Environmental Consultants
and Contractors

4041 Park Oaks Boulevard
Suite 100
Tampa, FL 33610

813 621-0080
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SCS ENGINEERS

June 10, 2010
File No. 09199033.20

Ms. Susan Pelz, P.E.
Solid Waste Program Manager
Florida Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Request For Minor Operation Permit Modification
Hardee County Landfill Phase II Section I
Operation Permit No. 38414-011-SO/01

Dear Susan:

Hardee County's Phase II Section I Landfill area is currently permitted to operate through Fill Sequence No. 5 as identified on Sheet No. 15 of the Hardee County Landfill Operations Drawings as per Operations Permit No. 38414-011-SO/01 Part A.3.b. Fill Sequence No. 6 and No. 7 identified on Sheet No. 16 and No. 17 of the Hardee County Landfill Operations Drawings are not approved for waste filling by the County as indicated in Part A.3.c of the Operations Permit until the Phase I Closure construction project has been completed and the County has received approval of the construction from the Department.

The County's capacity through Fill Sequence No. 5 as currently permitted is quickly approaching capacity. Additional airspace is desperately needed by the County within the Phase II Section I area until the Phase I Closure project construction has received approval from the Department. At that time the County could begin placing waste per Fill Sequence No. 6 and No. 7. SCS and the County have examined additional opportunities to maximize the useable airspace within the Phase II Section I disposal area in order to assist the County in meeting its immediate objectives. Immediate additional airspace may be obtained by the County by revising the Fill Sequence Plans currently permitted by the Department.

Therefore, SCS on behalf of the County, requests a minor modification to the facility Operation Permit. A minor modification permit application fee of $250 is provided with this application. Please refer to Attachment A for the State of Florida Department of Environmental Protection Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility Application Form 62-701.900(1). Pages 9 through 37 of the Application Form have not been included as they are not applicable to this application.

Included with this request for a minor modification to the facility Operation Permit in Attachment B are Revised Hardee County Landfill Operations Drawings Fill Sequence No. 5, No. 6 and No. 7 on Sheet No. 15, No. 16 and No. 17, respectively. In addition, Sheet No. 24 and

No. 25 Phase II Section I Sections have been revised and included which indicate revised Fill Sequence No. 5, No. 6 and No. 7. A note has been included on Fill Sequence No. 7 on Sheet No. 17 that indicates the final elevation within the Phase II Section I area of Elevation 112.50 has not been revised and remains the same as a result of this request.

This minor modification application will be to revise Fill Sequence No. 5 within the Phase II Section I footprint to continue filling to a peak of roughly Elevation 112.50 as indicated on the attached Revised Fill Sequence No. 5 drawing contained in Attachment B as opposed to stopping at approximately Elevation 97.0 as currently permitted. The extent of the footprint horizontally will not be revised, nor will the overall final height of the Phase II Section I area be changed due to the proposed fill sequence revisions. The immediate additional volume obtained by continuing to fill within the Phase II Section I area as indicated on the attached revised Fill Sequence No. 5 Sheet No. 15 is approximately 56,000 CY. Less the daily and intermediate cover volume lost, this fill sequence revision will gain the County approximately 46,000 CY of immediate air space to utilize. At the current waste filling rate by the County of roughly 40,000 CY per year, this will gain approximately 12 months before the County would need to move into Revised Fill Sequence No. 6 contained in Attachment B.

The County anticipates advertising the Phase I Closure construction project for acceptance of bids within approximately two weeks. Based on this anticipated bidding schedule, advertisement period, bid review and approval by the Hardee County Board of County Commissioners (BOCC), Phase I Closure construction work would begin approximately mid August. Construction of the Phase I closure project is anticipated to take approximately seven months to complete. After construction completion, SCS will complete the Certification of Construction Completion Report as required by the closure permit and forward it to the Department for approval. After receiving Department approval the County would then be permitted to fill within Revised Fill Sequence No. 6 and No. 7 which is provided in Attachment B. Based on the anticipated schedule and the approximate 12 months gained by the proposed fill sequence revisions, sufficient time should be available to obtain approval from the Department prior to the need to begin filling per Revised Fill Sequence No. 6.

In addition, SCS has performed a slope stability analysis consisting of both circular and block failure analyses of the north, south, east and west sides of the Phase II Section I area for the revised Fill Sequence No. 5 as indicated on the revised drawings contained in Attachment B. All of the material properties used within the slope stability models have remained the same as previously submitted for slope stability analyses to the Department. Please refer to Attachment C for the slope stability analyses. Attachment C also contains a summary table indicating the Factor of Safety for the slope stability analyses conducted. Based on the requested revision to Fill Sequence No. 5, SCS has determined the Factor of Safety for both the circular and block failure analyses, both with and without equipment loading, meets the required 1.5 Factor of Safety.

Please do not hesitate to call should you have any questions or require additional information.

Sincerely,

Shane R. Fischer, P.E.
Project Manager

Ed Hilton

C. Ed Hilton, P.E.
Vice President
SCS ENGINEERS

SRF/CEH:srf

cc: Teresa Carver, Hardee County Solid Waste Director

Attachments

58026
6/10/10

Attachment A

State of Florida Department of Environmental Protection
Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility
Application Form 62-701.900(1)
(Pages 9-37 Have Not Been Included, As They Are Not Applicable To This Application)

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: January 6, 2010
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

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes,(FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department's District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

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

II. Application Parts Required for Construction and Operation Permits

A. Landfills and Ash Monofills - Submit Parts A 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
☐ Ash Monofill
☐ Class III Landfill
☐ Asbestos Monofill
☐ Industrial Solid Waste
☐ Other Describe: ____________________

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

2. Type of application:

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

3. Classification of application:

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

4. Facility name: Hardee County Regional Landfill

5. DEP ID number: SWD-25-40612 County: Hardee

6. Facility location (main entrance): 685 Airport Road

Approximately one mile north of SR636 in Wauchula, Florida

7. Location coordinates:

Section: 35 Township: 33S Range: 25E

Latitude: 27 ° 34 ' 17 " Longitude: 81 ° 46 ' 58 "

Datum: NAD83/90 West Zone of the FL State Plane Coordinate System Coordinate Method: USGS Mapping

Collected by: Shane Fischer Company/Affiliation: SCS Engineers

8. Applicant name (operating authority): Hardee County Solid Waste Department

Mailing address: 685 Airport Road | Wauchula | FL | 33873
Street or P.O. Box | City | State | Zip

Contact person: Teresa Carver Telephone: (863) 773-5089

Title: Solid Waste Director

teresa.carver@hardeecounty.net
E-Mail address (if available)

9. Authorized agent/Consultant: SCS Engineers

Mailing address: 4041 Park Oaks Blvd., Suite 100 | Tampa | FL | 33610
Street or P.O. Box | City | State | Zip

Contact person: Shane R. Fischer, PE Telephone: (813) 621-0080

Title: Project Manager

sfischer@scsengineers.com
E-Mail address (if available)

10. Landowner (if different than applicant): Same

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: Hardee County, including its municipalities

12. Population to be served:

Current: 28,362 Five-Year Projection: 28,905

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

14. Expected life of the facility: 5 years

15. Estimated costs:

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

16. Anticipated construction starting and completion dates:

From: N/A To: N/A

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

______ yds^3/day 80 tons/day ______ gallons/day

PART B. DISPOSAL FACILITY GENERAL INFORMATION

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

   The primary purpose of the request for a minor modification to the Operation Permit is to revise fill sequence numbers 5, 6, and 7.

2. Facility site supervisor: Teresa Carver

   Title: Solid Waste Director Telephone: (863) 773-5089

   teresa.carver@hardeecounty.net
   E-Mail address (if available)

3. Disposal area: Total 18.6 acres; Used 12 acres; Available 6.6 acres.

4. Weighing scales used: ☒ Yes ☐ No

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

6. Charge for waste received: ________ $/yds^3 62.50 $/ton

7. Surrounding land use, zoning:

   ☐ Residential ☐ Industrial
   ☒ Agricultural ☐ None
   ☐ Commercial ☐ Other Describe: ________

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: Non-hazardous contaminated soil

9. Salvaging permitted: ☐ Yes ☒ No

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

11. Trained spotters: ☒ Yes ☐ No Number of spotters used: Varies

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

13. Days of operation: 312 days/year - Monday through Saturday

14. Hours of operation: 7:30am - 5:00pm

15. Days Working Face covered: 312

16. Elevation of water table: Varies across site: 78.5 South/81.5 North ft. Datum Used: NGVD 1929

17. Number of monitoring wells: 8

18. Number of surface monitoring points: 1

19. Gas controls used: ☐ Yes ☒ No Type controls: ☐ Active ☐ Passive N/A

Gas flaring: ☐ Yes ☒ No Gas recovery: ☐ Yes ☐ No N/A

20. Landfill unit liner type:

☒ Natural soils
☐ Single clay liner
☒ Single geomembrane (Side)
☐ Single composite
☐ Slurry wall
☐ Other Describe: ______
☒ Double geomembrane (Phase II Section I)
☐ Geomembrane & composite
☐ Double composite
☐ None

21. Leachate collection method:

☒ Collection pipes
☒ Geonets
☐ Well points
☐ Perimeter ditch
☐ Other Describe: ______
☒ Sand layer
☐ Gravel layer
☐ Interceptor trench
☐ None

22. Leachate storage method:

☒ Tanks
☐ Surface impoundments
☒ Other Describe: No on-site treatment; storage only. Off-site disposal at WWTP.

23. Leachate treatment method:

☐ Oxidation
☐ Secondary
☐ Advanced
☐ None
☒ Other No on-site treatment; storage only. Off-site disposal at WWTP.
☐ Chemical treatment
☐ Settling

24. Leachate disposal method:

☐ Recirculated
☒ Transported to WWTP
☐ Injection well
☐ Evaporation
☐ Other ______

☐ Pumped to WWTP
☐ Discharged to surface water/wetland
☐ Percolation ponds
☐ Spray Irrigation

25. For leachate discharged to surface waters:

Name and Class of receiving water: N/A

26. Storm Water:

Collected: ☒ Yes ☐ No

Type of treatment: Detention

Name and Class of receiving water: Peace River, Class III

27. Environmental Resources Permit (ERP) number or status: 25-0124892-003

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Hardee County Solid Waste Department is aware that statements made in this form and attached information are an application for a Minor Mod to the Operation 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.

Teresa Carver
Signature of Applicant or Agent

685 Airport Road
Mailing Address

Teresa Carver, Solid Waste Director
Name and Title (please type)

Wauchula, FL 33873
City, State, Zip Code

teresa.carver@hardeecounty.net
E-Mail address (if available)

(863) 773-5089
Telephone Number

Date: 6/9/10

Attach letter of authorization if agent is not a governmental 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

SCS Engineers, 4041 Park Oaks Blvd., Suite 100
Mailing Address

Shane R. Fischer, P.E., Project Manager
Name and Title (please type)

Tampa, FL 33610
City, State, Zip Code

sfischer@scsengineers.com
E-Mail address (if available)

58026
Florida Registration Number
(please affix seal)

(813) 621-0080
Telephone Number

Date: 6/10/10

DEP FORM 62-701.900(1)
Effective January 6, 2010

Attachment B

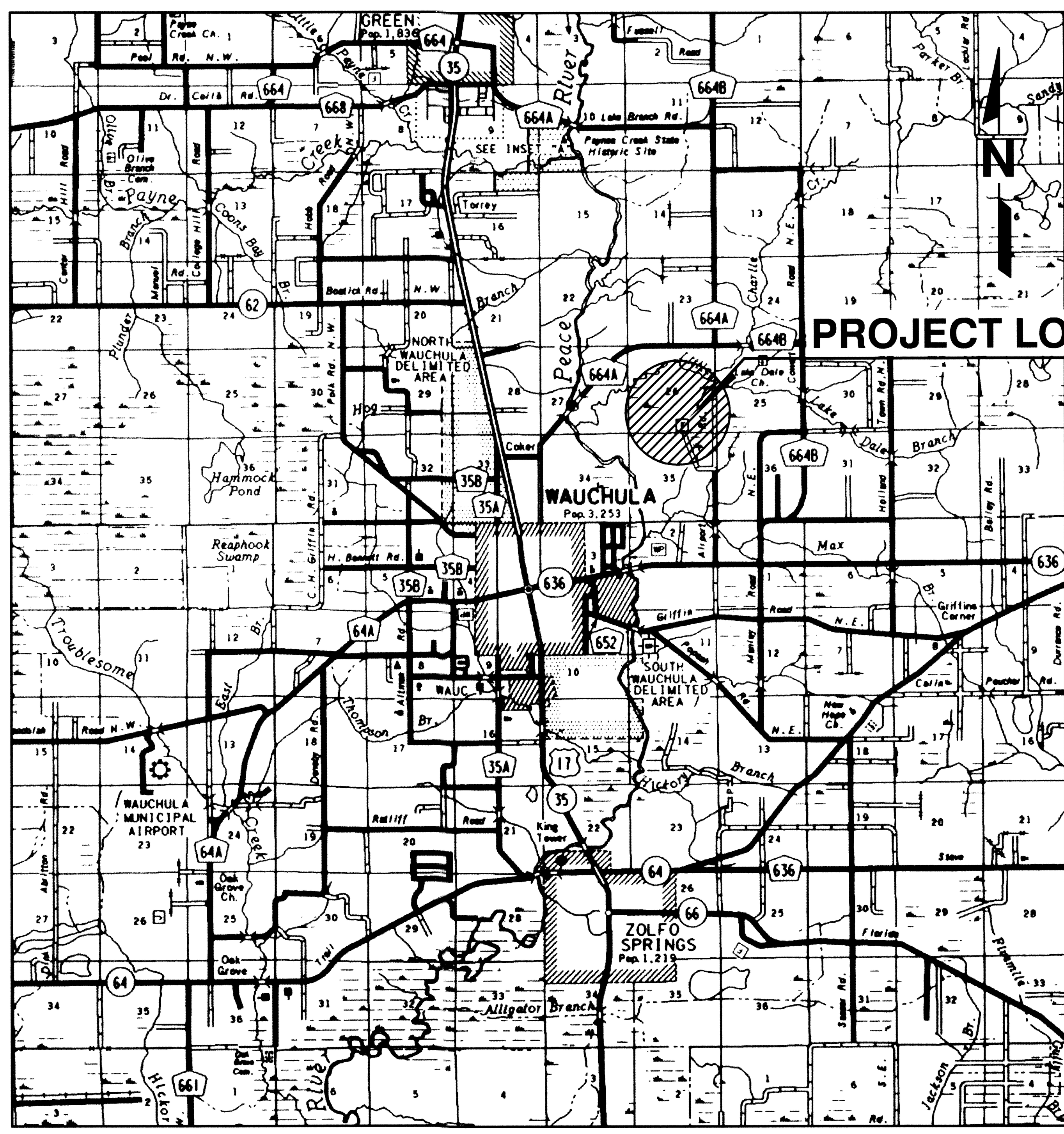
Revised Hardee County Landfill Operations Drawings
Cover Sheet
Fill Sequence No. 5 Sheet 15
Fill Sequence No. 6 Sheet 16
Fill Sequence No. 7 Sheet 17
Phase II Section I Sections Sheet 24
Phase II Section I Sections Sheet 25

HARDEE COUNTY LANDFILL
MODIFIED OPERATIONS DRAWINGS
TO INCLUDE PHASE II SECTION I

PREPARED FOR

BOARD OF COUNTY COMMISSIONERS
HARDEE COUNTY, FLORIDA

MAY 2007



PROJECT LOCATION

LOCATION MAP
NOT TO SCALE

DRAWING INDEX

REV.	DRAWING NO.		DRAWING TITLE
△3 △1	1	-	COVER SHEET
	2	-	AERIAL PHOTOGRAPHY - MAY 2003
△2	3	-	AERIAL PHOTOGRAPHY - JUNE 2006
	4	-	PHASE I EXISTING CONDITIONS - JUNE 2006
	5	-	PHASE I FILL SEQUENCE NO. 1
	6	-	PHASE I FILL SEQUENCE NO. 2
	7	-	PHASE I FILL SEQUENCE NO. 3
	8	-	PHASE I FINAL BUILDOUT (TOP OF INTERMEDIATE COVER)
△2	9	-	PHASE I AND PHASE II SITE PLAN
△2	10	-	PHASE II SECTION I GROUNDWATER CONTROL SYSTEM
△2	11	-	PHASE II SECTION I FILL SEQUENCE NO. 1
△2	12	-	PHASE II SECTION I FILL SEQUENCE NO. 2
△2	13	-	PHASE II SECTION I FILL SEQUENCE NO. 3
△2	14	-	PHASE II SECTION I FILL SEQUENCE NO. 4
△3 △2	15	-	PHASE II SECTION I FILL SEQUENCE NO. 5
△3 △2	16	-	PHASE II SECTION I FILL SEQUENCE NO. 6
△3 △2	17	-	PHASE II SECTION I FILL SEQUENCE NO. 7
	18	-	PHASE I SECTIONS
	19	-	PHASE I DETAILS - 1
	20	-	PHASE I DETAILS - 2
△2	21	-	PHASE I DETAILS - 3
△1	22	-	PHASE II SECTION I SECTIONS
△1	23	-	PHASE II SECTION I SECTIONS
△3 △1	24	-	PHASE II SECTION I SECTIONS
△3	25	-	PHASE II SECTION I SECTIONS
	26	-	PHASE II SECTION I DETAILS

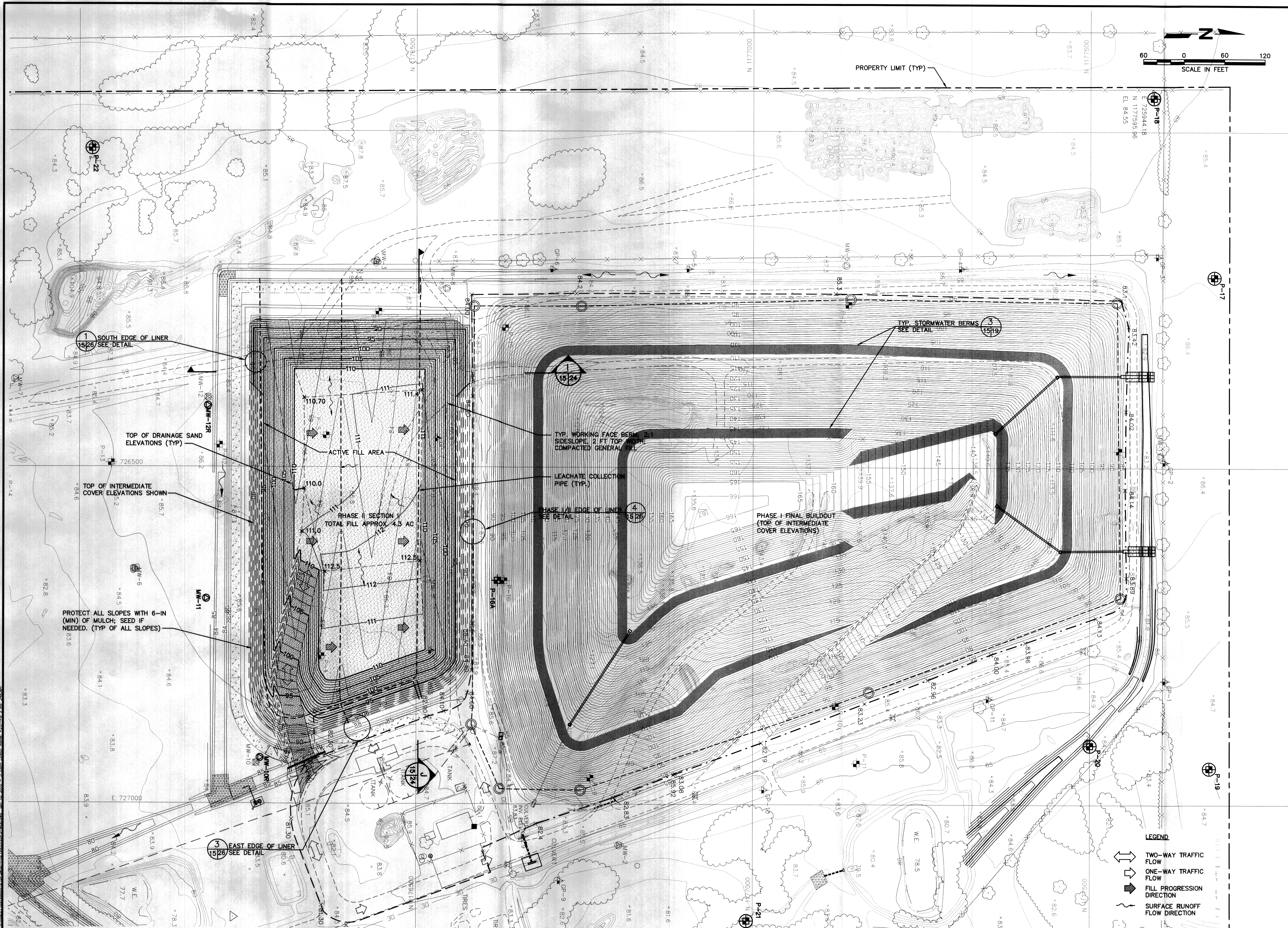
SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100
TAMPA, FLORIDA 33610
PH (813) 621-0080 FAX NO. (813) 623-6757
WWW.SCSENGINEERS.COM
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892
SCS PROJECT NO. 09199033.12

△1 REVISED OCTOBER 1, 2007
PER FDEP RAI NO. 1

△2 REVISED JANUARY 30, 2008
PER FDEP RAI NO. 2

△3 REVISED MAY 14, 2010
REVISED FILL SEQUENCE

6/10/10
SHANE R. FISCHER, P.E.
FL P.E. No. 58026



REV	DATE	DESCRIPTION	BY
1	1/30/08	ADDED MW-10R AND MW-12R	SRF
2	05/14/10	REVISED FILL SEQUENCE	SRF

SHANE R. FISCHER, P.E. LICENSE NO. 58926

DRAWING TITLE: PHASE II - SECTION I FILL SEQUENCE NO. 5

PROJECT TITLE: HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS

CLIENT: HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

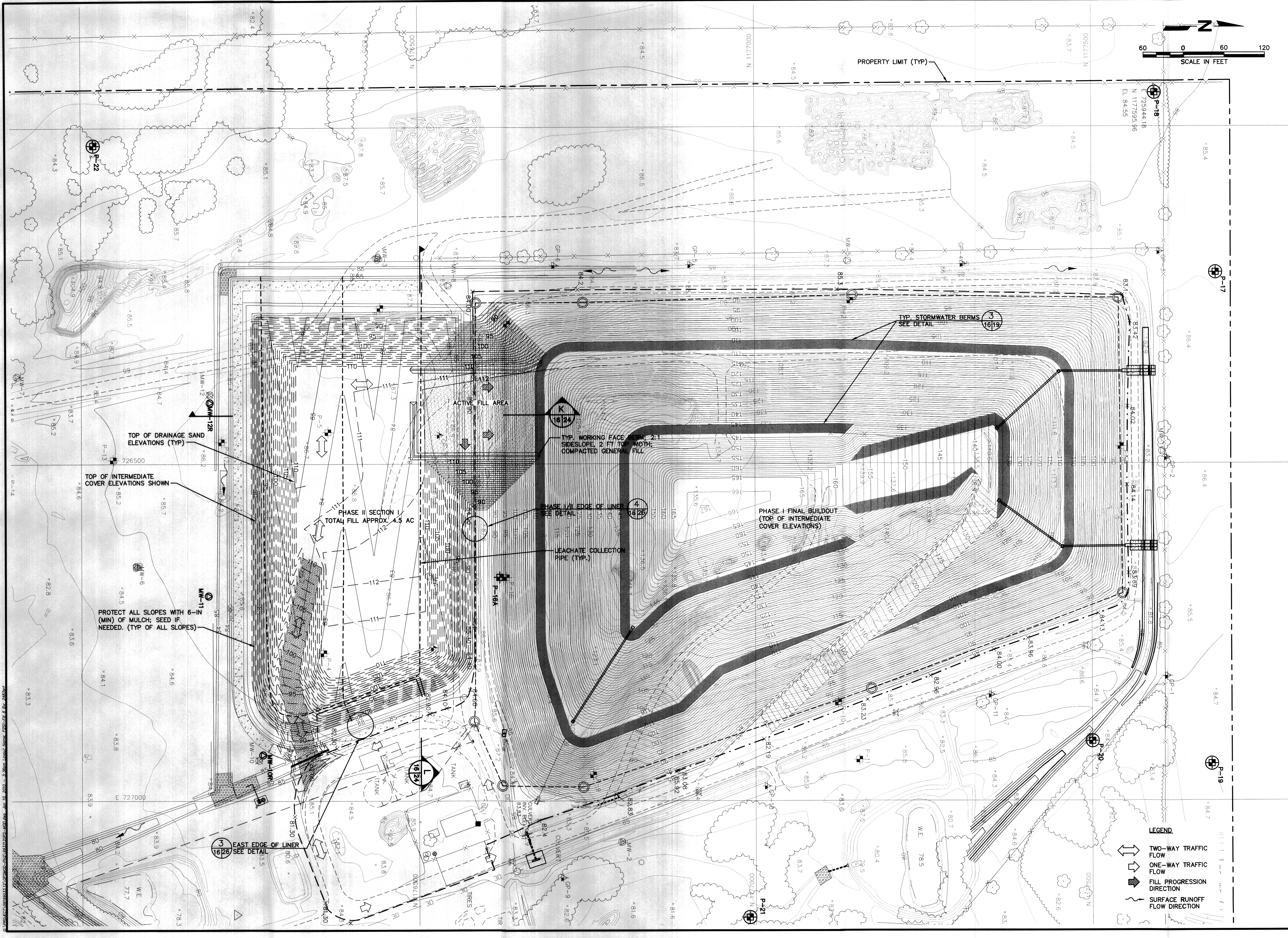
PROJ. NO. 09199033.12 | DSN. BY: SRF | DWN. BY: SDA | CHK. BY: CEH | Q/A RVW. BY: SRF | APP. BY: CEH

CADD FILE: 9933120PS-MOD

DATE: MAY 2007

SCALE: AS SHOWN

DRAWING NO. 15 of 26



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1	1/30/08	ADDED MW-10R AND MW-12R	SRF
2	05/14/10	REVISED FILL SEQUENCE	SRF

SHANE R. FISCHER, P.E.
LICENSE NO. 58026

DRAWING TITLE
PHASE II - SECTION I FILL SEQUENCE NO. 6

PROJECT TITLE
HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS

CLIENT
HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

PROJ. NO. 09199033.12	DWN. BY: SDA	Q/A RVW BY: SRF
DSN. BY: SRF	CHK. BY: CEH	APP. BY: CEH

CADD FILE: 9933120PS-MOD

DATE: MAY 2007

SCALE: AS SHOWN

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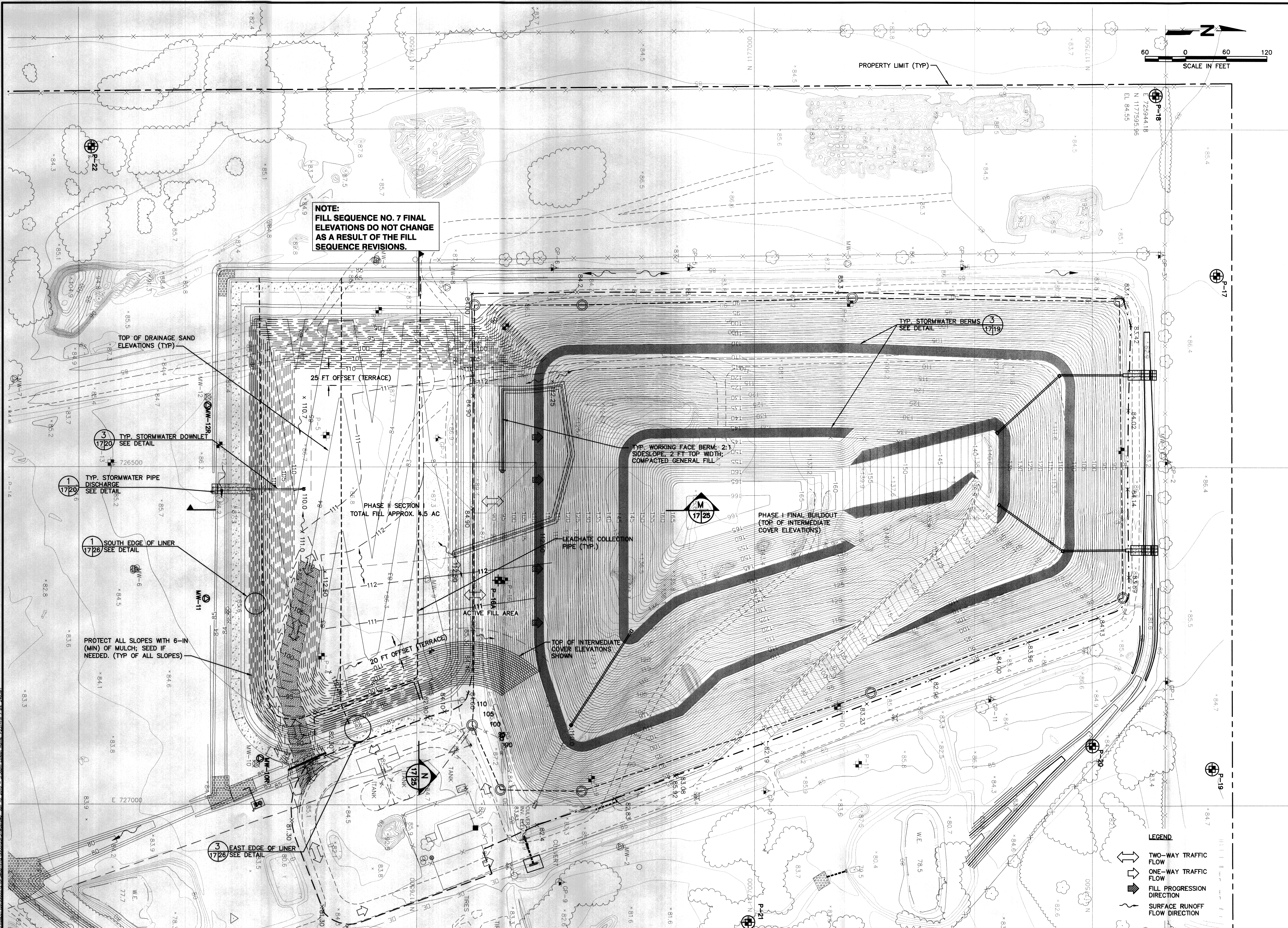

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2	05/14/10	REVISED FILL SEQUENCE	SRF

SHANE R FISCHER, P.E. LICENSE NO. 58026

DRAWING TITLE: PHASE II - SECTION I FILL SEQUENCE NO. 7

PROJECT TITLE: HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS

CLIENT: HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
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4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

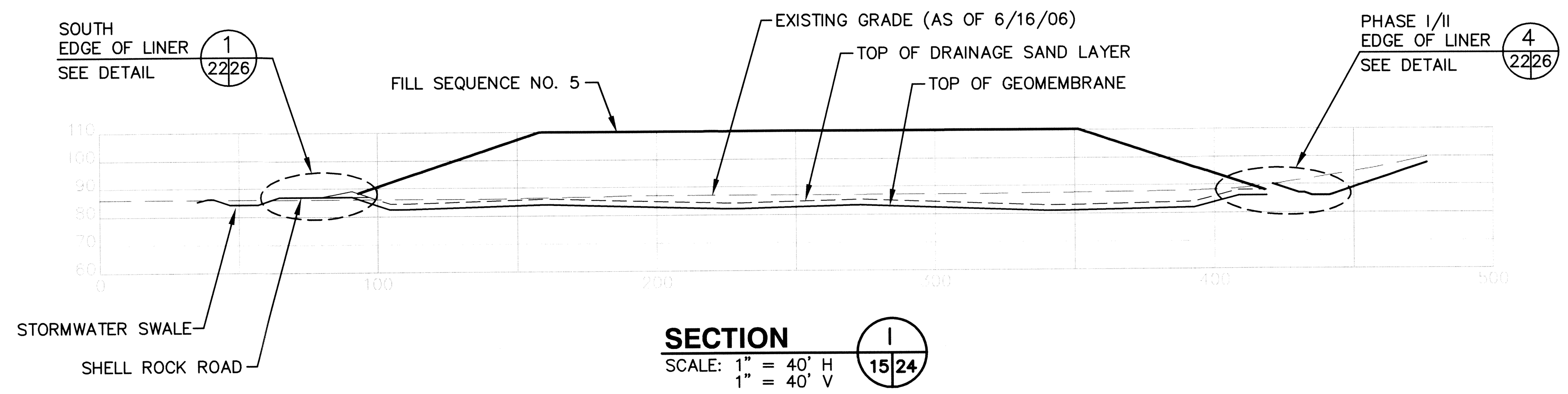
PROJ. NO. 09199033.12 | DWN. BY: SDA | CHK. BY: CEH | DSN. BY: SRF | Q/A RVW BY: SRF | APP. BY: CEH

CADD FILE: 9933120PS-MOD

DATE: MAY 2007

SCALE: AS SHOWN

DRAWING NO. **17** of **26**



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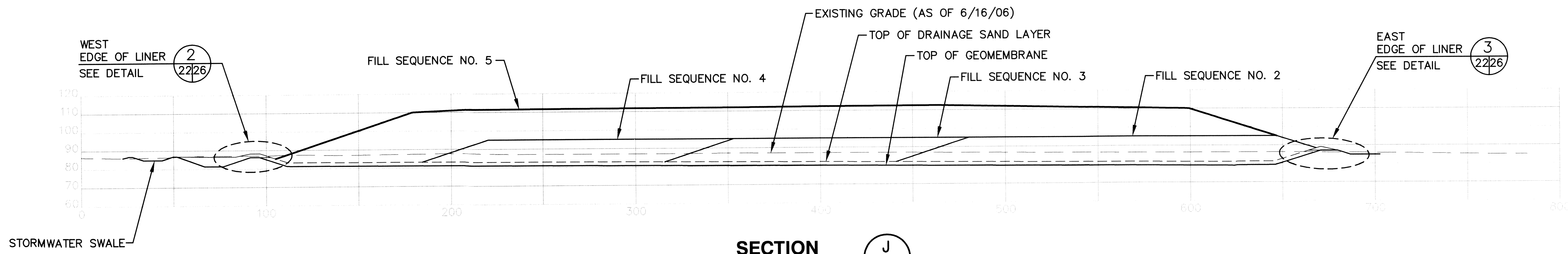
SCALE: 1" = 40' H
1" = 40' V



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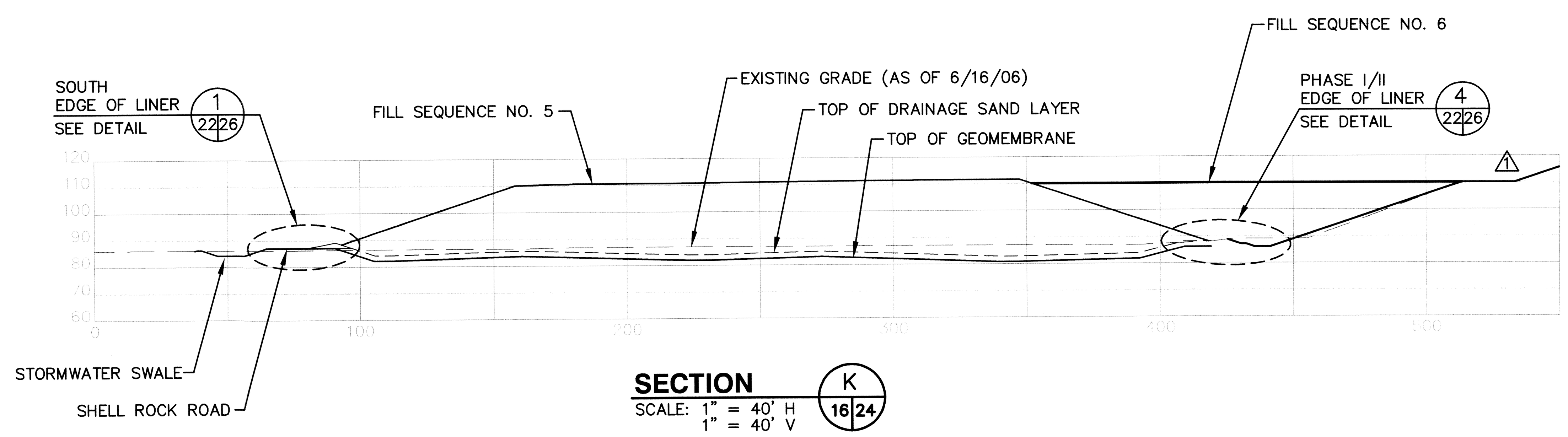

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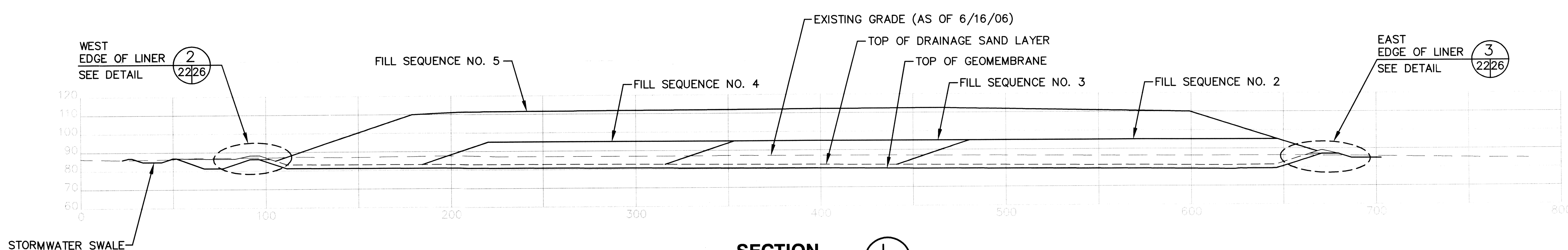

SECTION L 16|24
SCALE: 1" = 40' H
1" = 40' V

NOTES:

1. SLOPES SHALL NOT EXCEED 3(H):1(V) AT ANY TIME, AFTER APPLICATION OF COVER SOILS. ALL FINAL SLOPES SHALL CONFORM TO THE DESIGN DIMENSIONS, SLOPES, AND ELEVATION.
2. ALL FILL SEQUENCE GRADES SHOWN ARE TOP OF INTERMEDIATE COVER.

SHANE R. FISCHER, P.E.
LICENSE NO. 58026

REV	DATE	DESCRIPTION	BY
1	10/1/07	REVISION PER FDEP RAI NO. 1	SRF
2	05/14/10	REVISED FILL SEQUENCE	SRF

DRAWING TITLE
PHASE II SECTION I SECTIONS

PROJECT TITLE
HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS

CLIENT
HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

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CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

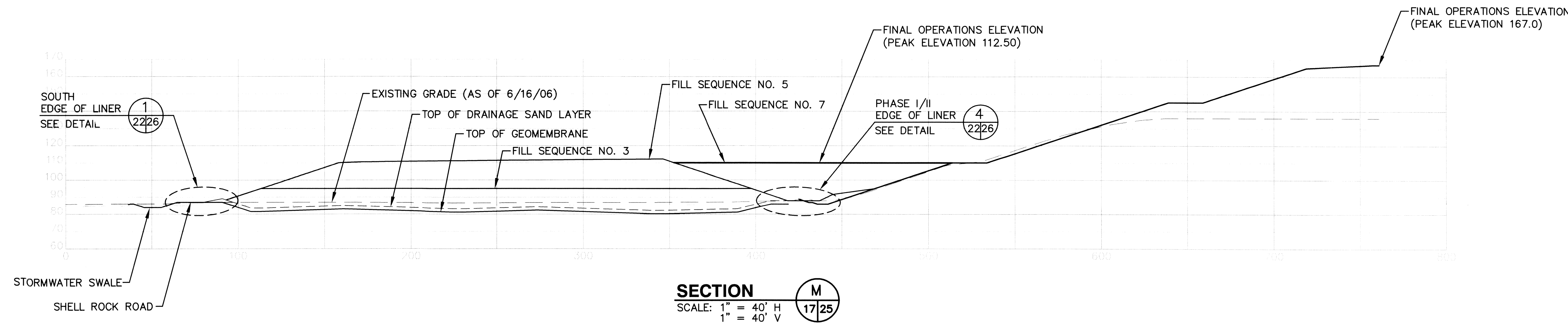
PROJ. NO. 09199033.12 | DWN. BY: SDA | Q/A RVW BY: SRF
DSN. BY: SRF | CHK. BY: CEH | APP. BY: CEH

CADD FILE: 993312P2S1SECTIONS

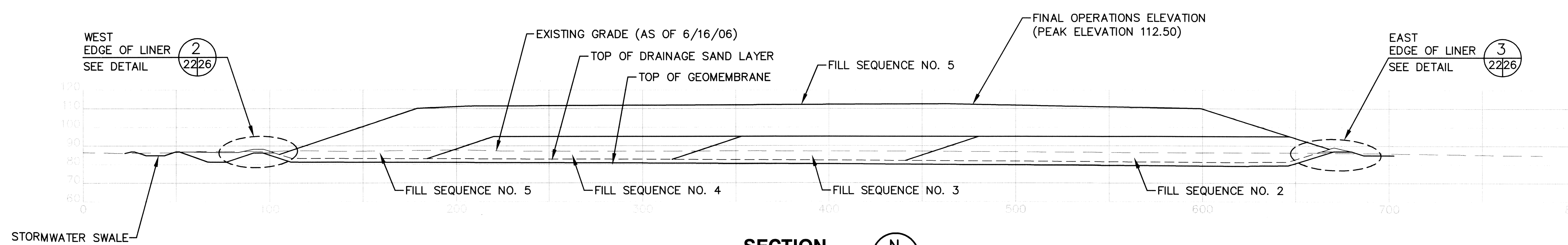
DATE: MAY 2007

SCALE: AS SHOWN

DRAWING NO.
24 of **26**



SECTION M 17 25
SCALE: 1" = 40' H
1" = 40' V



SECTION N 17 25
SCALE: 1" = 40' H
1" = 40' V

NOTES:

1. SLOPES SHALL NOT EXCEED 3(H):1(V) AT ANY TIME, AFTER APPLICATION OF COVER SOILS. ALL FINAL SLOPES SHALL CONFORM TO THE DESIGN DIMENSIONS, SLOPES, AND ELEVATION.
2. ALL FILL SEQUENCE GRADES SHOWN ARE TOP OF INTERMEDIATE COVER.

REV	DATE	DESCRIPTION	BY
1	05/14/10	REVISED FILL SEQUENCE	SRF

SHANE R. FISCHER, P.E.
LICENSE NO. 58026

DRAWING TITLE: **PHASE II SECTION I SECTIONS**

PROJECT TITLE: **HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS**

CLIENT: **HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS**

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
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CADD FILE: 993312P2S1SECTIONS

DATE: MAY 2007

SCALE: AS SHOWN

DRAWING NO. **25** of **26**

Attachment C

Circular and Block Slope Stability Analyses
North, South, East and West Sides Of Phase II Section I

SCS ENGINEERS

Sheet 1 of 1

Client:	**Project:**	**Job No.**
Hardee County	Phase II Section I Slope Stability	09199033.20

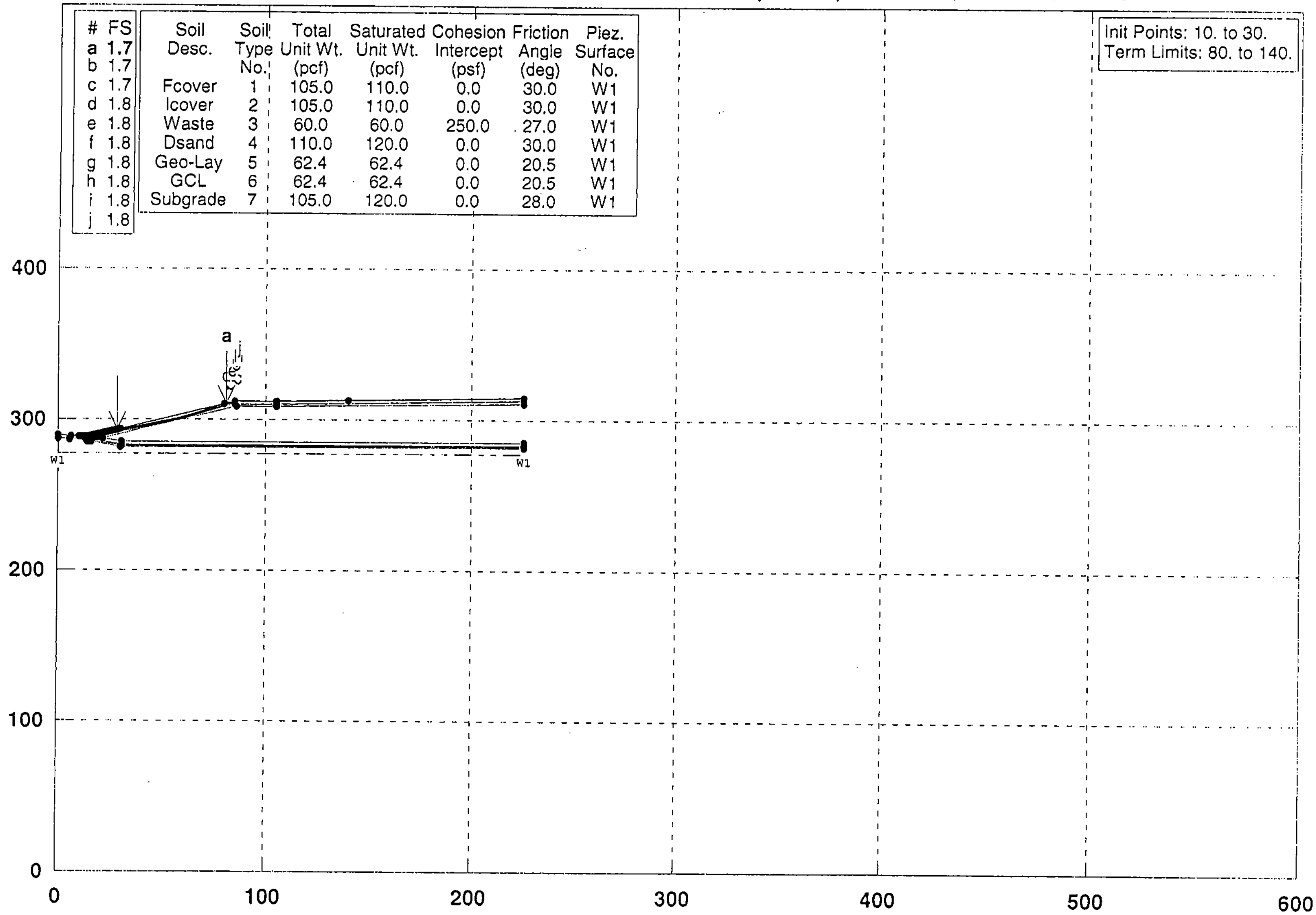
Subject:	**By:**	**Date:**
Slope Stability Factor of Safety Summary Results	DHB	5/18/2010
	Checked: SRF	**Date:** 5/24/10

	CIRCULAR MODE FACTOR SAFETY (FS)		BLOCK MODE FACTOR SAFETY (FS)	
	No Equipment	CAT 816F Compactor	No Equipment	CAT 816F Compactor
North Side to Peak	1.7	1.6	2.3	1.6
East Side to Peak	1.7	1.6	2.4	1.6
South Side to Peak	1.7	1.6	2.3	1.5
West Side to Peak	1.7	1.6	2.4	1.6

The slope stability calculations used to derive the Factor of Safety summary results listed in the above table have been reviewed and have been completed in accordance with good engineering practice and industry-accepted values.

Expansion - North Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\NORTH.PL2 Run By: Dominique H. Bramlett, P.E. 4/1/2010 4:43PM



PCSTABL5M/si FSmin=1.7

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/1/2010
Time of Run: 4:43PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:north.
Output Filename: F:north.OUT
Unit: ENGLISH
Plotted Output Filename: F:north.PLT
PROBLEM DESCRIPTION Expansion - North Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
5 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	289.40	6.00	288.40	4
2	6.00	288.40	14.26	288.40	4
3	14.26	288.40	85.06	312.00	1
4	85.06	312.00	105.38	312.00	1
5	105.38	312.00	225.38	314.50	1
6	14.26	288.40	16.00	288.40	4
7	16.00	288.40	18.62	287.75	4
8	18.62	287.75	85.38	310.00	2
9	85.38	310.00	105.38	310.00	2
10	105.38	310.00	225.38	312.50	2
11	18.62	287.75	21.33	287.07	4
12	21.33	287.07	85.62	308.50	3
13	85.62	308.50	105.38	308.50	3
14	105.38	308.50	225.38	311.00	3
15	21.33	287.07	30.41	284.80	4
16	30.41	284.80	225.38	284.80	4
17	.00	287.38	5.83	286.40	7
18	5.83	286.40	13.07	286.40	7
19	13.07	286.40	13.67	286.40	6
20	13.67	286.40	15.75	286.40	5
21	15.75	286.40	30.17	282.80	5
22	30.17	282.80	225.38	282.80	5
23	13.67	286.40	14.00	285.90	6
24	14.00	285.90	15.69	285.90	6
25	15.69	285.90	30.10	282.30	6
26	30.10	282.30	225.38	282.30	6
27	13.07	286.40	13.73	285.40	7
28	13.73	285.40	15.63	285.40	7
29	15.63	285.40	30.04	281.80	7
30	30.04	281.80	225.38	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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)

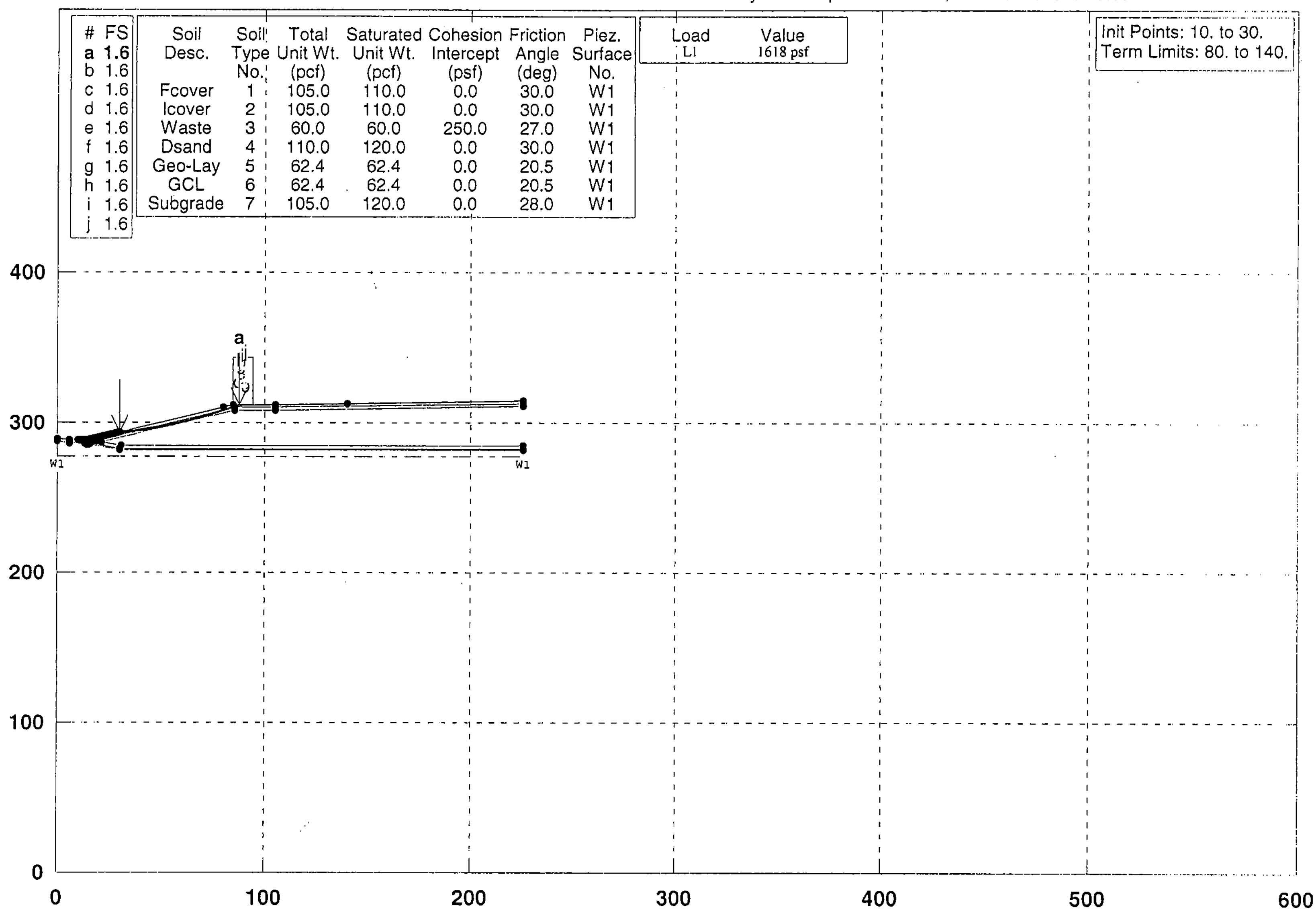
```
      1          .00       277.50
      2       225.38       277.50
  A Critical Failure Surface Searching Method, Using A Random
  Technique For Generating Circular Surfaces, Has Been Specified.
 5000 Trial Surfaces Have Been Generated.
   50 Surfaces Initiate From Each Of100 Points Equally Spaced
  Along The Ground Surface Between   X =  10.00 ft.
                               and   X =  30.00 ft.
  Each Surface Terminates Between    X =  80.00 ft.
                              and    X = 140.00 ft.
  Unless Further Limitations Were Imposed, The Minimum Elevation
  At Which A Surface Extends Is  Y =    .00 ft.
  10.00 ft. Line Segments Define Each Trial Failure Surface.
  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 Bishop Method * *
        Failure Surface Specified By  7 Coordinate Points
          Point      X-Surf      Y-Surf
           No.        (ft)        (ft)
            1        28.38       293.11
            2        38.13       295.35
            3        47.77       297.99
            4        57.30       301.03
            5        66.69       304.47
            6        75.93       308.29
            7        81.07       310.67
        Circle Center At X =  -20.6 ; Y =  528.6  and Radius,  240.5
              ***     1.743   ***
             Individual data on the     6  slices
                           Water  Water     Tie     Tie     Earthquake
                           Force  Force    Force   Force       Force   Surcharge
Slice  Width   Weight      Top    Bot      Norm    Tan     Hor     Ver    Load
 No.   (ft)    (lbs)      (lbs)  (lbs)    (lbs)   (lbs)   (lbs)   (lbs)   (lbs)
  1     9.7    516.1        .0      .0       .0      .0      .0      .0      .0
  2     9.6   1310.9        .0      .0       .0      .0      .0      .0      .0
  3     9.5   1647.7        .0      .0       .0      .0      .0      .0      .0
  4     9.4   1540.2        .0      .0       .0      .0      .0      .0      .0
  5     9.2   1007.7        .0      .0       .0      .0      .0      .0      .0
  6     5.1    180.1        .0      .0       .0      .0      .0      .0      .0
        Failure Surface Specified By  8 Coordinate Points
          Point      X-Surf      Y-Surf
           No.        (ft)        (ft)
            1        25.76       292.23
            2        35.55       294.28
            3        45.23       296.77
            4        54.79       299.70
            5        64.21       303.08
            6        73.45       306.88
            7        82.52       311.10
            8        82.77       311.24
        Circle Center At X =  -13.5 ; Y =  505.1  and Radius,  216.5
              ***     1.747   ***
        Failure Surface Specified By  9 Coordinate Points
          Point      X-Surf      Y-Surf
           No.        (ft)        (ft)
            1        14.65       288.53
            2        24.42       290.63
            3        34.13       293.05
            4        43.75       295.77
            5        53.28       298.80
            6        62.71       302.13
            7        72.03       305.77
            8        81.22       309.69
            9        86.19       312.00
        Circle Center At X =  -46.4 ; Y =  596.0  and Radius,  313.5
              ***     1.748   ***
```

```
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          26.57       292.50
    2          36.38       294.41
    3          46.08       296.85
    4          55.63       299.81
    5          65.01       303.28
    6          74.19       307.25
    7          81.00       310.65
Circle Center At X =    -4.0 ; Y =  475.3  and Radius,  185.4
      ***     1.751   ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          27.78       292.91
    2          37.61       294.75
    3          47.32       297.14
    4          56.88       300.05
    5          66.27       303.49
    6          75.46       307.44
    7          83.81       311.58
Circle Center At X =     -.8 ; Y =  472.3  and Radius,  181.6
      ***     1.753   ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          27.17       292.70
    2          36.99       294.61
    3          46.70       296.98
    4          56.30       299.81
    5          65.75       303.08
    6          75.03       306.79
    7          84.13       310.94
    8          86.18       312.00
Circle Center At X =    -7.9 ; Y =  499.9  and Radius,  210.2
      ***     1.755   ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          24.14       291.69
    2          33.98       293.47
    3          43.72       295.74
    4          53.34       298.50
    5          62.80       301.73
    6          72.09       305.43
    7          81.18       309.59
    8          85.83       312.00
Circle Center At X =    -6.0 ; Y =  487.1  and Radius,  197.7
      ***     1.756   ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          16.06       289.00
    2          25.90       290.78
    3          35.66       292.98
    4          45.31       295.59
    5          54.84       298.62
    6          64.23       302.05
    7          73.47       305.88
    8          82.53       310.11
    9          86.18       312.00
Circle Center At X =   -20.5 ; Y =  519.4  and Radius,  233.3
      ***     1.756   ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
```

```
     1          19.09       290.01
     2          28.91       291.92
     3          38.64       294.22
     4          48.27       296.90
     5          57.79       299.96
     6          67.18       303.40
     7          76.43       307.21
     8          85.51       311.39
     9          86.72       312.00
Circle Center At X =  -23.9 ; Y =  537.6  and Radius,  251.3
      ***       1.758    ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
     1          17.27       289.40
     2          27.06       291.44
     3          36.78       293.81
     4          46.41       296.49
     5          55.95       299.50
     6          65.38       302.82
     7          74.70       306.46
     8          83.88       310.41
     9          87.27       312.00
Circle Center At X =  -38.8 ; Y =  583.3  and Radius,  299.2
      ***       1.760    ***
```

Expansion - North Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\NORTH.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:09PM



PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:09PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:north.
Output Filename: F:north.OUT
Unit: ENGLISH
Plotted Output Filename: F:north.PLT
PROBLEM DESCRIPTION Expansion - North Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
5 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	289.40	6.00	288.40	4
2	6.00	288.40	14.26	288.40	4
3	14.26	288.40	85.06	312.00	1
4	85.06	312.00	105.38	312.00	1
5	105.38	312.00	225.38	314.50	1
6	14.26	288.40	16.00	288.40	4
7	16.00	288.40	18.62	287.75	4
8	18.62	287.75	85.38	310.00	2
9	85.38	310.00	105.38	310.00	2
10	105.38	310.00	225.38	312.50	2
11	18.62	287.75	21.33	287.07	4
12	21.33	287.07	85.62	308.50	3
13	85.62	308.50	105.38	308.50	3
14	105.38	308.50	225.38	311.00	3
15	21.33	287.07	30.41	284.80	4
16	30.41	284.80	225.38	284.80	4
17	.00	287.38	5.83	286.40	7
18	5.83	286.40	13.07	286.40	7
19	13.07	286.40	13.67	286.40	6
20	13.67	286.40	15.75	286.40	5
21	15.75	286.40	30.17	282.80	5
22	30.17	282.80	225.38	282.80	5
23	13.67	286.40	14.00	285.90	6
24	14.00	285.90	15.69	285.90	6
25	15.69	285.90	30.10	282.30	6
26	30.10	282.30	225.38	282.30	6
27	13.07	286.40	13.73	285.40	7
28	13.73	285.40	15.63	285.40	7
29	15.63	285.40	30.04	281.80	7
30	30.04	281.80	225.38	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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       277.50
     2       225.38       277.50
  BOUNDARY LOAD(S)
     1 Load(s) Specified
   Load       X-Left      X-Right     Intensity     Deflection
    No.        (ft)         (ft)        (psf)         (deg)
    1         85.06        94.56        1618.0           .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 Circular Surfaces, Has Been Specified.
  5000 Trial Surfaces Have Been Generated.
    50 Surfaces Initiate From Each Of100 Points Equally Spaced
   Along The Ground Surface Between  X =  10.00 ft.
                                and  X =  30.00 ft.
   Each Surface Terminates Between   X =  80.00 ft.
                                and  X = 140.00 ft.
   Unless Further Limitations Were Imposed, The Minimum Elevation
   At Which A Surface Extends Is  Y =    .00 ft.
   10.00 ft. Line Segments Define Each Trial Failure Surface.
   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 Bishop Method * *
         Failure Surface Specified By  8 Coordinate Points
           Point      X-Surf       Y-Surf
            No.        (ft)         (ft)
             1        30.00       293.65
             2        39.86       295.29
             3        49.62       297.48
             4        59.24       300.21
             5        68.70       303.46
             6        77.96       307.23
             7        87.00       311.51
             8        87.90       312.00
         Circle Center At X =    5.4 ; Y =  471.8  and Radius,  179.8
               ***    1.589   ***
              Individual data on the    10  slices
```

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.9	850.2	.0	.0	.0	.0	.0	.0	.0
2	4.2	835.2	.0	.0	.0	.0	.0	.0	.0
3	5.5	1391.6	.0	.0	.0	.0	.0	.0	.0
4	9.6	2976.2	.0	.0	.0	.0	.0	.0	.0
5	9.5	3113.7	.0	.0	.0	.0	.0	.0	.0
6	9.3	2667.5	.0	.0	.0	.0	.0	.0	.0
7	2.1	497.7	.0	.0	.0	.0	.0	.0	.0
8	5.0	921.6	.0	.0	.0	.0	.0	.0	.0
9	1.9	193.0	.0	.0	.0	.0	.0	.0	3137.5
10	.9	23.1	.0	.0	.0	.0	.0	.0	1458.0

```
         Failure Surface Specified By  8 Coordinate Points
           Point      X-Surf       Y-Surf
            No.        (ft)         (ft)
             1        27.78       292.91
             2        37.61       294.74
             3        47.36       296.97
             4        57.01       299.59
             5        66.55       302.59
             6        75.96       305.97
             7        85.23       309.72
             8        90.27       312.00
         Circle Center At X =  -12.6 ; Y =  536.9  and Radius,  247.4
               ***    1.595   ***
         Failure Surface Specified By  8 Coordinate Points
           Point      X-Surf       Y-Surf
```

```
   No.        (ft)         (ft)
    1         30.00        293.65
    2         39.88        295.17
    3         49.65        297.30
    4         59.27        300.04
    5         68.70        303.37
    6         77.90        307.29
    7         86.84        311.77
    8         87.23        312.00
Circle Center At X =   10.7 ; Y =  452.1  and Radius,  159.6
      ***     1.607    ***
Failure Surface Specified By  8 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1         23.54        291.49
    2         33.38        293.27
    3         43.14        295.45
    4         52.79        298.05
    5         62.33        301.05
    6         71.74        304.45
    7         80.99        308.24
    8         89.17        312.00
Circle Center At X =  -13.5 ; Y =  525.3  and Radius,  236.7
      ***     1.608    ***
Failure Surface Specified By  9 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1         21.72        290.89
    2         31.58        292.53
    3         41.36        294.63
    4         51.03        297.19
    5         60.57        300.19
    6         69.95        303.63
    7         79.17        307.50
    8         88.20        311.80
    9         88.57        312.00
Circle Center At X =   -8.8 ; Y =  503.9  and Radius,  215.2
      ***     1.610    ***
Failure Surface Specified By  8 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1         23.74        291.56
    2         33.57        293.40
    3         43.31        295.66
    4         52.94        298.35
    5         62.45        301.44
    6         71.82        304.95
    7         81.02        308.85
    8         87.64        312.00
Circle Center At X =  -13.6 ; Y =  518.3  and Radius,  229.8
      ***     1.614    ***
Failure Surface Specified By  8 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
    1         26.77        292.57
    2         36.52        294.80
    3         46.19        297.32
    4         55.79        300.12
    5         65.31        303.20
    6         74.72        306.57
    7         84.04        310.21
    8         88.25        312.00
Circle Center At X =  -42.9 ; Y =  620.1  and Radius,  334.9
      ***     1.617    ***
Failure Surface Specified By  9 Coordinate Points
  Point      X-Surf       Y-Surf
   No.        (ft)         (ft)
```

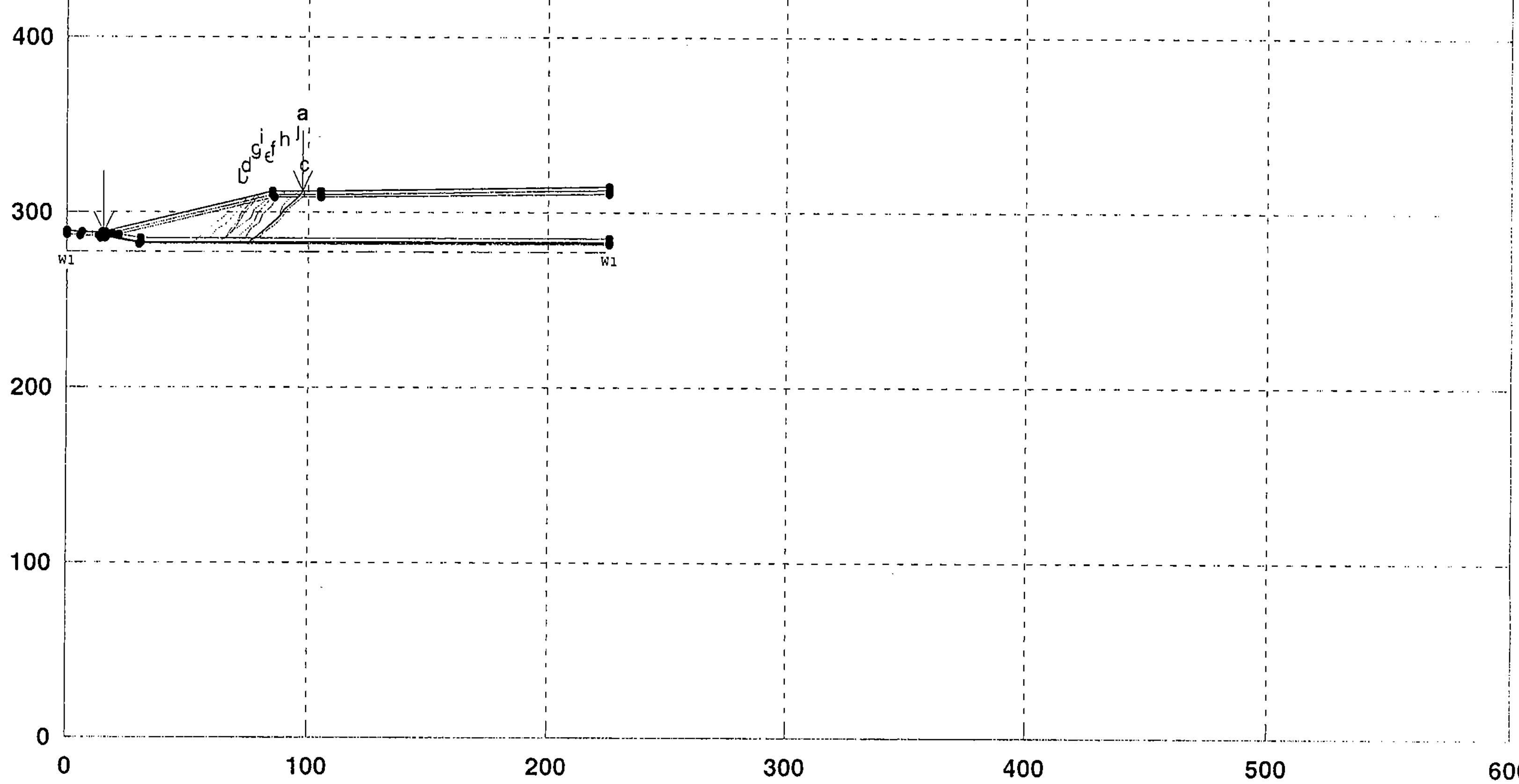
```
      1         15.46       288.80
      2         25.28       290.64
      3         35.04       292.84
      4         44.71       295.40
      5         54.27       298.31
      6         63.73       301.57
      7         73.06       305.17
      8         82.25       309.11
      9         88.35       312.00
 Circle Center At X =  -29.8 ; Y =  557.6  and Radius,  272.6
        ***     1.622    ***
 Failure Surface Specified By  8 Coordinate Points
   Point      X-Surf      Y-Surf
    No.        (ft)        (ft)
      1         30.00       293.65
      2         39.76       295.81
      3         49.45       298.28
      4         59.06       301.06
      5         68.57       304.15
      6         77.98       307.53
      7         87.28       311.22
      8         89.08       312.00
 Circle Center At X =  -32.4 ; Y =  598.7  and Radius,  311.4
        ***     1.628    ***
 Failure Surface Specified By  9 Coordinate Points
   Point      X-Surf      Y-Surf
    No.        (ft)        (ft)
      1         18.49       289.81
      2         28.28       291.84
      3         38.00       294.16
      4         47.66       296.76
      5         57.24       299.64
      6         66.73       302.79
      7         76.12       306.22
      8         85.41       309.92
      9         90.21       312.00
 Circle Center At X =  -46.5 ; Y =  627.4  and Radius,  343.8
        ***     1.628    ***
```

Expansion - North Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BNORTH.PL2 Run By: Dominique H. Bramlett, P.E. 4/2/2010 10:23AM

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

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1



PCSTABL5M/si FSmin=2.3

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/2/2010
Time of Run: 10:23AM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:BNORTH.
Output Filename: F:BNORTH.OUT
Unit: ENGLISH
Plotted Output Filename: F:BNORTH.PLT
PROBLEM DESCRIPTION Expansion - North Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
5 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	289.40	6.00	288.40	4
2	6.00	288.40	14.26	288.40	4
3	14.26	288.40	85.06	312.00	1
4	85.06	312.00	105.38	312.00	1
5	105.38	312.00	225.38	314.50	1
6	14.26	288.40	16.00	288.40	4
7	16.00	288.40	18.62	287.75	4
8	18.62	287.75	85.38	310.00	2
9	85.38	310.00	105.38	310.00	2
10	105.38	310.00	225.38	312.50	2
11	18.62	287.75	21.33	287.07	4
12	21.33	287.07	85.62	308.50	3
13	85.62	308.50	105.38	308.50	3
14	105.38	308.50	225.38	311.00	3
15	21.33	287.07	30.41	284.80	4
16	30.41	284.80	225.38	284.80	4
17	.00	287.38	5.83	286.40	7
18	5.83	286.40	13.07	286.40	7
19	13.07	286.40	13.67	286.40	6
20	13.67	286.40	15.75	286.40	5
21	15.75	286.40	30.17	282.80	5
22	30.17	282.80	225.38	282.80	5
23	13.67	286.40	14.00	285.90	6
24	14.00	285.90	15.69	285.90	6
25	15.69	285.90	30.10	282.30	6
26	30.10	282.30	225.38	282.30	6
27	13.07	286.40	13.73	285.40	7
28	13.73	285.40	15.63	285.40	7
29	15.63	285.40	30.04	281.80	7
30	30.04	281.80	225.38	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	225.38	277.50

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	16.66	285.66	29.13	282.54	.50
2	30.10	282.30	35.10	282.30	.50
3	40.10	282.30	95.06	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	15.37	288.77
2	17.42	287.08
3	21.59	284.32
4	31.97	282.38
5	74.66	282.32
6	78.17	285.88
7	81.39	289.71
8	84.75	293.41
9	87.67	297.46
10	90.28	301.73
11	93.27	305.74
12	96.46	309.59
13	97.39	312.00

*** 2.339 ***

Individual data on the 28 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.4	12.2	.0	.0	.0	.0	.0	.0	.0
2	.2	11.9	.0	.0	.0	.0	.0	.0	.0
3	1.4	236.0	.0	.0	.0	.0	.0	.0	.0
4	1.2	381.3	.0	.0	.0	.0	.0	.0	.0
5	1.5	668.4	.0	.0	.0	.0	.0	.0	.0
6	1.3	739.9	.0	.0	.0	.0	.0	.0	.0
7	.0	3.3	.0	.0	.0	.0	.0	.0	.0
8	.3	170.9	.0	.0	.0	.0	.0	.0	.0
9	1.7	1190.8	.0	.0	.0	.0	.0	.0	.0
10	6.9	5631.3	.0	.0	.0	.0	.0	.0	.0
11	.2	223.3	.0	.0	.0	.0	.0	.0	.0
12	1.6	1491.1	.0	.0	.0	.0	.0	.0	.0
13	42.7	60245.3	.0	.0	.0	.0	.0	.0	.0
14	.5	872.4	.0	.0	.0	.0	.0	.0	.0
15	2.0	3408.0	.0	.0	.0	.0	.0	.0	.0
16	1.1	1717.2	.0	.0	.0	.0	.0	.0	.0
17	3.2	4865.4	.0	.0	.0	.0	.0	.0	.0
18	3.4	4548.9	.0	.0	.0	.0	.0	.0	.0
19	.3	392.5	.0	.0	.0	.0	.0	.0	.0
20	.3	396.8	.0	.0	.0	.0	.0	.0	.0
21	.2	291.0	.0	.0	.0	.0	.0	.0	.0
22	2.1	2289.2	.0	.0	.0	.0	.0	.0	.0
23	2.6	2352.4	.0	.0	.0	.0	.0	.0	.0
24	3.0	1954.0	.0	.0	.0	.0	.0	.0	.0
25	2.3	1029.1	.0	.0	.0	.0	.0	.0	.0
26	.9	279.5	.0	.0	.0	.0	.0	.0	.0
27	.2	36.6	.0	.0	.0	.0	.0	.0	.0

```
28        .8     80.9      .0       .0       .0       .0       .0       .0       .0
          Failure Surface Specified By 12 Coordinate Points
            Point        X-Surf       Y-Surf
             No.          (ft)         (ft)
              1          12.62        288.40
              2          14.85        286.17
              3          19.64        284.72
              4          33.74        282.31
              5          51.88        282.43
              6          55.16        286.20
              7          58.38        290.02
              8          61.59        293.85
              9          64.78        297.71
             10          68.14        301.41
             11          70.67        305.72
             12          72.82        307.92
                 ***      2.375    ***
          Failure Surface Specified By 13 Coordinate Points
            Point        X-Surf       Y-Surf
             No.          (ft)         (ft)
              1          13.87        288.40
              2          15.70        286.61
              3          20.42        284.96
              4          32.15        282.43
              5          76.15        282.39
              6          79.59        286.02
              7          83.08        289.60
              8          86.56        293.20
              9          89.07        297.52
             10          91.35        301.97
             11          94.88        305.51
             12          98.08        309.35
             13          98.51        312.00
                 ***      2.383    ***
          Failure Surface Specified By 11 Coordinate Points
            Point        X-Surf       Y-Surf
             No.          (ft)         (ft)
              1          14.67        288.54
              2          18.22        285.02
              3          31.77        282.43
              4          55.96        282.10
              5          59.36        285.76
              6          61.92        290.05
              7          65.43        293.62
              8          68.68        297.42
              9          71.55        301.51
             10          73.53        306.10
             11          74.24        308.39
                 ***      2.406    ***
          Failure Surface Specified By 14 Coordinate Points
            Point        X-Surf       Y-Surf
             No.          (ft)         (ft)
              1          14.85        288.60
              2          16.59        287.11
              3          21.39        285.70
              4          25.83        283.40
              5          32.89        282.51
              6          62.42        282.31
              7          65.96        285.84
              8          69.23        289.63
              9          72.74        293.18
             10          76.16        296.83
             11          77.65        301.60
             12          80.84        305.45
             13          83.44        309.73
             14          83.92        311.62
                 ***      2.408    ***
```

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	9.02	288.40
2	11.74	286.30
3	16.72	285.87
4	21.52	284.45
5	32.64	282.17
6	69.19	282.32
7	71.46	286.78
8	74.89	290.42
9	77.38	294.75
10	79.00	299.48
11	81.75	303.66
12	84.68	307.71
13	85.40	312.00
***	2.446	***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	14.39	288.44
2	18.12	285.30
3	31.47	282.54
4	61.94	282.48
5	65.42	286.08
6	67.55	290.60
7	70.24	294.81
8	71.97	299.50
9	74.80	303.63
10	76.94	308.14
11	78.47	309.80
***	2.497	***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	16.16	289.03
2	17.63	287.78
3	21.63	284.78
4	26.30	283.02
5	31.01	282.43
6	70.53	282.50
7	74.05	286.04
8	76.26	290.53
9	79.59	294.26
10	80.88	299.09
11	84.22	302.81
12	86.31	307.35
13	89.85	310.89
14	90.17	312.00
***	2.499	***

Failure Surface Specified By 13 Coordinate Points

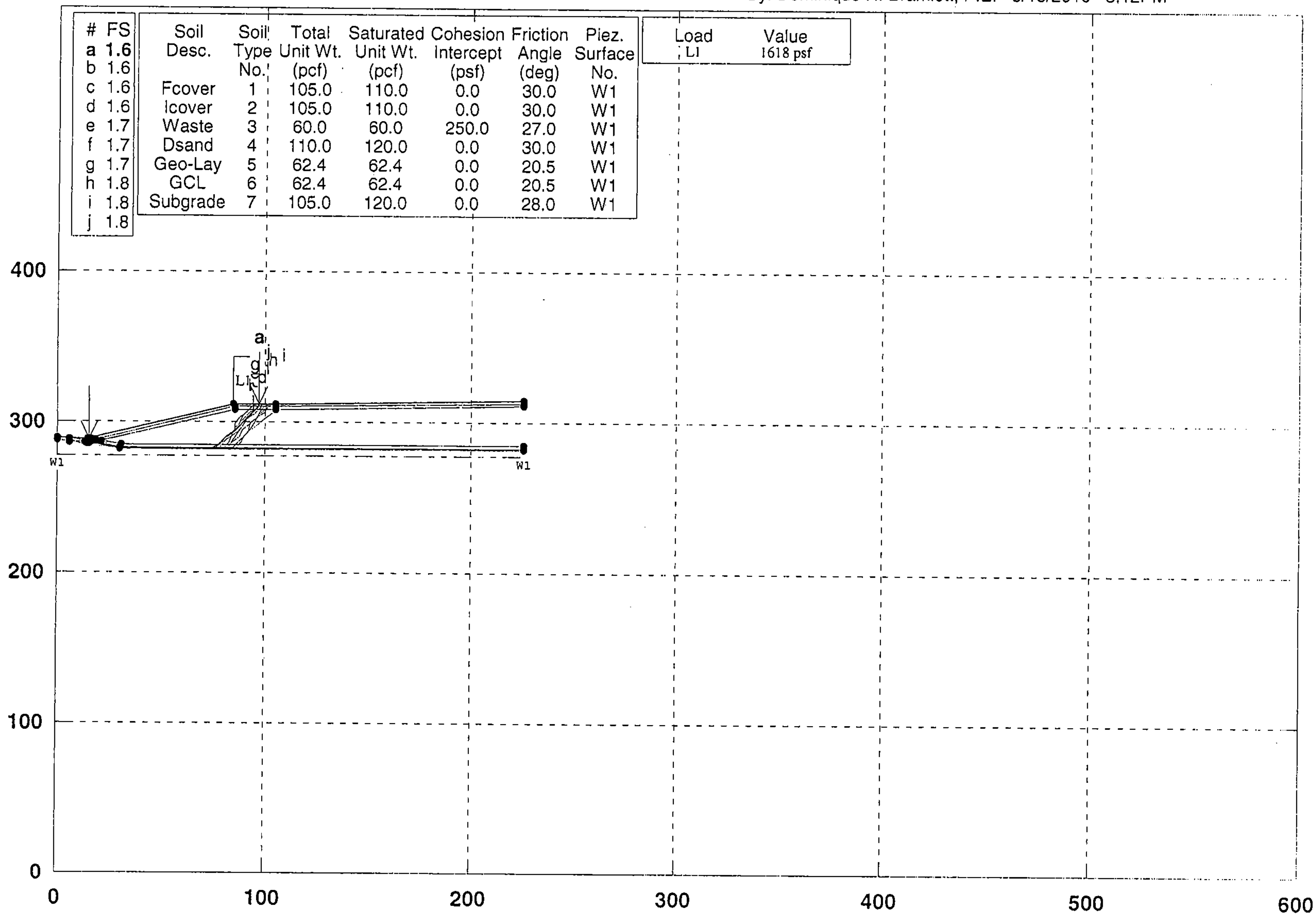
Point No.	X-Surf (ft)	Y-Surf (ft)
1	14.38	288.44
2	15.54	287.35
3	20.34	285.96
4	24.75	283.59
5	30.38	282.12
6	63.66	282.19
7	66.64	286.20
8	69.34	290.41
9	71.58	294.88
10	73.57	299.47
11	75.81	303.94
12	78.43	308.20
13	80.10	310.35
***	2.514	***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	15.39	288.78
2	16.24	287.93
3	20.61	285.50
4	25.20	283.53
5	30.52	282.20
6	77.49	282.07
7	80.09	286.34
8	82.48	290.74
9	85.82	294.45
10	87.84	299.02
11	89.23	303.83
12	91.79	308.12
13	95.32	311.66
14	95.64	312.00
***	2.549	***

Expansion - North Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BNORTH.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:12PM



#	FS
a	1.6
b	1.6
c	1.6
d	1.6
e	1.7
f	1.7
g	1.7
h	1.8
i	1.8
j	1.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

Load	Value
L1	1618 psf

PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

**** PCSTABL5M ****
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:12PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:bnorth.
Output Filename: F:bnorth.OUT
Unit: ENGLISH
Plotted Output Filename: F:bnorth.PLT
PROBLEM DESCRIPTION Expansion - North Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
5 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	289.40	6.00	288.40	4
2	6.00	288.40	14.26	288.40	4
3	14.26	288.40	85.06	312.00	1
4	85.06	312.00	105.38	312.00	1
5	105.38	312.00	225.38	314.50	1
6	14.26	288.40	16.00	288.40	4
7	16.00	288.40	18.62	287.75	4
8	18.62	287.75	85.38	310.00	2
9	85.38	310.00	105.38	310.00	2
10	105.38	310.00	225.38	312.50	2
11	18.62	287.75	21.33	287.07	4
12	21.33	287.07	85.62	308.50	3
13	85.62	308.50	105.38	308.50	3
14	105.38	308.50	225.38	311.00	3
15	21.33	287.07	30.41	284.80	4
16	30.41	284.80	225.38	284.80	4
17	.00	287.38	5.83	286.40	7
18	5.83	286.40	13.07	286.40	7
19	13.07	286.40	13.67	286.40	6
20	13.67	286.40	15.75	286.40	5
21	15.75	286.40	30.17	282.80	5
22	30.17	282.80	225.38	282.80	5
23	13.67	286.40	14.00	285.90	6
24	14.00	285.90	15.69	285.90	6
25	15.69	285.90	30.10	282.30	6
26	30.10	282.30	225.38	282.30	6
27	13.07	286.40	13.73	285.40	7
28	13.73	285.40	15.63	285.40	7
29	15.63	285.40	30.04	281.80	7
30	30.04	281.80	225.38	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	225.38	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	85.06	94.56	1618.0	.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.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	16.66	285.66	29.13	282.54	.50
2	30.10	282.30	35.10	282.30	.50
3	40.10	282.30	95.06	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	15.37	288.77
2	17.42	287.08
3	21.59	284.32
4	31.97	282.38
5	74.66	282.32
6	78.17	285.88
7	81.39	289.71
8	84.75	293.41
9	87.67	297.46
10	90.28	301.73
11	93.27	305.74
12	96.46	309.59
13	97.39	312.00

*** 1.556 ***

Individual data on the 29 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.4	12.2	.0	.0	.0	.0	.0	.0	.0
2	.2	11.9	.0	.0	.0	.0	.0	.0	.0
3	1.4	236.0	.0	.0	.0	.0	.0	.0	.0
4	1.2	381.3	.0	.0	.0	.0	.0	.0	.0
5	1.5	668.4	.0	.0	.0	.0	.0	.0	.0
6	1.3	739.9	.0	.0	.0	.0	.0	.0	.0
7	.0	3.3	.0	.0	.0	.0	.0	.0	.0
8	.3	170.9	.0	.0	.0	.0	.0	.0	.0
9	1.7	1190.8	.0	.0	.0	.0	.0	.0	.0
10	6.9	5631.3	.0	.0	.0	.0	.0	.0	.0
11	.2	223.3	.0	.0	.0	.0	.0	.0	.0
12	1.6	1491.1	.0	.0	.0	.0	.0	.0	.0
13	42.7	60245.3	.0	.0	.0	.0	.0	.0	.0
14	.5	872.4	.0	.0	.0	.0	.0	.0	.0
15	2.0	3408.0	.0	.0	.0	.0	.0	.0	.0
16	1.1	1717.2	.0	.0	.0	.0	.0	.0	.0
17	3.2	4865.4	.0	.0	.0	.0	.0	.0	.0
18	3.4	4548.9	.0	.0	.0	.0	.0	.0	.0
19	.3	392.5	.0	.0	.0	.0	.0	.0	.0
20	.3	396.8	.0	.0	.0	.0	.0	.0	517.8

21	.2	291.0	.0	.0	.0	.0	.0	.0	388.3
22	2.1	2289.2	.0	.0	.0	.0	.0	.0	3321.3
23	2.6	2352.4	.0	.0	.0	.0	.0	.0	4220.8
24	3.0	1954.0	.0	.0	.0	.0	.0	.0	4837.3
25	1.3	627.1	.0	.0	.0	.0	.0	.0	2085.5
26	1.0	401.9	.0	.0	.0	.0	.0	.0	.0
27	.9	279.5	.0	.0	.0	.0	.0	.0	.0
28	.2	36.6	.0	.0	.0	.0	.0	.0	.0
29	.8	80.9	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	11.42	288.40
2	11.53	288.31
3	16.40	287.15
4	19.99	283.68
5	24.99	283.47
6	33.13	282.51
7	81.91	282.16
8	83.86	286.76
9	86.47	291.03
10	88.66	295.52
11	90.59	300.13
12	93.25	304.37
13	94.18	309.28
14	94.41	312.00

*** 1.556 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	15.39	288.78
2	16.24	287.93
3	20.61	285.50
4	25.20	283.53
5	30.52	282.20
6	77.49	282.07
7	80.09	286.34
8	82.48	290.74
9	85.82	294.45
10	87.84	299.02
11	89.23	303.83
12	91.79	308.12
13	95.32	311.66
14	95.64	312.00

*** 1.570 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	13.87	288.40
2	15.70	286.61
3	20.42	284.96
4	32.15	282.43
5	76.15	282.39
6	79.59	286.02
7	83.08	289.60
8	86.56	293.20
9	89.07	297.52
10	91.35	301.97
11	94.88	305.51
12	98.08	309.35
13	98.51	312.00

*** 1.592 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	4.02	288.73
2	7.42	287.17

3	11.77	284.70
4	16.77	284.64
5	21.75	284.22
6	33.60	282.16
7	79.88	282.11
8	82.24	286.52
9	83.89	291.24
10	85.60	295.94
11	88.07	300.29
12	90.99	304.34
13	94.34	308.05
14	94.64	312.00

*** 1.685 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.40	289.78
2	21.36	287.17
3	25.01	283.76
4	32.91	282.25
5	83.73	282.15
6	86.79	286.11
7	90.00	289.95
8	91.86	294.59
9	93.01	299.45
10	96.37	303.15
11	99.91	306.69
12	101.10	311.54
13	101.22	312.00

*** 1.735 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	8.38	288.40
2	10.28	287.44
3	15.05	285.96
4	19.95	284.96
5	30.82	282.42
6	75.60	282.39
7	79.13	285.93
8	81.68	290.23
9	85.17	293.81
10	85.27	298.81
11	87.84	303.09
12	91.38	306.63
13	94.07	310.84
14	94.91	312.00

*** 1.742 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	18.95	289.96
2	19.74	289.56
3	23.49	286.25
4	27.18	282.88
5	32.92	282.54
6	81.26	282.39
7	84.13	286.49
8	87.44	290.24
9	89.17	294.93
10	92.51	298.65
11	95.78	302.43
12	98.78	306.44
13	102.27	310.02
14	103.86	312.00

*** 1.759 ***

Failure Surface Specified By 13 Coordinate Points

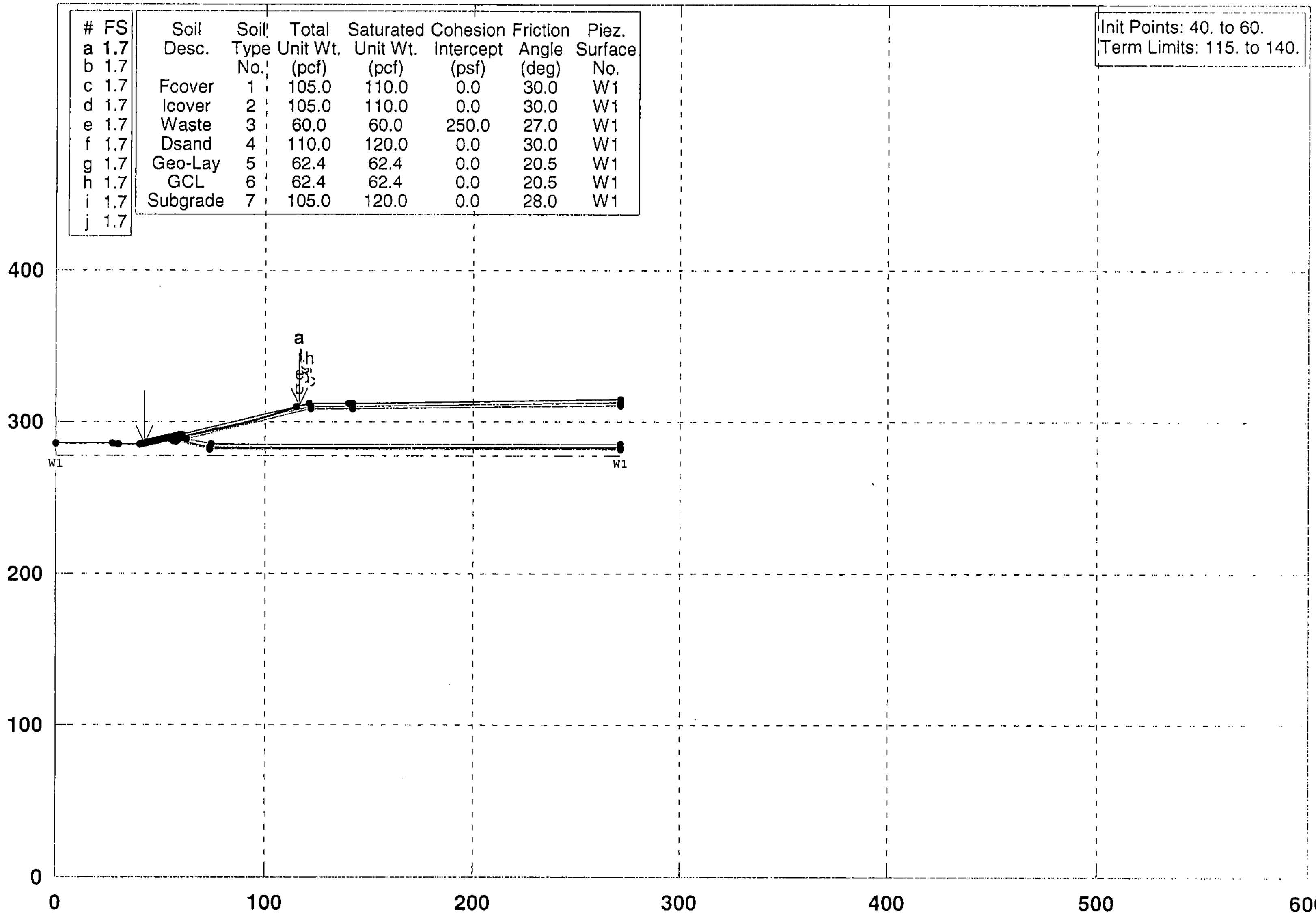
Point No.	X-Surf (ft)	Y-Surf (ft)
1	15.41	288.78
2	19.59	286.88
3	23.73	284.07
4	31.01	282.50
5	83.65	282.43
6	87.14	286.01
7	89.59	290.38
8	92.88	294.14
9	96.25	297.83
10	99.49	301.64
11	103.01	305.19
12	106.25	309.00
13	108.77	312.07
***	1.772	***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	17.33	289.42
2	19.63	287.32
3	23.20	283.81
4	32.14	282.17
5	85.18	282.12
6	88.36	285.98
7	90.00	290.71
8	93.05	294.67
9	95.19	299.19
10	96.17	304.09
11	98.28	308.62
12	101.64	312.00
***	1.783	***

Expansion - East Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\EAST.PL2 Run By: Dominique H. Bramlett, P.E. 4/1/2010 4:03PM



Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

PCSTABL5M/si FSmin=1.7

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

**** PCSTABL5M ****
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/1/2010
Time of Run: 4:03PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:east.
Output Filename: F:east.OUT
Unit: ENGLISH
Plotted Output Filename: F:east.PLT
PROBLEM DESCRIPTION Expansion - East Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
9 Top Boundaries
33 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	286.00	27.00	286.00	7
2	27.00	286.00	30.00	285.00	7
3	30.00	285.00	40.00	285.00	7
4	40.00	285.00	49.00	288.00	7
5	49.00	288.00	49.18	288.00	7
6	49.18	288.00	56.42	290.41	4
7	56.42	290.41	121.18	312.00	1
8	121.18	312.00	141.50	312.00	1
9	141.50	312.00	271.50	314.50	1
10	56.42	290.41	57.10	290.41	4
11	57.10	290.41	59.92	289.47	4
12	59.92	289.47	121.50	310.00	2
13	121.50	310.00	141.50	310.00	2
14	141.50	310.00	271.50	312.50	2
15	59.92	289.47	62.29	288.68	4
16	62.29	288.68	121.74	308.50	3
17	121.74	308.50	141.51	308.50	3
18	141.51	308.50	271.50	311.00	3
19	62.29	288.68	73.94	284.80	4
20	73.94	284.80	271.50	284.80	4
21	49.18	288.00	55.50	288.00	7
22	55.50	288.00	56.01	288.00	6
23	56.01	288.00	58.01	288.00	5
24	58.01	288.00	73.61	282.80	5
25	73.61	282.80	271.50	282.80	5
26	56.01	288.00	56.12	287.53	6
27	56.12	287.53	57.85	287.53	6
28	57.85	287.53	73.60	282.30	6
29	73.60	282.30	271.50	282.30	6
30	55.50	288.00	55.73	287.03	7
31	55.73	287.03	57.77	287.03	7
32	57.77	287.03	73.52	281.80	7
33	73.52	281.80	271.50	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	271.50	277.50

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surfaces Initiate From Each Of100 Points Equally Spaced
Along The Ground Surface Between X = 40.00 ft.
and X = 60.00 ft.
Each Surface Terminates Between X = 115.00 ft.
and X = 140.00 ft.
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.
10.00 ft. Line Segments Define Each Trial Failure Surface.
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 Bishop Method * *
Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	42.02	285.67
2	51.77	287.91
3	61.45	290.42
4	71.05	293.20
5	80.58	296.24
6	90.02	299.54
7	99.36	303.10
8	108.61	306.92
9	116.51	310.44

Circle Center At X = -34.1 ; Y = 639.3 and Radius, 361.7
*** 1.738 ***
Individual data on the 16 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	7.0	264.7	.0	.0	.0	.0	.0	.0	.0
2	.2	13.3	.0	.0	.0	.0	.0	.0	.0
3	2.6	226.7	.0	.0	.0	.0	.0	.0	.0
4	.3	35.2	.0	.0	.0	.0	.0	.0	.0
5	4.3	537.6	.0	.0	.0	.0	.0	.0	.0
6	.7	98.0	.0	.0	.0	.0	.0	.0	.0
7	1.9	283.9	.0	.0	.0	.0	.0	.0	.0
8	2.5	407.1	.0	.0	.0	.0	.0	.0	.0
9	9.6	1894.1	.0	.0	.0	.0	.0	.0	.0
10	1.1	235.3	.0	.0	.0	.0	.0	.0	.0
11	8.5	1925.0	.0	.0	.0	.0	.0	.0	.0
12	7.4	1677.3	.0	.0	.0	.0	.0	.0	.0
13	2.1	453.9	.0	.0	.0	.0	.0	.0	.0
14	9.3	1814.7	.0	.0	.0	.0	.0	.0	.0
15	9.2	1220.5	.0	.0	.0	.0	.0	.0	.0
16	7.9	368.6	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	40.20	285.07
2	50.02	286.98
3	59.76	289.25
4	69.41	291.88
5	78.95	294.85
6	88.38	298.17
7	97.69	301.84
8	106.85	305.84
9	115.86	310.18

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   10        116.12      310.31
Circle Center At X =    -7.1 ; Y =  554.2  and Radius,  273.3
      ***     1.740    ***
Failure Surface Specified By 10 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         43.03      286.01
    2         52.78      288.25
    3         62.47      290.73
    4         72.09      293.45
    5         81.64      296.42
    6         91.11      299.63
    7        100.49      303.08
    8        109.79      306.76
    9        118.99      310.68
   10        121.88      312.00
Circle Center At X =   -39.7 ; Y =  669.6  and Radius,  392.4
      ***     1.741    ***
Failure Surface Specified By  9 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         44.04      286.35
    2         53.80      288.52
    3         63.50      290.98
    4         73.11      293.72
    5         82.64      296.74
    6         92.08      300.05
    7        101.42      303.63
    8        110.65      307.48
    9        119.12      311.31
Circle Center At X =   -24.9 ; Y =  619.2  and Radius,  339.9
      ***     1.742    ***
Failure Surface Specified By  8 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         58.18      291.00
    2         67.93      293.24
    3         77.58      295.84
    4         87.14      298.80
    5         96.57      302.11
    6        105.88      305.77
    7        115.04      309.78
    8        116.23      310.35
Circle Center At X =     3.3 ; Y =  552.4  and Radius,  267.1
      ***     1.742    ***
Failure Surface Specified By  9 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         51.11      288.64
    2         60.86      290.87
    3         70.54      293.39
    4         80.14      296.18
    5         89.66      299.26
    6         99.08      302.61
    7        108.40      306.23
    8        117.61      310.13
    9        121.70      312.00
Circle Center At X =   -20.5 ; Y =  624.0  and Radius,  342.9
      ***     1.743    ***
Failure Surface Specified By  9 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         52.32      289.05
    2         62.09      291.21
    3         71.77      293.72
    4         81.36      296.55
    5         90.85      299.70
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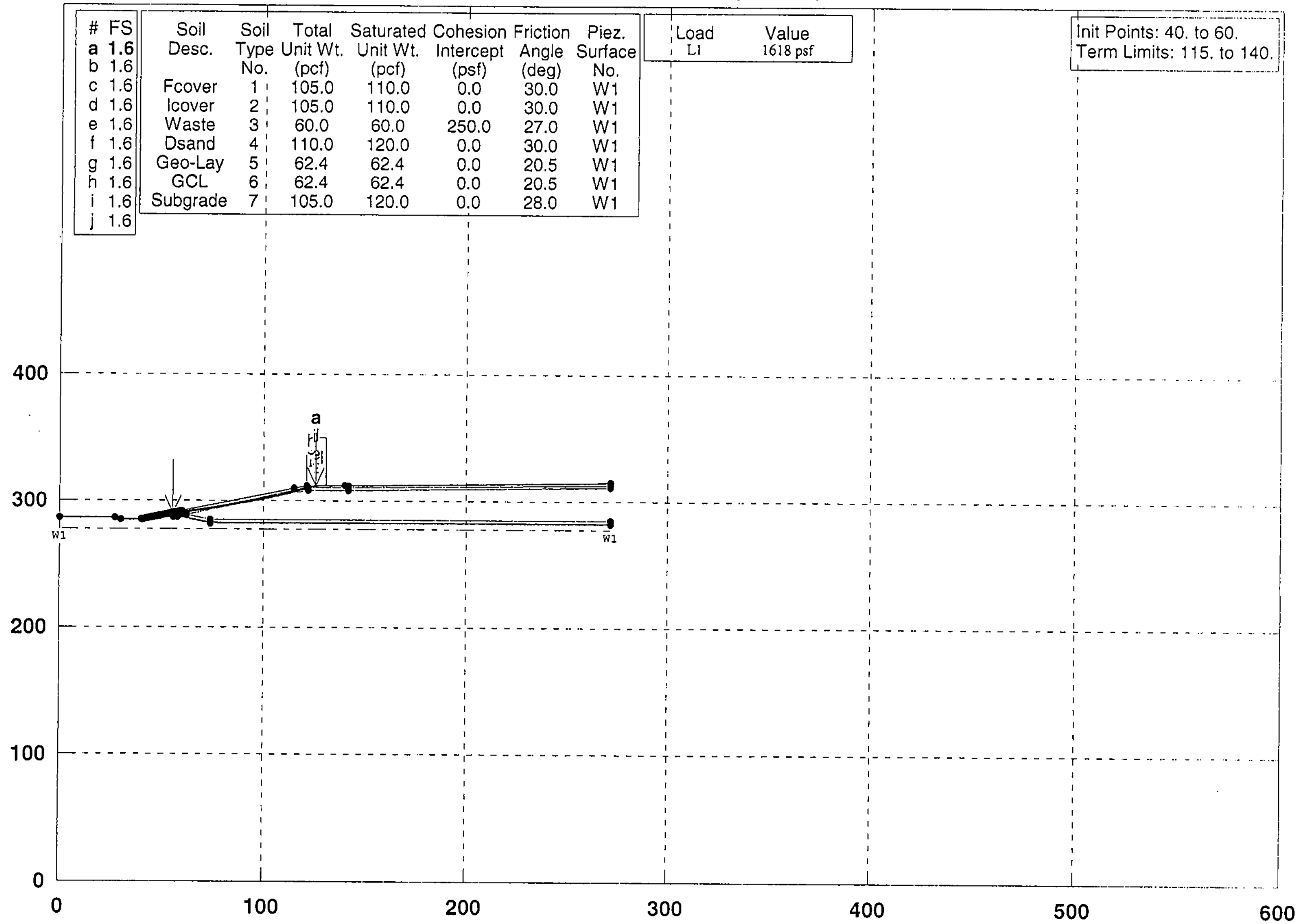
     6          100.22       303.18
     7          109.47       306.98
     8          118.59       311.10
     9          118.84       311.22
Circle Center At X =    -6.2 ; Y =  575.4  and Radius,  292.3
      ***      1.743    ***
Failure Surface Specified By 10 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
     1           44.65       286.55
     2           54.42       288.65
     3           64.13       291.06
     4           73.76       293.75
     5           83.30       296.74
     6           92.75       300.03
     7          102.09       303.59
     8          111.32       307.44
     9          120.43       311.58
    10          121.29       312.00
Circle Center At X =   -19.2 ; Y =  606.8  and Radius,  326.5
      ***      1.744    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
     1           55.56       290.12
     2           65.35       292.16
     3           75.04       294.61
     4           84.62       297.47
     5           94.08       300.72
     6          103.39       304.38
     7          112.53       308.42
     8          116.89       310.57
Circle Center At X =    12.8 ; Y =  520.7  and Radius,  234.5
      ***      1.747    ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
     1           47.48       287.49
     2           57.26       289.53
     3           66.97       291.93
     4           76.59       294.67
     5           86.10       297.76
     6           95.50       301.19
     7          104.76       304.95
     8          113.88       309.05
     9          117.15       310.66
Circle Center At X =    -4.3 ; Y =  560.0  and Radius,  277.4
      ***      1.747    ***
```

Expansion - East Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\EAST.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:03PM



Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:03PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:east.
Output Filename: F:east.OUT
Unit: ENGLISH
Plotted Output Filename: F:east.PLT
PROBLEM DESCRIPTION Expansion - East Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
9 Top Boundaries
33 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	286.00	27.00	286.00	7
2	27.00	286.00	30.00	285.00	7
3	30.00	285.00	40.00	285.00	7
4	40.00	285.00	49.00	288.00	7
5	49.00	288.00	49.18	288.00	7
6	49.18	288.00	56.42	290.41	4
7	56.42	290.41	121.18	312.00	1
8	121.18	312.00	141.50	312.00	1
9	141.50	312.00	271.50	314.50	1
10	56.42	290.41	57.10	290.41	4
11	57.10	290.41	59.92	289.47	4
12	59.92	289.47	121.50	310.00	2
13	121.50	310.00	141.50	310.00	2
14	141.50	310.00	271.50	312.50	2
15	59.92	289.47	62.29	288.68	4
16	62.29	288.68	121.74	308.50	3
17	121.74	308.50	141.51	308.50	3
18	141.51	308.50	271.50	311.00	3
19	62.29	288.68	73.94	284.80	4
20	73.94	284.80	271.50	284.80	4
21	49.18	288.00	55.50	288.00	7
22	55.50	288.00	56.01	288.00	6
23	56.01	288.00	58.01	288.00	5
24	58.01	288.00	73.61	282.80	5
25	73.61	282.80	271.50	282.80	5
26	56.01	288.00	56.12	287.53	6
27	56.12	287.53	57.85	287.53	6
28	57.85	287.53	73.60	282.30	6
29	73.60	282.30	271.50	282.30	6
30	55.50	288.00	55.73	287.03	7
31	55.73	287.03	57.77	287.03	7
32	57.77	287.03	73.52	281.80	7
33	73.52	281.80	271.50	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	271.50	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	121.18	130.68	1618.0	.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 Circular Surfaces, Has Been Specified.

5000 Trial Surfaces Have Been Generated.

50 Surfaces Initiate From Each Of100 Points Equally Spaced Along The Ground Surface Between X = 40.00 ft. and X = 60.00 ft.

Each Surface Terminates Between X = 115.00 ft. and X = 140.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = .00 ft.

10.00 ft. Line Segments Define Each Trial Failure Surface.

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 Bishop Method * *

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	55.56	290.12
2	65.37	292.02
3	75.12	294.26
4	84.78	296.85
5	94.34	299.79
6	103.79	303.06
7	113.11	306.67
8	122.30	310.62
9	125.24	312.00

Circle Center At X = 7.5 ; Y = 565.6 and Radius, 279.7

*** 1.610 ***

Individual data on the 13 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.9	5.7	.0	.0	.0	.0	.0	.0	.0
2	.6	11.0	.0	.0	.0	.0	.0	.0	.0
3	8.3	694.0	.0	.0	.0	.0	.0	.0	.0
4	7.1	1293.2	.0	.0	.0	.0	.0	.0	.0
5	2.7	631.0	.0	.0	.0	.0	.0	.0	.0
6	9.7	2735.1	.0	.0	.0	.0	.0	.0	.0
7	9.6	3149.1	.0	.0	.0	.0	.0	.0	.0
8	9.4	3175.4	.0	.0	.0	.0	.0	.0	.0
9	9.3	2827.3	.0	.0	.0	.0	.0	.0	.0
10	5.5	1381.7	.0	.0	.0	.0	.0	.0	.0
11	2.5	525.6	.0	.0	.0	.0	.0	.0	.0
12	1.1	191.5	.0	.0	.0	.0	.0	.0	1815.4
13	2.9	213.3	.0	.0	.0	.0	.0	.0	4747.8

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.57	290.46
2	66.40	292.29
3	76.15	294.48
4	85.82	297.04
5	95.39	299.95

```
     6        104.84      303.21
     7        114.17      306.81
     8        123.36      310.76
     9        125.96      312.00
Circle Center At X =   11.9 ; Y =  557.3  and Radius,  270.6
      ***      1.612   ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf      Y-Surf
   No.          (ft)        (ft)
     1         59.39      291.40
     2         69.24      293.17
     3         79.00      295.32
     4         88.68      297.85
     5         98.24      300.77
     6        107.69      304.06
     7        116.99      307.72
     8        126.15      311.74
     9        126.67      312.00
Circle Center At X =   19.6 ; Y =  541.8  and Radius,  253.5
      ***      1.617   ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf      Y-Surf
   No.          (ft)        (ft)
     1         53.94      289.58
     2         63.76      291.47
     3         73.51      293.67
     4         83.20      296.18
     5         92.79      298.99
     6        102.30      302.10
     7        111.70      305.51
     8        120.98      309.22
     9        127.36      312.00
Circle Center At X =   -1.0 ; Y =  601.4  and Radius,  316.6
      ***      1.628   ***
Failure Surface Specified By 10 Coordinate Points
  Point        X-Surf      Y-Surf
   No.          (ft)        (ft)
     1         47.48      287.49
     2         57.29      289.39
     3         67.05      291.60
     4         76.73      294.10
     5         86.32      296.92
     6         95.83      300.03
     7        105.23      303.43
     8        114.52      307.13
     9        123.69      311.12
    10        125.55      312.00
Circle Center At X =   -7.9 ; Y =  600.4  and Radius,  317.8
      ***      1.631   ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf      Y-Surf
   No.          (ft)        (ft)
     1         52.12      288.98
     2         61.94      290.88
     3         71.68      293.14
     4         81.33      295.77
     5         90.87      298.75
     6        100.30      302.09
     7        109.60      305.77
     8        118.75      309.80
     9        123.28      312.00
Circle Center At X =    6.1 ; Y =  553.3  and Radius,  268.3
      ***      1.636   ***
Failure Surface Specified By 10 Coordinate Points
  Point        X-Surf      Y-Surf
   No.          (ft)        (ft)
     1         44.04      286.35
```

2	53.86	288.25
3	63.61	290.47
4	73.28	293.01
5	82.86	295.86
6	92.35	299.03
7	101.73	302.50
8	110.99	306.28
9	120.12	310.35
10	123.51	312.00

Circle Center At X = -8.9 ; Y = 586.4 and Radius, 304.7

*** 1.642 ***

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.57	290.46
2	66.31	292.69
3	75.99	295.20
4	85.60	297.97
5	95.12	301.02
6	104.56	304.34
7	113.89	307.93
8	123.12	311.77
9	123.62	312.00

Circle Center At X = -17.3 ; Y = 635.7 and Radius, 353.1

*** 1.642 ***

Failure Surface Specified By 10 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	43.64	286.21
2	53.40	288.38
3	63.11	290.77
4	72.76	293.40
5	82.34	296.25
6	91.85	299.34
7	101.29	302.65
8	110.64	306.18
9	119.91	309.94
10	124.67	312.00

Circle Center At X = -41.4 ; Y = 693.5 and Radius, 416.0

*** 1.643 ***

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	55.35	290.06
2	65.12	292.21
3	74.83	294.61
4	84.47	297.26
5	94.04	300.16
6	103.53	303.30
7	112.94	306.68
8	122.27	310.30
9	126.32	312.00

Circle Center At X = -23.9 ; Y = 672.7 and Radius, 390.8

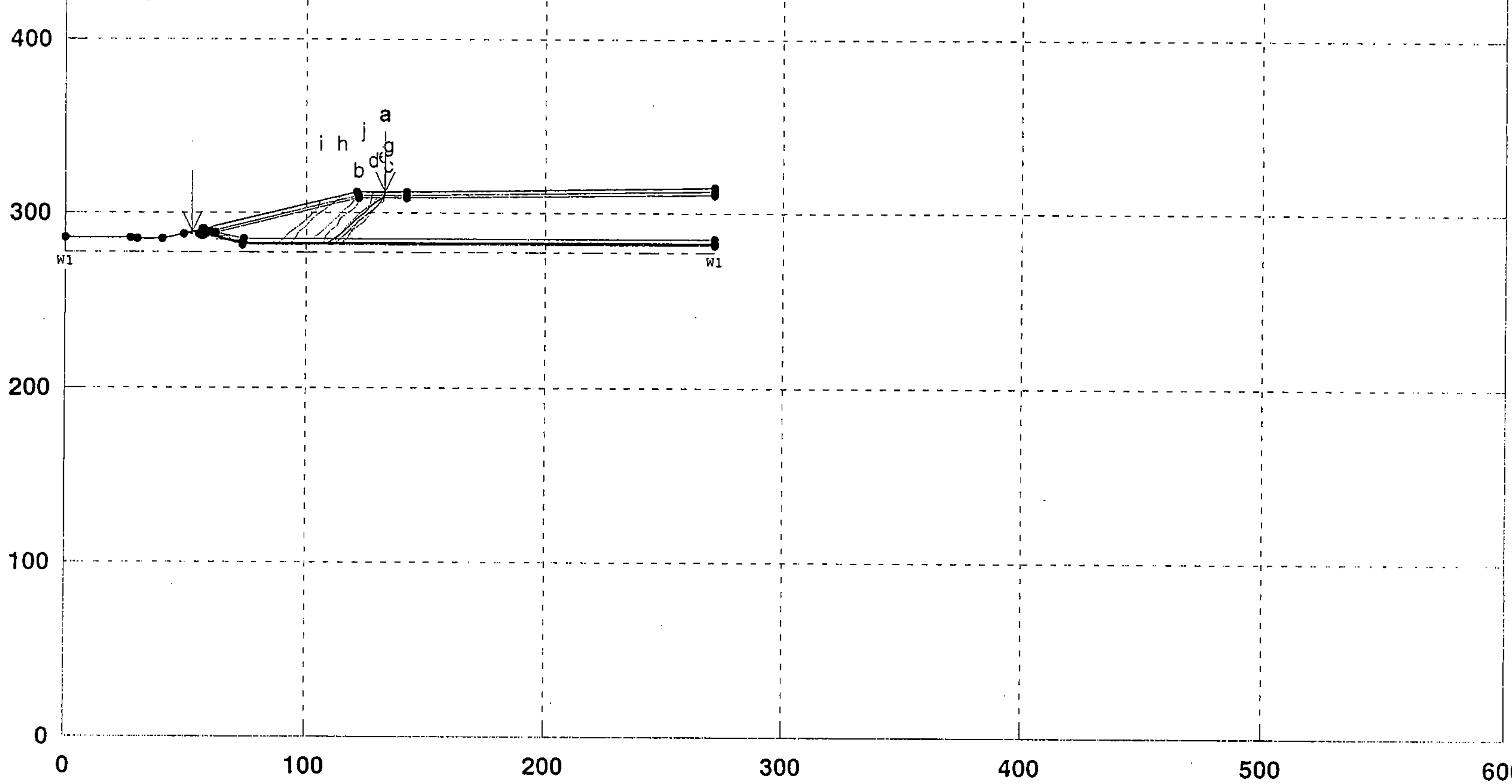
*** 1.645 ***

Expansion - East Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BEAST.PL2 Run By: Dominique H. Bramlett, P.E. 4/2/2010 10:39AM

#	FS
a	2.4
b	2.5
c	2.5
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.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1



PCSTABL5M/si FSmin=2.4

Safety Factors Are Calculated By The Modified Janbu Method for the case of Specified.

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/2/2010
Time of Run: 10:39AM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:BEAST.
Output Filename: F:BEAST.OUT
Unit: ENGLISH
Plotted Output Filename: F:BEAST.PLT
PROBLEM DESCRIPTION Expansion - East Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
9 Top Boundaries
33 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	286.00	27.00	286.00	7
2	27.00	286.00	30.00	285.00	7
3	30.00	285.00	40.00	285.00	7
4	40.00	285.00	49.00	288.00	7
5	49.00	288.00	49.18	288.00	7
6	49.18	288.00	56.42	290.41	4
7	56.42	290.41	121.18	312.00	1
8	121.18	312.00	141.50	312.00	1
9	141.50	312.00	271.50	314.50	1
10	56.42	290.41	57.10	290.41	4
11	57.10	290.41	59.92	289.47	4
12	59.92	289.47	121.50	310.00	2
13	121.50	310.00	141.50	310.00	2
14	141.50	310.00	271.50	312.50	2
15	59.92	289.47	62.29	288.68	4
16	62.29	288.68	121.74	308.50	3
17	121.74	308.50	141.51	308.50	3
18	141.51	308.50	271.50	311.00	3
19	62.29	288.68	73.94	284.80	4
20	73.94	284.80	271.50	284.80	4
21	49.18	288.00	55.50	288.00	7
22	55.50	288.00	56.01	288.00	6
23	56.01	288.00	58.01	288.00	5
24	58.01	288.00	73.61	282.80	5
25	73.61	282.80	271.50	282.80	5
26	56.01	288.00	56.12	287.53	6
27	56.12	287.53	57.85	287.53	6
28	57.85	287.53	73.60	282.30	6
29	73.60	282.30	271.50	282.30	6
30	55.50	288.00	55.73	287.03	7
31	55.73	287.03	57.77	287.03	7
32	57.77	287.03	73.52	281.80	7
33	73.52	281.80	271.50	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	271.50	277.50

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.
100 Trial Surfaces Have Been Generated.
3 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 4.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	58.57	287.29	72.89	282.54	.50
2	74.68	282.30	79.68	282.30	.50
3	84.68	282.30	131.18	282.30	.50

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 15 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	52.61	289.14
2	55.42	288.29
3	59.19	286.95
4	75.19	282.41
5	108.62	282.16
6	111.45	284.99
7	114.07	288.01
8	116.65	291.06
9	119.22	294.13
10	121.76	297.22
11	124.46	300.17
12	126.48	303.63
13	129.28	306.48
14	132.00	309.41
15	132.77	312.00

*** 2.377 ***

Individual data on the 35 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	2.8	275.4	.0	.0	.0	.0	.0	.0	.0
2	.8	186.3	.0	.0	.0	.0	.0	.0	.0
3	.2	48.3	.0	.0	.0	.0	.0	.0	.0
4	.7	196.2	.0	.0	.0	.0	.0	.0	.0
5	.5	148.7	.0	.0	.0	.0	.0	.0	.0
6	.3	97.9	.0	.0	.0	.0	.0	.0	.0
7	.2	56.6	.0	.0	.0	.0	.0	.0	.0
8	1.2	471.7	.0	.0	.0	.0	.0	.0	.0
9	.7	341.8	.0	.0	.0	.0	.0	.0	.0
10	2.0	1109.0	.0	.0	.0	.0	.0	.0	.0
11	.4	243.7	.0	.0	.0	.0	.0	.0	.0
12	10.1	8425.1	.0	.0	.0	.0	.0	.0	.0
13	1.5	1529.1	.0	.0	.0	.0	.0	.0	.0
14	.1	121.4	.0	.0	.0	.0	.0	.0	.0
15	1.2	1369.0	.0	.0	.0	.0	.0	.0	.0
16	14.9	18926.1	.0	.0	.0	.0	.0	.0	.0
17	18.6	30032.9	.0	.0	.0	.0	.0	.0	.0
18	.1	257.2	.0	.0	.0	.0	.0	.0	.0
19	.5	893.5	.0	.0	.0	.0	.0	.0	.0
20	2.0	3373.0	.0	.0	.0	.0	.0	.0	.0
21	.2	299.5	.0	.0	.0	.0	.0	.0	.0
22	2.6	4006.2	.0	.0	.0	.0	.0	.0	.0

23	2.6	3609.3	.0	.0	.0	.0	.0	.0	.0
24	2.6	3247.9	.0	.0	.0	.0	.0	.0	.0
25	2.0	2250.3	.0	.0	.0	.0	.0	.0	.0
26	.3	346.0	.0	.0	.0	.0	.0	.0	.0
27	.2	253.6	.0	.0	.0	.0	.0	.0	.0
28	.0	25.1	.0	.0	.0	.0	.0	.0	.0
29	2.7	2574.7	.0	.0	.0	.0	.0	.0	.0
30	2.0	1542.3	.0	.0	.0	.0	.0	.0	.0
31	2.8	1606.9	.0	.0	.0	.0	.0	.0	.0
32	1.9	804.7	.0	.0	.0	.0	.0	.0	.0
33	.8	271.0	.0	.0	.0	.0	.0	.0	.0
34	.2	41.9	.0	.0	.0	.0	.0	.0	.0
35	.6	61.8	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	52.38	289.06
2	56.10	288.49
3	59.82	287.03
4	63.82	286.81
5	67.16	284.62
6	76.77	282.07
7	101.27	282.38
8	103.24	285.87
9	105.99	288.77
10	108.34	292.01
11	110.96	295.03
12	113.41	298.19
13	115.75	301.44
14	118.39	304.44
15	120.24	307.99
16	121.82	311.66
17	122.04	312.00

*** 2.488 ***

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	53.10	289.30
2	56.17	288.51
3	59.76	286.75
4	63.20	284.71
5	67.18	284.33
6	75.35	282.37
7	114.06	282.26
8	116.86	285.11
9	118.60	288.71
10	121.06	291.87
11	123.71	294.86
12	126.21	297.98
13	127.90	301.61
14	129.73	305.16
15	131.87	308.55
16	134.08	311.88
17	134.17	312.00

*** 2.534 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	53.63	289.48
2	56.48	287.85
3	60.29	286.63
4	77.62	282.18
5	111.09	282.17
6	112.70	285.83
7	115.17	288.97
8	117.35	292.33
9	119.55	295.67

10	122.26	298.61
11	124.41	301.99
12	126.49	305.40
13	127.62	309.24
14	127.86	312.00

*** 2.595 ***

Failure Surface Specified By 18 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	55.63	290.15
2	55.94	289.87
3	59.01	287.30
4	62.98	286.77
5	66.93	286.19
6	69.85	283.45
7	75.21	282.54
8	109.99	282.10
9	112.79	284.97
10	114.59	288.54
11	115.99	292.28
12	118.81	295.13
13	121.27	298.28
14	123.57	301.55
15	126.39	304.39
16	128.87	307.52
17	131.20	310.78
18	132.37	312.00

*** 2.616 ***

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.68	290.50
2	58.06	290.36
3	60.88	287.53
4	64.17	285.25
5	67.99	284.09
6	78.84	282.31
7	112.33	282.17
8	114.22	285.70
9	117.03	288.55
10	118.71	292.18
11	121.47	295.07
12	124.29	297.90
13	127.08	300.77
14	129.69	303.81
15	131.22	307.50
16	132.20	311.38
17	132.71	312.00

*** 2.656 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	55.99	290.27
2	56.41	289.96
3	59.84	287.90
4	63.14	285.63
5	79.11	282.12
6	111.45	282.31
7	114.14	285.26
8	116.96	288.10
9	119.61	291.09
10	121.30	294.72
11	124.08	297.59
12	126.59	300.71
13	129.42	303.54
14	132.25	306.37
15	132.45	310.36

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  16        134.02      312.00
     ***     2.678    ***
Failure Surface Specified By 17 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         53.55      289.46
    2         54.82      289.03
    3         58.65      287.88
    4         62.61      287.32
    5         65.51      284.56
    6         69.44      283.79
    7         75.37      282.35
    8         93.23      282.33
    9         95.47      285.65
   10         97.13      289.29
   11         99.92      292.15
   12        101.88      295.64
   13        104.51      298.65
   14        107.21      301.60
   15        109.80      304.65
   16        112.61      307.49
   17        114.57      309.80
     ***     2.703    ***
Failure Surface Specified By 14 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         51.69      288.84
    2         51.71      288.83
    3         55.71      288.78
    4         59.23      286.88
    5         77.35      282.52
    6         87.69      282.40
    7         90.46      285.28
    8         93.00      288.37
    9         95.66      291.36
   10         98.36      294.32
   11        101.09      297.23
   12        103.26      300.59
   13        105.38      303.99
   14        105.81      306.88
     ***     2.734    ***
Failure Surface Specified By 14 Coordinate Points
  Point      X-Surf      Y-Surf
   No.        (ft)        (ft)
    1         56.09      290.30
    2         58.56      287.87
    3         62.21      286.23
    4         76.53      282.22
    5        107.00      282.40
    6        108.04      286.26
    7        110.18      289.64
    8        112.47      292.93
    9        114.12      296.57
   10        116.94      299.40
   11        119.77      302.23
   12        121.98      305.57
   13        123.14      309.39
   14        123.86      312.00
     ***     2.740    ***
```

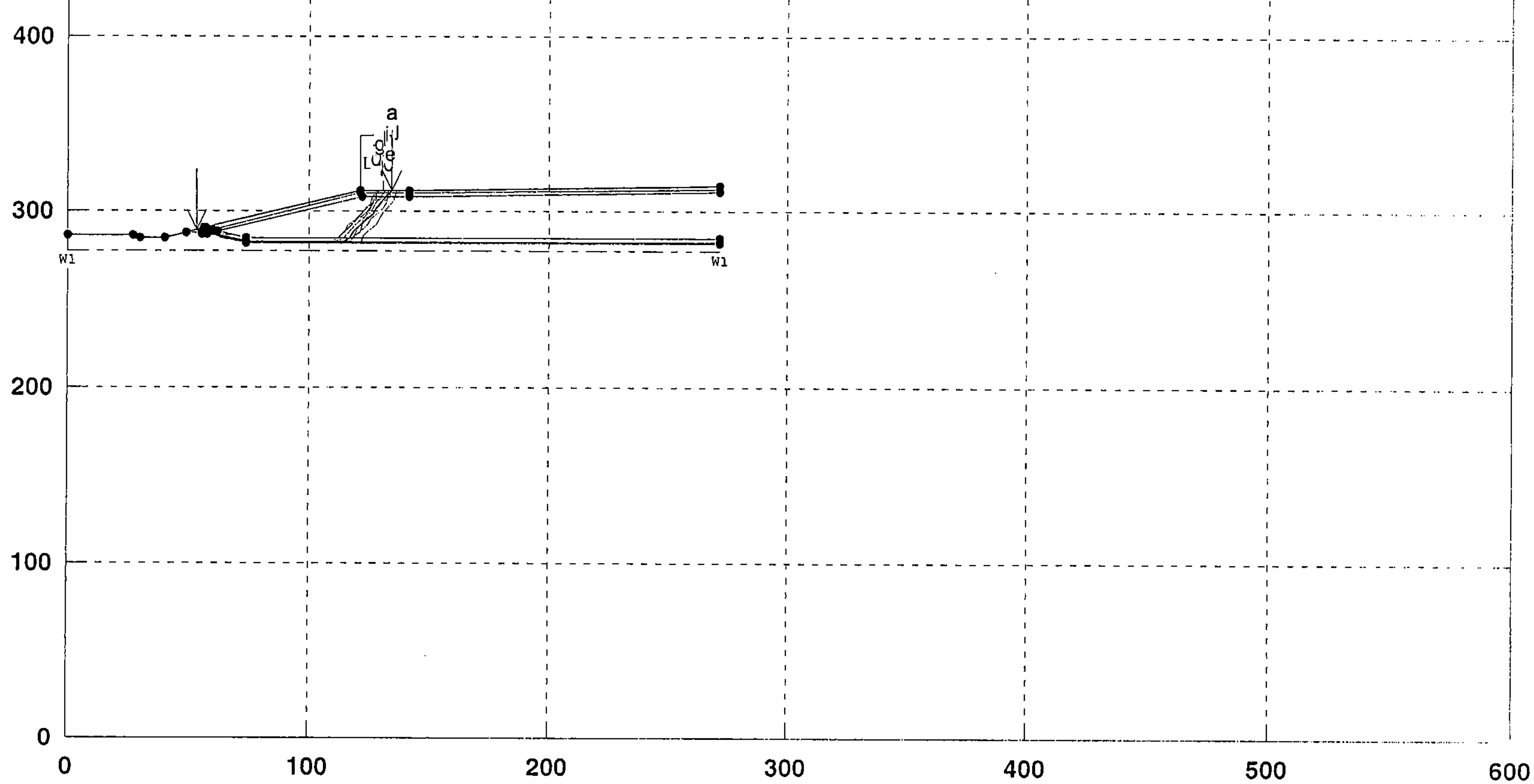
Expansion - East Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BEAST.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:08PM

#	FS
a	1.6
b	1.6
c	1.6
d	1.7
e	1.7
f	1.7
g	1.7
h	1.7
i	1.7
j	1.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

Load	Value
L1	1618 psf



PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:08PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:beast.
Output Filename: F:beast.OUT
Unit: ENGLISH
Plotted Output Filename: F:beast.PLT
PROBLEM DESCRIPTION Expansion - East Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
9 Top Boundaries
33 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	286.00	27.00	286.00	7
2	27.00	286.00	30.00	285.00	7
3	30.00	285.00	40.00	285.00	7
4	40.00	285.00	49.00	288.00	7
5	49.00	288.00	49.18	288.00	7
6	49.18	288.00	56.42	290.41	4
7	56.42	290.41	121.18	312.00	1
8	121.18	312.00	141.50	312.00	1
9	141.50	312.00	271.50	314.50	1
10	56.42	290.41	57.10	290.41	4
11	57.10	290.41	59.92	289.47	4
12	59.92	289.47	121.50	310.00	2
13	121.50	310.00	141.50	310.00	2
14	141.50	310.00	271.50	312.50	2
15	59.92	289.47	62.29	288.68	4
16	62.29	288.68	121.74	308.50	3
17	121.74	308.50	141.51	308.50	3
18	141.51	308.50	271.50	311.00	3
19	62.29	288.68	73.94	284.80	4
20	73.94	284.80	271.50	284.80	4
21	49.18	288.00	55.50	288.00	7
22	55.50	288.00	56.01	288.00	6
23	56.01	288.00	58.01	288.00	5
24	58.01	288.00	73.61	282.80	5
25	73.61	282.80	271.50	282.80	5
26	56.01	288.00	56.12	287.53	6
27	56.12	287.53	57.85	287.53	6
28	57.85	287.53	73.60	282.30	6
29	73.60	282.30	271.50	282.30	6
30	55.50	288.00	55.73	287.03	7
31	55.73	287.03	57.77	287.03	7
32	57.77	287.03	73.52	281.80	7
33	73.52	281.80	271.50	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	271.50	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	121.18	130.68	1618.0	.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.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 4.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	58.57	287.29	72.89	282.54	.50
2	74.68	282.30	79.68	282.30	.50
3	84.68	282.30	131.18	282.30	.50

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 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	53.10	289.30
2	56.17	288.51
3	59.76	286.75
4	63.20	284.71
5	67.18	284.33
6	75.35	282.37
7	114.06	282.26
8	116.86	285.11
9	118.60	288.71
10	121.06	291.87
11	123.71	294.86
12	126.21	297.98
13	127.90	301.61
14	129.73	305.16
15	131.87	308.55
16	134.08	311.88
17	134.17	312.00

*** 1.609 ***

Individual data on the 38 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	3.1	306.2	.0	.0	.0	.0	.0	.0	.0
2	.3	53.1	.0	.0	.0	.0	.0	.0	.0
3	.7	171.8	.0	.0	.0	.0	.0	.0	.0
4	.1	31.3	.0	.0	.0	.0	.0	.0	.0
5	.8	254.9	.0	.0	.0	.0	.0	.0	.0
6	.8	303.4	.0	.0	.0	.0	.0	.0	.0
7	.9	419.5	.0	.0	.0	.0	.0	.0	.0
8	.2	79.6	.0	.0	.0	.0	.0	.0	.0
9	1.3	713.8	.0	.0	.0	.0	.0	.0	.0
10	1.1	713.3	.0	.0	.0	.0	.0	.0	.0
11	.9	678.0	.0	.0	.0	.0	.0	.0	.0
12	2.2	1717.1	.0	.0	.0	.0	.0	.0	.0
13	1.8	1502.9	.0	.0	.0	.0	.0	.0	.0

14	1.1	914.4	.0	.0	.0	.0	.0	.0	.0
15	5.4	5271.1	.0	.0	.0	.0	.0	.0	.0
16	.3	354.9	.0	.0	.0	.0	.0	.0	.0
17	1.4	1556.5	.0	.0	.0	.0	.0	.0	.0
18	24.6	33809.2	.0	.0	.0	.0	.0	.0	.0
19	14.1	24967.5	.0	.0	.0	.0	.0	.0	.0
20	.0	80.5	.0	.0	.0	.0	.0	.0	.0
21	.5	933.3	.0	.0	.0	.0	.0	.0	.0
22	2.0	3534.5	.0	.0	.0	.0	.0	.0	.0
23	.3	515.3	.0	.0	.0	.0	.0	.0	.0
24	1.7	2778.9	.0	.0	.0	.0	.0	.0	.0
25	2.5	3547.0	.0	.0	.0	.0	.0	.0	.0
26	.1	166.7	.0	.0	.0	.0	.0	.0	.0
27	.3	432.8	.0	.0	.0	.0	.0	.0	517.8
28	.2	319.0	.0	.0	.0	.0	.0	.0	388.3
29	2.0	2464.8	.0	.0	.0	.0	.0	.0	3184.1
30	2.5	2732.7	.0	.0	.0	.0	.0	.0	4048.6
31	1.7	1507.4	.0	.0	.0	.0	.0	.0	2741.1
32	1.8	1233.2	.0	.0	.0	.0	.0	.0	2958.8
33	.9	494.9	.0	.0	.0	.0	.0	.0	1532.4
34	1.2	488.9	.0	.0	.0	.0	.0	.0	.0
35	.0	10.9	.0	.0	.0	.0	.0	.0	.0
36	1.0	275.3	.0	.0	.0	.0	.0	.0	.0
37	1.2	138.6	.0	.0	.0	.0	.0	.0	.0
38	.1	.6	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	55.46	290.09
2	55.96	290.07
3	58.89	287.34
4	62.67	286.04
5	66.64	285.56
6	70.16	283.65
7	78.93	282.11
8	115.74	282.20
9	118.52	285.07
10	119.44	288.96
11	121.82	292.18
12	123.38	295.86
13	125.47	299.28
14	127.22	302.87
15	128.76	306.56
16	130.89	309.95
17	131.28	312.00

*** 1.616 ***

Failure Surface Specified By 15 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	52.61	289.14
2	55.42	288.29
3	59.19	286.95
4	75.19	282.41
5	108.62	282.16
6	111.45	284.99
7	114.07	288.01
8	116.65	291.06
9	119.22	294.13
10	121.76	297.22
11	124.46	300.17
12	126.48	303.63
13	129.28	306.48
14	132.00	309.41
15	132.77	312.00

*** 1.625 ***

Failure Surface Specified By 18 Coordinate Points

Point X-Surf Y-Surf

No.	(ft)	(ft)
1	51.63	288.81
2	52.36	288.41
3	56.14	287.08
4	59.95	285.88
5	63.89	285.17
6	67.86	284.67
7	71.41	282.82
8	76.44	282.50
9	114.69	282.31
10	117.24	285.40
11	119.23	288.87
12	121.46	292.19
13	123.01	295.88
14	124.13	299.72
15	125.77	303.36
16	127.71	306.86
17	127.84	310.86
18	127.86	312.00

*** 1.660 ***

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.70	290.50
2	59.25	288.75
3	62.44	286.34
4	65.53	283.80
5	69.53	283.67
6	75.29	282.54
7	115.49	282.39
8	118.30	285.23
9	120.96	288.22
10	122.14	292.04
11	123.66	295.74
12	126.44	298.62
13	128.66	301.95
14	130.85	305.29
15	133.65	308.15
16	133.88	312.00

*** 1.686 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	53.63	289.48
2	56.48	287.85
3	60.29	286.63
4	77.62	282.18
5	111.09	282.17
6	112.70	285.83
7	115.17	288.97
8	117.35	292.33
9	119.55	295.67
10	122.26	298.61
11	124.41	301.99
12	126.49	305.40
13	127.62	309.24
14	127.86	312.00

*** 1.700 ***

Failure Surface Specified By 14 Coordinate Points

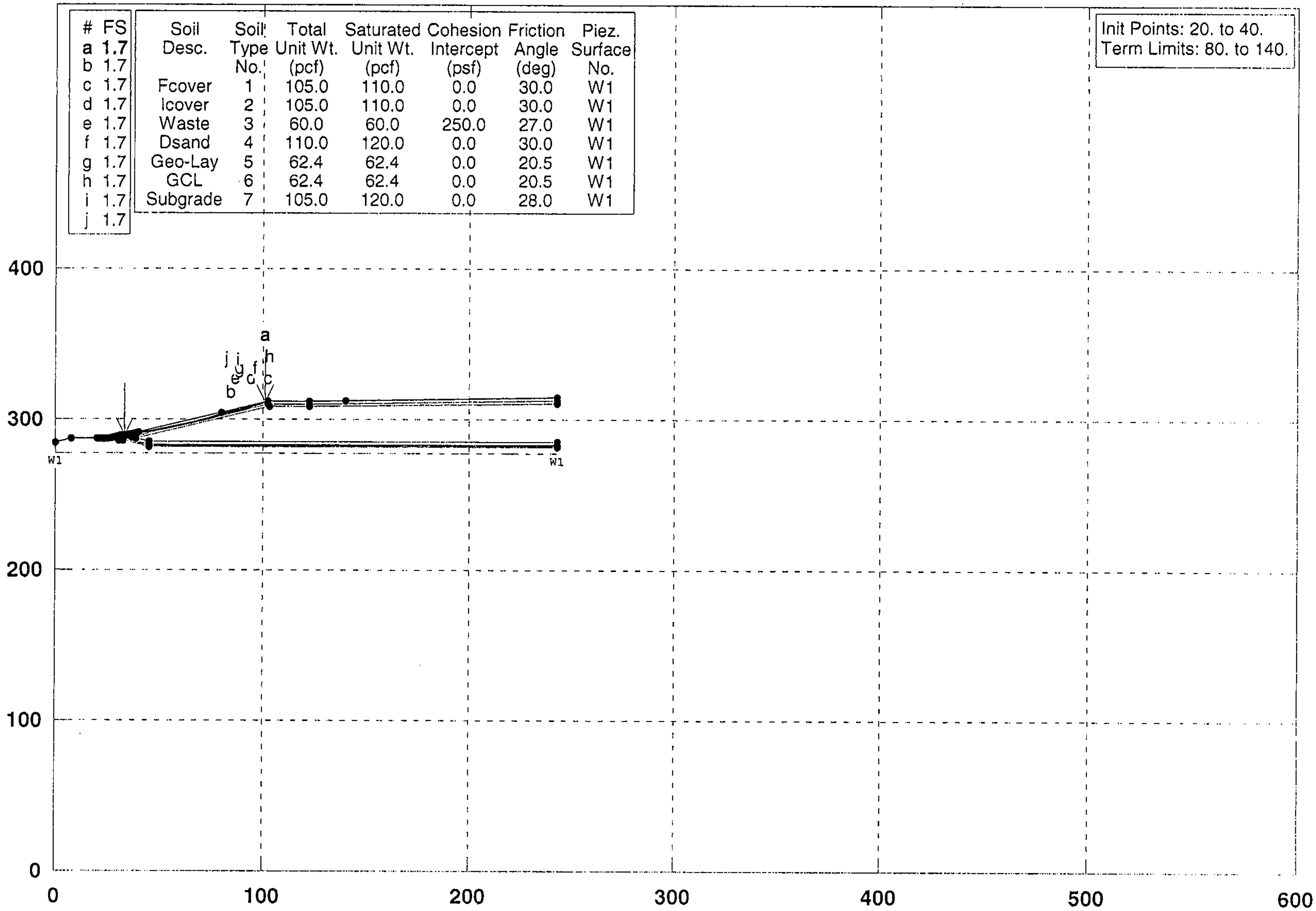
Point No.	X-Surf (ft)	Y-Surf (ft)
1	53.84	289.55
2	56.51	289.01
3	59.98	287.03
4	75.69	282.52
5	111.74	282.26
6	114.36	285.28

```
       7         116.65       288.56
       8         118.66       292.02
       9         121.38       294.95
      10         124.21       297.78
      11         125.23       301.65
      12         125.68       305.62
      13         127.05       309.38
      14         128.98       312.00
          ***      1.722    ***
Failure Surface Specified By 14 Coordinate Points
    Point        X-Surf       Y-Surf
     No.          (ft)         (ft)
       1          55.37       290.06
       2          56.53       288.91
       3          59.96       286.85
       4          77.70       282.18
       5         116.59       282.45
       6         119.33       285.36
       7         121.46       288.75
       8         124.06       291.79
       9         125.77       295.41
      10         128.26       298.54
      11         130.47       301.87
      12         132.36       305.40
      13         132.93       309.35
      14         133.00       312.00
          ***      1.733    ***
Failure Surface Specified By 18 Coordinate Points
    Point        X-Surf       Y-Surf
     No.          (ft)         (ft)
       1          55.63       290.15
       2          55.94       289.87
       3          59.01       287.30
       4          62.98       286.77
       5          66.93       286.19
       6          69.85       283.45
       7          75.21       282.54
       8         109.99       282.10
       9         112.79       284.97
      10         114.59       288.54
      11         115.99       292.28
      12         118.81       295.13
      13         121.27       298.28
      14         123.57       301.55
      15         126.39       304.39
      16         128.87       307.52
      17         131.20       310.78
      18         132.37       312.00
          ***      1.734    ***
Failure Surface Specified By 15 Coordinate Points
    Point        X-Surf       Y-Surf
     No.          (ft)         (ft)
       1          54.33       289.71
       2          56.99       287.42
       3          60.74       286.01
       4          64.68       285.32
       5          77.36       282.24
       6         120.99       282.21
       7         122.34       285.97
       8         124.99       288.97
       9         127.73       291.88
      10         129.06       295.66
      11         130.73       299.29
      12         133.03       302.56
      13         135.21       305.91
      14         135.94       309.85
      15         136.48       312.00
```

*** 1.757 ***

Expansion - South Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\SOUTH.PL2 Run By: Dominique H. Bramlett, P.E. 4/1/2010 5:00PM



Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

PCSTABL5M/si FSmin=1.7

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/1/2010
Time of Run: 5:00PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:south.
Output Filename: F:south.OUT
Unit: ENGLISH
Plotted Output Filename: F:south.PLT
PROBLEM DESCRIPTION Expansion - South Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
7 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.48	287.03	7
2	7.48	287.03	25.50	287.03	7
3	25.50	287.03	31.20	288.93	4
4	31.20	288.93	33.20	288.93	4
5	33.20	288.93	102.41	312.00	1
6	102.41	312.00	122.73	312.00	1
7	122.73	312.00	242.73	314.50	1
8	33.20	288.93	36.33	287.87	4
9	36.33	287.87	102.73	310.00	2
10	102.73	310.00	122.73	310.00	2
11	122.73	310.00	242.73	312.50	2
12	36.33	287.87	38.69	287.07	4
13	38.69	287.07	102.98	308.50	3
14	102.98	308.50	122.73	308.50	3
15	122.73	308.50	242.73	311.00	3
16	38.69	287.07	45.27	284.84	4
17	45.27	284.84	242.73	284.84	4
18	25.50	287.03	29.65	287.03	7
19	29.65	287.03	30.24	287.03	6
20	30.24	287.03	32.57	287.03	5
21	32.57	287.03	45.26	282.80	5
22	45.26	282.80	242.73	282.80	5
23	30.24	287.03	30.57	286.53	6
24	30.57	286.53	32.57	286.53	6
25	32.57	286.53	45.27	282.30	6
26	45.27	282.30	242.73	282.30	6
27	29.65	287.03	30.31	286.03	7
28	30.31	286.03	32.49	286.03	7
29	32.49	286.03	45.19	281.80	7
30	45.19	281.80	242.73	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	242.73	277.50

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surfaces Initiate From Each Of100 Points Equally Spaced
Along The Ground Surface Between X = 20.00 ft.
and X = 40.00 ft.
Each Surface Terminates Between X = 80.00 ft.
and X = 140.00 ft.
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.
10.00 ft. Line Segments Define Each Trial Failure Surface.
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 Bishop Method * *
Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.33	288.97
2	43.07	291.27
3	52.73	293.84
4	62.31	296.70
5	71.81	299.83
6	81.21	303.24
7	90.51	306.93
8	99.69	310.88
9	101.35	311.65

Circle Center At X = -40.5 ; Y = 624.2 and Radius, 343.2
*** 1.740 ***
Individual data on the 8 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.7	486.2	.0	.0	.0	.0	.0	.0	.0
2	9.7	1292.5	.0	.0	.0	.0	.0	.0	.0
3	9.6	1776.7	.0	.0	.0	.0	.0	.0	.0
4	9.5	1944.8	.0	.0	.0	.0	.0	.0	.0
5	9.4	1804.5	.0	.0	.0	.0	.0	.0	.0
6	9.3	1365.6	.0	.0	.0	.0	.0	.0	.0
7	9.2	639.5	.0	.0	.0	.0	.0	.0	.0
8	1.7	19.0	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.77	290.12
2	46.50	292.42
3	56.12	295.15
4	65.61	298.31
5	74.95	301.87
6	84.13	305.85
7	84.47	306.02

Circle Center At X = -10.5 ; Y = 511.4 and Radius, 226.3
*** 1.742 ***
Failure Surface Specified By 8 Coordinate Points

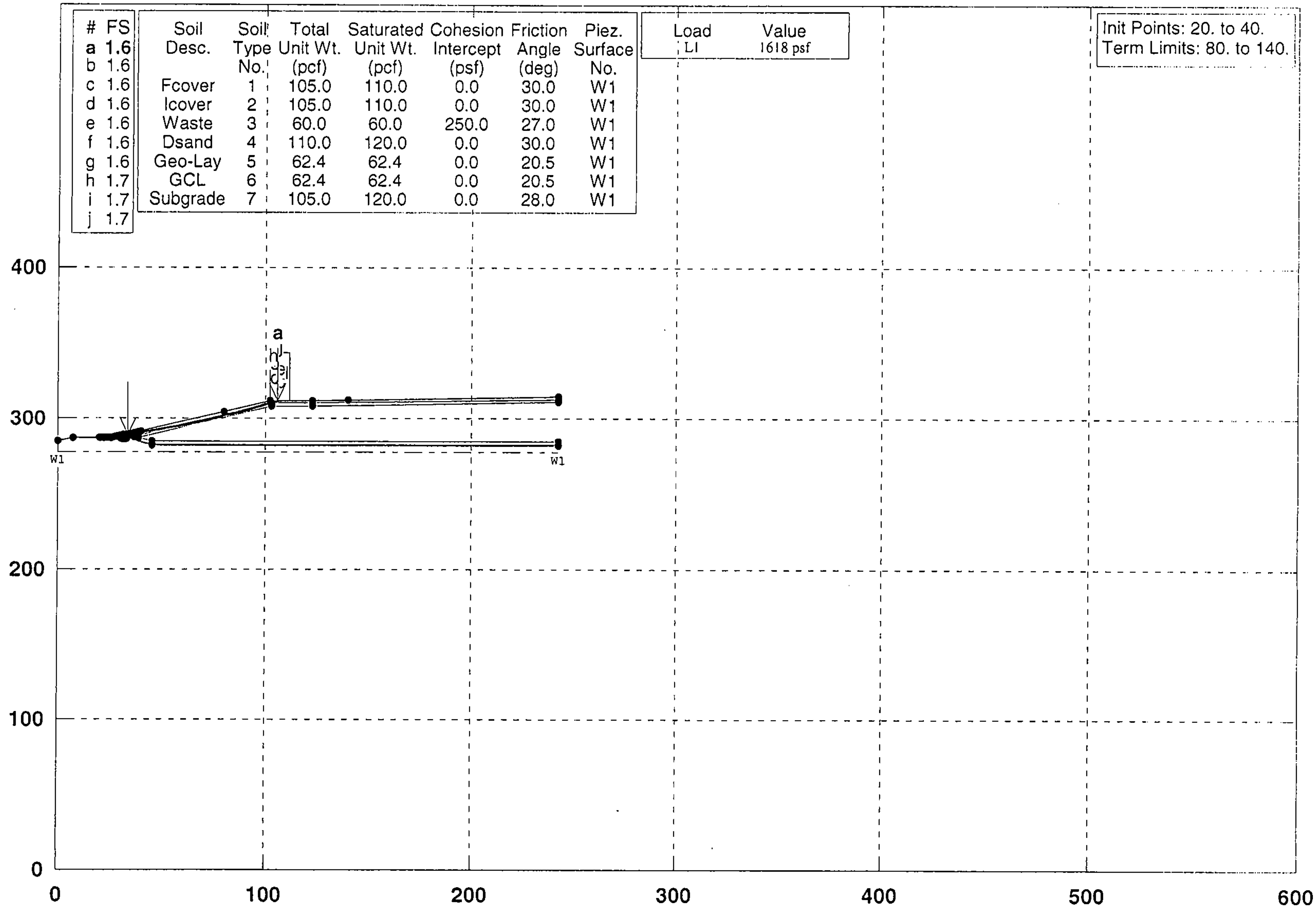
Point No.	X-Surf (ft)	Y-Surf (ft)
1	38.59	290.73
2	48.34	292.95
3	58.00	295.51
4	67.58	298.39
5	77.05	301.59
6	86.41	305.11
7	95.65	308.95
8	102.14	311.91

```
Circle Center At X =   -21.6 ; Y =  577.2  and Radius,  292.7
      ***     1.742    ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         36.36      289.98
    2         46.11      292.21
    3         55.77      294.81
    4         65.32      297.77
    5         74.76      301.09
    6         84.06      304.76
    7         93.21      308.78
    8         94.26      309.28
Circle Center At X =   -17.5 ; Y =  548.0  and Radius,  263.6
      ***     1.742    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         39.19      290.93
    2         48.94      293.16
    3         58.57      295.86
    4         68.05      299.03
    5         77.38      302.65
    6         86.46      306.68
Circle Center At X =    -2.3 ; Y =  494.0  and Radius,  207.3
      ***     1.743    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         39.80      291.13
    2         49.56      293.29
    3         59.23      295.86
    4         68.77      298.83
    5         78.19      302.20
    6         87.46      305.96
    7         96.06      309.88
Circle Center At X =    -6.9 ; Y =  525.2  and Radius,  238.7
      ***     1.744    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         38.18      290.59
    2         47.94      292.76
    3         57.59      295.38
    4         67.11      298.46
    5         76.47      301.97
    6         85.66      305.93
    7         88.83      307.47
Circle Center At X =    -3.1 ; Y =  499.4  and Radius,  212.8
      ***     1.745    ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         38.79      290.79
    2         48.58      292.82
    3         58.28      295.24
    4         67.88      298.04
    5         77.37      301.22
    6         86.71      304.77
    7         95.91      308.69
    8        102.88      312.00
Circle Center At X =    -6.9 ; Y =  536.2  and Radius,  249.6
      ***     1.748    ***
Failure Surface Specified By  7 Coordinate Points
  Point       X-Surf      Y-Surf
   No.         (ft)        (ft)
    1         35.15      289.58
```

```
    2          44.94        291.62
    3          54.62        294.15
    4          64.15        297.16
    5          73.53        300.64
    6          82.71        304.60
    7          87.99        307.19
Circle Center At X =      -.4 ; Y =  485.1  and Radius,  198.7
      ***      1.748    ***
Failure Surface Specified By  6 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          35.35        289.65
    2          45.14        291.69
    3          54.80        294.30
    4          64.28        297.48
    5          73.56        301.20
    6          82.09        305.23
Circle Center At X =      5.6 ; Y =  456.8  and Radius,  169.7
      ***      1.749    ***
```

Expansion - South Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\SOUTH.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:14PM



PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:14PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:south.
Output Filename: F:south.OUT
Unit: ENGLISH
Plotted Output Filename: F:south.PLT
PROBLEM DESCRIPTION Expansion - South Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
7 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.48	287.03	7
2	7.48	287.03	25.50	287.03	7
3	25.50	287.03	31.20	288.93	4
4	31.20	288.93	33.20	288.93	4
5	33.20	288.93	102.41	312.00	1
6	102.41	312.00	122.73	312.00	1
7	122.73	312.00	242.73	314.50	1
8	33.20	288.93	36.33	287.87	4
9	36.33	287.87	102.73	310.00	2
10	102.73	310.00	122.73	310.00	2
11	122.73	310.00	242.73	312.50	2
12	36.33	287.87	38.69	287.07	4
13	38.69	287.07	102.98	308.50	3
14	102.98	308.50	122.73	308.50	3
15	122.73	308.50	242.73	311.00	3
16	38.69	287.07	45.27	284.84	4
17	45.27	284.84	242.73	284.84	4
18	25.50	287.03	29.65	287.03	7
19	29.65	287.03	30.24	287.03	6
20	30.24	287.03	32.57	287.03	5
21	32.57	287.03	45.26	282.80	5
22	45.26	282.80	242.73	282.80	5
23	30.24	287.03	30.57	286.53	6
24	30.57	286.53	32.57	286.53	6
25	32.57	286.53	45.27	282.30	6
26	45.27	282.30	242.73	282.30	6
27	29.65	287.03	30.31	286.03	7
28	30.31	286.03	32.49	286.03	7
29	32.49	286.03	45.19	281.80	7
30	45.19	281.80	242.73	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	242.73	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	102.41	111.91	1618.0	.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 Circular Surfaces, Has Been Specified.

5000 Trial Surfaces Have Been Generated.

50 Surfaces Initiate From Each Of100 Points Equally Spaced
Along The Ground Surface Between X = 20.00 ft.
and X = 40.00 ft.

Each Surface Terminates Between X = 80.00 ft.
and X = 140.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.

10.00 ft. Line Segments Define Each Trial Failure Surface.

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 Bishop Method * *

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.74	289.11
2	43.56	291.00
3	53.30	293.24
4	62.97	295.81
5	72.54	298.72
6	82.00	301.96
7	91.34	305.52
8	100.55	309.41
9	106.14	312.00

Circle Center At X = -15.7 ; Y = 572.1 and Radius, 287.3

*** 1.617 ***

Individual data on the 11 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.8	711.0	.0	.0	.0	.0	.0	.0	.0
2	7.0	1273.2	.0	.0	.0	.0	.0	.0	.0
3	2.8	657.7	.0	.0	.0	.0	.0	.0	.0
4	9.7	2758.3	.0	.0	.0	.0	.0	.0	.0
5	9.6	3198.9	.0	.0	.0	.0	.0	.0	.0
6	9.5	3261.3	.0	.0	.0	.0	.0	.0	.0
7	9.3	2957.6	.0	.0	.0	.0	.0	.0	.0
8	7.7	1976.9	.0	.0	.0	.0	.0	.0	.0
9	1.5	325.7	.0	.0	.0	.0	.0	.0	.0
10	1.9	360.9	.0	.0	.0	.0	.0	.0	.0
11	3.7	338.5	.0	.0	.0	.0	.0	.0	6033.3

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	38.99	290.86
2	48.80	292.82
3	58.53	295.09
4	68.19	297.69
5	77.76	300.60
6	87.22	303.83
7	96.58	307.36
8	105.81	311.20
9	107.57	312.00

Circle Center At X = -15.6 ; Y = 590.2 and Radius, 304.3

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      ***     1.630    ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          35.15       289.58
    2          44.92       291.74
    3          54.61       294.19
    4          64.23       296.94
    5          73.75       299.98
    6          83.18       303.31
    7          92.51       306.92
    8         101.72       310.81
    9         104.30       312.00
Circle Center At X =  -30.9 ; Y =  611.6  and Radius,  328.8
      ***     1.635    ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          39.60       291.06
    2          49.42       292.95
    3          59.17       295.16
    4          68.84       297.70
    5          78.42       300.56
    6          87.91       303.73
    7          97.28       307.22
    8         106.53       311.01
    9         108.73       312.00
Circle Center At X =  -12.4 ; Y =  587.7  and Radius,  301.2
      ***     1.639    ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          35.76       289.78
    2          45.52       291.94
    3          55.23       294.34
    4          64.88       296.98
    5          74.45       299.87
    6          83.95       303.00
    7          93.36       306.37
    8         102.69       309.98
    9         107.54       312.00
Circle Center At X =  -44.3 ; Y =  676.0  and Radius,  394.4
      ***     1.642    ***
Failure Surface Specified By 10 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          28.49       288.03
    2          38.33       289.77
    3          48.11       291.87
    4          57.80       294.32
    5          67.40       297.13
    6          76.89       300.29
    7          86.26       303.78
    8          95.49       307.62
    9         104.58       311.80
   10         104.98       312.00
Circle Center At X =  -14.3 ; Y =  558.5  and Radius,  273.8
      ***     1.644    ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          39.60       291.06
    2          49.37       293.17
    3          59.07       295.62
    4          68.67       298.40
    5          78.18       301.52
    6          87.56       304.96
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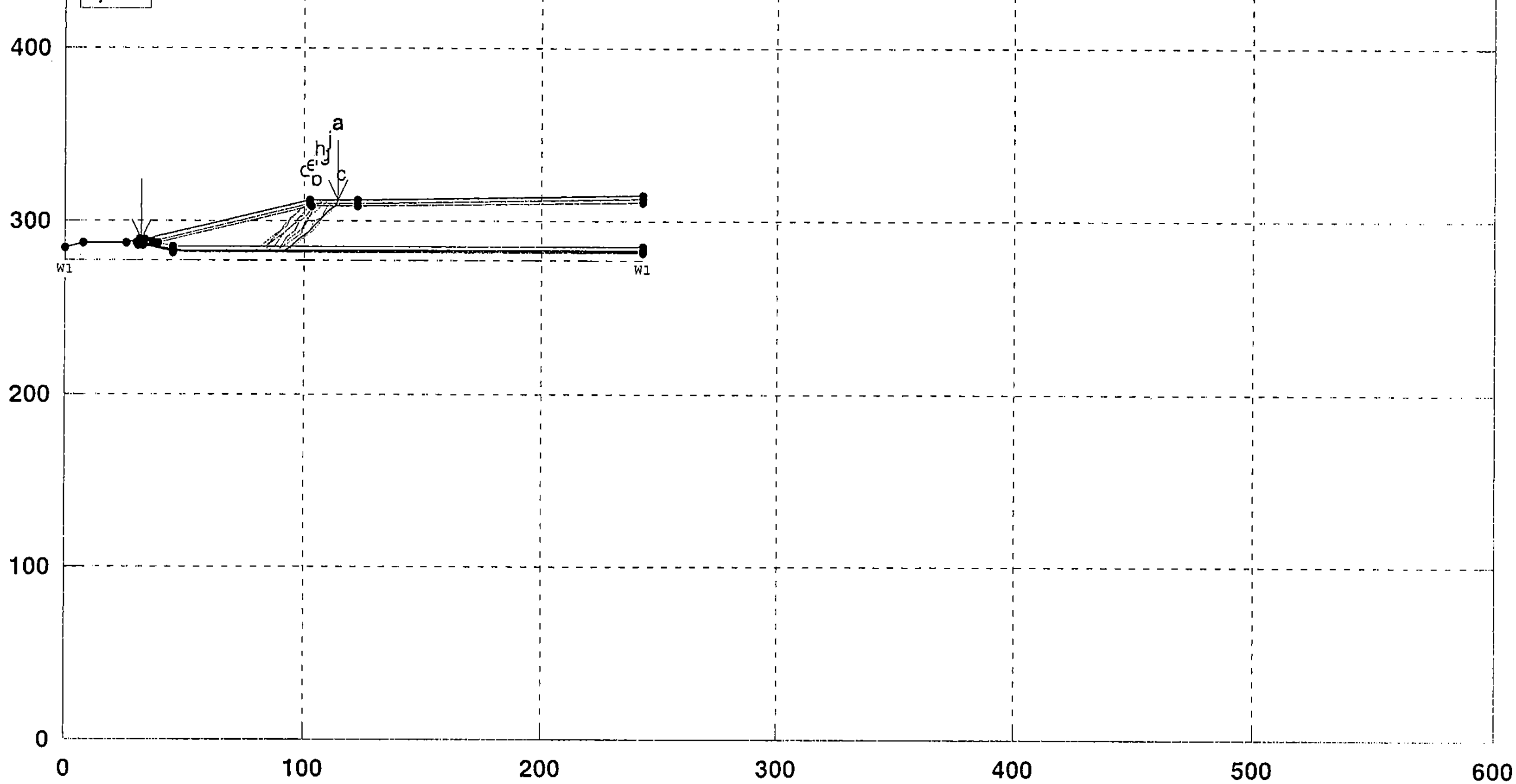
     7          96.83       308.72
     8         104.16       312.00
Circle Center At X =  -15.9 ; Y =  572.2  and Radius,  286.5
      ***       1.644    ***
Failure Surface Specified By  8 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          39.39       290.99
    2          49.24       292.76
    3          58.99       294.99
    4          68.62       297.67
    5          78.12       300.80
    6          87.45       304.38
    7          96.61       308.40
    8         103.89       312.00
Circle Center At X =    7.1 ; Y =  499.5  and Radius,  211.0
      ***       1.652    ***
Failure Surface Specified By 10 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          27.07       287.55
    2          36.84       289.70
    3          46.56       292.06
    4          56.22       294.63
    5          65.82       297.42
    6          75.36       300.42
    7          84.83       303.63
    8          94.23       307.06
    9         103.54       310.69
   10         106.70       312.00
Circle Center At X =  -63.7 ; Y =  725.0  and Radius,  446.8
      ***       1.655    ***
Failure Surface Specified By  9 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          36.97       290.19
    2          46.71       292.47
    3          56.39       294.97
    4          66.02       297.68
    5          75.58       300.59
    6          85.08       303.72
    7          94.51       307.06
    8         103.86       310.60
    9         107.32       312.00
Circle Center At X =  -62.2 ; Y =  735.0  and Radius,  455.7
      ***       1.661    ***
```

Expansion - South Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BSOUTH.PL2 Run By: Dominique H. Bramlett, P.E. 4/2/2010 9:38AM

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

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1



PCSTABL5M/si FSmin=2.3

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/2/2010
Time of Run: 9:38AM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:BSOUTH.
Output Filename: F:BSOUTH.OUT
Unit: ENGLISH
Plotted Output Filename: F:BSOUTH.PLT
PROBLEM DESCRIPTION Expansion - South Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
7 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.48	287.03	7
2	7.48	287.03	25.50	287.03	7
3	25.50	287.03	31.20	288.93	4
4	31.20	288.93	33.20	288.93	4
5	33.20	288.93	102.41	312.00	1
6	102.41	312.00	122.73	312.00	1
7	122.73	312.00	242.73	314.50	1
8	33.20	288.93	36.33	287.87	4
9	36.33	287.87	102.73	310.00	2
10	102.73	310.00	122.73	310.00	2
11	122.73	310.00	242.73	312.50	2
12	36.33	287.87	38.69	287.07	4
13	38.69	287.07	102.98	308.50	3
14	102.98	308.50	122.73	308.50	3
15	122.73	308.50	242.73	311.00	3
16	38.69	287.07	45.27	284.84	4
17	45.27	284.84	242.73	284.84	4
18	25.50	287.03	29.65	287.03	7
19	29.65	287.03	30.24	287.03	6
20	30.24	287.03	32.57	287.03	5
21	32.57	287.03	45.26	282.80	5
22	45.26	282.80	242.73	282.80	5
23	30.24	287.03	30.57	286.53	6
24	30.57	286.53	32.57	286.53	6
25	32.57	286.53	45.27	282.30	6
26	45.27	282.30	242.73	282.30	6
27	29.65	287.03	30.31	286.03	7
28	30.31	286.03	32.49	286.03	7
29	32.49	286.03	45.19	281.80	7
30	45.19	281.80	242.73	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	242.73	277.50

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.
100 Trial Surfaces Have Been Generated.
3 Boxes Specified For Generation Of Central Block Base
Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	33.29	286.29	44.56	282.54	.50
2	45.85	282.30	50.85	282.30	.50
3	55.85	282.30	112.41	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.79	288.93
2	33.58	287.46
3	37.75	284.70
4	47.72	282.38
5	91.42	282.32
6	94.93	285.88
7	98.14	289.71
8	101.51	293.41
9	104.43	297.46
10	107.04	301.73
11	110.03	305.74
12	113.21	309.59
13	114.14	312.00

*** 2.334 ***

Individual data on the 28 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	1.4	89.8	.0	.0	.0	.0	.0	.0	.0
2	.4	57.1	.0	.0	.0	.0	.0	.0	.0
3	2.3	691.1	.0	.0	.0	.0	.0	.0	.0
4	.4	189.9	.0	.0	.0	.0	.0	.0	.0
5	1.1	552.6	.0	.0	.0	.0	.0	.0	.0
6	.3	189.8	.0	.0	.0	.0	.0	.0	.0
7	.9	583.1	.0	.0	.0	.0	.0	.0	.0
8	.1	88.1	.0	.0	.0	.0	.0	.0	.0
9	4.9	3617.2	.0	.0	.0	.0	.0	.0	.0
10	1.5	1277.4	.0	.0	.0	.0	.0	.0	.0
11	.6	569.0	.0	.0	.0	.0	.0	.0	.0
12	1.8	1655.8	.0	.0	.0	.0	.0	.0	.0
13	43.7	60800.3	.0	.0	.0	.0	.0	.0	.0
14	.5	867.7	.0	.0	.0	.0	.0	.0	.0
15	2.0	3453.0	.0	.0	.0	.0	.0	.0	.0
16	1.0	1640.7	.0	.0	.0	.0	.0	.0	.0
17	3.2	4827.6	.0	.0	.0	.0	.0	.0	.0
18	3.4	4509.5	.0	.0	.0	.0	.0	.0	.0
19	.9	1116.5	.0	.0	.0	.0	.0	.0	.0
20	.3	381.0	.0	.0	.0	.0	.0	.0	.0
21	.3	290.7	.0	.0	.0	.0	.0	.0	.0
22	1.4	1579.4	.0	.0	.0	.0	.0	.0	.0
23	2.6	2352.4	.0	.0	.0	.0	.0	.0	.0
24	3.0	1954.0	.0	.0	.0	.0	.0	.0	.0
25	2.3	1029.1	.0	.0	.0	.0	.0	.0	.0
26	.9	279.5	.0	.0	.0	.0	.0	.0	.0
27	.2	36.6	.0	.0	.0	.0	.0	.0	.0

```
28        .8     80.9       .0        .0        .0        .0        .0        .0        .0
         Failure Surface Specified By 13 Coordinate Points
           Point       X-Surf       Y-Surf
            No.         (ft)         (ft)
             1          33.30       288.96
             2          34.48       287.80
             3          38.40       284.69
             4          49.19       282.16
             5          83.42       282.54
             6          85.96       286.85
             7          89.07       290.77
             8          92.60       294.30
             9          95.53       298.35
            10          98.48       302.40
            11         100.72       306.86
            12         103.95       310.68
            13         105.27       312.00
               ***      2.381    ***
         Failure Surface Specified By 13 Coordinate Points
           Point       X-Surf       Y-Surf
            No.         (ft)         (ft)
             1          30.34       288.64
             2          31.97       287.05
             3          36.69       285.40
             4          47.90       282.43
             5          92.95       282.39
             6          96.39       286.02
             7          99.88       289.60
             8         103.36       293.20
             9         105.87       297.52
            10         108.15       301.97
            11         111.68       305.51
            12         114.88       309.35
            13         115.31       312.00
               ***      2.404    ***
         Failure Surface Specified By 14 Coordinate Points
           Point       X-Surf       Y-Surf
            No.         (ft)         (ft)
             1          30.63       288.74
             2          32.34       287.28
             3          37.14       285.87
             4          41.58       283.57
             5          48.64       282.51
             6          78.82       282.31
             7          82.36       285.84
             8          85.63       289.63
             9          89.14       293.18
            10          92.56       296.83
            11          94.05       301.60
            12          97.24       305.45
            13          99.84       309.73
            14         100.23       311.27
               ***      2.420    ***
         Failure Surface Specified By 12 Coordinate Points
           Point       X-Surf       Y-Surf
            No.         (ft)         (ft)
             1          30.47       288.69
             2          33.31       286.44
             3          50.48       282.42
             4          80.65       282.16
             5          84.08       285.79
             6          87.24       289.67
             7          90.29       293.63
             8          92.22       298.24
             9          95.47       302.04
            10          98.20       306.23
            11         101.68       309.82
```

12	102.79	312.00
***	2.424	***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.12	288.90
2	31.92	288.55
3	35.68	285.25
4	48.83	282.39
5	84.57	282.09
6	88.10	285.63
7	90.07	290.23
8	92.50	294.59
9	96.01	298.16
10	98.61	302.43
11	101.00	306.82
12	104.34	310.54
13	104.99	312.00
***	2.428	***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	28.36	287.98
2	28.77	287.60
3	33.56	286.17
4	49.20	282.49
5	87.63	282.25
6	91.05	285.90
7	94.35	289.65
8	97.41	293.61
9	100.62	297.45
10	102.48	302.08
11	103.63	306.95
12	106.99	310.65
13	108.34	312.00
***	2.442	***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	32.15	288.93
2	33.33	287.92
3	37.33	284.93
4	42.01	283.16
5	46.76	282.43
6	87.16	282.50
7	90.69	286.04
8	92.89	290.53
9	96.23	294.26
10	97.52	299.09
11	100.85	302.81
12	102.95	307.35
13	106.48	310.89
14	106.80	312.00
***	2.462	***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.29	288.63
2	33.08	286.71
3	37.77	284.98
4	47.49	282.12
5	93.30	282.31
6	95.43	286.83
7	98.82	290.51
8	102.15	294.24
9	103.87	298.93
10	107.35	302.53

11	109.11	307.21
12	111.32	311.69
13	111.46	312.00
***	2.463	***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.82	288.80
2	34.48	285.67
3	49.17	282.07
4	88.50	282.06
5	92.01	285.63
6	95.52	289.19
7	99.02	292.76
8	99.84	297.69
9	102.04	302.18
10	105.08	306.15
11	108.61	309.70
12	110.84	312.00
***	2.515	***

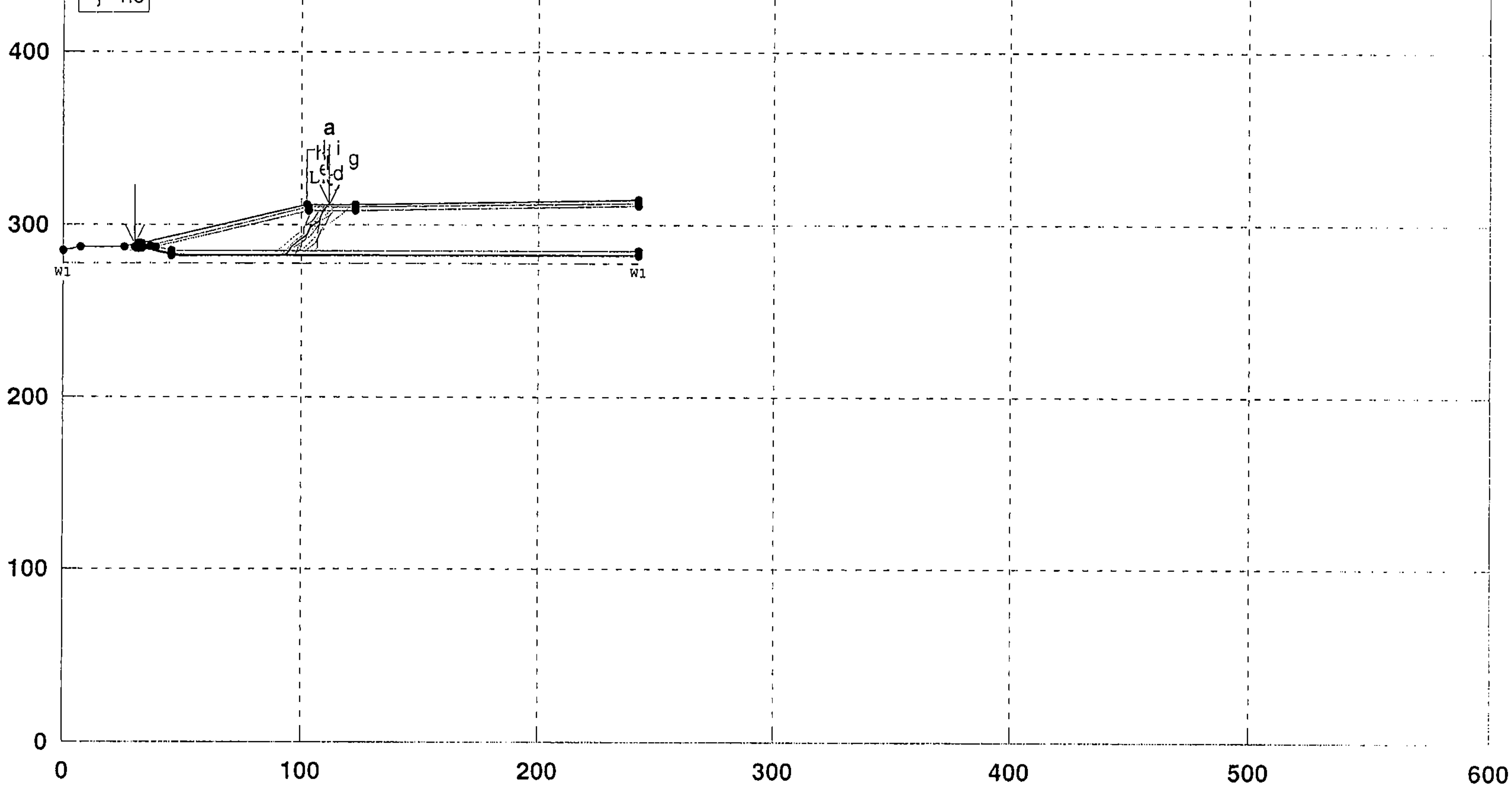
Expansion - South Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BSOUTH.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:16PM

#	FS
a	1.5
b	1.5
c	1.6
d	1.6
e	1.7
f	1.7
g	1.7
h	1.7
i	1.8
j	1.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

Load	Value
L1	1618 psf



PCSTABL5M/si FSmin=1.5

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:16PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:bsouth.
Output Filename: F:bsouth.OUT
Unit: ENGLISH
Plotted Output Filename: F:bsouth.PLT
PROBLEM DESCRIPTION Expansion - South Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
7 Top Boundaries
30 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.48	287.03	7
2	7.48	287.03	25.50	287.03	7
3	25.50	287.03	31.20	288.93	4
4	31.20	288.93	33.20	288.93	4
5	33.20	288.93	102.41	312.00	1
6	102.41	312.00	122.73	312.00	1
7	122.73	312.00	242.73	314.50	1
8	33.20	288.93	36.33	287.87	4
9	36.33	287.87	102.73	310.00	2
10	102.73	310.00	122.73	310.00	2
11	122.73	310.00	242.73	312.50	2
12	36.33	287.87	38.69	287.07	4
13	38.69	287.07	102.98	308.50	3
14	102.98	308.50	122.73	308.50	3
15	122.73	308.50	242.73	311.00	3
16	38.69	287.07	45.27	284.84	4
17	45.27	284.84	242.73	284.84	4
18	25.50	287.03	29.65	287.03	7
19	29.65	287.03	30.24	287.03	6
20	30.24	287.03	32.57	287.03	5
21	32.57	287.03	45.26	282.80	5
22	45.26	282.80	242.73	282.80	5
23	30.24	287.03	30.57	286.53	6
24	30.57	286.53	32.57	286.53	6
25	32.57	286.53	45.27	282.30	6
26	45.27	282.30	242.73	282.30	6
27	29.65	287.03	30.31	286.03	7
28	30.31	286.03	32.49	286.03	7
29	32.49	286.03	45.19	281.80	7
30	45.19	281.80	242.73	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	277.50
2	242.73	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	102.00	111.91	1618.0	.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.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	33.29	286.29	44.56	282.54	.50
2	45.85	282.30	50.85	282.30	.50
3	55.85	282.30	112.41	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.29	288.63
2	33.08	286.71
3	37.77	284.98
4	47.49	282.12
5	93.30	282.31
6	95.43	286.83
7	98.82	290.51
8	102.15	294.24
9	103.87	298.93
10	107.35	302.53
11	109.11	307.21
12	111.32	311.69
13	111.46	312.00

*** 1.504 ***

Individual data on the 29 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.9	46.2	.0	.0	.0	.0	.0	.0	.0
2	1.5	229.8	.0	.0	.0	.0	.0	.0	.0
3	.4	93.2	.0	.0	.0	.0	.0	.0	.0
4	.1	29.2	.0	.0	.0	.0	.0	.0	.0
5	3.1	1109.6	.0	.0	.0	.0	.0	.0	.0
6	1.4	747.3	.0	.0	.0	.0	.0	.0	.0
7	.9	555.1	.0	.0	.0	.0	.0	.0	.0
8	6.6	4967.2	.0	.0	.0	.0	.0	.0	.0
9	.0	8.8	.0	.0	.0	.0	.0	.0	.0
10	1.6	1472.2	.0	.0	.0	.0	.0	.0	.0
11	.6	575.8	.0	.0	.0	.0	.0	.0	.0
12	42.6	59015.7	.0	.0	.0	.0	.0	.0	.0
13	3.2	5844.0	.0	.0	.0	.0	.0	.0	.0
14	.2	427.5	.0	.0	.0	.0	.0	.0	.0
15	1.0	1680.3	.0	.0	.0	.0	.0	.0	.0
16	.9	1496.9	.0	.0	.0	.0	.0	.0	.0
17	3.4	4937.8	.0	.0	.0	.0	.0	.0	.0
18	3.2	4165.0	.0	.0	.0	.0	.0	.0	.0
19	.2	189.1	.0	.0	.0	.0	.0	.0	248.8
20	.3	309.6	.0	.0	.0	.0	.0	.0	414.6

21	.3	371.5	.0	.0	.0	.0	.0	.0	517.7
22	.3	277.5	.0	.0	.0	.0	.0	.0	404.5
23	.9	905.2	.0	.0	.0	.0	.0	.0	1443.6
24	3.5	2898.7	.0	.0	.0	.0	.0	.0	5626.0
25	1.8	1032.6	.0	.0	.0	.0	.0	.0	2853.6
26	.6	259.0	.0	.0	.0	.0	.0	.0	1031.5
27	.7	213.4	.0	.0	.0	.0	.0	.0	1195.5
28	.8	101.0	.0	.0	.0	.0	.0	.0	1347.9
29	.1	2.3	.0	.0	.0	.0	.0	.0	226.8

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.79	288.93
2	33.58	287.46
3	37.75	284.70
4	47.72	282.38
5	91.42	282.32
6	94.93	285.88
7	98.14	289.71
8	101.51	293.41
9	104.43	297.46
10	107.04	301.73
11	110.03	305.74
12	113.21	309.59
13	114.14	312.00

*** 1.537 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	24.46	287.03
2	27.91	285.08
3	32.91	285.01
4	37.89	284.60
5	49.35	282.16
6	96.79	282.11
7	98.88	286.65
8	101.23	291.06
9	102.88	295.78
10	104.59	300.48
11	107.06	304.83
12	109.99	308.88
13	112.80	312.00

*** 1.574 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.34	288.64
2	31.97	287.05
3	36.69	285.40
4	47.90	282.43
5	92.95	282.39
6	96.39	286.02
7	99.88	289.60
8	103.36	293.20
9	105.87	297.52
10	108.15	301.97
11	111.68	305.51
12	114.88	309.35
13	115.31	312.00

*** 1.588 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	29.79	288.46
2	33.51	286.02
3	48.45	282.08
4	97.55	282.13

5	100.60	286.09
6	103.56	290.12
7	106.31	294.29
8	107.31	299.19
9	107.82	304.17
10	108.73	309.08
11	109.17	312.00

*** 1.679 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.66	288.75
2	33.49	286.24
3	48.68	282.34
4	95.67	282.13
5	99.00	285.87
6	99.91	290.78
7	102.29	295.18
8	103.41	300.05
9	105.64	304.53
10	108.95	308.28
11	111.02	312.00

*** 1.684 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.47	288.69
2	31.07	288.11
3	35.35	285.53
4	48.39	282.24
5	99.29	282.26
6	102.70	285.92
7	106.16	289.53
8	107.33	294.39
9	109.92	298.67
10	113.25	302.39
11	116.47	306.22
12	119.98	309.78
13	122.04	312.00

*** 1.686 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	28.36	287.98
2	28.77	287.60
3	33.56	286.17
4	49.20	282.49
5	87.63	282.25
6	91.05	285.90
7	94.35	289.65
8	97.41	293.61
9	100.62	297.45
10	102.48	302.08
11	103.63	306.95
12	106.99	310.65
13	108.34	312.00

*** 1.734 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	28.08	287.89
2	29.20	287.00
3	34.08	285.90
4	46.42	282.36
5	103.49	282.43
6	106.35	286.53
7	106.79	291.51

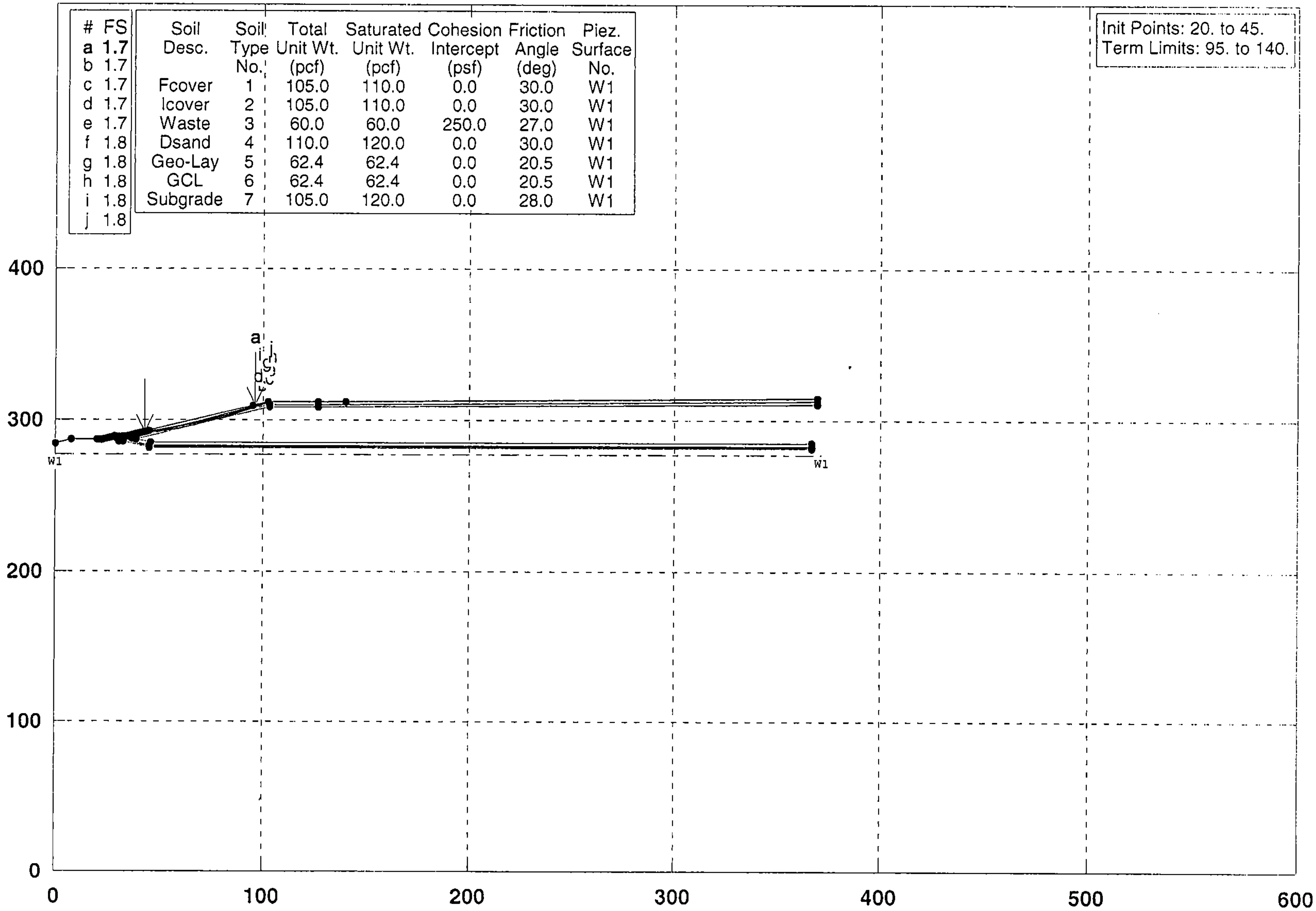
8	108.09	296.34
9	110.16	300.89
10	112.03	305.53
11	114.64	309.79
12	115.38	312.00
***	1.752	***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	29.51	288.37
2	30.21	287.77
3	34.84	285.90
4	47.96	282.27
5	91.21	282.27
6	94.25	286.23
7	97.13	290.32
8	100.57	293.95
9	100.96	298.93
10	104.33	302.62
11	106.67	307.04
12	109.22	311.34
13	109.88	312.00
***	1.760	***

Expansion - West Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\WEST.PL2 Run By: Dominique H. Bramlett, P.E. 4/1/2010 4:20PM



Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

PCSTABL5M/si FSmin=1.7

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/1/2010
Time of Run: 4:20PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:WEST.
Output Filename: F:WEST.OUT
Unit: ENGLISH
Plotted Output Filename: F:WEST.PLT
PROBLEM DESCRIPTION Expansion - West Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
8 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.50	287.03	7
2	7.50	287.03	22.50	287.03	7
3	22.50	287.03	28.20	288.93	4
4	28.20	288.93	33.20	288.93	4
5	33.20	288.93	33.31	288.89	4
6	33.31	288.89	102.64	312.00	1
7	102.64	312.00	126.45	312.00	1
8	126.45	312.00	369.71	314.50	1
9	33.31	288.89	36.45	287.83	4
10	36.45	287.83	102.96	310.00	2
11	102.96	310.00	126.46	310.00	2
12	126.46	310.00	369.71	312.50	2
13	36.45	287.83	38.80	287.03	4
14	38.80	287.03	103.21	308.50	3
15	103.21	308.50	126.47	308.50	3
16	126.47	308.50	369.71	311.00	3
17	38.80	287.03	45.38	284.80	4
18	45.38	284.80	366.78	284.80	4
19	22.50	287.03	29.63	287.03	7
20	29.63	287.03	30.22	287.03	6
21	30.22	287.03	32.55	287.03	5
22	32.55	287.03	45.24	282.80	5
23	45.24	282.80	366.78	282.80	5
24	30.22	287.03	30.55	286.53	6
25	30.55	286.53	32.55	286.53	6
26	32.55	286.53	45.25	282.30	6
27	45.25	282.30	366.78	282.30	6
28	29.63	287.03	30.29	286.03	7
29	30.29	286.03	32.47	286.03	7
30	32.47	286.03	45.17	281.80	7
31	45.17	281.80	366.78	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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 X-Water Y-Water

No.	(ft)	(ft)
1	.00	277.50
2	371.21	277.50

A Critical Failure Surface Searching Method, Using A Random
Technique For Generating Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surfaces Initiate From Each Of100 Points Equally Spaced
Along The Ground Surface Between X = 20.00 ft.
and X = 45.00 ft.
Each Surface Terminates Between X = 95.00 ft.
and X = 140.00 ft.
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.
10.00 ft. Line Segments Define Each Trial Failure Surface.
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 Bishop Method * *
Failure Surface Specified By 7 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	42.98	292.11
2	52.73	294.35
3	62.37	296.99
4	71.90	300.03
5	81.30	303.45
6	90.54	307.26
7	96.10	309.82

Circle Center At X = -6.5 ; Y = 529.9 and Radius, 242.8
*** 1.743 ***
Individual data on the 6 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.7	516.1	.0	.0	.0	.0	.0	.0	.0
2	9.6	1313.2	.0	.0	.0	.0	.0	.0	.0
3	9.5	1656.4	.0	.0	.0	.0	.0	.0	.0
4	9.4	1559.3	.0	.0	.0	.0	.0	.0	.0
5	9.2	1040.6	.0	.0	.0	.0	.0	.0	.0
6	5.6	207.0	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.40	289.59
2	45.17	291.76
3	54.84	294.28
4	64.43	297.13
5	73.90	300.33
6	83.26	303.85
7	92.49	307.71
8	99.63	311.00

Circle Center At X = -20.7 ; Y = 564.8 and Radius, 280.9
*** 1.743 ***
Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.89	289.08
2	43.64	291.32
3	53.31	293.84
4	62.91	296.64
5	72.43	299.73
6	81.84	303.09
7	91.16	306.72
8	100.36	310.63
9	103.34	312.00

Circle Center At X = -37.4 ; Y = 622.3 and Radius, 340.7

```
     ***      1.743    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          39.44        290.93
    2          49.23        292.98
    3          58.92        295.46
    4          68.49        298.37
    5          77.92        301.70
    6          87.19        305.45
    7          96.28        309.62
    8          97.72        310.36
Circle Center At X =     -.9 ; Y =  509.0  and Radius,  221.8
     ***      1.747    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          42.98        292.11
    2          52.74        294.28
    3          62.42        296.80
    4          72.00        299.66
    5          81.48        302.86
    6          90.83        306.40
    7         100.05        310.27
    8         103.80        312.00
Circle Center At X =   -11.9 ; Y =  563.0  and Radius,  276.3
     ***      1.749    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          41.47        291.61
    2          51.28        293.52
    3          61.00        295.88
    4          70.59        298.70
    5          80.05        301.96
    6          89.34        305.66
    7          98.44        309.79
    8         102.77        312.00
Circle Center At X =     6.1 ; Y =  500.2  and Radius,  211.6
     ***      1.750    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          37.68        290.35
    2          47.52        292.12
    3          57.26        294.39
    4          66.88        297.13
    5          76.35        300.34
    6          85.64        304.02
    7          94.75        308.15
    8         101.48        311.61
Circle Center At X =     6.9 ; Y =  488.9  and Radius,  201.0
     ***      1.754    ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf       Y-Surf
   No.          (ft)         (ft)
    1          35.91        289.76
    2          45.64        292.05
    3          55.31        294.60
    4          64.91        297.40
    5          74.44        300.45
    6          83.88        303.74
    7          93.23        307.27
    8         102.49        311.05
    9         104.67        312.00
Circle Center At X =   -48.0 ; Y =  667.1  and Radius,  386.5
     ***      1.755    ***
```

Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.38	288.91
2	43.27	290.44
3	53.05	292.52
4	62.69	295.16
5	72.17	298.35
6	81.45	302.07
7	90.51	306.32
8	98.41	310.59

Circle Center At X = 11.8 ; Y = 462.1 and Radius, 174.5

*** 1.763 ***

Failure Surface Specified By 8 Coordinate Points

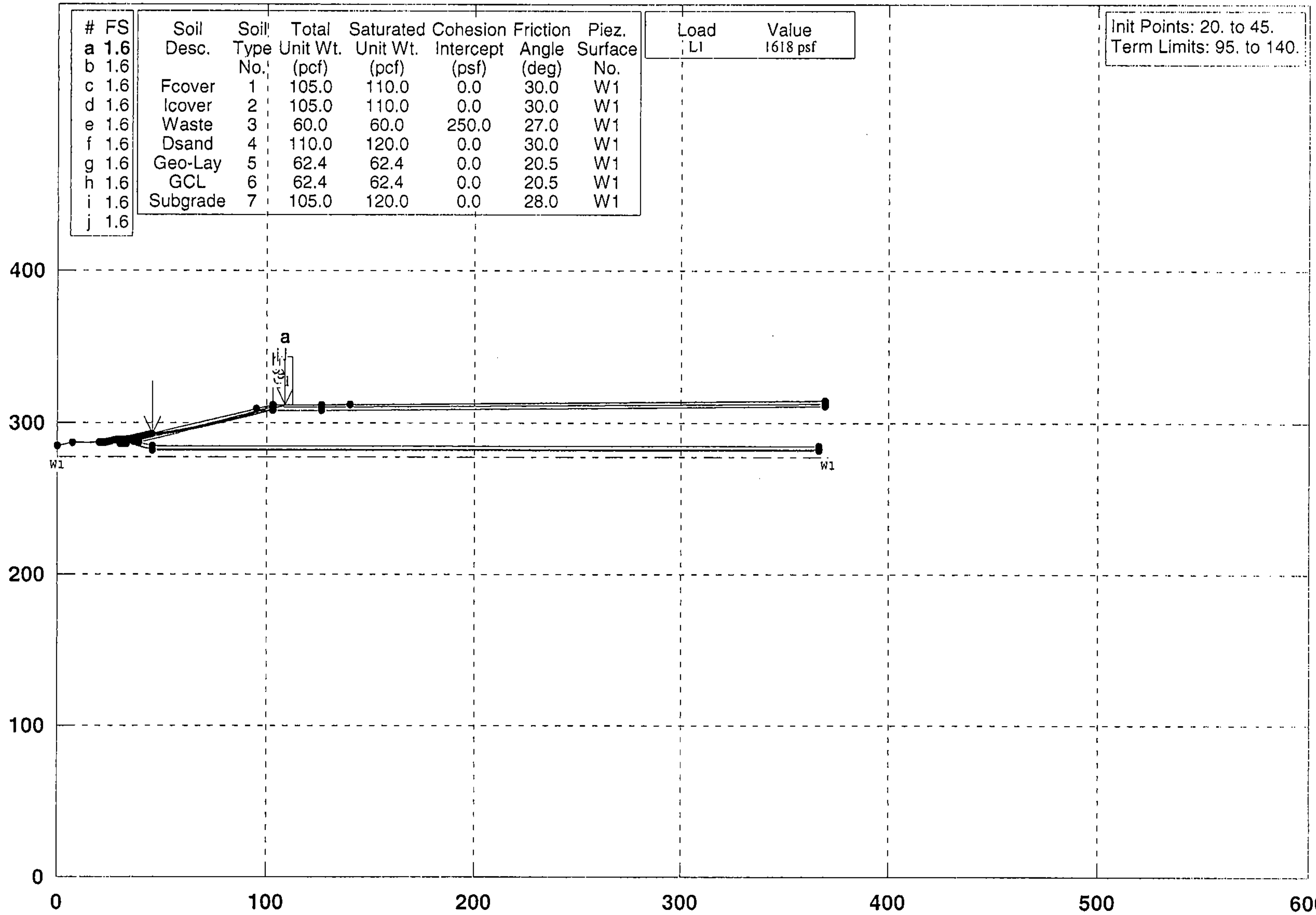
Point No.	X-Surf (ft)	Y-Surf (ft)
1	44.75	292.70
2	54.61	294.35
3	64.37	296.55
4	73.98	299.30
5	83.42	302.59
6	92.66	306.42
7	101.67	310.76
8	103.92	312.00

Circle Center At X = 21.0 ; Y = 465.8 and Radius, 174.7

*** 1.765 ***

Expansion - West Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\WEST.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:17PM



PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Bishop Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:17PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:west.
Output Filename: F:west.OUT
Unit: ENGLISH
Plotted Output Filename: F:west.PLT
PROBLEM DESCRIPTION Expansion - West Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
8 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.50	287.03	7
2	7.50	287.03	22.50	287.03	7
3	22.50	287.03	28.20	288.93	4
4	28.20	288.93	33.20	288.93	4
5	33.20	288.93	33.31	288.89	4
6	33.31	288.89	102.64	312.00	1
7	102.64	312.00	126.45	312.00	1
8	126.45	312.00	369.71	314.50	1
9	33.31	288.89	36.45	287.83	4
10	36.45	287.83	102.96	310.00	2
11	102.96	310.00	126.46	310.00	2
12	126.46	310.00	369.71	312.50	2
13	36.45	287.83	38.80	287.03	4
14	38.80	287.03	103.21	308.50	3
15	103.21	308.50	126.47	308.50	3
16	126.47	308.50	369.71	311.00	3
17	38.80	287.03	45.38	284.80	4
18	45.38	284.80	366.78	284.80	4
19	22.50	287.03	29.63	287.03	7
20	29.63	287.03	30.22	287.03	6
21	30.22	287.03	32.55	287.03	5
22	32.55	287.03	45.24	282.80	5
23	45.24	282.80	366.78	282.80	5
24	30.22	287.03	30.55	286.53	6
25	30.55	286.53	32.55	286.53	6
26	32.55	286.53	45.25	282.30	6
27	45.25	282.30	366.78	282.30	6
28	29.63	287.03	30.29	286.03	7
29	30.29	286.03	32.47	286.03	7
30	32.47	286.03	45.17	281.80	7
31	45.17	281.80	366.78	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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 X-Water Y-Water

No.	(ft)	(ft)
1	.00	277.50
2	371.21	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	102.64	112.14	1618.0	.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 Circular Surfaces, Has Been Specified.
5000 Trial Surfaces Have Been Generated.
50 Surfaces Initiate From Each Of100 Points Equally Spaced
Along The Ground Surface Between X = 20.00 ft.
and X = 45.00 ft.
Each Surface Terminates Between X = 95.00 ft.
and X = 140.00 ft.
Unless Further Limitations Were Imposed, The Minimum Elevation
At Which A Surface Extends Is Y = .00 ft.
10.00 ft. Line Segments Define Each Trial Failure Surface.
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 Bishop Method * *
Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	45.00	292.79
2	54.85	294.49
3	64.63	296.61
4	74.30	299.15
5	83.86	302.09
6	93.28	305.44
7	102.55	309.19
8	108.74	312.00

Circle Center At X = 10.4 ; Y = 523.0 and Radius, 232.8
*** 1.596 ***
Individual data on the 11 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	9.9	818.2	.0	.0	.0	.0	.0	.0	.0
2	4.5	874.2	.0	.0	.0	.0	.0	.0	.0
3	5.3	1331.8	.0	.0	.0	.0	.0	.0	.0
4	9.7	3110.9	.0	.0	.0	.0	.0	.0	.0
5	9.6	3540.0	.0	.0	.0	.0	.0	.0	.0
6	9.4	3506.6	.0	.0	.0	.0	.0	.0	.0
7	9.3	3029.5	.0	.0	.0	.0	.0	.0	.0
8	.1	26.0	.0	.0	.0	.0	.0	.0	.0
9	.3	90.7	.0	.0	.0	.0	.0	.0	517.8
10	1.4	335.3	.0	.0	.0	.0	.0	.0	2233.0
11	4.4	462.0	.0	.0	.0	.0	.0	.0	7118.4

Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	45.00	292.79
2	54.76	294.95
3	64.45	297.42
4	74.06	300.20
5	83.57	303.29
6	92.98	306.67
7	102.28	310.36
8	106.07	312.00

Circle Center At X = -17.1 ; Y = 596.9 and Radius, 310.4
*** 1.608 ***

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.15	289.50
2	44.97	291.41
3	54.71	293.66
4	64.37	296.26
5	73.93	299.20
6	83.37	302.47
7	92.70	306.09
8	101.89	310.03
9	106.07	312.00

Circle Center At X = -13.4 ; Y = 566.0 and Radius, 280.8

*** 1.610 ***

Failure Surface Specified By 9 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	36.67	290.01
2	46.51	291.78
3	56.27	293.97
4	65.92	296.57
5	75.46	299.57
6	84.86	302.98
7	94.11	306.78
8	103.20	310.96
9	105.22	312.00

Circle Center At X = -.4 ; Y = 523.8 and Radius, 236.7

*** 1.613 ***

Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	40.71	291.36
2	50.50	293.39
3	60.22	295.75
4	69.85	298.43
5	79.39	301.44
6	88.82	304.76
7	98.13	308.40
8	106.52	312.00

Circle Center At X = -14.8 ; Y = 583.7 and Radius, 297.5

*** 1.627 ***

Failure Surface Specified By 8 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	44.75	292.70
2	54.61	294.35
3	64.37	296.55
4	73.98	299.30
5	83.42	302.59
6	92.66	306.42
7	101.67	310.76
8	103.92	312.00

Circle Center At X = 21.0 ; Y = 465.8 and Radius, 174.7

*** 1.631 ***

Failure Surface Specified By 9 Coordinate Points

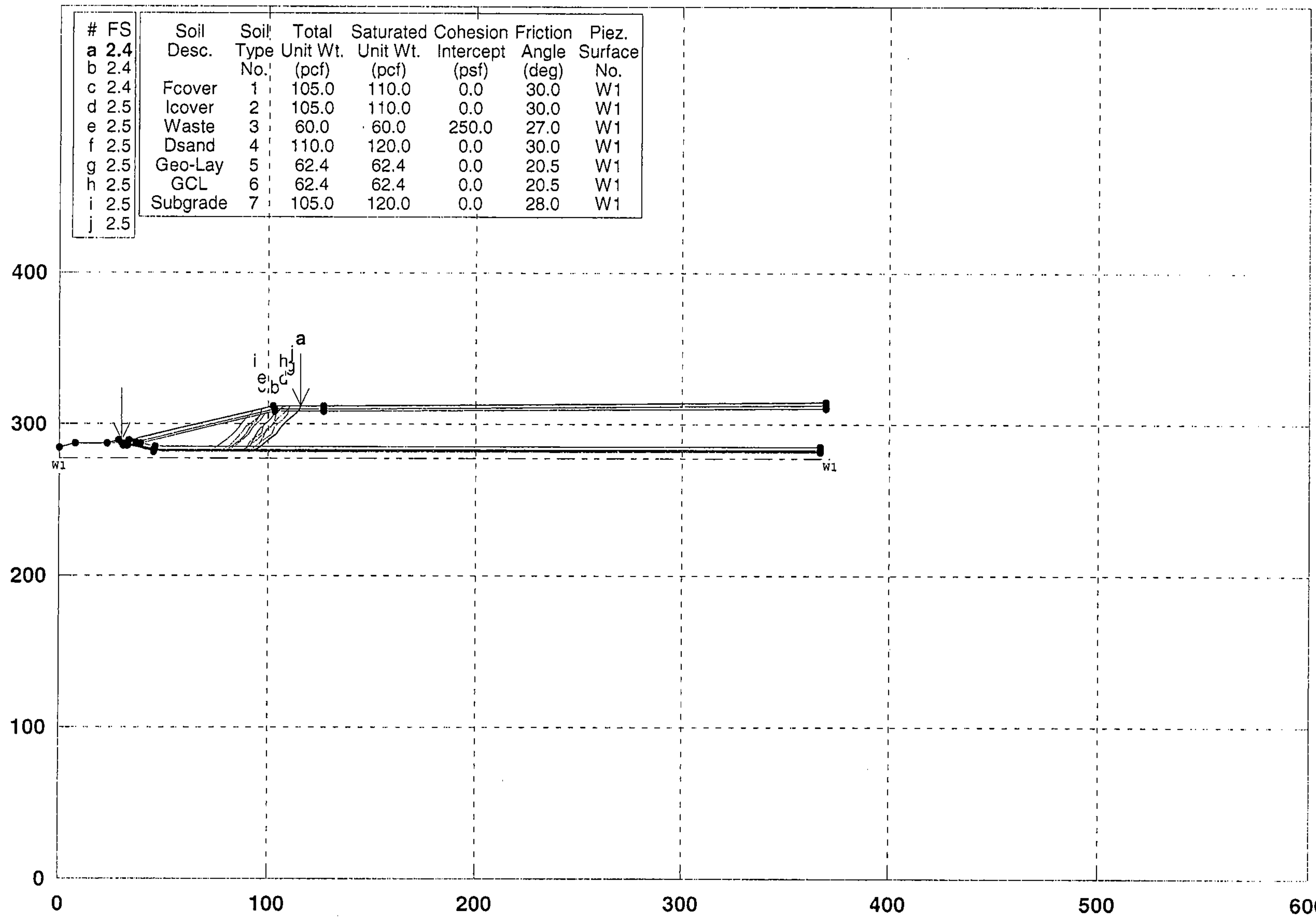
Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.91	289.76
2	45.64	292.05
3	55.31	294.60
4	64.91	297.40
5	74.44	300.45
6	83.88	303.74
7	93.23	307.27
8	102.49	311.05
9	104.67	312.00

Circle Center At X = -48.0 ; Y = 667.1 and Radius, 386.5

```
      ***      1.636    ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf        Y-Surf
   No.          (ft)          (ft)
    1           34.65        289.34
    2           44.51        290.98
    3           54.29        293.08
    4           63.96        295.63
    5           73.50        298.63
    6           82.89        302.06
    7           92.11        305.92
    8          101.15        310.21
    9          104.52        312.00
Circle Center At X =     4.0 ; Y =   503.4  and Radius,   216.3
      ***      1.636    ***
Failure Surface Specified By  8 Coordinate Points
  Point        X-Surf        Y-Surf
   No.          (ft)          (ft)
    1           40.71        291.36
    2           50.46        293.59
    3           60.14        296.10
    4           69.74        298.89
    5           79.26        301.95
    6           88.68        305.29
    7           98.01        308.90
    8          105.40        312.00
Circle Center At X =   -31.2 ; Y =   628.4  and Radius,   344.6
      ***      1.636    ***
Failure Surface Specified By  9 Coordinate Points
  Point        X-Surf        Y-Surf
   No.          (ft)          (ft)
    1           39.44        290.93
    2           49.26        292.83
    3           59.01        295.05
    4           68.69        297.59
    5           78.27        300.45
    6           87.75        303.62
    7           97.13        307.09
    8          106.39        310.88
    9          108.89        312.00
Circle Center At X =   -13.4 ; Y =   590.7  and Radius,   304.4
      ***      1.638    ***
```

Expansion - West Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BWEST.PL2 Run By: Dominique H. Bramlett, P.E. 4/2/2010 10:34AM



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

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

PCSTABL5M/si FSmin=2.4

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 4/2/2010
Time of Run: 10:34AM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:BWEST.
Output Filename: F:BWEST.OUT
Unit: ENGLISH
Plotted Output Filename: F:BWEST.PLT
PROBLEM DESCRIPTION Expansion - West Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
8 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.50	287.03	7
2	7.50	287.03	22.50	287.03	7
3	22.50	287.03	28.20	288.93	4
4	28.20	288.93	33.20	288.93	4
5	33.20	288.93	33.31	288.89	4
6	33.31	288.89	102.64	312.00	1
7	102.64	312.00	126.45	312.00	1
8	126.45	312.00	369.71	314.50	1
9	33.31	288.89	36.45	287.83	4
10	36.45	287.83	102.96	310.00	2
11	102.96	310.00	126.46	310.00	2
12	126.46	310.00	369.71	312.50	2
13	36.45	287.83	38.80	287.03	4
14	38.80	287.03	103.21	308.50	3
15	103.21	308.50	126.47	308.50	3
16	126.47	308.50	369.71	311.00	3
17	38.80	287.03	45.38	284.80	4
18	45.38	284.80	366.78	284.80	4
19	22.50	287.03	29.63	287.03	7
20	29.63	287.03	30.22	287.03	6
21	30.22	287.03	32.55	287.03	5
22	32.55	287.03	45.24	282.80	5
23	45.24	282.80	366.78	282.80	5
24	30.22	287.03	30.55	286.53	6
25	30.55	286.53	32.55	286.53	6
26	32.55	286.53	45.25	282.30	6
27	45.25	282.30	366.78	282.30	6
28	29.63	287.03	30.29	286.03	7
29	30.29	286.03	32.47	286.03	7
30	32.47	286.03	45.17	281.80	7
31	45.17	281.80	366.78	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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	X-Water	Y-Water

No.	(ft)	(ft)
1	.00	277.50
2	371.21	277.50

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Sliding Block Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	33.27	286.29	44.54	282.54	.50
2	46.33	282.30	51.33	282.30	.50
3	56.33	282.30	112.64	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.03	288.93
2	31.95	287.05
3	36.67	285.40
4	48.38	282.43
5	93.27	282.39
6	96.71	286.02
7	100.20	289.60
8	103.67	293.20
9	106.19	297.52
10	108.47	301.97
11	112.00	305.51
12	115.20	309.35
13	115.62	312.00

*** 2.413 ***

Individual data on the 28 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	1.9	198.6	.0	.0	.0	.0	.0	.0	.0
2	.1	11.0	.0	.0	.0	.0	.0	.0	.0
3	.6	118.5	.0	.0	.0	.0	.0	.0	.0
4	.7	151.6	.0	.0	.0	.0	.0	.0	.0
5	.1	27.0	.0	.0	.0	.0	.0	.0	.0
6	3.1	1119.5	.0	.0	.0	.0	.0	.0	.0
7	.2	103.4	.0	.0	.0	.0	.0	.0	.0
8	2.1	1178.5	.0	.0	.0	.0	.0	.0	.0
9	1.1	680.0	.0	.0	.0	.0	.0	.0	.0
10	5.5	4106.7	.0	.0	.0	.0	.0	.0	.0
11	1.5	1341.4	.0	.0	.0	.0	.0	.0	.0
12	1.5	1352.0	.0	.0	.0	.0	.0	.0	.0
13	44.9	63102.5	.0	.0	.0	.0	.0	.0	.0
14	.4	710.5	.0	.0	.0	.0	.0	.0	.0
15	1.9	3316.7	.0	.0	.0	.0	.0	.0	.0
16	1.2	1890.8	.0	.0	.0	.0	.0	.0	.0
17	3.5	5354.4	.0	.0	.0	.0	.0	.0	.0
18	2.4	3440.4	.0	.0	.0	.0	.0	.0	.0
19	.3	430.7	.0	.0	.0	.0	.0	.0	.0
20	.3	331.0	.0	.0	.0	.0	.0	.0	.0
21	.5	600.0	.0	.0	.0	.0	.0	.0	.0
22	2.5	2911.0	.0	.0	.0	.0	.0	.0	.0
23	2.3	2034.3	.0	.0	.0	.0	.0	.0	.0
24	3.5	2305.2	.0	.0	.0	.0	.0	.0	.0
25	2.5	1137.4	.0	.0	.0	.0	.0	.0	.0
26	.7	229.3	.0	.0	.0	.0	.0	.0	.0

27	.1	25.5	.0	.0	.0	.0	.0	.0	.0
28	.3	34.0	.0	.0	.0	.0	.0	.0	.0

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.14	288.93
2	33.29	286.44
3	50.96	282.42
4	81.02	282.16
5	84.45	285.79
6	87.61	289.67
7	90.66	293.63
8	92.59	298.24
9	95.84	302.04
10	98.57	306.23
11	102.05	309.82
12	103.16	312.00

*** 2.428 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.48	288.93
2	34.90	285.62
3	39.74	284.35
4	48.95	282.09
5	79.34	282.17
6	82.85	285.74
7	86.21	289.43
8	89.39	293.29
9	91.03	298.02
10	94.08	301.98
11	96.23	306.50
12	96.95	310.10

*** 2.438 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	32.13	288.93
2	33.31	287.92
3	37.31	284.93
4	41.99	283.16
5	47.24	282.43
6	87.51	282.50
7	91.03	286.04
8	93.23	290.53
9	96.57	294.26
10	97.86	299.09
11	101.20	302.81
12	103.29	307.35
13	106.82	310.89
14	107.15	312.00

*** 2.458 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.02	288.93
2	36.48	286.18
3	40.79	283.64
4	48.77	282.54
5	77.81	282.10
6	81.35	285.63
7	84.28	289.68
8	87.22	293.72
9	89.47	298.19
10	92.70	302.01
11	96.23	305.55
12	97.11	310.16

*** 2.467 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	27.55	288.71
2	28.75	287.60
3	33.54	286.17
4	49.68	282.49
5	87.97	282.25
6	91.39	285.90
7	94.69	289.65
8	97.75	293.61
9	100.96	297.45
10	102.82	302.08
11	103.97	306.95
12	107.33	310.65
13	108.68	312.00

*** 2.467 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	34.23	289.20
2	35.75	287.67
3	39.55	284.41
4	48.36	282.31
5	91.60	282.45
6	94.87	286.23
7	98.38	289.79
8	101.81	293.44
9	103.29	298.21
10	106.49	302.06
11	109.08	306.33
12	110.32	311.18
13	110.76	312.00

*** 2.504 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.41	288.93
2	31.15	288.25
3	35.46	285.71
4	46.93	282.21
5	89.44	282.18
6	90.97	286.94
7	93.46	291.28
8	95.47	295.86
9	98.56	299.79
10	101.28	303.98
11	104.03	308.15
12	107.42	311.83
13	107.52	312.00

*** 2.517 ***

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	35.36	289.57
2	38.16	286.83
3	41.73	283.33
4	46.72	282.46
5	72.81	282.22
6	76.35	285.76
7	79.75	289.42
8	83.18	293.06
9	85.94	297.23
10	88.16	301.71
11	90.67	306.03
12	93.61	308.99

*** 2.524 ***

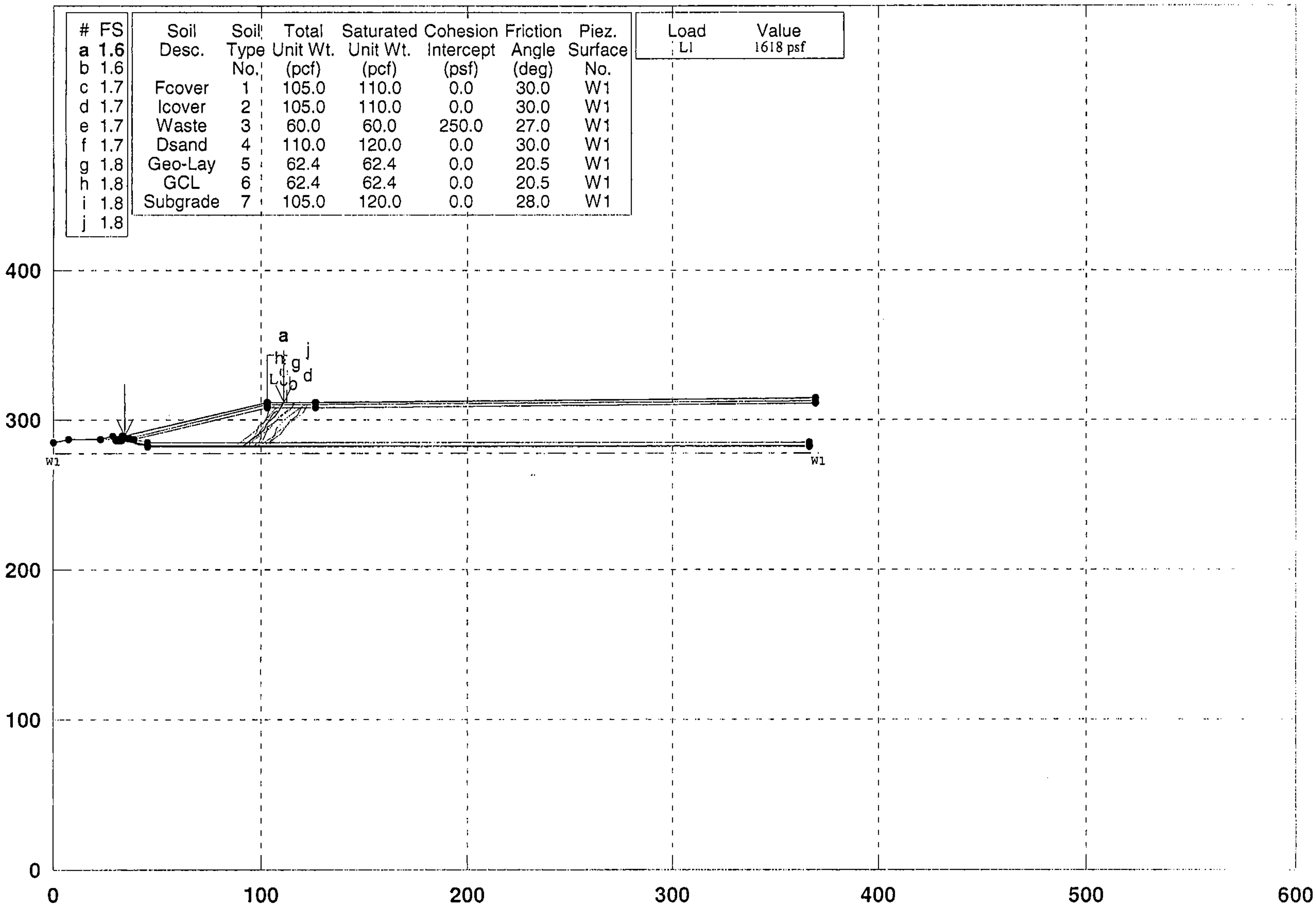
Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	29.57	288.93
2	31.03	288.79
3	35.01	285.76
4	47.84	282.12
5	92.88	282.37
6	95.42	286.67
7	97.63	291.16
8	98.88	296.00
9	102.39	299.56
10	104.56	304.07
11	107.63	308.01
12	110.95	311.75
13	111.14	312.00

*** 2.546 ***

Expansion - West Phase II Section I Hardee County Landfill

F:\PROJECT\HARDEE\09199033.20\CALCUL~1\BWEST.PL2 Run By: Dominique H. Bramlett, P.E. 5/18/2010 3:18PM



#	FS
a	1.6
b	1.6
c	1.7
d	1.7
e	1.7
f	1.7
g	1.8
h	1.8
i	1.8
j	1.8

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
Fcover	1	105.0	110.0	0.0	30.0	W1
Icover	2	105.0	110.0	0.0	30.0	W1
Waste	3	60.0	60.0	250.0	27.0	W1
Dsand	4	110.0	120.0	0.0	30.0	W1
Geo-Lay	5	62.4	62.4	0.0	20.5	W1
GCL	6	62.4	62.4	0.0	20.5	W1
Subgrade	7	105.0	120.0	0.0	28.0	W1

Load	Value
L1	1618 psf

PCSTABL5M/si FSmin=1.6

Safety Factors Are Calculated By The Modified Janbu Method

SCS ENGINEERS

** PCSTABL5M **
by
Purdue University
--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer`s Method of Slices

Run Date: 5/18/2010
Time of Run: 3:18PM
Run By: Dominique H. Bramlett, P.E.
Input Data Filename: F:bwest.
Output Filename: F:bwest.OUT
Unit: ENGLISH
Plotted Output Filename: F:bwest.PLT
PROBLEM DESCRIPTION Expansion - West Phase II Section I
Hardee County Landfill

BOUNDARY COORDINATES
8 Top Boundaries
31 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	284.53	7.50	287.03	7
2	7.50	287.03	22.50	287.03	7
3	22.50	287.03	28.20	288.93	4
4	28.20	288.93	33.20	288.93	4
5	33.20	288.93	33.31	288.89	4
6	33.31	288.89	102.64	312.00	1
7	102.64	312.00	126.45	312.00	1
8	126.45	312.00	369.71	314.50	1
9	33.31	288.89	36.45	287.83	4
10	36.45	287.83	102.96	310.00	2
11	102.96	310.00	126.46	310.00	2
12	126.46	310.00	369.71	312.50	2
13	36.45	287.83	38.80	287.03	4
14	38.80	287.03	103.21	308.50	3
15	103.21	308.50	126.47	308.50	3
16	126.47	308.50	369.71	311.00	3
17	38.80	287.03	45.38	284.80	4
18	45.38	284.80	366.78	284.80	4
19	22.50	287.03	29.63	287.03	7
20	29.63	287.03	30.22	287.03	6
21	30.22	287.03	32.55	287.03	5
22	32.55	287.03	45.24	282.80	5
23	45.24	282.80	366.78	282.80	5
24	30.22	287.03	30.55	286.53	6
25	30.55	286.53	32.55	286.53	6
26	32.55	286.53	45.25	282.30	6
27	45.25	282.30	366.78	282.30	6
28	29.63	287.03	30.29	286.03	7
29	30.29	286.03	32.47	286.03	7
30	32.47	286.03	45.17	281.80	7
31	45.17	281.80	366.78	281.80	7

ISOTROPIC SOIL PARAMETERS
7 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	105.0	110.0	.0	30.0	.00	.0	1
2	105.0	110.0	.0	30.0	.00	.0	1
3	60.0	60.0	250.0	27.0	.00	.0	1
4	110.0	120.0	.0	30.0	.00	.0	1
5	62.4	62.4	.0	20.5	.00	.0	1
6	62.4	62.4	.0	20.5	.00	.0	1
7	105.0	120.0	.0	28.0	.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 X-Water Y-Water

No.	(ft)	(ft)
1	.00	277.50
2	371.21	277.50

BOUNDARY LOAD(S)

1 Load(s) Specified

Load No.	X-Left (ft)	X-Right (ft)	Intensity (psf)	Deflection (deg)
1	102.64	112.14	1618.0	.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.

100 Trial Surfaces Have Been Generated.

3 Boxes Specified For Generation Of Central Block Base

Length Of Line Segments For Active And Passive Portions Of Sliding Block Is 5.0

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	33.27	286.29	44.54	282.54	.50
2	46.33	282.30	51.33	282.30	.50
3	56.33	282.30	112.64	282.30	.50

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 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	34.23	289.20
2	35.75	287.67
3	39.55	284.41
4	48.36	282.31
5	91.60	282.45
6	94.87	286.23
7	98.38	289.79
8	101.81	293.44
9	103.29	298.21
10	106.49	302.06
11	109.08	306.33
12	110.32	311.18
13	110.76	312.00

*** 1.599 ***

Individual data on the 26 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force Top (lbs)	Water Force Bot (lbs)	Tie Force Norm (lbs)	Tie Force Tan (lbs)	Earthquake Force Hor (lbs)	Earthquake Force Ver (lbs)	Surcharge Load (lbs)
1	.9	60.6	.0	.0	.0	.0	.0	.0	.0
2	.6	102.9	.0	.0	.0	.0	.0	.0	.0
3	.7	181.0	.0	.0	.0	.0	.0	.0	.0
4	2.3	1068.0	.0	.0	.0	.0	.0	.0	.0
5	.2	129.0	.0	.0	.0	.0	.0	.0	.0
6	.5	347.0	.0	.0	.0	.0	.0	.0	.0
7	3.0	2146.2	.0	.0	.0	.0	.0	.0	.0
8	2.8	2283.6	.0	.0	.0	.0	.0	.0	.0
9	.9	798.5	.0	.0	.0	.0	.0	.0	.0
10	2.1	1913.0	.0	.0	.0	.0	.0	.0	.0
11	43.2	60160.0	.0	.0	.0	.0	.0	.0	.0
12	.3	549.3	.0	.0	.0	.0	.0	.0	.0
13	1.7	2954.3	.0	.0	.0	.0	.0	.0	.0
14	1.2	1964.3	.0	.0	.0	.0	.0	.0	.0
15	3.5	5217.4	.0	.0	.0	.0	.0	.0	.0
16	3.4	4579.0	.0	.0	.0	.0	.0	.0	.0
17	.8	994.3	.0	.0	.0	.0	.0	.0	.0
18	.3	347.5	.0	.0	.0	.0	.0	.0	517.8
19	.3	256.7	.0	.0	.0	.0	.0	.0	404.5

20	.1	82.8	.0	.0	.0	.0	.0	.0	134.9
21	3.2	2776.9	.0	.0	.0	.0	.0	.0	5167.6
22	2.6	1621.7	.0	.0	.0	.0	.0	.0	4193.1
23	.6	239.9	.0	.0	.0	.0	.0	.0	897.6
24	.4	110.9	.0	.0	.0	.0	.0	.0	621.4
25	.3	44.7	.0	.0	.0	.0	.0	.0	487.6
26	.4	18.9	.0	.0	.0	.0	.0	.0	706.7

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.03	288.93
2	31.95	287.05
3	36.67	285.40
4	48.38	282.43
5	93.27	282.39
6	96.71	286.02
7	100.20	289.60
8	103.67	293.20
9	106.19	297.52
10	108.47	301.97
11	112.00	305.51
12	115.20	309.35
13	115.62	312.00

*** 1.608 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	29.57	288.93
2	31.03	288.79
3	35.01	285.76
4	47.84	282.12
5	92.88	282.37
6	95.42	286.67
7	97.63	291.16
8	98.88	296.00
9	102.39	299.56
10	104.56	304.07
11	107.63	308.01
12	110.95	311.75
13	111.14	312.00

*** 1.703 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.19	288.93
2	31.05	288.11
3	35.33	285.53
4	48.87	282.24
5	99.58	282.26
6	102.98	285.92
7	106.44	289.53
8	107.62	294.39
9	110.21	298.67
10	113.54	302.39
11	116.76	306.22
12	120.27	309.78
13	122.33	312.00

*** 1.707 ***

Failure Surface Specified By 11 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.43	288.93
2	33.47	286.24
3	49.16	282.34
4	95.97	282.13
5	99.30	285.87
6	100.22	290.78

7	102.60	295.18
8	103.71	300.05
9	105.94	304.53
10	109.25	308.28
11	111.33	312.00

*** 1.714 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.21	288.93
2	31.67	288.55
3	35.77	285.69
4	48.19	282.09
5	94.27	282.08
6	95.28	286.97
7	98.71	290.62
8	100.75	295.18
9	103.34	299.45
10	106.01	303.68
11	109.50	307.27
12	111.17	311.98
13	111.19	312.00

*** 1.717 ***

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	33.76	289.04
2	35.92	288.91
3	39.46	285.38
4	43.68	282.69
5	49.34	282.38
6	97.50	282.21
7	100.56	286.16
8	102.25	290.87
9	103.87	295.60
10	107.03	299.48
11	110.44	303.14
12	113.97	306.67
13	116.40	311.05
14	116.82	312.00

*** 1.771 ***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	27.55	288.71
2	28.75	287.60
3	33.54	286.17
4	49.68	282.49
5	87.97	282.25
6	91.39	285.90
7	94.69	289.65
8	97.75	293.61
9	100.96	297.45
10	102.82	302.08
11	103.97	306.95
12	107.33	310.65
13	108.68	312.00

*** 1.782 ***

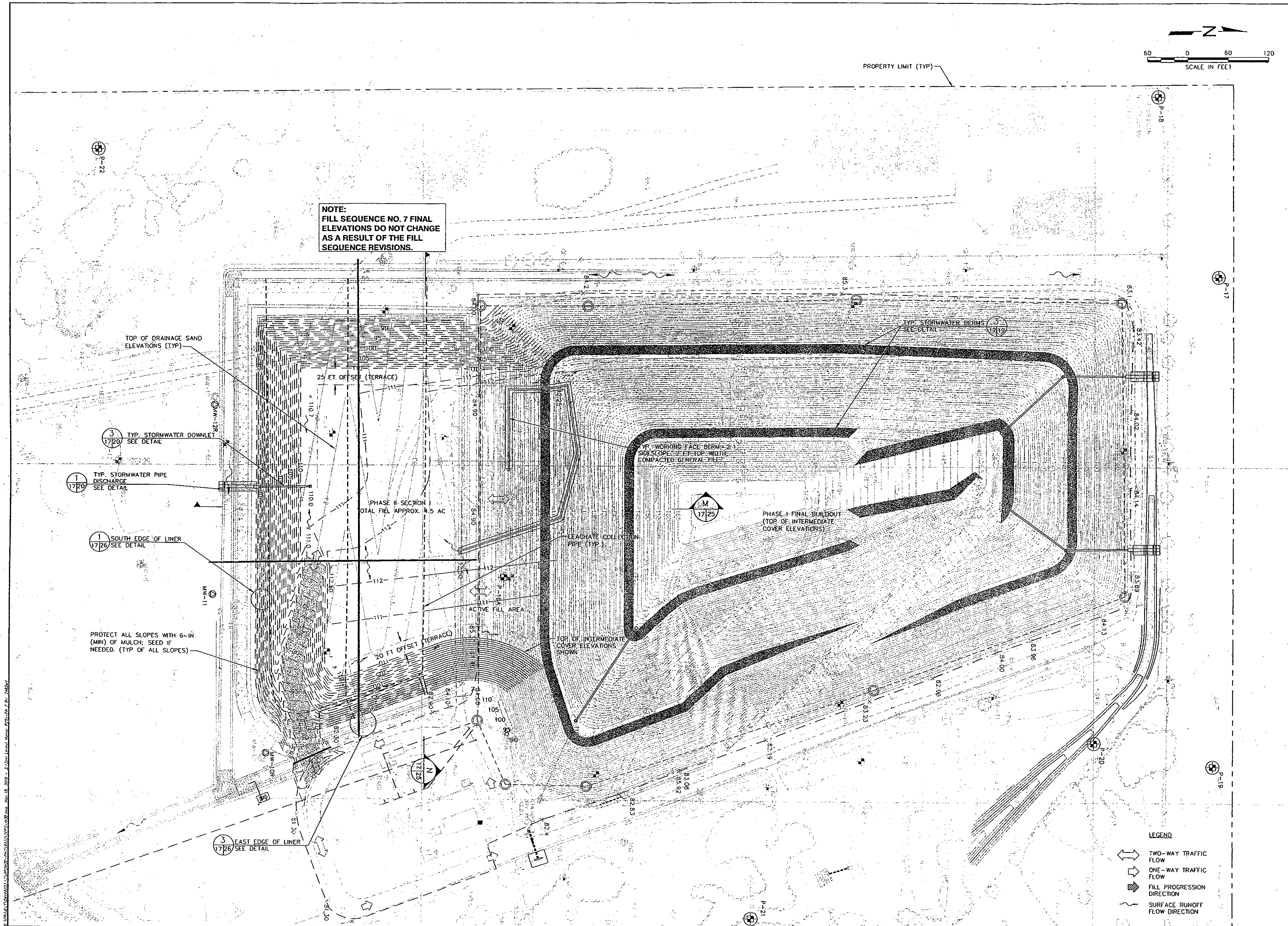
Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	30.93	288.93
2	34.13	287.21
3	39.10	286.72
4	42.64	283.18
5	49.30	282.17
6	100.90	282.29

7	104.41	285.85
8	106.50	290.39
9	109.95	294.00
10	113.48	297.54
11	116.97	301.13
12	120.23	304.92
13	122.14	309.54
14	122.76	312.00
***	1.823	***

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	31.44	288.93
2	31.53	288.85
3	35.30	285.56
4	51.11	282.16
5	103.58	282.45
6	106.20	286.71
7	109.43	290.53
8	112.01	294.81
9	113.92	299.43
10	117.45	302.97
11	119.36	307.59
12	122.17	311.73
13	122.37	312.00
***	1.828	***



REV	DATE	DESCRIPTION	BY
1	1/30/08	ADDED MW-10R AND MW-12R	SRF
2	05/14/10	REVISED FILL SEQUENCE	SRF

SHANE R FISCHER, P.E.
LICENSE NO. 58026

DRAWING TITLE
PHASE II - SECTION I FILL SEQUENCE NO. 7

PROJECT TITLE
HARDEE COUNTY LANDFILL OPERATIONS DRAWINGS

CLIENT
HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-0080 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

PROJ. NO. 09199033.12 | DWN. BY: SDA | Q/A RVW BY: SRF
DSN. BY: SRF | CHK. BY: CEH | APP. BY: CEH

CADD FILE: 993312OPS-MOD

DATE: MAY 2007

SCALE: AS SHOWN

DRAWING NO. **17** of 26

STEARNS CONRAD AND SCHMIDT 05/2007
4041 PARK OAKS BLVD STE 100
TAMPA, FL 33610-9501

1560
63-215/631

Date 6-10-10

Pay to the Order of Florida Dept of Environmental Protection $ 250.00

Two hundred fifty and 00/100 Dollars

SUNTRUST

ACH RT 061000104

[redacted]

FOR Permit Mod 38414-011-SO/01

[redacted]