



CLOSURE PLAN – REVISION 02
40 C.F.R. PART 257.102(b)
GULF CLEAN ENERGY CENTER – ASH LANDFILL #2
FLORIDA POWER & LIGHT COMPANY

This Closure Plan was prepared for Florida Power & Light Company's (FPL's) Gulf Clean Energy Center (GCEC, formerly Plant Crist) Ash Landfill #2, located in Pensacola, Florida. This Closure Plan was prepared in accordance with the United States Environmental Protection Agency's (EPA) "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" Final Rule (40 C.F.R. Part 257, Subpart D) and meets the requirements of 40 C.F.R. §257.102(b) for closure of CCR units.

Facility details are as follows:

Site Name / Address

Gulf Clean Energy Center (GCEC)
11999 Pate Street
Pensacola, FL 32520

Owner Name / Address

Florida Power & Light Company
700 Universe Boulevard, JES/JB
Juno Beach, Florida 33408

CCR Unit

GCEC Ash Landfill #2

Closure Method

Closure In-Place

CLOSURE PLAN

The purpose of this Closure Plan is to outline the methods and procedures under consideration for the Gulf Clean Energy Center (GCEC) Ash Landfill #2 consistent with recognized and generally accepted good engineering practices. This Closure Plan may be amended in accordance with the requirements of 40 C.F.R. §257.102(b)(3) should there be a change in operation or unanticipated events that would substantially affect the written Closure Plan.

Methods and Procedures

The GCEC Ash Landfill #2 area is approximately 15.2 acres which includes the bottom ash landfill and adjacent roadway. The CCR unit is designed to be closed by Closure in Place following placement of non-spec ash from reclaim operations at Landfill 1. During closure, CCR will be graded within the footprint of the unit to create the subgrade for the placement of the final cover. In accordance with 40 C.F.R. §257.102(d), the final cover system will be designed to meet the following standards:

- Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;
- Preclude the probability of future impoundment of water, sediment, or slurry;
- Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;
- Minimize the need for further maintenance of the CCR unit; and
- Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

See Appendix 1 for the proposed closure design drawings for GCEC Landfill #2.

CCR Material Estimate

The GCEC Ash Landfill #2 has a design capacity of approximately 825,000 cubic yards of CCR. As reported in January 2023, the volume of materials contained in the GCEC Landfill #2 at the time of inspection is estimated to be approximately 246,100 cubic yards of CCR.

Final Cover System

The final cover system is designed to minimize infiltration and erosion for the CCR unit. The final cover system design meets the requirements of 40 C.F.R. §257.102(d)(3)(i) for traditional cover system. The final cover system will ensure the disruption of the integrity of the final cover system is minimized through a design that accommodates for settlement and subsidence and prevents the future impoundment of water, in addition to providing protection from wind or water erosion. The post-closure CCR limits, accounting for the largest area requiring a final cover, is approximately 12.1 acres.

The engineered final cover system consists of the following minimum components, listed from bottom to top.

- 40-mil (min.) textured LLDPE or HDPE geomembrane liner
- Double-sided geocomposite drainage layer
- 18-inch protective soil layer
- 6-inch vegetative soil layer

SCHEDULE

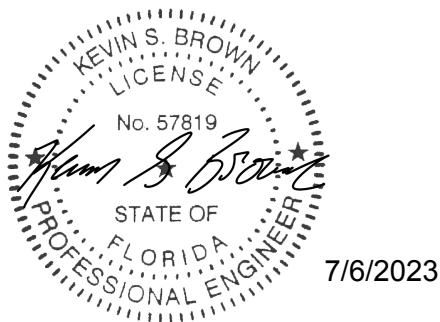
Closure activities for the GCEC Ash Landfill #2 are outlined in the schedule presented in Table 1. Closure milestones and activities are approximate and some of the activities will overlap. Milestones reflect approximate time to implement closure. The closure completion date has not yet been established.

Table 1: GCEC Ash Landfill #2 Closure Milestones Schedule

Closure Activity	Duration of Closure Activity
Closure Regulatory Interface and Permitting	6 months
Subgrade Grading and Preparation	6 months
Closure Construction (Installation of Final Cover System)	9 months
End Final Closure Construction Activities	--

CERTIFICATION

I certify that this Closure Plan for the Gulf Clean Energy Center Ash Landfill #2 was prepared in accordance with 40 C.F.R. 257.102(b).

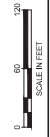


Kevin S. Brown, P.E.
 Florida Licensed Professional Engineer No. 57819
 WSP USA, Inc.

LEGEND

- EXISTING GROUND MAJOR CONTOUR (10' (NOTE 2))
- EXISTING GROUND MINOR CONTOUR (2' (NOTE 2))
- PROPOSED GRADING MAJOR CONTOURS (10')
- PROPOSED GRADING MINOR CONTOURS (2')
- EXISTING SITE ACCESS ROAD
- WATER EDGE
- EXISTING RIPRAP
- TRAILLINE
- STATE PLANE COORDINATES (NOTE 1)
- AMERICAN DATUM OF 1983 (AD83)
- CCR UNIT BOUNDARY
- EXISTING MONITORING WELL
- EXISTING STORMWATER PIPE (NOTE 3)
- EXISTING STORMWATER CONVEYANCE CHANNEL
- PROPOSED ACCESS ROAD
- PROPOSED DOWNDRAIN AND CULVERT
- DRAINAGE BENCH
- ACCESS ROAD STORMWATER CONVEYANCE CHANNEL
- PERIMETER STORMWATER CONVEYANCE CHANNEL
- PROPOSED RIPRAP
- PROPOSED GRADING

- NOTES:**
 1. THE EXISTING AND EXISTING COORDINATES SHOWN REPRESENT FLORIDA STATE AND NORTH ZONE NORTH AMERICAN DATUM OF 1983 (AD83). THE ELEVATIONS SHOWN REPRESENT NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
 2. TOPOGRAPHY (EXISTING GROUND CONTOURS) BASED ON SURVEY DATA PROVIDED BY GFI GEOSPATIAL INC. DATED 17 SEPTEMBER 2022.
 3. THE ELEVATIONS SHOWN FOR THE EXISTING PIPE INVERT AND STRUCTURE RISEM ELEVATIONS ARE BASED ON DATED 08/27/21 (NA83-AD83) AND HAVE BEEN ADJUSTED DOWN BY 72.68 FEET TO MATCH NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
 4. IT IS ASSUMED THAT NO COR EXISTS OUTSIDE THE PERIMETER ROAD OF LANDFILL NO. 2 ALTHOUGH THE PERIMETER ROAD IS TO BE CONSTRUCTED. THE CONSTRUCTION OF THE FINAL COVER SYSTEM TO PRESENT OUTSIDE THE LIMITS OF THE PROPOSED COVER SYSTEM.
 5. THE STORMWATER DETENTION POND RECEIVES STORMWATER RUNOFF FROM AREAS WITH EXPOSED ASH. THE POND WILL BE EXCAVATED AND PLACED WITHIN THE LANDFILL EXCAVATION WILL EXTEND SIX INCHES BELOW THE BOTTOM OF CCR MATERIAL BASED UPON VISUAL OBSERVATION.



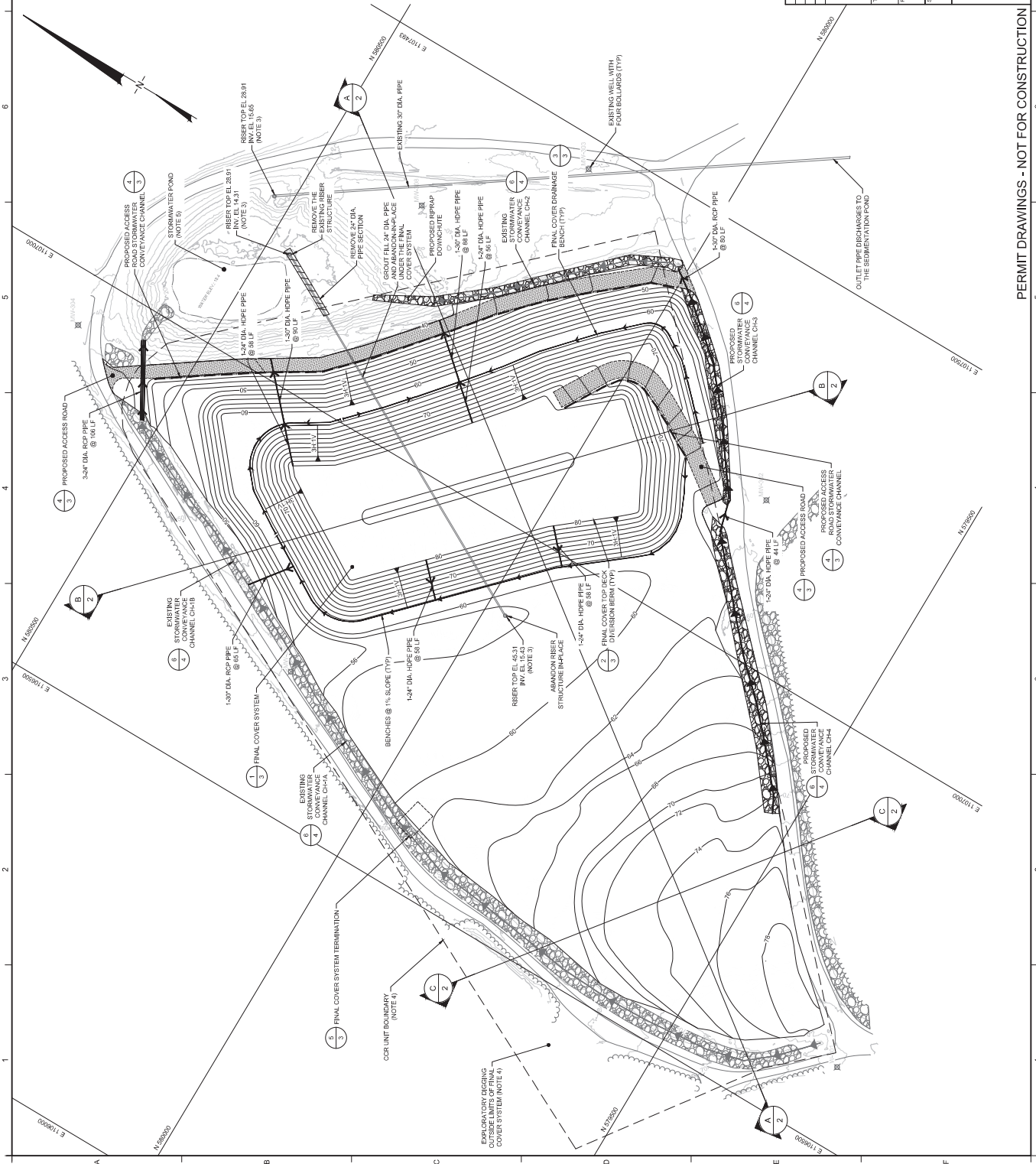
REV	DATE	DESCRIPTION	TR	LD
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12000 AD83(83) IS NOT SHEET
 DATE: 03/09/23
 PLOT: 03/09/23

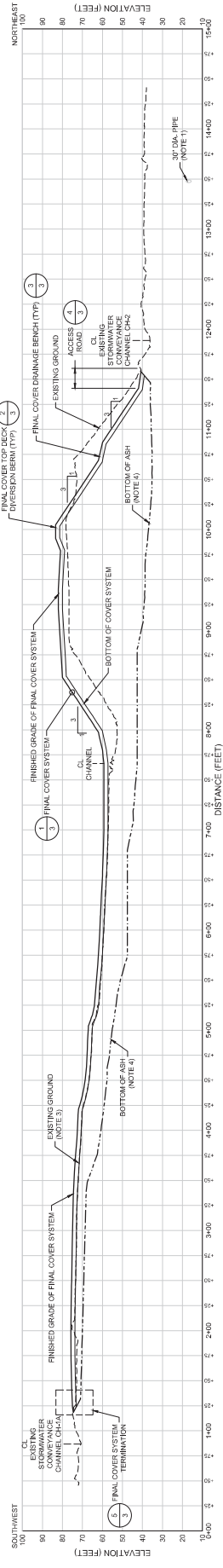
Geosyntec

FILE: CONCEPTUAL FINAL GRADING AND STORMWATER MANAGEMENT PLAN
 PRODUCT: ASH LANDFILL NO. 2
 SITE: GULF CLEAN ENERGY CENTER

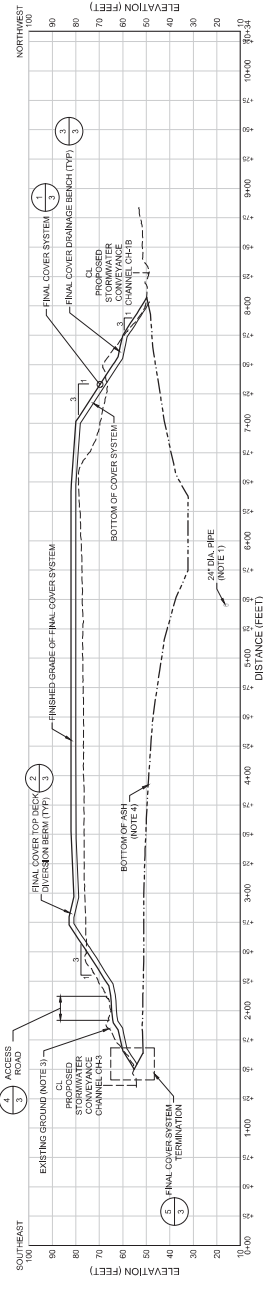
DESIGNED BY: JUNE DATE: MARCH 2023
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 CHECKED BY: KF FILE: FR3592.01 - C01
 SURVEYED BY: BG
 APPROVED BY: LD 1 OF 4



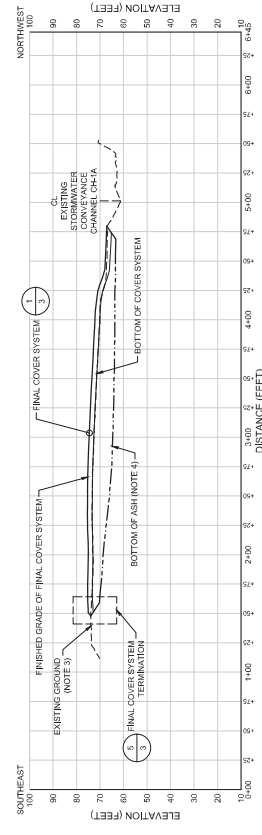
PERMIT DRAWINGS - NOT FOR CONSTRUCTION



A
SECTION A
LF2 SITE SECTION A
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 25'



B
SECTION B
LF2 SITE SECTION B
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 25'



C
SECTION C
LF2 SITE SECTION C
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 25'

- NOTES:
THE ELEVATIONS SHOWN FOR THE EXISTING PIPE INVERT AND STRUCTURE FIN ELEVATIONS ARE BASED ON 082717148-AL100842-004 AND HAVE BEEN ADJUSTED DOWN BY 72.88 FEET TO MATCH NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. THE ELEVATIONS SHOWN REPRESENT NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), DATED 17 SEPTEMBER 2022.
4. THE ELEVATIONS SHOWN FOR THE BOTTOM OF ASH ARE BASED ON GIBST STEAM PLAN DRAWINGS BY 04131985 AND HAVE BEEN ADJUSTED BY DOWN 72.88 FEET TO MATCH NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

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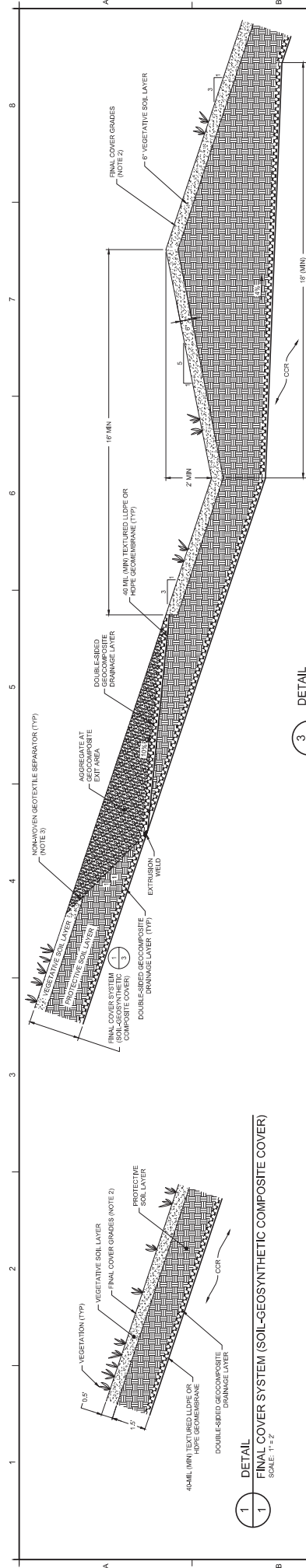
Geosynthetic

1528 ADMIRALS BLVD SUITE 100
DALLAS, TEXAS 75243
PH: 972.232.5500

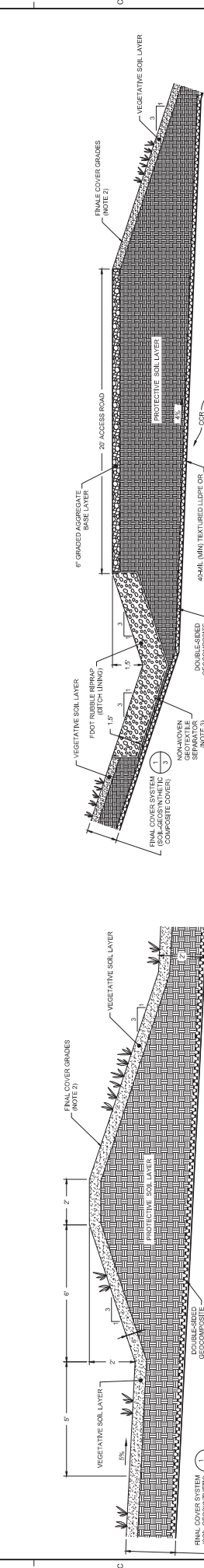
SITE SECTIONS
ASH LANDFILL NO. 2
GULF CLEAN ENERGY CENTER

DESIGNED BY	DATE	DATE	DATE
JUNE	MARCH 2020		
PROJECT NO.	FR392		
DRAWN BY	TR	CHECKED BY	KE
FILE	FR392L01-C02		
SCALE	AS SHOWN	DATE	
APPROVED BY	LD	DATE	

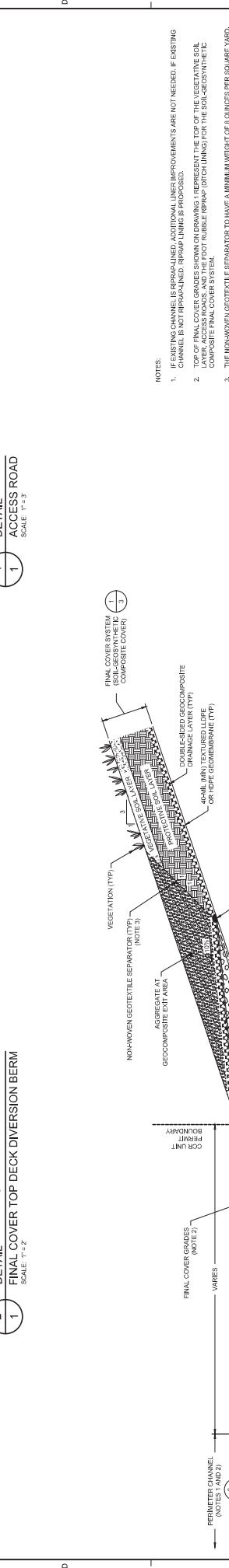
PERMIT DRAWINGS - NOT FOR CONSTRUCTION



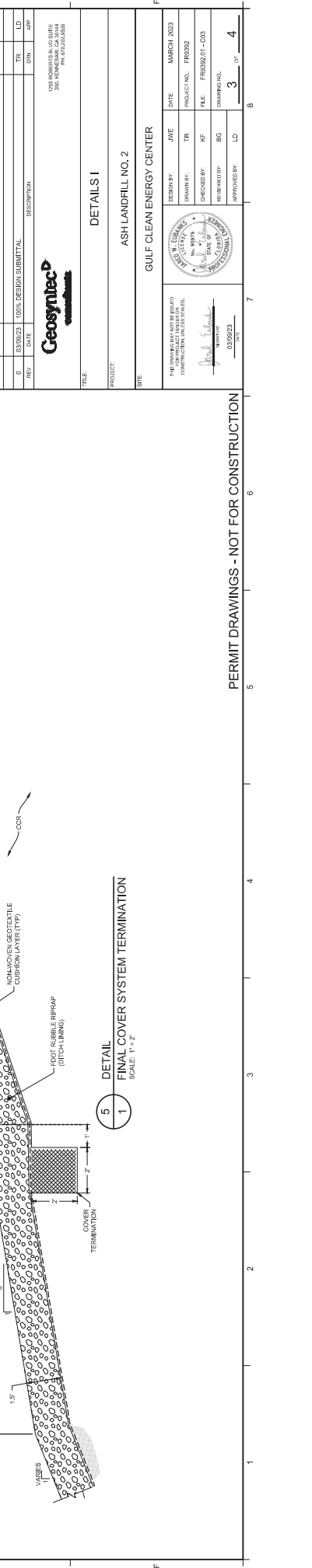
3 DETAIL
1 FINAL COVER DRAINAGE BENCH
 SCALE: 1" = 2'



2 DETAIL
1 FINAL COVER TOP DECK DIVERSION BERM
 SCALE: 1" = 2'



5 DETAIL
1 FINAL COVER SYSTEM TERMINATION
 SCALE: 1" = 2'

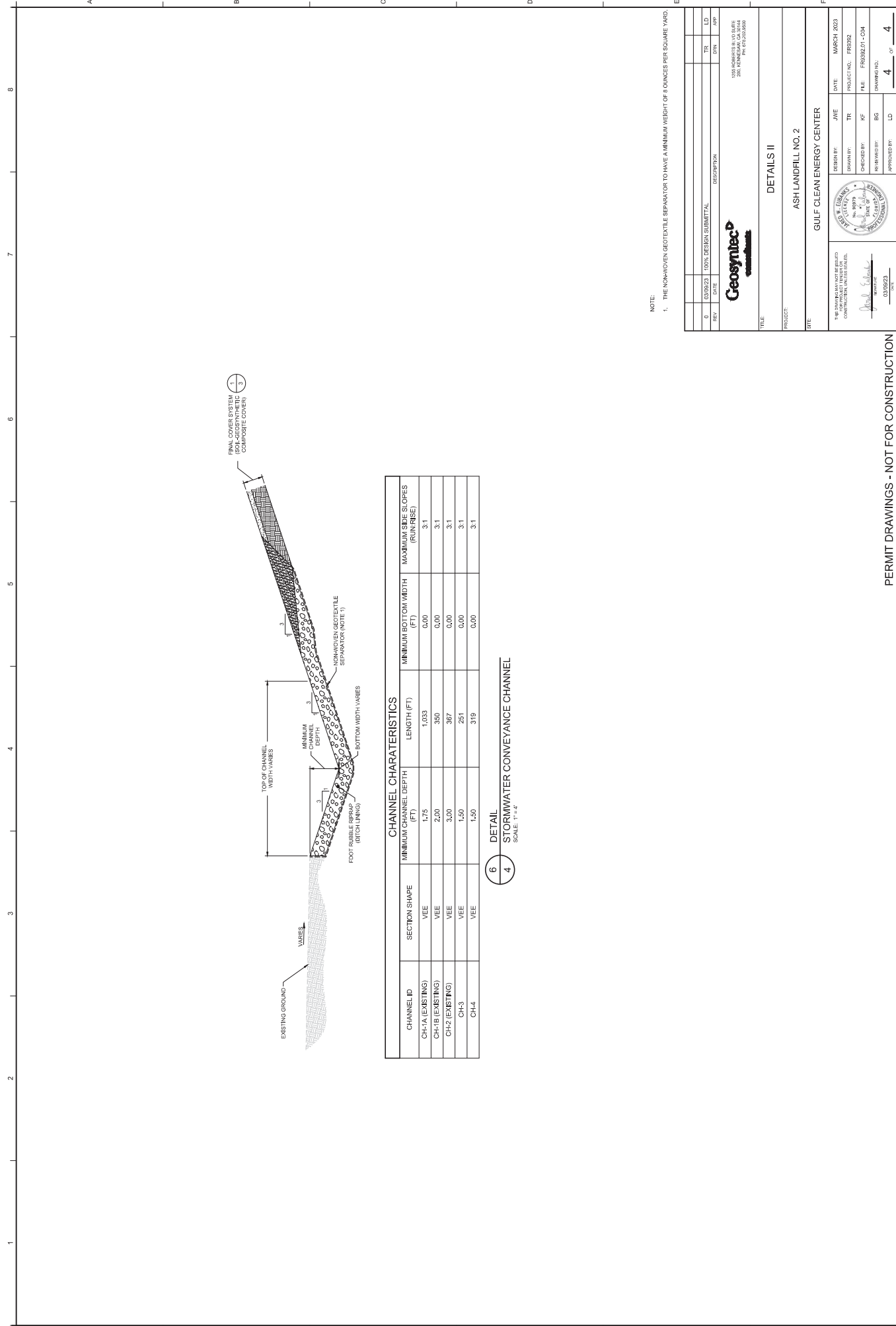


5 DETAIL
1 FINAL COVER SYSTEM TERMINATION
 SCALE: 1" = 2'

- NOTES:
- IF EXISTING CHANNEL IS RIPRAP-LINED, ADDITIONAL LINES/IMPROVEMENTS ARE NOT NEEDED. IF EXISTING CHANNEL IS NOT RIPRAP-LINED, RIPRAP LINING IS PROPOSED.
 - TOP OF FINAL COVER GRADES SHOWN ON DRAWING 1 REPRESENT THE TOP OF THE VEGETATIVE SOIL LAYER, ACCESS ROADS, AND THE FOOT RUBBLE RIPRAP (DITCH LINING) FOR THE SOIL-GEO-SYNTHETIC COMPOSITE FINAL COVER SYSTEM.
 - THE NON-WOVEN GEOTEXTILE SEPARATOR TO HAVE A MINIMUM WEIGHT OF 8 OUNCES PER SQUARE YARD.

REV	DATE	DESCRIPTION	TR	LD
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1200 ADMIRALTY BLVD SUITE 100 DALLAS, TEXAS 75241-3809 PH: 972.500.5500	
FILE	DETAILS I
PROJECT	ASH LANDFILL NO. 2
SITE	GULF CLEAN ENERGY CENTER
DESIGNED BY	JUNE
DRAWN BY	TR
CHECKED BY	KE
SCALE	AS SHOWN
DATE	MARCH 2023
PROJECT NO.	FR392
FILE	FR392L01-C03
DRAWING NO.	3
APPROVED BY	LD
DATE	3
SCALE	4



CHANNEL CHARACTERISTICS

CHANNEL ID	SECTION SHAPE	MINIMUM CHANNEL DEPTH (FT)	LENGTH (FT)	MINIMUM BOTTOM WIDTH (FT)	MAXIMUM SIDE SLOPES (RUN/RISE)
CH-1A (EXISTING)	VEE	1.75	1,033	0.00	3:1
CH-1B (EXISTING)	VEE	2.00	350	0.00	3:1
CH-2 (EXISTING)	VEE	3.00	367	0.00	3:1
CH-3	VEE	1.50	251	0.00	3:1
CH-4	VEE	1.50	319	0.00	3:1

6
4 DETAIL
STORMWATER CONVEYANCE CHANNEL
SCALE: 1"=4'

NOTE:
1. THE NONWOVEN GEOTEXTILE SEPARATOR TO HAVE A MINIMUM HEIGHT OF 8 OUNCES PER SQUARE YARD.

REV	DATE	DESCRIPTION	TR	LD	APP
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Geosynthetic
12266 ADAMS BLVD SUITE 100
DALLAS, TEXAS 75244
PH: 972.232.5500

TITLE: DETAILS II
PROJECT: ASH LANDFILL NO. 2

SITE: GULF CLEAN ENERGY CENTER

THIS DRAWING SHALL BE USED ONLY FOR THE PROJECT AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

DATE: 03/09/23

DESIGNED BY: JUNE DATE: MARCH 2023
 DRAWN BY: TR PROJECT NO.: FR392
 CHECKED BY: KE FILE: FR392L01-CM
 SCALE: 1"=4' DATE: 03/09/23
 APPROVED BY: LD DRAWING NO.: 4 OF 4

PERMIT DRAWINGS - NOT FOR CONSTRUCTION