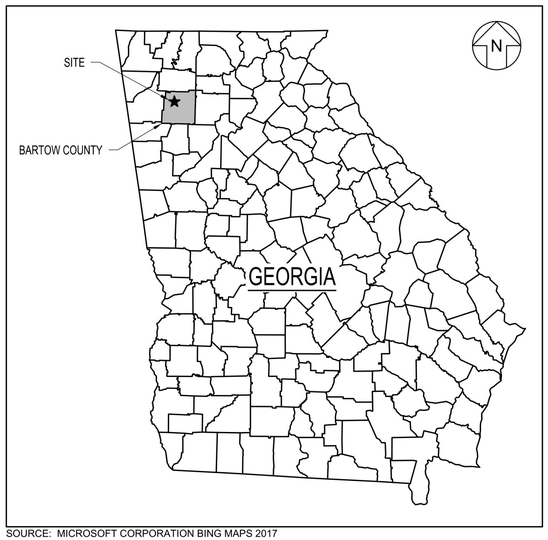
PLANT BOWEN ASH POND 1 (AP-1) CLOSURE
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

MAY 2025 2

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Approved
Solid Waste Management Program

Approved By: Mark Wescott P.G. Digitally signed by Mark Wescott P.G. Date: 2025.07.16 15:02:35 -04'00'



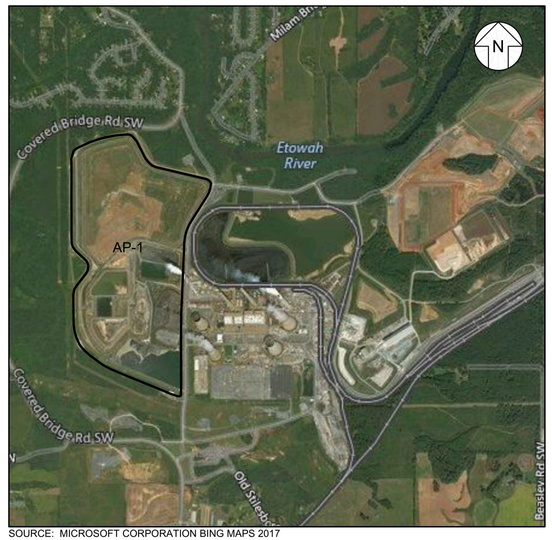
SOURCE: MICROSOFT CORPORATION BING MAPS 2017

LOCATION MAP
NOT TO SCALE

LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE	REVISION	DATE
1	COVER SHEET	2	MAY 2025
2	LEGENDS, ABBREVIATIONS, AND REFERENCE NOTES	0	AUGUST 2021
3	PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION	0	AUGUST 2021
4	SITE PLAN	1	MAY 2024
5	EXISTING SITE CONDITIONS AND TOPOGRAPHY	1	MAY 2024
6	APPROXIMATE BOTTOM OF AP-1 GRADES	1	MAY 2024
7	FOUNDATION IMPROVEMENT PLAN	1	MAY 2024
8	EXCAVATION PLAN - OVERALL	1	MAY 2024
9	EXCAVATION PLAN - SOUTH AP-1	1	MAY 2024
10	EXCAVATION PLAN - NORTH AP-1	1	MAY 2024
11	TOP OF LINER GRADING PLAN - OVERALL	1	MAY 2024
12	TOP OF LINER GRADING PLAN - SOUTH AP-1	1	MAY 2024
13	TOP OF LINER GRADING PLAN - NORTH AP-1	1	MAY 2024
14	TOP OF CCR GRADING PLAN - OVERALL	1	MAY 2024
15	TOP OF CCR GRADING PLAN - SOUTH AP-1	1	MAY 2024
16	TOP OF CCR GRADING PLAN - NORTH AP-1	1	MAY 2024
17	FINAL CLOSURE GRADING PLAN - OVERALL	1	MAY 2024
18	FINAL CLOSURE GRADING PLAN - SOUTH AP-1	1	MAY 2024
19	FINAL CLOSURE GRADING PLAN - NORTH AP-1	1	MAY 2024
20	CLOSURE PHASING PLANS I	1	MAY 2024
21	CLOSURE PHASING PLANS II	1	MAY 2024
22	CLOSURE PHASING PLANS III	1	MAY 2024
23	CLOSURE PHASING PLANS IV	1	MAY 2024
24	SITE CROSS SECTIONS I	0	AUGUST 2021
25	SITE CROSS SECTIONS II	0	AUGUST 2021
26	SITE CROSS SECTIONS III	0	AUGUST 2021
27	LINER SYSTEM DETAILS I	0	AUGUST 2021
28	LINER SYSTEM DETAILS II	0	AUGUST 2021
29	FINAL COVER SYSTEM DETAILS	0	AUGUST 2021
30	PERIMETER DETAILS	0	AUGUST 2021
31	PERIMETER BERM CROSS SECTIONS I	0	AUGUST 2021
32	PERIMETER BERM CROSS SECTIONS II	0	AUGUST 2021
33	LEACHATE MANAGEMENT PLAN	1	MAY 2024
34	LEACHATE MANAGEMENT SYSTEM DETAILS I	0	AUGUST 2021
35	LEACHATE MANAGEMENT SYSTEM DETAILS II	0	AUGUST 2021
36	LEACHATE MANAGEMENT SYSTEM DETAILS III	0	AUGUST 2021
37	LEACHATE MANAGEMENT SYSTEM DETAILS IV	0	AUGUST 2021
38	STORMWATER MANAGEMENT SYSTEM PLAN - OVERVIEW	1	MAY 2024
39	STORMWATER MANAGEMENT SYSTEM PLAN - SOUTH AP-1	1	MAY 2024
40	STORMWATER MANAGEMENT SYSTEM PLAN - NORTH AP-1	1	MAY 2024
41	STORMWATER MANAGEMENT SYSTEM DETAILS I	0	AUGUST 2021
42	STORMWATER MANAGEMENT SYSTEM DETAILS II	0	AUGUST 2021
43	STORMWATER MANAGEMENT SYSTEM DETAILS III	0	AUGUST 2021
44	STORMWATER MANAGEMENT SYSTEM DETAILS IV	0	AUGUST 2021
45	STORMWATER MANAGEMENT SYSTEM DETAILS V	0	AUGUST 2021
46	STORMWATER MANAGEMENT SYSTEM DETAILS VI	0	AUGUST 2021
47	EROSION AND SEDIMENT CONTROL DETAILS I	0	AUGUST 2021
48	EROSION AND SEDIMENT CONTROL DETAILS II	0	AUGUST 2021
49	EROSION AND SEDIMENT CONTROL DETAILS III	0	AUGUST 2021
50	COMPLIANCE MONITORING NETWORK	2	MAY 2025

2 2



SOURCE: MICROSOFT CORPORATION BING MAPS 2017

VICINITY MAP
0 1,500 3,000
SCALE IN FEET

PHYSICAL SITE ADDRESS:
PLANT BOWEN
317 COVERED BRIDGE ROAD SW
CARTERSVILLE, GEORGIA 30120

PREPARED FOR:

Georgia Power

GEORGIA POWER ENVIRONMENTAL AFFAIRS
241 RALPH MCGILL BOULEVARD NE
ATLANTA, GEORGIA 30308
CONTACT: GENERAL MANAGER
TELEPHONE: 404.506.6505

PREPARED BY:

Geosyntec consultants

1255 ROBERTS BOULEVARD NW, SUITE 200
KENNESAW, GEORGIA 30144-3694
TELEPHONE: 678.202.9500

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE
Rudolph Bonaparte
May 5, 2025

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
2	MAY 2025	UPDATE COMPLIANCE MONITORING NETWORK	JJV	RB
1	MAY 2024	MINOR MOD SUBMITTAL TO GA EPD	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

COVER SHEET

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants

1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-001
SCALE	AS SHOWN	EDIT	5/5/2025
DATE	AUGUST 2021	DRAWING	1 OF 50

D:_GEO-ACAD\ACDOCS\GEOSYNTEC\GA POWER\ENPROJECT FILES\PERMITS\1_ASH POND CLOSURE\CADD\DRAWINGS\GR6601-001

LINETYPE LEGEND

- EDGE OF ROAD / EXISTING BUILDINGS
- RAILROAD TRACKS
- POWER TRANSMISSION LINE EASEMENT
- GAS LINE AND EASEMENT
- EXISTING PIPE
- TREE LINE
- STREAMS / WATER LINE / CREEK
- EXISTING GROUND
- APPROXIMATE TOP OF BEDROCK (NOTE 10)
- APPROXIMATE BOTTOM OF CCR
- PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE (NOTE 9)
- BOTTOM OF EXCAVATION
- PERMIT BOUNDARY
- PROPERTY BOUNDARY (NOTE 5)
- APPROXIMATE EXISTING LIMIT OF AP-1 / LIMIT OF LINER
- FINAL LIMIT OF CCR
- LEACHATE COLLECTION CORRIDOR
- LEACHATE FORCEMAIN
- FINAL COVER TOP DECK DIVERSION BERM
- FINAL COVER TOP DECK LET-DOWN CHANNEL
- FINAL COVER SIDESLOPE DRAINAGE BENCH
- FINAL COVER DOWNCHUTE CHANNEL
- STORMWATER CHANNEL
- TEXTURED HDPE OR LLDPE GEOMEMBRANE
- CLOSURETURF® SYSTEM
- DOUBLE-SIDED GEOCOMPOSITE
- NON-WOVEN GEOTEXTILE SEPARATOR OR CUSHION
- GEOSYNTHETIC CLAY LINER
- LIMIT OF DISTURBANCE
- CONTACT WATER DIVERSION
- STORMWATER (NON-CONTACT WATER) DIVERSION

SYMBOL LEGEND

- EXTRUSION WELD
- GROUNDWATER MONITORING WELL
- SLOPE GRADE
- SLOPE INDICATOR
- SLOPE LABEL
- TRAILER / BUILDING / TANK
- VEGETATION
- GROUNDWATER OR WATER SURFACE
- STORMWATER FLOW DIRECTION
- STORMWATER CHANNEL OUTLET FLUME
- LEACHATE SUMP
- LEACHATE FORCEMAIN AIR RELEASE MANHOLE
- LEACHATE FORCEMAIN CLEANOUT MANHOLE
- LEACHATE FORCEMAIN JUNCTION MANHOLE
- TEMPORARY CONTACT-WATER COLLECTION LOCATION

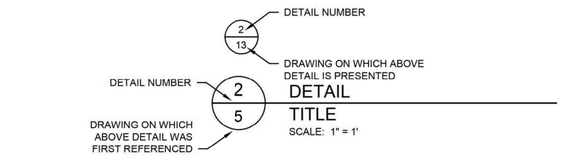
HATCH PATTERN LEGEND

- LINED STORMWATER POND
- CONCRETE
- FINE SAND FILTER LAYER
- FINE GRAVEL DRAINAGE LAYER
- MEDIUM GRAVEL DRAINAGE LAYER
- COARSE GRAVEL DRAINAGE LAYER
- FINE-SCREENED COMPACTED CLAY LINER
- COARSE-SCREENED COMPACTED CLAY LINER
- PROTECTIVE COVER SOIL / TRENCH BACKFILL / STRUCTURAL FILL
- PIPE EMBEDMENT FILL / COMPACTED GRANULAR SUBBASE
- VEGETATIVE COVER LAYER
- CCR
- AGGREGATE
- RIPRAP
- CONSOLIDATED AREA FOUNDATION IMPROVEMENTS
- OTHER AREA FOUNDATION IMPROVEMENTS
- 100-YEAR FLOODPLAIN
- WETLANDS
- COVERED CCR AREA (NON-CONTACT WATER)
- TEMPORARY CCR STOCKPILE AREA
- CONTACT WATER COLLECTION AREA
- COMPACTED CLAYEY SOIL
- LINED CONTACT WATER POND

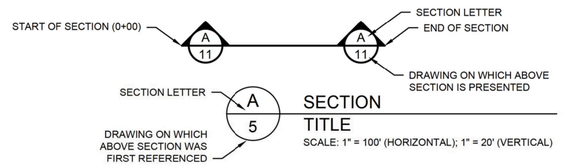
CONTOUR LEGEND

- 710 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- 700 — APPROXIMATE BOTTOM OF CCR SURFACE ELEVATION (FEET)
- 670 — EXCAVATION SURFACE ELEVATION (FEET)
- 680 — TOP OF LINER ELEVATION (FEET)
- 770 — TOP OF CCR ELEVATION FOR SOIL-GEOSYNTHETIC COMPOSITE COVER (FEET)
- 780 — TOP OF FINAL COVER SYSTEM / TOP OF CCR FOR ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER) / FINISHED GRADE ELEVATION (FEET)
- 680 — PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION (FEET)

DETAIL AND SECTION IDENTIFICATION LEGEND



EXAMPLE: DETAIL NUMBER 2 WHICH IS PRESENTED ON DRAWING NO. 13 WAS FIRST REFERENCED ON DRAWING NO. 5.



EXAMPLE: SECTION LETTER "A" WHICH IS PRESENTED ON DRAWING NO. 11 WAS FIRST REFERENCED ON DRAWING NO. 5.

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	ACRES
APP	APPROVED BY
CAD	COMPUTER-AIDED DRAFTING
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
C-TRM	COMPOSITE TURF REINFORCEMENT MAT
CCR	COAL COMBUSTION RESIDUALS
℄	CENTERLINE
CQA	CONSTRUCTION QUALITY ASSURANCE
DIA	DIAMETER
DRN	DRAWN BY
DWG	DRAWING
E	EAST OR EASTING
EL	ELEVATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FT	FEET
GDOT	GEORGIA DEPARTMENT OF TRANSPORTATION
GPC	GEORGIA POWER COMPANY
GSWCC	GEORGIA SOIL AND WATER CONSERVATION COMMISSION
GSWP	GENERAL SERVICE WATER POND
H:V	HORIZONTAL TO VERTICAL LENGTH RATIO FOR A SLOPE
HDPE	HIGH DENSITY POLYETHYLENE
HECP	HYDRAULIC EROSION CONTROL PRODUCTS
HPTRM	HIGH PERFORMANCE TURF REINFORCEMENT MAT
HWY	HIGHWAY
IN	INCH
INV	INVERT
LBS	POUNDS
LF	LINEAR FOOT
LLDPE	LINEAR LOW DENSITY POLYETHYLENE
LOD	LIMITS OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
MSL	MEAN SEA LEVEL
N	NORTH / NORTHING
NAD	NORTH AMERICAN DATUM
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NE	NORTHEAST
NO.	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
N.S.A.	NATIONAL STONE ASSOCIATION
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OZ	OUNCE
PC	PERIMETER CHANNEL
PROJ	PROJECT
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RECP	ROLLED EROSION CONTROL PRODUCTS
REV	REVISION
RP	RECYCLE POND
S	SOUTH
SCS	SOUTHERN COMPANY SERVICES
SF	SILT FENCE
SWP	STORMWATER PIPE
TRM	TURF REINFORCEMENT MAT
TYP	TYPICAL
UV	ULTRAVIOLET
W	WEST OR WIDTH
W.S.	WATER SURFACE
WWTS	WASTEWATER TREATMENT SYSTEM
%	PERCENT OR PERCENTILE

GENERAL SITE NOTES

1. IN THE VICINITY OF AP-1, TOPOGRAPHY, UTILITIES, EXISTING ROADS, STREAMS, AND TREELINES SHOWN ON THIS DRAWING SET IS FROM A LIDAR TOPOGRAPHIC SURVEY DATED 4/1/2017, PROVIDED AS AN ELECTRONIC COMPUTER-AIDED DRAFTING DRAWING FILE BY SOUTHERN COMPANY SERVICES.
2. BEYOND THE AP-1 AREA MAPPED WITH LIDAR TOPOGRAPHY AS DELINEATED ON THE DRAWINGS, TOPOGRAPHY IS FROM UNITED STATES GEOLOGIC SURVEY (USGS) DIGITAL MAPPING FILE, "NED 1 N35W085 ARCGRID GEORGIA".
3. ELEVATIONS ARE SHOWN IN FEET ABOVE MEAN SEA LEVEL (FT, MSL), THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
4. GRID COORDINATE SYSTEM CORRESPONDS TO NORTH AMERICAN DATUM OF 1983 (NAD83), GEORGIA STATE PLANE, WEST ZONE, US FOOT.
5. PROPERTY BOUNDARY IS APPROXIMATE AND WAS PROVIDED AS AN ELECTRONIC CAD DRAWING FILE BY SOUTHERN COMPANY SERVICES.
6. MONITORING WELL COORDINATES, GROUND SURFACE ELEVATIONS, AND SCREENED INTERVALS WERE OBTAINED FROM THE "SEPTEMBER 2020 WELL INSTALLATION ADDENDUM MEMORANDUM" DATED 29 SEPTEMBER 2020, PREPARED BY GEOSYNTEC CONSULTANTS, INC.
7. EXISTING LIMITS OF AP-1 AS PRESENTED IN THIS DRAWING SET ARE APPROXIMATE AND REPRESENT THE INTERIOR CREST OF THE CONTAINMENT DIKES. LIMITS ARE BASED ON A COMBINATION OF TOPOGRAPHIC MAP INTERPRETATION, EXAMINATION OF AS-BUILT PLANS OF CONTAINMENT DIKES, AND AIRPHOTO INTERPRETATION. FROM THIS INFORMATION, AN ESTIMATE WAS MADE OF THE LATERAL LOCATION AND VERTICAL PROFILE OF THE AP-1 LIMITS.
8. BOTTOM OF CCR SURFACE IS APPROXIMATE AND IS BASED ON AN ELECTRONIC CAD DRAWING PROVIDED BY SOUTHERN COMPANY SERVICES OF THE AS-CONSTRUCTED (PRE-ASH) BOTTOM OF AP-1 FROM TOPOGRAPHY DATED 10/30/1969, WITH UPDATES TO THE SURFACE MADE BY GEOSYNTEC USING ELEVATION DATA OF THE CCR-RESIDUUM INTERFACE AS ESTIMATED FROM BORINGS DURING RECENT SUBSURFACE INVESTIGATIONS IN AP-1. ON INTERIOR DIKE SIDESLOPES, BOTTOM OF CCR SURFACE WAS CREATED USING A TWO HORIZONTAL TO ONE VERTICAL (2H:1V) SLOPE.
9. PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE OBTAINED FROM GROUNDWATER FLOW MODELING RESULTS AS DOCUMENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" (PART B, SECTION 2 OF THIS PERMIT APPLICATION).
10. TOP OF BEDROCK SURFACE IS APPROXIMATE AND WAS DEVELOPED BY GEOSYNTEC USING AVAILABLE SUBSURFACE INFORMATION FROM PREVIOUS SITE INVESTIGATIONS.
11. DURING CLOSURE CONSTRUCTION, CONTRACTOR WILL VERIFY BOTH LATERAL AND VERTICAL EXTENT OF CCR IN THE FIELD.
12. EXCAVATION SURFACE IS APPROXIMATE AND WAS DEVELOPED BASED ON THE ESTIMATED BOTTOM OF CCR AND TO MEET THE FOLLOWING CRITERIA: (I) EXCAVATE AT LEAST SIX INCHES BELOW THE BOTTOM OF CCR SURFACE IN ALL AREAS OF AP-1; (II) CONDUCT ADDITIONAL EXCAVATION AS NEEDED BENEATH THE FLOOR AREAS OF THE CONSOLIDATED LINED FOOTPRINT AND BENEATH THE BASE OF THE NEW NORTH AND SOUTH CONTAINMENT DIKES TO PROVIDE AN 8-FT (MIN) COMPACTED SOIL BUFFER ZONE BELOW THE LINER SYSTEM; AND (III) CONDUCT ADDITIONAL EXCAVATION IN THE AREAS SOUTH AND NORTH OF THE CONSOLIDATED LINED FOOTPRINT (CLOSURE-BY-REMOVAL AREAS) AS NEEDED TO GRADE TO DRAIN UNDER FINAL CLOSED CONDITIONS.
13. EXCAVATION GRADES WILL BE ADJUSTED AS NECESSARY DURING CLOSURE CONSTRUCTION BASED ON APPLYING THE ABOVE CRITERIA TO THE ACTUAL FIELD-LOCATED BOTTOM OF CCR, AS WELL AS BASED ON FOUNDATION EVALUATIONS AND IMPROVEMENTS CONDUCTED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" (INCLUDED IN THE "CLOSURE PLAN" IN PART A, SECTION 7 OF THIS PERMIT APPLICATION).
14. MATERIAL PROPERTIES FOR THE FILL SOIL, LINER SYSTEM, LEACHATE COLLECTION SYSTEM, AND FINAL COVER SYSTEM ARE PROVIDED IN THE "CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN" (PART A, SECTION 5 OF THIS PERMIT APPLICATION).
15. DEWATERING OF CCR DURING CLOSURE CONSTRUCTION WILL BE PERFORMED AS NEEDED.
16. INTERIM STORM WATER MANAGEMENT DURING CLOSURE CONSTRUCTION - INCLUDING MANAGEMENT OF CONTACT WATER AND "CLEAN" (I.E., NON-CONTACT) STORMWATER - WILL BE CONDUCTED IN ACCORDANCE WITH THE STORMWATER AND CONTACT WATER MANAGEMENT PROCEDURES DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION). IN SUMMARY: CONTACT WATER WILL BE PUMPED OR CONVEYED BY GRAVITY TO DESIGNATED STORAGE AREAS IN AP-1, WHERE IT WILL BE PUMPED TO AN ON-SITE WASTEWATER TREATMENT SYSTEM (WWTS) OR OTHERWISE PROPERLY MANAGED IN ACCORDANCE WITH THE PLANT'S NPDES PERMIT REQUIREMENTS AND THEN DISCHARGED OFF-SITE VIA NPDES OUTFALL NO. 01A. NON-CONTACT STORMWATER WILL BE DISCHARGED TO RECEIVING WATER BODIES WITHOUT TREATMENT.
17. DUST CONTROL DURING CLOSURE CONSTRUCTION WILL BE MANAGED AS DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION).
18. INTERNAL HAUL ROADS, ACCESS RAMPS, AND INTERIM STORMWATER FEATURE LOCATIONS WILL BE EVALUATED AS PART OF THE DETAILED DESIGN. ADDITIONAL BERMS AND EXTERIOR DIVERSIONS WILL BE CONSTRUCTED, AS NEEDED, TO ADEQUATELY MANAGE STORMWATER RUNOFF.
19. VOLUME OF IN-PLACE CCR TO BE REMOVED FROM AP-1 IS ESTIMATED TO DECREASE (SHRINK) BY APPROXIMATELY 10 PERCENT UPON DEWATERING, PLACEMENT, AND COMPACTION WITHIN THE CONSOLIDATED LINED FOOTPRINT. AS PHASED CLOSURE CONSTRUCTION PROGRESSES, ACTUAL CCR QUANTITIES AND SHRINKAGE FACTORS WILL BE TRACKED AND COMPARED TO THE REMAINING CAPACITY, AND THE SIZE OF THE CONSOLIDATED LINED FOOTPRINT AND/OR ELEVATIONS OF THE FINAL COVER GRADES WILL BE REVISED ACCORDINGLY TO ACCOMMODATE THE ACTUAL SITE-SPECIFIC CCR VOLUME, WHILE MAINTAINING COMPLIANCE WITH APPLICABLE DESIGN CRITERIA.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 12:46:16 -04'00'

GEORGIA REGISTERED No. 17514 PROFESSIONAL ENGINEER Rudolph Bonaparte August 16, 2021 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

LEGENDS, ABBREVIATIONS, AND REFERENCE NOTES

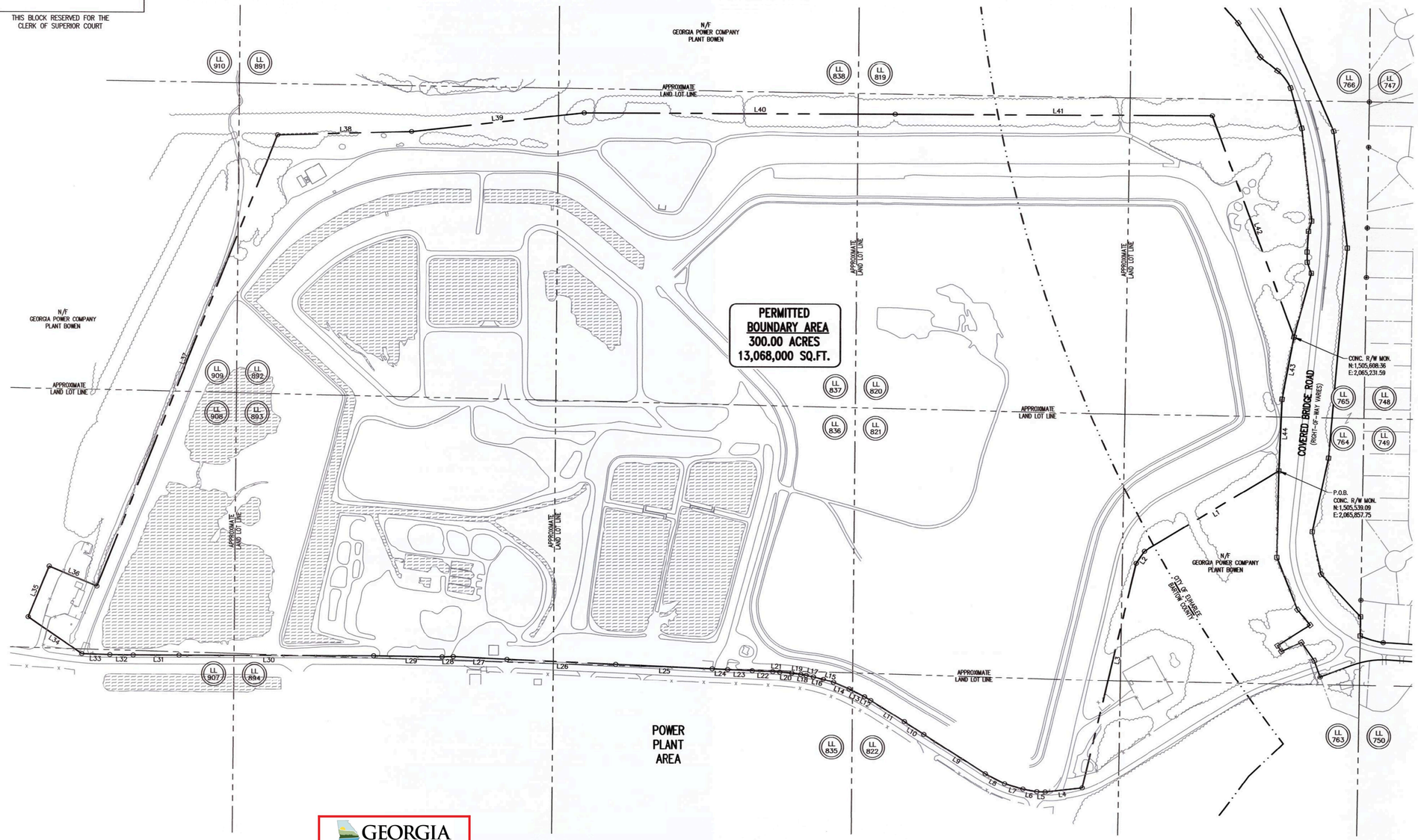
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

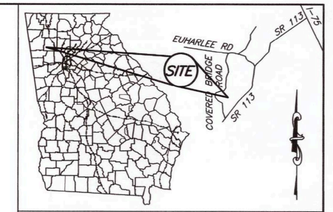
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-002	EDIT	08.16.21
SCALE	N/A	DRAWING 2 OF 50			
DATE	AUGUST 2021				

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-002

THIS BLOCK RESERVED FOR THE CLERK OF SUPERIOR COURT





LOCATION MAP – NOT TO SCALE

GRID NORTH
GEORGIA WEST ZONE
NAD 83 (1994)

MONUMENTATION LEGEND

- Iron Pin Set
- Iron Pin Found
- Monument Set 5"x5" Concrete
- Monument Found
- Computed Point
- CP1 / TRV1 Control or Traverse Point
- Geodetic Control Point
- Benchmark or Temporary Benchmark (TBM)

UTILITY LEGEND

- E Electric Manhole
- Electric Meter
- G Gas Manhole
- Gas Valve
- Gas Meter
- S Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- ST Storm Sewer Manhole
- T Telephone Manhole
- W Water Manhole
- Water Valve
- Water Meter
- Fire Hydrant
- W Well
- Power Pole
- Transmission Tower
- Guy Wire

PLAT ABBREVIATIONS

IPF – Iron Pin Found
IPS – Iron Pin Set
FPS – Fence Post Set
OTP – Open Top Pipe
CTP – Crimp Top Pipe
Conc. – Concrete
Alumn. – Aluminum
FO – Fiber Optic
P/L – Property Line
R/W – Right of Way
C/L – Centerline
F/L – Fenceline
T/L – Transmission Line
N/F – Now or Formerly
DB – Deed Book
PB – Plat Book
MF – Map File No.
N.T.S. – Not to Scale
P.O.C.– Point of Commencement
P.O.B.– Point of Beginning
GBH – Geotechnical Bore Hole
UGP – Underground Power
OHU – OverHead Utilities
GPC – Georgia Power Company
OPC – Oglethorpe Power Corporation
(99) – Subdivision Lot Number

NOTES AND REFERENCES:

1) THE SURVEY SHOWN HEREON IS A SPECIAL PURPOSE SURVEY TO ESTABLISH THE BOUNDARY OF THE PLANT BOWEN ASH POND 1 PERMITTED LANDS PER THE REQUIREMENTS OF THE STATE OF GEORGIA, DEPARTMENT OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION DIVISION.

2) BACKGROUND INFORMATION SHOWN HEREON TAKEN FROM FIELDWORK PERFORMED BY METRO ENGINEERING, INC. FOR AN AERIAL LIDAR TOPOGRAPHIC SURVEY, DATED 4/1/2017.

3) RIGHT-OF-WAY INFORMATION FOR COVERED BRIDGE ROAD SHOWN HEREON TAKEN FROM FIELD WORK PERFORMED BY JACOBS ENGINEERING INC., FOR A SURVEY TITLED "PLANT BOWEN R/W DEDICATION OF COVERED BRIDGE ROAD, OLD STILESBORO ROAD, AND ATWOOD ROAD", DATED AUGUST 1, 2011, GPC MAP FILE NO. P-256-1.

4) LOCATION OF RIGHT-OF-WAY MONUMENTS ALONG THE COMMON LINE BETWEEN THE PLANT BOWEN ASH POND 1 PERMITTED LANDS BOUNDARY AND THE RIGHT-OF-WAY OF COVER BRIDGE ROAD WERE VERIFIED BY ADDITIONAL SURVEY FIELDWORK ON SEPTEMBER 28, 2018.

5) REFERENCE WAS MADE TO THE FOLLOWING MAPS & SURVEYS;

A.) SURVEY PREPARED BY CLYDE N. ELDRIDGE AERIAL SURVEYS TITLED "ETOWAH RIVER PROJECT (N.K.A. PLANT BOWEN)", DATED MAY 10, 1967, GPC MAP FILE NO. E1-D.

B.) SURVEY PREPARED BY SMITH & SMITH SURVEYORS, P.C. TITLED "QUITCLAIM SURVEY FOR BARTOW COUNTY PORTION OF COVERED BRIDGE ROAD CONVEYED TO GEORGIA POWER COMPANY", DATED 5/30/2008, GPC MAP FILE NO. P119-8.

LEGAL DESCRIPTION
PLANT BOWEN – ASH POND 1
PERMITTED BOUNDARY AREA

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOTS 764, 765, 820, 821, 822, 835, 836, 837, 892, 893, 894, 907, 908 AND 909 OF THE 17TH DISTRICT, 3RD SECTION OF BARTOW COUNTY, CITY OF EUHARLEE, GEORGIA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A CONCRETE RIGHT-OF-WAY MONUMENT ON THE RIGHT OF WAY OF COVERED BRIDGE ROAD (RIGHT-OF-WAY WIDTH VARIES) HAVING GEORGIA STATE PLANE WEST ZONE COORDINATES NAD 83(94) OF NORTH 1,505,539.09 AND EAST 2,065,857.75; THENCE SOUTH 30°59'16" EAST A DISTANCE OF 733.45 FEET TO A POINT; THENCE SOUTH 56°14'47" EAST A DISTANCE OF 69.73 FEET TO A POINT; THENCE SOUTH 76°39'05" EAST A DISTANCE OF 1076.61 FEET TO A POINT; THENCE SOUTH 06°29'22" EAST A DISTANCE OF 173.84 FEET TO A POINT; THENCE SOUTH 01°38'41" WEST A DISTANCE OF 38.52 FEET TO A POINT; THENCE SOUTH 10°01'24" WEST A DISTANCE OF 66.26 FEET TO A POINT; THENCE SOUTH 16°49'09" WEST A DISTANCE OF 88.84 FEET TO A POINT; THENCE SOUTH 26°57'53" WEST A DISTANCE OF 101.02 FEET TO A POINT; THENCE SOUTH 32°27'25" WEST A DISTANCE OF 340.69 FEET TO A POINT; THENCE SOUTH 32°32'11" WEST A DISTANCE OF 110.19 FEET TO A POINT; THENCE SOUTH 32°14'32" WEST A DISTANCE OF 185.80 FEET TO A POINT; THENCE SOUTH 30°00'00" WEST A DISTANCE OF 33.53 FEET TO A POINT; THENCE SOUTH 26°13'46" WEST A DISTANCE OF 80.22 FEET TO A POINT; THENCE SOUTH 22°39'27" WEST A DISTANCE OF 78.79 FEET TO A POINT; THENCE SOUTH 17°43'09" WEST A DISTANCE OF 49.93 FEET TO A POINT; THENCE SOUTH 13°38'04" WEST A DISTANCE OF 47.63 FEET TO A POINT; THENCE SOUTH 11°57'27" WEST A DISTANCE OF 34.98 FEET TO A POINT; THENCE SOUTH 09°38'17" WEST A DISTANCE OF 25.28 FEET TO A POINT; THENCE SOUTH 07°51'47" WEST A DISTANCE OF 42.34 FEET TO A POINT; THENCE SOUTH 04°40'42" WEST A DISTANCE OF 56.46 FEET TO A POINT; THENCE SOUTH 03°59'21" WEST A DISTANCE OF 32.24 FEET TO A POINT; THENCE SOUTH 02°30'06" WEST A DISTANCE OF 96.48 FEET TO A POINT; THENCE SOUTH 02°30'38" WEST A DISTANCE OF 114.37 FEET TO A POINT; THENCE SOUTH 02°53'49" WEST A DISTANCE OF 72.12 FEET TO A POINT; THENCE SOUTH 02°23'51" WEST A DISTANCE OF 452.42 FEET TO A POINT; THENCE SOUTH 02°26'24" WEST A DISTANCE OF 507.81 FEET TO A POINT; THENCE SOUTH 02°51'01" WEST A DISTANCE OF 251.35 FEET TO A POINT; THENCE SOUTH 02°01'12" EAST A DISTANCE OF 51.84 FEET TO A POINT; THENCE SOUTH 00°45'33" WEST A DISTANCE OF 321.53 FEET TO A POINT; THENCE SOUTH 00°06'50" EAST A DISTANCE OF 909.94 FEET TO A POINT; THENCE SOUTH 00°01'27" WEST A DISTANCE OF 214.11 FEET TO A POINT; THENCE SOUTH 00°40'09" WEST A DISTANCE OF 109.55 FEET TO A POINT; THENCE SOUTH 01°52'17" WEST A DISTANCE OF 130.90 FEET TO A POINT; THENCE SOUTH 34°31'55" WEST A DISTANCE OF 304.64 FEET TO A POINT; THENCE NORTH 67°27'06" WEST A DISTANCE OF 255.68 FEET TO A POINT; THENCE NORTH 22°32'54" EAST A DISTANCE OF 241.19 FEET TO A POINT; THENCE NORTH 68°17'14" WEST A DISTANCE OF 2273.67 FEET TO A POINT; THENCE NORTH 01°34'19" WEST A DISTANCE OF 625.42 FEET TO A POINT; THENCE NORTH 06°19'01" WEST A DISTANCE OF 812.07 FEET TO A POINT; THENCE NORTH 00°02'59" EAST A DISTANCE OF 1452.94 FEET TO A POINT; THENCE NORTH 00°09'28" EAST A DISTANCE OF 1482.29 FEET TO A POINT; THENCE NORTH 69°35'38" EAST A DISTANCE OF 1100.66 FEET TO A CONCRETE RIGHT-OF-WAY MONUMENT ON THE RIGHT-OF-WAY OF COVERED BRIDGE ROAD; THENCE ALONG SAID RIGHT-OF-WAY SOUTH 79°19'06" EAST A DISTANCE OF 296.60 FEET TO A CONCRETE RIGHT-OF-WAY MONUMENT; THENCE SOUTH 87°33'15" EAST A DISTANCE OF 335.01 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINING 300.00 ACRES MORE OR LESS AND BEING MORE FULLY DEPICTED ON A PLAT OF SURVEY PREPARED BY GEORGIA POWER COMPANY TITLED "PLANT BOWEN ASH POND 1 PERMITTED BOUNDARY AREA", DATED 10/3/2018, GPC MAP FILE NO. P469-1, SAID PLAT IS INCORPORATED HEREIN BY REFERENCE.

GRAPHIC SCALE

250 0 125 250 500 1000

(1 IN = 250 FEET)

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2019.09.27 13:48:06 -04'00'

GEORGIA PROFESSIONAL LAND SURVEYOR No.3055 WILLIAM H. BECHTLER

NOTE: THIS PLAT IS NOT VALID FOR RECORDING PURPOSES UNLESS SURVEYOR'S SIGNATURE APPEARS HEREON IN A CONTRASTING COLOR OF INK

AS REQUIRED BY SUBSECTION (D) OF O.C.G.A. SECTION 5-6-67, THIS PLAT HAS BEEN PREPARED BY A LAND SURVEYOR. THIS PLAT HAS BEEN APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS THAT REQUIRE PRIOR APPROVAL FOR RECORDING THIS TYPE OF PLAT OR ONE OR MORE OF THE APPLICABLE LOCAL JURISDICTIONS DO NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT. FOR ANY APPLICABLE LOCAL JURISDICTION THAT REQUIRES APPROVAL OF THIS TYPE OF PLAT, THE NAMES OF THE INDIVIDUALS SIGNING OR APPROVING THIS PLAT, THE AGENCY OR OFFICE OF THAT INDIVIDUAL, AND THE DATE OF APPROVAL ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. FOR ANY APPLICABLE LOCAL JURISDICTION THAT DOES NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT, THE NAME OF SUCH LOCAL JURISDICTION AND THE NUMBER OF THE APPLICABLE ORDINANCE OR RESOLUTION PROVIDING THAT NO SUCH APPROVAL IS REQUIRED ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. SUCH APPROVALS, AFFIRMATIONS, OR ORDINANCE OR RESOLUTION NUMBERS SHOULD BE CONFIRMED WITH THE APPROPRIATE GOVERNMENTAL BODIES BY ANY PURCHASER OR USER OF THIS PLAT AS TO INTENDED USE OF ANY PARCEL. FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A. SECTION 15-6-67.

William H. Bechtler 9-23-2019
WILLIAM H. BECHTLER, GA PLS NO. 3055 DATE

SURVEYOR:
GEORGIA POWER COMPANY
FIRM COA No. LSF 000191
WILLIAM H. BECHTLER, GA PLS No. 3055
241 RALPH MCGILL BLVD., N.E.
BIN 10151
ATLANTA, GA. 30308-3374
PHONE (404) 506-2450

SURVEY ACCURACY STATEMENT

All survey control for field data upon which this plat is based was obtained using a Global Positioning System (GPS). The GPS data has a positional uncertainty due to random errors in measurement of 0.04 feet +/- at the 95% level of confidence based on the Root Mean Square Error (RMSE) method of calculation.

Equipment used to obtain horizontal and vertical geodetic coordinate positions was a Trimble R10 GPS antenna in continuous real time kinematic mode utilizing EGPS GNSS real time corrections. No closed traverse was established from which a field closure can be calculated. Field work was completed on September 28, 2018.

This plat has been calculated for closure and is found to be accurate within one foot in 934,055.

LATITUDE: N34°07'45.09"
LONGITUDE: W84°55'47.53"

F.I.R.M. FLOOD NOTE:
A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE X AND ZONE A, PER FEDERAL INSURANCE RATE MAP OF BARTOW COUNTY, GEORGIA, PANEL 335 OF 385, MAP NUMBER 13015C0335G AND PANEL 245 OF 385, MAP NUMBER 13015C0245G, EFFECTIVE DATE: SEPTEMBER 28, 2007.

LINE TABLE

LINE	BEARING	DIST	LINE	BEARING	DIST	LINE	BEARING	DIST	LINE	BEARING	DIST
L1	S30°59'16"E	733.45	L12	S30°00'00"W	33.53	L23	S02°30'38"W	114.37	L34	S34°31'55"W	304.64
L2	S56°14'47"E	69.73	L13	S26°13'46"W	80.22	L24	S02°53'49"W	72.12	L35	N67°27'06"W	255.68
L3	S76°39'05"E	1076.61	L14	S22°39'27"W	78.79	L25	S02°23'51"W	452.42	L36	N22°32'54"E	241.19
L4	S06°29'22"E	173.84	L15	S17°43'09"W	49.93	L26	S02°26'24"W	507.81	L37	N68°17'14"W	2273.67
L5	S01°38'41"W	38.52	L16	S13°38'04"W	47.63	L27	S02°51'01"W	251.35	L38	N01°34'19"W	625.42
L6	S10°01'24"W	66.26	L17	S11°57'27"W	34.98	L28	S02°01'12"E	51.84	L39	N06°19'01"W	812.07
L7	S16°49'09"W	88.84	L18	S09°38'17"W	25.28	L29	S00°45'33"W	321.53	L40	N00°02'59"E	1452.94
L8	S26°57'53"W	101.02	L19	S07°51'47"W	42.34	L30	S00°06'50"E	909.94	L41	N00°09'28"E	1482.29
L9	S32°27'25"W	340.69	L20	S04°40'42"W	56.46	L31	S00°01'27"W	214.11	L42	N69°35'38"E	1100.66
L10	S32°32'11"W	110.19	L21	S03°59'21"W	32.24	L32	S00°40'09"W	109.55	L43	S79°19'06"E	296.60
L11	S32°14'32"W	185.80	L22	S02°30'06"W	96.48	L33	S01°52'17"W	130.90	L44	S87°33'15"E	335.01

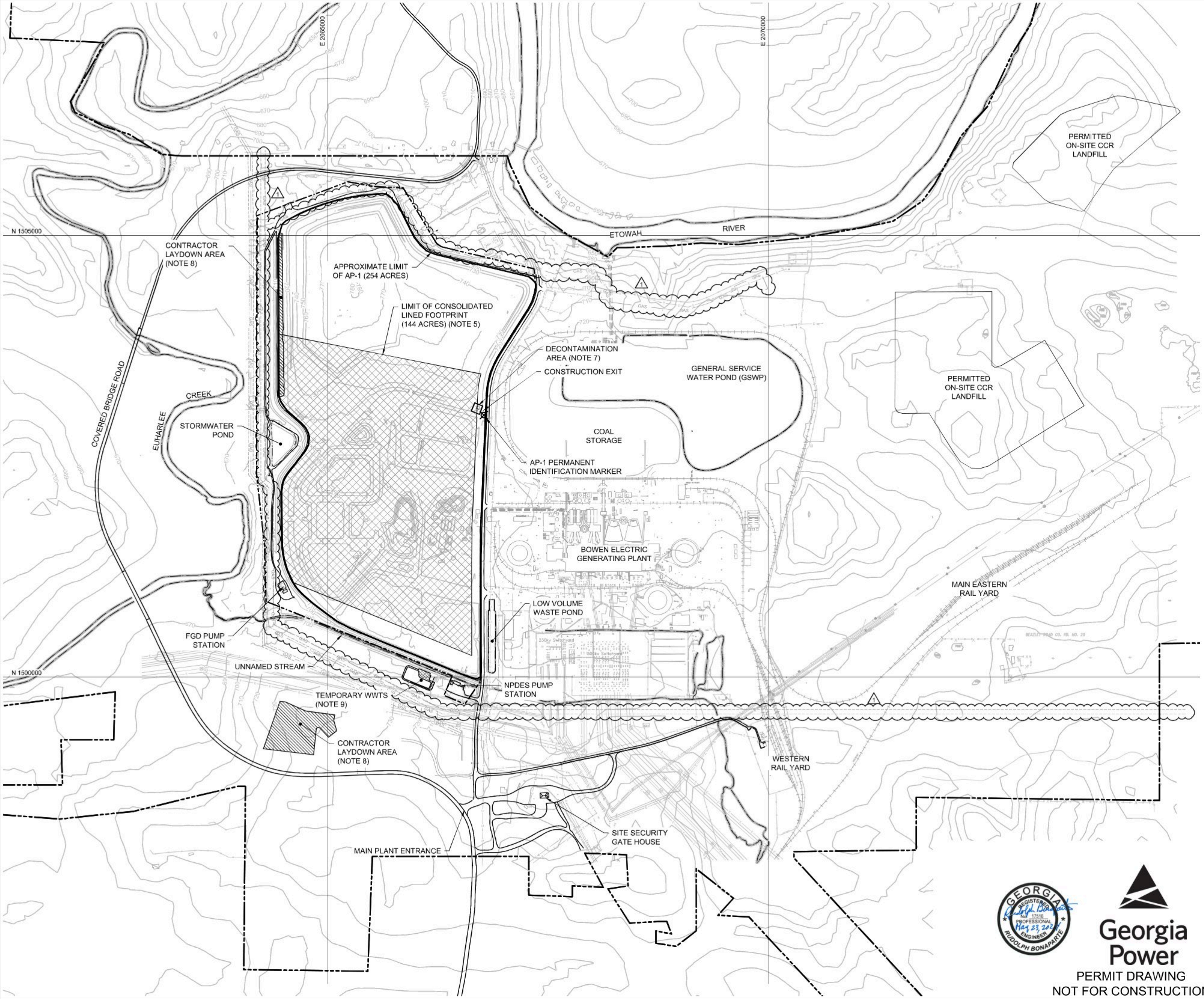
PATH -T:\Working2\Plants\Bowen\20180601 23 Plant Bowen – Ash Pond – Permitted Boundary Area Survey

GEORGIA POWER CO., ATLANTA, GA.
Land Engineering Department
SURVEY OF
PLANT BOWEN – ASH POND 1
PERMITTED SITE BOUNDARY
LAND LOTS 764, 765, 820, 821, 822, 835, 836, 837, 892, 893, 894, 907, 908 & 909, 17th DISTRICT, 3RD SECTION, BARTOW COUNTY, GEORGIA

REVISION BLOCK	APPROVALS	DR. WHB	TR.	Checked
		SCALE 1" = 250'		DATE SEPTEMBER 23, 2019
		DRAWING NUMBER P469-1		
		Sheet 1 of 1		

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS

DRAWING 3 OF 50



LEGEND

- 730 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- MAIN SITE AND AP-1 ACCESS ROAD
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- LIMIT OF CONSOLIDATED LINED FOOTPRINT (NOTE 5)
- PROPERTY BOUNDARY
- PERMIT BOUNDARY (NOTE 6)
- TEMPORARY WWTS PAD

N

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. ACREAGE OF AP-1 REPRESENTS THE TWO-DIMENSIONAL (2D) PLAN AREA WITHIN THE ESTIMATED AP-1 LIMITS (ALSO REPRESENTING THE POTENTIAL LATERAL LIMITS OF CCR).
3. TOPOGRAPHIC CONTOUR INTERVALS ARE PRESENTED AT 10-FT INTERVALS ON THIS DRAWING, FOR CLARITY. SEE DRAWING 5 FOR TOPOGRAPHIC CONTOURS AT 2-FT CONTOUR INTERVALS.
4. SEE DRAWING 5 FOR AN EXISTING CONDITIONS PLAN IN THE VICINITY OF AP-1, SHOWN AT AN ENLARGED SCALE.
5. LIMIT OF CONSOLIDATED LINED FOOTPRINT REFERS TO LIMIT OF LINER.
6. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.
7. A DECONTAMINATION STATION WILL BE ESTABLISHED AT THE APPROXIMATE LOCATION SHOWN. EQUIPMENT WILL BE DECONTAMINATED (I.E., CCR PARTICLES REMOVED) PRIOR TO EXITING THE AP-1 FOOTPRINT. AS PHASED CLOSURE CONSTRUCTION APPROACHES THIS AREA, THE DECONTAMINATION STATION MAY BE RELOCATED SLIGHTLY AS NEEDED TO ACCOMMODATE CONSTRUCTION OPERATIONS.
8. CONTRACTOR LAYDOWN AREAS FOR STAGING OF CONSTRUCTION MATERIALS AND EQUIPMENT WILL BE AT THE APPROXIMATE LOCATIONS SHOWN. EQUIPMENT MAY ALSO BE STAGED WITHIN THE AP-1 ADJACENT TO WORK AREAS.
9. A TEMPORARY WWTS WILL BE ESTABLISHED AT THE APPROXIMATE LOCATION SHOWN FOR TREATMENT OF LEACHATE AND CONTACT WATER GENERATED DURING CLOSURE CONSTRUCTION. AT THE COMPLETION OF CLOSURE CONSTRUCTION, LEACHATE WILL BE ROUTED TO A PERMANENT ON-SITE WWTS LOCATED OUTSIDE THE AP-1 PERMIT BOUNDARY, ON THE PLANT BOWEN PROPERTY.

0 500 1000
SCALE IN FEET

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

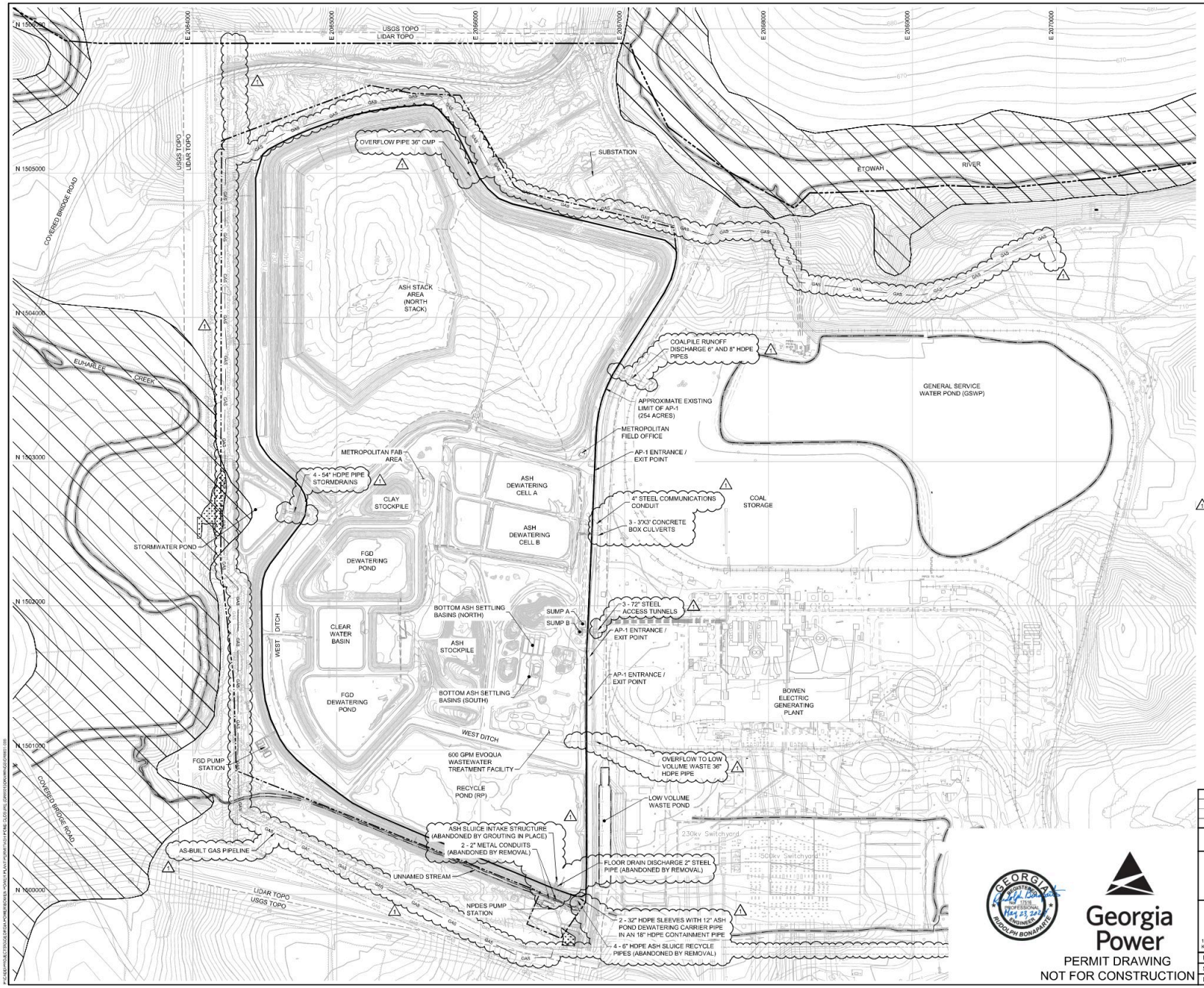
SITE PLAN

PLANT BOWEN ASH POND 1 (AP-1) CLOSURE DRAWINGS

BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-004	EDIT 5/23/24
SCALE	1" = 500'	DRAWING 4 OF 50	
DATE	AUGUST 2021		



NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOPOGRAPHIC CONTOURS ARE PRESENTED AT 2-FT INTERVALS.
3. WETLAND LOCATIONS ARE AS DELINEATED BY ECOLOGICAL SOLUTIONS, INC. IN JUNE 2018.
4. 100-YEAR FLOODPLAIN IS TAKEN FROM FEMA FLOOD INSURANCE RATE MAP NUMBERS 13015C0245G AND 13015C0335G, BOTH DATED 28 SEPTEMBER 2007.
5. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.
6. PIPE PENETRATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. IF PIPE ABANDONMENT IS NECESSARY TO SUPPORT CONSRUCTION ACTIVITIES, PIPES WILL BE ABANDONED WITHIN THE LIMITS OF AP-1 USING ONE OF THE FOLLOWING PROCEDURES: (I) REMOVAL OF THE PIPE(S), (II) FILLING WITH FLOWABLE FILL OR GROUTED IN PLACE AND THEN CAPPING (E.G., FLANGES) TO ENSURE A PROPER SEAL, OR (III) OTHER EQUIVALENT ABANDONMENT PROCEDURE AS APPROVED BY ENGINEER AND OWNER.
7. THE GAS PIPELINE WAS INSTALLED BY ATLANTA GAS LIGHT COMPANY AND THE AS-BUILT DRAWING FOR THE PIPELINE WAS PROVIDED TO GPC ON 8 JANUARY 2024. THE PIPE IS SIX INCHES IN DIAMETER, WITH A MINIMUM OF FOUR FEET OF COVER, AND HAS A MINIMUM SETBACK OF 14 FEET FROM THE GROUNDWATER MONITORING WELLS.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE / ADD GAS PIPELINES AND PIPE PENETRATIONS	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EXISTING SITE CONDITIONS AND TOPOGRAPHY

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE May 23, 2024

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-005	EDIT	5/23/24
SCALE	1" = 300'				
DATE	AUGUST 2021				

LEGEND

— · · — 670 — · · —	APPROXIMATE BOTTOM OF CCR SURFACE ELEVATION (FEET) (NOTES 2, 3, AND 4)
——— - · - ———	PERMIT BOUNDARY (NOTE 5)
————————	APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. CONTOURS SHOWN ON THIS DRAWING WITHIN LIMITS OF AP-1 REPRESENT BOTTOM OF AP-1 (I.E., BOTTOM OF CCR) GRADES. SEE NOTE 8 ON DRAWING 2. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY.
3. DURING CLOSURE CONSTRUCTION, CONTRACTOR WILL VERIFY BOTH LATERAL AND VERTICAL EXTENTS OF CCR IN THE FIELD.
4. AREAS WITHIN LATERAL EXTENT OF CCR IN AP-1 (AS FIELD-VERIFIED DURING CLOSURE CONSTRUCTION) WILL HAVE AN ADDITIONAL SIX-INCHES MINIMUM OF MATERIAL REMOVAL BELOW BOTTOM OF CCR. EXCAVATED CCR (INCLUDING SIX-INCHES MINIMUM OF ADDITIONAL MATERIAL EXCAVATION) WILL BE PLACED IN THE CONSOLIDATED LINED AREA.
5. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

0 300 600
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

APPROXIMATE BOTTOM OF AP-1 GRADES

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO. GR6601	DWG. GR6601-006	EDIT 5/23/24	
SCALE 1" = 300'	DRAWING 6 OF 50		
DATE AUGUST 2021			

LEGEND

- 670 — EXCAVATION SURFACE ELEVATION (FEET) (NOTES 2 AND 3)
- PERMIT BOUNDARY (NOTE 4)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- CONSOLIDATED AREA FOUNDATION IMPROVEMENTS (NOTE 3)
- OTHER AREA FOUNDATION IMPROVEMENTS (NOTE 3)

N

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. EXCAVATION CONTOURS ON THIS DRAWING ARE THE SAME AS DRAWING 8. SEE NOTE 3, DRAWING 8 FOR BASIS FOR EXCAVATION CONTOURS.
3. FOUNDATION IMPROVEMENTS WILL BE PERFORMED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" INCLUDED WITH THIS PERMIT APPLICATION. A SUMMARY OF ACTIVITIES IS PROVIDED BELOW.
   a. CONSOLIDATED LINED AREAS: AS HIGHLIGHTED ON THIS DRAWING, WITHIN THE FLOOR AREAS OF THE CONSOLIDATED LINED FOOTPRINT AND BENEATH THE BASE OF THE NEW NORTH AND SOUTH DIKES, AFTER REMOVAL OF CCR (AND SIX-INCHES OF ADDITIONAL MATERIAL BELOW CCR), THE FOLLOWING ACTIVITIES WILL BE PERFORMED: (I) ADDITIONAL OVER-EXCAVATION AS PRESENTED AND DESCRIBED ON DRAWING 8; (II) FOUNDATION EVALUATION AND MITIGATION IN ACCORDANCE WITH THE FOUNDATION IMPROVEMENT PLAN; (III) COMPACTED SOIL FILL LAYER PLACEMENT TO ACHIEVE LINER SUBGRADE (BOTTOM OF CLAY LINER) GRADES.
   b. OTHER AREAS: AS HIGHLIGHTED ON THIS DRAWING, WITHIN AP-1 IN THE OTHER AREAS BEYOND THE CONSOLIDATED LINED AREA (PRIMARILY TO THE NORTH AND SOUTH), AFTER REMOVAL OF CCR (AND SIX-INCHES OF ADDITIONAL MATERIAL BELOW CCR), THE FOLLOWING ACTIVITIES WILL BE PERFORMED: (I) ADDITIONAL EXCAVATION AS PRESENTED AND DESCRIBED ON DRAWING 8; (II) FOUNDATION EVALUATION AND MITIGATION IN ACCORDANCE WITH THE FOUNDATION IMPROVEMENT PLAN; (III) COMPACTED SOIL FILL PLACEMENT AS NEEDED TO GRADE TO DRAIN UNDER FINAL CLOSED CONDITIONS.
4. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

0 300 600
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

FOUNDATION IMPROVEMENT PLAN

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE May 23, 2024

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

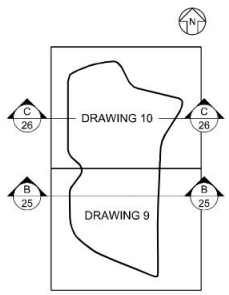
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR9601	DWG.	GR9601-007	EDIT	5/23/24
SCALE	1" = 300'				
DATE	AUGUST 2021				

LEGEND

- EXCAVATION SURFACE ELEVATION (FEET) (NOTES 2 AND 3)
- PERMIT BOUNDARY (NOTE 6)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- APPROXIMATE LIMIT OF CONSOLIDATED AREA FOUNDATION IMPROVEMENTS

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. CONTOURS SHOWN ON THIS DRAWING WITHIN LIMITS OF AP-1 REPRESENT ESTIMATED MINIMUM BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY.
3. EXCAVATION SURFACE IS APPROXIMATE, AND WAS DEVELOPED BASED ON THE ESTIMATED BOTTOM OF CCR AND TO MEET THE FOLLOWING CRITERIA: (I) EXCAVATE AT LEAST SIX INCHES BELOW THE BOTTOM OF CCR SURFACE IN ALL AREAS OF AP-1; (II) CONDUCT ADDITIONAL OVER-EXCAVATION AS NEEDED BENEATH THE FLOOR AREAS OF THE CONSOLIDATED LINED FOOTPRINT AND BENEATH THE BASE OF THE NEW NORTH AND SOUTH CONTAINMENT DIKES TO CONDUCT FOUNDATION IMPROVEMENTS AND PROVIDE AN 8-FT (MIN) COMPACTED SOIL BUFFER ZONE BELOW THE LINER SYSTEM; AND (III) CONDUCT ADDITIONAL EXCAVATION IN THE AREAS SOUTH AND NORTH OF THE CONSOLIDATED LINED FOOTPRINT AS NEEDED TO GRADE TO DRAIN UNDER FINAL CLOSED CONDITIONS.
4. EXCAVATION GRADES WILL BE ADJUSTED AS NECESSARY DURING CLOSURE CONSTRUCTION BASED ON APPLYING THE ABOVE CRITERIA TO THE ACTUAL FIELD-LOCATED BOTTOM OF CCR, AS WELL AS BASED ON FOUNDATION EVALUATIONS AND IMPROVEMENTS CONDUCTED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" INCLUDED WITH THIS PERMIT APPLICATION.
5. EXCAVATION CONTOURS SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL EXCAVATION GRADES MAY EXTEND DEEPER AND SMOOTHED AS NEEDED TO FACILITATE CONSTRUCTION AND ACCOMPLISH FOUNDATION IMPROVEMENTS, FOLLOWED BY COMPACTED FILL PLACEMENT AS NECESSARY, PER NOTE 3.
6. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.

0 300 600
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EXCAVATION PLAN - OVERALL

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE May 23, 2024

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

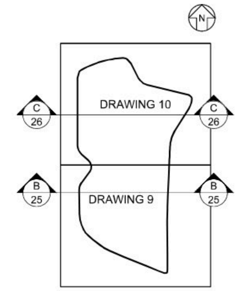
PROJ. NO.	GR9601	DWG.	GR9601-008	EDIT	5/23/24
SCALE	1" = 300'				
DATE	AUGUST 2021				

MATCHLINE

LEGEND

- (670) EXCAVATION SURFACE ELEVATION (FEET) (NOTES 2 AND 3)
- PERMIT BOUNDARY (NOTE 6)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- APPROXIMATE LIMIT OF CONSOLIDATED AREA FOUNDATION IMPROVEMENTS

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. CONTOURS SHOWN ON THIS DRAWING WITHIN LIMITS OF AP-1 REPRESENT ESTIMATED MINIMUM BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY.
3. EXCAVATION SURFACE IS APPROXIMATE, AND WAS DEVELOPED BASED ON THE ESTIMATED BOTTOM OF CCR AND TO MEET THE FOLLOWING CRITERIA: (I) EXCAVATE AT LEAST SIX INCHES BELOW THE BOTTOM OF CCR SURFACE IN ALL AREAS OF AP-1; (II) CONDUCT ADDITIONAL OVER-EXCAVATION AS NEEDED BENEATH THE FLOOR AREAS OF THE CONSOLIDATED LINED FOOTPRINT AND BENEATH THE BASE OF THE NEW NORTH AND SOUTH CONTAINMENT DIKES TO CONDUCT FOUNDATION IMPROVEMENTS AND PROVIDE AN 8-FT (MIN) COMPACTED SOIL BUFFER ZONE BELOW THE LINER SYSTEM; AND (III) CONDUCT ADDITIONAL EXCAVATION IN THE AREAS SOUTH AND NORTH OF THE CONSOLIDATED LINED FOOTPRINT AS NEEDED TO GRADE TO DRAIN UNDER FINAL CLOSED CONDITIONS.
4. EXCAVATION GRADES WILL BE ADJUSTED AS NECESSARY DURING CLOSURE CONSTRUCTION BASED ON APPLYING THE ABOVE CRITERIA TO THE ACTUAL FIELD-LOCATED BOTTOM OF CCR, AS WELL AS BASED ON FOUNDATION EVALUATIONS AND IMPROVEMENTS CONDUCTED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" INCLUDED WITH THIS PERMIT APPLICATION.
5. EXCAVATION CONTOURS SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL EXCAVATION GRADES MAY EXTEND DEEPER AND BE SMOOTHED AS NEEDED TO FACILITATE CONSTRUCTION AND ACCOMPLISH FOUNDATION IMPROVEMENTS, FOLLOWED BY COMPACTED FILL PLACEMENT AS NECESSARY, PER NOTE 3.
6. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EXCAVATION PLAN - SOUTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

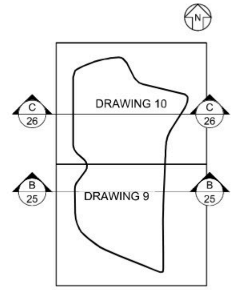
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-009	EDIT	5/23/24
SCALE	1" = 150'	DRAWING 9 OF 50			
DATE	AUGUST 2021				

LEGEND

- (670) EXCAVATION SURFACE ELEVATION (FEET) (NOTES 2 AND 3)
- PERMIT BOUNDARY (NOTE 6)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- APPROXIMATE LIMIT OF CONSOLIDATED AREA FOUNDATION IMPROVEMENTS

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. CONTOURS SHOWN ON THIS DRAWING WITHIN LIMITS OF AP-1 REPRESENT ESTIMATED MINIMUM BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY.
3. EXCAVATION SURFACE IS APPROXIMATE, AND WAS DEVELOPED BASED ON THE ESTIMATED BOTTOM OF CCR AND TO MEET THE FOLLOWING CRITERIA: (I) EXCAVATE AT LEAST SIX INCHES BELOW THE BOTTOM OF CCR SURFACE IN ALL AREAS OF AP-1; (II) CONDUCT ADDITIONAL OVER-EXCAVATION AS NEEDED BENEATH THE FLOOR AREAS OF THE CONSOLIDATED LINED FOOTPRINT AND BENEATH THE BASE OF THE NEW NORTH AND SOUTH CONTAINMENT DIKES TO CONDUCT FOUNDATION IMPROVEMENTS AND PROVIDE AN 8-FT (MIN) COMPACTED SOIL BUFFER ZONE BELOW THE LINER SYSTEM; AND (III) CONDUCT ADDITIONAL EXCAVATION IN THE AREAS SOUTH AND NORTH OF THE CONSOLIDATED LINED FOOTPRINT AS NEEDED TO GRADE TO DRAIN UNDER FINAL CLOSED CONDITIONS.
4. EXCAVATION GRADES WILL BE ADJUSTED AS NECESSARY DURING CLOSURE CONSTRUCTION BASED ON APPLYING THE ABOVE CRITERIA TO THE ACTUAL FIELD-LOCATED BOTTOM OF CCR, AS WELL AS BASED ON FOUNDATION EVALUATIONS AND IMPROVEMENTS CONDUCTED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" INCLUDED WITH THIS PERMIT APPLICATION.
5. EXCAVATION CONTOURS SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL EXCAVATION GRADES MAY EXTEND DEEPER AND BE SMOOTHED AS NEEDED TO FACILITATE CONSTRUCTION AND ACCOMPLISH FOUNDATION IMPROVEMENTS, FOLLOWED BY COMPACTED FILL PLACEMENT AS NECESSARY, PER NOTE 3.
6. ALONG EASTERN SIDE OF AP-1, PERMIT BOUNDARY IS ALIGNED WITH APPROXIMATE LIMIT OF AP-1, AND THUS OBSCURED IN THIS AREA ON THIS DRAWING. REFER TO DRAWING 3 FOR THE PERMIT BOUNDARY SURVEY AND LEGAL DESCRIPTION.

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EXCAVATION PLAN - NORTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

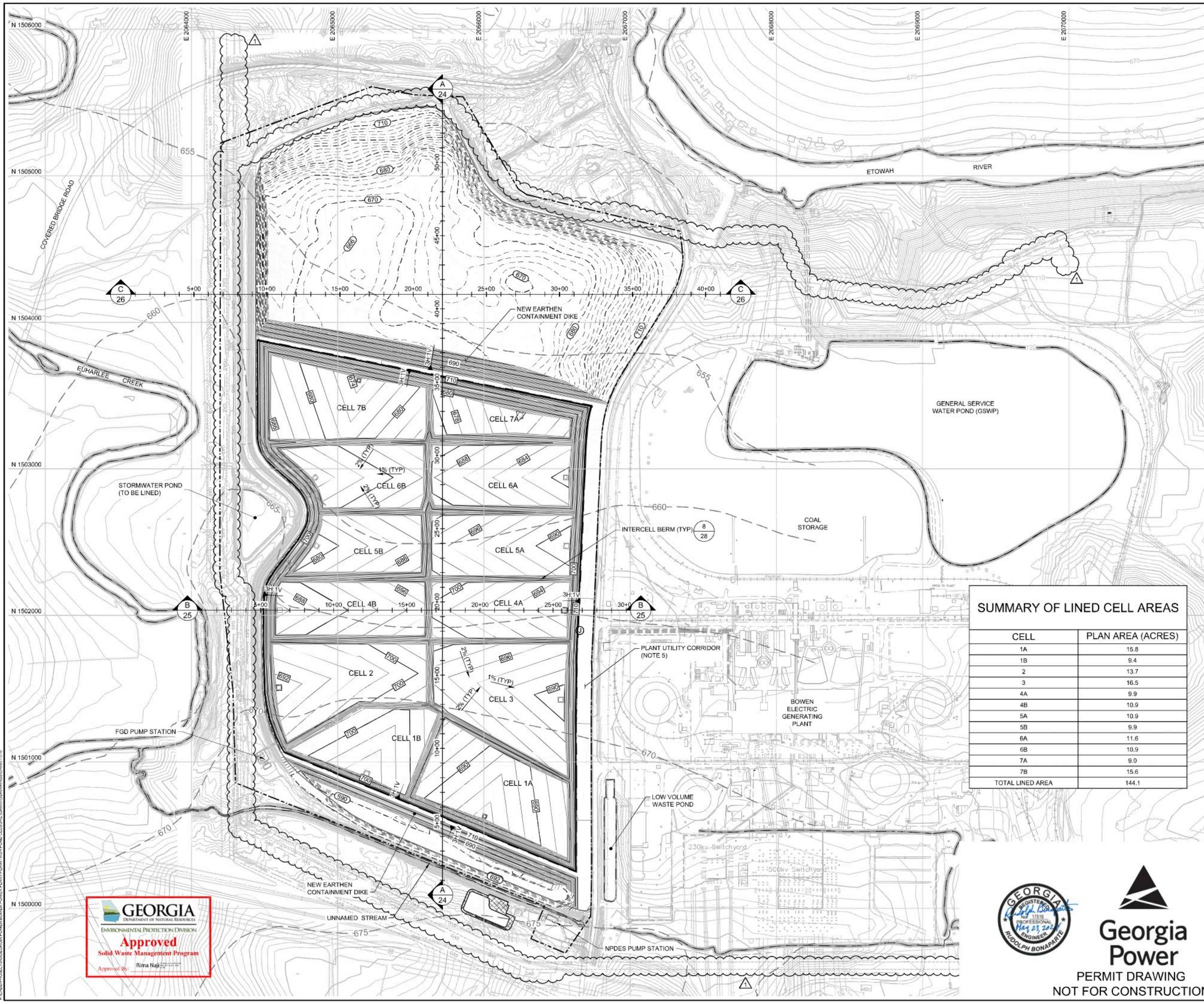
PERMIT DRAWING
NOT FOR CONSTRUCTION

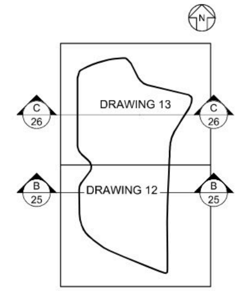
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-009A	EDIT 5/23/24
SCALE	1" = 150'	DRAWING 10 OF 50	
DATE	AUGUST 2021		

LEGEND

- 710 — EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- PERMIT BOUNDARY
- 670 — EXCAVATION SURFACE ELEVATION (FEET)
- 680 — TOP OF LINER ELEVATION (FEET)
- LIMIT OF LINER (NOTE 2)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- 680 — PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION (FEET) (NOTE 1)
- TEMPORARY WWTS PAD





KEY MAP
SCALE: 1" = 1,500'

SUMMARY OF LINED CELL AREAS

CELL	PLAN AREA (ACRES)
1A	15.8
1B	9.4
2	13.7
3	16.5
4A	9.9
4B	10.9
5A	10.9
5B	9.9
6A	11.6
6B	10.9
7A	9.0
7B	15.6
TOTAL LINED AREA	144.1

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF LINER GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE GEOMEMBRANE COMPONENT OF THE LINER SYSTEM WITHIN THE CONSOLIDATED LINED FOOTPRINT AREA. WITHIN THE REMAINDER OF AP-1 (OUTSIDE THE CONSOLIDATED LINED FOOTPRINT AREA), GRADES REPRESENT EXTERIOR NORTH AND SOUTH CONTAINMENT DIKE SLOPES, WHICH TIE-IN TO THE ESTIMATED BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY. LOW POINTS OF CELLS WILL NOT BE LOWERED WITHOUT GA EPD APPROVAL. MINOR CHANGES TO LINER GRADES SHOWN ON THIS DRAWING MAY BE MADE DURING DETAILED DESIGN (E.G., RAISED TO PROVIDE SEPARATION FROM THE PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" (PART B, SECTION 2 OF THIS PERMIT APPLICATION)). LINER GRADES MAY BE RAISED AS NECESSARY DURING CONSTRUCTION BASED ON CONDITIONS ENCOUNTERED.
3. CLOSURE WILL BE CONDUCTED IN PHASES, RESULTING IN PLAN TO CONSTRUCT LINED CELLS AND PLACE CCR IN ASCENDING NUMERICAL ORDER. AS NEEDED TO FACILITATE CLOSURE CONSTRUCTION TIMING AND SEQUENCING, MULTIPLE CELLS MAY BE CONSTRUCTED AND OPERATED AT A TIME. CELLS MAY ALSO BE CONSTRUCTED OUT-OF-SEQUENCE, WITH MINOR ADJUSTMENTS TO INTERCELL BOUNDARIES, OR SUBDIVIDED INTO PARTIAL CELL AREAS TO FACILITATE CLOSURE ACTIVITIES. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 33 THROUGH 37 FOR THE LEACHATE MANAGEMENT SYSTEM PLAN AND DETAILS.
5. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.

0 300 600
SCALE IN FEET

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

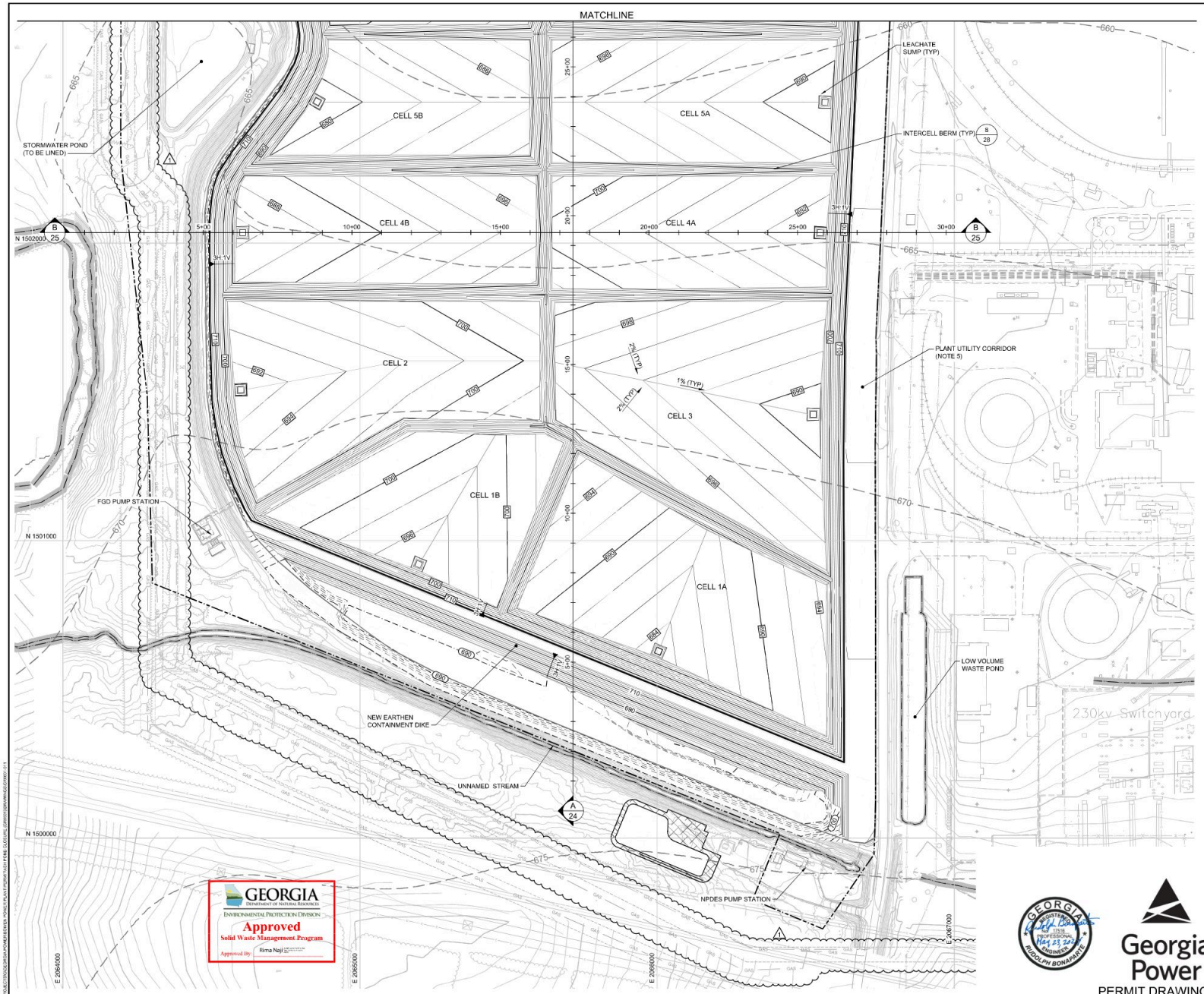
REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF LINER GRADING PLAN - OVERALL

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

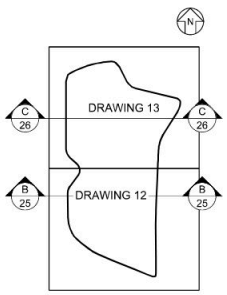
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-010	EDIT 5/23/24
SCALE	1" = 300'	DRAWING 11 OF 50	
DATE	AUGUST 2021		



LEGEND

- EXISTING GROUND ELEVATION (FEET) (NOTE 1)
- PERMIT BOUNDARY
- EXCAVATION SURFACE ELEVATION (FEET)
- TOP OF LINER ELEVATION (FEET)
- LIMIT OF LINER (NOTE 2)
- APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
- PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION (FEET) (NOTE 1)
- LEACHATE SUMP
- TEMPORARY WWTS PAD



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF LINER GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE GEOMEMBRANE COMPONENT OF THE LINER SYSTEM WITHIN THE CONSOLIDATED LINED FOOTPRINT AREA. WITHIN THE REMAINDER OF AP-1 (OUTSIDE THE CONSOLIDATED LINED FOOTPRINT AREA), GRADES REPRESENT EXTERIOR NORTH AND SOUTH CONTAINMENT DIKE SLOPES, WHICH TIE-IN TO THE ESTIMATED BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY. LOW POINTS OF CELLS WILL NOT BE LOWERED WITHOUT GA EPD APPROVAL. MINOR CHANGES TO LINER GRADES SHOWN ON THIS DRAWING MAY BE MADE DURING DETAILED DESIGN (E.G., RAISED TO PROVIDE SEPARATION FROM THE PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" (PART B, SECTION 2 OF THIS PERMIT APPLICATION)). LINER GRADES MAY BE RAISED AS NECESSARY DURING CONSTRUCTION BASED ON CONDITIONS ENCOUNTERED.
3. CLOSURE WILL BE CONDUCTED IN PHASES, RESULTING IN PLAN TO CONSTRUCT LINED CELLS AND PLACE CCR IN ASCENDING NUMERICAL ORDER, AS NEEDED TO FACILITATE CLOSURE CONSTRUCTION TIMING AND SEQUENCING. MULTIPLE CELLS MAY BE CONSTRUCTED AND OPERATED AT A TIME. CELLS MAY ALSO BE CONSTRUCTED OUT-OF-SEQUENCE, WITH MINOR ADJUSTMENTS TO INTERCELL BOUNDARIES, OR SUBDIVIDED INTO PARTIAL CELL AREAS TO FACILITATE CLOSURE ACTIVITIES. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 33 THROUGH 37 FOR THE LEACHATE MANAGEMENT SYSTEM PLAN AND DETAILS.
5. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.

0 150 300
SCALE IN FEET

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

GEORGIA REGISTERED PROFESSIONAL ENGINEER Rudolph Bonaparte Nov 23, 2022

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

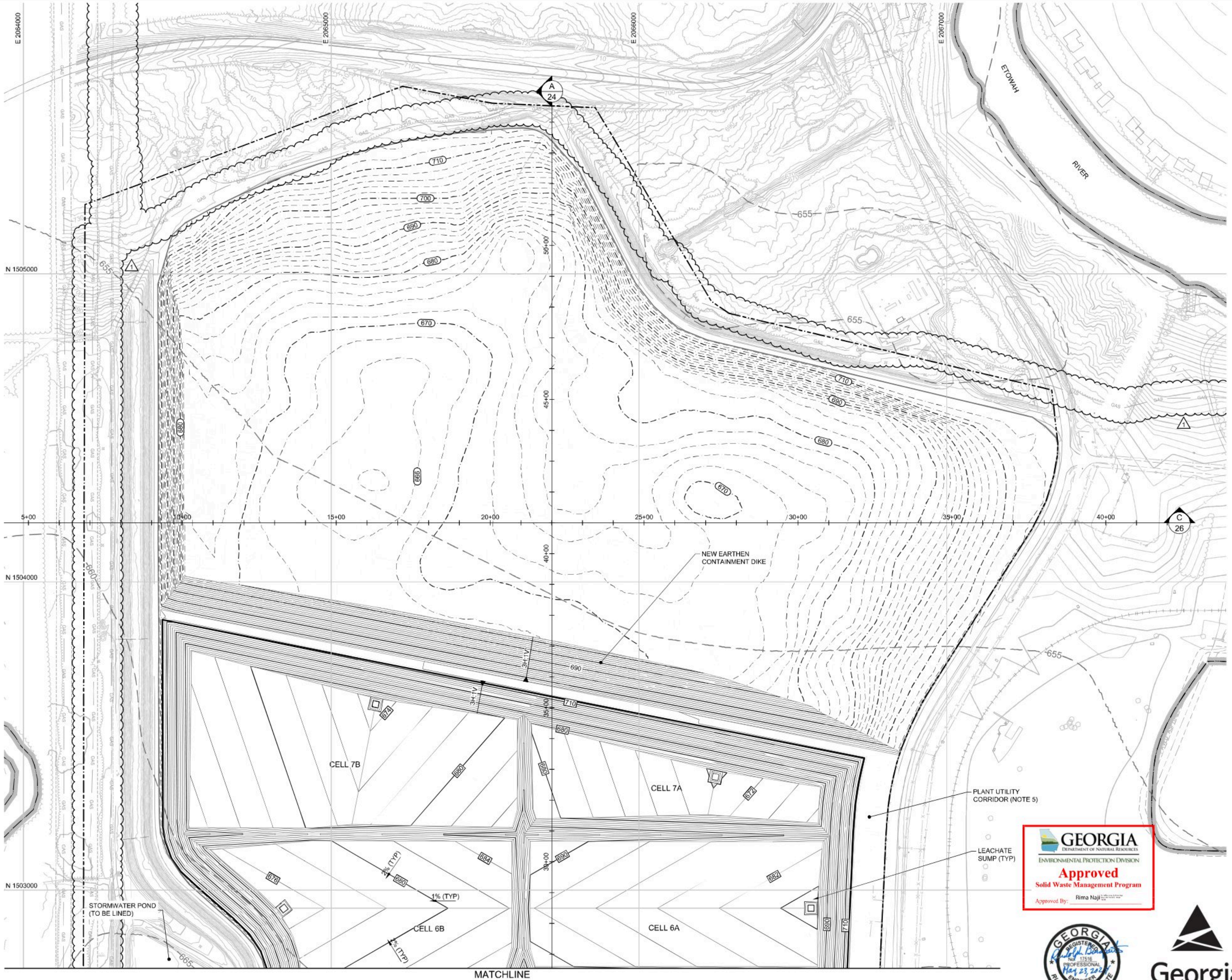
REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF LINER GRADING PLAN - SOUTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

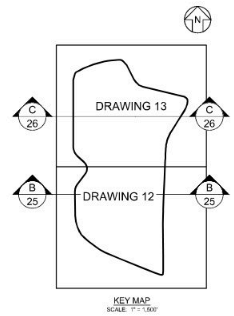
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR9601	DWG.	GR9601-011	EDIT	5/23/24
SCALE	1" = 150'				
DATE	AUGUST 2021				



LEGEND

Symbol	Description
710	EXISTING GROUND ELEVATION (FEET) (NOTE 1)
	PERMIT BOUNDARY
670	EXCAVATION SURFACE ELEVATION (FEET)
680	TOP OF LINER ELEVATION (FEET)
	LIMIT OF RETROFIT LINER
	APPROXIMATE EXISTING LIMIT OF AP-1 (NOTE 1)
680	PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION (FEET) (NOTE 1)
□	LEACHATE SUMP



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF LINER GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE GEOMEMBRANE COMPONENT OF THE LINER SYSTEM WITHIN THE CONSOLIDATED LINED FOOTPRINT AREA. WITHIN THE REMAINDER OF AP-1 (OUTSIDE THE CONSOLIDATED LINED FOOTPRINT AREA), GRADES REPRESENT EXTERIOR NORTH AND SOUTH CONTAINMENT DIKE SLOPES, WHICH TIE-IN TO THE ESTIMATED BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY. LOW POINTS OF CELLS WILL NOT BE LOWERED WITHOUT GA EPD APPROVAL. MINOR CHANGES TO LINER GRADES SHOWN ON THIS DRAWING MAY BE MADE DURING DETAILED DESIGN (E.G., RAISED TO PROVIDE SEPARATION FROM THE PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" (PART B, SECTION 2 OF THIS PERMIT APPLICATION)). LINER GRADES MAY BE RAISED AS NECESSARY DURING CONSTRUCTION BASED ON CONDITIONS ENCOUNTERED.
3. CLOSURE WILL BE CONDUCTED IN PHASES, RESULTING IN PLAN TO CONSTRUCT LINED CELLS AND PLACE CCR IN ASCENDING NUMERICAL ORDER. AS NEEDED TO FACILITATE CLOSURE CONSTRUCTION TIMING AND SEQUENCING, MULTIPLE CELLS MAY BE CONSTRUCTED AND OPERATED AT A TIME. CELLS MAY ALSO BE CONSTRUCTED OUT-OF-SEQUENCE, WITH MINOR ADJUSTMENTS TO INTERCELL BOUNDARIES, OR SUBDIVIDED INTO PARTIAL CELL AREAS TO FACILITATE CLOSURE ACTIVITIES. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 33 THROUGH 37 FOR THE LEACHATE MANAGEMENT SYSTEM PLAN AND DETAILS.
5. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.

0 150 300
SCALE IN FEET

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF LINER GRADING PLAN - NORTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

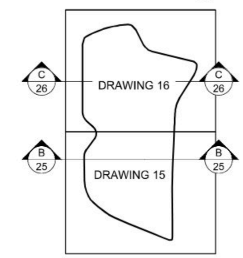
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-012	EDIT 5/23/24
SCALE	1" = 150'	DRAWING 13 OF 50	
DATE	AUGUST 2021		

LEGEND

670	FINISHED GROUND ELEVATION (FEET)
— · — · —	PERMIT BOUNDARY
(770)	TOP OF CCR ELEVATION FOR SOIL-GEOSYNTHETIC COMPOSITE COVER (FEET)
LOD	LIMIT OF DISTURBANCE

GEORGIA Department of Natural Resources
Environmental Protection Division
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF CCR GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF CCR ELEVATIONS FOR THE SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER OPTION. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
5. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
6. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
7. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 300 600
SCALE IN FEET

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

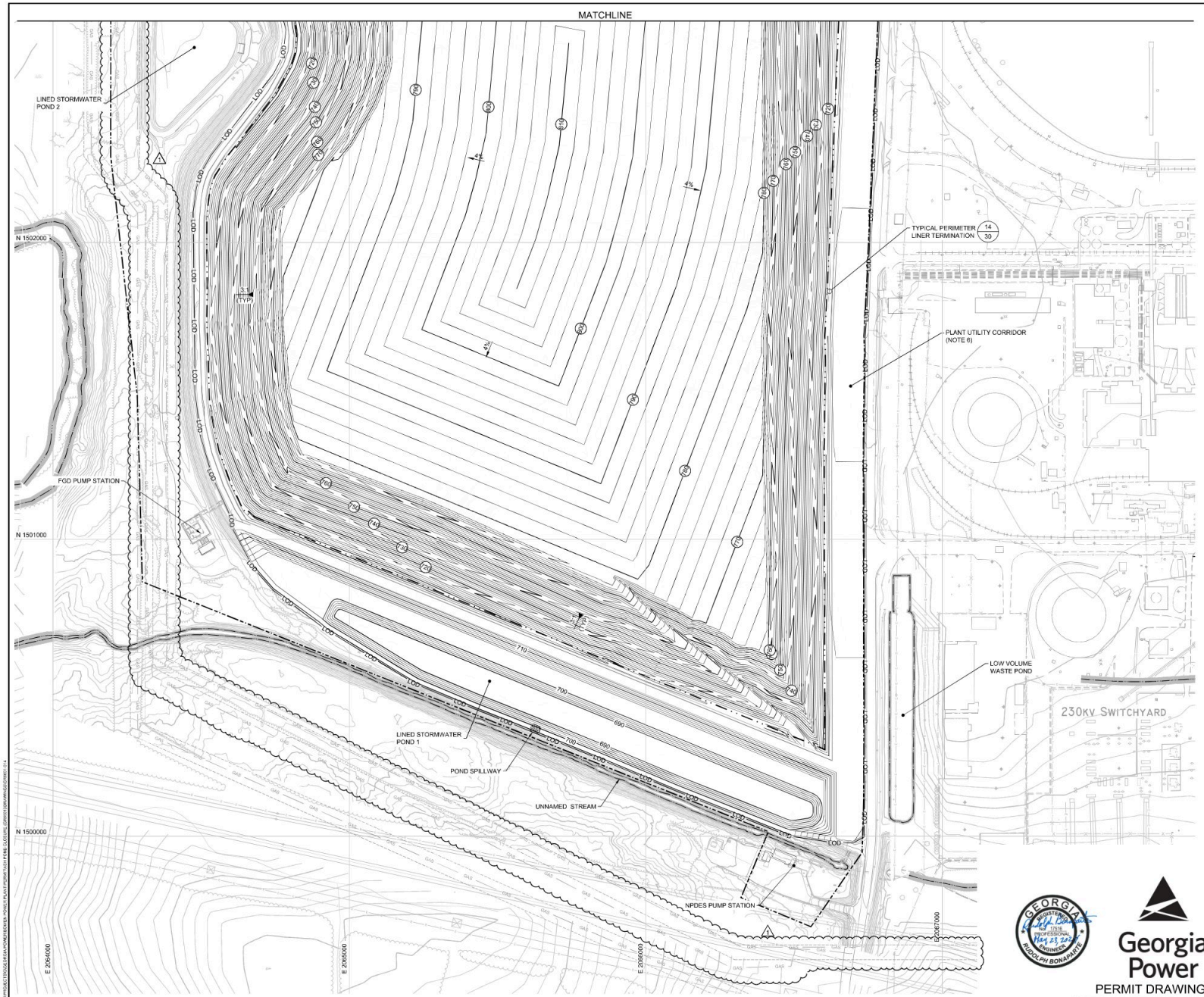
REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF CCR GRADING PLAN - OVERALL

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-013	EDIT 5/23/24
SCALE	1" = 300'	DRAWING 14 OF 50	
DATE	AUGUST 2021		

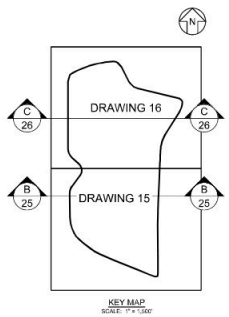


LEGEND

- 670 — FINISHED GROUND ELEVATION (FEET)
- (770) — TOP OF CCR ELEVATION FOR SOIL-GEOSYNTHETIC COMPOSITE COVER (FEET)
- PERMIT BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- FINAL LIMIT OF CCR

N

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF CCR GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF CCR ELEVATIONS FOR THE SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER OPTION. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
5. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
6. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
7. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF CCR GRADING PLAN - SOUTH

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE Nov 23, 2021

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR9601	DWG.	GR9601-014	EDIT	5/23/24
SCALE	1" = 150'				
DATE	AUGUST 2021				

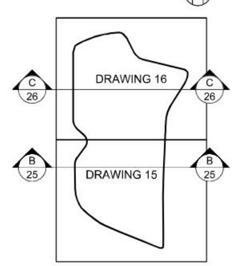
DRAWING 15 OF 50

LEGEND

- 670 — FINISHED GROUND ELEVATION (FEET)
- (770) — TOP OF CCR ELEVATION FOR SOIL-GEOSYNTHETIC COMPOSITE COVER (FEET)
- PERMIT BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- FINAL LIMIT OF CCR

N

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF CCR GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF CCR ELEVATIONS FOR THE SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER OPTION. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
5. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
6. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
7. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 150 300
SCALE IN FEET

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

TOP OF CCR GRADING PLAN - NORTH

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

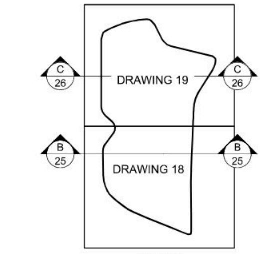
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-015	EDIT 5/23/24
SCALE	1" = 150'	DRAWING 16 OF 50	
DATE	AUGUST 2021		

LEGEND

- 670 — TOP OF FINAL COVER SYSTEM / TOP OF CCR FOR ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER) / FINISHED GRADE ELEVATION (FEET)
- PERMIT BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- FINAL LIMIT OF CCR

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF FINAL COVER GRADES SHOWN ON THIS DRAWING REPRESENT BOTH THE TOP OF SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER SYSTEM AND THE TOP OF CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM ELEVATIONS WITHIN THE FINAL COVER LIMITS. THESE GRADES ALSO REPRESENT THE TOP OF CCR ELEVATIONS FOR THE CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19. BASED ON FIELD CONDITIONS ENCOUNTERED, THE ELEVATION OF THE FINAL COVER MAY VARY, PROVIDED THAT THE ENGINEERING DESIGN CRITERIA ARE MET. THE MAXIMUM FINAL COVER ELEVATION WILL NOT BE EXCEEDED WITHOUT GA EPD AUTHORIZATION.
2. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
3. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
4. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
5. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
6. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 300 600
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

FINAL CLOSURE GRADING PLAN - OVERALL

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

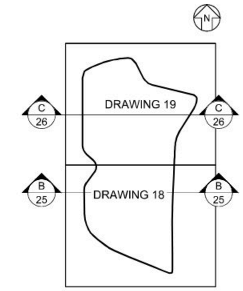
PROJ. NO.	GR6601	DWG.	GR6601-017
EDIT	5/23/24		
SCALE	1" = 300'		
DATE	AUGUST 2021		

MATCHLINE

LEGEND

670	TOP OF FINAL COVER SYSTEM / TOP OF CCR FOR ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER) / FINISHED GRADE ELEVATION (FEET)
	PERMIT BOUNDARY
LOD	LIMIT OF DISTURBANCE
	FINAL LIMIT OF CCR

GEORGIA
Department of Natural Resources
Environmental Protection Division
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF FINAL COVER GRADES SHOWN ON THIS DRAWING REPRESENT BOTH THE TOP OF SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER SYSTEM AND THE TOP OF CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM ELEVATIONS WITHIN THE FINAL COVER LIMITS. THESE GRADES ALSO REPRESENT THE TOP OF CCR ELEVATIONS FOR THE CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19. BASED ON FIELD CONDITIONS ENCOUNTERED, THE ELEVATION OF THE FINAL COVER MAY VARY, PROVIDED THAT THE ENGINEERING DESIGN CRITERIA ARE MET. THE MAXIMUM FINAL COVER ELEVATION WILL NOT BE EXCEEDED WITHOUT GA EPD AUTHORIZATION.
3. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
5. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
6. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
7. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

FINAL CLOSURE GRADING PLAN - SOUTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

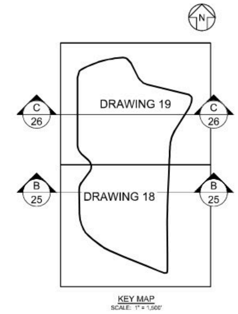
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-018	EDIT 5/23/24
SCALE	1" = 150'	DRAWING 18 OF 50	
DATE	AUGUST 2021		

LEGEND

670	TOP OF FINAL COVER SYSTEM / TOP OF CCR FOR ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER) / FINISHED GRADE ELEVATION (FEET)
	PERMIT BOUNDARY
LOD	LIMIT OF DISTURBANCE
	FINAL LIMIT OF CCR

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF FINAL COVER GRADES SHOWN ON THIS DRAWING REPRESENT BOTH THE TOP OF SOIL-GEOSYNTHETIC COMPOSITE FINAL COVER SYSTEM AND THE TOP OF CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM ELEVATIONS WITHIN THE FINAL COVER LIMITS. THESE GRADES ALSO REPRESENT THE TOP OF CCR ELEVATIONS FOR THE CLOSURETURF® ALTERNATIVE FINAL COVER SYSTEM. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19. BASED ON FIELD CONDITIONS ENCOUNTERED, THE ELEVATION OF THE FINAL COVER MAY VARY, PROVIDED THAT THE ENGINEERING DESIGN CRITERIA ARE MET. THE MAXIMUM FINAL COVER ELEVATION WILL NOT BE EXCEEDED WITHOUT GA EPD AUTHORIZATION.
3. REFER TO DRAWINGS 20 THROUGH 23 FOR THE CLOSURE PHASING PLANS.
4. REFER TO DRAWINGS 38 THROUGH 49 FOR THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
5. FOR CLARITY, FINAL CLOSURE STORMWATER MANAGEMENT FEATURES ARE NOT SHOWN ON THIS DRAWING. REFER TO DRAWING 38 FOR A DRAWING SHOWING THE LAYOUT PLAN AND IDENTIFICATION OF THESE FEATURES.
6. THE PLANT UTILITY CORRIDOR REFERS TO A 100-FT WIDE CORRIDOR IMMEDIATELY EAST OF THE CONSOLIDATED LINED AREA THAT WILL BE CONSTRUCTED IN CONJUNCTION WITH THE CLOSURE PROJECT. CORRIDOR MAY BE USED FOR PLANT-RELATED UTILITIES AND INFRASTRUCTURE.
7. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

0 150 300
SCALE IN FEET

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

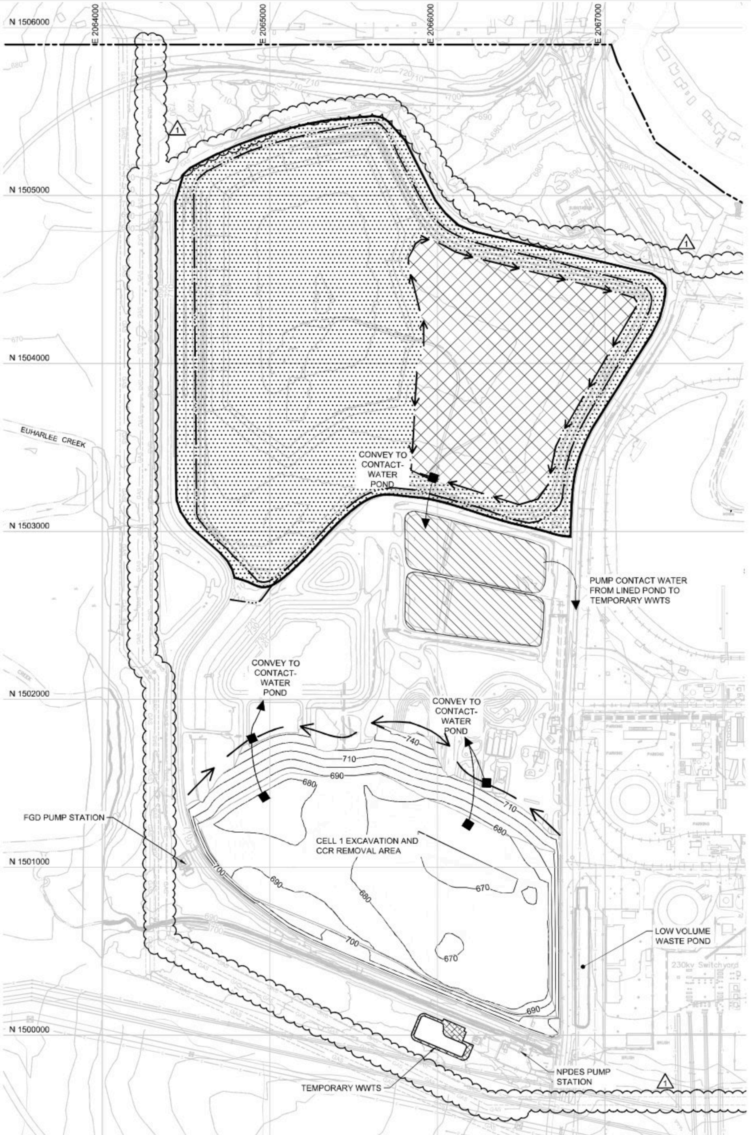
REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

FINAL CLOSURE GRADING PLAN - NORTH AP-1

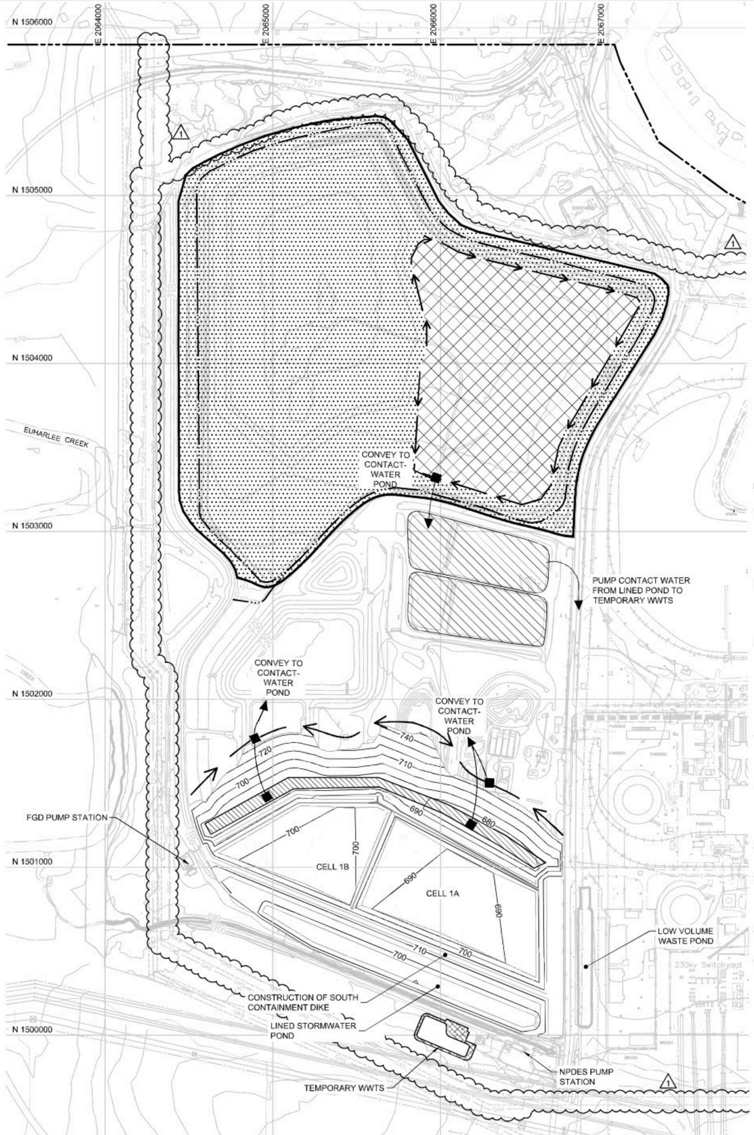
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-019	EDIT 5/23/24
SCALE	1" = 150'	DRAWING 19 OF 50	
DATE	AUGUST 2021		



PHASE 1
INITIAL CCR EXCAVATION



PHASE 2
CELL 1 CONSTRUCTION

LEGEND

- COVERED CCR (NON-CONTACT WATER)
- TEMPORARY CCR STOCKPILE AREA (NOTE 6)
- CONTACT-WATER COLLECTION / MANAGEMENT AREA (NOTE 7)
- LINED CONTACT-WATER POND
- TEMPORARY WWTS PAD
- CONTACT-WATER DIVERSION
- STORMWATER (NON-CONTACT WATER) DIVERSION

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

NOTES:

1. PHASING APPROACH IS CONCEPTUAL, AND WILL BE REFINED DURING DETAILED DESIGN. IN ADDITION, CONTRACTOR WILL HAVE DISCRETION TO ADJUST PHASE BOUNDARIES AND SEQUENCE, STOCKPILE LOCATION(S), AND CONTACT-WATER COLLECTION / MANAGEMENT AREAS, BASED ON FIELD CONDITIONS ENCOUNTERED AND TO FACILITATE CONSTRUCTION, AS APPROVED BY GEORGIA POWER COMPANY, WITH REQUIREMENT THAT DESIGN CRITERIA INCLUDING THOSE RELATED TO STORMWATER AND CONTACT WATER MANAGEMENT, ARE MET.
2. STORMWATER AND CONTACT-WATER MANAGEMENT WILL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION). DESIGN CRITERIA AND EVALUATION OF CASES RELATED TO THE CLOSURE PHASES PRESENTED HEREIN ARE PROVIDED IN A CALCULATION PACKAGE FOR INTERIM STORMWATER MANAGEMENT CONDITIONS, INCLUDED IN THE "ENGINEERING REPORT" (PART B, SECTION 3 OF THIS PERMIT APPLICATION).
3. DURING CLOSURE CONSTRUCTION, CONTACT WATER WILL BE PUMPED OR CONVEYED BY GRAVITY TO LINED CONTACT-WATER PONDS WITHIN AP-1, WHERE IT WILL BE TEMPORARILY STORED AND THEN PUMPED TO AN ON-SITE TEMPORARY WASTEWATER TREATMENT SYSTEM (WWTS) OR OTHERWISE PROPERLY MANAGED IN ACCORDANCE WITH THE PLANT'S NPDES PERMIT REQUIREMENTS. NON-CONTACT STORMWATER WILL BE MANAGED IN ACCORDANCE WITH APPLICABLE EROSION AND SEDIMENT CONTROL FEATURES AND REQUIREMENTS PROVIDED IN THIS SET OF CLOSURE DRAWINGS, AND THEN DISCHARGED THROUGH EXISTING OR NEW STORMWATER PONDS TO RECEIVING WATER BODIES WITHOUT TREATMENT.
4. CONTRACTOR WILL BE REQUIRED TO TAKE REASONABLE MEASURES TO MINIMIZE STORMWATER RUN-ON INTO THE CONTACT-WATER COLLECTION / MANAGEMENT AREAS. MINIMIZATION TECHNIQUES MAY INCLUDE THE CONSTRUCTION OF TEMPORARY DIVERSION BERMS OR CHANNELS TO DIVERT STORMWATER AWAY FROM THE COLLECTION / MANAGEMENT AREAS.
5. COVER SYSTEM WILL BE TEMPORARILY TERMINATED AT CLOSURE INCREMENT PHASE BOUNDARIES AS SHOWN IN DETAILS 12 AND 13 ON DRAWING 29 FOR FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) AND ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER), RESPECTIVELY. CLOSURE INCREMENTS ARE APPROXIMATE FOR ILLUSTRATIVE PURPOSES, AND MAY BE ADJUSTED DURING CLOSURE.
6. TEMPORARY CCR STOCKPILE AREA(S) SHOWN ARE CONCEPTUAL AND THEIR LOCATIONS AND SIZES WILL BE REFINED DURING DETAILED DESIGN.
7. CONTACT-WATER COLLECTION / MANAGEMENT AREAS SHOWN ON THIS DRAWING MAY BE ADJUSTED OR SUPPLEMENTED DURING CONSTRUCTION AS NEEDED. CONTACT WATER WILL BE PROMPTLY TRANSFERRED TO THE LINED CONTACT-WATER POND TO MINIMIZE DURATION OF PONDING WITHIN AP-1 EXCAVATIONS.
8. TEMPORARY LINED STORWATER PONDS (NON-CONTACT WATER) MAY BE UTILIZED DURING CONSTRUCTION AS NEEDED.
9. FOR PHASES WHERE COVERED CCR SHADING ENCROACHES ON ACTIVE CCR PLACEMENT, THIS INDICATES WHERE A TEMPORARY OR FINAL COVER SYSTEM INCREMENT MAY BE INSTALLED ONCE FINISHED WASTE GRADES ARE ACHIEVED FOR THAT PHASE.

0 350 700
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

CLOSURE PHASING PLANS I

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

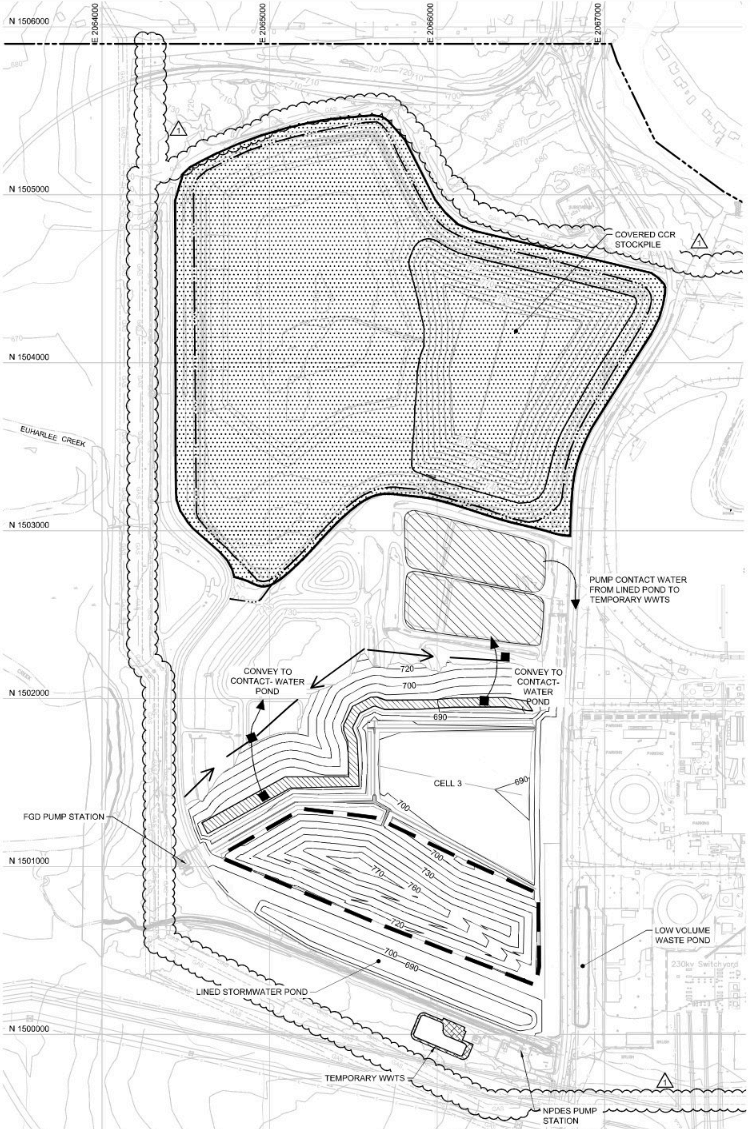
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

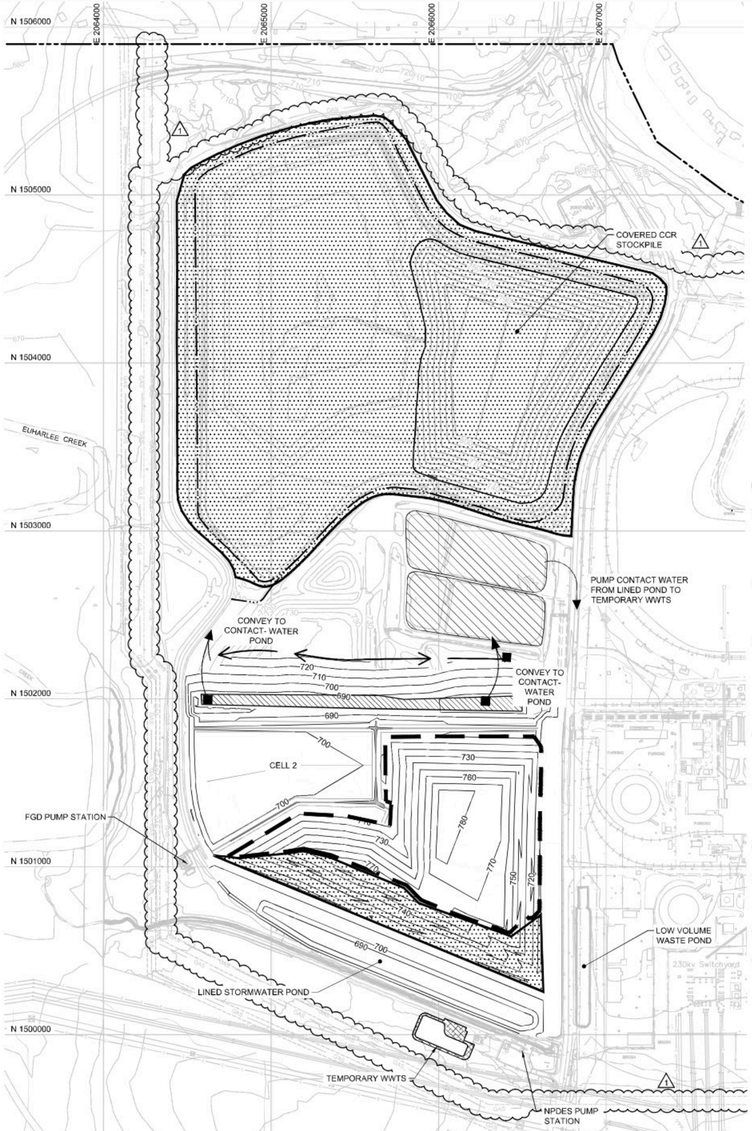
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-020	EDIT 5/23/24
SCALE	1" = 350'	DRAWING 20 OF 50	
DATE	AUGUST 2021		



PHASE 3
CELL 3 CONSTRUCTION AND
CELL 1 FILLING



PHASE 4
CELL 2 CONSTRUCTION AND
CELLS 1 & 3 FILLING

LEGEND

- COVERED CCR (NON-CONTACT WATER)
- ACTIVE CCR PLACEMENT IN LINED CLOSURE AREA (NOTE 9)
- CONTACT-WATER COLLECTION / MANAGEMENT AREA (NOTE 7)
- LINED CONTACT-WATER POND
- TEMPORARY WWTS PAD
- CONTACT WATER DIVERSION
- STORMWATER (NON-CONTACT WATER) DIVERSION

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

NOTES:

1. THIS PHASING APPROACH IS CONCEPTUAL, AND WILL BE REFINED DURING DETAILED DESIGN. IN ADDITION, CONTRACTOR WILL HAVE DISCRETION TO ADJUST PHASE BOUNDARIES AND SEQUENCE, STOCKPILE LOCATION(S), AND CONTACT-WATER COLLECTION / MANAGEMENT AREAS, BASED ON FIELD CONDITIONS ENCOUNTERED AND TO FACILITATE CONSTRUCTION, AS APPROVED BY GEORGIA POWER COMPANY, WITH REQUIREMENT THAT DESIGN CRITERIA INCLUDING THOSE RELATED TO STORMWATER AND CONTACT WATER MANAGEMENT, ARE MET.
2. STORMWATER AND CONTACT-WATER MANAGEMENT WILL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION). DESIGN CRITERIA AND EVALUATION OF CASES RELATED TO THE CLOSURE PHASES PRESENTED HEREIN ARE PROVIDED IN A CALCULATION PACKAGE FOR INTERIM STORMWATER MANAGEMENT CONDITIONS, INCLUDED IN THE "ENGINEERING REPORT" (PART B, SECTION 3 OF THIS PERMIT APPLICATION).
3. DURING CLOSURE CONSTRUCTION, CONTACT WATER WILL BE PUMPED OR CONVEYED BY GRAVITY TO LINED CONTACT-WATER PONDS WITHIN AP-1, WHERE IT WILL BE TEMPORARILY STORED AND THEN PUMPED TO AN ON-SITE TEMPORARY WASTEWATER TREATMENT SYSTEM (WWTS) OR OTHERWISE PROPERLY MANAGED IN ACCORDANCE WITH THE PLANT'S NPDES PERMIT REQUIREMENTS. NON-CONTACT STORMWATER WILL BE MANAGED IN ACCORDANCE WITH APPLICABLE EROSION AND SEDIMENT CONTROL FEATURES AND REQUIREMENTS PROVIDED IN THIS SET OF CLOSURE DRAWINGS, AND THEN DISCHARGED THROUGH EXISTING OR NEW STORMWATER PONDS TO RECEIVING WATER BODIES WITHOUT TREATMENT.
4. CONTRACTOR WILL BE REQUIRED TO TAKE REASONABLE MEASURES TO MINIMIZE STORMWATER RUN-ON INTO THE CONTACT-WATER COLLECTION / MANAGEMENT AREAS. MINIMIZATION TECHNIQUES MAY INCLUDE THE CONSTRUCTION OF TEMPORARY DIVERSION BERMS OR CHANNELS TO DIVERT STORMWATER AWAY FROM THE COLLECTION / MANAGEMENT AREAS.
5. COVER SYSTEM WILL BE TEMPORARILY TERMINATED AT CLOSURE INCREMENT PHASE BOUNDARIES AS SHOWN IN DETAILS 12 AND 13 ON DRAWING 29 FOR FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) AND ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER), RESPECTIVELY. CLOSURE INCREMENTS ARE APPROXIMATE FOR ILLUSTRATIVE PURPOSES, AND MAY BE ADJUSTED DURING CLOSURE.
6. TEMPORARY CCR STOCKPILE AREA(S) SHOWN ARE CONCEPTUAL AND THEIR LOCATIONS AND SIZES WILL BE REFINED DURING DETAILED DESIGN.
7. CONTACT-WATER COLLECTION / MANAGEMENT AREAS SHOWN ON THIS DRAWING MAY BE ADJUSTED OR SUPPLEMENTED DURING CONSTRUCTION AS NEEDED. CONTACT WATER WILL BE PROMPTLY TRANSFERRED TO THE LINED CONTACT-WATER POND TO MINIMIZE DURATION OF PONDING WITHIN AP-1 EXCAVATIONS.
8. TEMPORARY LINED STORWATER PONDS (NON-CONTACT WATER) MAY BE UTILIZED DURING CONSTRUCTION AS NEEDED.
9. FOR PHASES WHERE COVERED CCR SHADING ENCROACHES ON ACTIVE CCR PLACEMENT, THIS INDICATES WHERE A TEMPORARY OR FINAL COVER SYSTEM INCREMENT MAY BE INSTALLED ONCE FINISHED WASTE GRADES ARE ACHIEVED FOR THAT PHASE.

0 350 700
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

CLOSURE PHASING PLANS 2

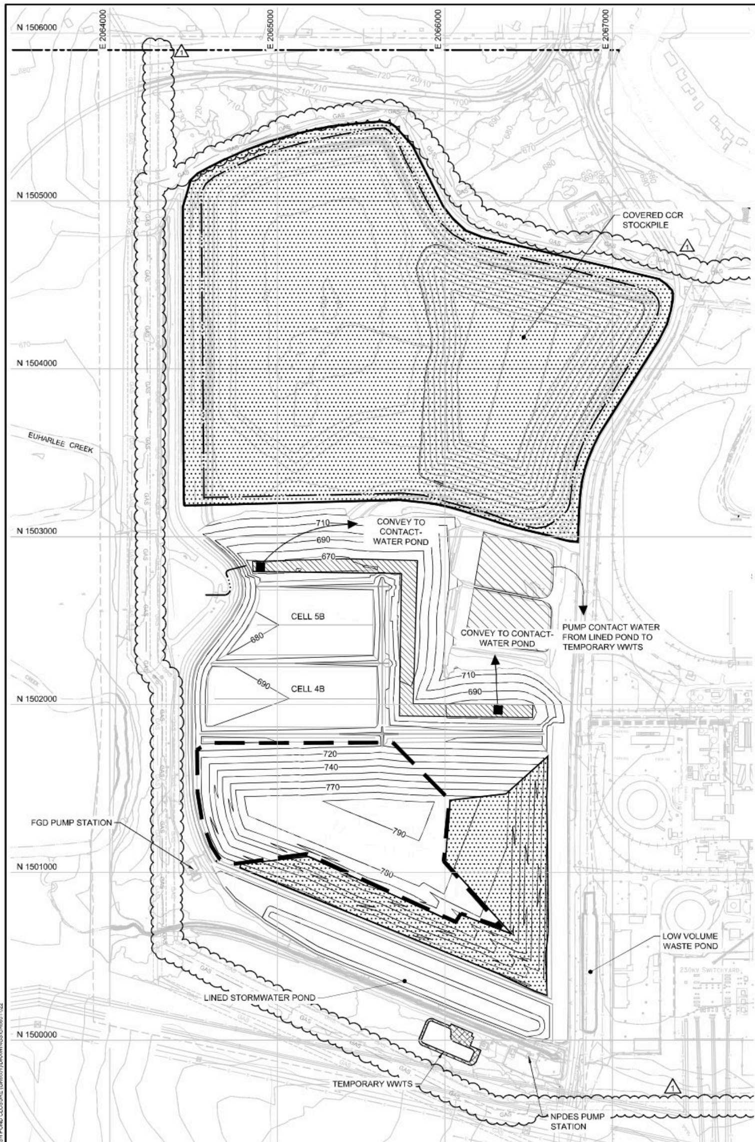
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

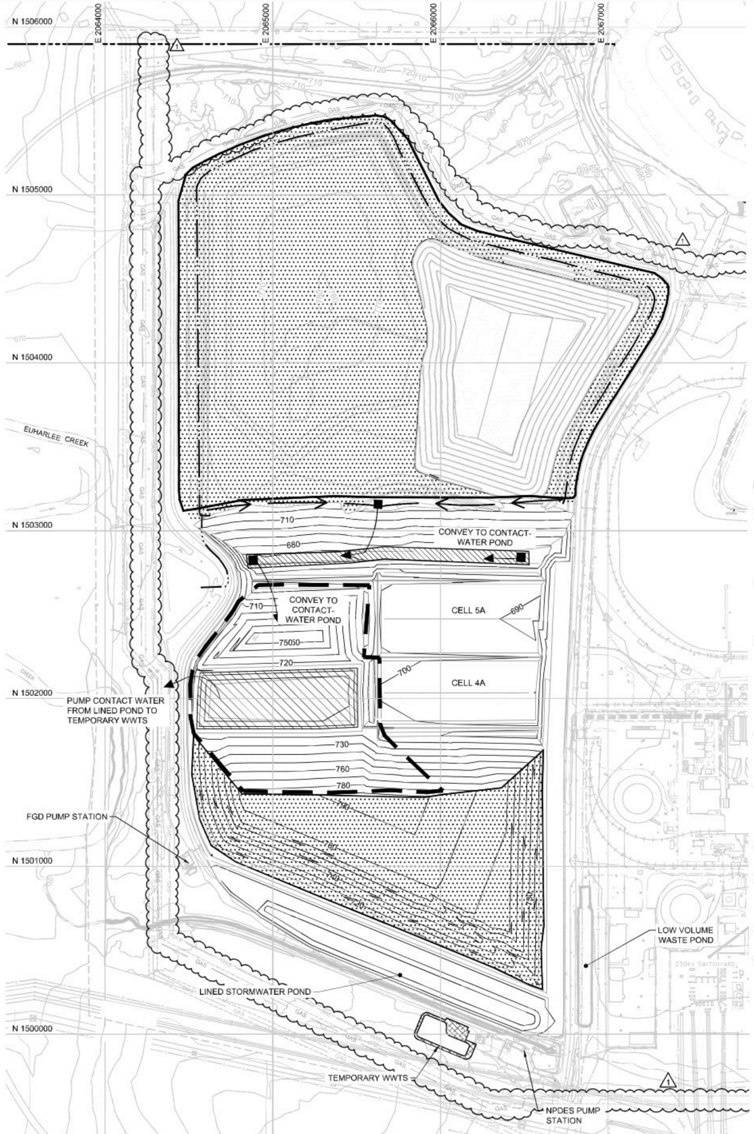
PROJ. NO.	GR6601	DWG. GR6601-021	EDIT 5/23/24
SCALE	1" = 350'	DRAWING 21 OF 50	
DATE	AUGUST 2021		

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION



PHASE 5
CELL 4B & 5B CONSTRUCTION AND
CELL 2 FILLING



PHASE 6
CELL 4A & 5A CONSTRUCTION AND
CELL 4B & 5B FILLING

LEGEND

- COVERED CCR (NON-CONTACT WATER)
- ACTIVE CCR PLACEMENT IN LINED CLOSURE AREA (NOTE 9)
- CONTACT-WATER COLLECTION / MANAGEMENT AREA (NOTE 7)
- LINED CONTACT-WATER POND
- TEMPORARY WWTS PAD
- CONTACT WATER DIVERSION
- STORMWATER (NON-CONTACT WATER) DIVERSION

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

NOTES:

1. THIS PHASING APPROACH IS CONCEPTUAL, AND WILL BE REFINED DURING DETAILED DESIGN. IN ADDITION, CONTRACTOR WILL HAVE DISCRETION TO ADJUST PHASE BOUNDARIES AND SEQUENCE, STOCKPILE LOCATION(S), AND CONTACT-WATER COLLECTION / MANAGEMENT AREAS, BASED ON FIELD CONDITIONS ENCOUNTERED AND TO FACILITATE CONSTRUCTION, AS APPROVED BY GEORGIA POWER COMPANY, WITH REQUIREMENT THAT DESIGN CRITERIA INCLUDING THOSE RELATED TO STORMWATER AND CONTACT WATER MANAGEMENT, ARE MET.
2. STORMWATER AND CONTACT-WATER MANAGEMENT WILL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION). DESIGN CRITERIA AND EVALUATION OF CASES RELATED TO THE CLOSURE PHASES PRESENTED HEREIN ARE PROVIDED IN A CALCULATION PACKAGE FOR INTERIM STORMWATER MANAGEMENT CONDITIONS, INCLUDED IN THE "ENGINEERING REPORT" (PART B, SECTION 3 OF THIS PERMIT APPLICATION).
3. DURING CLOSURE CONSTRUCTION, CONTACT WATER WILL BE PUMPED OR CONVEYED BY GRAVITY TO LINED CONTACT-WATER PONDS WITHIN AP-1, WHERE IT WILL BE TEMPORARILY STORED AND THEN PUMPED TO AN ON-SITE TEMPORARY WASTEWATER TREATMENT SYSTEM (WWTS) OR OTHERWISE PROPERLY MANAGED IN ACCORDANCE WITH THE PLANT'S NPDES PERMIT REQUIREMENTS. NON-CONTACT STORMWATER WILL BE MANAGED IN ACCORDANCE WITH APPLICABLE EROSION AND SEDIMENT CONTROL FEATURES AND REQUIREMENTS PROVIDED IN THIS SET OF CLOSURE DRAWINGS, AND THEN DISCHARGED THROUGH EXISTING OR NEW STORMWATER PONDS TO RECEIVING WATER BODIES WITHOUT TREATMENT.
4. CONTRACTOR WILL BE REQUIRED TO TAKE REASONABLE MEASURES TO MINIMIZE STORMWATER RUN-ON INTO THE CONTACT-WATER COLLECTION / MANAGEMENT AREAS. MINIMIZATION TECHNIQUES MAY INCLUDE THE CONSTRUCTION OF TEMPORARY DIVERSION BERMS OR CHANNELS TO DIVERT STORMWATER AWAY FROM THE COLLECTION / MANAGEMENT AREAS.
5. COVER SYSTEM WILL BE TEMPORARILY TERMINATED AT CLOSURE INCREMENT PHASE BOUNDARIES AS SHOWN IN DETAILS 12 AND 13 ON DRAWING 29 FOR FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) AND ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER), RESPECTIVELY. CLOSURE INCREMENTS ARE APPROXIMATE FOR ILLUSTRATIVE PURPOSES, AND MAY BE ADJUSTED DURING CLOSURE.
6. TEMPORARY CCR STOCKPILE AREA(S) SHOWN ARE CONCEPTUAL AND THEIR LOCATIONS AND SIZES WILL BE REFINED DURING DETAILED DESIGN.
7. CONTACT-WATER COLLECTION / MANAGEMENT AREAS SHOWN ON THIS DRAWING MAY BE ADJUSTED OR SUPPLEMENTED DURING CONSTRUCTION AS NEEDED. CONTACT WATER WILL BE PROMPTLY TRANSFERRED TO THE LINED CONTACT-WATER POND TO MINIMIZE DURATION OF PONDING WITHIN AP-1 EXCAVATIONS.
8. TEMPORARY LINED STORWATER PONDS (NON-CONTACT WATER) MAY BE UTILIZED DURING CONSTRUCTION AS NEEDED.
9. FOR PHASES WHERE COVERED CCR SHADING ENCROACHES ON ACTIVE CCR PLACEMENT, THIS INDICATES WHERE A TEMPORARY OR FINAL COVER SYSTEM INCREMENT MAY BE INSTALLED ONCE FINISHED WASTE GRADES ARE ACHIEVED FOR THAT PHASE.

0 350 700
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

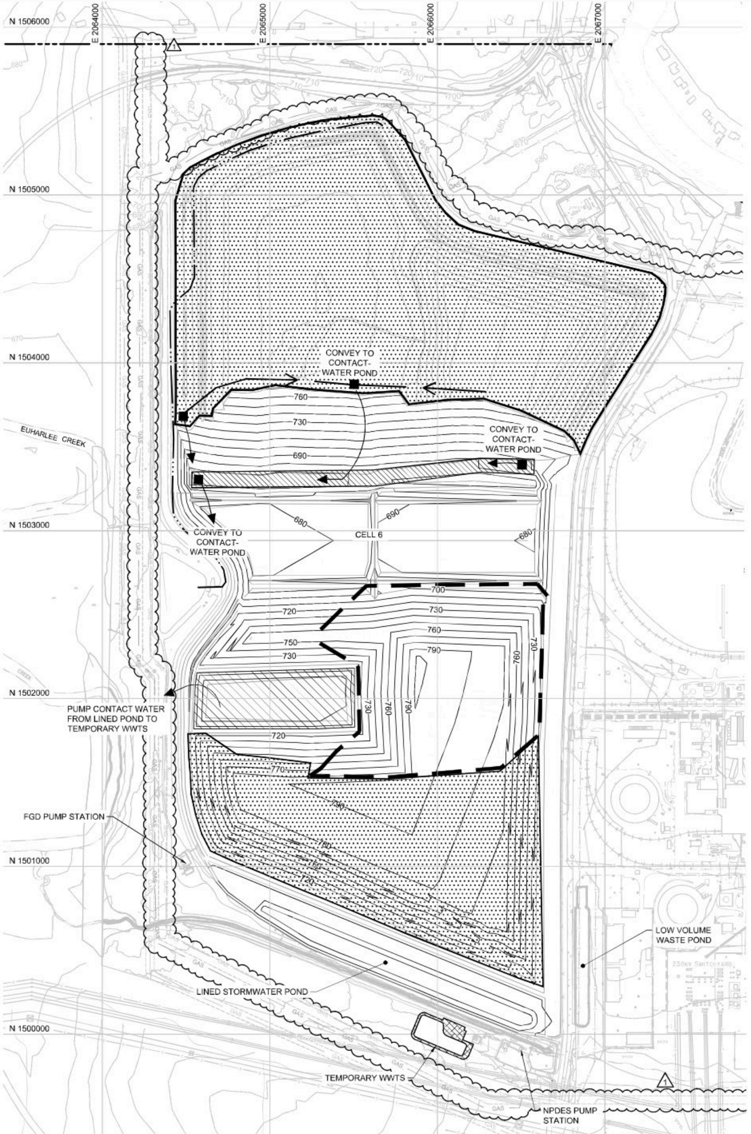
PERMIT DRAWING
NOT FOR CONSTRUCTION

CLOSURE PHASING PLANS 3

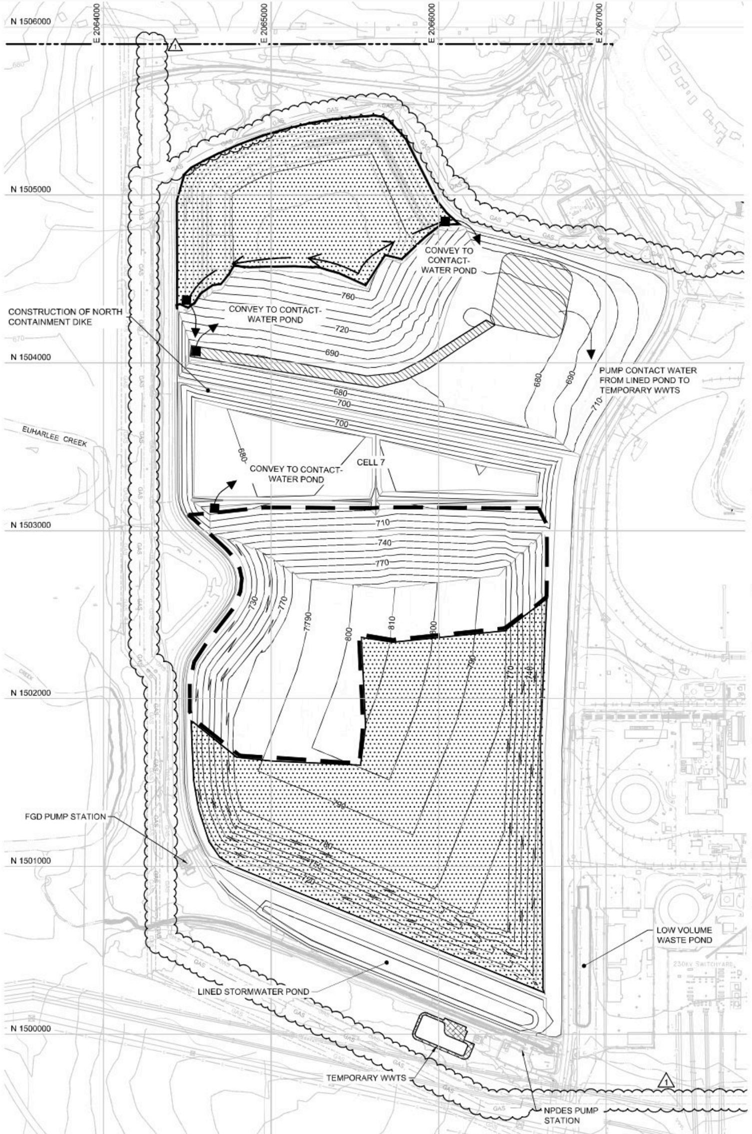
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-022	EDIT 5/23/24
SCALE	1" = 350'	DRAWING 22 OF 50	
DATE	AUGUST 2021		



PHASE 7
CELL 6 CONSTRUCTION AND CELL 4A & 5A FILLING



PHASE 8
CELL 7 CONSTRUCTION AND CELL 6 FILLING

LEGEND

- COVERED CCR (NON-CONTACT WATER)
- ACTIVE CCR PLACEMENT IN LINED CLOSURE AREA (NOTE 9)
- CONTACT-WATER COLLECTION / MANAGEMENT AREA (NOTE 7)
- LINED CONTACT-WATER POND
- TEMPORARY WWTS PAD
- CONTACT WATER DIVERSION
- STORMWATER (NON-CONTACT WATER) DIVERSION

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

NOTES:

1. THIS PHASING APPROACH IS CONCEPTUAL, AND WILL BE REFINED DURING DETAILED DESIGN. IN ADDITION, CONTRACTOR WILL HAVE DISCRETION TO ADJUST PHASE BOUNDARIES AND SEQUENCE, STOCKPILE LOCATION(S), AND CONTACT-WATER COLLECTION / MANAGEMENT AREAS, BASED ON FIELD CONDITIONS ENCOUNTERED AND TO FACILITATE CONSTRUCTION, AS APPROVED BY GEORGIA POWER COMPANY, WITH REQUIREMENT THAT DESIGN CRITERIA INCLUDING THOSE RELATED TO STORMWATER AND CONTACT-WATER MANAGEMENT, ARE MET.

2. STORMWATER AND CONTACT-WATER MANAGEMENT WILL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE "CLOSURE PLAN" (PART A, SECTION 7 OF THIS PERMIT APPLICATION). DESIGN CRITERIA AND EVALUATION OF CASES RELATED TO THE CLOSURE PHASES PRESENTED HEREIN ARE PROVIDED IN A CALCULATION PACKAGE FOR INTERIM STORMWATER MANAGEMENT CONDITIONS, INCLUDED IN THE "ENGINEERING REPORT" (PART B, SECTION 3 OF THIS PERMIT APPLICATION).

3. DURING CLOSURE CONSTRUCTION, CONTACT WATER WILL BE PUMPED OR CONVEYED BY GRAVITY TO LINED CONTACT-WATER PONDS WITHIN AP-1, WHERE IT WILL BE TEMPORARILY STORED AND THEN PUMPED TO AN ON-SITE TEMPORARY WASTEWATER TREATMENT SYSTEM (WWTS) OR OTHERWISE PROPERLY MANAGED IN ACCORDANCE WITH THE PLANT'S NPDES PERMIT REQUIREMENTS. NON-CONTACT STORMWATER WILL BE MANAGED IN ACCORDANCE WITH APPLICABLE EROSION AND SEDIMENT CONTROL FEATURES AND REQUIREMENTS PROVIDED IN THIS SET OF CLOSURE DRAWINGS, AND THEN DISCHARGED THROUGH EXISTING OR NEW STORMWATER PONDS TO RECEIVING WATER BODIES WITHOUT TREATMENT.

4. CONTRACTOR WILL BE REQUIRED TO TAKE REASONABLE MEASURES TO MINIMIZE STORMWATER RUN-ON INTO THE CONTACT-WATER COLLECTION / MANAGEMENT AREAS. MINIMIZATION TECHNIQUES MAY INCLUDE THE CONSTRUCTION OF TEMPORARY DIVERSION BERMS OR CHANNELS TO DIVERT STORMWATER AWAY FROM THE COLLECTION / MANAGEMENT AREAS.

5. COVER SYSTEM WILL BE TEMPORARILY TERMINATED AT CLOSURE INCREMENT PHASE BOUNDARIES AS SHOWN IN DETAILS 12 AND 13 ON DRAWING 29 FOR FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) AND ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER), RESPECTIVELY. CLOSURE INCREMENTS ARE APPROXIMATE FOR ILLUSTRATIVE PURPOSES, AND MAY BE ADJUSTED DURING CLOSURE.

6. CONTACT-WATER COLLECTION / MANAGEMENT AREAS SHOWN ON THIS DRAWING MAY BE ADJUSTED OR SUPPLEMENTED DURING CONSTRUCTION AS NEEDED. CONTACT WATER WILL BE PROMPTLY TRANSFERRED TO THE LINED CONTACT-WATER POND TO MINIMIZE DURATION OF PONDING WITHIN AP-1 EXCAVATIONS.

7. TEMPORARY LINED STORWATER PONDS (NON-CONTACT WATER) MAY BE UTILIZED DURING CONSTRUCTION AS NEEDED.

8. FOR PHASES WHERE COVERED CCR SHADING ENCROACHES ON ACTIVE CCR PLACEMENT, THIS INDICATES WHERE A TEMPORARY OR FINAL COVER SYSTEM INCREMENT MAY BE INSTALLED ONCE FINISHED WASTE GRADES ARE ACHIEVED FOR THAT PHASE.

0 350 700
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

CLOSURE PHASING PLANS 4

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

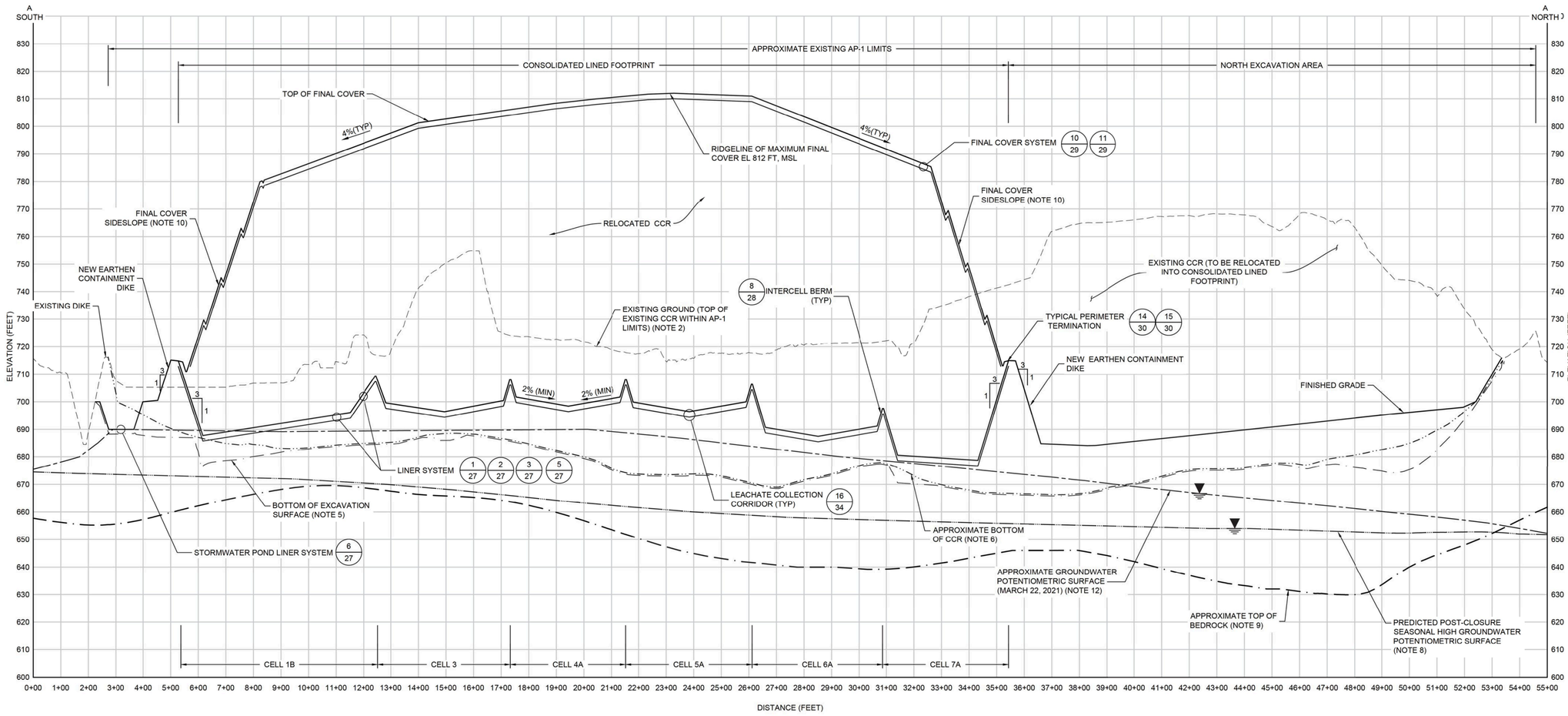
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE
May 23, 2024

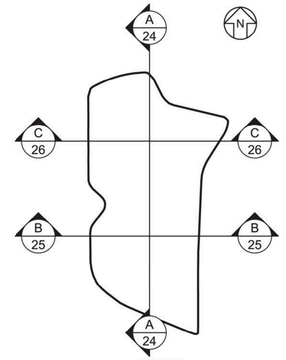
Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-022A	EDIT 5/23/24
SCALE	1" = 350'	DRAWING 23 OF 50	
DATE	AUGUST 2021		





NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. EXISTING GROUND SHOWN ON THIS DRAWING IS TAKEN FROM THE TOPOGRAPHIC BASE MAP SHOWN ON DRAWING 4.
3. TOP OF LINER (GEOMEMBRANE COMPONENT OF THE LINER SYSTEM) SHOWN ON THIS DRAWING IS TAKEN FROM DRAWING 11.
4. TOP OF FINAL COVER AND FINISHED GRADES BEYOND THE CONSOLIDATED LINED FOOTPRINT LIMITS SHOWN ON THIS DRAWING ARE TAKEN FROM DRAWING 17.
5. EXCAVATION SURFACE ELEVATION REPRESENTS A MINIMUM EXCAVATION DEPTH, IS APPROXIMATE, AND IS TAKEN FROM DRAWING 8.
6. APPROXIMATE BOTTOM OF CCR SHOWN ON THIS DRAWING IS TAKEN FROM DRAWING 6.
7. TOP OF FINAL COVER SURFACE (AND MAXIMUM ELEVATION) IS BASED ON THE SOIL-GEOSYNTHETIC COVER SYSTEM ALTERNATIVE.
8. PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE SHOWN ON THIS DRAWING OBTAINED FROM GROUNDWATER FLOW MODELING RESULTS AS DOCUMENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION AND SHOWN ON DRAWINGS 11 THROUGH 13.
9. TOP OF BEDROCK SURFACE IS APPROXIMATE AND WAS DEVELOPED BY GEOSYNTEC CONSULTANTS USING AVAILABLE SUBSURFACE INFORMATION FROM PREVIOUS SITE INVESTIGATIONS.
10. TOP OF FINAL COVER DESIGN GRADES ARE SLOPED AT NO STEEPER THAN 3H:1V ON LANDFILL SIDESLOPES BETWEEN DRAINAGE BENCHES, AND AT A MINIMUM OF FOUR (4) PERCENT ON THE LANDFILL TOP AREAS. SLOPES AND FINAL COVER SYSTEM LAYER THICKNESS MAY APPEAR DISTORTED ON THESE CROSS SECTIONS DUE TO THE EXAGGERATED VERTICAL SCALE AND SKEWED ANGLE AT WHICH THESE SECTIONS WERE CUT COMPARED TO THE THREE-DIMENSIONAL TRUE SLOPE DIRECTIONS.
11. LINER DESIGN GRADES ARE SLOPED AT NO STEEPER THAN 3H:1V ON DIKE AND INTERCELL BERM LINER SIDESLOPES, AND AT A MINIMUM OF TWO (2) PERCENT TOWARDS THE LEACHATE COLLECTION CORRIDORS ON THE CELL FLOOR AREAS. LEACHATE COLLECTION CORRIDORS ARE SLOPED AT A MINIMUM OF ONE (1) PERCENT TOWARDS THE SUMPS. SLOPES AND LAYER THICKNESS MAY APPEAR DISTORTED ON THESE CROSS SECTIONS DUE TO THE EXAGGERATED VERTICAL SCALE AND SKEWED ANGLE AT WHICH THESE SECTIONS WERE CUT COMPARED TO THE THREE-DIMENSIONAL TRUE SLOPE DIRECTIONS.
12. APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE IS FROM WATER LEVEL MEASUREMENTS DATED 22 MARCH 2021 IN WELLS/PIEZOMETERS SCREENED IN BEDROCK AS PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION. THE MARCH 2021 POTENTIOMETRIC SURFACE IS HIGHER THAN THAT ASSOCIATED WITH THE DEWATERED AND CLOSED CONDITION WITHIN AP-1, AS REFLECTED IN NOTE 8.

A / 11 SECTION
NORTH-SOUTH CROSS SECTION
SCALE: 1"=200' (HORIZONTAL): 1"=20' (VERTICAL)

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Keith Stevens
Approved By: _____
Digitally signed by Keith Stevens
Date: 2021.08.27 13:46:29 -04'00'

GEORGIA REGISTERED No. 17514 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE
Rudolph Bonaparte
August 16, 2021

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

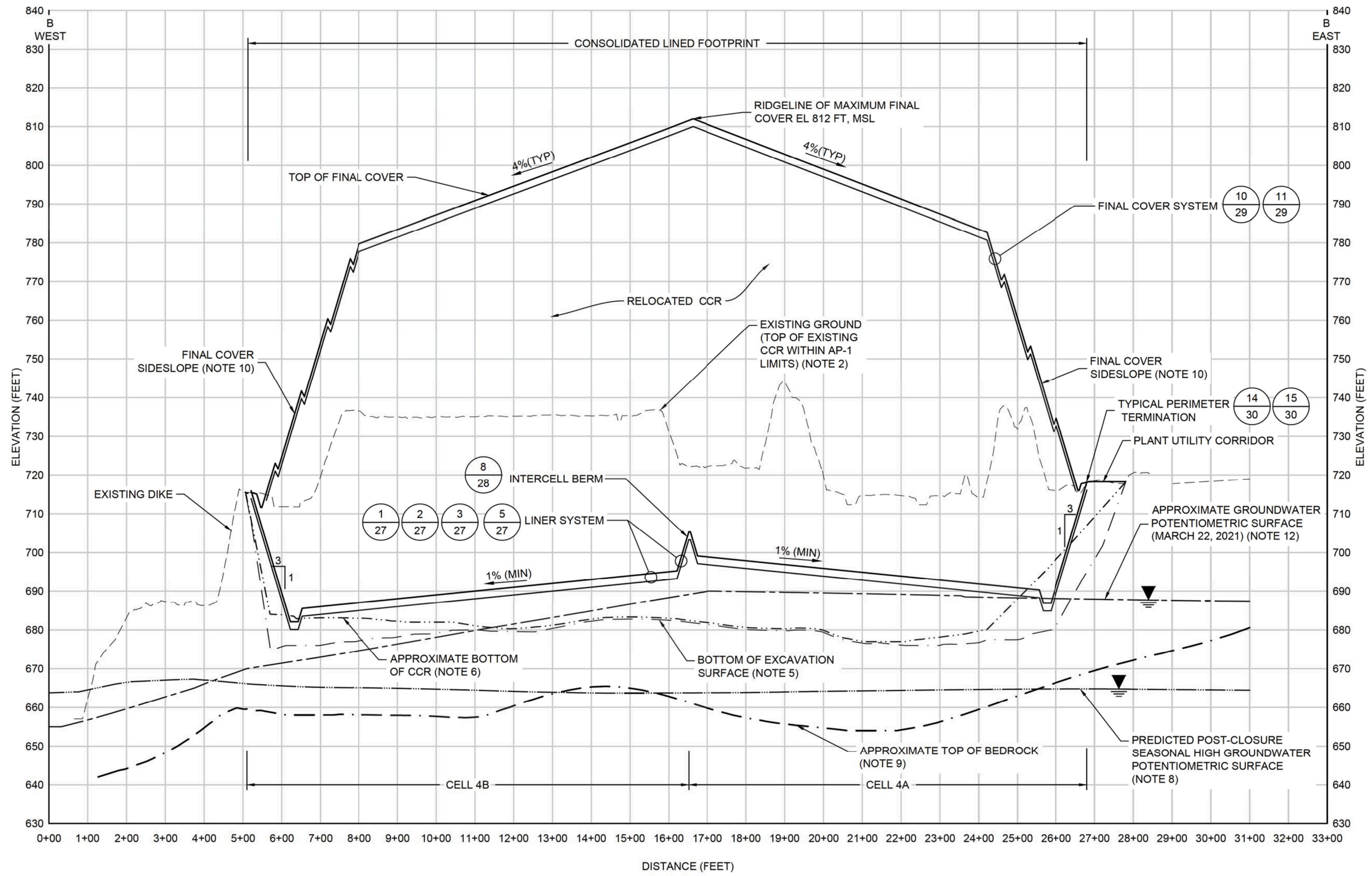
SITE CROSS SECTIONS I

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-023
SCALE	AS SHOWN	EDIT	8/16/21
DATE	AUGUST 2021	DRAWING	24 OF 50

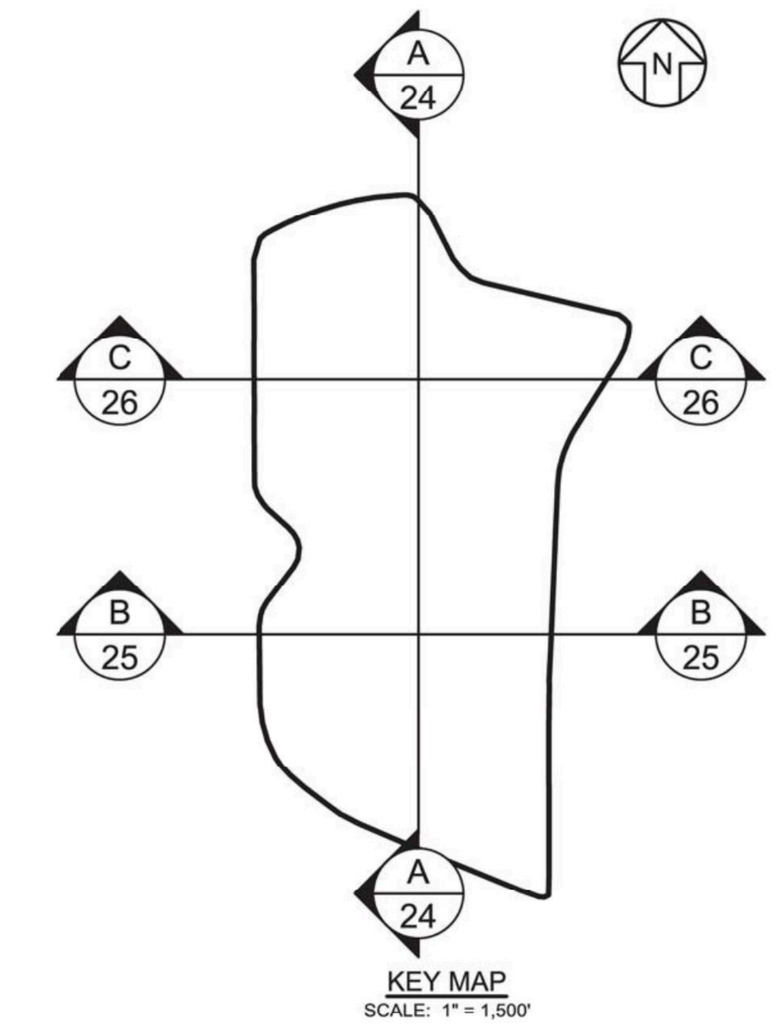
P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-023



B
11

SECTION
EAST-WEST CROSS SECTION

SCALE: 1"=200' (HORIZONTAL): 1"=20' (VERTICAL)



NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. EXISTING GROUND SHOWN ON THIS DRAWING IS TAKEN FROM THE TOPOGRAPHIC BASE MAP SHOWN ON DRAWING 4.
3. TOP OF LINER (GEOMEMBRANE COMPONENT OF THE LINER SYSTEM) SHOWN ON THIS DRAWING IS TAKEN FROM DRAWING 11.
4. TOP OF FINAL COVER AND FINISHED GRADES BEYOND THE CONSOLIDATED LINED FOOTPRINT LIMITS SHOWN ON THIS DRAWING ARE TAKEN FROM DRAWING 17.
5. EXCAVATION SURFACE ELEVATION REPRESENTS A MINIMUM EXCAVATION DEPTH, IS APPROXIMATE, AND IS TAKEN FROM DRAWING 8.
6. APPROXIMATE BOTTOM OF CCR SHOWN ON THIS DRAWING IS TAKEN FROM DRAWING 6.
7. TOP OF FINAL COVER SURFACE (AND MAXIMUM ELEVATION) IS BASED ON THE SOIL-GEOSYNTHETIC COVER SYSTEM ALTERNATIVE.
8. PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE SHOWN ON THIS DRAWING OBTAINED FROM GROUNDWATER FLOW MODELING RESULTS AS DOCUMENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION AND SHOWN ON DRAWINGS 11 THROUGH 13.
9. TOP OF BEDROCK SURFACE IS APPROXIMATE AND WAS DEVELOPED BY GEOSYNTEC CONSULTANTS USING AVAILABLE SUBSURFACE INFORMATION FROM PREVIOUS SITE INVESTIGATIONS.
10. TOP OF FINAL COVER DESIGN GRADES ARE SLOPED AT NO STEEPER THAN 3H:1V ON LANDFILL SIDESLOPES BETWEEN DRAINAGE BENCHES, AND AT A MINIMUM OF FOUR (4) PERCENT ON THE LANDFILL TOP AREAS. SLOPES AND FINAL COVER SYSTEM LAYER THICKNESS MAY APPEAR DISTORTED ON THESE CROSS SECTIONS DUE TO THE EXAGGERATED VERTICAL SCALE AND SKEWED ANGLE AT WHICH THESE SECTIONS WERE CUT COMPARED TO THE THREE-DIMENSIONAL TRUE SLOPE DIRECTIONS.
11. LINER DESIGN GRADES ARE SLOPED AT NO STEEPER THAN 3H:1V ON DIKE AND INTERCELL BERM LINER SIDESLOPES, AND AT A MINIMUM OF TWO (2) PERCENT TOWARDS THE LEACHATE COLLECTION CORRIDORS ON THE CELL FLOOR AREAS. LEACHATE COLLECTION CORRIDORS ARE SLOPED AT A MINIMUM OF ONE (1) PERCENT TOWARDS THE SUMPS. SLOPES AND LAYER THICKNESS MAY APPEAR DISTORTED ON THESE CROSS SECTIONS DUE TO THE EXAGGERATED VERTICAL SCALE AND SKEWED ANGLE AT WHICH THESE SECTIONS WERE CUT COMPARED TO THE THREE-DIMENSIONAL TRUE SLOPE DIRECTIONS.
12. APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE IS FROM WATER LEVEL MEASUREMENTS DATED 22 MARCH 2021 IN WELLS/PIEZOMETERS SCREENED IN BEDROCK AS PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION. THE MARCH 2021 POTENTIOMETRIC SURFACE IS HIGHER THAN THAT ASSOCIATED WITH THE DEWATERED AND CLOSED CONDITION WITHIN AP-1, AS REFLECTED IN NOTE 8.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

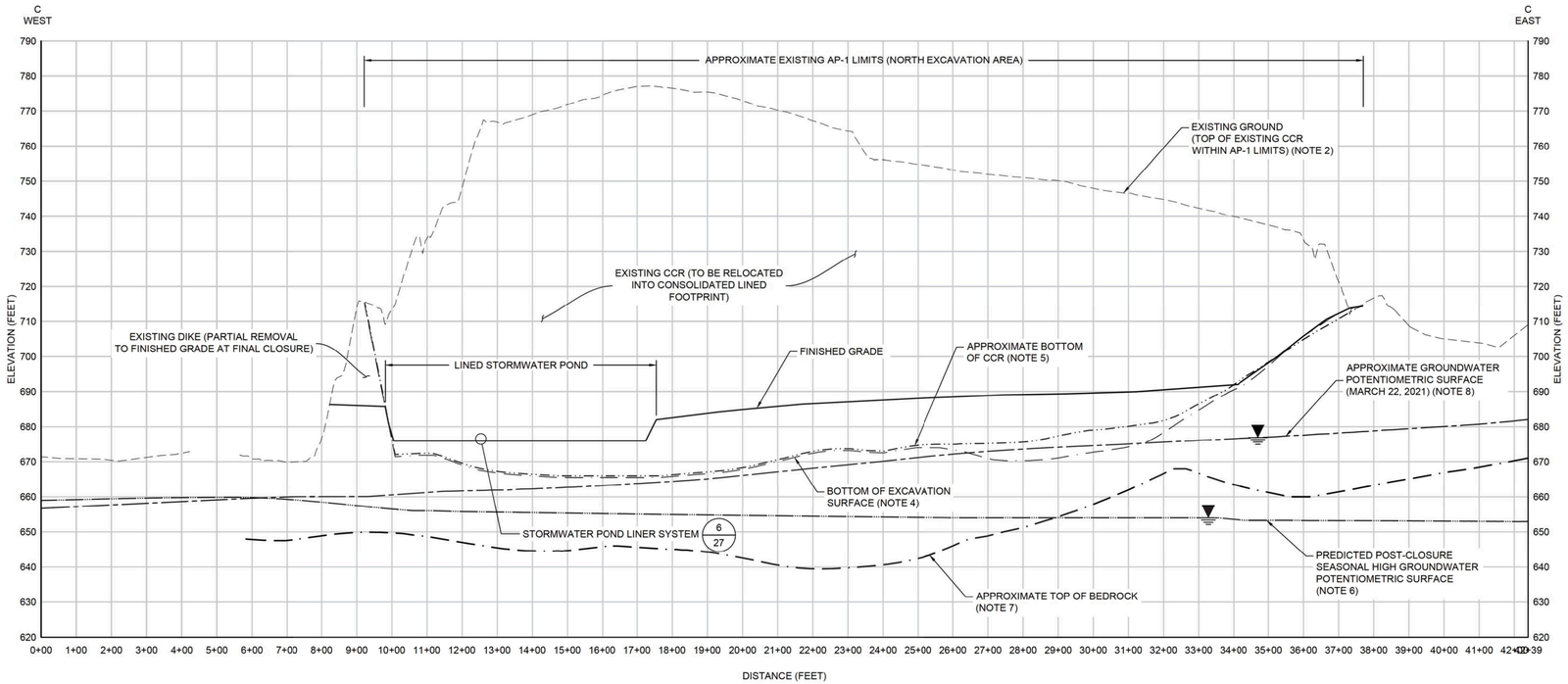
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

SITE CROSS SECTIONS II

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

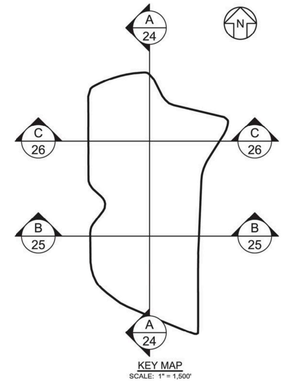
PROJ. NO.	GR6601	DWG. GR6601-024	EDIT 8/16/21
SCALE	AS SHOWN	DRAWING 25 OF 50	
DATE	AUGUST 2021		



C
11

SECTION
EAST-WEST CROSS SECTION

SCALE: 1"=200' (HORIZONTAL): 1"=20' (VERTICAL)



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. EXISTING GROUND SHOWN ON THIS DRAWING IS TAKEN FROM THE TOPOGRAPHIC BASE MAP SHOWN ON DRAWING 4.
3. THE CONSOLIDATED LINED FOOTPRINT LIMITS SHOWN ON THIS DRAWING ARE TAKEN FROM DRAWING 17.
4. EXCAVATION SURFACE ELEVATION REPRESENTS A MINIMUM EXCAVATION DEPTH, IS APPROXIMATE, AND IS TAKEN FROM DRAWING 8.
5. APPROXIMATE BOTTOM OF CCR SHOWN ON THIS DRAWING IS TAKEN FROM DRAWING 6.
6. PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE SHOWN ON THIS DRAWING OBTAINED FROM GROUNDWATER FLOW MODELING RESULTS AS DOCUMENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION AND SHOWN ON DRAWINGS 11 THROUGH 13.
7. TOP OF BEDROCK SURFACE IS APPROXIMATE AND WAS DEVELOPED BY GEOSYNTEC CONSULTANTS USING AVAILABLE SUBSURFACE INFORMATION FROM PREVIOUS SITE INVESTIGATIONS.
8. APPROXIMATE GROUNDWATER POTENTIOMETRIC SURFACE IS FROM WATER LEVEL MEASUREMENTS DATED 22 MARCH 2021 IN WELLS/PIEZOMETERS SCREENED IN BEDROCK AS PRESENTED IN THE "HYDROGEOLOGIC ASSESSMENT REPORT (REVISION 3)" INCLUDED WITH THIS PERMIT APPLICATION. THE MARCH 2021 POTENTIOMETRIC SURFACE IS HIGHER THAN THAT ASSOCIATED WITH THE DEWATERED AND CLOSED CONDITION WITHIN AP-1, AS REFLECTED IN NOTE 6.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Keith Stevens
Approved By: _____

GEORGIA REGISTERED No. 37516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

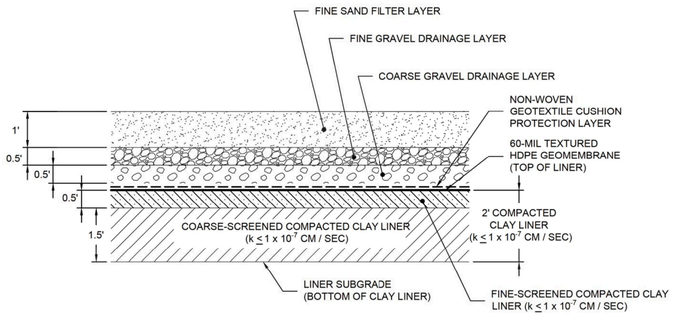
SITE CROSS SECTIONS III

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

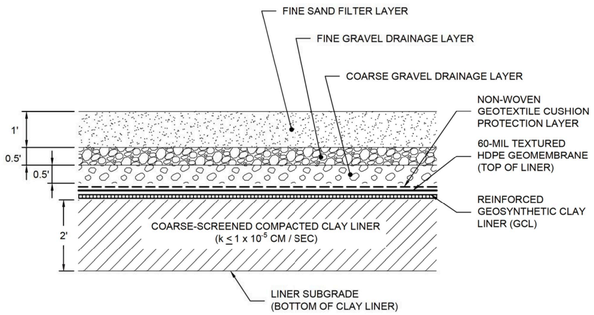
PROJ. NO.	GR6601	DWG.	GR6601-025	EDIT	8/16/21
SCALE	AS SHOWN	DRAWING	26	OF	50
DATE	AUGUST 2021				

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-025



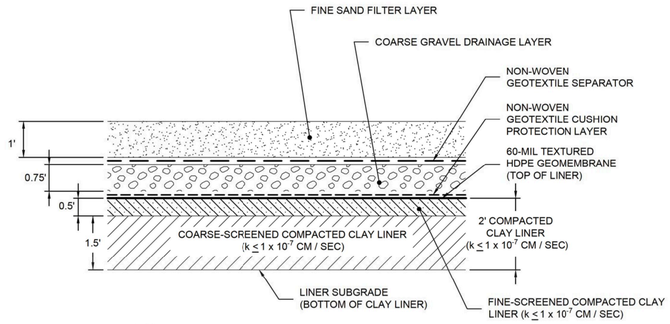
1 / 24 DETAIL
LINER SYSTEM OPTION L1 D1

0 2 4
SCALE IN FEET



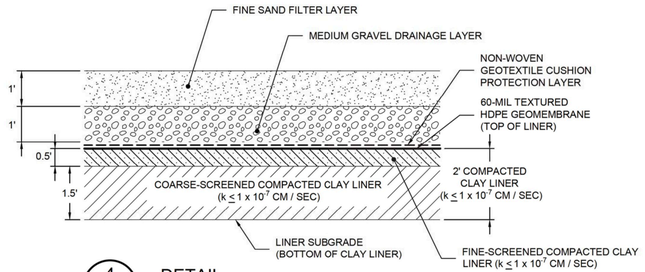
2 / 24 DETAIL
LINER SYSTEM OPTION L2

0 2 4
SCALE IN FEET



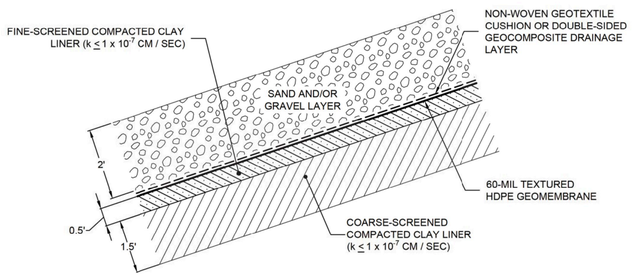
3 / 24 DETAIL
DRAINAGE SYSTEM OPTION D2

0 2 4
SCALE IN FEET



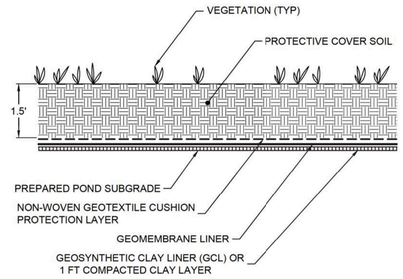
4 / 27 DETAIL
DRAINAGE SYSTEM OPTION D3

0 2 4
SCALE IN FEET



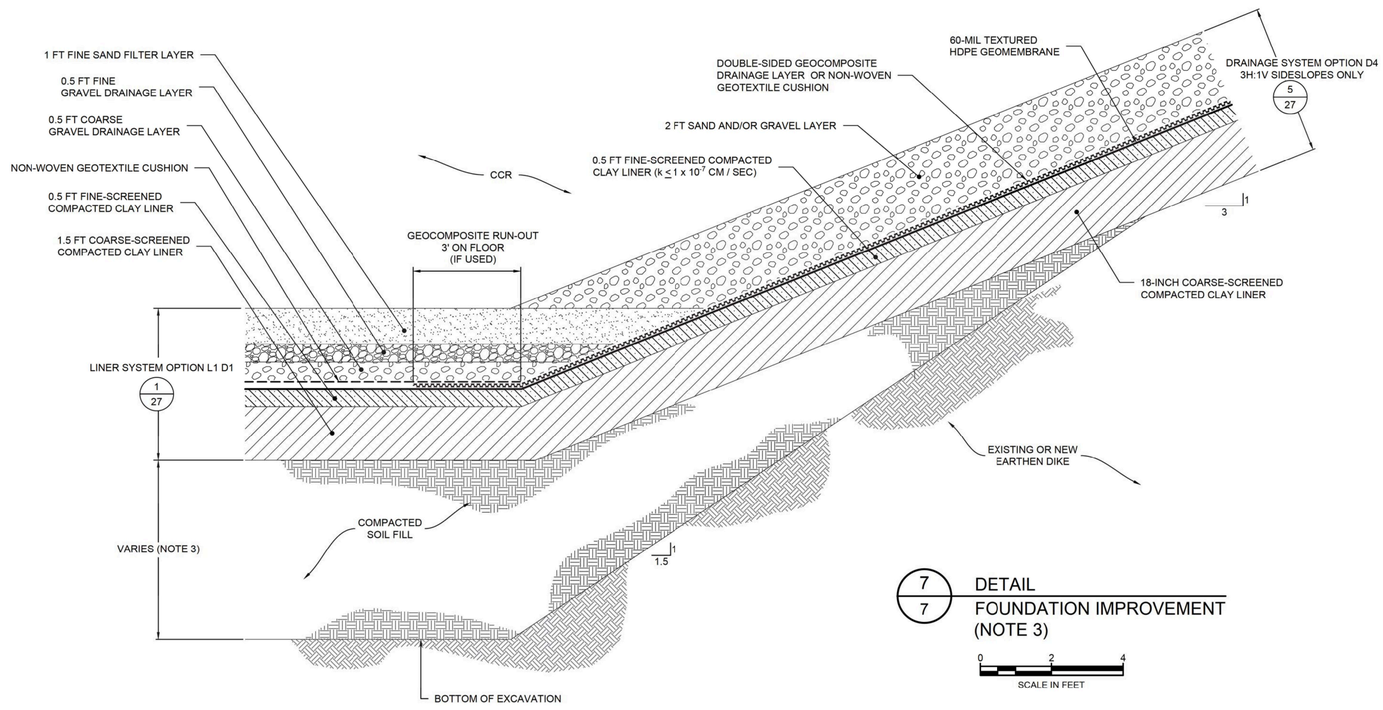
5 / 24 DETAIL
DRAINAGE SYSTEM OPTION D4
3H:1V SIDESLOPES ONLY

0 2 4
SCALE IN FEET



6 / 24 DETAIL
STORMWATER POND LINER SYSTEM

0 2 4
SCALE IN FEET



7 / 7 DETAIL
FOUNDATION IMPROVEMENT (NOTE 3)

0 2 4
SCALE IN FEET

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. ADDITIONAL ACCEPTABLE LINER SYSTEMS WOULD COMBINE THE OPTION L2 (DETAIL 2) COMPOSITE LINER WITH THE OPTION D2 (DETAIL 3) OR D3 (DETAIL 4) LEACHATE COLLECTION SYSTEMS.
3. FOUNDATION IMPROVEMENT FOR CONSOLIDATED LINED AREAS WILL BE PERFORMED IN ACCORDANCE WITH THE "FOUNDATION IMPROVEMENT PLAN" INCLUDED WITH THIS PERMIT APPLICATION. THICKNESS OF COMPACTED SOIL FILL ZONE BENEATH FLOOR LINER AREAS IS A MINIMUM OF 8 FT THICK AND VARIES AS NEEDED TO FILL BETWEEN THE BOTTOM EXCAVATION (DRAWING 8) AND THE LINER SUBGRADE.
4. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
5. FOUNDATION IMPROVEMENT DETAIL SHOWN ON THIS DRAWING REFLECTS LINER SYSTEM OPTIONS AS INDICATED. IF OTHER LINER SYSTEM OPTIONS ARE USED, THE DESIGN APPROACH WILL REMAIN CONSISTENT WITH THIS DRAWING.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:42:56 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE
Rudolph Bonaparte signed & sealed

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

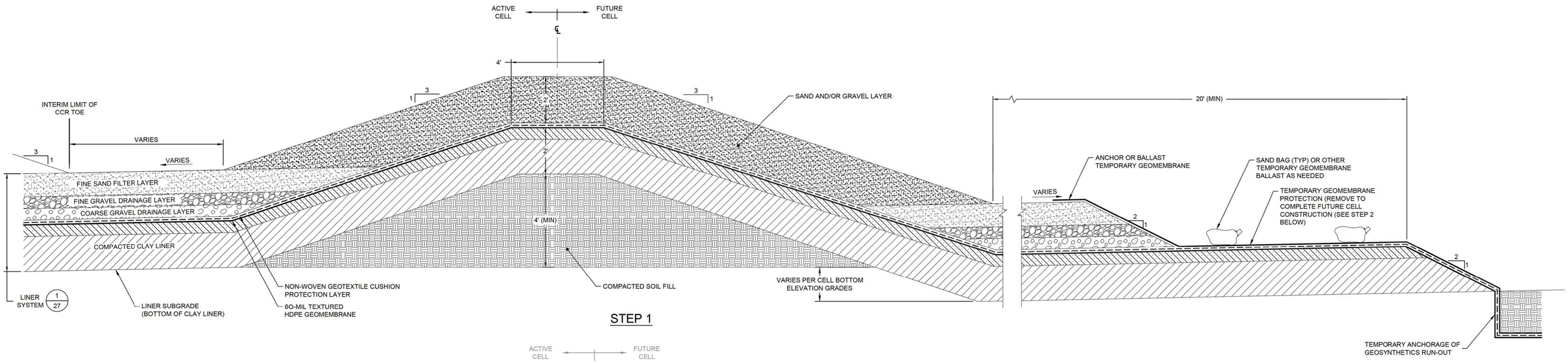
LINER SYSTEM DETAILS I

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

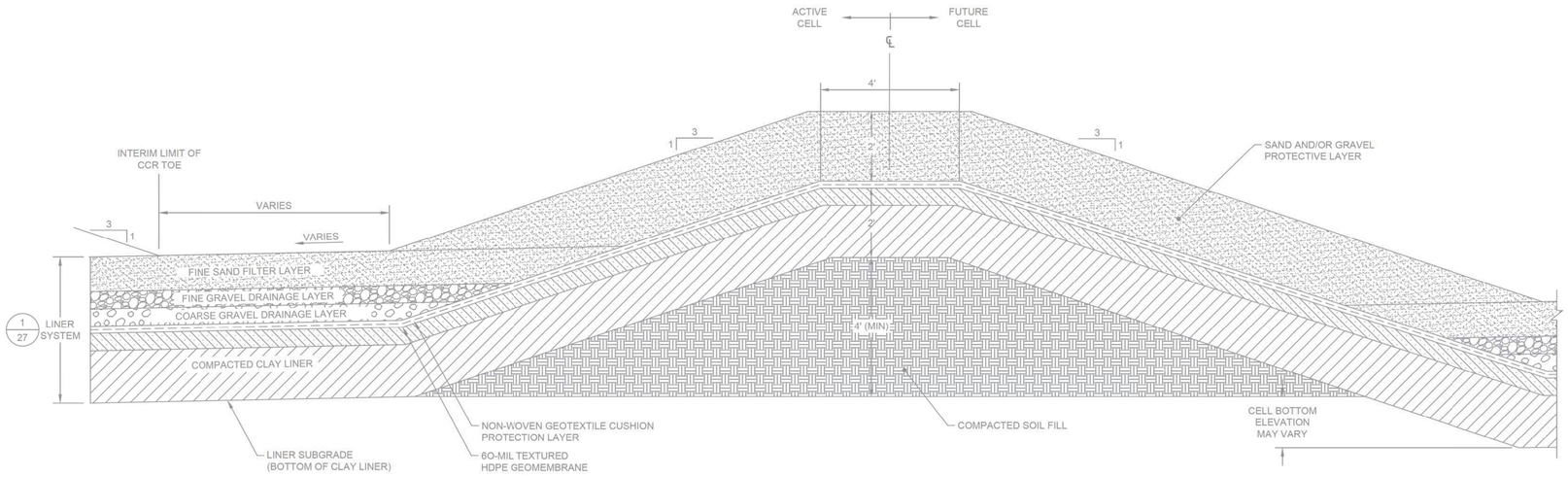
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-028	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 27 OF 50	
DATE	AUGUST 2021		

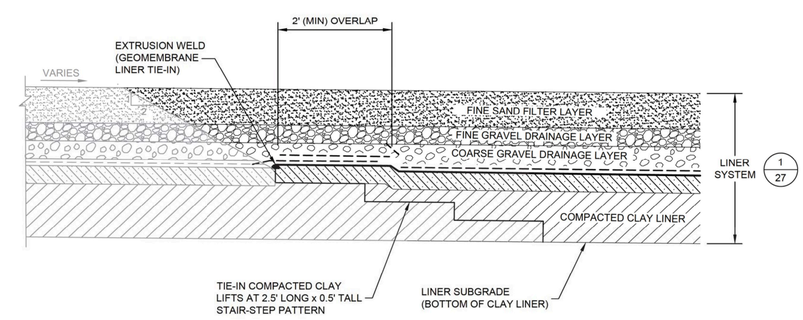
P:\OLD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\FERNATYASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-028



STEP 1

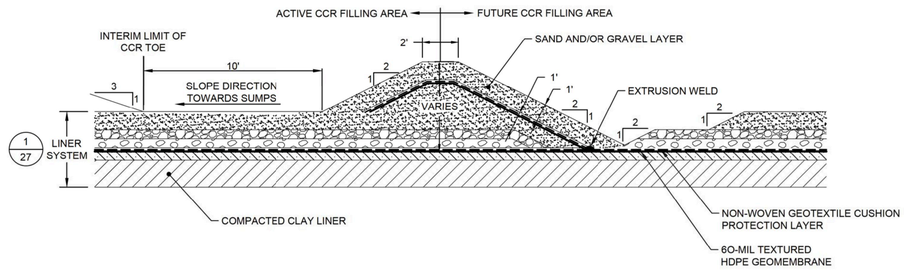


STEP 2



8/11 DETAIL
INTERCELL BERM

0 2 4
SCALE IN FEET



9/- DETAIL
RAIN FLAP (NOTE 2)

0 4 8
SCALE IN FEET

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. RAIN FLAP BERMS CAN BE USED TO LIMIT THE SIZE OF THE ACTIVE AREA DURING INITIAL STAGE OF FILLING. RAIN FLAP BERM LOCATIONS WILL BE SELECTED BASED ON ACTUAL CONDITIONS.
3. DETAILS ON THIS DRAWING ARE SHOWN BASED ON LINER SYSTEM OPTION L1D1 (DETAIL 1 ON DRAWING 27). IF OTHER LINER SYSTEMS ARE USED, THE DESIGN APPROACH WILL REMAIN CONSISTENT WITH THE INFORMATION PRESENTED ON THIS DRAWING.
4. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:43:53 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

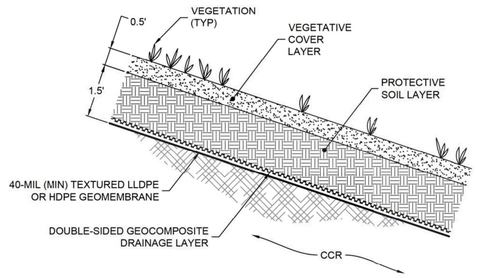
LINER SYSTEM DETAILS II

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

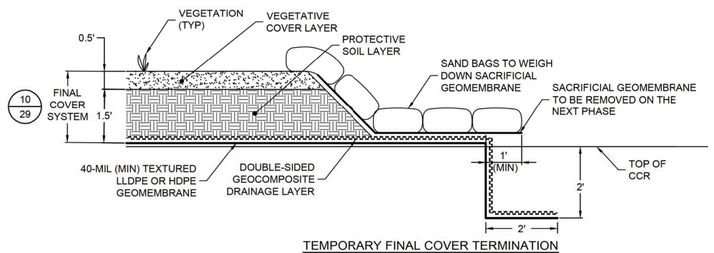
PROJ. NO.	GR6601	DWG. GR6601-031	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 28 OF 50	
DATE	AUGUST 2021		

P:\ACE\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-031

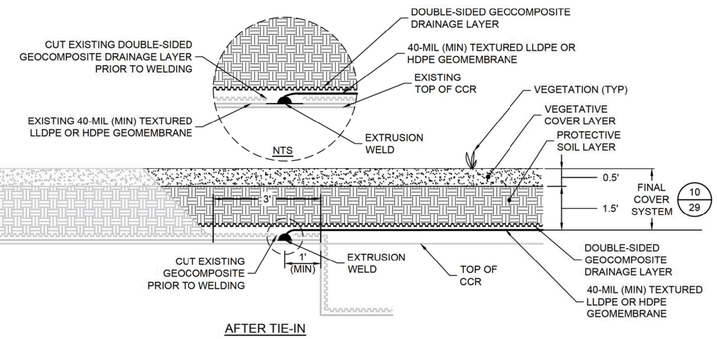


10/24 DETAIL
FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER OPTION)

0 2 4
SCALE IN FEET



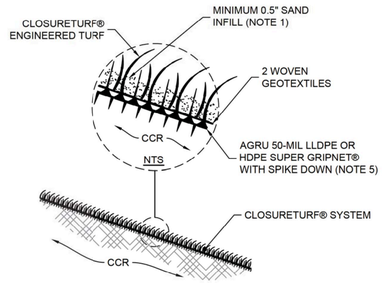
TEMPORARY FINAL COVER TERMINATION



AFTER TIE-IN

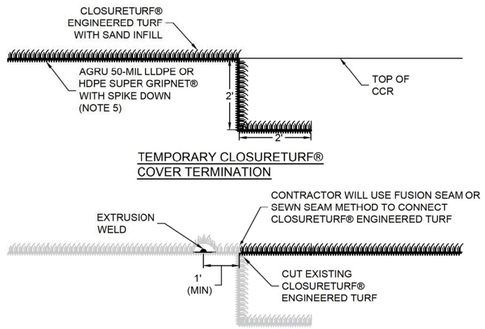
12/- DETAIL
FINAL COVER TIE-IN AT PHASE BOUNDARY

0 2 4
SCALE IN FEET



11/24 DETAIL
FINAL COVER SYSTEM (CLOSURETURF® COVER OPTION)

SCALE: NOT TO SCALE



TEMPORARY CLOSURETURF® COVER TERMINATION

13/- DETAIL
ALTERNATIVE COVER TIE-IN AT PHASE BOUNDARY

0 2 4
SCALE IN FEET

NOTES:

1. SAND INFILL IS TO BE USED WITH CLOSURETURF® ENGINEERED TURF IN ALL LOCATIONS EXCEPT WITHIN DRAINAGE FEATURES, WHICH WILL USE HYDROBINDER AND/OR RIPRAP AS SPECIFIED ON THE STORMWATER MANAGEMENT SYSTEM DETAILS.
2. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
3. SUBGRADE PREPARATION IN AREAS WHERE GEOMEMBRANE LINER WILL BE INSTALLED WILL CONSIST OF MOISTURE CONDITIONING, COMPACTION, AND SMOOTH ROLLING AS NEEDED.
4. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
5. CLOSURETURF® DETAILS SHOWN WITH SUPER GRIPNET® GEOMEMBRANE OPTION. OTHER CLOSURETURF® GEOMEMBRANE OPTIONS (E.G. MICRODRAIN® OR MICROSPIKE®) MAY BE CONSIDERED AS PART OF THE DETAILED DESIGN.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Keith Stevens
Digitally signed by Keith Stevens
Date: 2021.08.27 13:44:45 -04'00'
Approved By: _____

GEORGIA REGISTERED Rudolph Bonaparte No. 17516 PROFESSIONAL ENGINEER August 26, 2021 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

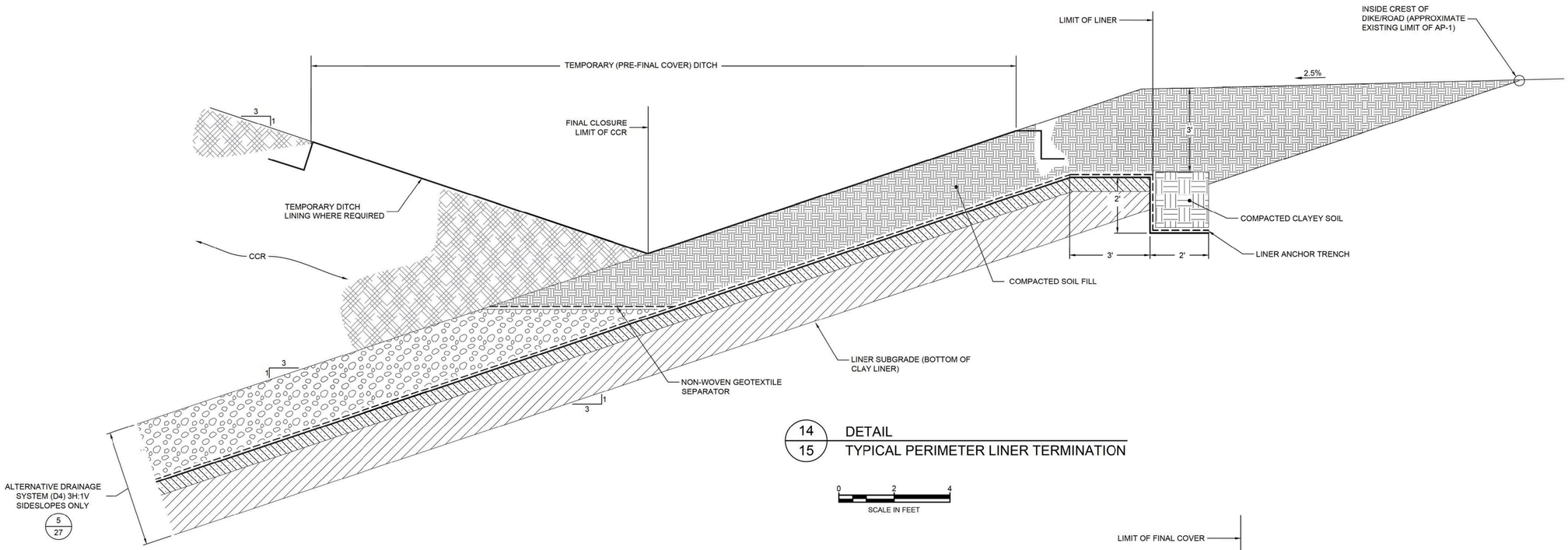
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

FINAL COVER SYSTEM DETAILS

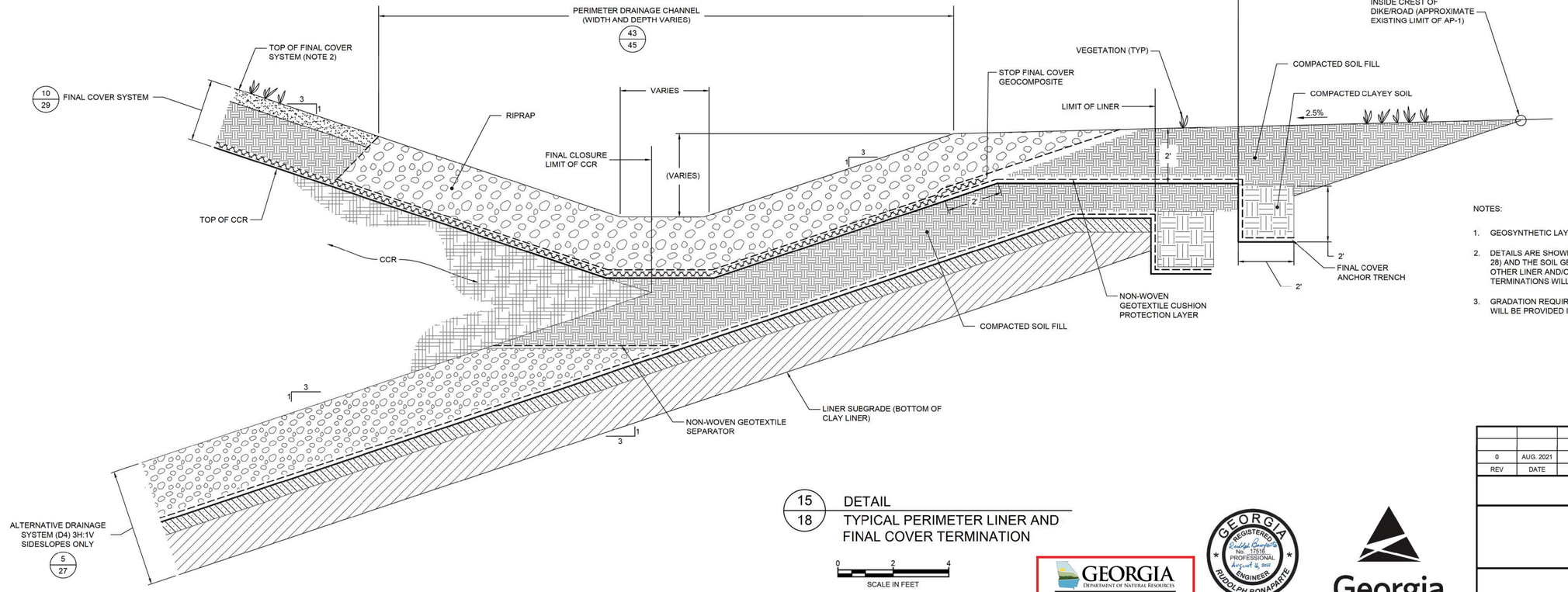
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-029	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 29 OF 50	
DATE	AUGUST 2021		



14/15 DETAIL
TYPICAL PERIMETER LINER TERMINATION



15/18 DETAIL
TYPICAL PERIMETER LINER AND FINAL COVER TERMINATION

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. DETAILS ARE SHOWN FOR LINER SYSTEM COMPONENTS "L1" AND "D4" (SEE DRAWING 28) AND THE SOIL GEOSYNTHETIC FINAL COVER SYSTEM OPTION (SEE DRAWING 30). IF OTHER LINER AND/OR FINAL COVER SYSTEM OPTIONS ARE USED, THEIR TERMINATIONS WILL BE CONSISTENT WITH THESE SHOWN HERE.
3. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Keith Stevens
Approved By: _____

GEORGIA REGISTERED Rudolph Bonaparte No. 17516 PROFESSIONAL Engineer RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

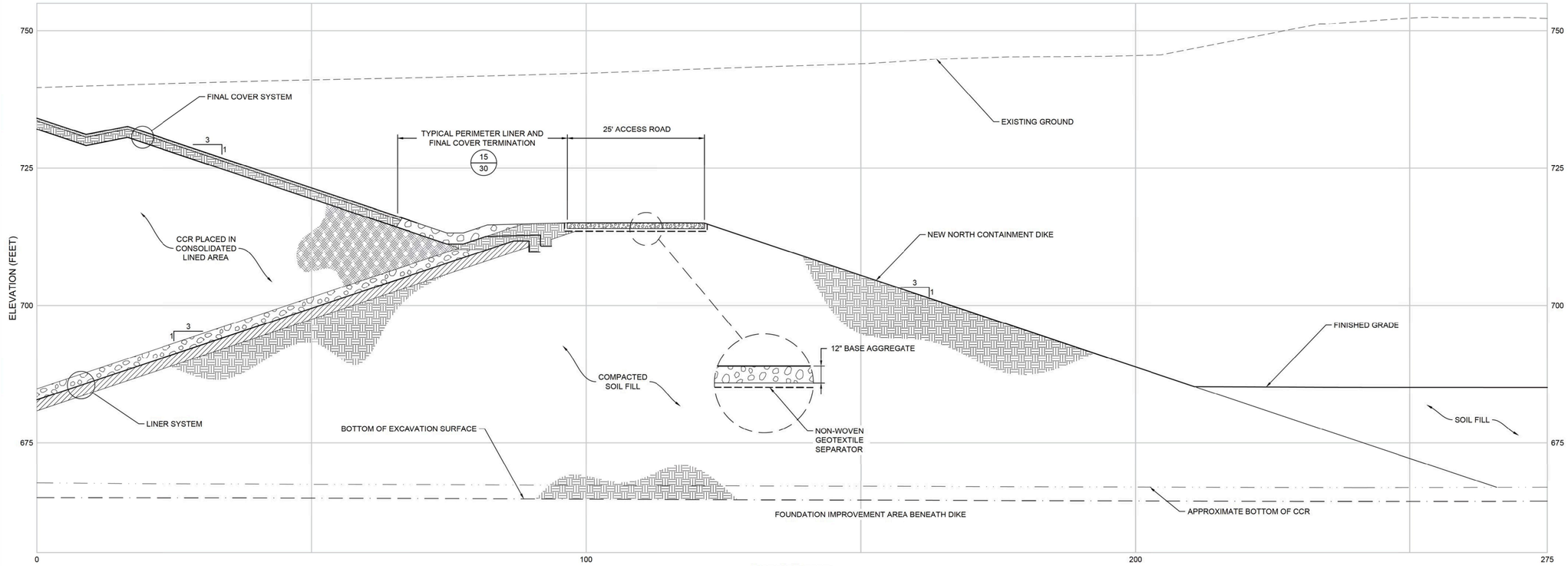
PERIMETER DETAILS

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

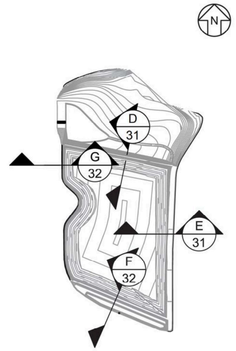
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-030
SCALE	AS SHOWN	EDIT	08.16.21
DATE	AUGUST 2021	DRAWING	30 OF 50

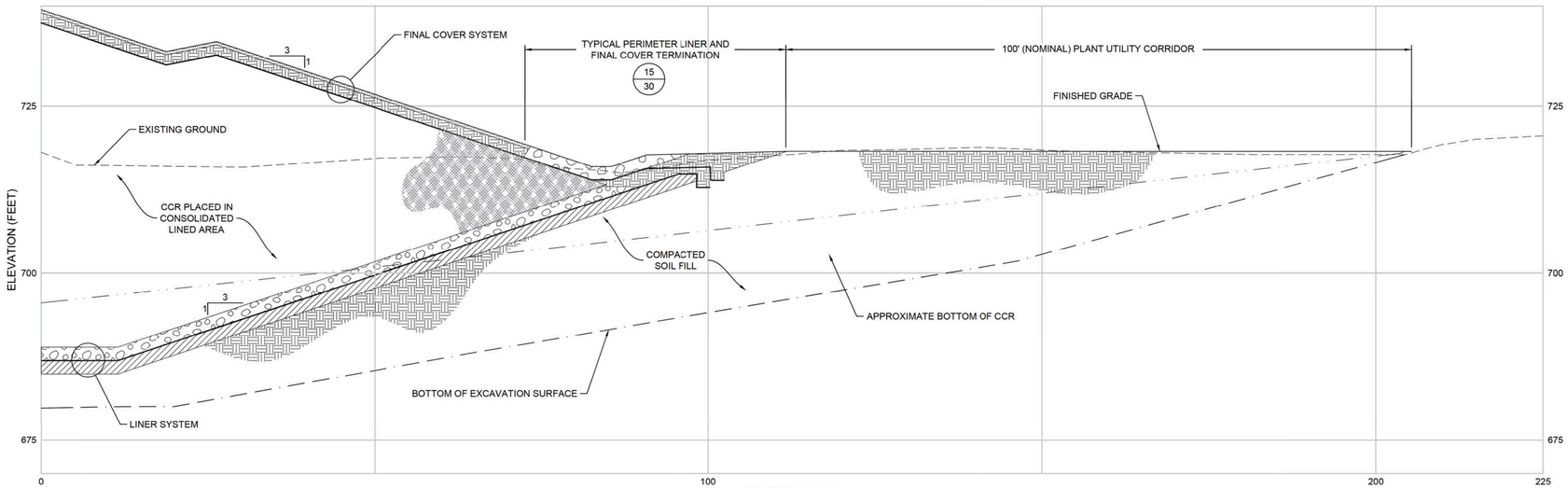
P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\FGR\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-030



D / 31 SECTION
NORTH PERIMETER
SCALE: 1" = 10'



KEY MAP
SCALE: 1" = 1,500'



E / 31 SECTION
EAST PERIMETER
SCALE: 1" = 10'

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:46:31 -04'00'

GEORGIA REGISTERED Professional Engineer's PROFESSIONAL No. 17516 August 16, 2021 ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

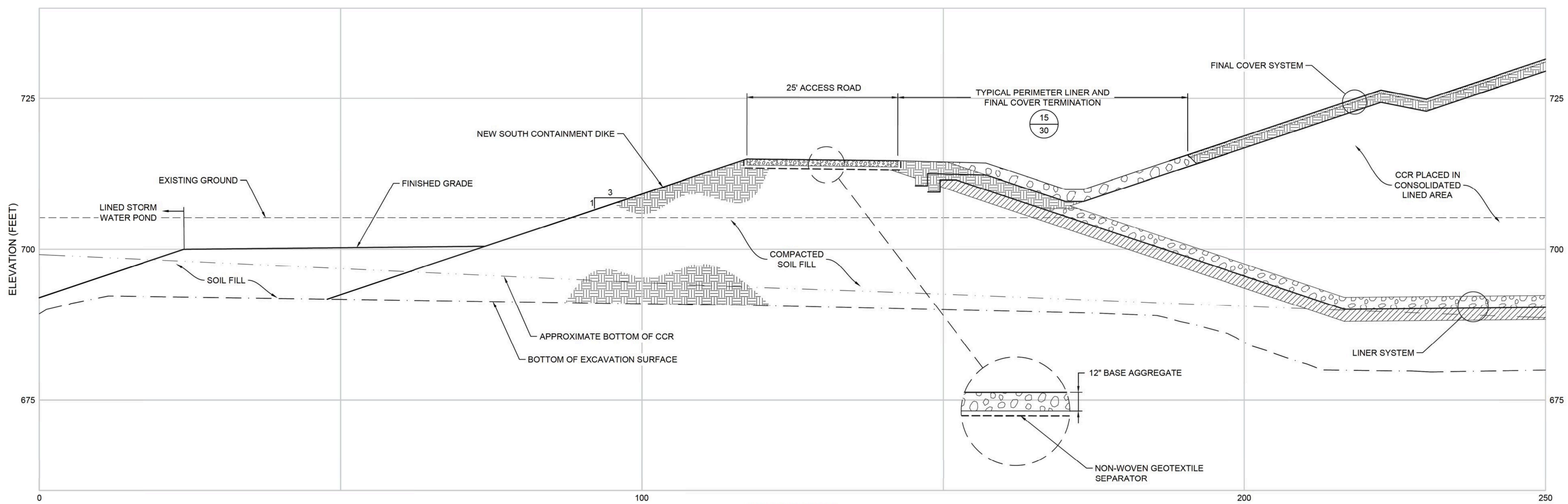
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

PERIMETER SECTIONS I

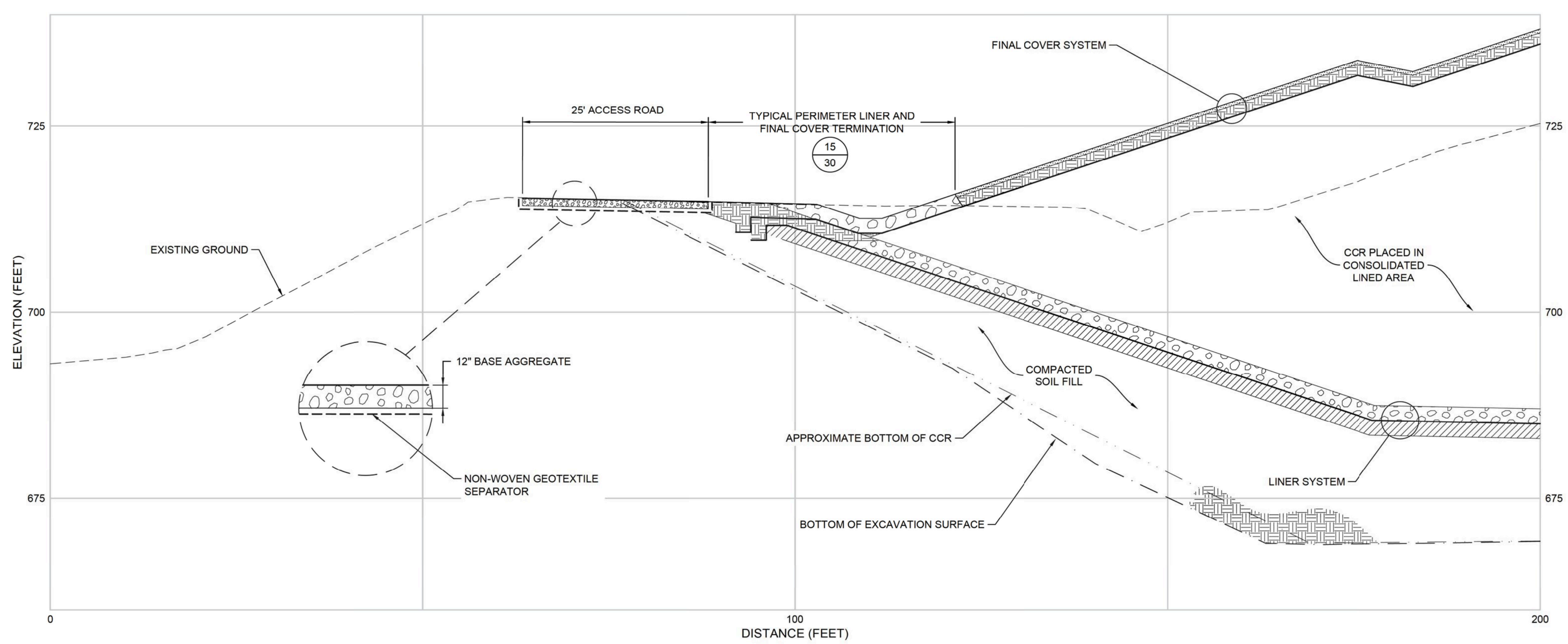
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

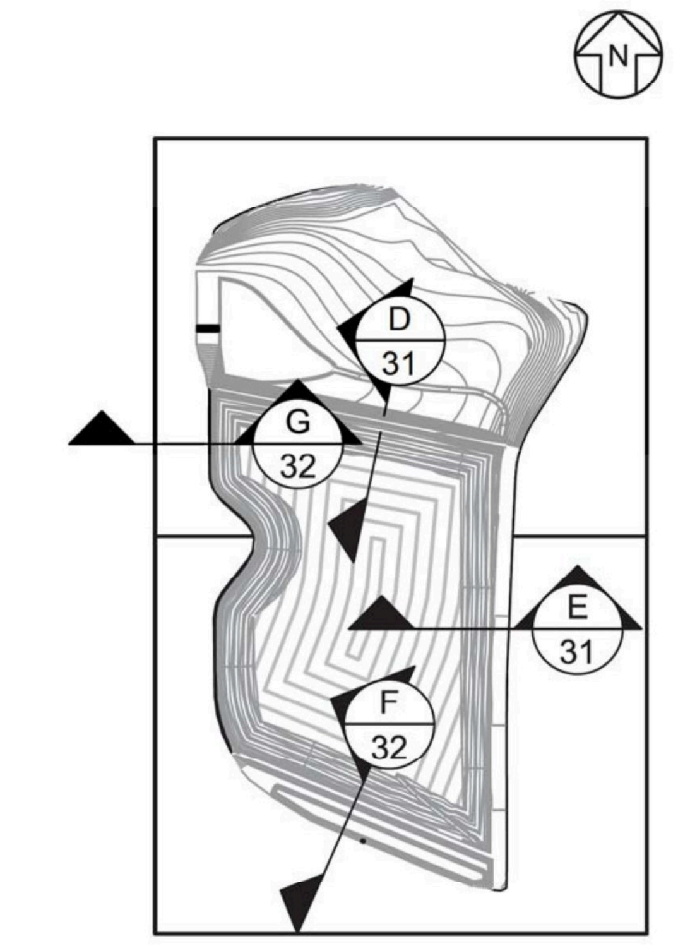
PROJ. NO.	GR6601	DWG. GR6601-032	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 31 OF 50	
DATE	AUGUST 2021		



F
32
SECTION
SOUTH PERIMETER
SCALE: 1" = 10'



G
32
SECTION
WEST PERIMETER
SCALE: 1" = 10'



KEY MAP
SCALE: 1" = 1,500'

0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB
REV	DATE	DESCRIPTION	DRN	APP

PERIMETER SECTIONS II

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-033	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING 32 OF 50			
DATE	AUGUST 2021				

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

GEORGIA Department of Natural Resources
Environmental Protection Division
Approved
Solid Waste Management Program
Approved By: Keith Stevens

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. TOP OF LINER GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE GEOMEMBRANE COMPONENT OF THE LINER SYSTEM WITHIN THE CONSOLIDATED LINED FOOTPRINT AREA. WITHIN THE REMAINDER OF AP-1 (OUTSIDE THE CONSOLIDATED LINED FOOTPRINT AREA), GRADES REPRESENT EXTERIOR NORTH AND SOUTH CONTAINMENT DIKE SLOPES, WHICH TIE-IN TO THE ESTIMATED BOTTOM OF EXCAVATION GRADES. CONTOURS SHOWN ON THIS DRAWING BEYOND LIMITS OF AP-1 ARE EXISTING GROUND TOPOGRAPHY.
3. A TEMPORARY WWTS WILL BE ESTABLISHED AT THE APPROXIMATE LOCATION SHOWN FOR TREATMENT OF LEACHATE AND CONTACT WATER GENERATED DURING CLOSURE CONSTRUCTION. AT THE COMPLETION OF CLOSURE CONSTRUCTION, LEACHATE WILL BE ROUTED TO A PERMANENT ON-SITE WWTS LOCATED OUTSIDE THE AP-1 PERMIT BOUNDARY, ON THE PLANT BOWEN PROPERTY.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

LEACHATE MANAGEMENT PLAN

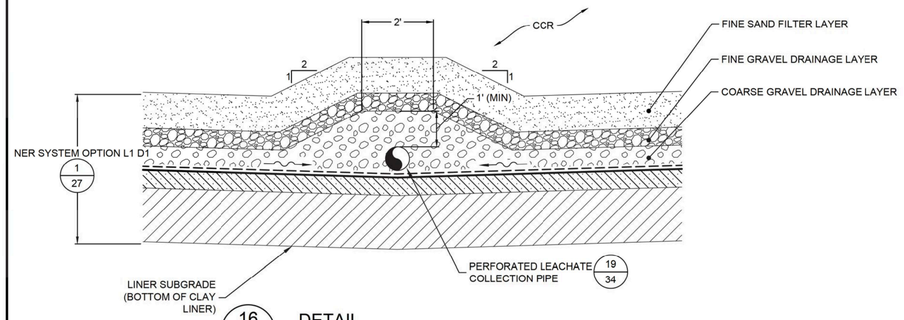
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE May 23, 2024

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

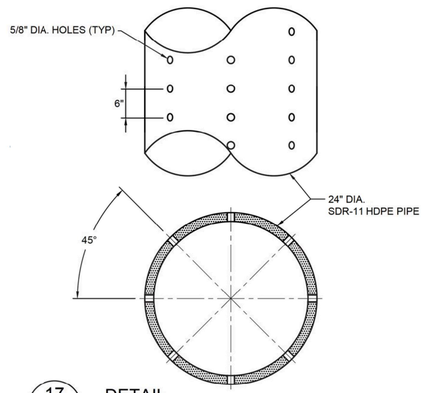
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR9601	DWG.	GR9601-034
SCALE	1" = 300'	EDIT	5/23/24
DATE	AUGUST 2021	DRAWING	33 OF 50

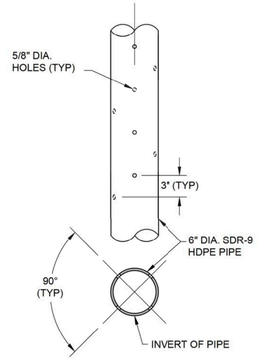


16 / 33 DETAIL
LEACHATE COLLECTION CORRIDOR

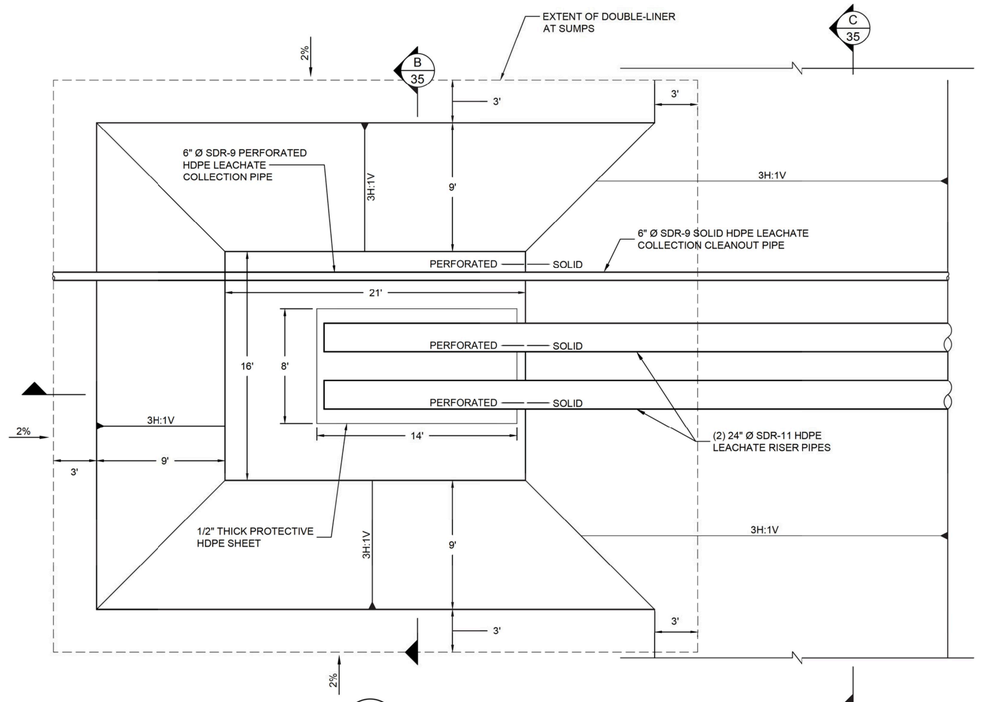
0 2 4
SCALE IN FEET



17 / 34 DETAIL
PERFORTED LEACHATE RISER PIPE
SCALE: NOT TO SCALE

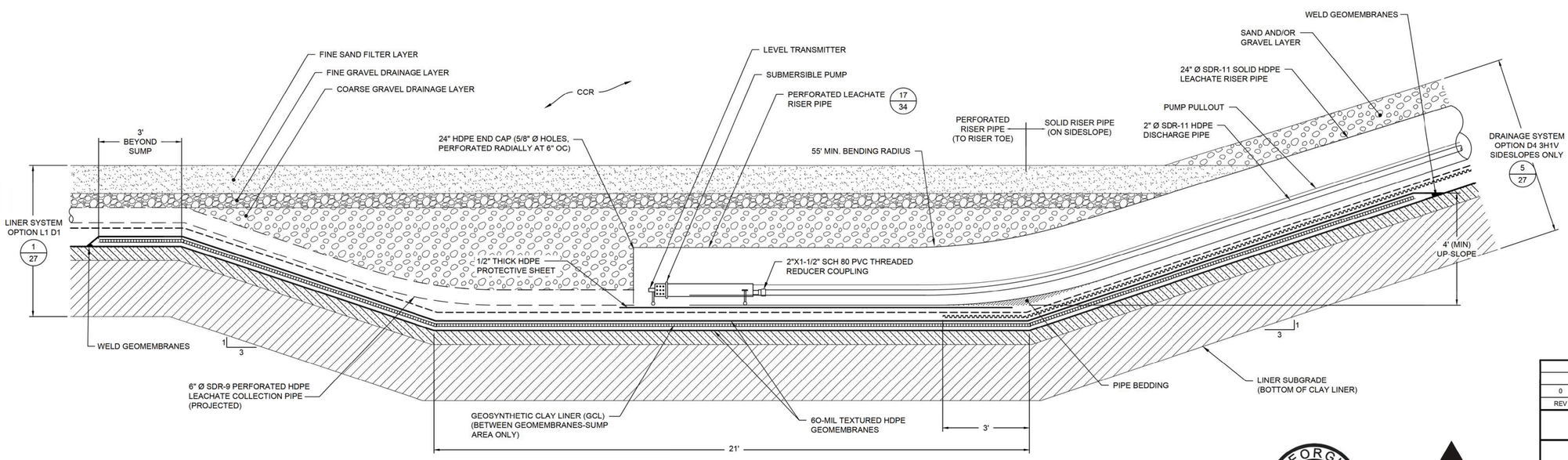


19 / 34 DETAIL
PERFORATED LEACHATE COLLECTION PIPE
SCALE: NOT TO SCALE



18 / 33 DETAIL
LEACHATE COLLECTION SUMP

0 5 10
SCALE IN FEET



A / 34 SECTION
LEACHATE COLLECTION RISER TOE

0 2 4
SCALE IN FEET

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. SUBGRADE PREPARATION IN AREAS WHERE GEOMEMBRANE LINER WILL BE INSTALLED WILL CONSIST OF MOISTURE CONDITIONING, COMPACTION, AND SMOOTH ROLLING AS NEEDED.
3. TWO RISER PIPES ARE PROVIDED: A PRIMARY RISER AND A BACKUP/REDUNDANT RISER - EACH WITH A SUBMERSIBLE PUMP.
4. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
5. DETAILS SHOWN ON THIS DRAWING REFLECT LINER SYSTEM OPTIONS AS INDICATED. IF OTHER LINER SYSTEM OPTIONS ARE USED, THE DESIGN APPROACH WILL REMAIN CONSISTENT WITH THIS DRAWING.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:55:31 -04'00'

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

LEACHATE COLLECTION SYSTEM DETAILS I

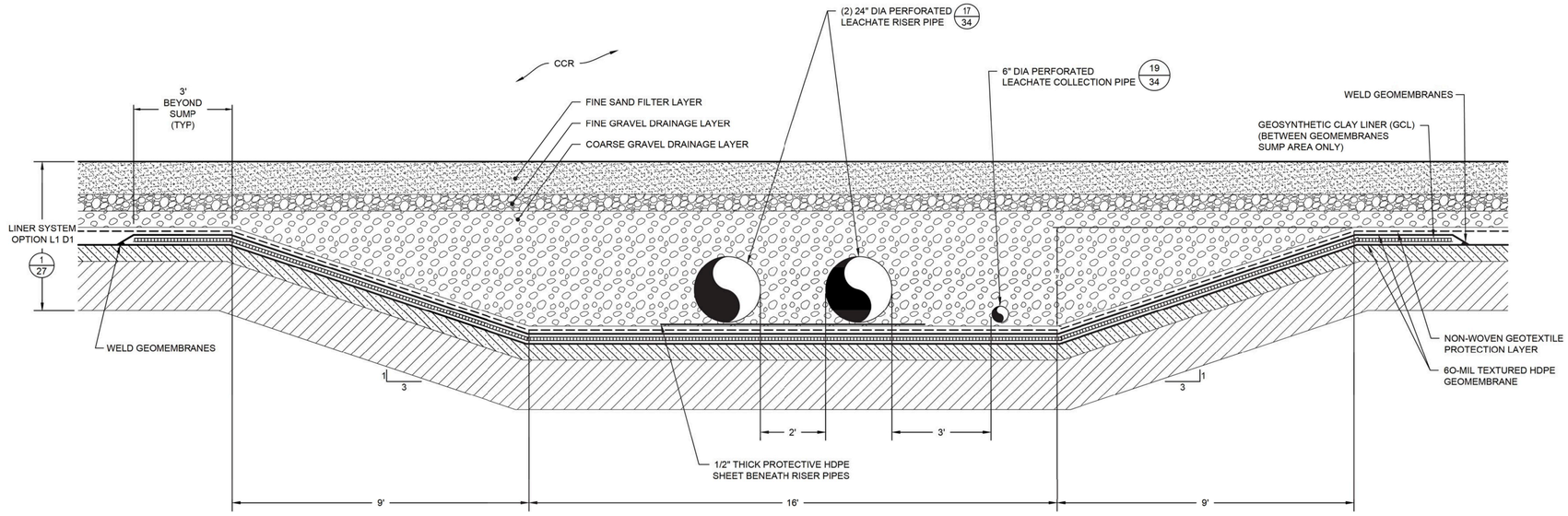
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED No. 17516 PROFESSIONAL Rudolph Bonaparte Aug 27 2021 ENGINEER RUDOLPH BONAPARTE

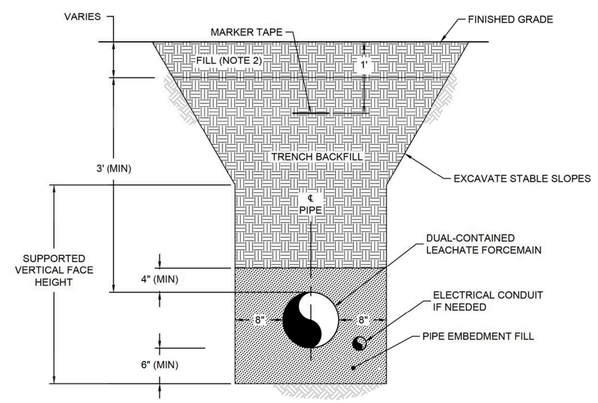
Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

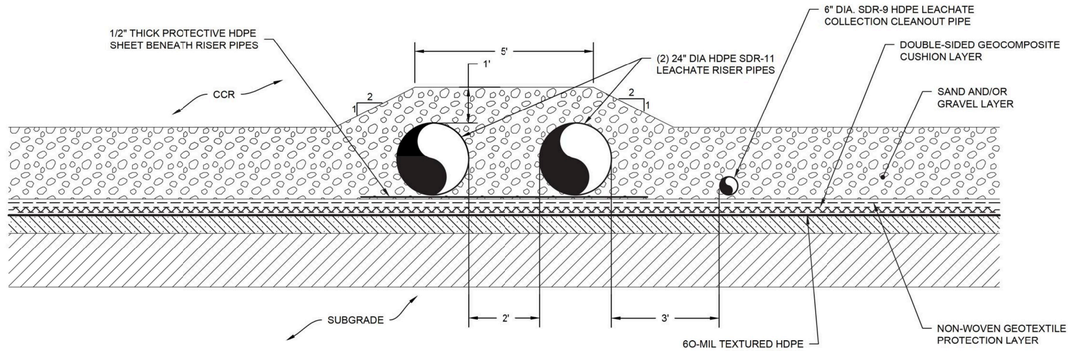
PROJ. NO.	GR6601	DWG.	GR6601-036	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING	34	OF	50
DATE	AUGUST 2021				



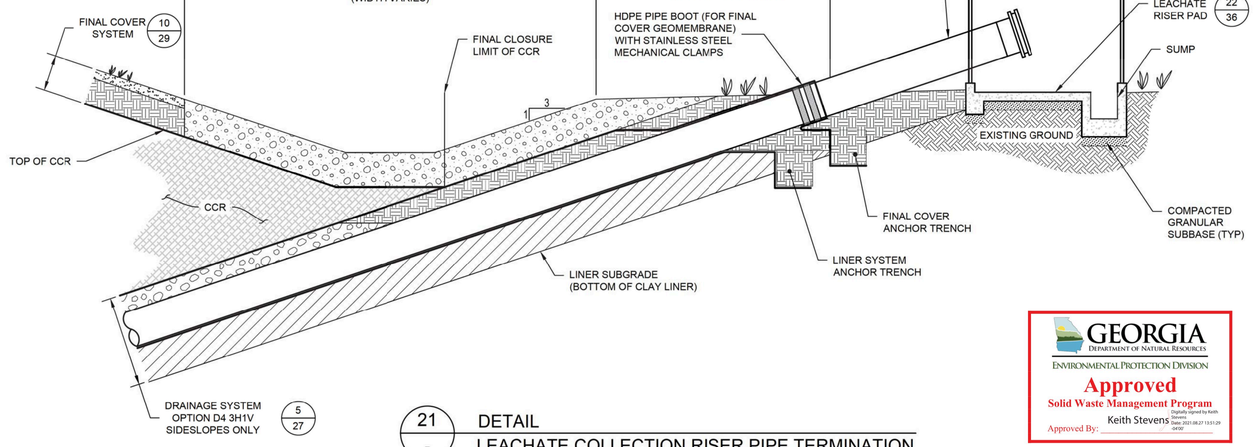
B/34 SECTION
LEACHATE COLLECTION SUMP
SCALE: 1"=2'
0 2 4
SCALE IN FEET



20/33 DETAIL
LEACHATE FORCEMAIN PIPE EMBEDMENT
SCALE: 1" = 1'
0 1 2
SCALE IN FEET



C/34 SECTION
SIDESLOPE LEACHATE RISER SYSTEM
SCALE: 1"=2'
0 2 4
SCALE IN FEET



21/- DETAIL
LEACHATE COLLECTION RISER PIPE TERMINATION
SCALE: 1"=4'
0 4 8
SCALE IN FEET

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:51:29 -04'00'

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
3. DETAILS SHOWN ON THIS DRAWING REFLECT LINER SYSTEM OPTIONS AS INDICATED. IF ALTERNATIVE LINER SYSTEMS ARE USED, THE DESIGN APPROACH WILL REMAIN CONSISTENT WITH THIS DRAWING.

GEORGIA REGISTERED No. 17516 PROFESSIONAL Rudolph Bonaparte August 16, 2021 ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

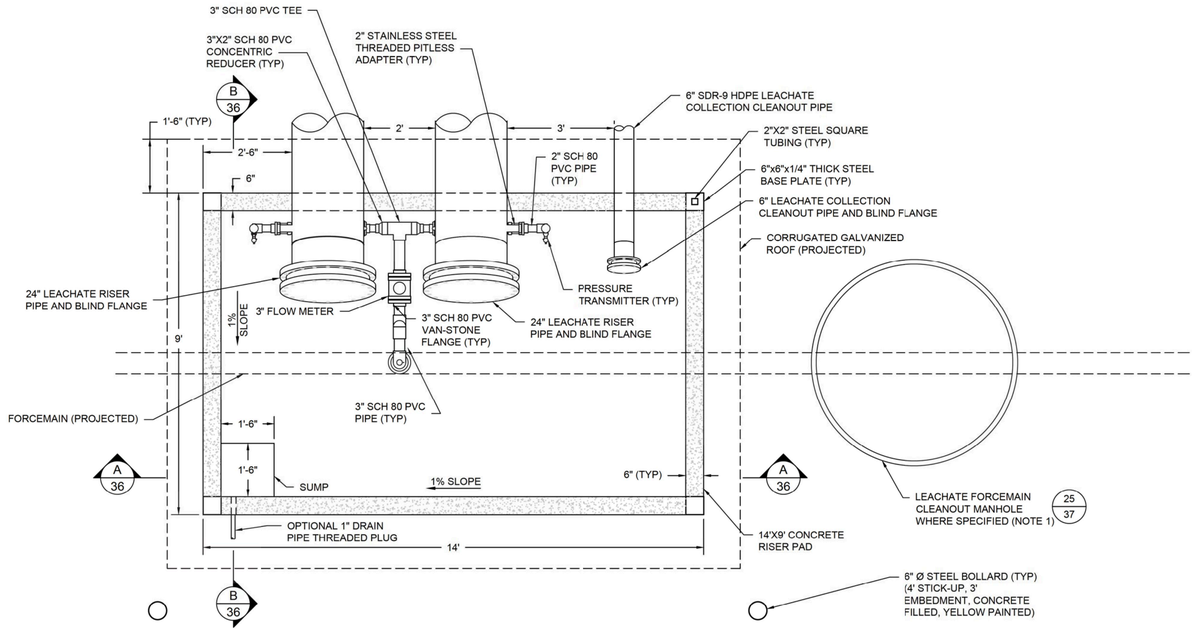
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

LEACHATE COLLECTION SYSTEM DETAILS II

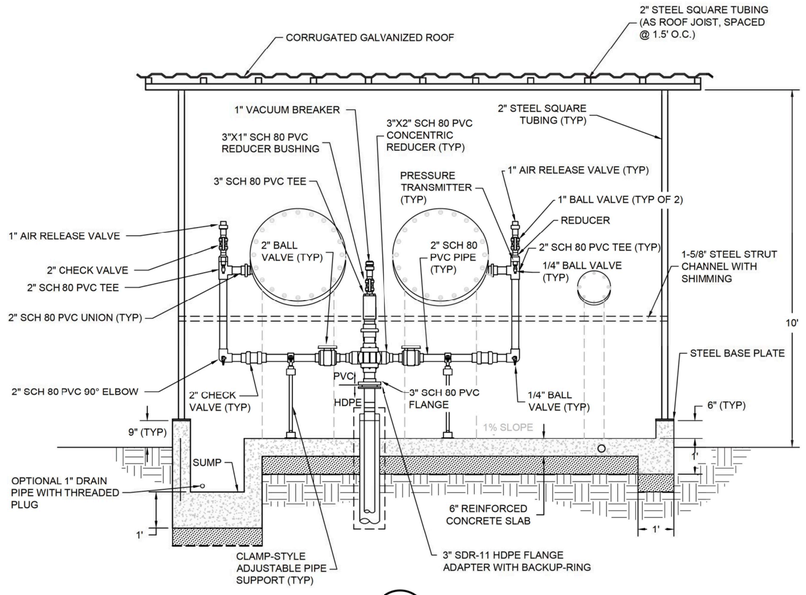
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

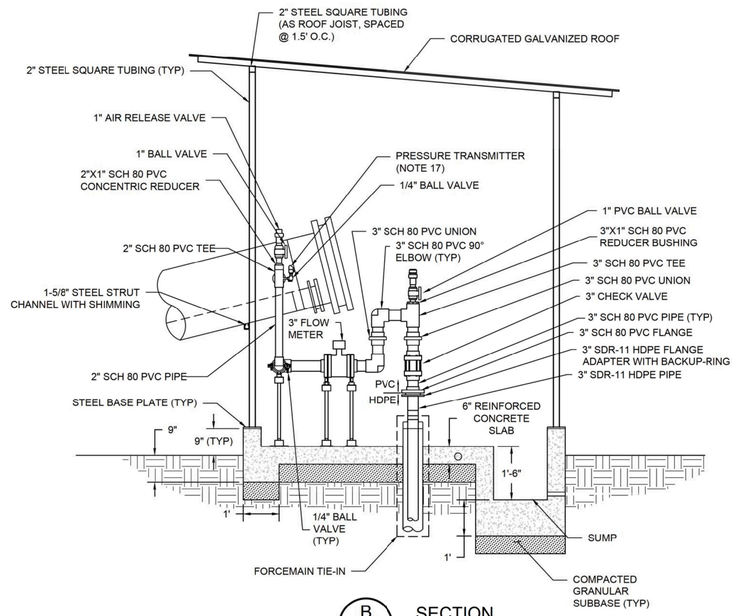
PROJ. NO.	GR6601	DWG.	GR6601-037	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING 35 OF 50			
DATE	AUGUST 2021				



PLAN VIEW



A 36 SECTION LEACHATE RISER PAD



B 36 SECTION LEACHATE RISER PAD

22 33 DETAIL LEACHATE RISER PAD
SCALE: NOT TO SCALE

NOTE:

1. CLEANOUT MANHOLES WILL BE USED AT RISER PAD AREA OF CELLS 1A,4A,4B,AND 7A. ADDITIONAL CLEANOUTS MAY BE ADDED AS NEEDED. CLEANOUT MANHOLES MAY BE INSTALLED WITHIN RISER PADS, OR NEXT TO RISER PADS AS SHOWN.
2. PIPING AND VALVES ARE CONCEPTUAL TO ILLUSTRATE INTENDED FUNCTIONALITY AND MAY BE REVISED DURING DETAILED DESIGN.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 13:52:22 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

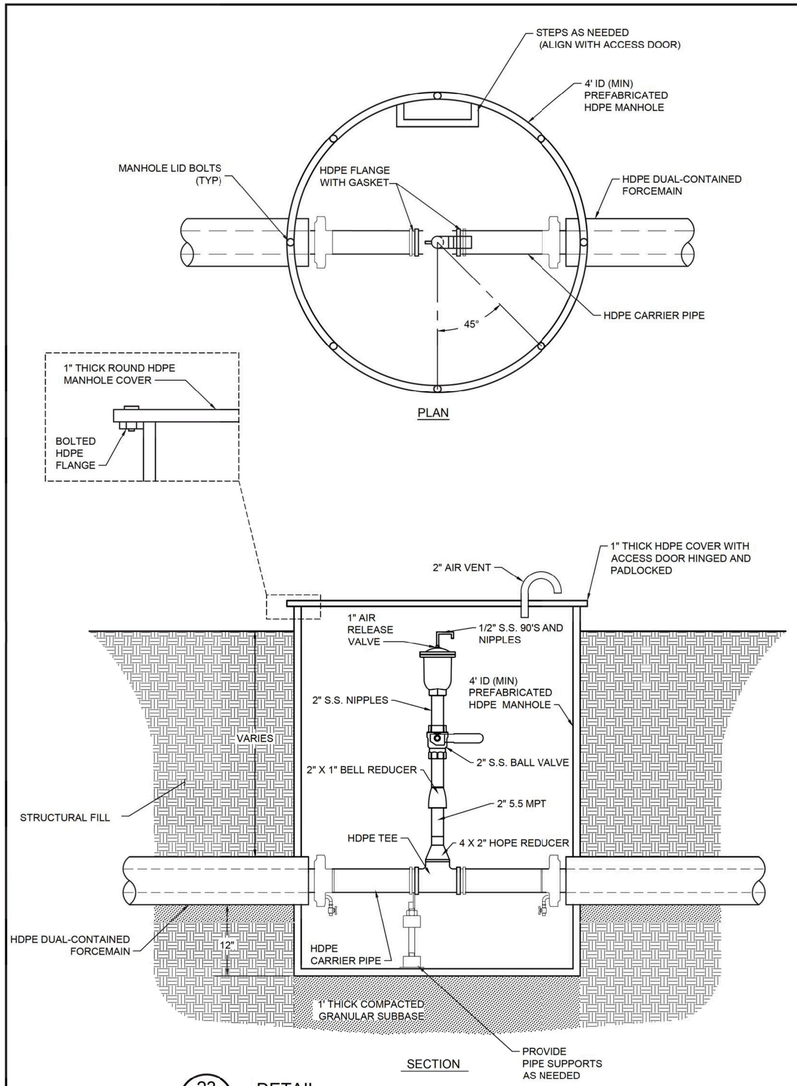
LEACHATE COLLECTION SYSTEM DETAILS III

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

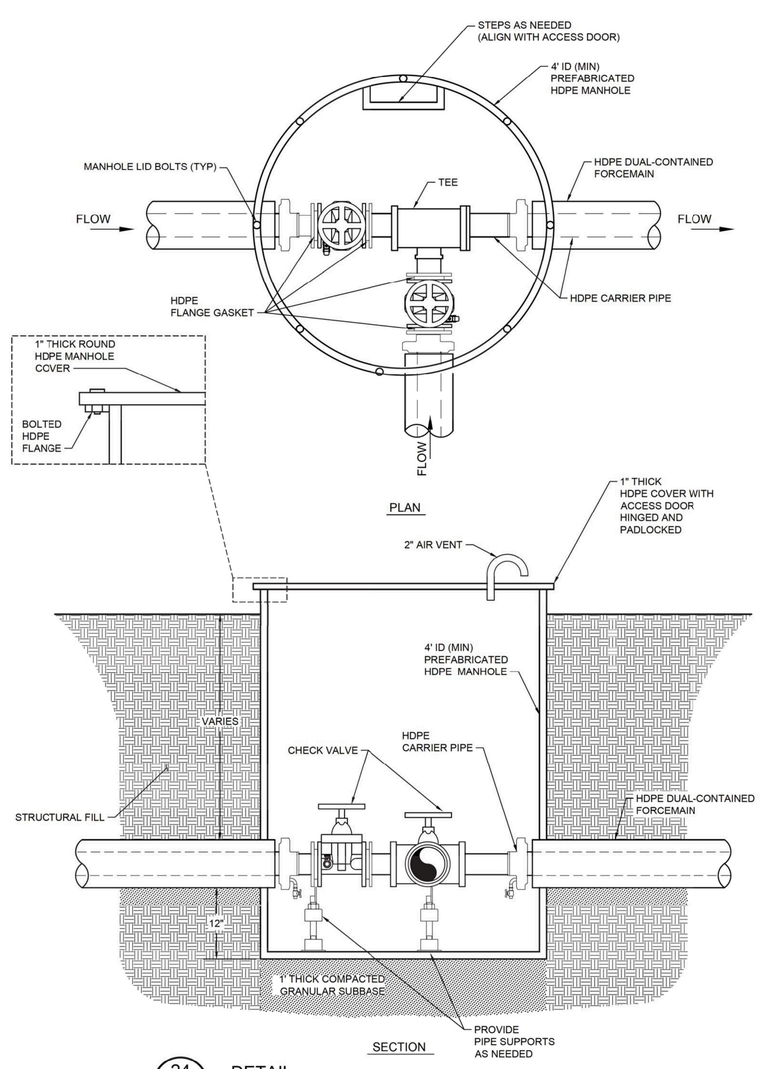
PROJ. NO.	GR6601	DWG.	GR6601-038	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING 36 OF 50			
DATE	AUGUST 2021				

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-038



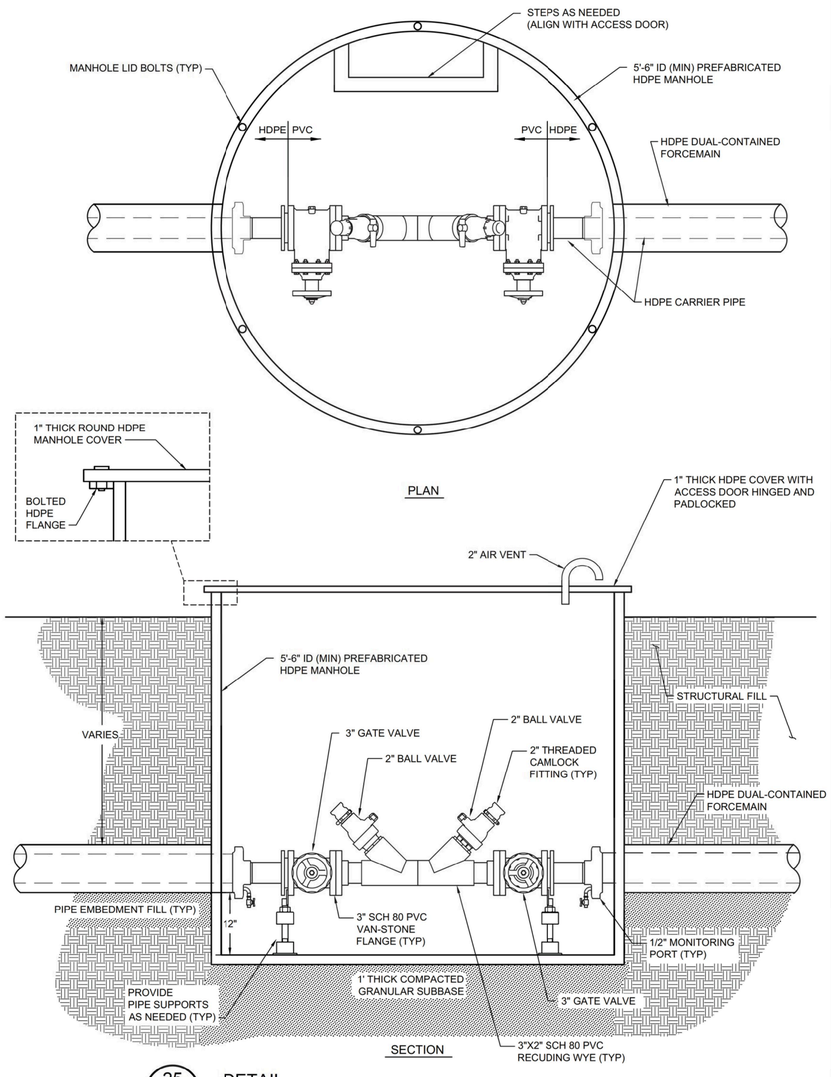
23/33 DETAIL
LEACHATE FORCEMAIN AIR RELEASE MANHOLE

SCALE: NTS



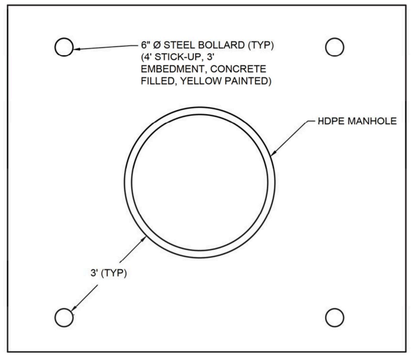
24/33 DETAIL
LEACHATE FORCEMAIN JUNCTION MANHOLE

SCALE: NTS



25/36 DETAIL
LEACHATE FORCEMAIN CLEANOUT MANHOLE

SCALE: NTS



PLAN VIEW
TYPICAL STEEL BOLLARD PLACEMENT (ALL MANHOLES)
SCALE: NTS

NOTE:

1. PIPING AND VALVES ARE CONCEPTUAL TO ILLUSTRATE INTENDED FUNCTIONALITY AND MAY BE REVISED DURING DETAILED DESIGN.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens
Digitally signed by Keith Stevens
Date: 2021.08.27 13:53:40 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER Rudolph Bonaparte Not valid for seal RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

LEACHATE COLLECTION SYSTEM DETAILS IV

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

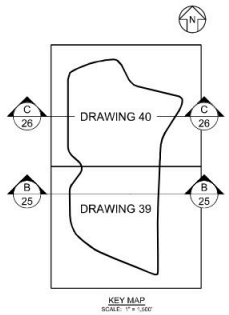
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-039	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 37 OF 50	
DATE	AUGUST 2021		

P:\ACAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-039

LEGEND

- 710 — FINISHED GROUND ELEVATION (FEET) (NOTE 1)
- FINAL COVER TOP DECK DIVERSION BERM
- FINAL COVER TOP DECK LET-DOWN CHANNEL
- DC—DC — FINAL COVER DOWNCHUTE CHANNEL
- FINAL COVER SIDESLOPE DRAINAGE BENCH
- STORMWATER CHANNEL
- LINED STORMWATER POND



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. FINAL CLOSURE GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) WITHIN THE FINAL COVER LIMITS. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

0 300 600
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM - OVERVIEW

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

GEORGIA REGISTERED PROFESSIONAL ENGINEER RUDOLPH BONAPARTE Nov 23, 2021

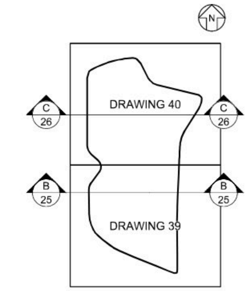
Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9530
WWW.GEOSYNTEC.COM

PROJ. NO.	GR9601	DWG.	GR9601-040	EDIT	5/23/224
SCALE	1" = 300'				
DATE	AUGUST 2021				

LEGEND

- 710 — FINISHED GROUND ELEVATION (FEET) (NOTE 1)
- FINAL COVER TOP DECK DIVERSION BERM
- FINAL COVER TOP DECK LET-DOWN CHANNEL
- DC — DC — FINAL COVER DOWNCHUTE CHANNEL
- FINAL COVER SIDESLOPE DRAINAGE BENCH
- STORMWATER CHANNEL
- 4.4 — STORMWATER CHANNEL DELINEATION



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. FINAL CLOSURE GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) WITHIN THE FINAL COVER LIMITS. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Rima Naji

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM - SOUTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

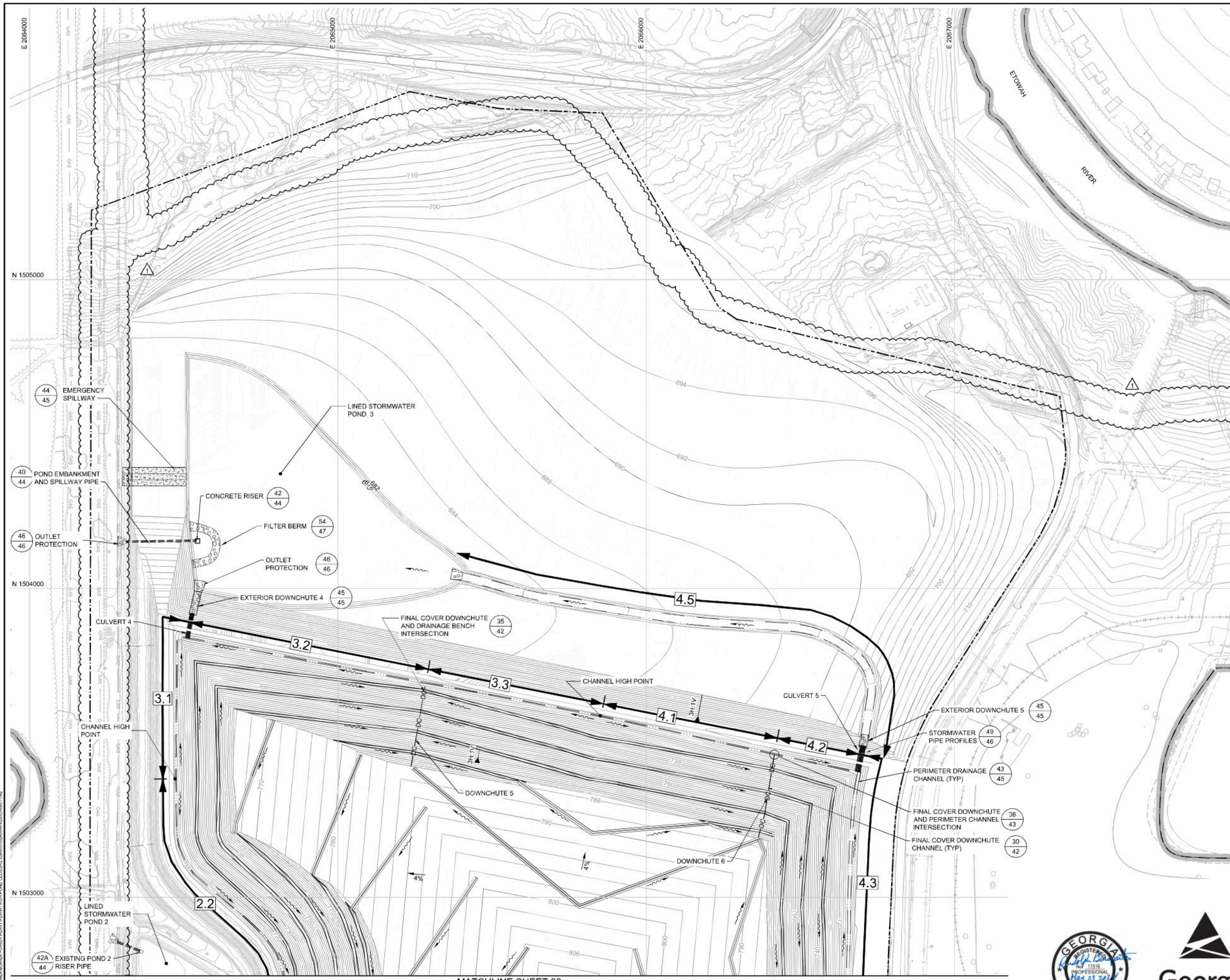
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE — May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

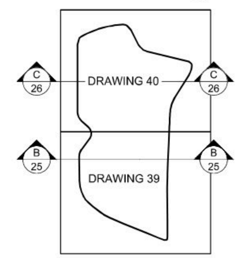
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-041	EDIT	5/23/24
SCALE	1" = 150'				
DATE	AUGUST 2021	DRAWING 39 OF 50			



LEGEND

- 710 — FINISHED GROUND ELEVATION (FEET) (NOTE 1)
- FINAL COVER TOP DECK DIVERSION BERM
- FINAL COVER TOP DECK LET-DOWN CHANNEL
- DC — DC — FINAL COVER DOWNCHUTE CHANNEL
- FINAL COVER SIDESLOPE DRAINAGE BENCH
- STORMWATER CHANNEL
- 4.4 — STORMWATER CHANNEL DELINEATION



KEY MAP
SCALE: 1" = 1,500'

NOTES:

1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
2. FINAL CLOSURE GRADES SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC COMPOSITE COVER) WITHIN THE FINAL COVER LIMITS. BEYOND THE FINAL COVER LIMITS, PROPOSED FINISHED GRADES ARE SHOWN, WHICH TIE-IN TO EXISTING GROUND TOPOGRAPHY AT THE LIMIT OF DISTURBANCE. SEE DRAWING 2, GENERAL SITE NOTE 19.
3. IN ADDITION TO PERMANENT STORMWATER PONDS SHOWN, TEMPORARY LINED STORMWATER PONDS WILL BE UTILIZED DURING CONSTRUCTION AS NEEDED.

GEORGIA Department of Natural Resources
Environmental Protection Division
Approved
Solid Waste Management Program
Approved By: Rima Naji

0 150 300
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM - NORTH AP-1

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

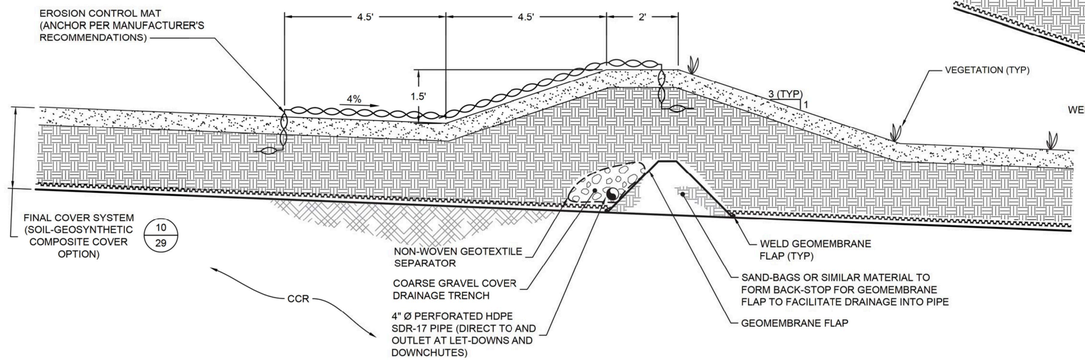
GEORGIA REGISTERED PROFESSIONAL ENGINEER No. 17516 RUDOLPH BONAPARTE May 23, 2024

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

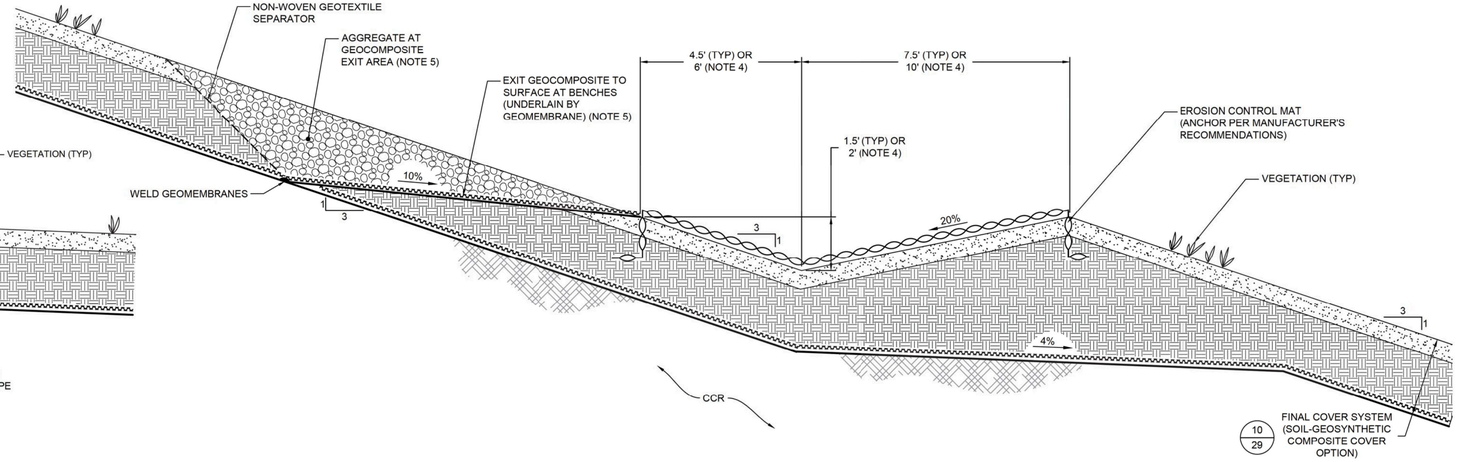
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-042	EDIT	5/23/24
SCALE	1" = 150'	DRAWING 40 OF 50			
DATE	AUGUST 2021				



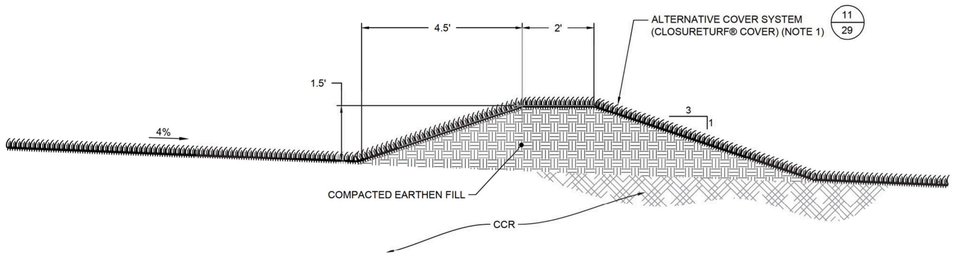
26/38 DETAIL
FINAL COVER TOP DECK DIVERSION BERM

0 2 4
SCALE IN FEET



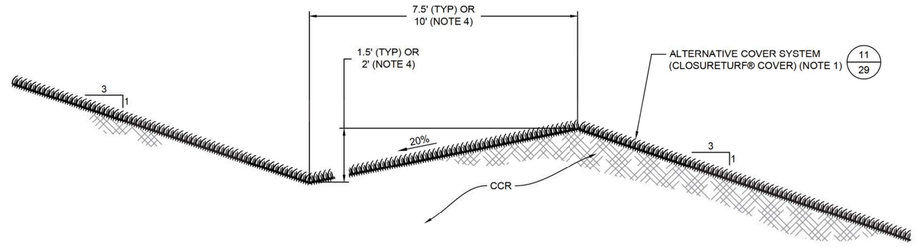
27/38 DETAIL
FINAL COVER SIDESLOPE DRAINAGE BENCH

0 2 4
SCALE IN FEET



28/- DETAIL
FINAL COVER TOP DECK DIVERSION BERM (CLOSURETURF® OPTION)

0 2 4
SCALE IN FEET



29/- DETAIL
FINAL COVER SIDESLOPE DRAINAGE BENCH (CLOSURETURF® OPTION)

0 2 4
SCALE IN FEET

NOTES:

1. IF THE CLOSURETURF® FINAL COVER SYSTEM OPTION IS SELECTED, SAND INFILL IS TO BE USED WITH CLOSURETURF® ENGINEERED TURF IN ALL LOCATIONS. WITHIN THE FINAL COVER SIDESLOPE DRAINAGE BENCHES AND TOP DECK DIVERSION BERMS, GRANULAR LINING MATERIALS THAT SUPPLEMENT THE SAND INFILL WILL BE EVALUATED DURING DETAILED DESIGN AND SPECIFIED AS APPROPRIATE.
2. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
3. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
4. SIDESLOPE DRAINAGE BENCH DIMENSIONS ARE MINIMUM AND TYPICAL. SEE DRAWINGS 39 AND 40 FOR THE LOCATIONS OF THE LARGER SIDESLOPE DRAINAGE BENCHES.
5. IN LIEU OF GEOCOMPOSITE EXIT DESIGN AT SIDESLOPE BENCHES, AN ALTERNATIVE DRAINAGE LAYER EXIT SYSTEM/ USING PERIODICALLY-SPACED OUTLET PIPES WILL BE EVALUATED DURING DETAILED DESIGN AND MAY BE USED UPON APPROVAL BY THE DESIGN ENGINEER AND AUTHORIZATION BY GPC.
5. IN LIEU OF GEOCOMPOSITE EXIT DESIGN AT SIDESLOPE BENCHES, AN ALTERNATIVE DRAINAGE LAYER EXIT SYSTEM USING PERIODICALLY-SPACED OUTLET PIPES WILL BE EVALUATED DURING DETAILED DESIGN AND MAY BE USED UPON APPROVAL BY THE DESIGN ENGINEER AND AUTHORIZATION BY GPC.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 14:01:25 -04'00'

GEORGIA REGISTERED No. 17514 PROFESSIONAL ENGINEER Rudolph Bonaparte August 16, 2021 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

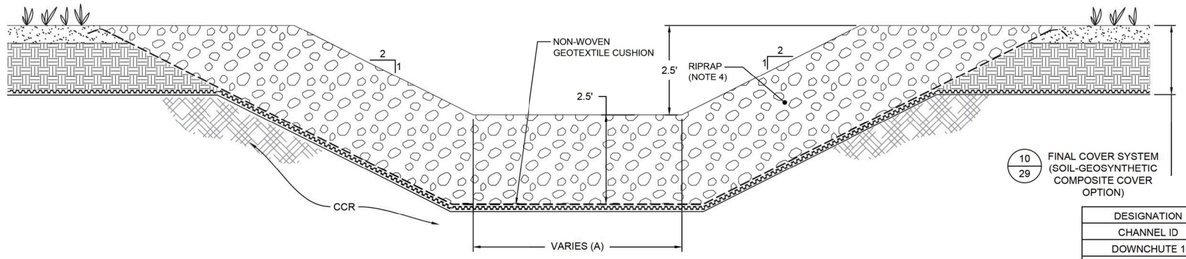
STORMWATER MANAGEMENT SYSTEM DETAILS I

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-043	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING	41	OF	50
DATE	AUGUST 2021				

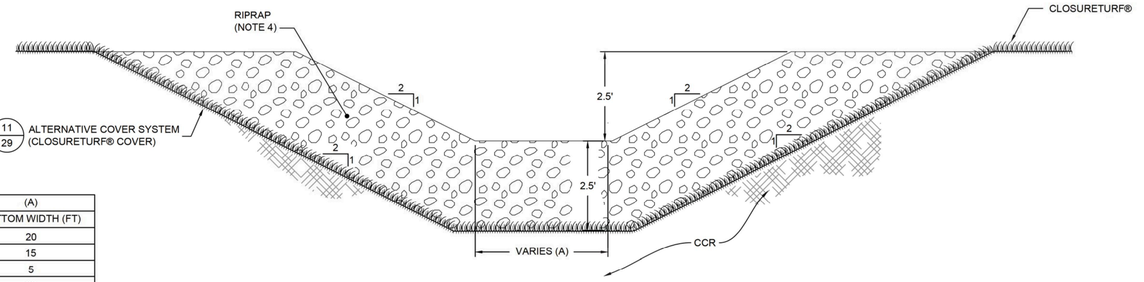
P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-043



DESIGNATION	(A)
CHANNEL ID	BOTTOM WIDTH (FT)
DOWNCHUTE 1	20
DOWNCHUTE 2	15
DOWNCHUTE 3	5
DOWNCHUTE 4	30
DOWNCHUTE 5	10
DOWNCHUTE 6	5
DOWNCHUTE 7	15

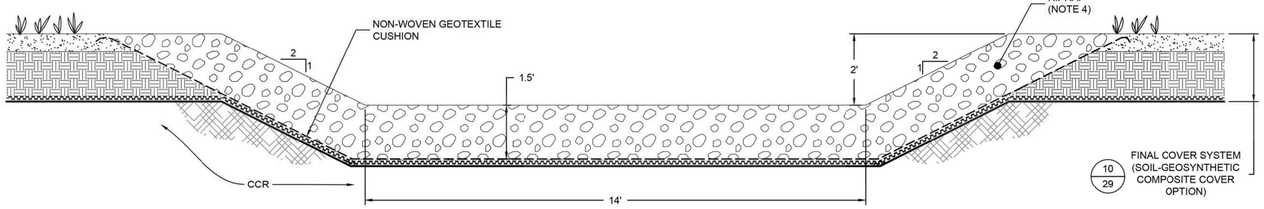
30/38 DETAIL
FINAL COVER DOWNCHUTE CHANNEL

0 2 4
SCALE IN FEET



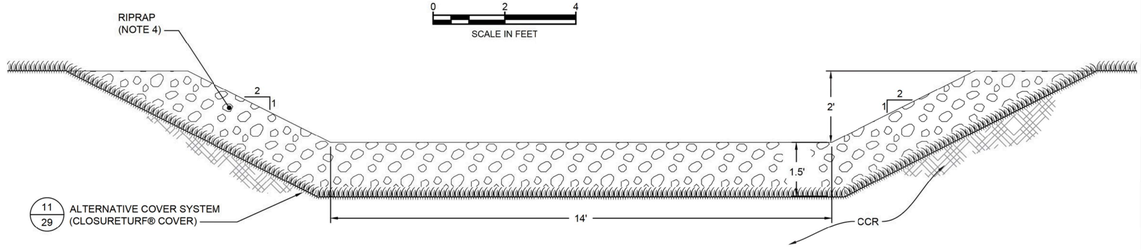
31/- DETAIL
FINAL COVER DOWNCHUTE CHANNEL (CLOSURETURF® OPTION)

0 2 4
SCALE IN FEET



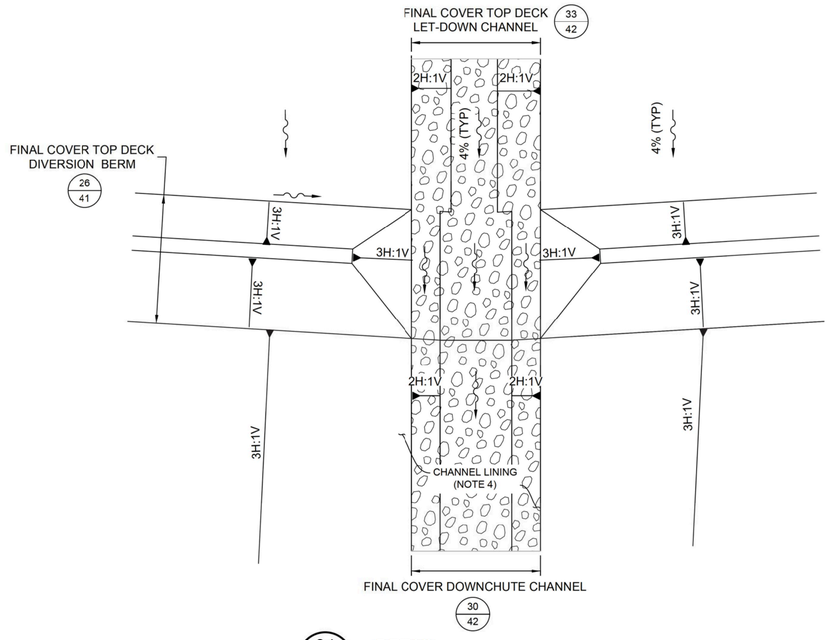
33/39 DETAIL
FINAL COVER TOP DECK LET-DOWN CHANNEL

0 2 4
SCALE IN FEET



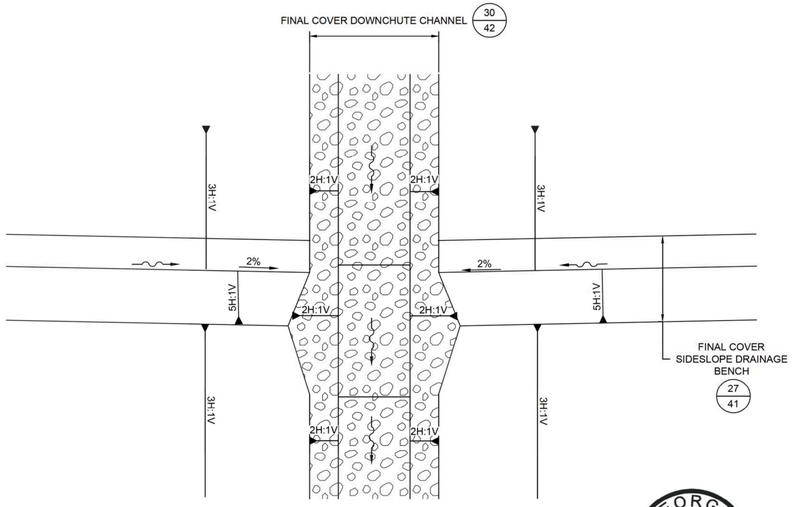
33/- DETAIL
FINAL COVER TOP DECK LET-DOWN CHANNEL (CLOSURETURF® OPTION)

0 2 4
SCALE IN FEET



34/39 DETAIL
FINAL COVER LET-DOWN CHANNEL AND DOWNCHUTE INTERSECTION

0 10 20
SCALE IN FEET



35/39 DETAIL
FINAL COVER DOWNCHUTE AND DRAINAGE BENCH INTERSECTION

0 10 20
SCALE IN FEET

GEORGIA REGISTERED Rudolph Bonaparte No. 17515 PROFESSIONAL Licensed to practice ENGINEER RUDOLPH BONAPARTE

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 14:55:39 -04'00'

NOTES:

1. SAND INFILL IS TO BE USED WITH CLOSURETURF® ENGINEERED TURF IN ALL LOCATIONS.
2. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
3. OTHER CHANNEL DIMENSIONS AND LINING SYSTEMS WILL BE ASSESSED DURING THE DETAILED DESIGN BY FOLLOWING THE CHANNEL SIZING PROCEDURES IN THE "FINAL COVER STORMWATER MANAGEMENT SYSTEM DESIGN AND ANALYSIS" AND UTILIZING SUFFICIENT ENERGY DISSIPATION TECHNIQUES WITHIN FHWA CIRCULAR NUMBER 14 (HEC 14).
4. DOWNCHUTE CHANNELS WILL USE NATIONAL STONE ASSOCIATION (N.S.A) NO. R-5 GRADED RIPRAP WITH N.S.A. NO. FS-2 FILTER STONE AS PRESENTED IN TABLE C-1 OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL" (GREEN BOOK).
5. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
6. IN LIEU OF RIPRAP LINING AT THE FINAL COVER DOWNCHUTES AND TOP DECK LET-DOWN CHANNELS, AN ALTERNATIVE LINING SYSTEM USING CLOSURETURF® WITH HYDROBINDER® WILL BE EVALUATED DURING DETAILED DESIGN AND SPECIFIED AS APPROPRIATE.

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM DETAILS II

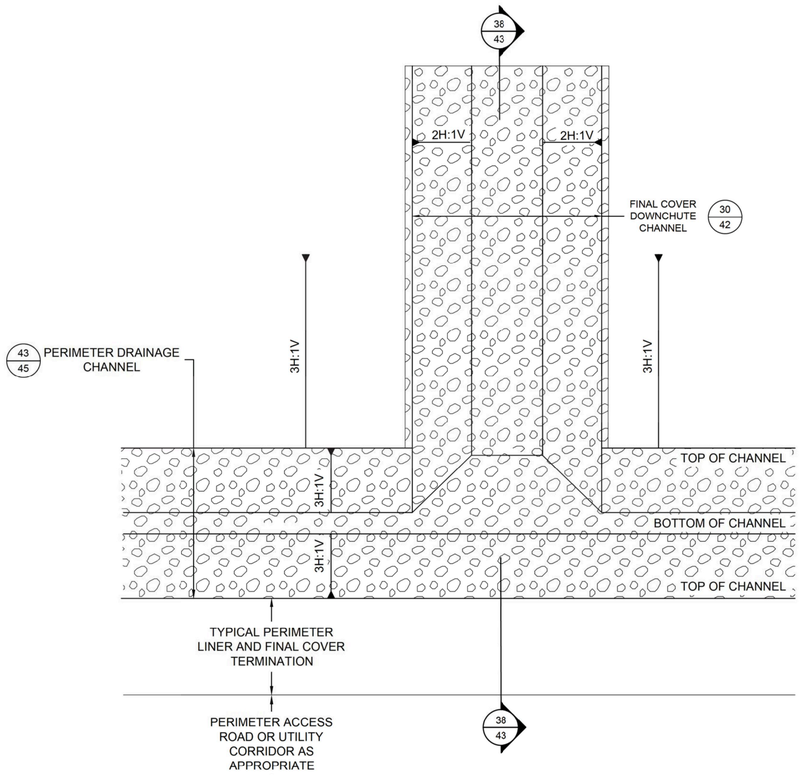
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

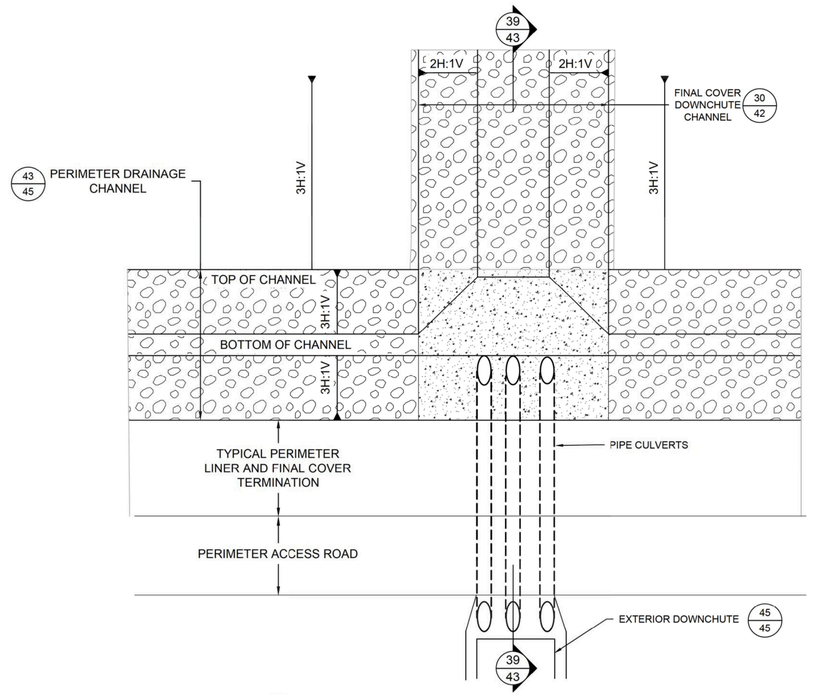
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-044	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING 42 OF 50			
DATE	AUGUST 2021				

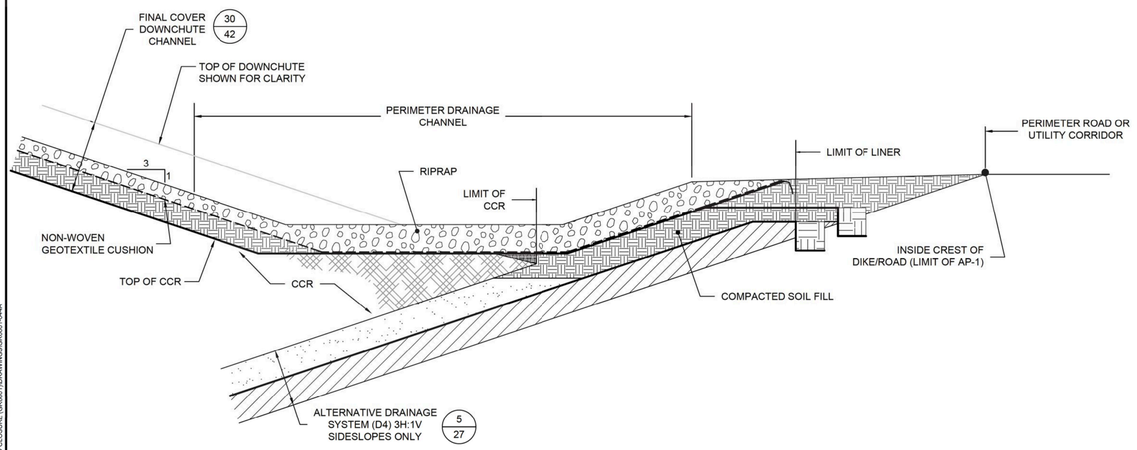
P:\ACE\PROJECTS\V\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-044



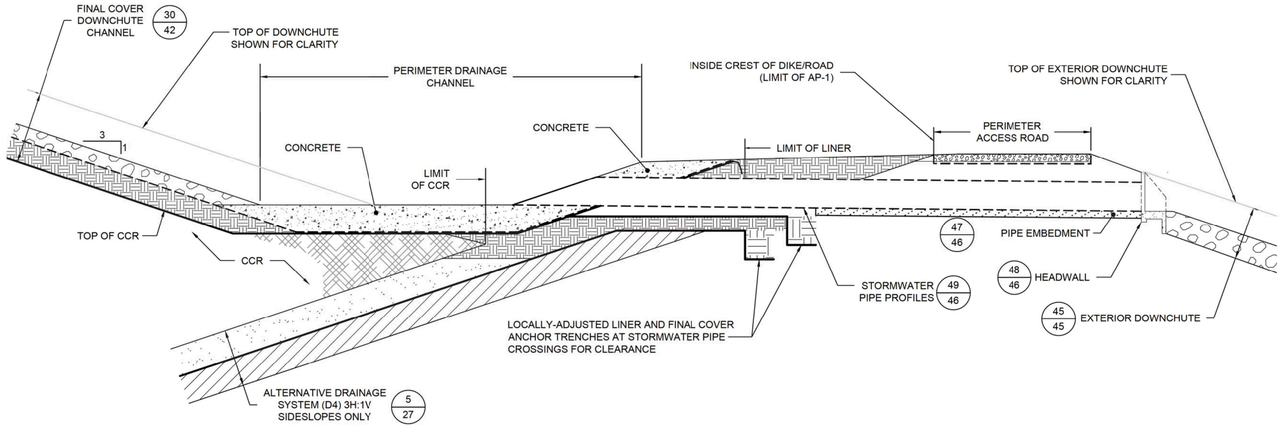
36 / 38 DETAIL
FINAL COVER DOWNCHUTE AND PERIMETER CHANNEL INTERSECTION
SCALE: NTS



37 / 39 DETAIL
FINAL COVER DOWNCHUTE AND PERIMETER DRAINAGE CHANNEL OUTLET
SCALE: NTS



38 / 43 SECTION
FINAL COVER DOWNCHUTE AND PERIMETER CHANNEL SECTION
SCALE: NTS



39 / 43 SECTION
DOWNCHUTE AND PERIMETER DRAINAGE CHANNEL OUTLET
SCALE: NTS

NOTES:

1. SAND INFILL IS TO BE USED WITH CLOSURETURF® ENGINEERED TURF IN ALL LOCATIONS.
2. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
3. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
4. IF THE CLOSURETURF© OPTION IS SELECTED, THE FINAL COVER DOWNCHUTE AND PERIMETER CHANNEL WILL BE INSTALLED TO MAINTAIN THE SAME LIMIT OF CCR MINIMUM CHANNEL DIMENSIONS, AND DEGREE OF SEPARATION BETWEEN THE RIPRAP LINING AND CCR.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 14:11:51 -04'00'

GEORGIA REGISTERED Rudolph Bonaparte No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

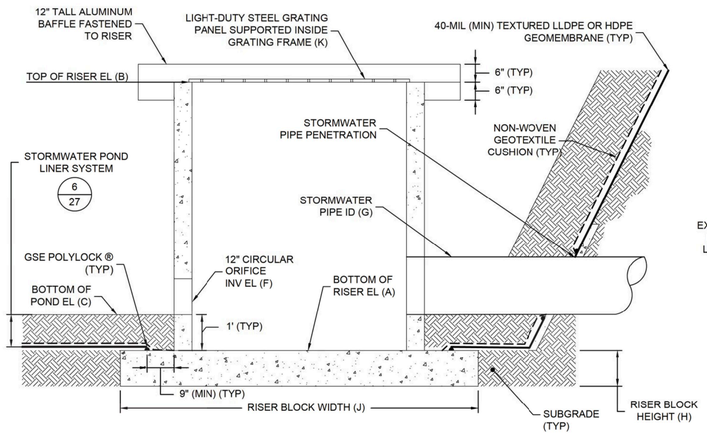
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM DETAILS III

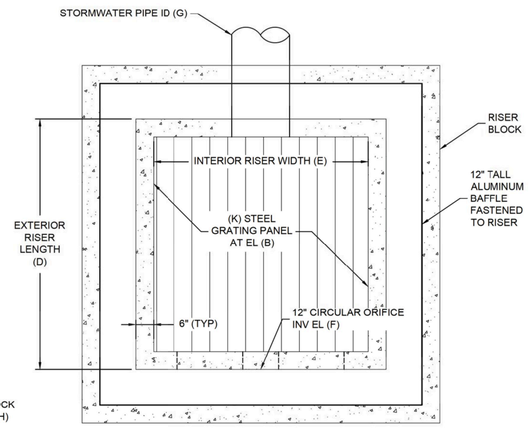
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

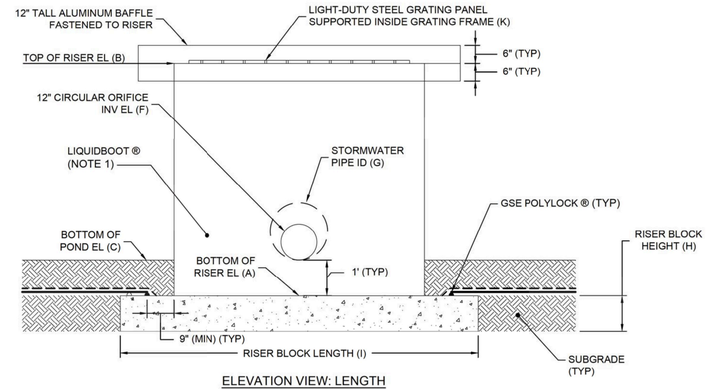
PROJ. NO.	GR6601	DWG.	GR6601-044A	EDIT	08.16.21
SCALE	AS SHOWN	DRAWING	43	OF	50
DATE	AUGUST 2021				



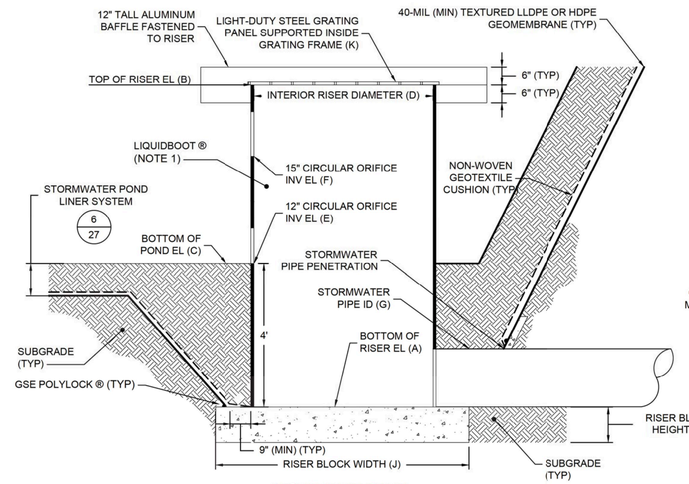
PROFILE VIEW: WIDTH



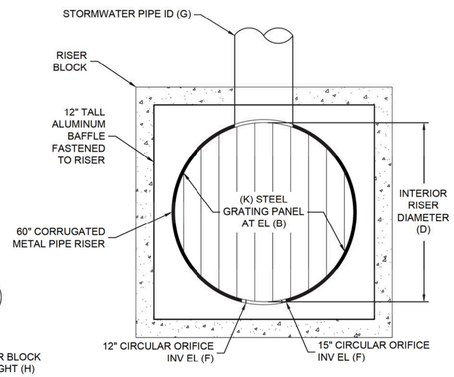
PLAN VIEW



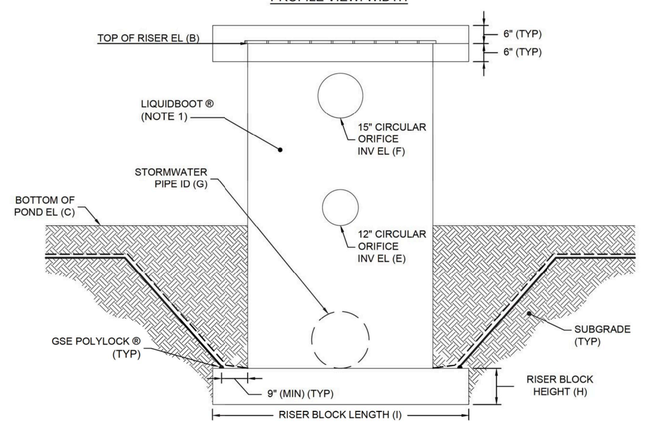
ELEVATION VIEW: LENGTH



PROFILE VIEW: WIDTH



PLAN VIEW



PROFILE VIEW: WIDTH

DESIGNATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
POND ID	BOTTOM OF RISER EL (FT)	TOP OF RISER EL (FT)	BOTTOM OF POND EL (FT)	EXTERIOR RISER LENGTH (FT)	INTERIOR RISER WIDTH (FT)	ORIFICE INV EL (FT)	STORMWATER PIPE ID	RISER BLOCK HEIGHT (FT)	RISER BLOCK LENGTH (FT)	RISER BLOCK WIDTH (FT)	PANEL LENGTH (in), X WIDTH (in)
POND 1	689.0	695.5	690.0	5	4	690.0	POND 1 PRINCIPAL SPILLWAY PIPE	2	6	6	50
POND 3	675.0	679.0	676.0	5	4	676.0	POND 3 PRINCIPAL SPILLWAY PIPE	2	6	6	50

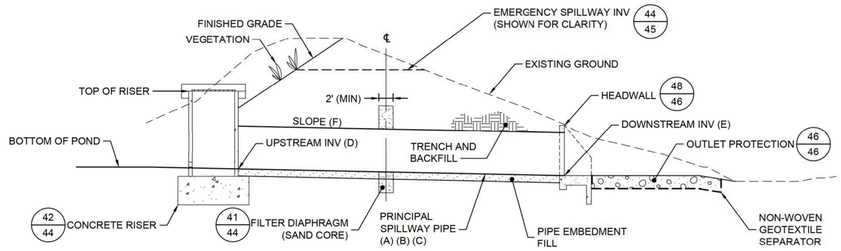
42/39 DETAIL
CONCRETE RISER

SCALE: NTS

DESIGNATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
POND ID	BOTTOM OF RISER EL (FT)	TOP OF RISER EL (FT)	BOTTOM OF POND EL (FT)	INTERIOR RISER DIAMETER (FT)	12" CIRCULAR ORIFICE INV EL (FT)	15' CIRCULAR ORIFICE INV EL (FT)	STORMWATER PIPE ID	RISER BLOCK HEIGHT (FT)	RISER BLOCK LENGTH (FT)	RISER BLOCK WIDTH (FT)	PANEL DIAMETER (in)
POND 2	673.5	683.0	677.5	5	677.5	680.5	POND 2 PRINCIPAL SPILLWAY PIPE	2	7.2	7.2	60

42A/39 DETAIL
EXISTING POND 2 RISER PIPE

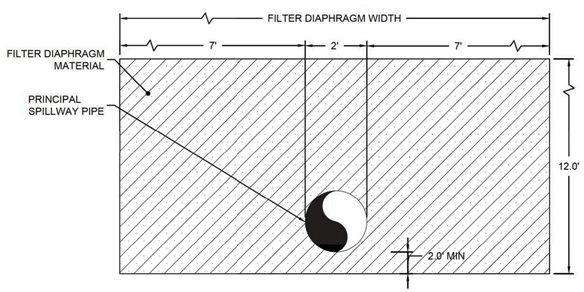
SCALE: NTS



40/39 DETAIL
POND EMBANKMENT AND SPILLWAY PIPE

SCALE: NTS

DESIGNATION	(A)	(B)	(C)	(D)	(.E)	(F)
OUTLET ID	MATERIAL TYPE	(NUMBER OF SURFACE WATER PIPE) - DIAMETER	LENGTH (FT)	INLET INV EL (FT)	OUTLET INV EL (FT)	SLOPE (FT/FT)
POND 1 PRINCIPAL SPILLWAY PIPE	RCP	(1) - 2.0'	100	690.0	689.5	0.0050
POND 2 PRINCIPAL SPILLWAY PIPE	HDPE	(1) - 1.5'	76	673.5	672.5	0.0130
POND 3 PRINCIPAL SPILLWAY PIPE	RCP	(1) - 2.5'	230	676.0	674.0	0.0090



41/44 DETAIL
FILTER DIAPHRAGM (SAND CORE)

SCALE: 1" = 5'

NOTE:
1. THE HEIGHT OF THE FILTER DIAPHRAGM WILL BE AT LEAST 2 FEET BELOW THE EMBANKMENT SURFACE AND EXTEND UPWARD AT LEAST 3 TIMES THE OUTSIDE PIPE DIAMETER WHERE POSSIBLE.

NOTES:

1. LIQUIDBOOT® WILL BE APPLIED TO EXPOSED SURFACES OF RISER STRUCTURES.
2. SUBGRADE PREPARATION IN AREAS WHERE GEOMEMBRANE LINER WILL BE INSTALLED WILL CONSIST OF MOISTURE CONDITIONING. COMPACTION, AND SMOOTH ROLLING AS NEEDED.
3. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
4. TRASH RACK WILL BE INSTALLED OVER DRAWDOWN ORIFICES TO PREVENT CLOGGING.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2021.08.27 14:14:22 -04'00'

GEORGIA REGISTERED Rudolph Bonaparte No. 17516 PROFESSIONAL ENGINEER August 16, 2021 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

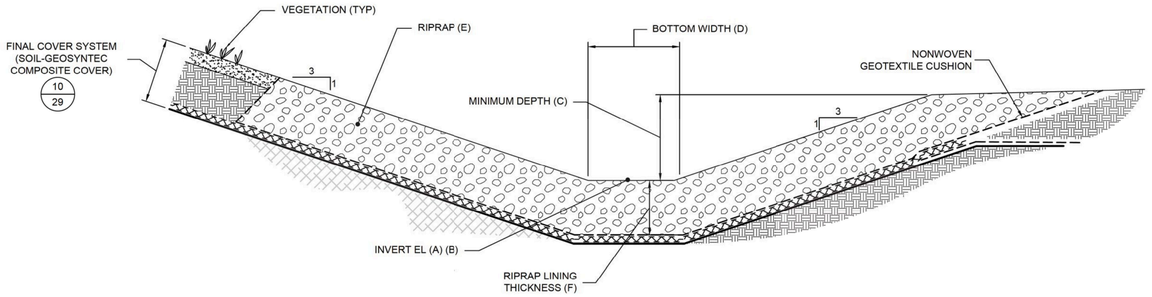
STORMWATER MANAGEMENT SYSTEM DETAILS IV

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

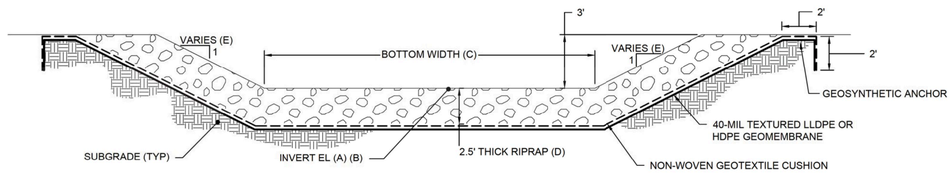
PROJ. NO.	GR6601	DWG. GR6601-045	EDIT 08.16.21
SCALE	AS SHOWN		
DATE	AUGUST 2021	DRAWING 44 OF 50	

P:\CAD\PROJECTS\GA\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-045



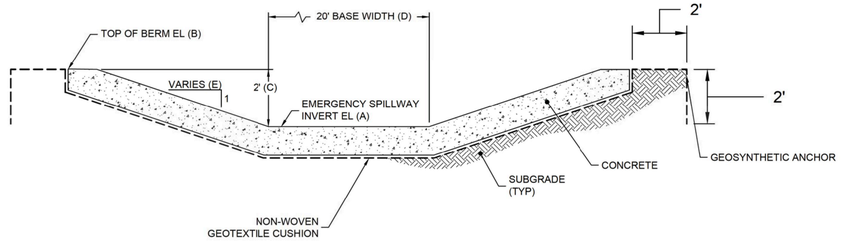
DESIGNATION			(A)	(B)	(C)	(D)	(E)	(F)
PERIMETER CHANNEL ID	LENGTH (FT)	SLOPE (FT/FT)	UPSTREAM INVERT EL (FT)	DOWNSTREAM INVERT EL (FT)	MIN DEPTH (FT)	BOTTOM WIDTH (FT)	RIPRAP STONE GRADE (FILTER STONE GRADE) (NOTE 2)	RIPRAP LINING THICKNESS
1.1	934	0.005	716.86	712.19	2.5	3	N.S.A. No. R-4 (FS-2)	1.5
1.2	675	0.005	712.19	708.81	4	3	N.S.A. No. R-4 (FS-2)	1.5
1.3	674	0.005	713.00	709.62	2	3	N.S.A. No. R-4 (FS-2)	1.5
1.4	927	0.006	713.00	707.17	2.5	3	N.S.A. No. R-4 (FS-2)	1.5
1.5	1226	0.005	713.30	707.17	2.5	3	N.S.A. No. R-4 (FS-2)	1.5
2.1	1031	0.005	713.30	708.14	3	3	N.S.A. No. R-4 (FS-2)	1.5
2.2	872	0.005	712.92	708.14	2	3	N.S.A. No. R-4 (FS-2)	1.5
3.1	490	0.005	712.92	710.47	2	3	N.S.A. No. R-4 (FS-2)	1.5
3.2	807	0.005	710.97	706.93	3	3	N.S.A. No. R-4 (FS-2)	1.5
3.3	580	0.005	713.70	710.97	2	3	N.S.A. No. R-4 (FS-2)	1.5
4.1	575	0.005	713.70	710.60	2	3	N.S.A. No. R-4 (FS-2)	1.5
4.2	315	0.005	710.60	708.91	3	3	N.S.A. No. R-4 (FS-2)	1.5
4.3	1110	0.005	714.46	708.91	3	9	N.S.A. No. R-4 (FS-2)	1.5
4.4	480	0.005	716.86	714.46	2.5	3	N.S.A. No. R-4 (FS-2)	1.5
4.5	1815	0.010	695.49	676.83	3	20	N.S.A. No. R-5 (FS-2)	2.5

43/30 DETAIL
PERIMETER DRAINAGE CHANNEL
SCALE: NTS



DESIGNATION			(A)	(B)	(C)	(D)	(E)
EXTERIOR DOWNCHUTE ID	LENGTH (FT)	SLOPE (FT/FT)	UPSTREAM INVERT EL (FT)	DOWNSTREAM INVERT EL (FT)	BOTTOM WIDTH (FT)	RIPRAP STONE GRADE (FILTER STONE GRADE) (NOTE 2)	SIDE SLOPE (H:V)
ED-1	110	0.33 (NOTE 7)	709.0	790.0	15	N.S.A. No. R-5 (FS-2)	2:1
ED-2	110	0.33 (NOTE 7)	706.8	790.0	10	N.S.A. No. R-5 (FS-2)	2:1
ED-4	100	0.33	706.6	682.0	5	N.S.A. No. R-5 (FS-2)	2:1
ED-5	100	0.33	708.7	699.9	10	N.S.A. No. R-5 (FS-2)	3:1

45/38 DETAIL
EXTERIOR DOWNCHUTE
SCALE: NTS



DESIGNATION	(A)	(B)	(C)	(D)	(E)
POND ID	SPILLWAY INV EL (FT)	TOP OF BERM EL (FT)	DEPTH (FT)	BASE WIDTH (FT)	SIDE SLOPE (H:V)
POND 1 EMERGENCY SPILLWAY	698	700	2	20	3:1
POND 2 EMERGENCY SPILLWAY (EXISTING)	685	687	2	20	10:1
POND 3 EMERGENCY SPILLWAY	680	682	2	20	10:1

44/39 DETAIL
EMERGENCY SPILLWAY
SCALE: NTS

NOTES:

1. GEOSYNTHETIC LAYER THICKNESSES EXAGGERATED FOR CLARITY.
2. N.S.A No. REFERS TO NATIONAL STONE ASSOCIATION RIPRAP AND FILTER STONE GRADATIONS AS PRESENTED IN TABLE C-1 OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL" (GREEN BOOK).
3. OTHER CHANNEL DIMENSIONS AND LINING SYSTEMS WILL BE ASSESSED DURING THE DETAILED DESIGN BY FOLLOWING THE CHANNEL SIZING PROCEDURES IN THE "FINAL COVER STORMWATER MANAGEMENT SYSTEM DESIGN AND ANALYSIS" AND UTILIZING SUFFICIENT ENERGY DISSIPATION TECHNIQUES WITHIN FHWA CIRCULAR NUMBER 14 (HEC 14).
4. GRADATION REQUIREMENTS AND OTHER MATERIAL PROPERTIES FOR SOIL LAYERS WILL BE PROVIDED IN TECHNICAL SPECIFICATIONS DEVELOPED FOR DETAILED DESIGN.
5. SUBGRADE PREPARATION IN AREAS WHERE GEOMEMBRANE LINER WILL BE INSTALLED WILL CONSIST OF MOISTURE CONDITIONING, COMPACTION, AND SMOOTH ROLLING AS NEEDED.
6. PERIMETER DRAINAGE CHANNEL 4.5 IS CONSTRUCTED OUTSIDE OF THE NEW EARTHEN CONTAINMENT DIKE, AS SHOWN ON DWG 40, AND WILL BE CONSTRUCTED FOLLOWING THE EXTERIOR DOWNCHUTE DETAIL.
7. EXTERIOR DOWNCHUTE 1 AND EXTERIOR DOWNCHUTE 2 WILL BE CONSTRUCTED AT A MINIMUM SLOPE OF 1 PERCENT ALONG THE CORRIDOR BETWEEN THE NEW EARTHEN CONTAINMENT DIKE AND POND 1.

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens Digitally Signed by Keith Stevens Date: 2021.08.27 14:17:05 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

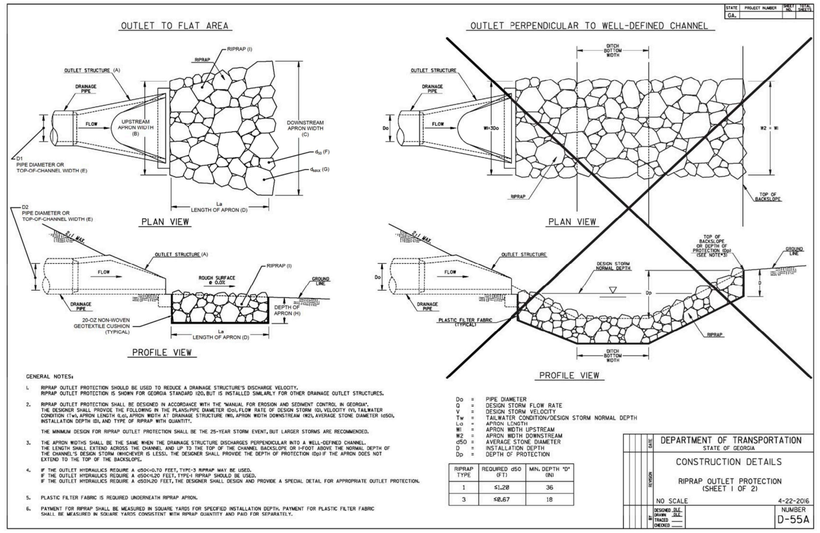
STORMWATER MANAGEMENT SYSTEM DETAILS V

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

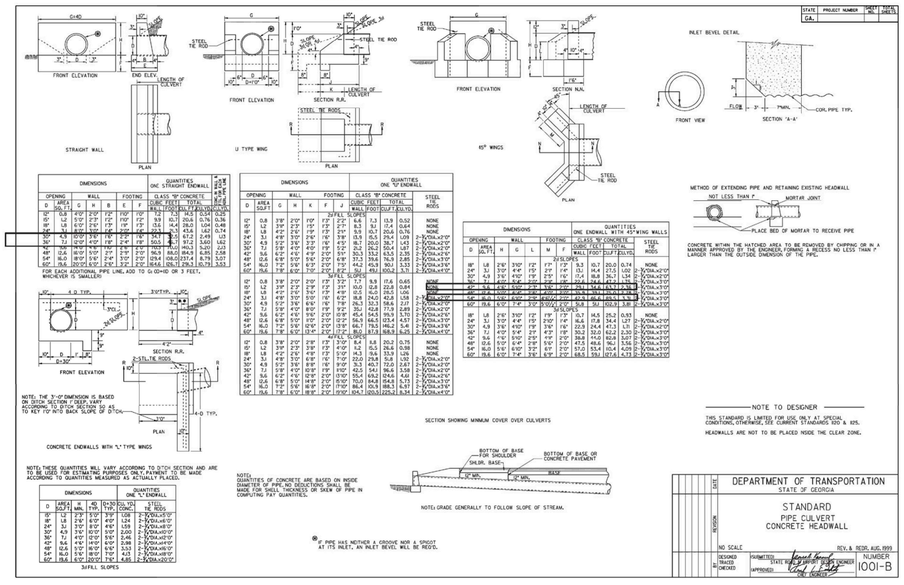
PROJ. NO.	GR6601	DWG. GR6601-046	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 45 OF 50	
DATE	AUGUST 2021		

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-046

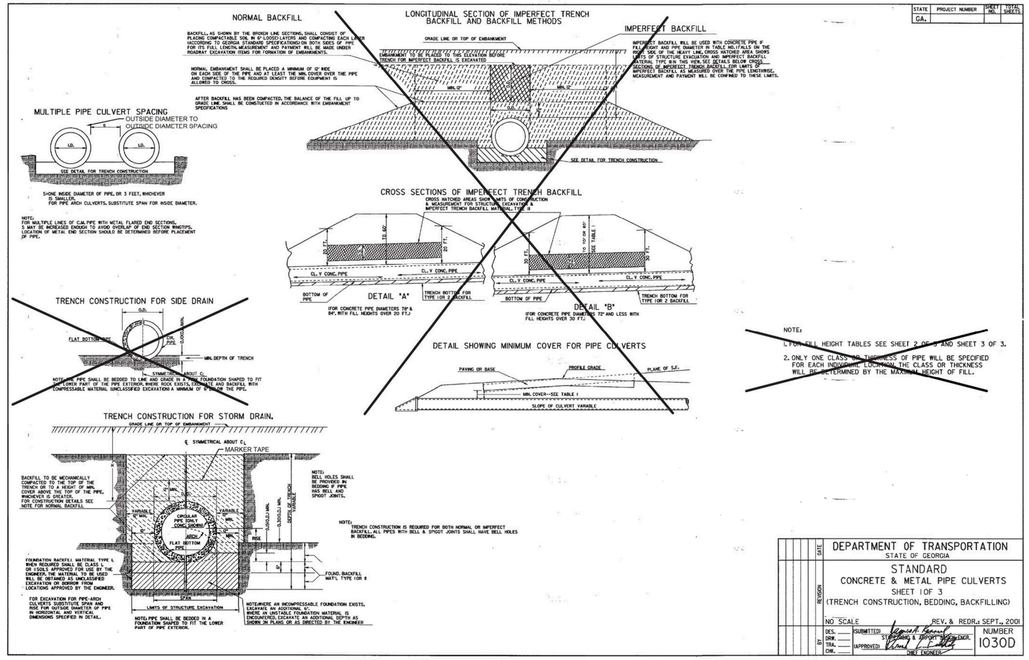


DESIGNATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
OUTLET ID	OUTLET TYPE	UPSTREAM APRON WIDTH (FT)	DOWNSTREAM APRON WIDTH (FT)	LENGTH OF APRON (FT)	PIPE DIAMETER OR (TOP-OF-CHANNEL WIDTH x DEPTH) (FT)	d50 (in.)	dmax (in.)	DEPTH OF APRON (FT)	RIPRAP STONE GRADE (FILTER STRGRADE) (NOTE 3)
POND 1 PRINCIPAL SPILLWAY PIPE	RCP	6	20	15	2.0	6	12	1.5	N.S.A. No. R-4 (FS-2)
POND 3 PRINCIPAL SPILLWAY PIPE	RCP	7.5	20	20	2.5	6	12	1.5	N.S.A. No. R-4 (FS-2)
POND 1 EMERGENCY SPILLWAY	CONCRETE TRAPEZOIDAL CHANNEL	32	32	25	(32 x 2)	9	18	2.5	N.S.A. No. R-5 (FS-2)
POND 3 EMERGENCY SPILLWAY	CONCRETE TRAPEZOIDAL CHANNEL	60	60	25	(60 x 2)	9	18	2.5	N.S.A. No. R-5 (FS-2)
PERIMETER CHANNEL 4.5	RIPRAP-LINED TRAPEZOIDAL CHANNEL	40	45	35	(38 x 3)	9	18	2.5	N.S.A. No. R-5 (FS-2)
EXTERIOR DOWNCHUTE 1	RIPRAP-LINED TRAPEZOIDAL CHANNEL	30	40	35	(27 x 3)	9	18	2.5	N.S.A. No. R-5 (FS-2)
EXTERIOR DOWNCHUTE 2	RIPRAP-LINED TRAPEZOIDAL CHANNEL	25	40	35	(22 x 3)	9	18	2.5	N.S.A. No. R-5 (FS-2)
EXTERIOR DOWNCHUTE 4	RIPRAP-LINED TRAPEZOIDAL CHANNEL	20	40	35	(17 x 3)	9	18	2.5	N.S.A. No. R-5 (FS-2)
EXTERIOR DOWNCHUTE 5	RIPRAP-LINED TRAPEZOIDAL CHANNEL	25	40	35	(22 x 3)	9	18	2.5	N.S.A. No. R-5 (FS-2)

46/38 DETAIL
OUTLET PROTECTION
SCALE: NTS
SOURCE: GDOT

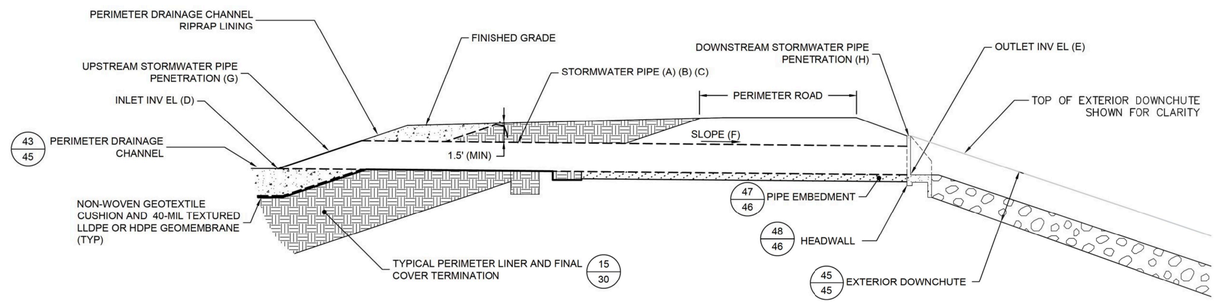


48/43 DETAIL
HEADWALL
SCALE: NTS
SOURCE: GDOT



NUMBER OF PIPES	NOMINAL PIPE DIAMETER (FT)	MINIMUM TRENCH WIDTH (FT)	(S) OUTSIDE DIAMETER TO OUTSIDE DIAMETER SPACING (FT)
1	3	6	3
2	3	13	3
3	3	20	3
4	3	26	3
5	3	33	3

47/43 SECTION
PIPE EMBEDMENT
SCALE: NTS
SOURCE: GDOT



DESIGNATION	(A)	(B)	(C)	(D)	(.E)	(F)	(G)	(H)
CULVERT ID	MATERIAL TYPE	(NUMBER OF SURFACE WATER PIPE) - DIAMETER	LENGTH (FT)	INLET INV EL (FT)	OUTLET INV EL (FT)	SLOPE (FT/FT)	UPSTREAM PIPE PENETRATION	DOWNSTREAM PIPE PENETRATION
C-1	RCP	(5) - 3.0'	75	709.5	709.0	0.0067	PERIMETER CHANNEL	EXTERIOR DOWNCHUTE CHANNEL TO POND 1
C-2	RCP	(3) - 3.0'	80	707.2	706.8	0.0050	PERIMETER CHANNEL	EXTERIOR DOWNCHUTE CHANNEL TO POND 1
C-4	RCP	(2) - 3.0'	75	707.1	706.6	0.0067	PERIMETER CHANNEL	EXTERIOR DOWNCHUTE CHANNEL TO POND 3
C-5	RCP	(4) - 3.0'	85	709.1	708.7	0.0058	PERIMETER CHANNEL	EXTERIOR DOWNCHUTE CHANNEL TO POND 3

49/39 DETAIL
STORMWATER PIPE PROFILES
SCALE: NTS

NOTES:
1. RIPRAP OUTLET PROTECTION WILL BE LINED WITH A 40-MIL (MIN) TEXTURED LLDPE OR HDPE GEOMEMBRANE OVERLAIN WITH A GEOTEXTILE CUSHION.
2. SUBGRADE PREPARATION IN AREAS WHERE GEOMEMBRANE LINER WILL BE INSTALLED WILL CONSIST OF MOISTURE CONDITIONING, COMPACTION, AND SMOOTH ROLLING AS NEEDED.
3. N.S.A No. REFERS TO NATIONAL STONE ASSOCIATION RIPRAP AND FILTER STONE GRADATIONS AS PRESENTED IN TABLE C-1 OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL" (GREEN BOOK).

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Keith Stevens
Approved By:

GEORGIA REGISTERED Rudolph Bonaparte No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

STORMWATER MANAGEMENT SYSTEM DETAILS VI

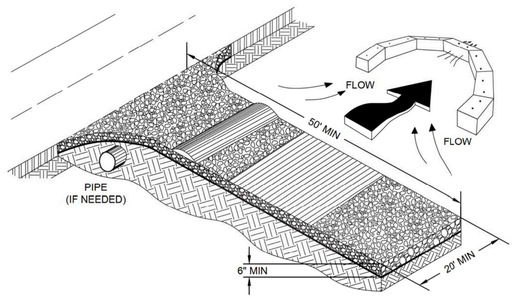
PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

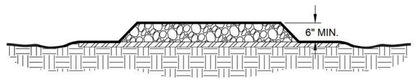
PROJ. NO.	GR6601	DWG.	GR6601-048
SCALE	AS SHOWN	EDIT	08.16.21
DATE	AUGUST 2021	DRAWING	46 OF 50

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND 1\CLOSURE (GR6601)\DRAWINGS\GR6601-048

EXIT DIAGRAM



ENTRANCE ELEVATION

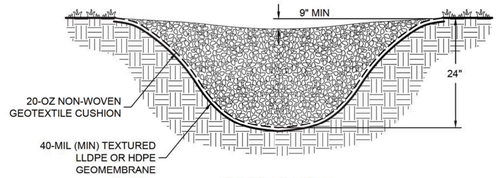


NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVES MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

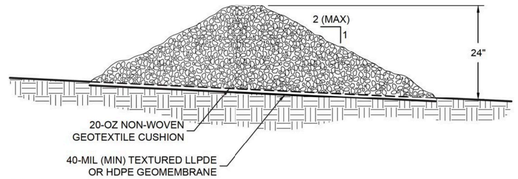
Co | 50 / - | DETAIL — CONSTRUCTION EXIT

SCALE: NTS
SOURCE: GSWCC

CROSS SECTION



PROFILE VIEW



NOTES:
1. CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
2. THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
4. THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
5. THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
6. GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES (REFER TO AASHTO M288-96, SECTION 7.3, TABLE 3).
7. CHECK DAMS SHALL BE SPACED 250 FT APART.

Cd | 53 / - | DETAIL — STONE CHECK DAM

SCALE: NTS
SOURCE: GSWCC

CONDITIONS
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF-SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHODS AND MATERIALS
A. TEMPORARY METHODS

MULCHES. SEE SPECIFICATION Ds1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

VEGETATIVE COVER. SEE SPECIFICATION Ds2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

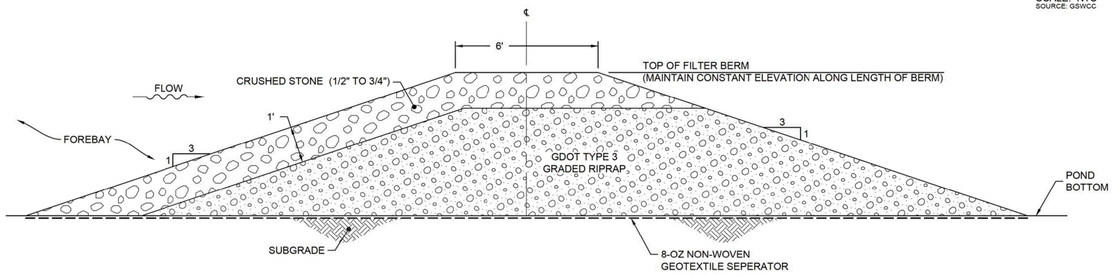
B. PERMANENT METHODS

PERMANENT VEGETATION. SEE SPECIFICATION Ds3 - DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING. SEE SPECIFICATION Tp - TOPSOILING.

Du | 51 / - | DETAIL — DUST CONTROL ON DISTURBED AREAS

SCALE: NTS
SOURCE: GSWCC

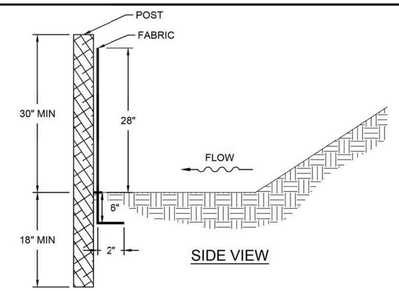


54 / 39 | DETAIL — FILTER BERM

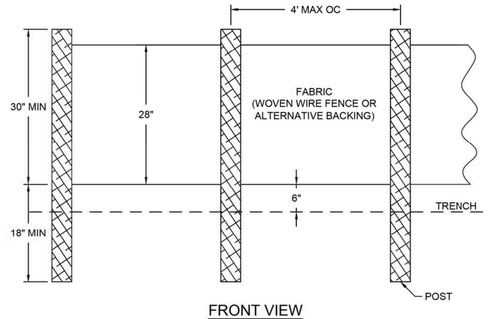
SCALE: NTS

GENERAL EROSION AND SEDIMENT CONTROL NOTES
1. ALL EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA." STORMWATER CONTROLS AND BEST MANAGEMENT PRACTICES SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE NPDES CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT, NPDES INDUSTRIAL STORMWATER DISCHARGE GENERAL PERMIT AND/OR THE FACILITY'S NPDES INDUSTRIAL WASTEWATER DISCHARGE INDIVIDUAL PERMIT.
2. STORM WATER DISCHARGES ASSOCIATED WITH ASH POND CLOSURE ACTIVITIES W/LL BE COVERED UNDER THE APPLICABLE NPDES CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT, NPDES INDUSTRIAL STORMWATER DISCHARGE GENERAL PERMIT AND/OR THE FACILITY'S NPDES INDUSTRIAL WASTEWATER DISCHARGE INDIVIDUAL PERMIT.
3. STATE WATERS BUFFERS SHALL REMAIN UNDISTURBED, EXCEPT WHERE ENCROACHMENT IS REQUIRED TO FACILITATE ASH POND CLOSURE ACTIVITIES. UNLESS OTHERWISE EXEMPTED BY THE APPROPRIATE NPDES CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT, A STATE WATERS BUFFER VARIANCE SHALL BE OBTAINED FROM GEORGIA EPD'S WATERSHED PROTECTION BRANCH PRIOR TO BUFFER ENCROACHMENT. GEORGIA EPD'S SOLID WASTE MANAGEMENT BRANCH SHALL BE NOTIFIED WHEN GPC ENVIRONMENTAL AFFAIRS APPLIES FOR A STATE WATERS BUFFER VARIANCE. CONTACT GPC ENVIRONMENTAL AFFAIRS FOR ASSISTANCE.
4. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES FOR THIS PROJECT, THE PERMITTED BOUNDARY, THE LIMITS OF DISTURBANCE AND ALL WETLANDS AND STATE WATERS BUFFERS WITHIN 200 FEET OF THE LIMITS OF DISTURBANCE OR WITHIN THE PROPERTY BOUNDARY (WHICHEVER IS CLOSER) SHALL BE CLEARLY FLAGGED AND STAKED. THESE MARKINGS SHALL BE MAINTAINED UNTIL COMPLETION OF CONSTRUCTION / CLOSURE ACTIVITIES. SHOULD ANY OF THE MARKINGS BE DISTURBED, THE CONTRACTOR SHALL NOTIFY GEORGIA POWER COMPANY IMMEDIATELY. ALL CONSTRUCTION PERSONNEL SHALL BE SHOWN THE LOCATION OF THE LIMITS OF DISTURBANCE, STATE WATER BUFFERS, STATE WATERS AND WETLANDS OUTSIDE THE LIMITS OF DISTURBANCE TO PREVENT HEAVY EQUIPMENT ENCROACHMENT INTO THESE AREAS.

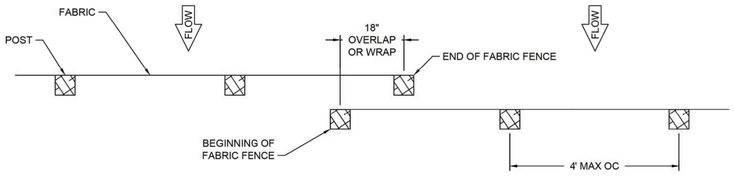
GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens
Digitally signed by Keith Stevens
Date: 2021.08.27 14:20:12 -04'00'



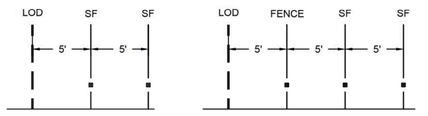
SIDE VIEW



FRONT VIEW



TOP VIEW



SILT FENCE SPACING

CRITERIA FOR SILT FENCE PLACEMENT	
LAND SLOPE (PERCENT)	MAXIMUM LENGTH OF SLOPE ABOVE FENCE (FEET)
<2	100
2 TO 5	75
5 TO 10	50
10 TO 20	25
>20	15

SILT FENCE NOTES:
1. ALL SILT FENCE SHOWN ON THE PLANS IS TO BE DOUBLE ROW TYPE "C" BARRIER. CONTRACTOR SHALL MAINTAIN FENCE AT THESE LOCATIONS DURING CONSTRUCTION UNTIL FINAL SURFACE TREATMENTS HAVE BEEN APPLIED AND A SUFFICIENT STAND OF GRASS HAS BEEN ESTABLISHED AS DETERMINED BY THE SITE ENGINEER.
2. ADDITIONAL SILT FENCE SHALL BE REQUIRED IN AREAS WHICH ARE CLEARED OR GRADED AND DO NOT HAVE STORMWATER RUNOFF DIVERTED TO SEDIMENT BASINS MEETING THE CRITERIA LISTED IN THE TABLES. THE DRAINAGE AREA SHALL NOT EXCEED 1/4 ACRE FOR EVERY 100 FEET OF SILT FENCE.

INSTALLATION:
1. WHERE NO SEDIMENT TRAP/STORMWATER DISPOSAL SYSTEM IS PRESENT, MAXIMUM SLOPE LENGTH SHALL NOT EXCEED THAT IN THE TABLE. ALSO, THE DRAINAGE AREA IS NOT TO EXCEED 1/4 ACRE PER 100 FEET OF SILT FENCE.
2. INSTALL ALONG CONTOURS WITH ENDS POINTING UPHILL.
3. DO NOT PLACE IN WATERWAYS OR AREAS OF CONCENTRATED FLOW.
4. PROVIDE A RIPRAP SPLASH PAD OR OTHER OUTLET PROTECTION DEVICE FOR ANY POINT WHERE FLOW MAY TOP THE SEDIMENT FENCE. ENSURE THAT THE MAXIMUM HEIGHT OF THE FENCE AT A PROTECTED, REINFORCED OUTLET DOES NOT EXCEED 1 FT AND THAT SUPPORT POST SPACING DOES NOT EXCEED 4 FT FOR TYPE C.
5. SAFETY CAPS ARE REQUIRED FOR ALL STEEL POSTS.
6. POSTS SHALL BE STEEL AND HAVE A MINIMUM LENGTH OF 4 FEET. POSTS SHALL BE "U", "T", OR "C" SHAPED AND HAVE A MINIMUM WEIGHT OF 1.3 POUNDS PER FOOT. THE POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE WOVEN WIRE AND FILTER FABRIC. MAXIMUM POSTS SPACING SHALL BE 4 FEET FOR TYPE C.
7. A WOVEN WIRE SUPPORT FENCE SHALL BE USED WITH TYPE "C" FENCE. THE WIRE FENCE FABRIC SHALL BE AT LEAST 36 INCHES HIGH AND SHALL HAVE AT LEAST 6 HORIZONTAL WIRES. VERTICAL WIRES SHALL HAVE A MAXIMUM SPACING OF 12 INCHES. THE TOP AND BOTTOM WIRES SHALL BE AT LEAST 10 GAUGE AND ALL OTHER WIRES SHALL BE AT LEAST 12 1/2 GAUGE.
8. APPROVED SILT FENCE FABRICS ARE LISTED IN THE GEORGIA DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST #36 (QPL-36).

Sd1-S | 52 / - | DETAIL — SILT FENCE - TYPE C

SCALE: NTS
SOURCE: GSWCC

GEORGIA REGISTERED No. 17516 PROFESSIONAL Engineer RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EROSION AND SEDIMENT CONTROL DETAILS I

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

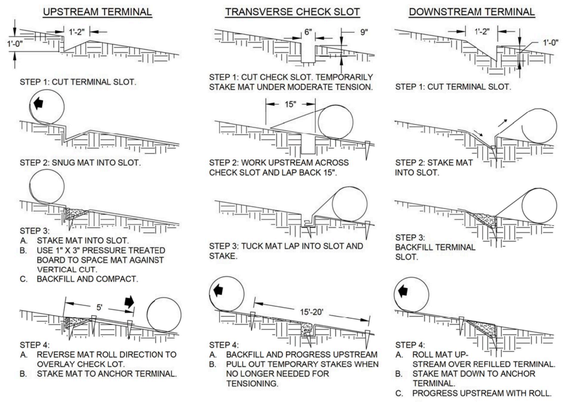
Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

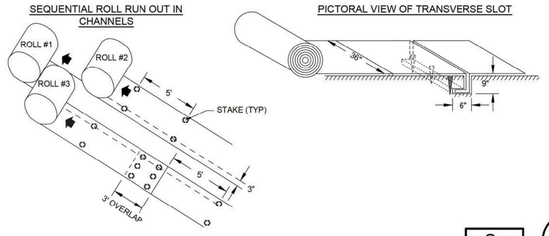
PROJ. NO.	GR6601	DWG.	GR6601-049	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING	47 OF 50	
DATE	AUGUST 2021			

P:\ACE\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-049

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS





Ss | 55 - | DETAIL | SLOPE STABILIZATION

SCALE: NTS
SOURCE: GWSCC

NOTES

CONDITIONS
SLOPE STABILIZATION CAN BE APPLIED TO FLAT AREAS OR SLOPES WHERE THE EROSION HAZARD IS HIGH AND SLOPE PROTECTION IS NEEDED DURING THE ESTABLISHMENT OF VEGETATION.

PLANNING CONSIDERATIONS
CARE MUST BE TAKEN TO CHOOSE THE TYPE OF SLOPE STABILIZATION PRODUCT WHICH IS MOST APPROPRIATE FOR THE SPECIFIC NEEDS OF A PROJECT. TWO GENERAL TYPES OF SLOPE STABILIZATION PRODUCTS ARE DISCUSSED WITHIN THIS SPECIFICATION.

ROLLED EROSION CONTROL PRODUCTS (RECP)
A NATURAL FIBER BLANKET WITH SINGLE OR DOUBLE PHOTODEGRADABLE OR BIODEGRADABLE NETS.

HYDRAULIC EROSION CONTROL PRODUCTS (HECP)
HECP SHALL UTILIZE STRAW, COTTON, WOOD OR OTHER NATURAL BASED FIBERS HELD TOGETHER BY A SOIL BINDING AGENT WHICH WORKS TO STABILIZE SOIL PARTICLES. PAPER MULCH SHOULD NOT BE USED FOR EROSION CONTROL.

CRITERIA
ROLLED EROSION CONTROL PRODUCTS (RECPS) AND HYDRAULIC EROSION CONTROL PRODUCTS (HECPS):

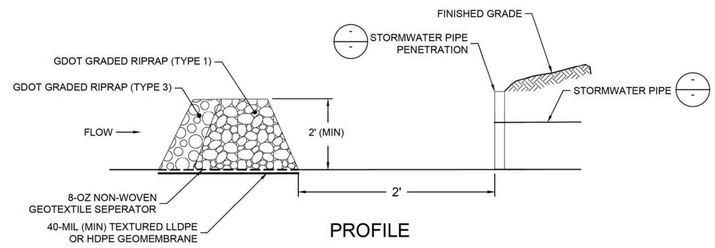
- INSTALLATION AND STAPLING OF RECPS AND APPLICATION RATES FOR THE HECPS SHALL CONFORM TO MANUFACTURER'S GUIDELINES FOR APPLICATION
- PRODUCTS SHALL HAVE A MAXIMUM C-FACTOR (ASTM D6459) FOR THE FOLLOWING GRADE:

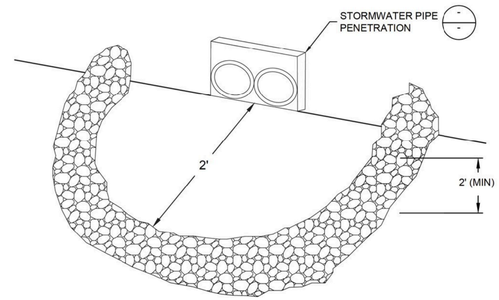
SLOPE (H:V)	C-FACTOR (MAX)
3:1 OR GREATER	0.080

PERFORMANCE EVALUATION
FOR A PRODUCT OR PRACTICE TO BE APPROVED AS SLOPE STABILIZATION, THAT PRODUCT OR PRACTICE MUST HAVE A DOCUMENTED C-FACTOR OF 0.080, AS SPECIFIED BY GSWCC. FOR COMPLETE TEST PROCEDURES AND APPROVED PRODUCTS LIST PLEASE VISIT WWW.GASWCC.GEORGIA.GOV.

SITE PREPARATION
AFTER THE SITE HAS BEEN SHAPED AND GRADED TO THE APPROVED DESIGN, PREPARE A FRIABLE SEEDBED RELATIVELY FREE FROM CLODS AND ROCKS MORE THAN ONE INCH IN DIAMETER, AND ANY FOREIGN MATERIAL THAT WILL PREVENT CONTACT OF THE SOIL STABILIZATION MAT WITH THE SOIL SURFACE. SURFACE MUST BE SMOOTH TO ENSURE PROPER CONTACT OF BLANKETS OR MATTING TO THE SOIL SURFACE. IF NECESSARY, REDIRECT ANY RUNOFF FROM THE DITCH OR SLOPE DURING INSTALLATION.

1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.
7. IT IS THE INTENTION OF THIS SECTION TO ALLOW INTERCHANGEABLE USE OF RECPS AND HECPS FOR EROSION PROTECTION ON SLOPES. THE PROJECT ENGINEER SHOULD SELECT THE TYPE OF EROSION CONTROL PRODUCT THAT BEST FITS THE NEED OF THE PARTICULAR SITE.

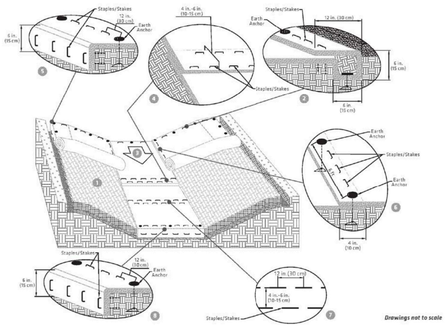




Fr | 56 - | DETAIL | FILTER RING

SCALE: NTS

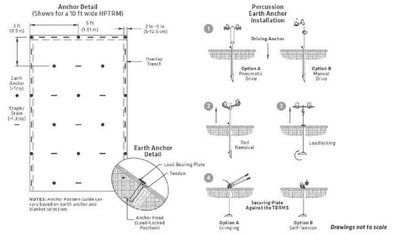
Channel Installation Detail



GENERAL INSTALLATION

1. Prepare soil before installing the HPTRM, including any necessary application of soil amendments such as lime or fertilizer. See seeding and vegetating section for details regarding preseeding, overseeding or use with sod.
2. Begin at the top of the channel by anchoring the HPTRM in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of HPTRM extended beyond the upslope portion of the trench. Anchor the HPTRM with a row of anchors/staples/stakes spaced approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Compact soil and fold remaining 12 in. (30 cm) portion of HPTRM back over compacted soil. Secure HPTRM over soil with a row of anchors/staples/stakes spaced approximately 12 in. (30 cm) across the width of the HPTRM.
3. Roll center HPTRM in direction of water flow in bottom of channel. HPTRMs will unroll with appropriate side against the soil surface. All HPTRMs must be securely fastened to soil surface by placing anchors/staples/stakes in appropriate locations as shown in the anchoring detail.
4. Place consecutive HPTRMs end over end (shingle style) with a 4 in. x 6 in. (10 cm-15 cm) overlap. Use a double row of staples/stakes staggered 12 in. (30 cm) apart and 12 in. (30 cm) on center to secure HPTRMs.
5. Full length edge of HPTRMs at top of side slopes must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent HPTRMs must be overlapped approximately 4 in. (10 cm) and fastened.
7. In high flow channel applications, a staple/stake check slot is recommended at 30 ft to 40 ft (9 m-12 m) intervals. Use a double row of staples/stakes staggered 4 in. (10 cm) apart and 12 in. (30 cm) on center over entire width of the channel.
8. The terminal end of the HPTRMs must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.

Anchoring Detail



ANCHORING DETAIL
The performance of ground anchoring devices is highly dependent on numerous site/project specific variables. It is the sole responsibility of the project engineer and/or contractor to select the appropriate anchor type and length. Anchoring shall be selected to hold the mat in intimate contact with the soil subgrade and resist pullout in accordance with the project's design intent.

1. Staples and/or stakes should be at least 6 in. (15 cm) in length and with sufficient ground penetration to resist pullout. Longer staples and/or stakes may be needed in looser soils.
2. The percussion earth anchor assembly consists of an anchor head, a tendon, a faceplate and an end piece device. See North American Green® Earth Anchor specification for detailed information on assembly components and associated pull-out strength.

PERCUSSION EARTH ANCHOR INSTALLATION

1. Insert the drive rod into the assembly's anchor head then use either a sledge hammer or vibratory hammer to drive the anchor to their desired depth.
2. After the desired anchor depth is achieved, retract the drive rod.
3. Lock the anchor assembly by swiftly pulling the cable upwards until the anchor head rotates as signaled by sudden resistance to pulling. A hooked setting tool may be used to aid in this step.

NOTE: *Longer anchors may require more force to set the anchor. This can be achieved through using simple mechanical equipment for greater leverage, such as a fulcrum, manual or hydraulic jack, winch, or post puller.*

4. Secure the faceplate to the High-performance Turf Reinforcement Mat (HPTRM) surface by locking the end-piece. If using a copper or aluminum stop, crimp the ferrule to secure. If using a self-tensioning end-piece (grip or wedge grip) set by simply tightening the end-piece against the faceplate. If desired, cut the remaining cable assembly, above end-piece, to desired length.

SEEDING AND VEGETATING

When using a Composite Turf Reinforcement Mat (C-TRM) with fiber components:

1. Pre-seed prepared soils prior to the installation of the C-TRM. Install matting as directed. C-TRM does not require soil infill or a top dressing of seed. Overseeding may be done as a secondary form of seeding.
2. Sod may be installed in place of seeding on top of the C-TRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.

When using a woven HPTRM:

1. Install the HPTRM as directed prior to seed and soil filling.
2. Place seed into the installed HPTRM. After seeding, spread a layer of fine soil into the mat. Using the flat side of a rake, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the HPTRM matrix. Do not place excessive soil above the mat.
3. Additional seed, hydraulic mulching of the use of a temporary erosion control blanket (ECB) can be applied over the soil-filled mat for increased protection.
4. Sod may be installed in place of seeding. Install HPTRM, and soil-fill as outlined above. Place sod directly onto the soil-filled HPTRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.
5. Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.

57 - DETAIL TURF REINFORCEMENT MATTING

SCALE: NTS
SOURCE: NORTH AMERICAN GREEN

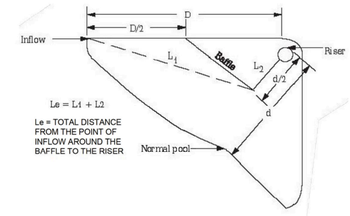
DEFINITION
TACKIFIERS ARE USED AS A TIE-DOWN FOR SOIL, COMPOST, SEED, STRAW, HAY OR MULCH. TACKIFIERS HYDRATE IN WATER AND READILY BLEND WITH OTHER SLURRY MATERIALS TO FORM A HOMOGENOUS SLURRY.

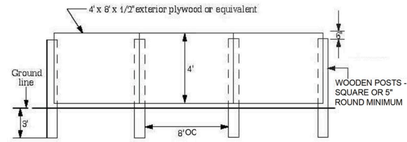
PURPOSE
TO REDUCE SOIL EROSION FROM WIND AND WATER ON CONSTRUCTION SITES. OTHER BENEFITS INCLUDE SOIL INFILTRATION, SOIL FERTILITY, ENHANCED SEED GERMINATION, INCREASED SOIL COHESION, ENHANCED SOIL STABILIZATION, REDUCED STORMWATER RUNOFF TURBIDITY AND REDUCTION IN LESS OF TOPSOIL.

CONDITIONS
THIS PRACTICE IS INTENDED FOR DIRECT SOIL SURFACE APPLICATION TO SITES WHERE THE TIMELY ESTABLISHMENT OF VEGETATION MAY NOT BE FEASIBLE OR WHERE VEGETATION COVER IS ABSENT OR INADEQUATE. SUCH AREAS INCLUDE CONSTRUCTION AREAS, WHERE PLANT RESIDUES ARE INADEQUATE TO PROTECT THE SOIL SURFACE AND WHERE LAND DISTURBING ACTIVITIES PREVENT THE ESTABLISHMENT OR MAINTENANCE OF A VEGETATIVE COVER.

Tac | 58 - | DETAIL | TACKIFIER

SOURCE: GWSCC





59 - DETAIL STORMWATER BAFFLE

SCALE: NTS
SOURCE: GWSCC

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens
Digitally signed by Keith Stevens
Date: 2021.08.27 14:23:01 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER Rudolph Bonaparte Issued By 2021 RUDOLPH BONAPARTE

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EROSION AND SEDIMENT CONTROL DETAILS II

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-050
SCALE	AS SHOWN	EDIT	08.16.21
DATE	AUGUST 2021	DRAWING	48 OF 50

P:\CAD\PROJECTS\GEORGIA POWER\BOWEN POWER PLANT\PERMIT\ASH POND CLOSURE (GR6601)\DRAWINGS\GR6601-050

DEFINITION
APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH (DEPENDING ON THE MATERIAL USED), ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE.

MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS.

IF ANY AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED. REFER TO Ds2-DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING), AND Ds3 - DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION).

SPECIFICATIONS
MULCHING WITHOUT SEEDING:
THIS STANDARD APPLIES TO GRADED OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACTED SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT REMAINING ON SITE CAN BE CHIPPED AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND RE-USED.

APPLYING MULCH
WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE, IN ADDITION TO THE NORMAL AMOUNT, SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED. TACKIFERS, BINDERS AND HYDRAULIC MULCH WITH TACKIFIER SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT, REFER TO Tac-TACKIFERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.

Ds1 60 / -
DETAIL
DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
SOURCE: GSWCC

CUBIC YARDS OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS

DEPTH (IN.)	PER 1,000 SQUARE FEET	PER ACRE
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

CONDITIONS
THIS PRACTICE IS RECOMMENDED FOR SITES OF 2H:1V OR FLATTER SLOPES WHERE:
1. THE TEXTURE OF THE EXPOSED SUBSOIL OR PARENT MATERIAL IS NOT SUITABLE TO PRODUCE ADEQUATE VEGETATIVE GROWTH.
2. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS WITH CONTINUING SUPPLIES OF MOISTURE AND FOOD.
3. THE SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

CONSTRUCTION SPECIFICATIONS
MATERIALS
TOPSOIL SHOULD BE FRIABLE AND LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE THAT MAY BE HARMFUL TO PLANT GROWTH. A pH RANGE OF 5.0-7.5 IS ACCEPTABLE. SOLUBLE SALTS SHOULD NOT EXCEED 500 PPM.

TESTING
FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER THE QUANTITY AND QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.

STRIPPING
STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. A 4 TO 6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.

TOPSOIL pH
IF pH VALUE IS LESS THAN 6.0, LIME SHALL BE APPLIED AND INCORPORATED WITH THE TOPSOIL TO ADJUST THE pH TO 6.5 OR HIGHER. TOPSOILS CONTAINING SOLUBLE SALTS GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

SITE PREPARATION (WHERE TOPSOIL IS TO BE ADDED)
TOPSOILING - WHEN TOPSOILING, MAINTAIN NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, LEVEL SPREADERS, WATERWAYS, SEDIMENT BASINS, ETC.

GRADING - GRADES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED.

LIMING - SOIL TESTS SHOULD BE USED TO DETERMINE THE pH OF THE SOIL. WHERE THE pH OF THE SUBSOIL IS 5.0 OR LESS OR COMPOSED OF HEAVY CLAYS, AGRICULTURAL LIMESTONE SHALL BE SPREAD AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURE.

BONDING - USE ONE OF THE FOLLOWING METHODS TO INSURE BONDING OF TOPSOIL AND SUBSOIL:
1. TILLING. AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL.
2. TRACKING. PASSING A BULLDOZER OVER THE ENTIRE SURFACE AREA OF THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS.

APPLYING TOPSOIL
1. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE.
2. A UNIFORM APPLICATION OF 6 INCHES (UNSETTLED) IS RECOMMENDED, BUT MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER OR LANDSCAPE ARCHITECT.

Tp 61 / -
DETAIL
TOPSOILING
SOURCE: GSWCC

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Keith Stevens
Digitally signed by Keith Stevens
Date: 2021.08.27 14:25:10 -04'00'

SEEDING RATES FOR TEMPORARY SEEDING

BROADCAST SPECIES	RATES	J	F	M	A	M	J	J	A	S	O	N	D	COMMENTS
BARLEY ALONE	144 LBS./AC								···	—	—	···	···	WINTER HARDY, USE ON PRODUCTIVE SOILS
BARLEY IN MIXTURE	24 LBS./AC								···	—	—	···	···	
LESPEDEZA, ANNUAL ALONE	40 LBS./AC		···	—	···									MAY VOLUNTEER FOR SEVERAL YEARS. USE INOCULANT TYPE EL.
LESPEDEZA, ANNUAL IN MIXTURE	10 LBS./AC		···	—	···									
LOVEGRASS, WEEPING ALONE LOVEGRASS, WEEPING IN MIXTURE	4 LBS./AC 2 LBS./AC			···	—	—	···							MAY LAST FOR SEVERAL YEARS. MIX WITH SERICEA LESPEDEZA.
MILLET, BROWNTOP ALONE	40 LBS./AC				—	—	—	···						QUICK DENSE COVER. WILL PROVIDE TOO MUCH COMPETITION IN MIXTURES IF SEEDED AT HIGH RATES.
MILLET, BROWNTOP IN MIXTURE	10 LBS./AC				—	—	—	···						
MILLET, PEARL ALONE	50 LBS./AC				···	—	—	—	···					QUICK DENSE COVER. MAY REACH 5 FEET IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.
OATS ALONE	128 LBS./AC									—	—	—		USE ON PRODUCTIVE SOILS. NOT AS WINTER HARDY AS RYE OR BARLEY.
OATS IN MIXTURE	32 LBS./AC									—	—	—		
RYE ALONE	168 LBS./AC								···	—	—	—	···	QUICK COVER. DROUGHT TOLERANT AND WINTER HARDY.
RYE IN MIXTURE	28 LBS./AC								···	—	—	—	···	
RYEGRASS, ANNUAL ALONE	40 LBS./AC	···	···	···	···				···	—	—	—	—	DENSE COVER. VERY COMPETITIVE AND NOT TO BE USED IN MIXTURES.
SUDANGRASS ALONE	60 LBS./AC				···	—	—	—	···					GOOD ON DROUGHTY SITES. NOT RECOMMENDED FOR MIXTURES.
TRITICALE ALONE	144 LBS./AC	···								···	···		···	USE ON LOWER PART OF SOUTHERN COASTAL PLAIN AND IN ATLANTIC COASTAL FLATWOODS ONLY.
TRITICALE IN MIXTURE	24 LBS./AC	···								···	···		···	
WHEAT ALONE	180 LBS./AC									···	—	—	—	WINTER HARDY.
WHEAT WITH OTHER PERENNIALS	30 LBS./AC									···	—	—	—	

SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.

DEFINITION
THE ESTABLISHMENT OF TEMPORARY VEGETATION COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

CONDITIONS
TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED. NOTE: SOME SPECIES OF TEMPORARY VEGETATION ARE NOT APPROPRIATE FOR COMPANION CROP PLANTINGS BECAUSE OF THEIR POTENTIAL TO OUT-COMPETE THE DESIRED SPECIES (E.G. ANNUAL RYEGRASS). CONTACT NATURAL RESOURCE CONSERVATION SERVICE OR THE LOCAL SOIL WATER CONSERVATION DISTRICT FOR MORE INFORMATION.

SPECIFICATIONS
GRADING AND SHAPING
EXCESSIVE WATER RUNOFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION
WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED, OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LEDGE AND GERMINATE.

LIME AND FERTILIZER
AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR pH. QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY pH DURING THE GERMINATION PERIOD. BIO STIMULANTS SHOULD ALSO BE CONSIDERED WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL. GRADED AREAS REQUIRE LIME APPLICATION. SOILS MUST BE TESTED TO DETERMINE REQUIRED AMOUNTS OF FERTILIZER AND AMENDMENTS. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER, OR CHISEL. ON SLOPES TOO STEEP FOR OR INACCESSIBLE TO EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE.

SEEDING
SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND. SEE THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION, FOR MORE INFORMATION.

MULCHING
TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL. HOWEVER, THE USE OF MULCH CAN OFTEN ACCELERATE AND ENHANCE GERMINATION AND VEGETATION ESTABLISHMENT. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO Ds1-DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION
DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

Ds2 62 / -
DETAIL
DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
SOURCE: GSWCC

FERTILIZER REQUIREMENTS

YEAR	EQUIVALENT N-P-K	ANALYSIS OR RATE	N TOP DRESSING
WARM SEASON GRASSES			
FIRST	6-12-12	1500 LBS./AC.	50-100 LBS./AC. 2/6/
SECOND	6-12-12	800 LBS./AC.	50-100 LBS./AC. 2/
MAINTENANCE	10-10-10	400 LBS./AC.	30 LBS./AC.
COOL SEASON GRASSES			
FIRST	6-12-12	1500 LBS./AC.	50 LBS./AC./6/
SECOND	0-10-10	1000 LBS./AC.	------
MAINTENANCE	0-10-10	400 LBS./AC.	------

1. APPLY IN SPRING FOLLOWING SEEDING.
2. APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3. APPLY IN 3 SPLIT APPLICATIONS.
4. APPLY WHEN PLANTS ARE PRUNED.
5. APPLY GRASS SPECIES ONLY.
6. APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

PLANT, PLANTING RATE & PLANTING DATE FOR PERMANENT COVER

SPECIES	BROADCAST RATES	J	F	M	A	M	J	J	A	S	O	N	D	PLANTING DATE REMARKS
LESPEDEZA SERICEA SCARIFIED	60 LBS./AC			—	—	—	···							WIDELY ADAPTED. LOW MAINTENENCE. MIX WITH COMMON BERMUDA OR TALL FESCUE. INOCULATE SEED WITH EL INOCULANT.
LESPEDEZA SERICEA UNSCARIFIED	75 LBS./AC	—	—	···	···	···	···	···	···	—	—	—	—	MIX WITH TALL FESCUE.
PENSACOLA BAHIA ALONE OR WITH TEMPORARY COVER	60 LBS./AC	···	···	—	—	—	···	···	···	···	···	···	···	LOW GROWING. SOD FORMING. SLOW TO ESTABLISH. PLANT WITH A COMPANION CROP. WILL SPREAD INTO BERMUDA PASTURES AND LAWNS. MIX WITH SERICEA LESPEDEZA.
WILMINGTON BAHIA WITH OTHER PERENNIALS	30 LBS./AC	···	···	—	—	—	···	···	···	···	···	···	···	
TALL FESCUE ALONE	50 LBS./AC								···	—	—			USE ALONE ONLY ON BETTER SITES. MIX WITH PERENNIAL LESPEDEZA OR CROWNVETCH. APPLY TOP DRESSING IN SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
TALL FESCUE WITH OTHER PERENNIALS	30 LBS./AC								···	—	—			
REED CANARY GRASS ALONE	50 LBS./AC								···	—	—	···		
REED CANARY GRASS WITH OTHER PERENNIALS	30 LBS./AC								···	—	—	···		GROWS SIMILAR TO TALL FESCUE.
COMMON BERMUDA UNHULLED SEED WITH TEMPORARY COVER	10 LBS./AC	—	—								—	—	—	PLANT WITH WINTER ANNUALS.
COMMON BERMUDA UNHULLED SEED WITH OTHER PERENNIALS	6 LBS./AC	—	—								—	—	—	PLANT WITH TALL FESCUE.

SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.

DEFINITION
THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

CONDITIONS
PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDED AREAS.

SPECIFICATIONS
GRADING AND SHAPING
GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT. WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

SEEDBED PREPARATION
SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED (BUT IS STRONGLY RECOMMENDED FOR ANY SEEDING PROCESS, WHEN POSSIBLE). WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS
1. TILLAGE, AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER; SMOOTH AND FIRM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS
1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

PLANTING
HYDRAULIC SEEDING
MIX THE SEED (INNOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.
CONVENTIONAL SEEDING
SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER-SEEDER, DRILL ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.
NO-TILLING SEEDING
NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES.
NO-TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.
INDIVIDUAL PLANTS
SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS.

NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE.

WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOLE, TWO INCHES OF SOIL SHALL BE ADDED, AND THE PLANT SHALL BE SET IN THE HOLE.

MULCHING
MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL RECEIVE 75% TO 100% SOIL COVER. WHEN SELECTING A MULCH, DESIGN PROFESSIONALS SHOULD CONSIDER THE MULCH'S FUNCTIONAL LONGEVITY, VEGETATION ESTABLISHMENT ENHANCEMENT, AND EROSION CONTROL EFFECTIVENESS. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:
1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 1/4:1 OR STEEPER.
4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.
7. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS, SLOPES, IN DITCHES, OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH
STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE. WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH
ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:
1. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 2 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.
2. SYNTHETIC TACKIFIERS, FINDERS OR HYDRAULIC MULCH SPECIFICALLY DESIGNED TO TACK STRAW, SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. ALL TACKIFIERS, FINDERS OR HYDRAULIC MULCH SPECIFICALLY DESIGNED TO TACK STRAW SHOULD BE VERIFIED NONTOXIC THROUGH EPA 2021.0 TESTING. REFER TO TACKIFIERS-TAC IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION.
3. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE-HALF BUSHED PER ACRE.
4. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

LIME AND FERTILIZER APPLICATION
WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INNOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE INNOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER. FINELY GROUND LIMESTONE CAN BE APPLIED IN THE MULCH SLURRY OR IN COMBINATION WITH THE TOP DRESSING. WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS:
1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED REPARATION.
2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
3. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED.
4. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH PINE TREE SEEDLING.

PLANT SELECTION
REFER TO THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, LATEST EDITION, FOR APPROVED SPECIES. SPECIES NOT LISTED SHALL BE APPROVED BY THE STATE RESOURCE CONSERVATIONIST OF THE NATURAL RESOURCES CONSERVATION SERVICE BEFORE THEY ARE USED. PLANTS SHALL BE SELECTED ON THE BASIS OF SPECIES CHARACTERISTICS, SITE AND SOIL CONDITIONS, PLANNED USE AND MAINTENANCE OF THE AREA; TIME OF YEAR OF PLANTING, METHOD OF PLANTING; AND THE NEEDS AND DESIRES OF THE LAND USER. SOME PERENNIAL SPECIES ARE EASILY ESTABLISHED AND CAN BE PLANTED ALONE. EXAMPLES OF THESE ARE COMMON BERMUDA, TALL FESCUE, AND WEEPING LOVEGRASS. OTHER PERENNIALS, SUCH AS BAHIA GRASS AND SERICEA LESPEDEZA, ARE SLOW TO BECOME ESTABLISHED AND SHOULD BE PLANTED WITH ANOTHER PERENNIAL SPECIES. THE ADDITIONAL SPECIES WILL PROVIDE QUICK COVER AND AMPLE SOIL PROTECTION UNTIL THE TARGET PERENNIAL SPECIES BECOME ESTABLISHED. FOR EXAMPLE, COMMON SEEDING COMBINATIONS ARE 1) WEEPING LOVEGRASS WITH SERICEA LESPEDEZA (SCARIFIED) AND 2) TALL FESCUE WITH SERICEA LESPEDEZA (UNSPECIFIED). PLANT SELECTION MAY ALSO INCLUDE ANNUAL COMPANION CROPS. ANNUAL COMPANION CROPS SHOULD BE USED ONLY WHEN THE PERENNIAL SPECIES ARE NOT PLANTED DURING THEIR OPTIMUM PLANTING PERIOD. A COMMON MIXTURE IS BROWN TOP MILLET WITH COMMON BERMUDA IN MID SUMMER. CARE SHOULD BE TAKEN IN SELECTING COMPANION CROP SPECIES AND SEEDING RATES BECAUSE ANNUAL CROPS WILL COMPETE WITH PERENNIAL SPECIES FOR WATER, NUTRIENTS, AND GROWING SPACE. A HIGH SEEDING RATE OF THE COMPANION CROP MAY PREVENT THE ESTABLISHMENT OF PERENNIAL SPECIES. RYEGRASS SHALL NOT BE USED IN ANY SEEDING MIXTURES CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL COVER.

Ds3 63 / -
DETAIL
DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
SOURCE: GSWCC

GEORGIA REGISTERED PROFESSIONAL ENGINEER
RUDOLPH BONAPARTE
No. 17516
Rudolph Bonaparte
August 16, 2021

Georgia Power

PERMIT DRAWING
NOT FOR CONSTRUCTION

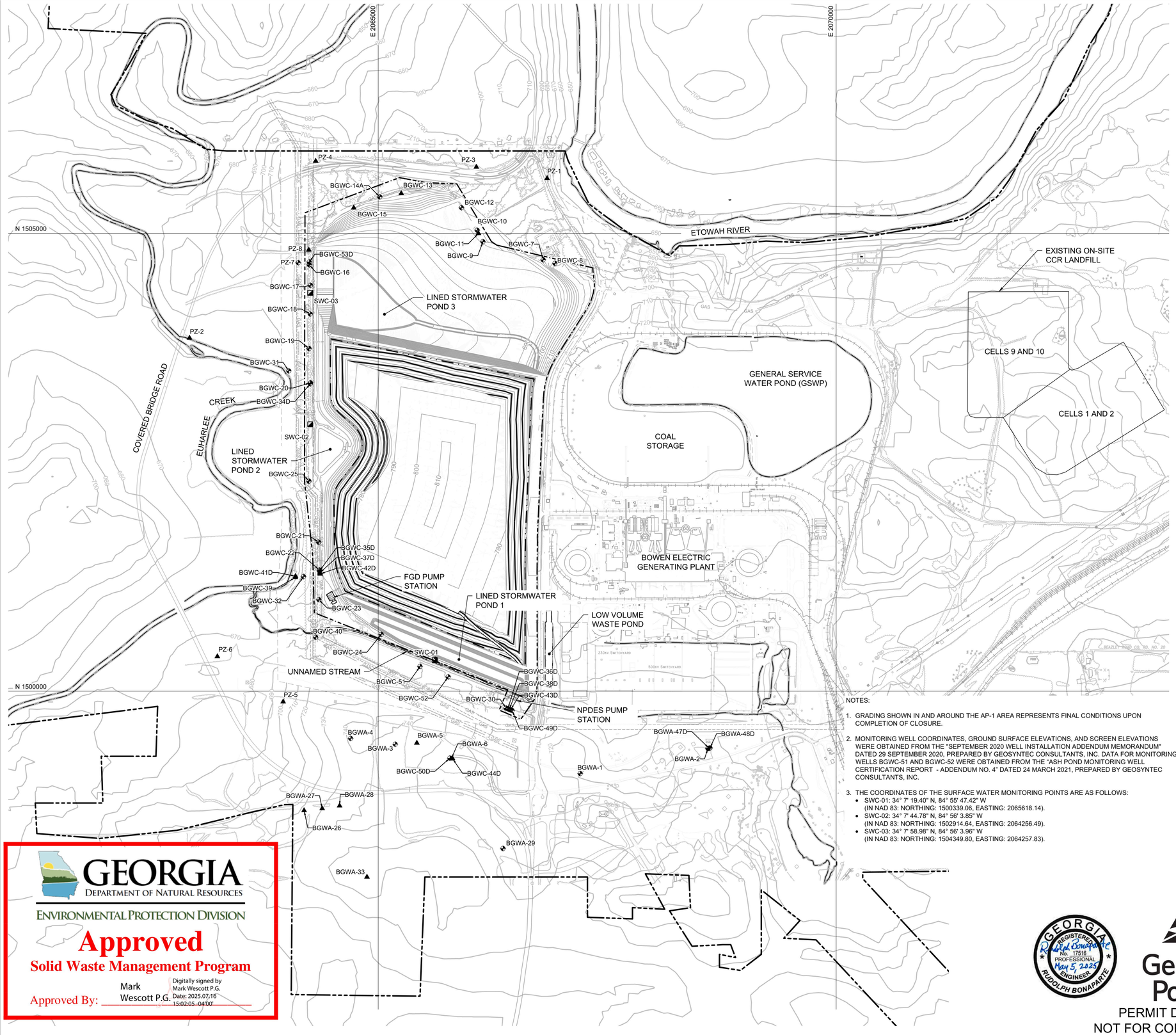
REV	DATE	DESCRIPTION	DRN	APP
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

EROSION AND SEDIMENT CONTROL DETAILS III

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG. GR6601-051	EDIT 08.16.21
SCALE	AS SHOWN	DRAWING 49 OF 50	
DATE	AUGUST 2021		



LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- FINAL LIMIT OF CCR (CONSOLIDATED FOOTPRINT)
- BGWA-7 — CURRENT GROUNDWATER MONITORING WELL
- SWC-01 — SURFACE WATER MONITORING POINT (NOTE 3)
- PZ-1 — PIEZOMETER

2

COMPLIANCE MONITORING NETWORK							
MONITORING WELL ID	MONITORING PURPOSE	NORTHING	EASTING	GROUND SURFACE ELEVATION	SCREEN ELEVATIONS (TOP TO BOTTOM) (FT)		
BGWA-2	DETECTION MONITORING	1499374.18	2068599.59	727.00	650.6	TO	640.6
BGWA-29	DETECTION MONITORING	1498283.04	2066362.32	718.84	632.9	TO	622.9
BGWA-47D	DETECTION MONITORING	1499377.79	2068612.48	726.93	585.9	TO	575.9
BGWA-48D	DETECTION MONITORING	1499380.09	2068623.31	726.64	545.0	TO	535.0
BGWC-7	DETECTION MONITORING	1504711.59	2066801.40	702.49	625.2	TO	615.2
BGWC-8	DETECTION MONITORING	1504671.82	2066929.46	703.71	636.8	TO	626.8
BGWC-9	DETECTION MONITORING	1504909.12	2066143.27	689.18	638.3	TO	628.3
BGWC-10	DETECTION MONITORING	1505033.22	2066081.09	683.39	633.7	TO	623.7
BGWC-12	DETECTION MONITORING	1505279.88	2065908.56	691.71	626.0	TO	616.0
BGWC-14A	DETECTION MONITORING	1505398.54	2065015.98	715.57	629.9	TO	619.9
BGWC-16	DETECTION MONITORING	1504656.42	2064247.67	671.65	635.3	TO	625.3
BGWC-17	DETECTION MONITORING	1504432.00	2064259.38	671.25	615.4	TO	605.4
BGWC-18	DETECTION MONITORING	1504118.73	2064257.00	670.32	645.1	TO	635.1
BGWC-19	DETECTION MONITORING	1503742.25	2064244.66	671.038	628.9	TO	618.9
BGWC-20	DETECTION MONITORING	1503367.73	2064259.55	672.29	635.1	TO	625.1
BGWC-21	DETECTION MONITORING	1501627.51	2064348.09	688.53	648.6	TO	638.6
BGWC-22	DETECTION MONITORING	1501323.76	2064358.05	692.64	662.6	TO	652.6
BGWC-23	DETECTION MONITORING	1501000.57	2064350.17	693.16	654.3	TO	644.3
BGWC-24	DETECTION MONITORING	1500621.22	2065032.84	699.46	646.3	TO	636.3
BGWC-25	DETECTION MONITORING	1502292.73	2064244.10	677.60	632.9	TO	622.9
BGWC-30	DETECTION MONITORING	1499815.93	2066395.86	698.39	651.6	TO	641.6
BGWC-51	DETECTION MONITORING	1500270.09	2065455.80	708.99	654.6	TO	644.6
BGWC-52	DETECTION MONITORING	1500156.97	2065764.13	707.77	638.9	TO	628.9
BGWC-31	ASSESSMENT MONITORING	1503497.94	2064022.71	668.12	631.1	TO	621.1
BGWC-32	ASSESSMENT MONITORING	1501252.25	2064184.30	696.36	658.5	TO	648.5
BGWC-34D	ASSESSMENT MONITORING	1503356.51	2064257.95	672.25	605.8	TO	595.8
BGWC-35D	ASSESSMENT MONITORING	1501312.20	2064358.63	693.13	625.1	TO	615.1
BGWC-36D	ASSESSMENT MONITORING	1499807.51	2066415.10	698.07	615.1	TO	605.1
BGWC-38D	ASSESSMENT MONITORING	1499802.36	2066430.17	697.52	584.9	TO	574.9
BGWC-40	ASSESSMENT MONITORING	1500589.93	2064317.38	687.12	637.4	TO	627.4
BGWC-43D	ASSESSMENT MONITORING	1499796.86	2066444.37	697.29	544.6	TO	534.6
BGWC-49D	ASSESSMENT MONITORING	1499790.13	2066461.96	696.95	399.0	TO	389.0
BGWC-50D	ASSESSMENT MONITORING	1499269.15	2065781.87	714.68	544.7	TO	534.7
BGWC-53D	ASSESSMENT MONITORING	1504685.89	2064247.38	671.46	584.4	TO	574.4
PZ-7	ASSESSMENT MONITORING	1504679.33	2064125.75	672.43	636.5	TO	626.5
BGWA-1	PIEZOMETER	1499101.23	2067205.48	718.33	672.0	TO	662.0
BGWA-3	PIEZOMETER	1499420.87	2065185.74	721.80	645.1	TO	635.1
BGWA-4	PIEZOMETER	1499485.38	2064697.89	726.05	660.4	TO	650.4
BGWA-5	PIEZOMETER	1499434.58	2065421.43	718.53	661.5	TO	651.5
BGWA-6	PIEZOMETER	1499262.01	2065797.30	714.49	663.9	TO	653.9
BGWA-26	PIEZOMETER	1498697.63	2064189.94	726.09	663.6	TO	653.6
BGWA-27	PIEZOMETER	1498719.14	2064387.54	732.50	652.1	TO	642.1
BGWA-28	PIEZOMETER	1498749.21	2064577.55	734.88	661.4	TO	651.4
BGWA-33	PIEZOMETER	1497972.13	2064876.80	740.39	672.7	TO	662.7
BGWC-11	PIEZOMETER	1504998.94	2066093.83	683.91	619.2	TO	609.2
BGWC-13	PIEZOMETER	1505435.29	2065251.21	714.77	653.8	TO	643.8
BGWC-15	PIEZOMETER	1505278.19	2064732.18	715.39	654.5	TO	644.5
BGWC-37D	PIEZOMETER	1501293.16	2064362.70	693.50	595.8	TO	585.8
BGWC-39	PIEZOMETER	1501241.94	2064095.41	676.58	661.9	TO	651.9
BGWC-41D	PIEZOMETER	1501255.96	2064096.23	676.43	631.8	TO	621.8
BGWC-42D	PIEZOMETER	1501280.52	2064365.25	693.98	553.3	TO	543.3
BGWC-44D	PIEZOMETER	1499265.15	2065811.06	714.65	585.0	TO	575.0
PZ-1	PIEZOMETER	1505600.54	2066844.10	675.35	630.7	TO	620.7
PZ-2	PIEZOMETER	1503856.86	2062938.81	665.92	649.2	TO	639.2
PZ-3	PIEZOMETER	1505723.97	2066071.08	705.34	658.6	TO	648.6
PZ-4	PIEZOMETER	1505788.58	2064316.61	715.96	669.3	TO	659.3
PZ-5	PIEZOMETER	1499885.63	2063961.22	697.23	650.5	TO	640.5
PZ-6	PIEZOMETER	1500379.48	2063242.81	675.50	650.8	TO	640.8
PZ-8	PIEZOMETER	1504818.66	2064241.49	677.75	641.7	TO	631.7

NOTES:

1. GRADING SHOWN IN AND AROUND THE AP-1 AREA REPRESENTS FINAL CONDITIONS UPON COMPLETION OF CLOSURE.
2. MONITORING WELL COORDINATES, GROUND SURFACE ELEVATIONS, AND SCREEN ELEVATIONS WERE OBTAINED FROM THE "SEPTEMBER 2020 WELL INSTALLATION ADDENDUM MEMORANDUM" DATED 29 SEPTEMBER 2020, PREPARED BY GEOSYNTEC CONSULTANTS, INC. DATA FOR MONITORING WELLS BGWC-51 AND BGWC-52 WERE OBTAINED FROM THE "ASH POND MONITORING WELL CERTIFICATION REPORT - ADDENDUM NO. 4" DATED 24 MARCH 2021, PREPARED BY GEOSYNTEC CONSULTANTS, INC.
3. THE COORDINATES OF THE SURFACE WATER MONITORING POINTS ARE AS FOLLOWS:
   - SWC-01: 34° 7' 19.40" N, 84° 55' 47.42" W (IN NAD 83: NORTHING: 1500339.06, EASTING: 2065618.14).
   - SWC-02: 34° 7' 44.78" N, 84° 56' 3.85" W (IN NAD 83: NORTHING: 1502914.64, EASTING: 2064256.49).
   - SWC-03: 34° 7' 58.98" N, 84° 56' 3.96" W (IN NAD 83: NORTHING: 1504349.80, EASTING: 2064257.83).

0 500 1000
SCALE IN FEET

REV	DATE	DESCRIPTION	DRN	APP
2	MAY 2025	UPDATE COMPLIANCE MONITORING NETWORK	JJV	RB
1	MAY 2024	UPDATE AND ADD GAS PIPELINES	JJV	RB
0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
Approved
Solid Waste Management Program
Approved By: Mark Wescott P.G. Digitally signed by Mark Wescott P.G. Date: 2025.07.16 15:02:05 -04'00'

GEORGIA REGISTERED No. 17516 PROFESSIONAL ENGINEER RUDOLPH BONAPARTE May 5, 2025

Georgia Power
PERMIT DRAWING
NOT FOR CONSTRUCTION

COMPLIANCE MONITORING NETWORK

PLANT BOWEN ASH POND 1 (AP-1)
CLOSURE DRAWINGS
BARTOW COUNTY, GEORGIA

Geosyntec consultants
1255 ROBERTS BOULEVARD, NW, SUITE 200
KENNESAW, GEORGIA 30144 USA
PHONE: 678.202.9500
WWW.GEOSYNTEC.COM

PROJ. NO.	GR6601	DWG.	GR6601-053 EDIT 5/5/2025
SCALE	1" = 500'	DRAWING	50 OF 50
DATE	AUGUST 2021		