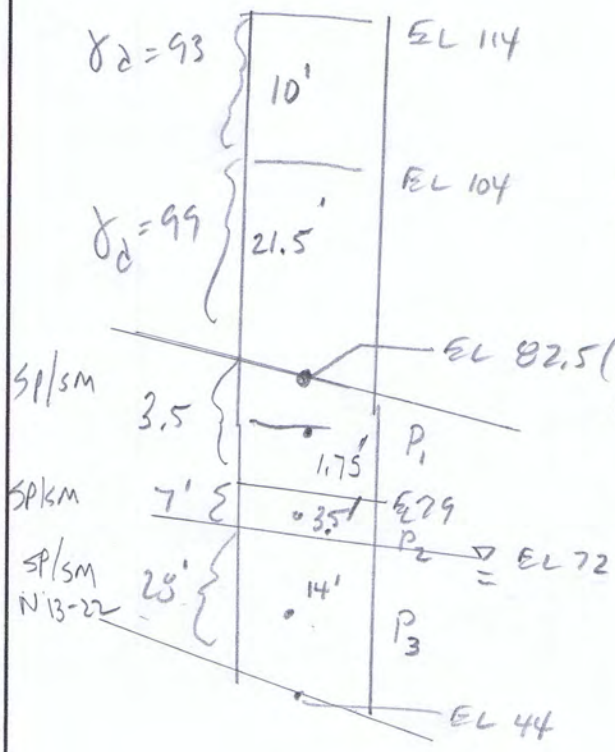
NET DECREASE

Civil Design Services, Inc 11012 N. Ridgedale Road Temple Terrace, Florida 33617 (813) 629-1965 office (813)914-7347 fax	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
	Subject: Settlement Estimates	By: JHO Date: 3/19/2015
Client: Angelo's Recycled Materials 39699 Enterprise Road Dade City, Florida 33525		Page: 6

2) STRESS

POINT 3

INITIAL



h, γ_d

$P_{o_1} = 10(93) + 21.5(99) + 1.75(93) = 3{,}092.25$ psf

$P_{o_2} = 3{,}092.25 + 1.75(93) + \frac{3.5}{2}(99) = 3{,}428.25$

$P_{o_3} = 3428.25 + \frac{3.5}{2}(99) + 14(120-62.4) = 4{,}407.9$ psf

FINAL

Add WASTE – Soil

EL 175 –
EL 82.5
92.5 ft

$P_f = 4625$ psf

– 31.5 (100)

1475 psf

MINUS EXCAVATED Soils

Civil Design Services, Inc 11012 N. Ridgedale Road Temple Terrace, Florida 33617 (813) 629-1965 office (813)914-7347 fax	Project Name: Class III Minor Modification	Project No: 15-01-0111.01
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Client: Angelo's Recycled Materials 39699 Enterprise Road Dade City, Florida 33525		Page: 7

3) ESTIMATED SETTLEMENTS

$$\Delta H = \left[C_c H / (1 + e_o) \right] \log\left(\frac{P_o + \Delta P}{P_o}\right)$$

POINT 1

NO SETTLEMENT

SOIL EXCAVATED

NO WASTE OVER PT (1)

POINT 2

NO INCREASE IN STRESS

$$\Delta H_1 = \frac{0.0672(11.5)}{1 + 0.5145} \log\left(\frac{5915 + 0}{5915}\right)$$

$$\Delta H_2 = \frac{0.0672(2.1)}{1 + 0.7692} \log\left(\frac{7226.9 + 0}{7226.9}\right)$$

POINT 3

$$\Delta H_1 = \frac{0.0672(3.5)}{1 + 0.7692} \left(\log\left(\frac{3092.25 + 1425}{3092.25}\right)\right) = 0.0219 \text{ ft}$$

$$\Delta H_2 = \frac{0.0672(7)}{1 + 0.6460} \log\left(\frac{3428.25 + 1425}{3428.25}\right) = 0.043 \text{ ft}$$

$$\Delta H_3 = \frac{0.0672(28)}{1 + 0.6460} \log\left(\frac{4407.9 + 1425}{4407.9}\right) = 0.139 \text{ ft}$$

0.2039 ft

2.4 IN

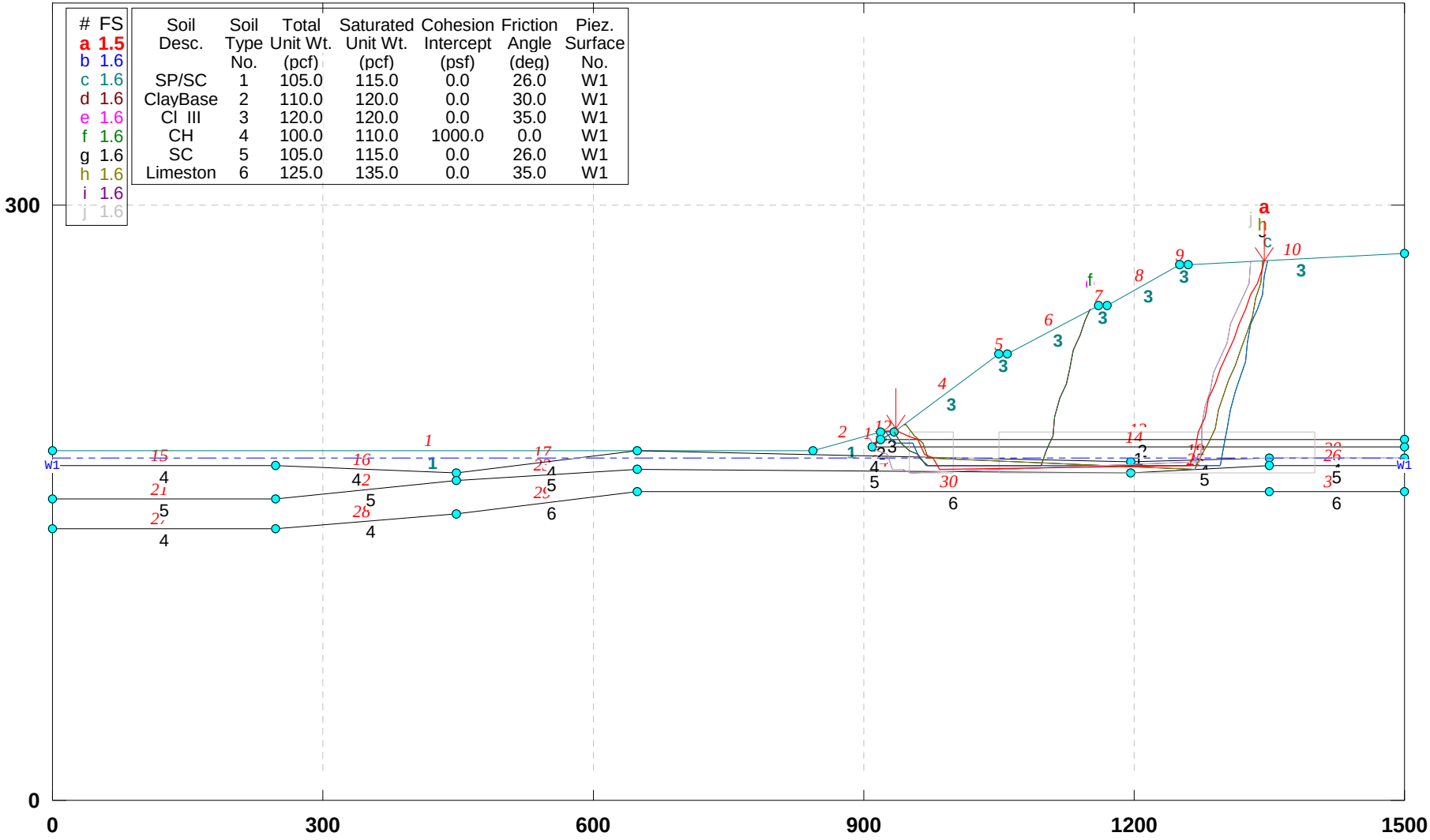
ATTACHMENT E

Class III Modification - Enterprise LF N_S_Final El 175 (No Equipment_Bearing)

C:\PCSTABL\STEDWIN\ANGELOS\CLASSI~1\MINOR_~1\NS\NS_FINAL.PL2 Run By: Civil Design Service, Inc 3/19/2015 3:18PM

#	FS
a	1.5
b	1.6
c	1.6
d	1.6
e	1.6
f	1.6
g	1.6
h	1.6
i	1.6
j	1.6

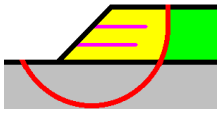
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
SP/SC	1	105.0	115.0	0.0	26.0	W1
ClayBase	2	110.0	120.0	0.0	30.0	W1
Cl III	3	120.0	120.0	0.0	35.0	W1
CH	4	100.0	110.0	1000.0	0.0	W1
SC	5	105.0	115.0	0.0	26.0	W1
Limeston	6	125.0	135.0	0.0	35.0	W1



STABL6H FSmin=1.5

Safety Factors Are Calculated By The Modified Janbu Method

STED



SECTION 3

ENGINEERING REPORT

ENTERPRISE CLASS III RECYCLING AND DISPOSAL FACILITY
MINOR/INTERMEDIATE PERMIT APPLICATION
LANDFILL ENGINEERING REPORT

Prepared for:

ANGELO'S AGGREGATE MATERIALS, LTD
P.O. Box 1493
Largo, Florida 33779

Originally Prepared by on March 2012:

KELNER ENGINEERING, INC.
1050 Northeast Tenth Place
Gainesville, Florida 32601

March 2015 Updated by:

LOCKLEAR & ASSOCIATES, INC.
4140 NW 37th Place, Suite a
Gainesville, Florida 32606

March 2015 – Minor Permit Modification Application

ENTERPRISE RECYCLING AND DISPOSAL FACILITY
ENGINEERING REPORT
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APPENDIX 3-B CONTINGENCY PLAN
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SECTION 3
ENGINEERING REPORT

3.1 GENERAL

The purpose of this Engineering Report is to describe the subject site and Class III landfill design to meet the requirements of Rule 62-701, F.A.C. and Pasco County's Land Development Code (LDC). Appendices to this report include: 3-A Operations Plan, 3-B Contingency Plan, and 3-C Figures.

3.2 SITE LOCATION AND DESCRIPTION

The facility receives approximately 550 tons of Class III waste per day from Pasco County and other surrounding Counties (including Pinellas, Hernando, Hillsborough and Polk).

The subject site is located in Section 5 and 8, Township 25 South, Range 22 East, in Pasco County, Florida, as shown on the United States Geological Survey (USGS) quadrangle map presented in Figure 3-1 in Appendix 3-C. More specifically, it is located at the intersection of Enterprise Road and Auton Road southeast of Dade City, Florida The site is currently used for orange groves and developed pastureland and occupies approximately 160 acres of land on the northside of Enterprise Road. The square property is approximately 2,640 feet on a side and is located in the southwest quarter of Section 5 and the northwest quarter of Section 8.

There are no airports within 5 miles of the site, see Figure S-4 (Appendix 3-C).

3.2.1 Prohibition Compliance

In order to comply with Rule 62-701.300, FAC, the Facility will abide by the following:

- The Facility will not dispose of solid waste at the proposed site until proper permitting is obtained.

- Disposal of solid waste will not occur in areas that are: unable to provide support for the waste; geological formation or subsurface features that would allow unimpeded discharge to surface water on groundwater; are within 500 feet of an existing potable water well (Figure S-1 in Appendix 3-C); are within a dewatered pit; are in a frequently flooded area; are in a body of water; are within 200 feet of a surface water body that discharges offsite (Figure S-2 in Appendix 3-C); are on a right of way; are

within 1000 feet of an existing community potable water; or are within 3000 ft. of Class I surface waters (Figure S-3 in Appendix 3-C)

- Open burning will not occur on the site unless the burning takes place in a permitted air curtain incinerator.

- Hazardous wastes, PCB's, biohazardous wastes, special wastes, liquids, and oily wastes will not be disposed of at the Facility. Random load checks and the use of spotters at the working face will ensure that these wastes are not placed for disposal at the Facility.

3.3 SURROUNDING LAND USES AND ZONING

Figure 3-2A presents an aerial photograph map depicting the surrounding land uses and designated FDOT FLUCCS codes in the site vicinity. Open land, pastureland and tree crop land uses surround the site and a few scattered residences surround the site. All adjoining properties are zoned AC. To the north is the East Pasco County Class I Sanitary Landfill and a residence. To the east is an old borrow pit and agricultural land. South of the site is agricultural land and orange groves, and to the west are orange groves.

Current site zoning designation, AC with a conditional use, is consistent with the Class III Landfill use. Figure S-1 in Appendix 3-C depicts the locations of 3 water wells proximate to the landfill limit. The 500-foot setback from the approved landfill footprint to potable wells complies with the setback requirements of Rule 62-701.300(2)(C), F.A.C..

In accordance with Pasco County conditions, quarterly monitoring will be conducted and reported for specific water supply wells. Semi-annual monitoring of the on-site potable supply well was initiated once disposal operations began in Cell 2.

3.4 TOPOGRAPHY

According to the USGS 7.5 minute quadrangle map shown in Figure 3-1 in Appendix 3-C, the land surface of the subject site has elevations ranging from 85 feet to 175 feet National Geodetic Vertical Datum (NGVD). Natural land surface generally slopes to the northeast on the northern half of the property and southeast on the southern half of the site. A 2012 site-specific topographic survey is shown on Sheets C-2 and C-3 of the drawing set in Section 4.

3.4.1 100-Year Flood Prone Areas

Figure S-5, provided in Appendix 3-C, depicts a 100-year flood prone area map from the U.S. Federal Emergency Management Administration for the subject vicinity. As shown, the site is not impacted by an estimated 100-year storm flood.

3.5 SOILS

According to the Soil Survey of Pasco County, Florida, published by the U.S. Department of Agriculture Soil Conservation Services (USDA-SCS), the majority of the subject site and surrounding areas are covered by fine sands. A copy of the USDA-SCS Soils Survey Map showing the mapped areas of the major soil types at the subject site and its vicinity is presented in Figure 3-5 of Appendix 3-C.

USDA-SCS soil type 12- Astatula fine sands encompass a small portion in the northeast portion of the site. Astatula sands are nearly level to gently sloping, and excessively drained mainly in the sandhills. Seasonal high water table (SHWT) is typically at a depth of 72 inches in Astatula soil. The permeability is very rapid throughout the soil. Both the available water capacity and natural fertility of the Astatula soil are low.

USDA soil type 32 - Lake fine sands comprise the majority of the soils found on the property. These soils are nearly level to gently sloping and excessively well drained. They occur along ridgetops and on low hillsides in the uplands. Permeability is rapid throughout the soil and the water table is below a depth of 120 inches. The available water capacity is very low in all layers and the natural fertility and organic matter content are both low.

USDA soil type 72 - Orlando fine sands are found in a small area in the northeast portion of the property. These soils are nearly level to gently sloping and well drained. The water table is typically at a depth greater than 72 inches with permeability of the soil rapid throughout. The available water capacity is low in the surface layer and very low in the other layers.

3.6 LANDFILL SITE IMPROVEMENTS

The 160-acre landfill site is also currently being operated as orange groves and improved pastures. The following site improvements have been installed to meet landfill operational requirements.

3.6.1 Entrance Facilities

An office trailer (gatehouse) is located onsite for the gate attendant. This trailer has hand washing and toilet facilities. Potable bottled water is supplied to the trailer. Electric and telephone services are available to the trailer office. Site entrance improvements also include an

all-weather entrance roadway, scales and perimeter road as shown on the Site Plan provided as Sheet C-4.

3.6.2 Roads

The primary haul route to reach the Enterprise Class III Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R. 35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R. 35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R. 35A to the entrance of the active portion of the landfill. Enterprise Class III RDF maintains this access road to provide adequate access.

Access roads to the working face are constructed from on-site soils and/or recovered materials such as concrete and asphalt. This is done on an as needed basis

3.6.3 Effective Barrier

The existing Enterprise Class III RDF property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence consists of a 6-foot high-galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. The chain link fence has been installed in accordance with the permit issued October 2001. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters have been installed at no less than 500-feet spacing and at all corners to notice unauthorized access. The only point of access into the facility will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-foot high berm has been constructed along the site's frontage to Enterprise and Auton roads, see Sheet C-1.

3.6.4 Weighing or Measuring Incoming Waste

A scale system is used as shown on the Site Plan. The scale is calibrated every six (6) months. Trucks are weighed when they enter the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste material disposed will be determined and the appropriate fee assessed.

3.6.5 Vehicle Traffic Control and Unloading

Generally, truck traffic will be controlled on a first in- first out basis, as directed by the working face spotter when and where to dump. There is adequate space for truck staging at the site's entrance gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise Class III RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mine truck traffic vs. landfill truck traffic to their appropriate areas of the site.

3.7 EXCAVATION OPERATIONS AND CELL CONSTRUCTION

On-site soils will be excavated according to the current Pasco County Class I Mining Permit. The soils will be excavated and removed for use in road base and in filling operations. The County permit allows an excavation up to within a 200-foot setback from the property boundary and an excavation slope of 6H:1V. The Class I Mine will be "reclaimed" as a Class III landfill. The 6H:1V excavation slopes are associated with the mining of the existing soil. Once the landfill is ready to accept waste, the mine side slopes will be excavated to 2H:1V side slopes (cell slopes). Waste will be placed against this excavated slope and then built above existing grade. Drawing sheets C-6 through C-8 show the phasing of the cell construction and filling operation at the Enterprise facility.

Excavation slopes will not exceed 6H:1V pursuant to the Pasco County permit; however, once an excavation phase is complete and construction commences on a new cell, the slopes will be excavated to 2H:1V. A portion of the excavated soils from the mining operation will be used as landfill construction material. Excavated soils will be reserved to provide adequate cover material for the landfill operation. Cell construction will follow the sequence described in Section 3.8.

As new cells are excavated and constructed, the cells will be overexcavated to approximately three-feet below the approved excavation base grade. If limerock is encountered during construction, the following actions will be taken:

Where limerock is encountered at or below the elevation of the cell clay layer:

- In the event that limerock is encountered during clay layer excavation or construction activities, the excavation / construction activities shall cease and the Department shall be notified by email within 24 hours of discovery.
- Excavation / construction activities <u>related to determining location, elevation, and extent of limestone or to remediation in accordance with these procedures</u> will resume no sooner than 24 hours after notice, unless otherwise directed by the

Department

- Written notification will be submitted within 7 days of discovery.
- The written notification shall include the location, elevation, and extent of limestone noted on a plan sheet, a description of the materials encountered, and a description of the completion of excavation / clay backfill in the identified area or the anticipated timeframe for completion of these activities.
- The limerock will be over-excavated (5-feet laterally beyond limerock boundary and 3-feet vertically below the bottom of the compacted clay layer) and the area backfilled with clay meeting the specifications in the FDEP Operation/Construct permit and Engineering Report.
- Excavation / construction activities will resume no sooner than 24 hours after notice, unless otherwise directed by the Department

Where limerock is encountered during mining operations at elevations above the elevation of the cell clay layer and do not extend into the clay layer:

- Document on the limerock observation log the location, elevation, and extent of limestone noted on a plan sheet, and a description of the materials encountered
- Submit limerock observation log to FDEP within 7 days of discovery
- Where limerock is encountered within 10-feet of the design elevation of the top of compacted clay layer, in addition to the procedures noted above, overexcavate 1-foot vertically and laterally around the exposed limerock and backfill with compacted clay to temporarily prevent infiltration during mining operations.

If limerock encountered during mining operations at elevations above the cell clay layer extends to or below the elevation of the cell clay layer, the procedures identified above under the heading *"Where limerock is encountered at or below the elevation of the cell clay layer"* shall be followed.

Stockpiled clay, obtained from on-site excavation, will be sampled for laboratory proctor testing for use as cell floor and cell side slope material to construct a three-foot thick clay barrier layer. Material with acceptable permeability and proctor test results will be placed onto the constructed cell floor in lifts, and compacted by multiple passes with a 40,000 lb, D-6 Dozer, or equivalent.

A three-foot thick clay layer will also be placed on the 2H:1V side slopes of the exterior excavation side slopes of the perimeter cells to complete the continuous clay barrier layer. Due to the steepness of the slope, clay placement and compaction will require an iterative process consisting of several horizontal lifts, stepped up progressively until the base elevation of the landfill is reached. In order to achieve the required compaction and hydraulic conductivity, as well as to achieve a constant three feet of clay along the slope, each lift along the cell wall will need to exceed three feet wide and be wide enough for the compacting equipment. Construction of the clay side slopes is shown on Drawing C-16. Soil in excess of three feet wide can be

removed after compaction and compliance testing have been approved. Acceptable test results means the results of the laboratory proctor and permeability tests indicate that the permeability of the material meets the requirements of the construction permit ($1x10^{-8}$ cm/s), and the optimum moisture content is not too high for the equipment to manage. Optimum moisture content for the on-site stockpiles has been approximately 13 to 20 percent.

The dozer will compact the material in the bottom of the excavation and up the side slopes into the dozer track marks. After each lift is compacted with the dozer, a 12-ton, 84-inch vibratory sheeps-foot roller, or equivalent, will be used to roll the material. The daily activities will be recorded, including any the tie-in locations, thickness of each compacted lift, verification of the compaction and moisture content testing, verification of equipment used for compaction, and verification of dozer tracks at the tie-in surfaces (no smooth surfaces). Field logs and photographs documenting the field work will be provided to the Department. A topographic survey will confirm the finished floor grades.

Excavation will be such that 2H:1V slopes will only be encountered on the outer edge boundaries of the cells. A 3H:1V working face slope, beginning at the 2H:1V slope face, will be used for landfilling the waste.

A berm will be constructed along the northern outer edge boundaries of Cells 6B and 7 to account for mining excavation in this area. Stockpiled clay obtained from on-site excavation to be utilized for berm construction shall be sampled consistent with the procedures described for the clay barrier layer and demonstrate acceptable test results, as described above. A detail of the berm and tie-in is provided on C-5 of the 2012 Plan Set provided in Section 4.

3.8 METHOD OF CELL SEQUENCE

~~Angelo's Aggregate Materials is currently (as of December 2012) filling in Cells 1 – 5 and 15 of the Class III Landfill, to cover elevation of +/- 150'. The cell construction and filling sequence operations to occur after filling Cells 1 – 5 and 15 to cover elevation +/- 150' will be as follows (see Drawing Sheets C-6 through C-8):~~

~~Phasing Sequence 1~~	~~Fill Cells 6A and 6B in 10 – 12 foot lifts from base grade to cover elevation 170, including filling over Cells 1 – 5 and 15.~~
	~~Maximum slope is 3H:1V from base grade to cover elevation 125'; 4H:1V from cover elevation 125' to 150'; 20H:1V from cover elevation 150' to 170'~~
	~~10 ft wide stormwater benches are to be constructed at cover elevation 125' and 150'~~

	~~Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.~~
	~~Construction of Cell 7 will be ongoing during Cell Sequence 1.~~
~~Phasing Sequence 2~~	~~Complete construction of Cell 7 per Sheet C-7 of the drawing set in Part 4~~
	~~Construct temporary stormwater diversion swale west of Cell 7~~
	~~Construction of Cell 7 will be ongoing during Cell Sequence 1.~~
~~Phasing Sequence 3~~	~~Fill Cell 7 in 10 – 12 foot lifts from base grade to final cover grade (elevation 175), including filling over Cells 1 – 6 and 15.~~
	~~Maximum slope is 3H:1V from base grade to cover elevation 125'; 4H:1V from cover elevation 125' to 150'; 20H:1V from cover elevation 150' to 170'~~
	~~10-ft wide stormwater benches are to be constructed at elevation 150'~~
	~~Sideslope berms and stormwater appurtenances are to be constructed at final closure.~~
	~~Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.~~

Filling activities are currently (as of March 2015) occurring in Cells 6 and 6B of the Class III Landfill. The cell construction and filling sequence operations will be as follows (see Section 4 for revised plan sheets):

Phasing Sequence 1	Fill Cells 6, 6B, 1, 2, 3, 4, 5 and 15 in 10 – 12 foot lifts from base grade to cover elevation 175', including filling over Cells 1 – 5, and 15.
	Maximum slope is 3H:1V from base grade to elevation 125'; 4H:1V from elevation 125' to 170'; 1% to 2 % grade from elevation 170' to 175'
	10-ft wide stormwater benches are to be constructed at elevation 125' and 150'
	Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.

Phasing Sequence 2	Complete construction of Cell 7 per Sheet C-7 of the drawing set in Part 4. Fill Cell 7 – 12 foot lifts from base grade to final cover grade (elevation 175'), including filling over Cells 1 - 6 and 15. Maximum slope is 3H:1V from base grade to elevation 125'; 4H:1V from elevation 125' to 170'; 1% to 2 % grade from elevation 170' to 175' 10-ft wide stormwater benches are to be constructed at elevation 125' and 150' Sideslope berms and stormwater appurtenances are to be constructed at final closure. Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.
Phasing Sequence 3	Conceptual Closure

Lift height includes cover material. Due to the landfill bottom elevation, some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Avoid channelizing stormwater flows
- Use mulch, grass, and maintain intermediate covers
- Use culverts, berms, or the best management practices based on actual weather and site conditions.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.

- Stormwater runoff from the interior of the excavation and filling area will be diverted to the onsite temporary storage pond using a temporary interior swale and 6-foot berm. Perimeter berms will direct stormwater away from excavation and filling areas. The temporary stormwater pond will receive runoff until Pond 3 is developed.

3.8.1 Vertical Expansion / Conceptual Closure

The landfill is permitted to be completed from 125 to 175 feet NGVD. The final grading plan is shown on Drawing C-8. The Conceptual Closure Plan (Drawing Sheet C-8) includes construction of berms on the stormwater benches that will direct stormwater to drop inlets and downcomer pipes spaced approximately every 400 – 500 feet along the benches. The downcomer pipes will discharge through an energy dissipater to the existing stormwater system. The facility's overall stormwater management system is governed by the mining operations and ERP Permits. Grades and elevation vary based on ongoing mining operations and topography. A detailed design that will tie the conceptual closure plan into the facility's stormwater management system will be submitted at the time of closure.

The top (~~20H:1V and 30H:1V~~ 1% to 2% grade) and side slope (4H:1V and 3H:1V) designs provide for proper drainage and minimize rainfall infiltration into the landfill surface.

3.8.2 Erosion Control

The following engineering controls will be used to minimize erosion at the working face:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.

- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.

- As soon as possible following the construction of the clay liner, begin to fill against the 2H:1V slope with the landfill material.

- Avoid channelizing stormwater flows

- Use mulch, grass, and maintain intermediate covers

- Use culverts, berms, or the best management practices based on actual weather and site conditions.

3.8.3 Life Expectancy

The cell capacity and lifespan estimates for Cells 1 – 7 and 15 have been recalculated based on the most recent (August 2012) topographic survey conducted by Pickett and Associates (Sheets C-2 and C-3); and recent and projected tonnages.

Using the August 2012 survey as a base, we generated a three-dimensional AutoCAD model of Cells 1 – 7 and 15 at closure, using the following assumptions:

- ~~3~~ 4H:1V sideslopes between elevation 125' and elevation 150'; ~~20~~ 4H:1V sideslopes between elevation 150' and 170'; ~~30H:1V slopes~~ 1% to 2% grade from elevation 170' to elevation 175'.
- 10-foot inset for benches at elevations 125-ft and 150-ft NGVD
- 36 inches of cover over the 60.9 acre 2D surface was subtracted from the maximum volume

The airspace volume remaining as of ~~August 2012~~ January 2015 was calculated to be ~~2,415,861~~ 2,575,050 yd^3 after accounting for final cover volume 306,546 yd^3.

The following design parameters were used to compute landfill design life remaining:

- **Density:** An in-place density of 1,350 lb/yd^3 (0.675 tons/ yd^3) was used for the design life estimate and is a typical density for Class III waste.

- **Waste acceptance rate:** a waste acceptance rate of ~~451~~ 550 tons per day based on facility records. ~~showing the facility accepted 129,006 tons during 2012.~~ Waste tonnages were increased 2% per year in accordance with population projections for the area.

~~**Waste Acceptance Rates**~~

~~Period~~	~~Class III and C&D tons*~~	~~Average Tons per Day**~~
~~2012~~	~~129,006~~	~~451.1~~

*Waste records provided by Angelo's Aggregate Material
**Assumes 5.5 days per week, 13 weeks per quarter

The remaining life in Cells 1 – 7 and 15 was calculated to be ~~11.4~~ 9.5+ years. ~~from the survey date, or 2023~~.

3.9 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compactibility. Bulky, incompressible items, such as concrete, asphalt, and tree debris, shall be separated and stockpiled for future processing off-site. Concrete is stockpiled and periodically removed, transported to an off-site processing facility to be crushed, and returned if needed for on-site uses. Tree debris is separated from the waste and periodically mulched for on-site use. The remaining debris is disposed of in designated cells using onsite equipment to place the debris and a Caterpillar 826 Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion. Cell closure will occur when all permitted cells are filled. For final buildout grade and closure detail, see Drawing Sheet C-8 and C-15, respectively. Final cover grades are shown on Drawing Sheet C-8. Fill grades shall be such that final cover elevations are met on all slopes.

Final cover consisting of 18 inches of compacted soil barrier layer and 18 inches of top soil that will sustain vegetative growth, see Closure Plan, Section 7. Cell closure shall conform to the grades and lines specified on Drawing Sheet C-8 and shall conform to the rules and regulation specified in Rule 62-701.600 F.A.C., as well as Rule 62-701.400 (7), F.A.C. and Rule 62-701.400(8),F.A.C.. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may occur in the closed cell areas.

3.10 DESIGN OF GAS, LEACHATE AND STORMWATER CONTROLS

3.10.1 Gas Monitoring and Control

The type of material to be disposed of in the Class III Landfill is not expected to generate significant amounts of methane or other gases since the landfill's design prevents groundwater contact. Therefore, no active gas control systems or venting is proposed. However, because

biodegradable waste will be accepted, a passive gas control system is proposed, see Section 3.10.1.5. The Enterprise Class III RDF site Manager will conduct daily and weekly inspections of the landfill and will check for objectionable odors or gas by driving around the perimeter of the site. The Manager will notify the FDEP and County of any positive detection and immediately take corrective actions. Corrective actions will include placement of additional cover material or mulch, or lime containing materials such as crushed concrete that is documented to abate the odors. Quarterly gas point monitoring is currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

3.10.1.1 Gas Probe Locations

Gas monitoring points are spaced approximately 600 linear feet apart surrounding the landfill. Sheet C-4 in the Drawing Set presents these locations of the gas probes surrounding the landfill. Gas Probes (GP) 6 through 15 are existing, and GP 1 through 5 and 16 are proposed and will be installed as part of future cell construction completion certification at closure. The remaining gas probes are to be installed in accordance with the following schedule in Table 3.10:

Table 3.10 Gas Probe Installation Schedule

Gas Probe	Cell Construction Completion
GP-1	Future Cell 10 or closure
GP-2	Future Cell 11 or closure
GP-3	Future Cell 12 or closure
GP-4	Future Cell 13 or closure
GP-5	Future Cell 14 or closure
GP-16	Future Cell 9 or closure

3.10.1.2 Gas Probe Design

Attached Figure 3-14 in Appendix 3-C presents our gas probe design for the subject landfill site. These gas probes are designed to be surface sealed and to provide a greater permeability than the surrounding sediments to act as collector points for any methane gas, if present. Based on the landfill design, we have designed all of the gas probes to each be typically 20-foot in depth with an 18-foot open screen for the monitoring point. This depth will allow the screened interval to intercept the full cross-section of the landfilled waste that could potentially generate methane.

The groundwater table is approximately at a 50-foot depth below land surface (bls) across most of the site, so these gas probes are not designed to intercept the groundwater table. The polyvinyl chloride plastic pipe (PVC), Schedule-40 was selected at the material of choice for these wells since it is basically inert to any attack from landfill gases and most other landfilled materials. The PVC casing and screen will be flush-threaded and have a screen slot size large enough to accommodate easy methane extraction from the monitoring point. The sand/bentonite slurry proposed for a surface seal shall be a blend of 4 parts of sand to one part of granular bentonite. The sand and the bentonite shall be mixed dry and hydrated immediately prior to placing it in the annular space of the borehole. The gas probe points are proposed to be installed by hollow-stem auger to construct an eight-inch borehole to be filled with pea gravel. The pea gravel shall meet the requirements of FDOT standard size No. 10 aggregate washed pea gravel. Each gas probe will be protected by a surface mounted well protector and locked for security purposes. Each gas probe will terminate at the surface with a PVC ball valve to accommodate easy monitoring of methane levels, with a portable meter. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded.

3.10.1.3 Methane Gas Measurement

In accordance with the subject landfill permits, methane gas levels will be monitored at each of the active gas monitoring points quarterly and submitted to the FDEP for review. A lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D to the Operations Plan, presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air and percent LEL. The reporting action level for methane in air will be considered 5 percent by volume in air as measured by the lower explosive limit. The reporting action limit for methane in structures is 25% of the LEL, or 1.25% methane by volume. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

3.10.1.4 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air,

or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise Class III RDF operator will institute measurement of methane in nearby, at, or below grade structures, i.e., stormwater collection points, or any maintenance or office buildings within 100 feet of the subject gas probe on a weekly basis until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from nearby structures, as indicated above, until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the reporting action levels.

3.10.1.5 Passive Gas Vents

Within 90 days of closure of each landfill cell, a passive landfill gas vent will be installed at the highest point of the cell to prevent explosions, fires and damages to vegetation from methane gas buildup. Sheet C-8 shows the location of the 9 gas vents and Figure 3-16 (Appendix 3-C) presents the design of a typical vent. The facility's gas emissions are expected to be far below the threshold of a Title V or an NSPS permit.

3.10.2 Leachate Control

Liquid disposal is not permitted at the Class Ill Landfill site. However, to control any leachate production that may occur and result in infiltration or increased head on the clay layer, a leachate control system has been implemented. This system for the Enterprise RDF Class III landfill is based on the continuous 3-foot thick clay layer (10^{-8} cm/s) that will be placed on the bottom and the cell slopes of the landfill. The clay layer beneath each individual cell will form a continuous barrier layer that will be graded to direct leachate to the temporary stormwater pond. The controlled method of screening waste also supplements the leachate control. Because Angelo's Recycled Materials privately owns the Enterprise Class III Landfill facility, most of the haulers, waste generators, and sources of waste are known to Angelo's and the scale house attendants. For those haulers that are unfamiliar to Angelo's, the scale house attendants question the haulers more intensely to determine the contents of their loads. The spotters and operators add additional monitoring at the active disposal location. The addition of video surveillance to the monitoring process of incoming wastes helps to identify fires or smoking loads. Combined methods of screening waste is an effective method to reduce any possible threat to public health or the environment.

Based on well inventory information from the Southwest Florida Water Management District,

shallow residential wells in the area have a depth ranging from 75 to 220 feet. Potable wells normally withdraw water from limestone in the Floridan aquifer.

A consistent confining layer above the limestone will exist across the site, due to the overexcavation of the cells and backfilling with 3 feet of compacted clay. Additionally, Floridan aquifer monitor wells will be installed on the site to ensure early detection of any exceeded groundwater parameters in this aquifer.

3.10.3 Stormwater Controls

The approved Stormwater Management Plan for the landfill consists of berms, swales, and ponds constructed within the 200-foot landscape buffer zone to divert, collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by Pasco County and the FDEP. During excavation, construction and waste disposal, stormwater will be controlled by a series of berms that direct stormwater to the temporary stormwater pond located in the northeast corner of the site. A 6-foot berm adjacent to active and filled cells retains stormwater from the filling area and diverts stormwater from the excavation area to the temporary stormwater pond. Additional details concerning the stormwater management is provided in Drawings Sheets C-6 through C-8, and the details on Sheet C-15.

3.11 EROSION CONTROL

The perimeter swales and ponds surrounding the landfill prevent stormwater from leaving the property. The series of berms described in Section 3.10.3 above will help prevent erosion.

Additionally, landfill side slopes will be constructed at 4H:1V (above elevation 125’ NGVD) and will receive intermediate cover to be maintained until final landfill closure that will occur when all existing and proposed cells are filled. See Reclamation and Closure Plan (Section 7) for further details.

3.12 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Drawing C-8) and in the cross-sections (Drawings C-9 through C-14). The excavated areas will be certified to the approved bottom grade prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas.

3.13 SETBACKS AND VISUAL BUFFERS

The following setbacks (buffers) shall be used:

1. Minimum of 200 feet from the property boundary to landfill footprint.

2. Minimum of 500 feet setback from surrounding residential wells to landfill footprint.

Buffer areas maintain visual screening of the landfill by the following methods.

1. 8-foot high berms along the frontage of Enterprise and Auton roads.

2. Landscaping and trees to provide visual buffers within setback areas

3. Existing trees within the setbacks will be maintained.

3.14 FOUNDATION ANALYSIS

A Geotechnical evaluation was conducted on the landfill site to estimate if the base and geologic setting are capable of providing structural support. Universal Engineering Sciences, Inc. completed the Geotechnical Report included as Section 4 to the August 2005 Enterprise Recycling and Disposal Facility Class III Landfill Permit Renewal Application, prepared by TetraTech HAI, and updated as the January 25, 2006 Universal Engineering Sciences *Geotechnical Exploration – Update*, provided as an appendix to the February 2006 letter from Jennifer Diehl, P.E. to Mr. Steve Morgan Subject: Angelo's Aggregate Materials, Ltd. Enterprise Recycling and Disposal Class III Landfill Pending Permit Nos.: 177982-007-SC and 177982-008-SO Pasco County. The report states that the landfill base will adequately support the Class III landfill wastes without excessive settlement. It also states that the potential for sinkhole development on the site is low. In the event a sinkhole is discovered on-site, or within 500-feet of the site, the Department will be notified within 24 hours. A reclamation plan of action will be submitted to the Department within seven days. Soil boring logs used to support the foundation analysis are also in Appendix B to the referenced Geotechnical Report.

3.15 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test

results for the construction material, will be recorded by a properly trained technician. These are to be conducted at the location of each permeability test.

- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.

- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.

- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrologeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area

3.16 OPERATIONS PLAN

The Landfill's Operations Plan is included as Appendix 3-A.

3.17 CONTINGENCY PLAN

The Landfill's Contingency Plan is included as Appendix 3-B.

SECTION 3

APPENDIX 3-A OPERATIONS PLAN

APPENDIX 3-A
ENTERPRISE CLASS III RECYCLING AND DISPOSAL FACILITY
OPERATIONS PLAN

1.0 DESIGNATION OF RESPONSIBLE PERSON(S)

The current designated responsible person for the proposed Enterprise Class III Recycling and Disposal Facility (RDF) is Mr. Dominic Iafrate. All correspondence and inquiries concerning the Enterprise Class III RDF permits and operation should be addressed to him at:

Mr. Dominic Iafrate, Vice President
Angelo's Aggregate Materials, LTD.
P.O. Box 1493
Largo, Florida 33779
(727) 581-1544

2.0 LANDFILL SITE IMPROVEMENTS

The 160 acre landfill site is also permitted by Pasco County to be a Class I mine (Pasco County Petition #CU04-26, approved 9/23/2004). The following site improvements have been installed to continue operation of the Class III Landfill.

2.1 Facilities

An office trailer (gate house) is located onsite for the gate attendant. This trailer has hand washing and toilet facilities. Bottled potable water is used to provide drinking water for the trailer. Electric and telephone services are available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Site Plan, Drawing C-4.

2.2 Primary Haul Route

The primary haul route to reach the Enterprise Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R. 35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R. 35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R. 35A to the entrance of what will be the active portion of the landfill. Enterprise Class III RDF will maintain this access road to provide adequate access.

2.3 Effective Barrier

The existing Enterprise Class III RDF property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence consists of a 6-foot high galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. The chain link fence has been installed in accordance with permit issuance in October, 2001. Three (3) foot square "NO TRESSPASSING" signs with five-inch letters has been installed at no less than 500-feet spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-foot high berm has been constructed along the frontages of Enterprise and Auton roads as a visual and noise buffer.

3.0 OPERATING HOURS

The landfill shall have the following operating hours:

Day	Hours of Operation
Monday through Friday	7:00 am to 6:00 pm
Saturday	7:00 am to 2:00 pm

Operational hours may be extended periodically to meet special requests of customers, but at no time will operating hours extend beyond 7:00 A.M. to 7:00 P.M. Monday through Saturday. Waste will not be accepted during non-daylight hours.

4.0 CONTINGENCY OPERATIONS

If a natural disaster occurs at the facility, the waste accepted at the landfill would be rerouted to another permitted Class III landfill site. If a storm occurs within the surrounding community, storm debris waste will also be accepted at the facility, providing additional staff if required. In terms of equipment breakdown, there will be two operating pieces of equipment for all stages of landfill operation. Currently, Angelo's has on-site two compactors [Cat 826 (2)], two loaders (Cat 950, Cat 980), two dozers (Cat D5, Cat D8), four excavators [John Deere 450 (2), Komatsu PC1100, Komatsu PC300], and two articulated dump trucks (Volvo). If both should breakdown, replacements can be rented or substituted from onsite or offsite within 24 hours.

The site access roads will be constructed to allow passage of vehicles under all expected weather conditions. See Appendix 3-B for the site's Contingency Plan.

5.0 WASTE STREAM QUALITY CONTROL PLAN

5.1 Visual Inspection

An estimated 550 tons of Class III waste material is currently received at the facility daily. Materials brought onto the Enterprise Class III RDF site will be inspected three times. The first inspection takes place at the site entrance. The site will only accept Class III debris (which includes construction and demolition debris by definition); therefore, any vehicles hauling unacceptable waste can be turned away by the attendant at the ticket gate. The gate attendant will question all waste carriers as to the character and origination of their wastes. A mirror is installed overhead and angled to allow gate inspection of all loads after they are untarped. A video camera has been installed over the scale location that will allow the gate· attendant to visually screen all carrier loads prior to disposal, mainly to identify fire or smoking loads. For loads that are not accepted, a Rejected Load Form will be completed.

The second inspection is a visual inspection that will occur at the working face. This landfill employee, the spotter, stationed at the working face will be responsible for spotting trucks bringing in disposal loads. The spotter will show the drivers where to unload, and will also inspect the trucks to make sure unacceptable materials are not unloaded. The spotter will have the authority to ensure that unacceptable materials are reloaded on the truck the material was brought in on.

The third inspection will occur as the waste is spread by the equipment operator. Any unacceptable wastes observed will be placed in the appropriate container located at the working face. The equipment operator may also serve as the spotter and will perform both visual inspections - as the waste is unloaded and as the waste is spread.

The facility will deploy and use spotters based on the volume of waste disposed at the working face. No more than two loads will be allowed to dump simultaneously per spotter at the working face.

5.2 Documentation of Waste Received

Documentation includes recording the name of the company disposing, driver's signature, all vehicle identification numbers, quantity of waste (tons), and type of waste (to meet FDEP and Pasco County's requirements). All vehicles entering the landfill will be weighed. The type of material and location from which the waste was generated will be recorded. This provides a

record for tracing ownership of individual loads. See Landfill Operating Records, Section 19.2 for more details.

5.3 Contingency for Unacceptable Materials

If unacceptable waste materials are delivered to the landfill, the truck will be refused entry after inspection at the gate. If the unacceptable waste materials are observed by a spotter while unloading, they will be reloaded onto the delivery vehicle. Should the vehicle leave before the unacceptable waste has been discovered, Enterprise Class III RDF personnel will place the unacceptable material into an appropriate container located at the working face. A maximum of 20 cubic yards of covered dumpster storage for Class I waste will be provided near the active face of the landfill, as shown on Drawing C-4. These containers are transported by Central Carting Disposal (or other qualified vendor) to a disposal facility permitted to accept Class I material. The covered storage containers will control vectors and odors and Class I waste will be removed within 30 days of discovery. If the storage containers cannot be secured to control vectors and odors, the putrescible waste will be stored no longer than 48-hours.

Unacceptable nonputrescible, non-hazardous wastes, such as batteries, paint, chemicals or similar items that are inadvertently accepted will be removed when observed and stored in a roll-off container or pile at the working face and removed daily to a lockable storage unit. A maximum of 40 cubic yards of stored unacceptable, nonputrescible, non-hazardous wastes may be provided near the active face of the landfill, as shown on Drawing C-4. These materials will be removed from the site at least every 30 days (sooner if required) by City Environmental (or other qualified vendor) and taken to their facility for processing and proper disposal. This plan should meet the inspection needs for the site to prevent disposal of unacceptable wastes.

If suspect regulated hazardous wastes are identified by operators or spotters by random load inspection or discovered deposited at the landfill, the FDEP will be notified promptly, as well as the hauler and generator of the wastes, if known. The area where the hazardous wastes are stored will immediately be secured from public access. If the generator or hauler cannot be identified, Enterprise Class III RDF will assume the cleanup, transportation and disposal of the waste at a permitted hazardous waste management facility.

5.4 Acceptable and Unacceptable Class III Landfill Waste Materials

The Enterprise Class III RDF will accept only those solid wastes as defined in Rule Chapter 62-701.200 (14), F.A.C. as Class III wastes, except as allowed otherwise by permit.

The following is a compilation of acceptable Class III waste materials.

- Land clearing debris
- Demolition debris
- Glass
- Carpet
- Cardboard
- Asbestos
- Plastic
- Automobiles and parts without visible contamination from petroleum products or other chemicals
- Construction debris
- Non-Treated Wood Pallets
- Unpainted and untreated wood scraps from manufacturing
- Waste Tires (Processed)*
- Paper
- Furniture other than appliances
- Yard trash

* Processed waste tires are acceptable for disposal in the Class III Landfill provided that they have been cut into sufficiently small parts may be disposed of or used as initial cover at a permitted landfill. For use as initial cover, a sufficiently small part means that 70 percent of the waste tire material is cut into pieces of 4 square inches or less and 100 percent of the waste tire material is 32 square inches or less. For purposes of disposal, a sufficiently small part means that the tire has been cut into at least eight substantially equal pieces. Any processed tire which is disposed of in a landfill and which does not meet the size requirement of subsection (a) above must receive initial cover, as defined in subsection 62-701.200(53), F.A.C., once every week.

The following is a compilation of <u>unacceptable</u> Class III waste materials:

- Putresible Household Waste
- Paint (liquid)
- Any toxic or hazardous Materials (i.e., batteries, solvents, oils, etc.)
- Whole drums (55-gallons)
- Refrigerators, freezers, air conditioners (white goods)
- Biomedical waste
- Automobiles or parts that are contaminated with petroleum products or other chemicals.
- Septic tanks and pumping
- Whole waste tires (except at the waste tire processing facility)
- Electronics
- Contaminated soils

The site has a visible sign at the site entrance on Enterprise Road as provided in Appendix A. The sign identifies the accepted wastes, hours of operation, landfill classification, and site's 24-hour emergency contact and telephone number. Industrial or excavated waste will be considered for acceptance on a case by case basis, only with prior consent of the Department.

5.5 Random Load Inspection

In accordance with Rule 62-701.500(6)a., F.A.C., the owner or operator shall implement a load-checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program will consist of the following minimum requirements:

1. The landfill operator shall examine at least three random loads of solid waste delivered to the landfill per week. The waste collection vehicle drivers selected by the inspector shall be directed to discharge their loads at a designated location in the landfill. A detailed inspection of the discharged material shall be made for any unauthorized wastes. The landfill operator will assure the random inspections will be distributed between both loads originating from the transfer facility and other private waste haulers delivering waste to the landfill.

2. If unauthorized wastes are found, the facility shall contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

The following procedures shall be followed when inspecting the load:

A. The load will be "broken apart" by both the spotter and equipment operator to allow for a thorough inspection.

B. The inspectors will be searching and removing de minimis amounts of unauthorized waste contained in the load.

C. If the load contains more than de minimis amounts of unauthorized materials, they shall immediately be reloaded onto the customer's vehicle for removal from the site. In the event that the transporter will not remove the unacceptable materials, the materials will be loaded into an appropriate container and removed from the site. The customer/generator will be contacted and notified of the site policies as well as charged for the off-site disposal services.

D. In all cases, if more than minimal unacceptable wastes are found during the inspection, the customer will be notified to assure the prevention of future occurrences.

All inspection shall be documented on the site's "Random Load Inspection Form," signed by the inspector, and kept in a current Log Book, see Appendix B. Log books will be maintained at the landfill for at least 3 years. Inspections shall be performed by trained site personnel.

5.6 Asbestos Waste Disposal

Asbestos-containing materials (ACM's) will be accepted for disposal in accordance with 40 CFR Part 61.154. Arrangements for disposal of ACM's between Enterprise Class III RDF and the waste generator/hauler will be recorded in the operations record as to the quantity and date of shipment to the landfill. The loads are accepted at pre-arranged times during operational hours.

To ensure that all waste deposited at the Facility meets state and local requirements, all facility personnel shall receive training from their supervisor on the identification of unacceptable materials, which is any waste other than properly labeled and bagged ACM. Unregulated, non friable asbestos containing materials are not required to be bagged, but all other requirements are unchanged.

Each load of ACM arriving at the facility must be accompanied by a completed Waste Shipment Record (WSR) in accordance with 40 CFR 61.150. Each load will be inspected to insure that it is properly bagged, that bags are intact and properly sealed, and that the required warning labels and generator labels are affixed. Bags will not be opened prior to disposal.

ACM arriving at the Facility for disposal will be visually screened by facility personnel a minimum of two times. The first screening will be at the scales, controlling access to the Facility, where the truck drivers will be questioned as to the contents of the load and the shipping documents will be reviewed. The gate attendant will direct the drivers to the appropriate disposal area.

The second screening will be at the working face where a trained inspector/spotter will again question the driver and make a visual examination of the load prior to dumping and as it is dumped. This examination shall insure the ACM is properly bagged, the bags are intact and properly sealed, and that the warning labels and generator labels are affixed.

Enterprise RDF personnel will direct the waste hauler to the designated ACM disposal location in each cell, to be determined by the Operator or Site Manager. The ACM will be covered with 6-inches of soil at the end of any day that ACM is accepted. This designated ACM location will be recorded and updated by the annual topographic survey in accordance with 40 CFR 61.154. ACM disposal records will be maintained for the life of the landfill and disposal locations documented in the Closure Report.

5.7 Incidental Recycling Operations

The Class III landfill does have a separate, dedicated materials recycling area. However, if recyclable wastes are incidentally received, such as metals, concrete rubble, asphalt, and wood

wastes, the facility will separate them in stockpiles or in roll-off containers. Concrete and asphalt will be periodically transported off-site to an appropriate site for crushing and returned, as needed, for on-site uses. Yard and wood wastes may be chipped for use onsite or be placed in roll-off containers for shipment to a wood recycler. These materials will be removed from the site approximately every 6 months. However, if the storage capacity is exceeded, the materials will be removed sooner. Incidental recyclable materials that are identified at the disposal area will be placed in containers located near the working face, as follows and as shown on Drawing C-4:

TYPE	MAX. QTY	STORAGE
Ferrous Metal	500 CY	Roll-off or pile
Aluminum	300 CY	Roll-off or pile
Stainless Steel	300 CY	Roll-off or pile
Copper	25 CY	Trash pail, roll-off or pile
Asphalt	300 CY	Roll-off or pile
Concrete / Rubble	300 CY	Roll-off or pile
Recyclable rlectronics	8 CY	Covered dumpster

Trucks identified at the entrance as carrying primarily recyclable products, (i.e., concrete, metal, wood, paper) will be refused entrance into the landfill.

5.7.1 Reports

A Recovered Materials report will be submitted quarterly by type of waste recovered and tonnage to the FDEP and Pasco County Solid Waste Department. These reports will also be compiled into an annual report to the FDEP.

5.8 Wood Acceptance Area

Initial inspection will be performed at the scalehouse by the attendant. Wood wastes are stockpiled until processing takes place every 180 days. Personnel trained to identify and remove any unacceptable wastes will be present during processing. Unacceptable wastes, if found, will be removed prior to wood processing.

6.0 WEIGHING OR MEASURING INCOMING WASTE

A scale system is used as shown on the Site Plan. The scale will be calibrated every six (6) months. Trucks will be weighed as entering the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste

material disposed will be determined and the appropriate fee assessed. Weigh tickets will be kept on-site for a minimum of 5 years.

6.1 Fee Schedule

The fee schedule for disposal varies depending on the client, type of waste and volume received.

Waste Type	Unit	Fee per Unit
Class III	CY	Variable

This fee schedule will be periodically revised according to the prevailing market for waste disposal. Enterprise Class III RDF will notify clients immediately in writing of all fee schedule changes.

7.0 VEHICLE TRAFFIC CONTROL AND UNLOADING

Generally, truck traffic will be controlled by first in - first out, as directed by the working face spotters when and where to dump. There will be adequate space for truck staging at the site's gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise Class III RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mining truck traffic vs. landfill truck traffic to their appropriate areas of the site.

8.0 METHOD OF CELL SEQUENCE AND LIFE EXPECTANCY

8.1 Cell Sequence

~~Angelo's Aggregate Materials is currently (as of December 2012) filling in Cells 1 – 5 and 15 of the Class III Landfill, to cover elevation of +/- 150'. The cell construction and filling sequence operations to occur after filling Cells 1 – 5 and 15 to cover elevation +/- 150' will be as follows (see Drawing Sheets C-6 through C-8):~~

~~Phasing Sequence 1~~	~~Fill Cells 6A and 6B in 10 – 12 foot lifts from base grade to cover elevation 170, including filling over Cells 1 – 5 and 15.~~
	~~Maximum slope is 3H:1V from base grade to cover elevation 125'; 4H:1V from cover elevation 125' to 150'; 20H:1V from cover elevation 150' to 170'~~
	~~10-ft wide stormwater benches are to be constructed at cover elevation 125' and 150'~~

	~~Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.~~
	~~Construction of Cell 7 will be ongoing during Cell Sequence 1~~
~~Phasing Sequence 2~~	~~Complete construction of Cell 7 per Sheet C-7 of the drawing set in Part 4~~
	~~Construct temporary stormwater diversion swale west of Cell 7~~
	~~Construction of Cell 7 will be ongoing during Cell Sequence 1~~
~~Phasing Sequence 3~~	~~Fill Cell 7 in 10 – 12 foot lifts from base grade to final cover grade (elevation 175), including filling over Cells 1 – 6 and 15.~~
	~~Maximum slope is 3H:1V from base grade to cover elevation 125'; 4H:1V from cover elevation 125' to 150'; 20H:1V from cover elevation 150' to 170'~~
	~~10-ft wide stormwater benches are to be constructed at elevation 150'.~~
	~~Sideslope berms and stormwater appurtenances are to be constructed at final closure.~~
	~~Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.~~

Filling activities are currently (as of March 2015) occurring in Cells 6 and 6B of the Class III Landfill. The cell construction and filling sequence operations will be as follows (see Section 4 for revised plan sheets):

Phasing Sequence 1	Fill Cells 6, 6B, 1, 2, 3, 4, 5 and 15 in 10 – 12 foot lifts from base grade to cover elevation 175', including filling over Cells 1 – 5, and 15.
	Maximum slope is 3H:1V from base grade to elevation 125'; 4H:1V from elevation 125' to 170'; 1% to 2 % grade from elevation 170' to 175'
	10-ft wide stormwater benches are to be constructed at elevation 125' and 150'
	Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.

Phasing Sequence 2	Complete construction of Cell 7 per Sheet C-7 of the drawing set in Part 4.
	Fill Cell 7 – 12 foot lifts from base grade to final cover grade (elevation 175'), including filling over Cells 1 - 6 and 15. Maximum slope is 3H:1V from base grade to elevation 125'; 4H:1V from elevation 125' to 170'; 1% to 2 % grade from elevation 170' to 175'
	10-ft wide stormwater benches are to be constructed at elevation 125' and 150'
	Sideslope berms and stormwater appurtenances are to be constructed at final closure.
	Cover elevations noted include 18" intermediate cover and 18" top soil layer. Fill elevations shall be such that design cover elevations will be achieved on all external slopes.

Phasing Sequence 3 Conceptual Closure

Lift height includes cover material. Due to the landfill bottom elevation some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- Avoid channelizing stormwater flows
- Use mulch, grass, and maintain intermediate covers
- Use culverts, berms, or the best management practices based on actual weather and site conditions.
- The working face will remain approximately 100 feet in length.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.

Storm water runoff on the interior of the excavation and filling area will be diverted to the onsite temporary storage pond using a temporary interior swale and 6-foot berm. Perimeter berms will direct stormwater away from excavation and filling areas. The temporary stormwater pond will receive runoff until Pond 3 is developed.

8.2 Erosion Control

The following engineering controls will be used to minimize erosion at the working face.

- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.

- As soon as possible following the construction of the clay liner, begin to fill against the 2H:1V slope with the landfill material.

In order to assist with erosion control of the intermediate cover as well as initial cover, the landfill may apply processed mulch over such covered areas to minimize erosion.

8.3 Life Expectancy.

The capacity and lifespan estimates are provided in Section 3.8.3 of the Engineering Report.

9.0 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compactibility. Bulky, incompressible items, such as concrete and tree debris, shall be separated. Concrete is stockpiled and periodically removed, transported to an off-site processing facility to be crushed, and returned if needed for on-site uses. Tree debris is separated from the waste and periodically mulched for on-site use. The remaining debris is disposed of in designated "cells" using a CAT 826G Compactor, or equivalent to place, spread the waste daily and compact the debris weekly. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The facility may also use a 50/50 mixture of mulch and soil as cover in accordance with Policy Memo # SWM-05.4 dated April 25, 2001. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion. Cell closure will occur when all permitted cells are filled. For final buildout grade and closure detail, see Drawing Sheets C-8 and C-15, respectively.

Final cover grades are shown on Drawing Sheet C-8. Fill grades shall be such that final cover elevations are met on all grades.

Cell closure shall conform to the grades and lines specified in the grading plan. The grading plan shall conform to the rules and regulation specified in 62-701.600, as well as 62-701.400 (7) and 62-701.400(8), Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may occur in the closed cell areas.

10.0 OPERATION OF GAS, LEACHATE AND STORMWATER CONTROLS

10.1 Gas Monitoring and Control

The type of material to be disposed in the Class III Landfill is not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact therefore, a passive gas control system is proposed. The Enterprise Class III RDF site Manager will conduct daily and weekly inspections of the landfill and will check for objectionable odors or gas by driving around the perimeter of the site, record the results, and notify the FDEP and County of any positive detection and immediately take corrective actions. Corrective actions will include placement of additional soil cover, or mulch, or lime containing materials such as crushed concrete that is documented to abate the odors. Quarterly gas monitoring is currently conducted.

Within 30 days of being notified by the Department that objectionable landfill gas odors have been confirmed off-site, Enterprise RDF will submit to the Department for approval an odor remediation plan for gas releases. The plan will describe the nature and extent of the problem and the proposed long-term solution, which will be implemented within 30 days of approval. The plan will include procedures to implement a routine odor monitoring program to determine the timing and extent of off-site odors and a means of evaluating the effectiveness of the remedy.

The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design thus preventing possible odor operation. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

However, since yard trash is an acceptable Class III waste, and it is biodegradable, a system of gas monitoring points surrounding the landfill is used to monitor methane gas levels.

A system of passive gas vents will be installed to prevent explosions and fires from possible gas generating from the biodegradable wastes (yard trash) in the landfill. The location of the gas vents is shown on Sheet C-8. The construction details of the vents are shown on Figure 3-16 of Appendix 3-C. The vents will be installed during the final closure and installation of the final cover over each landfill cell.

A system of 16 gas monitoring points will be installed to monitor gas at the site, see Sheet C-4. The construction details a typical gas probe as shown on Figure 3-14 of Appendix 3-C.

10.1.1 Methane Gas Measurement

In accordance with the subject landfill permits, methane gas levels will be monitored at each of the 16 gas monitoring points quarterly and submitted to the FDEP for review. See Sheet C-4. A portable explosimeter, or lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D presents the proposed gas monitoring point survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air as measured by the lower explosive limit. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

10.1.2 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise Class III RDF landfill operator will institute measurement of methane in nearby, at, or below structures, i.e., stormwater collection points, or any maintenance or office buildings within 100 feet of the subject gas probe, on a weekly basis, until these levels go below the 100% LEL at the subject probe. If methane levels measured in

any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from nearby structures, as indicated above, until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the reporting action levels.

10.2 Leachate Control

Liquid disposal is not permitted at the Class III Landfill site. However, to control any leachate production that may occur and result in infiltration or increased head on the clay layer, a leachate control system has been implemented. This system for the Enterprise RDF Class III landfill is based on the continuous 3-foot thick clay layer (10^{-8} cm/s) that will be placed on the bottom and the cell slopes of the landfill. The clay layer beneath each individual cell will form a continuous barrier layer that will be graded to direct leachate to the temporary stormwater pond. The controlled method of screening waste also supplements the leachate control. Because Angelo's Recycled Materials privately owns the Enterprise Class III Landfill facility, most of the haulers, waste generators, and sources of waste are known to Angelo's and the scale house attendants. For those haulers that are unfamiliar to Angelo's, the scale house attendants question the haulers more intensely to determine the contents of their loads. The spotters and operators add additional monitoring at the active disposal location. The addition of video surveillance to the monitoring process of incoming wastes helps to identify fires or smoking loads. Combined methods of screening waste is an effective method to reduce any possible threat to public health or the environment.

Based on well inventory information from the Southwest Florida Water Management District, shallow residential wells in the area have a depth ranging from 75 to 220 feet. Potable wells normally withdraw water from limestone in the Floridan aquifer.

A consistent confining layer above the limestone will exist across the site, due to the overexcavation of the cells and backfilling with 3 feet of compacted clay. Additionally, Floridan aquifer monitor wells will be installed on the site to ensure early detection of any exceeded groundwater parameters in this aquifer.

10.3 Storm Water Control

The approved Storm water Management Plan for the landfill consists of berms, swales and ponds constructed within the 200-foot landscape buffer zone to divert, collect and contain storm water runoff from the completed site. These storm water facilities are designated to retain the 100-year,

24-hour storm volume as required by the FDEP. During excavation, construction, and waste disposal, storm water will be controlled mainly by a series of berms that direct storm water to the temporary stormwater pond located in the northeast comer of the site. A 6-foot berm adjacent to active and filled cells retains stormwater from the filling area and diverts stormwater from the excavation area to the temporary stormwater pond. Additional details concerning the stormwater management is provided in Drawing Sheets C-6 through C-8, and and the details on Sheet C-15.

The site manager will perform weekly inspections of the storm water management system. Any areas in need of maintenance will be repaired within seven days.

11.0 SIGNS

Signs will be posted at the entrance to the Enterprise RDF site which will list the following information:

The operating entity;
Hours of operation;
No scavenging allowed;
No hazardous waste accepted;
List of acceptable and unacceptable waste; and,
24-hour phone number of emergency contact.

The gate attendant will direct each driver to the area appropriate to unload wastes. Signs will also be posted to direct trucks to either the borrow pit or the landfill working face.

12.0 DUST ABATEMENT PLAN

Enterprise RDF will provide a water tanker to water the landfill access roads if and when dust becomes a problem. This will also be done whenever the County receives complaints about dust or when a dust problem is observed during a County or State inspection.

13.0 DUST, LITTER, AND VECTOR CONTROL PLAN

The nature of the waste to be disposed in the landfill does not typically create litter and vector problems. Daily placement of waste and/or compaction will be the primary means utilized to control litter and vectors. The facility personnel will perform daily inspections of the facility and the access road to assure litter is controlled. As needed, laborers shall pick up blowing debris and dispose of it in appropriate containers and/or on site. In addition, the laborers shall weekly patrol the haul route west on Enterprise Road to C.R.35A for pick up of litter from vehicles hauling material to and from the site. Temporary fencing to contain litter at the working face of the

landfill will be used as needed. These litter controls will also be implemented whenever the County or State receives a complaint from adjacent landowners or a litter problem is observed during an inspection.

If vectors (rodents, insects, and domestic animals) become a nuisance at the Facility, the Operator may obtain the services of a licensed pest management company to review the operations and recommend control measures.

14.0 FIRE PROTECTION AND FIRE FIGHTING FACILITIES

Fires that originate in landfills are primarily extinguished by soil application. Supplemental fire protection will be furnished by the Dade City Fire Department (Station No. 1). The Fire Department will be notified immediately of all landfill fires. An emergency contact list will be posted at the scalehouse with contact phone numbers.

During a fire, incoming trucks will be directed toward another area of the landfill so that a temporary active face can be established. Once the fire is extinguished, appropriate cover will be applied to the waste and operations will continue at the original active face. If the fire is extensive and a temporary active face cannot be established, incoming trucks will be redirected to another landfill.

Onsite fire prevention facilities will include:

- Fire extinguishers mounted in the cab of all heavy equipment and in the offic e/ scalehouse;
- Radio communication to notify personnel of a fire;
- Onsite equipment (dozer) and fill dirt to extinguish fires on working face; and
- Site water truck

Soil for fire fighting purposes will be borrowed from the closest unexcavated area of the site to the fire. Details of all fire fighting episodes will be recorded in the landfill operating record.

14.1 Hot Loads and Spills

Any hot load (of authorized material) found will be dumped on an area at least 500 feet away from the active working face. The load will immediately be covered with soil if a fire is imminent. Once the fire is extinguished, the load will be pushed and spread using a dozer,

allowing for the load to be inspected by a spotter. The waste will not be disposed of until it has cooled completely, and the fire hazard has been mitigated.

In the event of a fire at the working face, waste acceptance will cease until the fire has been completely extinguished and additional cover material compacted in the area of the fire. If the fire is located elsewhere in the landfill, waste acceptance operations may continue at the manager's discretion.

Since liquid disposal is prohibited in a Class III landfill, spills from waste vehicles are not anticipated. In the case of a fuel spill or leak, the contaminated soil will be collected to the extent possible, contained in a drum or roll off container, and taken offsite within thirty (30) days for proper disposal or treatment.

15.0 LANDFILL PERSONNEL

The gate attendant and certified landfill operator shall be onsite during all operating hours. In addition, there shall be a minimum of one (1) other person (spotter) onsite, for a total of three (3). The state certified landfill operator will be assigned to manage the daily landfill operations. The personnel will be stationed at the landfill ticket gate and active disposal face. Additional personnel will be assigned to the landfill operation as the demand necessitates. Two spotters are generally located at the working face at all times that waste is accepted. However, there are up to eight spotter-trained or in-house trained spotter employees on-site each day and therefore; additional trained employees can be relocated to the working face as necessary to inspect the incoming waste. Certificates for current trained personnel are attached as Appendix F to this submittal.

At least one (1) spotter will be at the working face at all times the facility is accepting waste. The spotter will direct vehicle traffic around the working face and will direct drivers where to empty their vehicles. The loads will be inspected as described in Section 5.0. If the load is acceptable, the waste will be spread and compacted as necessary. If the load is unacceptable, the spotter will direct the driver to reload the waste into the vehicle, if possible. If the driver is unable to reload the material, on-site personnel will reload the material for the driver using onsite equipment. The spotter will also discourage scavenging by the public.

The equipment operator spreading waste at the working face may also act as a spotter in accordance with the following:

1. The heavy equipment operator must be trained as a spotter;
2. When unauthorized waste is discovered, the heavy equipment operator must either move the unauthorized waste away from the active area for later removal and proper

management, or must stop operation and notify another person on the ground or on other equipment who will come to the active area and remove the unauthorized waste before operations are resumed;

3. Each load of waste must be visually inspected for unauthorized waste prior to being compacted or loaded into a transfer vehicle.

A typical work schedule is as follows:

Day	Operating Hours	Gate Attendant	Certified Operator	Spotter(s)	Equipment Operator*
M-F	7 am – 6 pm	1 (7 am – 6 pm)	1 (6 am – 6 pm)	Min. 1 (7 am – 6 pm) For 2 or more (7 am – 4 pm), (12 pm – 6 pm)	Min. 1 (7 am – 6 pm)
S	7 am – 2 pm	1 (6 am – 3pm)	1 (6 am – 3 pm)		Min. 1 (7 am – 2 pm)

* - Equipment Operator may also serve as a spotter

15.1 Training Plan

Enterprise Class III RDF will implement an employee training plan to properly train their landfill operators and spotters to operate the landfill in accordance with this Operations Plan, state and local regulations, and accepted disposal practices and to properly manage any hazardous or prohibited materials which are received at the landfill.

A trained operator will be at the site during all times that the landfill receives waste. All facility operators will be trained at an approved FDEP training course. Each operator will submit proof of training and documentation to the FDEP upon receipt of their certificates.

Landfill operators must have at least one year of work experience in landfill operation and a high school diploma; or have at least two (2) years experience at a Class I, II, or III landfill. Each operator will complete at least 24 hours of initial training in an FDEP-approved training course, and shall pass an examination as part of that training. Sixteen (16) hours of continuing training will be completed within three (3) years of each operator's initial training from an approved course documented by the form in Appendix C. A list of FDEP approved training courses for operators and spotters are included in Appendix E.

Enterprise Class III RDF landfill spotters will complete an initial eight (8) hour FDEP-approved course and four (4) hours of continuing training every three (3) years. Records documenting each employee's training course completion and schedule will be maintained and kept at the landfill office at all times.

Interim operators must become trained operators within one year of employment as an interim operator and interim spotters must become trained spotters within 3 months of employment as an interim spotter

16.0 COMMUNICATIONS FACILITIES

The landfill gate house will have both telephone and facsimile facilities. In addition, all landfill operating areas (gate house, working face etc.) will have radio communication or cell phones with the base station at the gate house.

17.0 EQUIPMENT INVENTORY

Equipment currently planned for use at the landfill site includes:

A. D-8 Caterpillar bulldozer, CAT 826 G Compactor; two 2.5 cyd loaders, water truck, 590 John Deer backhoe, or equivalent are sufficient for adequate operation of the facility. A wood chipper/grinding machine (Hogzilla), or equivalent, will be moved to the site periodically (approximately once every six months) to process wood wastes as needed. Additional equipment, such as a grader may be rented as needed.

B. Arrangements will be made to provide alternate equipment within 24 hours following an equipment breakdown.

   Equipment rental companies that may be used to obtain reserve equipment include the following:

   Ring Power - Brooksville, Florida
   Contact: 352-796-4978

   Flagler Equipment - Tampa, Florida
   Contact: 813-630-0077

C. There will be safety devices present on equipment to shield and protect the operators from potential hazards during operation.

17.1 Equipment Maintenance

Enterprise RDF will conduct routine heavy equipment and vehicle maintenance onsite. Maintenance includes fueling of heavy equipment with diesel fuel, lubrication, oil changes and, antifreeze changes. Tire repairs will be handled by an outside service company.

A permanent equipment fueling facility will be installed and registered in accordance with F AC 62-761. Pasco County will be copied on the registration.

Oil and antifreeze changes will be contained by large drip pans to catch the waste oils. These wastes will then be transferred either to a 250-gallon waste oil skid tank or to a 55-gallon drum for waste antifreeze, which will be located in a containment area. The containment area is a covered metal storage shed. Enterprise RDF plans to enter into contracts with licensed recyclers to periodically pick up the waste oil and antifreeze. Records of these pickups will be maintained by Enterprise RDF. All virgin lubricants will be stored undercover within the gate house building.

18.0 SAFETY DEVICES

All operating equipment which will be utilized at the landfill site will be fitted with rollover protection and fire extinguishers. All landfill personnel will be required to wear safety helmets, safety shoes, eye protective glasses, gloves, and safety vests. The onsite heavy equipment will meet OSHA safety requirements. First aid equipment will be kept in the office trailer and in the operating equipment.

19.0 RECORDS, PERMITS AND REPORTS

A copy of any Florida Department of Environmental Protection (FDEP) and Pasco County approved engineering drawings, permits and supporting information shall be kept at the facility for reference and inspections. Permits will be posted at site per ordinance. A waste type and quantity intake (in tons) log will be kept daily, compiled monthly and a report will be submitted annually to Pasco County and the FDEP.

An annual estimate of the remaining life and capacity in cyds of the landfill will be reported annually to the FDEP.

19.1 Water Quality Monitoring

Enterprise RDF will conduct the required initial and semi-annual groundwater monitoring at the sites' monitoring wells as described in the sites' Groundwater Monitoring Plan. Semi-annual

reports of this monitoring will be submitted to Pasco County and FDEP in accordance with this plan. Quarterly monitoring will also be conducted and reported at specific wells per Pasco County conditions.

19.2 Landfill Operating Records

The operating record for the landfill will document daily as a minimum the following activities:

- Self inspections of landfill conditions, safety equipment and unacceptable waste received, any odor detected;
- Records used to develop permit applications;
- Change in construction, operation or closure permits and all supporting designs;
- Water quality sampling events, analytical reports, well installation or repair;
- Employee training;
- Random load checks;
- Facility construction, major maintenance, or demolition;
- Other activities that significantly affect facility operations.

Self-inspections of the landfill conditions are conducted daily, and more extensive inspections are included weekly. Daily inspections include general inspection of site access, site security, and conditions of intermediate cover. Weekly inspections include more detailed inspections of the conditions of the surface water and stormwater management systems and groundwater monitoring wells.

The Operating Record will be kept at the landfill and be accessible to the landfill operators to maintain and for FDEP or Pasco County inspection at reasonable times.

Operational records will be maintained for the design life of the landfill, with the exception of weigh tickets which shall be kept at least 5 years. Water quality monitoring information, maintenance records, and permit reports will be maintained for a minimum of 10 years. Background water quality records will be maintained for the design period of the landfill.

20.0 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell.

21.0 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Drawing C-8) and in the cross-sections (Drawings C-9 through C-14). The finished elevations for Cells 1 – 7 and 15 are designed to accommodate a future expansion to the west and north of the existing landfill. Permitted mining activities will continue in accordance with the site's Class I mining permit. The final elevations after construction of future cells 9 – 16 is planned to reclaim excavated areas back to the grade which existed prior to the site being opened as a mine with allowance for positive drainage.

22.0 CLOSURE AND LONG TERM CARE

The site's Reclamation and Closure Plan details the procedures to properly close and maintain the landfill during the 30-year post-closure period. A Closure Report will be prepared for the landfill that details the site-specific limitations for land use based on geotechnical stability (settlement), potential gas migration, and site access. Long-term maintenance of erosion controls, storm water controls and monitoring devices is discussed in the Closure Plan, Section 7, of the permit application document.

23.0 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician. These tests will be conducted in the location of each permeability test.

- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.

- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.

- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP in accordance with Rule 62-701.320(9)a., F.A.C., along with the quality assurance test results described above.

24.0 HISTORY OF ENFORCEMENT ACTION

In 2000, OGC Case No. 00-0009 was opened against the applicant for the Frontier Recycling facility (now Angelo's Recycling Facility) in Largo, Florida. A model consent order was used to resolve the issues of the case. The DEP's database did not include information regarding the subject of the enforcement.

In 2004, OGC Case No. 04-0887 (solid waste) and No. 04-0426 (stormwater) were opened against the applicant for Angelo's Recycling facility in Largo, Florida. ARM requested a minor permit modification to resolve the solid waste enforcement case. Formal enforcement was not taken to resolve the stormwater case. Instead, it was handled through submittal of a new permit application.

In 2006, OGC Case No. 06-0783 was opened against the applicant for the Enterprise Class III Landfill and Recycling Facility in Pasco County, Florida. ARM performed the corrective actions that were required to bring the facility into compliance and the assessed civil penalties were paid.

In 2007, Warning Letter #WL07-0019SW51SWD was issued to Angelo’s Aggregate Materials, Ltd. for the Enterprise Class III Landfill. The Warning Letter was settled June 5, 2008 for total fines of $18,397. In the “Proposed Settlement of Warning Letter WL07-0019SW51SWD,” the Department acknowledged that Angelo’s would not be considered “irresponsible” under FDEP Rule 62-701.320, FAC, as a result of the enforcement action.

ATTACHMENT 1

FACILITY ENTRANCE SIGN

Angelo's Recycled Materials
ENTERPRISE CLASS III LANDFILL
PERATING HOURS: MONDAY - FRIDAY 7:00 am 5:00 pm
24 Hour Emergency Contacts:
Manager (352) 302-8934
ALL CUSTOMERS MUST CHECK IN AT GATE HOUSE
ACCEPTABLE WASTE: Construction and demolition debris, yard waste, land clearing, glass, carpet, cardboard, plastic, asbestos, paper, furniture, wood pallets, scrap and shredded tires.
UNACCEPTABLE WASTE: Household garbage, toxic and hazardous waste, batteries, appliances,automobile, paint, solvents, drums, septic tanks and pumping, whole tires.
WARNING: We will be sorting all loads for prohibited waste. Any unacceptable waste/loads may be reloaded onto a vehicle to be taken to an appropriate disposal facility at your expense.
FDEP/SWN PERMIT NUMBER: 177982-002-SO
ERP PERMIT NUMBER: 51-0172489-001
NO SCAVENGING

ATTACHMENT 2

RANDOM LOAD INSPECTION FORM

ENTERPRISE RECYCLING AND DISPOSAL FACILITY

RANDOM LOAD INSPECTION FORM

1. DATE:_____

2. TIME:_____

3. HAULING COMPANY:_____

4. VEHICLE INFORMATION: A) TRUCK #_____
   B) LICENSE PLATE #_____

5. NAME OF DRIVER:_____

6. SOURCE OF WASTE MATERIAL:_____

7. DESCRIPTION OF WASTE MATERIAL:_____
   _____
   _____

8. DOES THE LOAD CONTAIN UNACCEPTABLE WASTE MATERIALS? YES: __ NO: __
   IF YES, WHAT MATERIALS WERE FOUND, AND WHAT PROCEDURES WERE FOLLOWED? _____
   _____
   _____
   _____
   _____

9. OTHER OBSERVATIONS:_____
   _____

10. INSPECTOR SIGNATURE:_____
    SIGNED

Note: Forms must be maintained in Inspection Log Book

ENTERPRISE CLASS III LANDFILL **Load Rejection Form**

Date:_____ Time:_____ am/pm

CUSTOMER/GENERATOR

Name _____

Address _____

City/State/Zip _____

TRANSPORTER/HAULER

☐ Same as Customer/Generator

Name _____

Address _____

City/State/Zip _____

Vehicle License and State _____

REASON FOR REJECTION

☐ Suspected Special Waste ☐ Suspected Medical Waste ☐ Non-Processable

☐ Suspected Hazardous Waste ☐ Suspected Asbestos ☐ Other (Explain below)

Explanation_____

_____

_____

_____

ACKNOWLEDGEMENT

☐ Rejected prior to dumping ☐ Rejected After Load was Dumped

Comments_____

_____

_____

_____

Driver's Signature_____ Operator's Signature_____

Customer/Generator Notified? ☐ YES ☐ NO

If yes, name of person contacted

_____

Transporter/Hauler Notified? ☐ YES ☐ NO

If yes, name of person contacted

_____

ATTACHMENT 3

FACILITY TRAINING LOG

ENTERPRISE RECYCLING AND DISPOSAL FACILITY

TRAINING LOG

COURSE	TRAINED OPERATOR INSTRUCTOR	HRS. ATTENDED	SIGNATURES/ DATE

ATTACHMENT 4

GAS MONITORING SURVEY FORM

ENTERPRISE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
GAS MONITORING SURVEY FORM

Date: _____
Instrument: _____
Sampler: _____

GAS PROBE NO.	TIME OF READING	AMBIENT AIR TEMP °F	AMBIENT AIR OXYGEN CONTENT %	AMBIENT AIR METHANE % of LEL	METHANE LEVEL Pre-Purge Measurement			METHANE LEVEL Post-Purge Measurement		
					% O_2	% by Vol.	% of LEL	% O_2	% by Vol.	% of LEL
1	Not installed									
2	Not installed									
3	Not installed									
4	Not installed									
5	Not installed									
6										
7										
8										
9 -R**										
10-R**										
11										
12										
13										
14										
15 *										
16	Not installed									
Scale house					N/A	N/A	N/A	N/A	N/A	N/A

NR - Not required, no methane indicated in pre-purge measurement

Notes: (Wind direction, weather conditions, damage to gas probes, adjacent off-site activity observed, etc.)

** Revised December 2012 by Kelner Engineering (RAI #1)

*Revised March 2012 by Kelner Engineering
to reflect installation of GW-15

ATTACHMENT 5

LIST OF APPROVED COURSES

Track Detail

Class I, III Landfill Operator

Is a solid waste facility that accepts Class I waste that is not hazardous waste and can be disposed in a lined landfill. The landfill may also accept yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the FDEP that are not expected to produce leachate which poses a threat to public health or the environment. Operators required 24 hours initial course and pass exam with 70% proficiency, then 16 hours of continuing education every 3-year period.

Requirements

Initial Courses

- 24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)
- Initial Training Course for Landfill Operators and C&D Sites - 24 Hour
- SWANA - Manager of Landfill Operations [MOLO] & Exam
- SWANA-Management of Landfill Operations
- SWANA-Manager of Landfill Operations (MOLO) Course and Exam

Hours

Hours Required	Effective Date
15	01/01/1800
16	05/27/2001

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3900 SW 63rd Blvd.
Gainesville, FL 32608
tel: (352) 392-9570
fax: (352) 392-6910
train@treeo.ufl.edu

Track Detail

Spotter / Waste Screener

Is a person employed at a solid waste management facility whose job it is to inspect incoming waste and to identify and properly manage any hazardous or prohibited materials, which are received at the facility. Spotter required 8 hours initial course, then 4 hours of continuing education every 3-year period.

Requirements

Initial Courses

- 8-Hour Initial Training Course for Spotters at Class I, II, III Facilities, Waste Processing Facilities and C&D Facilities
- 8-hour Initial Training for Spotters
- 8-Hour Spotter Training for Class I II III Landfill C&D Sites and Transfer Facilities
- 8-Hour Training Course for Spotters at Landfills, C&D Sites and Transfer Stations
- Environmental Management Systems: An Introduction
- Spotter Training
- Spotter Training for Solid Waste Facilities
- Spotter Training for Solid Waste Facilities - Spanish
- Spotter Training for Solid Waste Management Staff with Elements of a Solid Waste Operations Plan
- Waste Screening and Identification for Landfill Operators and Spotters
- Waste Screening at MSW Mgmt Facilities [Onsite Delivery]

Hours

Hours Required	Effective Date
4	01/01/1800

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Florida's Solid Waste Operators & Spotters University of Florida

Course Information

Course #	Name	Status
582	16-Hour Initial Training Course for Transfer Station and MRF Operators	Active
575	2010 North American Environmental Field Conference and Expo	Active
516	24 Hour HazMat Techician Level	Active
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Active
478	40 Hour HazWoper	Active
507	40-Hour HazWoper	Active
626	40-Hour HazWoper Course in Accordance to 29 CFR 1910.120	Active
646	40-Hour OSHA HazWoper	Active
69	40-hour OSHA HAZWOPER Training Course	Active
450	40hr General Site Worker Hazardous Waste Operations	Active
463	4-Hour Refresher Course for Spotters at Landfills, C&D Sites and Transfer Stations	Active
616	6-Hour DOT Regulations	Active
601	8 Hour General Site Worker Refresher Training	Active
623	8 Hour HazWoper Refresher Training	Active
203	8-Hour Initial Training Course for Spotters at Class I, II, III Facilities, Waste Processing Facilities and C&D Facilities	Active
219	8-hour Initial Training for Spotters	Active
62	8-Hour OSHA HazWoper Annual Refresher	Active
644	8-Hour OSHA HazWoper Refresher	Active
488	8-Hour Spotter Training for Class I II III Landfill C&D Sites and Transfer Facilities	Active
462	8-Hour Training Course for Spotters at Landfills, C&D Sites and Transfer Stations	Active
410	Adult CPR	Active
0	Adult CPR	Active
675	Air Regulations and How They Impact MSW Facilities	Active
624	ANSI/AIHA Z10-2006 Occupational Safety and Health Management Systems Training Course Construction Standard	Active
652	Asbestos: Awareness (Class IV)	Active
630	Basic Life Support	Active
639	Bird and Wildlife Management for Utilities	Active
550	Bloodborne Pathogens	Active
618	Carbon Markets, Offsets & Project Level GHG Accounting	Active
614	Chemical Spill Response Training for Hazardous Materials Operations/OSHA Level II	Active
386	Community Hurricane Preparedness - online	Active
525	Composting Wastewater Residuals (Biosolids) in Charlotte County	Active
656	Confined Space Awareness	Active
657	Confined Space Competent Person Training	Active
436	Confined Space Entry Safety Course	Active
440	Construction and Demolition Debris Workshop	Active
485	Contemporary Techniques of Supervision/Management	Active
357	CPR and First Aid	Active

520	Design of Waste Containment Liners and Closure Systems	Active
457	Disaster Debris Management	Active
544	EIA/NSWMA Safety Seminar	Active
542	Electrical Troubleshooting & Preventive Maintenance	Active
596	Emergency Response and Recovery Training	Active
557	Environmental Quality Training Workshop	Active
563	Environmental Safety Occupational Health [EOSH] 2009 Training Symposium	Active
568	Environmental Sampling Field Course	Active
679	Environmental Studies	Active
500	Excavation and Trenching Safety Procedures	Active
100	Excavation and Trenching: Competent Person Training	Active
228	FDEP 8 Hour HazWoper OSHA Refresher	Active
435	FDEP 8 Hour HazWoper OSHA Refresher [DeHate]	Active
433	FDEP Annuals SQG Workshop [5/3-5/06]	Active
434	FDEP Household Hazardous Waste Workshop [5/1-3/06]	Active
445	FEMA Debris Management Course	Active
678	FEMA Debris Management Course - G202	Active
484	Fires at Landfills and Other Solid Waste Management Facilities	Active
411	First Aid (Standard) Workplace Training	Active
634	Florida Composting Facility Operator Training Course: Introduction to Handling Source Seperated Organics	Active
491	Florida Construction & Demolition Debris & Management Workshop - May 2008	Active
451	Florida Water & Pollution Control Operators Association Short School - Stormwater Section	Active
579	Food Recycling and Composting Workshop	Active
521	Foundations of Project Management	Active
156	Four Hour Spotter Refresher for Class I, II and III Landfills, Waste Processing Facilities and C&D Facilities	Active
591	Fundamentals of Emergency Management	Active
638	General Site Worker 8-hour Refresher Course Hazardous Waste Operations & Emergency Response	Active
423	Geosynthetic Testing and Landfill Design Issues Short Course	Active
629	Getting Back to Basics With Landfill Gas	Active
545	GHG Reporting for Landfill & Wastewater Treatment - Webinar	Active
558	Greenhouse Gas Accounting	Active
0	Greenhouse Gas Accounting- Measuring an Organization's Carbon Footprint	Active
604	Greenhouse Gas Recovery at Solid Waste Landfills	Active
224	Hazardous Materials in Construction and Demolition Waste OnLine	Active
503	Hazardous Materials Incident & Waste Training - 24 Hours	Active
356	Hazardous Materials Incident Response Operations-40hr	Active
469	Hazardous Materials Operations / OSHA Level II	Active
439	Hazardous Materials Training	Active
510	Hazardous Waste Management Course	Active
535	Hazardous Waste Management: The Complete Course - 16 hour	Active
541	Hazardous Waste Management: The Complete Course - 8 hour	Active
540	Hazardous Waste Operations with Emergency Response	Active
63	Hazardous Waste Regulations for Generators	Active
514	Hazardous/Chemical Safety Training	Active
555	HazMat IQ	Active
216	HazWoper 40-Hour Health & Safety Online	Active
421	HazWoper 40-Hour OSHA Course	Active

218	HazWoper 8-Hour Refresher Online	Active
422	HazWoper 8-Hour Refresher OSHA Course	Active
659	HazWoper Refresher	Active
617	HazWoper Training for Escambia County	Active
170	Health & Safety Issues for Solid Waste Management Facilities	Active
498	Health and Safety for Solid Waste Workers-4 Hours	Active
281	Health and Safety for Solid Waste Workers-8 Hours	Active
149	Health and Safety Training for Landfill Operations	Active
495	Heavy Equipment Safety	Active
492	Hurricane Debris Management Workshop	Active
683	Hydraulic Excavator Operator Training	Active
613	Identification of Unknowns	Active
476	Improving Landfill Operations	Active
517	Improving Transfer Station Efficiency	Active
442	Initial Training Course for Landfill Operators and C&D Sites - 24 Hour	Active
443	Initial Training Course for Transfer Station Operators and Material Recovery Facilities - 16 Hour	Active
628	Innovative Recycling Grant Workshop at Polk County Landfill	Active
574	Integrated Waste Management Workshop	Active
645	Introduction to Debris Operations in FEMA Public Assistance Program IS-632	Active
212	Introduction to Electrical Maintenance	Active
527	Introduction to Heavy Equipment and Skill Testing	Active
0	Introduction to Wastescreening for Spotters-Spanish	Active
546	IS-700.a NIMS An Introduction	Active
472	Landfill and Transfer Station Operators: Waste Acceptability and Safety Issues Review	Active
676	Landfill Design and Construction	Active
518	Landfill Gas Collection and Re-Use	Active
686	Landfill Gas Collection System Operations and Compliance Training Course	Active
511	Landfill Gas Control and Compliance Seminar	Active
650	Landfill Operations	Active
399	Landfill Operator and MRF Operator Training	Active
589	Landfill Operator Training - 2007 Certified Operators Class	Active
588	Landfill Operator Training 2008 - Certified Operators Class	Active
553	Landfills and Transfer Stations: Past, Present and Future	Active
552	Landfills: Past, Present and Future	Active
441	Laws and Rules	Active
277	Laws and Rules for Florida Engineers	Active
677	Leachate and Landfill Gas Management System Design	Active
684	Linear Construction - Stormwater Compliance for Road and Utility Construction	Active
538	Maintenance of Traffic Training	Active
654	Mathematics for Landfill Operators	Active
523	Maximizing Beneficial Use of Disaster Debris	Active
674	Measurement and Improvement of Performance at Solid Waste Management Facilities ("If you Can't Measure it, You Can't Manage It")	Active
3	Military Service Active Duty	Active
528	NAHAMMA Conf HHW / SQG Workshop - 2009 - HazMat IQ Training	Active
528	NAHAMMA Conference HHW / SQG Workshop - 2009 - General Session	Active
609	NAHMMA 2010 Annual Conference	Active
653	NAHMMA 2011 Florida Chapter Annual Conference	Active
424	National Incident Management System [NIMS] and Introduction IS-00700	Active

454	North American Hazardous Materials Management Association Conference 2007 - FL Chapter	Active
489	North American Hazardous Materials Management Association Conference 2008- FL Chapter	Active
670	North Carolina Landfill Manager Course	Active
1001	OK per "Current" Class I II III Transcript	Active
621	Online Laws and Rules	Active
438	Operating Considerations for Transfer Stations	Active
655	Operational Techniques and Compliance Inspections for Landfills	Active
412	Operator Certification for Caterpillar Landfill Equipment	Active
0	OSHA 10-Hour General Industry Course	Active
547	OSHA 10-Hour General Industry Outreach Course	Active
619	OSHA 10-Hour Industrial Outreach Safety Training Program	Active
592	OSHA 1910 General Industry 10-Hour Course	Active
0	OSHA 24 Hour Emergency Response Course (Technician Level)	Active
0	OSHA 8-hour HazWoper Refresher Training	Active
561	OSHA Annual Refresher at KSC	Active
515	OSHA Operations Level Course	Active
532	Paint Filter Test - 1 Hour	Active
192	Pedestrian, Vehicles and Equipment Safety at Transfer Stations	Active
494	Permit Required Confined Space Awareness	Active
104	Permit Required Confined Space Entry	Active
0	Permit Required Confined Space Entry Supervisor	Active
497	Personal Protection Equipment (PPE) and Safety Procedures	Active
602	Personal Radiation Detector Course [PRD] PER-243	Active
533	Principles of Landfill Fires E-Course	Active
468	Project Risk Management	Active
603	Recycle Florida Today - 2010 Annual Conference	Active
651	Recycle Florida Today - 2011 Annual Conference	Active
432	Recycle Florida Today 2006 Annual Conf	Active
431	Recycle Florida Today 2006 Issues Forum 1/2006	Active
414	Recycle Florida Today 2006 Issues Forum 1/23-24/06	Active
460	Recycle Florida Today 2007 Annual Confrence - 6/4-7/2007	Active
512	Recycle Florida Today 2008 Annual Conference	Active
554	Recycle Florida Today Conference [June 2009]	Active
479	Recycled Florida Today 2007 Issues Forum 1/2007	Active
0	Recycled Florida Today 2007 Issues Forum 1/2007	Active
661	Refresher Training Course for Experienced Solid Waste Operators-16 Hours	Active
663	Refresher Training Course for Experienced Solid Waste Operators-4 Hours	Active
662	Refresher Training Course for Experienced Solid Waste Operators-8 Hours	Active
627	RFT / SWANA FL Winter Meeting & Issues Forum 2011	Active
687	RFT / SWANA FL Winter Meeting & Issues Forum 2012	Active
581	RFT/SWANA-FL Winter Wonderland in Waste - 2010 Issues Forum	Active
565	Sanitary Landfill Design	Active
690	Sector L: Landfills & Land Application Sites	Active
4811	Solid Waste Operator & Spotter Refresher Training - Spring 2008 a	Active
584	Southeast Recycling 2010 Conference & Trade Show	Active
640	Southeast Recycling 2011 Conference & Trade Show	Active
692	Southeast Recycling 2012 Conference & Trade Show	Active
580	Southwest Partners Meeting	Active

605	SPCC - Spill Prevention Control Act - online	Active
526	Spill Prevention, Control, and Countermeasure Regulation Seminar	Active
400	Spotter Training	Active
0	Spotter Training	Active
214	Spotter Training	Active
437	Spotter Training Course for Waste Processing and Transfer Stations	Active
248	Spotter Training for Solid Waste Facilities	Active
378	Spotter Training for Solid Waste Facilities - Spanish	Active
474	Spotter Training for Solid Waste Management Staff with Elements of a Solid Waste Operations Plan	Active
471	Spotters at Landfills and Transfer Stations: Safety Awareness Review	Active
506	Storage Tank Conference - Central Florida 18th Annual	Active
505	Storage Tank Conference - North Florida 14th Annual	Active
578	Storage Tank Conference -16th Annual Central Florida State Conference	Active
453	Storage Tank Conference 17th Annual	Active
475	Storage Tank Conference Central Florida State 13th Annual	Active
647	Stormwater Erosion And Sedimentation Control Inspector Training Program	Active
202	Stormwater Inspector Certification Course	Active
594	Stormwater Matters	Active
632	Supervisor Safety Training for Solid Waste Operations Staff	Active
586	Sustainability and Recycling	Active
429	SWANA - Compost on Subtitile D Landfills - Webinar	Active
416	SWANA - eCourse - Litter Management at Landfills	Active
567	SWANA – Groundwater Monitoring, Sampling, Analysis and Well Construction	Active
636	SWANA - Integrated Solid Waste Management	Active
693	SWANA - Landfill Gas Basics 1-Day Course	Active
635	SWANA - Landfill Gas Systems Operation and Maintenance	Active
694	SWANA - Landfill Gas Systems Operation and Maintenance - 1 day	Active
537	SWANA - Landfill Operations E- Course	Active
543	SWANA - Landfill Symposium 14th Annual (June 2009)	Active
597	SWANA - Manager of Landfill Operations [MOLO]	Active
598	SWANA - Manager of Landfill Operations [MOLO] & Exam	Active
560	SWANA - Manager of Recycling Course	Active
413	SWANA 2006 Recycling and Special Waste Conference	Active
562	SWANA E-Course Just the Math	Active
556	SWANA e-Course Operation Efficiency at Landfills	Active
599	SWANA e-course: Bioreactor Landfill Research & Development Agencies	Active
577	SWANA e-course: Carbon Credit and Production Tax Credits for LFG Projects	Active
576	SWANA e-course: Financing Solid Waste Facilities: The Roller Coaster to Oblivion?	Active
691	SWANA e-course: Traumatic Injury and Fatality Risks in Solid Waste	Active
564	SWANA- Health & Safety E-Study (Home Study Course)	Active
566	SWANA- Managing Landfill Gas at MSW Landfills	Active
297	SWANA Online - Health & Safety at MSW Landfills	Active
296	SWANA Online - Training Sanitary Landfill Operation Personnel	Active
298	SWANA Online - Wastescreening at MSWS Facilities	Active
345	SWANA-Bioreactor Landfill Course	Active
404	SWANA-Bioreactor Landfill Manager	Active
250	SWANA-Construction and Demolition Debris Course	Active
685	SWANA-e Course: Groundwater Monitoring	Active

643	SWANA-e Course: Landfill Gas & Solid Waste Air Contaminant Hazards	Active
252	SWANA-FEMA's Debris Management	Active
425	SWANA-FL 2006 Spring Tri-State Conference [4/2-5/06]	Active
426	SWANA-FL 2006 Summer Conference [7/23-26/06]	Active
447	SWANA-FL 2007 Summer Conference [7/15-18/07]	Active
480	SWANA-FL 2008 Senior Managers Conference [1/2008]	Active
551	SWANA-FL 2009 Summer Symposium	Active
607	SWANA-FL 2010 Summer Conference	Active
658	SWANA-FL 2011 Summer Conference	Active
534	SWANA-FL Managers Meeting - 2009 Winter	Active
606	SWANA-FL Road-e-o: Heavy Equipment Safety Training	Active
94	SWANA-Health & Safety at MSW Landfills	Active
244	SWANA-Landfill Gas Basics	Active
428	SWANA-Landfill Gas Symposium 29th Annual [3/27-30/06]	Active
446	SWANA-Landfill Gas Symposium 30th Annual [3/4-8/07]	Active
483	SWANA-Landfill Gas Symposium 31st Annual [3/2008]	Active
536	SWANA-Landfill Gas Symposium 32nd	Active
689	SWANA-Landfill Gas Symposium 35th Annual - 2012	Active
231	SWANA-Landfill Gas System Operation and Maintenance	Active
539	SWANA-Landfill Gas System Operations Workshop	Active
93	SWANA-Landfill Operational Issues	Active
681	SWANA-Landfill Symposium (16th Annual - 2011)	Active
427	SWANA-Landfill Symposium 11th Annual [6/5-7/06]	Active
465	SWANA-Landfill Symposium 12th Annual [6/25-28/07]	Active
30	SWANA-Management of Landfill Operations	Active
1	SWANA-Manager of Landfill Operations (MOLO) - Exam Only	Active
1600	SWANA-Manager of Landfill Operations (MOLO) Course	Active
160	SWANA-Manager of Landfill Operations (MOLO) Course and Exam	Active
243	SWANA-Managing Composting Programs	Active
251	SWANA-Managing MSW Collection Systems	Active
234	SWANA-Managing MSW Recycling Systems	Active
222	SWANA-Managing Transfer Station Systems	Active
444	SWANA-Transfer Station Design & Operations	Active
42	SWANA-Transfer Station Design & Operations	Active
448	SWANA-WasteCon 2006 [9/19-21/06]	Active
455	SWANA-WasteCon 2007 [10/16-18/07]	Active
509	SWANA-WasteCon 2008	Active
559	SWANA-WasteCon 2009	Active
660	SWANA-WasteCon 2011	Active
570	The Complete Ground Water Monitoring Field Course	Active
572	The Complete Ground Water Monitoring Well Design, Construction and Development Course	Active
569	The Complete Ground Water Sampling Field Course	Active
116	The Complete Ground-Water Monitoring Course	Active
571	The Complete Surface Water and Sediment Field Course	Active
573	The Florida Stormwater Construction Permit-Contractor's Short Course	Active
530	The Original Environmental Bootcamp	Active
406	The Sense of Smell, Odor, Theory and Odor Control	Active
612	Things That Go Boom	Active

625	Topics in Solid Waste Management for Landfill Operators, MRF Operators and Transfer Station Operators	Active
477	Tractor/Mower Operator Safety Training Program	Active
187	Traffic and Equipment Safety at Landfills	Active
680	Train the Trainer: How to Design & Deliver Effective Training	Active
641	Train-the-Trainer for Operator of Heavy Equipment	Active
642	Trenching Shoring Services Safety in Excavation Course	Active
112	U.S. DOT Hazardous Materials/Waste Transportation	Active
519	Understanding Hazardous Waste in Solid Waste Operations	Active
419	Waste Expo [4/4-6/06]	Active
549	Waste Expo 2007	Active
595	Waste Expo 2010	Active
36	Waste Screening and Identification for Landfill Operators and Spotters	Active
9	Waste Screening at MSW Mgmt Facilities [Onsite Delivery]	Active
51	Waste Screening at Municipal Solid Waste [5/23/94, 12/5/01]	Active
0	Waste Screening Introduction-Spanish	Active
524	Waste Screening Refresher for Supervisors and Managers	Active
418	Waste Tech 2006 [2/27-28/06]	Active
508	Waste Tech 2007	Active
587	Waste-to-Fuels 2010 Conference	Active
622	Wet Weather Operations	Active
449	Wetlands Variance Training	Active
673	Wildlife and Plants at Florida Solid Waste Management Facilities	Active
482	Workzone Safety Training	Active

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ATTACHMENT 6

TRAINING CERTIFICATES

Participant Information

De Rubeis, Mr. Neiro

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Address:	2100 E. Bay Dr. #. # 205 Largo, FL 33771
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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	11/15/2010	11/14/2013	0	16	False	11/15/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	11/15/2010	11/14/2013	0	16	False	11/15/2013	Transcript
Transfer Station Operator	Current	10/30/2010	10/29/2013	0	8	False	10/30/2013	Transcript
Material Recovery Facility Operator	Current	10/30/2010	10/29/2013	0	8	False	10/30/2013	Transcript

* If Expired, click on transcript link to see the training course history.

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Participant Information

Iafrate, Mr. Dominic

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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	11/21/2011	11/20/2014	0	16	False	11/21/2014	Transcript
Construction and Demolition Debris Landfill Operator	Current	11/21/2011	11/20/2014	0	16	False	11/21/2014	Transcript
Transfer Station Operator	Current	08/05/2010	08/04/2013	4	8	False	08/05/2013	Transcript
Material Recovery Facility Operator	Current	08/05/2010	08/04/2013	4	8	False	08/05/2013	Transcript

* If Expired, click on transcript link to see the training course history.

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Participant Information

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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Spotter / Waste Screener	Current	03/15/2011	03/14/2014	0	4	False	03/15/2014	Transcript

* If Expired, click on transcript link to see the training course history.

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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Spotter / Waste Screener	Current	03/15/2011	03/14/2014	0	4	False	03/15/2014	Transcript

* If Expired, click on transcript link to see the training course history.

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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Spotter / Waste Screener	Current	03/15/2011	03/14/2014	0	4	False	03/15/2014	Transcript

* If Expired, click on transcript link to see the training course history.

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Participant Information

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Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Spotter / Waste Screener	Current	10/10/2009	10/09/2012	4	4	True	10/10/2012	Transcript

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Participant Information

Martinez, Alfredo T

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Phone:	3525677676

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	11/17/2009	11/16/2012	0	16	False	11/17/2012	Transcript
Construction and Demolition Debris Landfill Operator	Current	11/17/2009	11/16/2012	0	16	False	11/17/2012	Transcript
Spotter / Waste Screener	Current	10/10/2009	10/09/2012	0	4	False	10/10/2012	Transcript

* If Expired, click on transcript link to see the training course history.

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SECTION 4

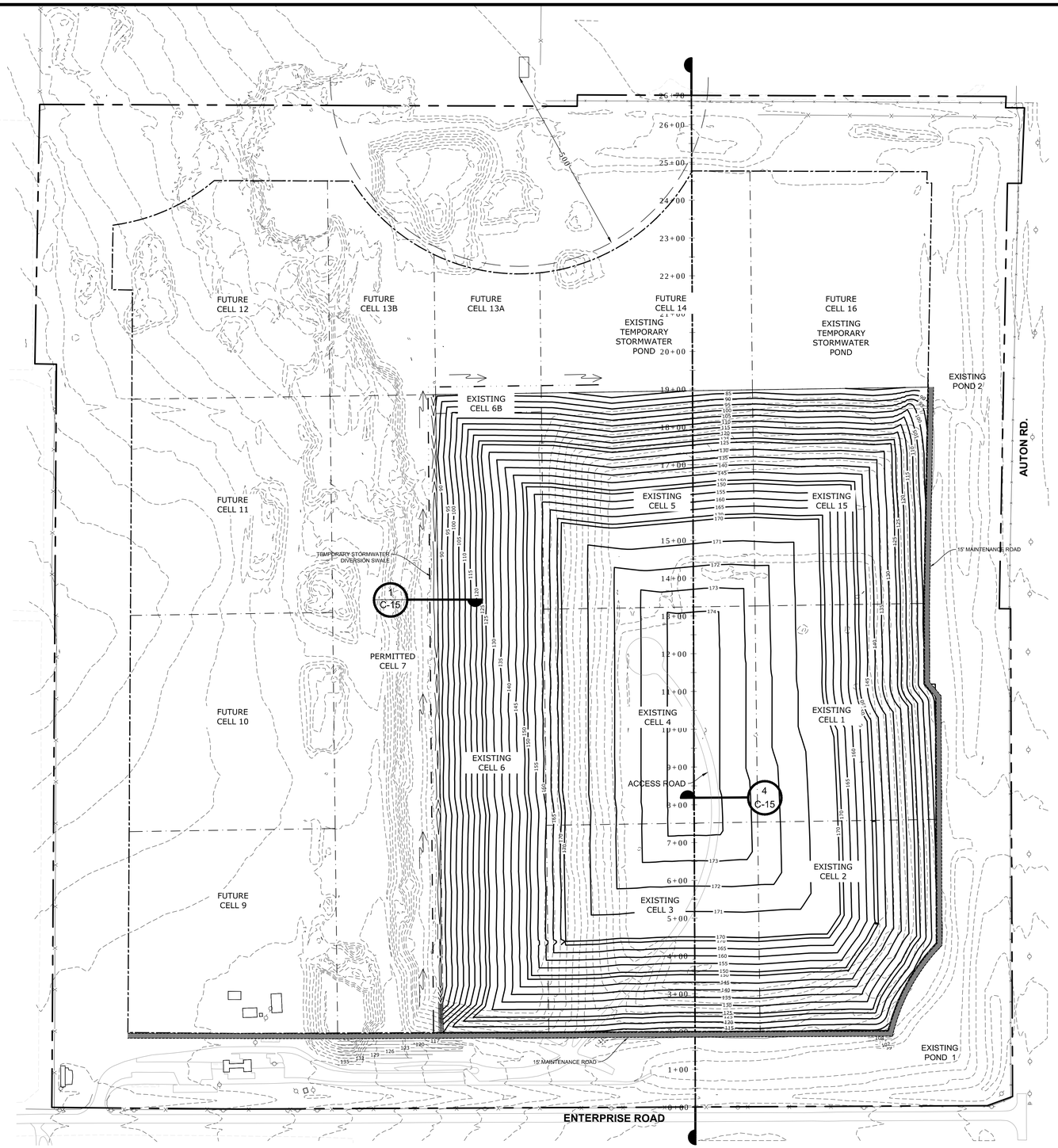
2012 PLAN SET REPLACEMENT SHEETS
(C-6, C-7, C-8, C-10, C-11, C-12, C-13, C-14, C-15)

The following sheets were
Performed Under the Supervision of

LISA J BAKER
LICENSE
No. 74652
STATE OF FLORIDA
PROFESSIONAL ENGINEER

3-27-15

Lisa J. Baker, P.E.
Florida PE # 74652



North

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

LEGEND

- PERIMETER FENCE
- PROPERTY BOUNDARY
- LANDFILL FOOTPRINT (AT BUILD OUT)
- APPROXIMATE CENTER OF SWALE
- LANDFILL CELLS
- EXISTING CONTOURS
- PROPOSED CELL CONTOURS
- PROPOSED TOP OF GRADE CONTOURS OUTSIDE OF CELLS
- FLOW ARROW
- 10+00 — CROSS SECTION STATIONS (SEE SHEET C-10)

NOTES:

1. EXCAVATION IN CELL 7 WILL BE ON GOING DURING FILLING IN CELLS 6A AND 6B.
2. GRADING REPRESENTS TOP OF FINAL COVER.
3. TOPOGRAPHIC SURVEY BY PICKETT SURVEYING & PHOTOGRAMMETRY, DATED 09/12/2012.

NO.	DATE	REVISION DESCRIPTION	BY
1	3-17-15	MINOR PERMIT MODIFICATION APPLICATION (REPLACEMENT SHEET TO KELNER ENGINEERING PLAN SET DECEMBER 2012 PERMIT RENEWAL APPLICATION RAI)	LJB

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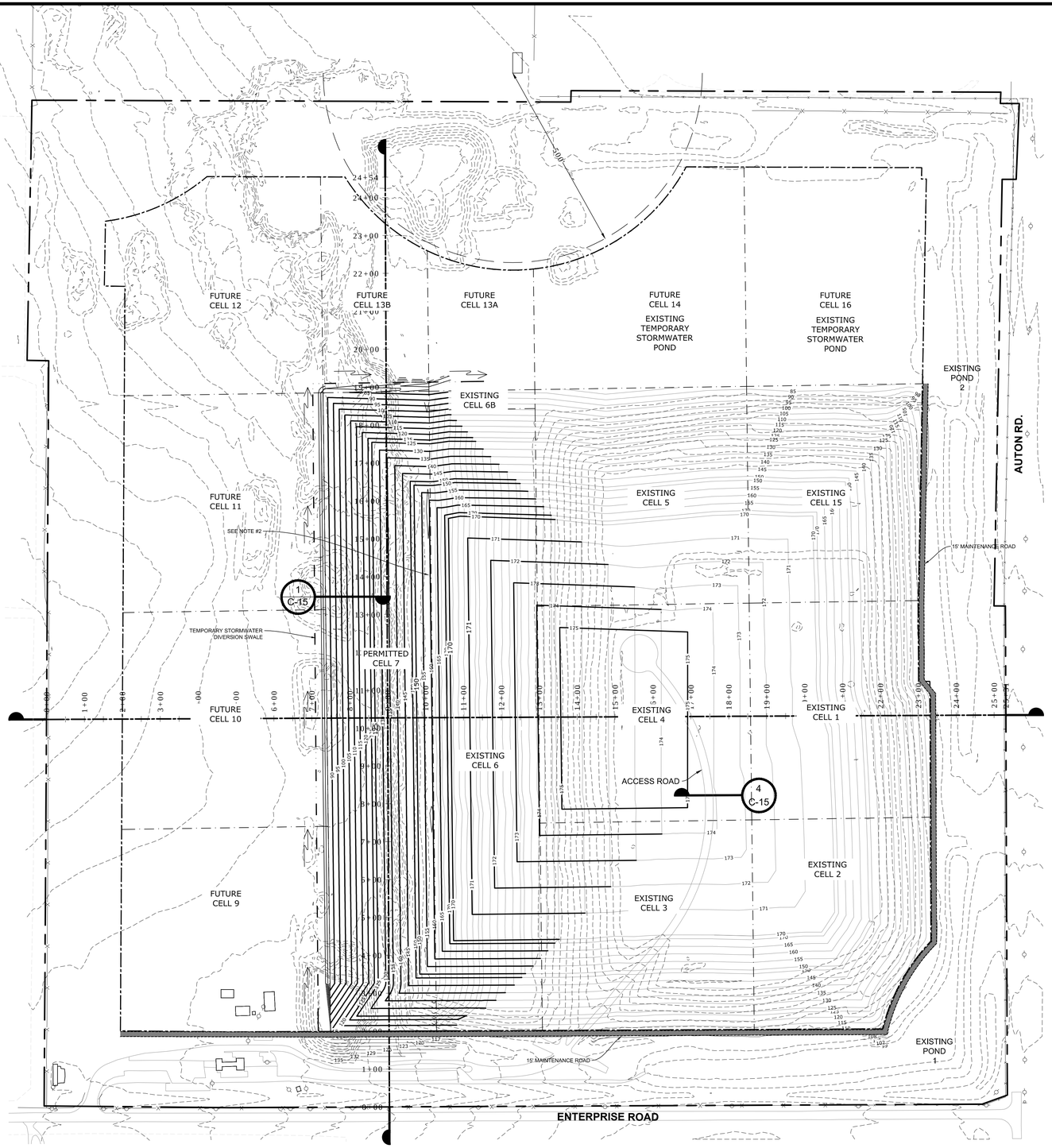
Certificate of Authorization No. 30066

PERMIT PLANS
ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
LANDFILL 2015 PERMIT MODIFICATION
DADE CITY, PASCO COUNTY, FLORIDA

LISA J. BAKER	DESIGNED BY	LJB
	DRAWN BY	LJB
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LJB

SHEET TITLE:
PHASING PLAN
PHASING SEQUENCE 1

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-6



North

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LEGEND

- PERIMETER FENCE
- PROPERTY BOUNDARY
- LANDFILL FOOTPRINT (AT BUILD OUT)
- APPROXIMATE CENTER OF SWALE
- LANDFILL CELLS
- 90 — EXISTING CONTOURS
- 80 — PROPOSED CELL CONTOURS
- 80 — PROPOSED TOP OF GRADE CONTOURS OUTSIDE OF CELLS
- FLOW ARROW
- 10+00 — CROSS SECTION STATIONS (SEE SHEET C-11 AND C-12)

NOTES:

1. CELL 7 CONTOURS REPRESENT TOP OF COMPACTED CLAY.
2. PRIOR TO WASTE BEING DISPOSED IN CELL 7, BACKFILL THE CELL 6 TEMPORARY DIVERSION SWALE WITH COMPACTED CLAY TO DRAIN TO EAST.
3. STOCKPILED MATERIAL IN CELL 7 TO BE REMOVED PRIOR TO CELL CONSTRUCTION.
4. CELL 7 CLAY LAYER TO BE CONSTRUCTED IN ACCORDANCE WITH SECTION 3.7 OF ENTERPRISE CLASS III LANDFILL ENGINEERING REPORT.
5. TOPOGRAPHIC SURVEY BY PICKETT SURVEYING & PHOTOGRAMMETRY, DATED 09/12/2012.

NO.	DATE	REVISION DESCRIPTION	BY
1	3-17-15	MINOR PERMIT MODIFICATION APPLICATION (REPLACEMENT SHEET TO KELNER ENGINEERING PLAN SET DECEMBER 2012 PERMIT RENEWAL APPLICATION RAI)	LJB

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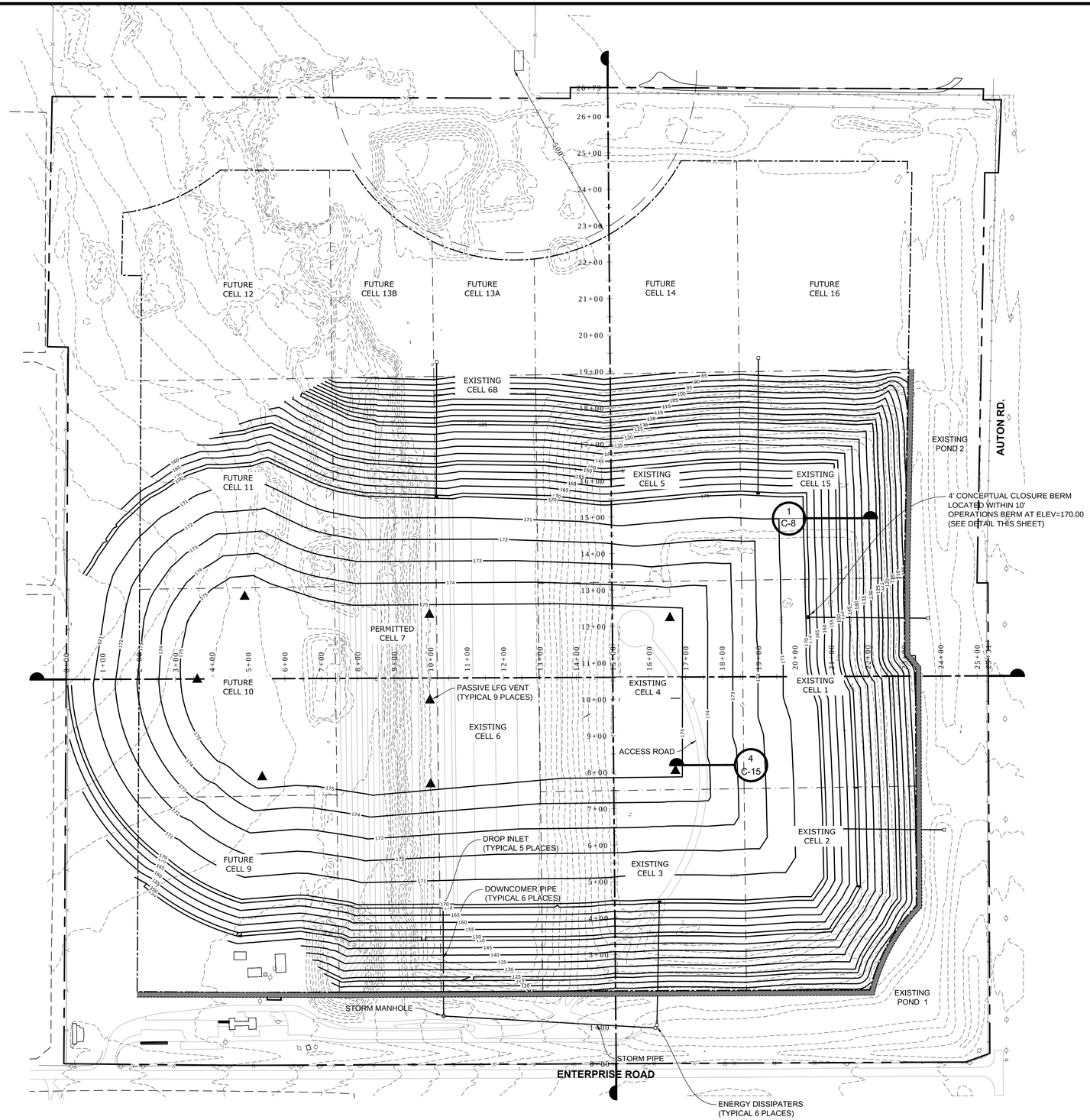
PERMIT PLANS
ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
LANDFILL 2015 PERMIT MODIFICATION
DADE CITY, PASCO COUNTY, FLORIDA

LISA J. BAKER	DESIGNED BY	LJB
	DRAWN BY	LJB
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LJB

SHEET TITLE:
PHASING PLAN
PHASING SEQUENCE 2

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-7



North

GRAPHIC SCALE

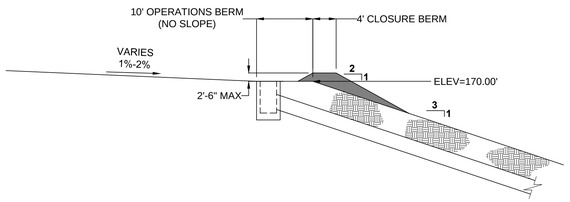
(IN FEET)
1 inch = 150 ft.

LEGEND

- PERIMETER FENCE
- PROPERTY BOUNDARY
- LANDFILL FOOTPRINT (AT BUILD OUT)
- LANDFILL CELLS
- EXISTING CONTOURS
- PROPOSED CELL CONTOURS
- PROPOSED TOP OF GRADE COUNTOURS OUTSIDE OF CELLS
- FLOW ARROW
- 10+00 CROSS SECTION STATIONS (SEE SHEET C-13 AND C-14)
- PASSIVE LFG VENT

NOTES:

1. CONTOURS REPRESENT FINAL COVER. FILL ELEVATIONS SHALL BE SUCH THAT FINAL COVER DESIGN ELEVATIONS SHALL BE ACHIEVED ON ALL SLOPES
2. PRIOR TO WASTE BEING DISPOSED IN CELL 7, BACKFILL TEMPORARY DIVERSION SWALE WITH COMPACTED CLAY TO DRAIN TO EAST.
3. LANDFILL FINAL COVER PER DETAIL 3, SHEET C-15.
4. TOPOGRAPHIC SURVEY BY PICKETT SURVEYING & PHOTOGRAMMETRY DATED 09/12/2012.
5. FINAL COVER CONSTRUCTION TO BE IN ACCORDANCE WITH SECTION 7.1 OF THE ENTERPRISE RECYCLING & DISPOSAL FACILITY RECLAMATION & CLOSURE PLAN.
6. THE FACILITY'S OVERALL STORMWATER MANAGEMENT SYSTEM IS GOVERNED BY THE MINING OPERATIONS AND ERP PERMITS. GRADES AND ELEVATION VARY BASED ONGOING MINING OPERATIONS AND TOPOGRAPHY. A DETAILED DESIGN THAT WILL TIE THE CONCEPTUAL CLOSURE PLAN INTO THE FACILITY'S STORMWATER MANAGEMENT SYSTEM WILL BE SUBMITTED AT THE TIME OF CLOSURE.



1 C-8 CONCEPTUAL CLOSURE BERM

SCALE: N.T.S.

NO.	DATE	REVISION DESCRIPTION	BY
1	3-17-15	MINOR PERMIT MODIFICATION APPLICATION (REPLACEMENT SHEET TO KELNER ENGINEERING PLAN SET DECEMBER 2012 PERMIT RENEWAL APPLICATION RAI)	LJB

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Certificate of Authorization No. 30066

PERMIT PLANS
ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
LANDFILL 2015 PERMIT MODIFICATION
DADE CITY, PASCO COUNTY, FLORIDA

LISA J. BAKER	DESIGNED BY	LJB
	DRAWN BY	LJB
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LJB

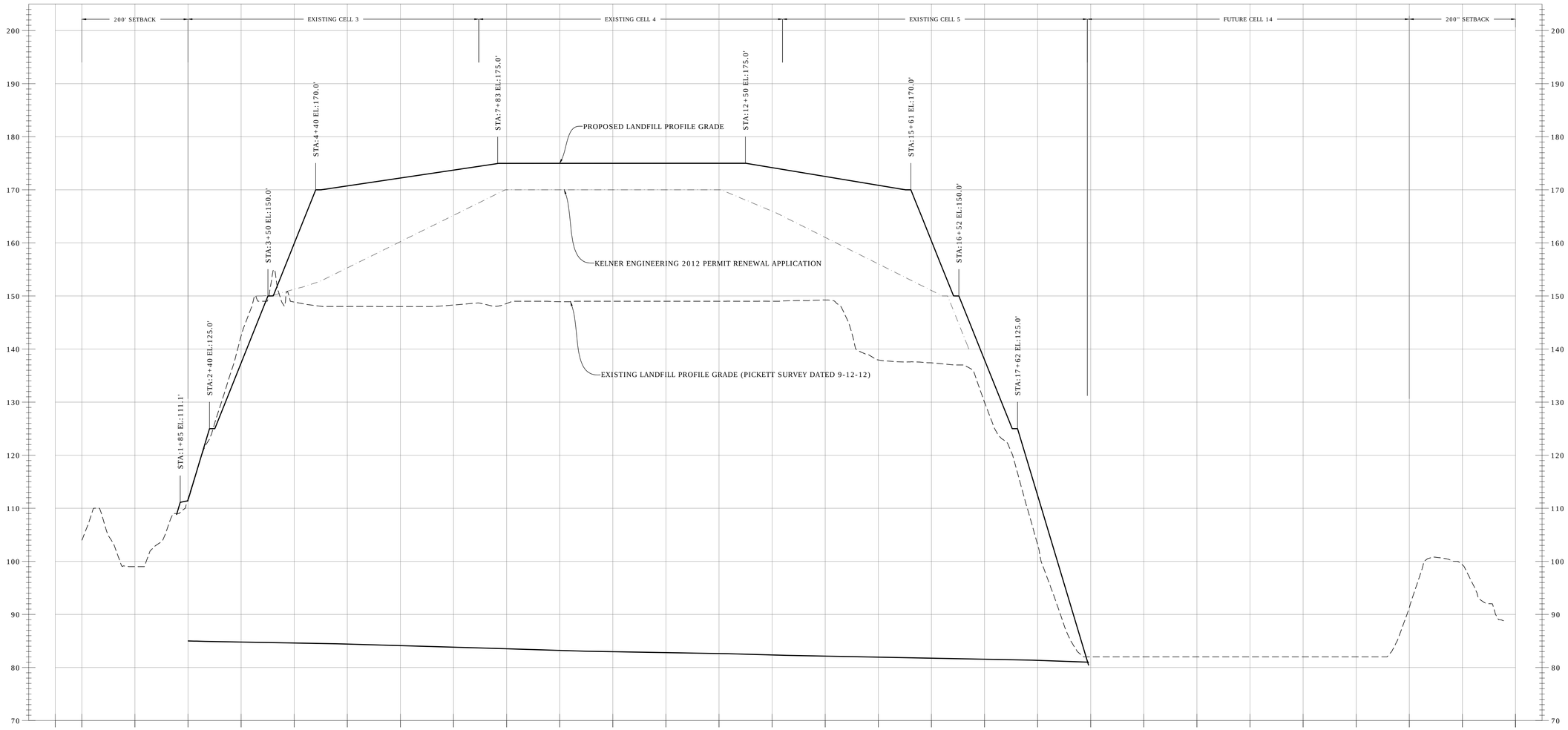
SHEET TITLE:

PHASING PLAN
PHASING SEQUENCE 3
CONCEPTUAL CLOSURE

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-8

SCALES:
HORIZONTAL 1"=100'
VERTICAL 1"= 10'

PROFILE VIEW
PHASING SEQUENCE 1: SOUTH TO NORTH



NO.	DATE	REVISION DESCRIPTION	BY
1	3-17-15	MINOR PERMIT MODIFICATION APPLICATION (REPLACEMENT SHEET TO KELNER ENGINEERING PLAN SET DECEMBER 2012 PERMIT RENEWAL APPLICATION RAI)	LJB

Locklear & Associates
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Certificate of Authorization No. 30066

PERMIT PLANS
ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
LANDFILL 2015 PERMIT MODIFICATION
DADE CITY, PASCO COUNTY, FLORIDA

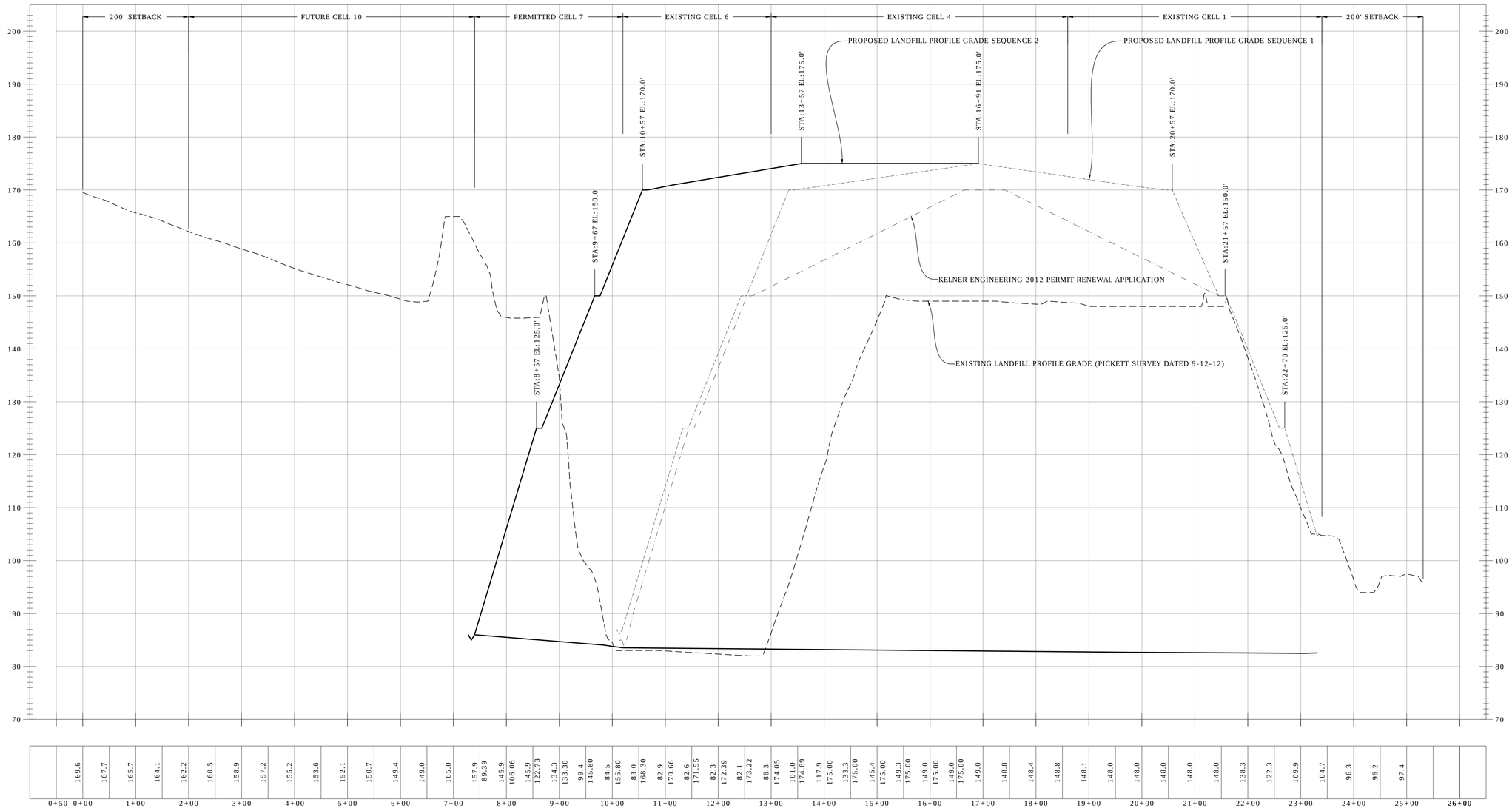
LISA J. BAKER	DESIGNED BY	LJB
	DRAWN BY	LJB
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LJB

SHEET TITLE:
LANDFILL SECTIONS
PHASING SEQUENCE 1

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-10

SCALES:
HORIZONTAL 1"=100'
VERTICAL 1"=20'

PROFILE VIEW
PHASING SEQUENCE 2: WEST TO EAST



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	DRAWN BY	LJB
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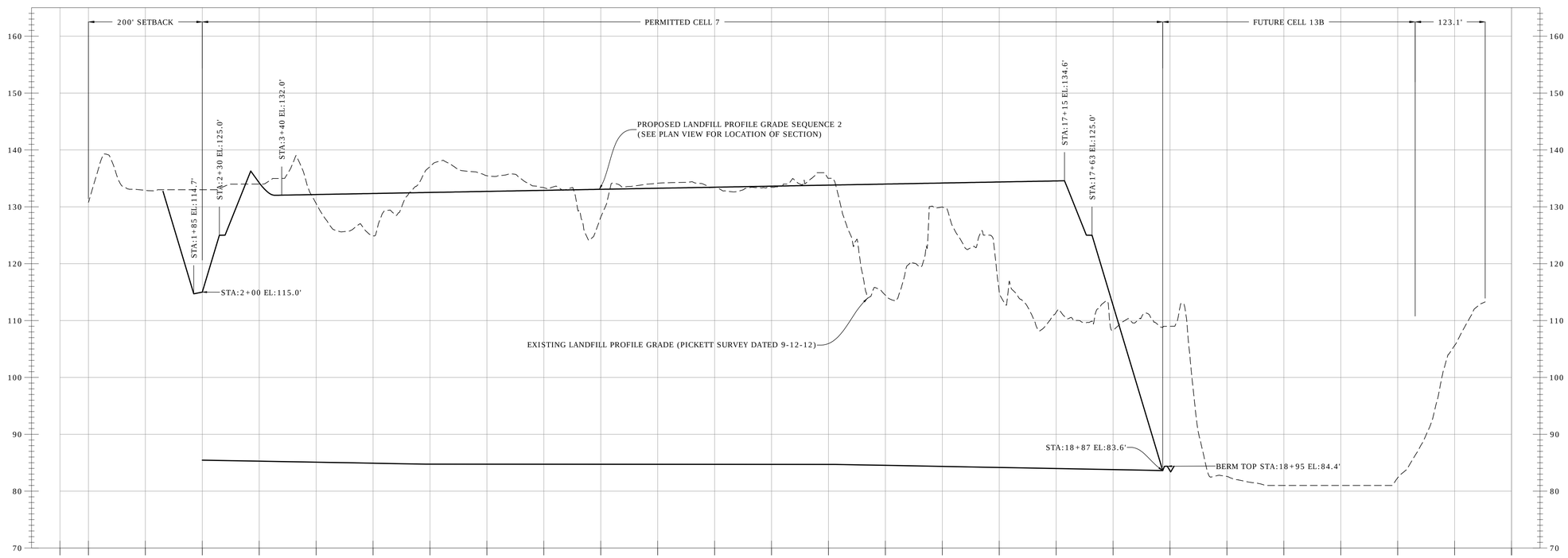
FL PE NO. 74652	APPROVED BY	LJB

SHEET TITLE:
LANDFILL SECTIONS
PHASING SEQUENCE 2

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-11

SCALES:
HORIZONTAL 1"=100'
VERTICAL 1"=20'

PROFILE VIEW
PHASING SEQUENCE 2: SOUTH TO NORTH



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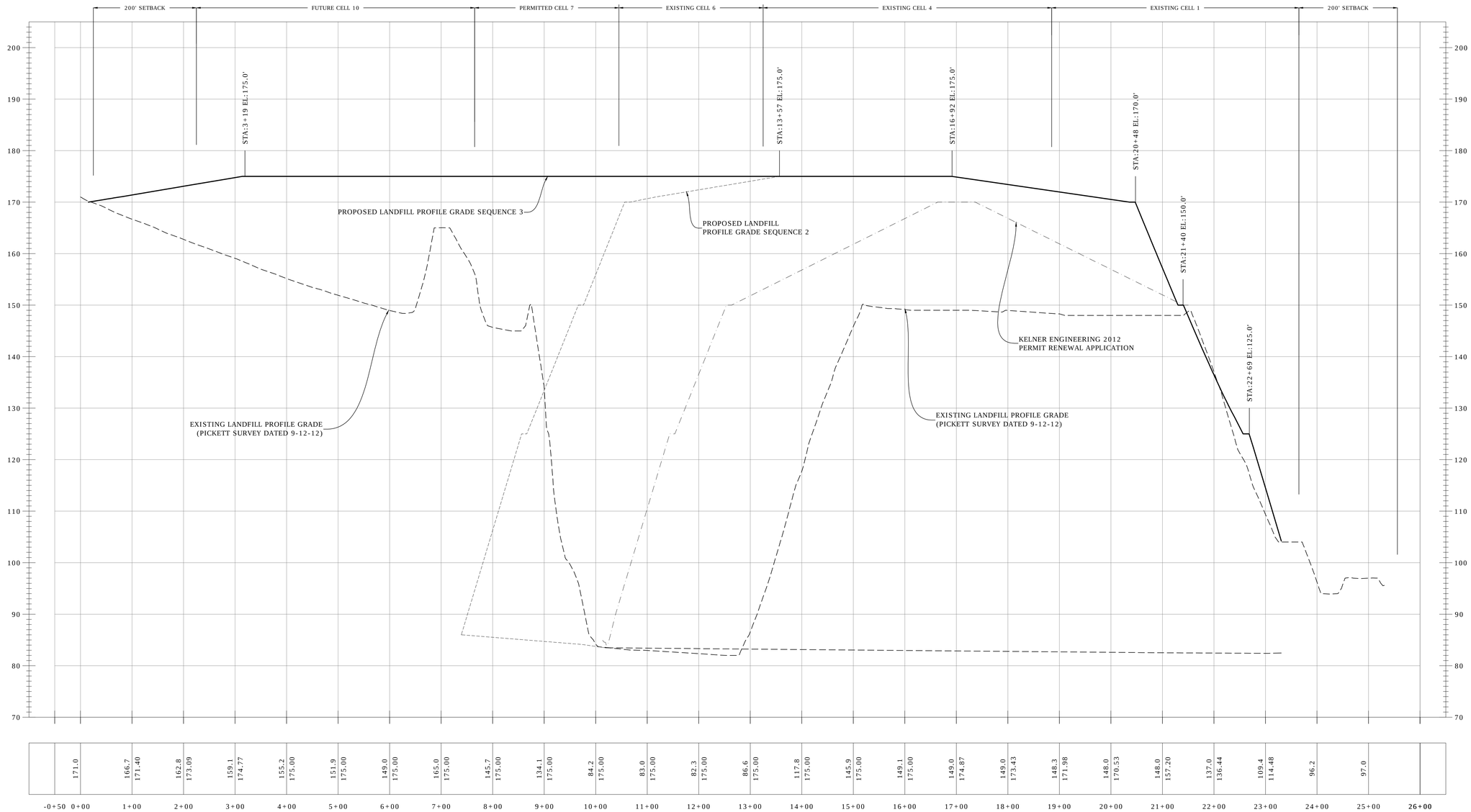
SHEET TITLE:
LANDFILL SECTIONS
PHASING SEQUENCE 2

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-12

SCALES:
HORIZONTAL 1"=100'
VERTICAL 1"=20'

PROFILE VIEW
PHASING SEQUENCE 3: WEST TO EAST



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DADE CITY, PASCO COUNTY, FLORIDA

LISA J. BAKER	DESIGNED BY	LJB
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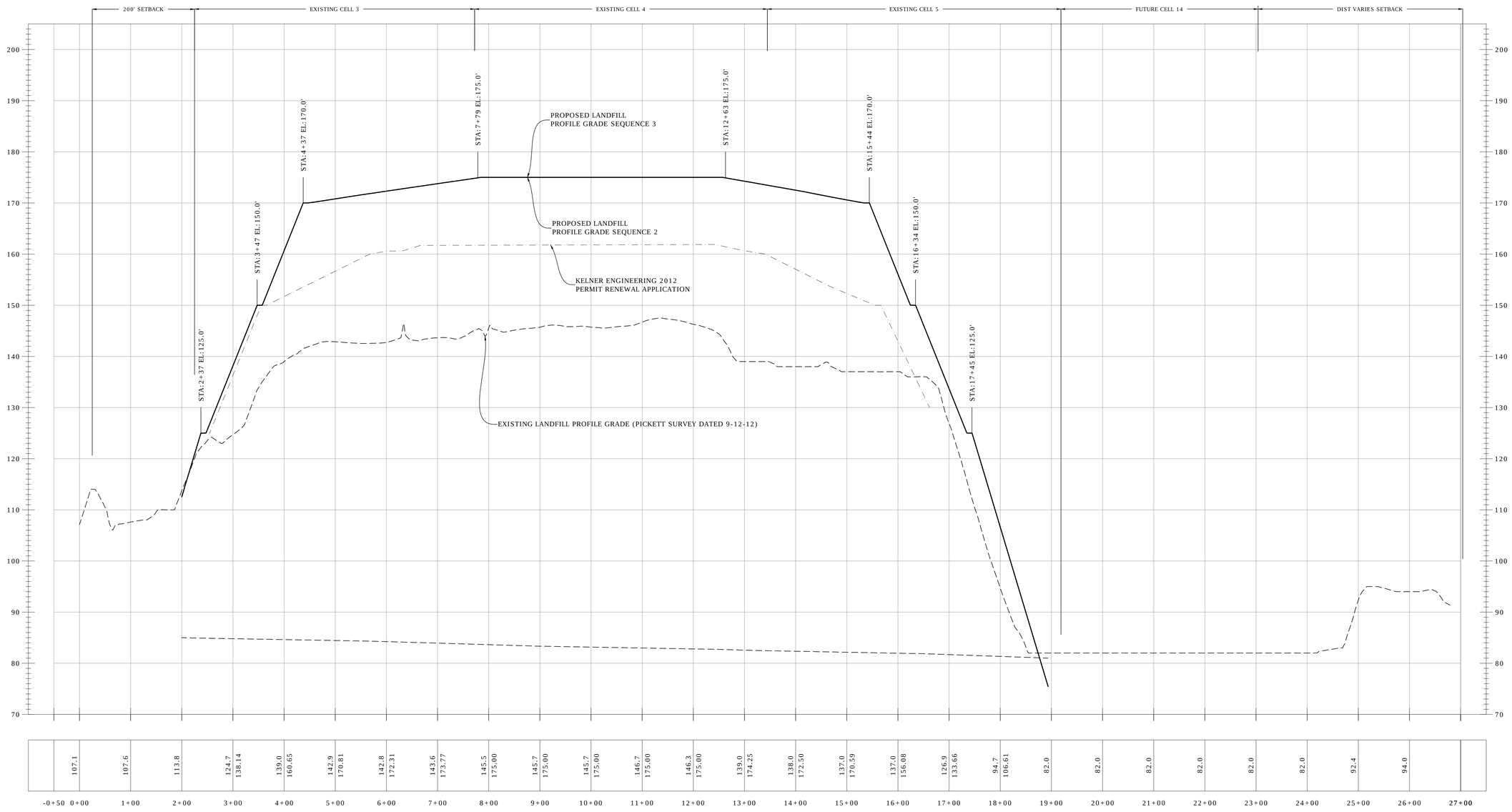
FL PE NO. 74652	APPROVED BY	LJB

SHEET TITLE:
LANDFILL SECTIONS
PHASING SEQUENCE 3

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
DATE: MARCH 2015
DRAWING: C-13

SCALES:
HORIZONTAL 1"=100'
VERTICAL 1"=20'

PROFILE VIEW
PHASING SEQUENCE 3: SOUTH TO NORTH



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SHEET TITLE:
LANDFILL SECTIONS
PHASING SEQUENCE 3

PROJECT NO.: 02000-144-14
SCALE: AS SHOWN
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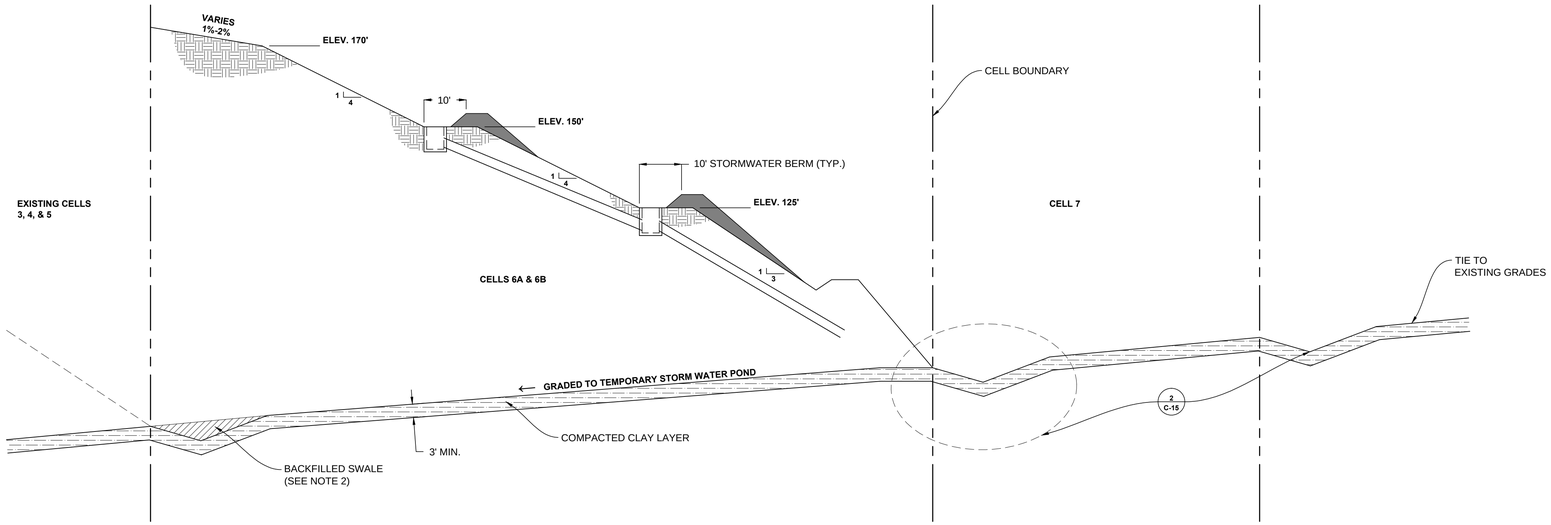
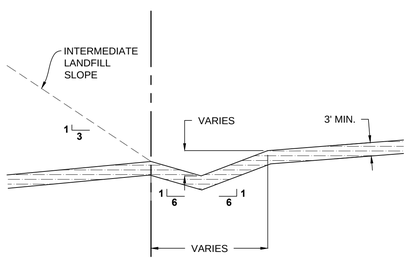
DRAWING: C-14



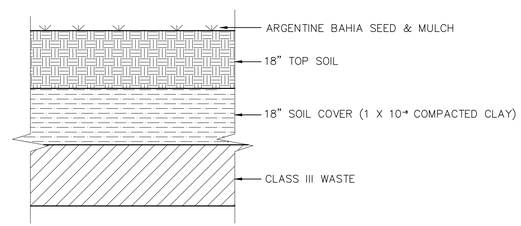
1 C-15 TYPICAL DISPOSAL AREA DETAIL

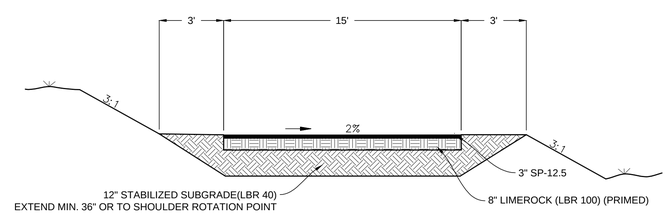
SCALE: N.T.S.



NOTES:

1. FOR CELLS 6A, 6B AND 7 THE TEMPORARY DIVERSION SWALE IS CONSTRUCTED PRIOR TO WASTE ACCEPTANCE WITHIN CELL.
2. PRIOR TO WASTE BEING DISPOSED OF ON THE PREVIOUS INTERMEDIATE SLOPE THE TEMPORARY SWALE IS BACKFILLED AND COMPACTED WITH CLAY TO PROVIDE A CONTINUOUS CLAY BARRIER LAYER THAT DRAINS TO THE TEMPORARY STORMWATER POND.
3. CLAY BARRIER LAYER TO BE CONSTRUCTED IN ACCORDANCE WITH THE ENTERPRISE CLASS III LANDFILL ENGINEERING REPORT.
4. STEP BACK AND SCARIFY EXISTING CLAY LAYER IN 12" LIFTS PRIOR TO CONSTRUCTION NEW CLAY LAYER ADJACENT TO EXISTING.
5. FINAL COVER CONSTRUCTION TO BE IN ACCORDANCE WITH THE ENTERPRISE RECYCLING & DISPOSAL FACILITY RECLAMATION & CLOSURE PLAN.





2 C-15 TEMPORARY STORMWATER DIVERSION SWALE DETAIL

SCALE: N.T.S.

3 C-15 TYPICAL FINAL COVER

SCALE: N.T.S.

4 C-15 ACCESS ROAD TYPICAL SECTION

SCALE: N.T.S.

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SHEET TITLE:

DETAILS

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