OhioEPA
State of Ohio Environmental Protection Agency
Northeast District Office

2110 East Aurora Rd.
Twinsburg, Ohio 44087

TELE: (330) 963-1200 FAX: (330) 487-0769
www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

April 14, 2008

RE: COUNTYWIDE LANDFILL BERM CONSTRUCTION ALTERATION REQUEST APPROVAL

RECEIVED
APR 15 2008
OHIO EPA
DIV. OF SOLID & INFECTIOUS WASTE MGMT.

Tim Vandersall
Countywide and Recycling
3619 Gracemont Street SW
East Sparta, Ohio 44626

Dear Mr. Vandersall:

On March 7, 2008, Ohio Environmental Protection Agency (Ohio EPA) received an alteration request (via e-mail) for Countywide Landfill as designed in permit-to-install (PTI) number 02-14796 approved June 2, 2003. The submittal included plan drawings to alter construction of cell 8C. Specifically, the alteration submittal is a request to alter construction of the berm between cells 8A and 8C.

The alteration request includes soil fill between cells 8A and 8C with a maximum height of 32 feet that shall be constructed simultaneously with waste disposal in cell 8C. Ohio EPA understands that the purpose of this fill is for management of storm water from the interface of cell 8A with 8B and 8C and for operational purposes. The soil fill shall meet the same specifications as the soil fill between cells 8A and 8B.

The above noted alteration request as submitted on March 7, 2008, has been reviewed by Ohio EPA and appears to meet the intent of the design of the landfill as approved in PTI number 02-14796 and the Ohio EPA March 28, 2007 Orders. Ohio EPA NEDO hereby approves the above noted alteration requests to PTI Number 02-14796.

If you have any questions, feel free to contact me at 330-963-1244.

Sincerely,

Karen J. Naples
Environmental Specialist
Division of Solid and
Infectious Waste Management

Authorized By: Lynn Sowers
Lynn Sowers,
Environmental Supervisor
Division of Solid and Infectious
Waste Management

KJN/LS/cl
Enclosure

cc: Joshua Adams, DSIWM, NEDO
Ed Gortner, DSIWM, CO, w/enclosure
Scott Hester, DSIWM, CO, w/enclosure
File: [LAND/Countywide/AUT/76]
Randy Ruszkowski, Stark County Health Department, w/enclosure
Project ID # 1330

From: "Beaudoin, Michael" <michael.beaudoin@earthtech.com>
To: <ed.gortner@epa.state.oh.us>, <jeff.martin@epa.state.oh.us>, <kurt.princic@epa.state.oh.us>, <karen.naples@epa.state.oh.us>, <norrisk@starkhealth.org>, <daleman@cantonhealth.org>
Date: 3/7/2008 6:50:56 AM
Subject: Countywide Cell 8A/C Berm

Attached are the plans for the continuation of the OEPA-ordered firebreak between Cells 8A and 8C. Countywide needs to move into Cell 8C in the near future and therefore is requesting prompt approval of this design so that the berm can be constructed and certification documents submitted to NEDO as soon as possible.

Michael R. Beaudoin, P.E.

Senior Program Manager

Earth Tech, Inc.

36133 Schoolcraft Road

Livonia, MI 48150

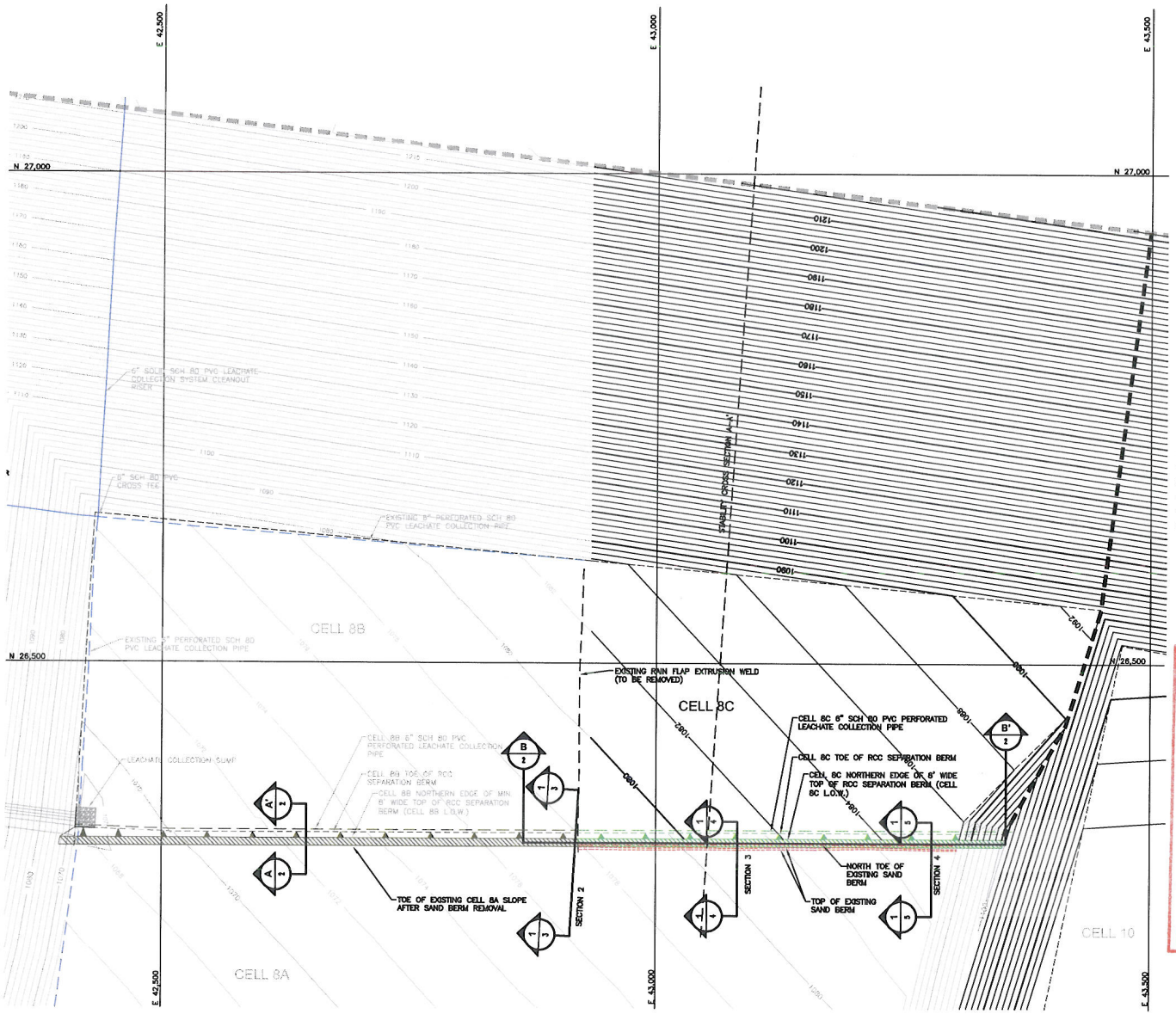
Office Direct: (734) 779-2816

Office Fax: (734) 779-2860

Cell: (734) 634-9539 (best bet)

michael.beaudoin@earthtech.com

CC: "Hamilton, Todd" <HamiltonT2@repsrv.com>, "Vandersall, Tim" <VandersallT@repsrv.com>, "Lundell, Clarke" <LundellC@repsrv.com>, "Hale, Benjamin" <Benjamin_Hale@golder.com>, <james.walker@cornerstoneeg.com>



N

0 50 100
SCALE IN FEET

LEGEND

- LIMIT OF SOLID WASTE
- EXISTING 2' CONTOURS
- EXISTING 6" SOLID WALL SCH 80 PVC LEACHATE COLLECTION SYSTEM CLEANOUT RISER
- EXISTING 6" PERFORATED SCH 80 PVC LEACHATE COLLECTION PIPE
- TOE OF SLOPE
- 1082 CELL 8C PROPOSED TOP OF LINER 2' CONTOUR
- 1080 CELL 8C PROPOSED TOP OF LINER 10' CONTOUR
- CELL 8C/10 BOUNDARY

SOLID WASTE APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
APR 14 2008
ALTERS AUTHORIZATION APPROVED
DATE 6-2-03

REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 03/04/08 — DRAWN BY JAW — DESIGNED BY JCW — CHECKED BY JCO — APPROVED BY JCW

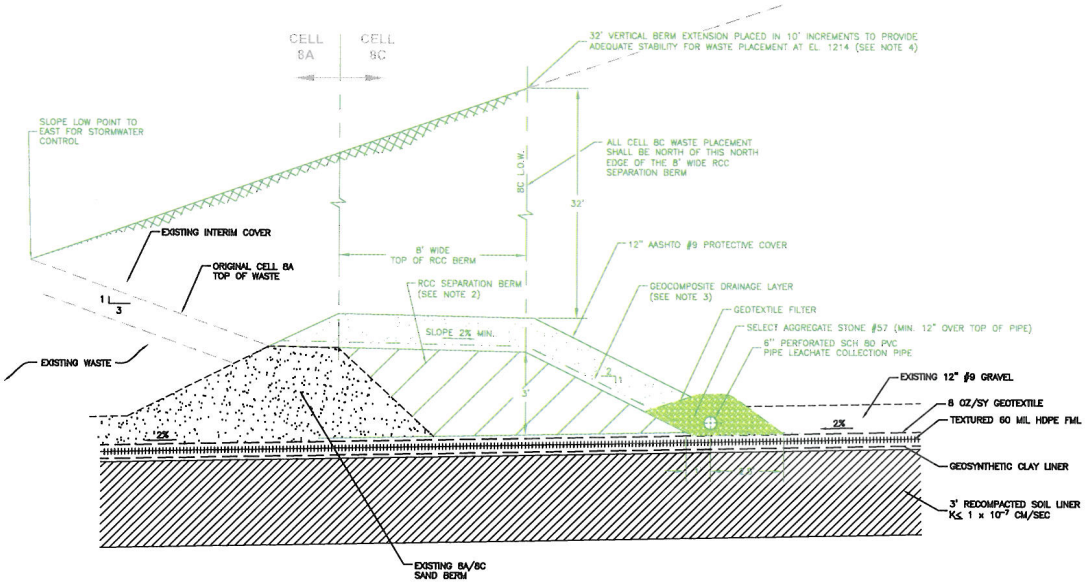
CORNERSTONE Environmental Group, LLC

REPUBLIC SERVICES OF OHIO II, LLC
COUNTYWIDE RECYCLING & DISPOSAL FACILITY
STARK COUNTY, EAST SPARTA, OHIO

CELL 8A/8C SEPARATION BERM PLAN

SHEET NO. 1

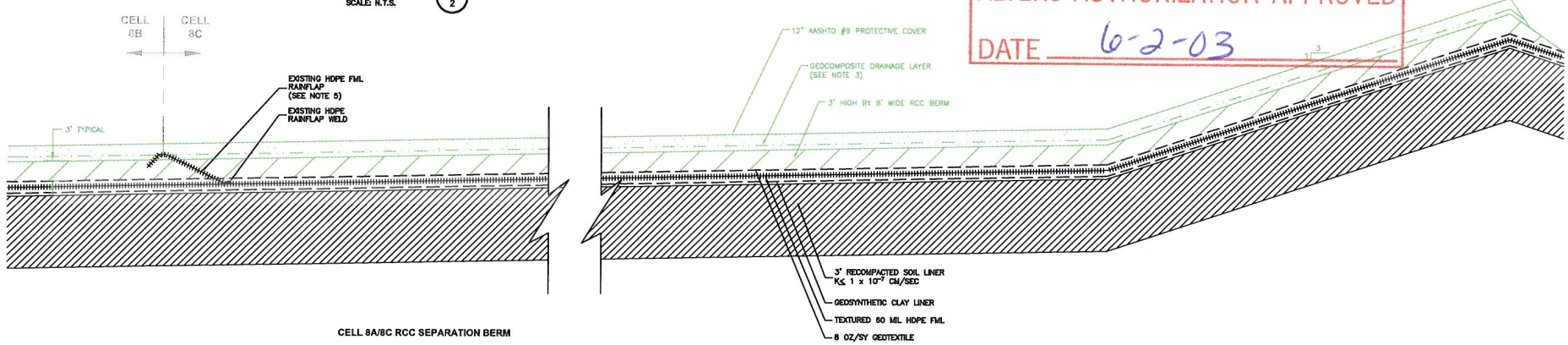
PROJECT NO. 70330



CELL 8A/8C RCC SEPARATION BERM

SECTION A-A' 1/2

SCALE: N.T.S.



CELL 8A/8C RCC SEPARATION BERM

SECTION B-B' 2/2

SCALE: N.T.S.

NOTES:

1. PROPOSED RCC BERM AND LEACHATE COLLECTION FEATURES ARE SHOWN IN GREEN COLORED LINE TYPE.
2. RCC BERM TO BE CONSTRUCTED OF:
   - A) PREQUALIFIED LINER QUALITY CLAY WITH PERMEABILITY K ≤ $1X10^{-7}$ CM/SEC.
   - B) 12" INITIAL LOOSE LIFT COMPACTED WITH WIDE-TRACK DOZER AND MONITORED BY CQA MONITOR TO ASSURE NO DAMAGE TO LINER.
   - C) 8" LOOSE LIFTS CONSTRUCTED IN ACCORDANCE WITH OAC 3745-27-08(D)(8)(b)-(h) AND (i) AND COMPACTED WITH MINIMUM 4 PASSES BY SHEEPFOOT ROLLER TO MINIMUM DENSITY OF 90% MAXIMUM DRY DENSITY PER MODIFIED PROCTOR AT OR WET OF OPTIMUM MOISTURE CONTENT WITH DENSITY AND MOISTURE CONTENT TO BE TESTED AT 1 TEST PER 150' BERM LENGTH FOR EACH LIFT.
3. GEOCOMPOSITE DRAINAGE LAYER SHALL CONSIST OF DOUBLE-SIDED MINIMUM 8 OZ/SY GEOTEXTILE BONDED BOTH SIDES TO GEONET.
4. SOIL FILL FOR RCC SEPARATION BERM AND VERTICAL BERM EXTENSION SHALL CONSIST OF MATERIAL WITH LOW ORGANIC CONTENT AS INDICATED BY MAXIMUM LOSS ON IGNITION OF 30%.
5. EXISTING HDPE FML RAINFLAP AT CELL 8B/8C SEPARATION BERM SOUTH OF LEACHATE COLLECTOR SHOWN IN SECTION B-B' MAY BE LEFT IN PLACE OR REMOVED.

SOLID WASTE APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
APR 14 2008
ALTERS AUTHORIZATION APPROVED
DATE 6-2-03

REV	DATE	DESCRIPTION	DSN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 03/04/08 — DRAWN BY JAW — DESIGNED BY JGW — CHECKED BY JCO — APPROVED BY JGW

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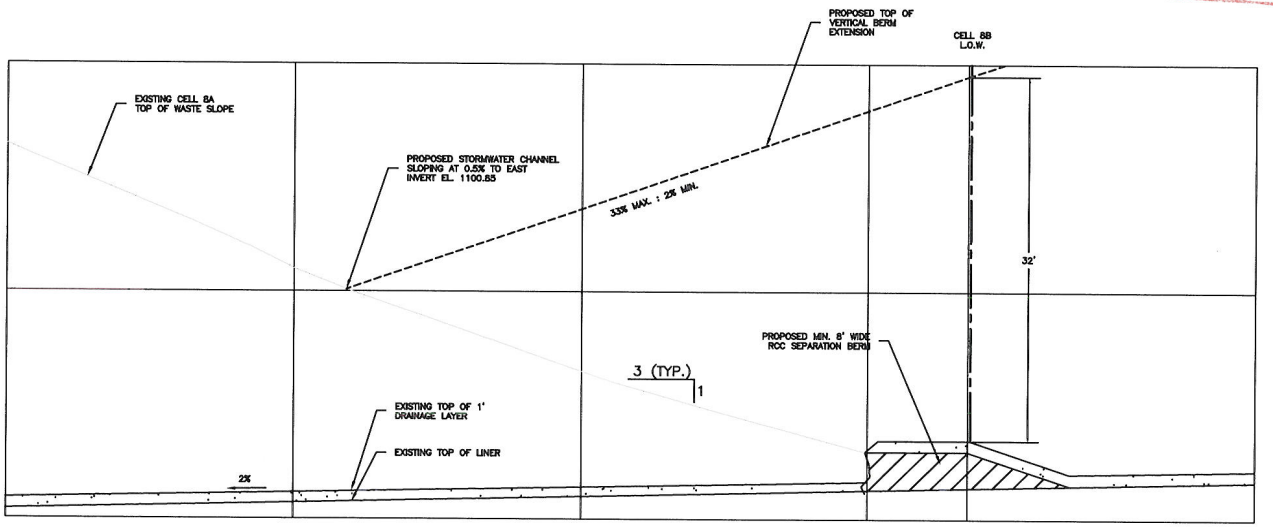
REPUBLIC SERVICES OF OHIO II, LLC
COUNTYWIDE RECYCLING AND DISPOSAL FACILITY
EAST SPARTA, STARK CO., OHIO

DETAILS FOR
CELL 8A/8C SEPARATION BERM

SHEET NO. 2

PROJECT NO. 70330

SOLID WASTE
APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
APR 14 2008
ALTERS AUTHORIZATION APPROVED
DATE 6-2-03



NOTE:

SECTION REPRESENTS POTENTIAL FUTURE EXTENSION OF THE BERM, SHOULD IT BE REQUIRED FOR CELL 8C.

E42913

SECTION 2 (1/3)
SCALE:

VERTICAL SCALE IN FEET: 0, 5, 10
HORIZONTAL SCALE IN FEET: 0, 5, 10

REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 03/04/08 — DRAWN BY JAW — DESIGNED BY JCU — CHECKED BY JCW — APPROVED BY JCW

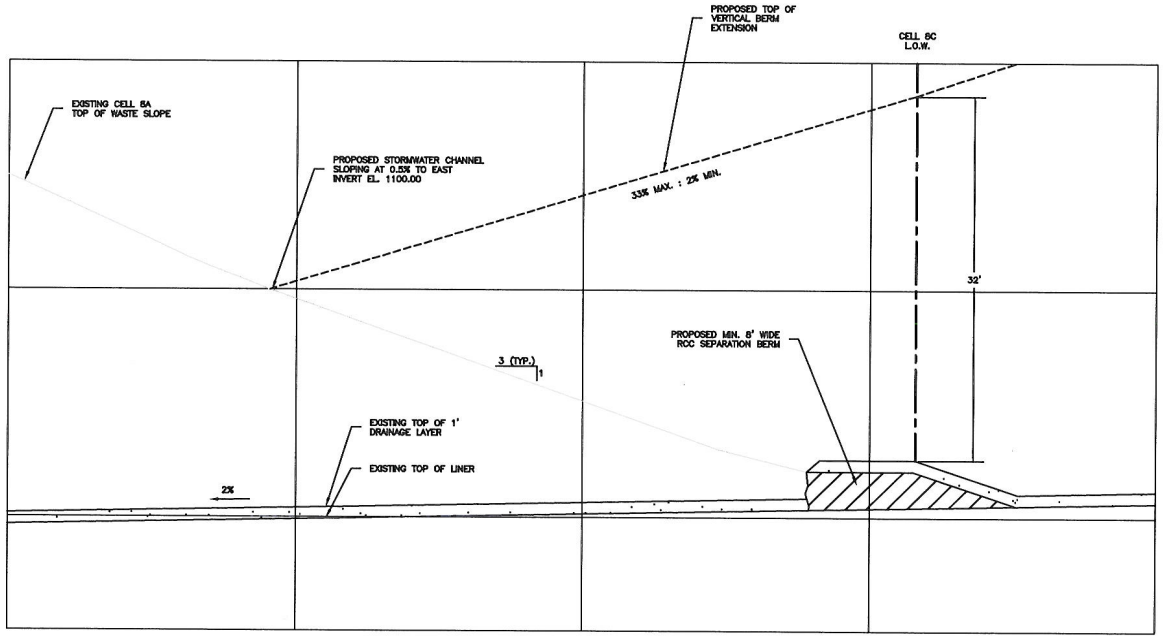
CORNERSTONE Environmental Group, LLC

REPUBLIC SERVICES OF OHIO II, LLC
COUNTYWIDE RECYCLING & DISPOSAL FACILITY
STARK COUNTY, EAST SPARTA, OHIO

CROSS SECTION 2

SHEET NO. 3
PROJECT NO. 70330

SOLID WASTE
APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
APR 14 2008
ALTERS AUTHORIZATION APPROVED
DATE 6-2-03



E43082

SECTION 3 (1/4)
SCALE:

NOTE:
SECTION REPRESENTS POTENTIAL FUTURE EXTENSION OF THE BERM, SHOULD IT BE REQUIRED FOR CELL 8C.

VERTICAL SCALE IN FEET 0 5 10
HORIZONTAL SCALE IN FEET 0 5 10

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE 03/04/08
DRAWN BY JAW
DESIGNED BY JCO
CHECKED BY JGW
APPROVED BY JGW

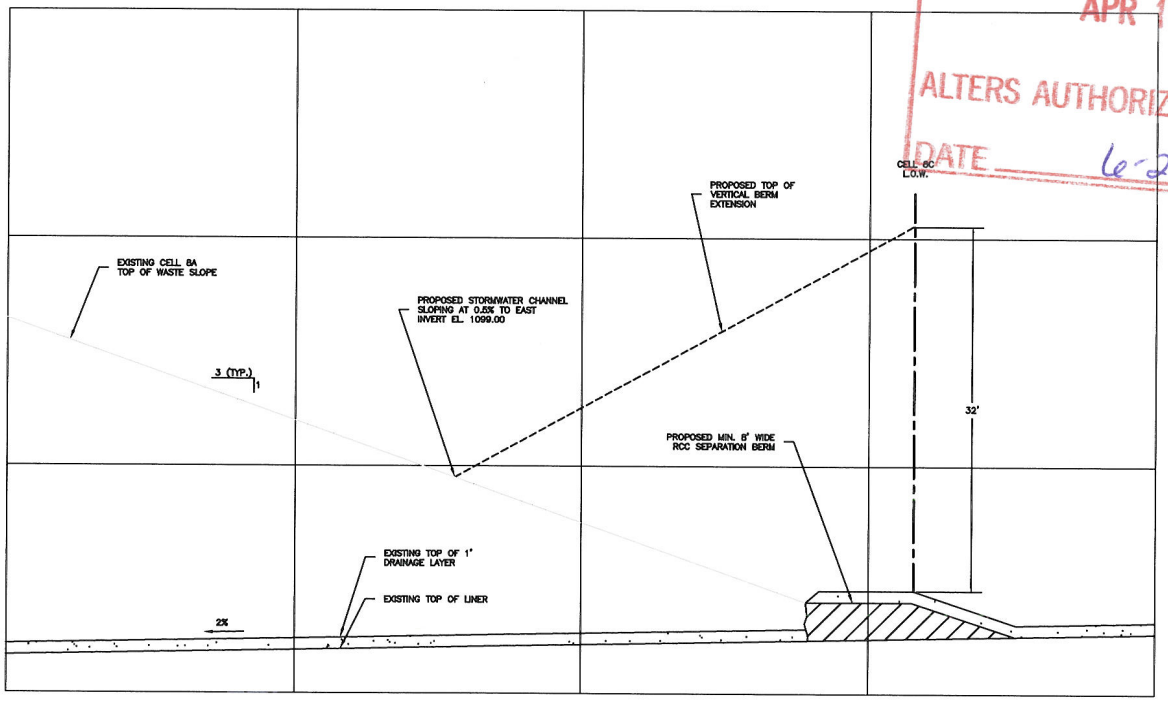
CORNERSTONE Environmental Group, LLC

REPUBLIC SERVICES OF OHIO II, LLC
COUNTYWIDE RECYCLING & DISPOSAL FACILITY
STARK COUNTY, EAST SPARTA, OHIO

CROSS SECTION 3

SHEET NO. 4
PROJECT NO. 70330

SOLID WASTE
APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
APR 14 2008
ALTERS AUTHORIZATION APPROVED
DATE 6-2-03



E43279

SECTION 4 (1/5)
SCALE:

VERTICAL SCALE IN FEET: 0, 5, 10
HORIZONTAL SCALE IN FEET: 0, 5, 10

REV	DATE	DESCRIPTION	DSN BY	DRN BY	CHK BY	APP BY

DATE OF ISSUE 03/04/08
DRAWN BY JAW
DESIGNED BY JCO
CHECKED BY JGW
APPROVED BY JGW

CORNERSTONE Environmental Group, LLC

REPUBLIC SERVICES OF OHIO II, LLC
COUNTYWIDE RECYCLING & DISPOSAL FACILITY
STARK COUNTY, EAST SPARTA, OHIO

CROSS SECTION 4

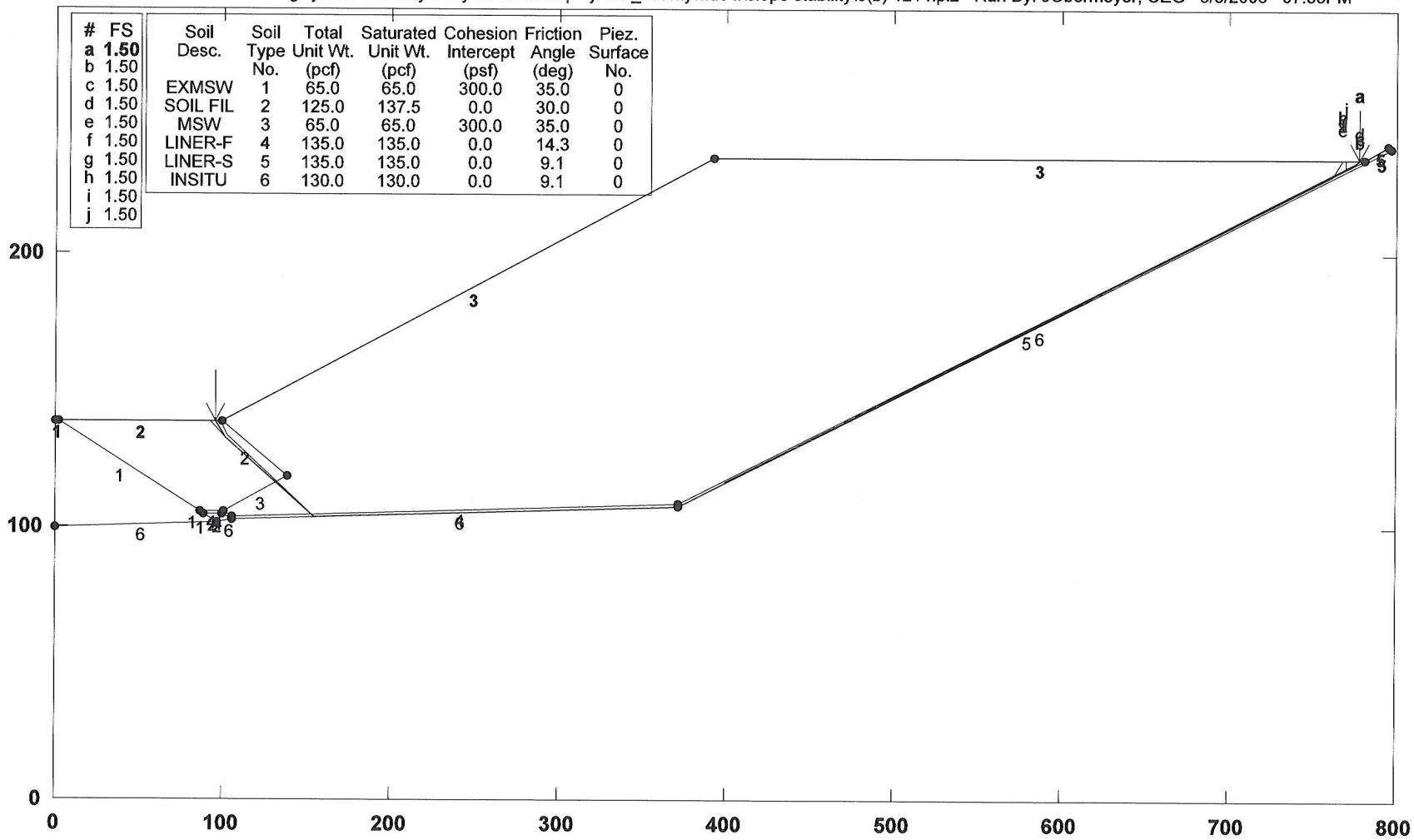
SHEET NO. 5
PROJECT NO. 70330

CELL 8C - SECTION A-A' STATIC BLOCK LINER FAILURE (1214)

c:\documents and settings\justin.obermeyer\my documents\projects_countywide lf\slope stability\8(b) 1214.pl2 Run By: JObermeyer, CEG 3/5/2008 07:33PM

#	FS
a	**1.50**
b	1.50
c	1.50
d	1.50
e	1.50
f	1.50
g	1.50
h	1.50
i	1.50
j	1.50

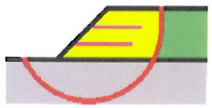
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Piez. Surface No.
EXMSW	1	65.0	65.0	300.0	35.0	0
SOIL FIL	2	125.0	137.5	0.0	30.0	0
MSW	3	65.0	65.0	300.0	35.0	0
LINER-F	4	135.0	135.0	0.0	14.3	0
LINER-S	5	135.0	135.0	0.0	9.1	0
INSITU	6	130.0	130.0	0.0	9.1	0



STABL6H FSmin=1.50

Safety Factors Are Calculated By The Modified Janbu Method

STED



```
                    ** STABL6H  **
                          by
                   Purdue University
             --Slope Stability Analysis--
          Simplified Janbu, Simplified Bishop
             or Spencer`s Method of Slices
 Run Date:                  3/5/2008
 Time of Run:               07:33PM
 Run By:                    JObermeyer, CEG
 Input Data Filename:       C:8(b) 1214.in
 Output Filename:           C:8(b) 1214.OUT
 Plotted Output Filename:   C:8(b) 1214.PLT
 PROBLEM DESCRIPTION   CELL 8C - SECTION A-A'
                       STATIC BLOCK LINER FAILURE (1214)
 BOUNDARY COORDINATES
     6 Top   Boundaries
    21 Total Boundaries
```

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	138.60	1.70	138.00	1
2	1.70	138.00	100.00	138.00	2
3	100.00	138.00	392.10	235.50	3
4	392.10	235.50	780.50	235.50	3
5	780.50	235.50	795.10	240.00	5
6	795.10	240.00	796.80	239.50	5
7	100.00	138.00	138.40	118.80	2
8	1.70	138.00	86.40	106.00	1
9	86.40	106.00	100.20	106.00	4
10	100.20	106.00	138.40	118.80	3
11	100.20	106.00	106.00	103.10	4
12	106.00	103.10	371.30	108.30	4
13	371.30	108.30	780.50	235.50	5
14	86.40	106.00	89.10	105.00	1
15	89.10	105.00	100.00	105.00	2
16	100.00	105.00	105.80	102.10	2
17	89.10	105.00	97.10	102.00	1
18	0.00	100.00	97.10	102.00	6
19	97.10	102.00	105.80	102.10	6
20	105.80	102.10	371.50	107.30	6
21	371.50	107.30	796.80	239.50	6

```
ISOTROPIC SOIL PARAMETERS
  6 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	65.0	65.0	300.0	35.0	0.00	0.0	0
2	125.0	137.5	0.0	30.0	0.00	0.0	0
3	65.0	65.0	300.0	35.0	0.00	0.0	0
4	135.0	135.0	0.0	14.3	0.00	0.0	0
5	135.0	135.0	0.0	9.1	0.00	0.0	0
6	130.0	130.0	0.0	9.1	0.00	0.0	0

```
 A Critical Failure Surface Searching Method, Using A Random
 Technique For Generating Sliding Block Surfaces, Has Been
 Specified.
1600 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  60.0
```

Box No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Height (ft)
1	154.40	103.50	154.50	103.50	0.25
2	371.30	107.80	371.40	107.80	0.25
3	399.10	116.40	780.50	235.00	0.25

```
 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  6 Coordinate Points
```

Point No.	X-Surf (ft)	Y-Surf (ft)

```
    1          95.97       138.00
    2         101.89       132.44
    3         154.41       103.43
    4         371.35       107.73
    5         776.29       233.80
    6         777.70       235.50
      ***      1.500    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          95.97       138.00
    2         101.89       132.44
    3         154.41       103.43
    4         371.35       107.73
    5         776.29       233.80
    6         777.70       235.50
      ***      1.500    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          95.97       138.00
    2         101.89       132.44
    3         154.41       103.43
    4         371.35       107.73
    5         776.29       233.80
    6         777.70       235.50
      ***      1.500    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          95.97       138.00
    2         101.89       132.44
    3         154.41       103.43
    4         371.35       107.73
    5         776.29       233.80
    6         777.70       235.50
      ***      1.500    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          98.39       138.00
    2         102.70       133.71
    3         154.48       103.40
    4         371.36       107.80
    5         762.23       229.40
    6         768.25       235.50
      ***      1.501    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          98.39       138.00
    2         102.70       133.71
    3         154.48       103.40
    4         371.36       107.80
    5         762.23       229.40
    6         768.25       235.50
      ***      1.501    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          98.39       138.00
    2         102.70       133.71
    3         154.48       103.40
    4         371.36       107.80
    5         762.23       229.40
    6         768.25       235.50
      ***      1.501    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
```

```
    1          98.39       138.00
    2         102.70       133.71
    3         154.48       103.40
    4         371.36       107.80
    5         762.23       229.40
    6         768.25       235.50
      ***      1.501    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          92.36       138.00
    2         101.87       132.39
    3         154.42       103.44
    4         371.40       107.77
    5         770.05       231.63
    6         770.40       235.50
      ***      1.502    ***
Failure Surface Specified By  6 Coordinate Points
  Point       X-Surf       Y-Surf
   No.         (ft)         (ft)
    1          92.36       138.00
    2         101.87       132.39
    3         154.42       103.44
    4         371.40       107.77
    5         770.05       231.63
    6         770.40       235.50
      ***      1.502    ***
```