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

MAY 2024 A



PREPARED FOR:



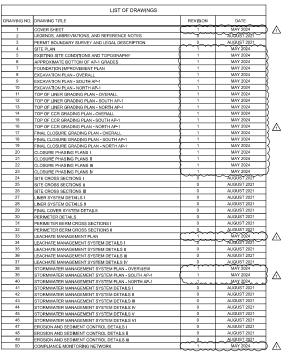
GEORGIA POWER ENVIRONMENTAL AFFAIRS 241 RALPH MCGILL BOULEVARD NE ATLANTA, GEORGIA 30308 CONTACT: GENERAL MANAGER TELEPHONE: 404,506,6505

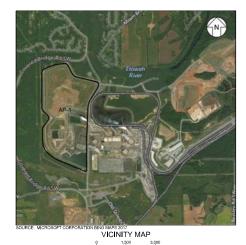
PREPARED BY:



1255 ROBERTS BOULEVARD NW, SUITE 200 KENNESAW, GEORGIA 30144-3694 TELEPHONE: 678,202,9500

GEORGIA Approved Rima Naji





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





NOT FOR CONSTRUCTION

0	AUG, 2021	SUBMITTAL TO GA EPD	JJWKH	RB
REV	DATE	DESCRIPTION	DRN	APP
		COVER SHEET		
		PLANT BOWEN ASH POND 1 (AP-1) CLOSURE DRAWINGS BARTOW COUNTY, GEORGIA		

Geosyntec Consultants								
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5/23/24



LEACHATE SUMP

LEACHATE FORCEMAIN AIR RELEASE MANHOLE

LEACHATE FORCEMAIN CLEANOUT MANHOLE

LEACHATE FORCEMAIN JUNCTION MANHOLE

TEMPORARY CONTACT-WATER COLLECTION LOCATION

FINE-SCREENED COMPACTED CLAY LINER COARSE-SCREENED COMPACTED CLAY LINER PROTECTIVE COVER SOIL / TRENCH BACKFILL / STRUCTURAL FILL PIPE EMBEDMENT FILL / COMPACTED GRANULAR SUBBASE CONSOLIDATED AREA FOUNDATION IMPROVEMENTS OTHER AREA FOUNDATION IMPROVEMENTS COVERED CCR AREA (NON-CONTACT WATER) EXISTING GROUND ELEVATION (FEET) (NOTE 1) APPROXIMATE BOTTOM OF CCR SURFACE ELEVATION (FEET) EXCAVATION SURFACE ELEVATION (FEET) TOP OF CCR ELEVATION FOR SOIL-GEOSYNTHETIC TOP OF FINAL COVER SYSTEM / TOP OF CCR FOR ALTERNATIVE COVER SYSTEM (CLOSURETURF® COVER) / PREDICTED POST-CLOSURE SEASONAL HIGH GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION (FEET) DETAIL AND SECTION IDENTIFICATION LEGEND DRAWING ON WHICH ABOVE DETAIL IS PRESENTED PRESENTED ON DRAWING NO. 13 WAS FIRST REFERENCED ON DRAWING NO. 5. SECTION LETTER START OF SECTION (0+00) -END OF SECTION DRAWING ON WHICH ABOVE SECTION IS PRESENTED SECTION LETTER SECTION TITLE DRAWING ON WHICH SCALE: 1" = 100' (HORIZONTAL); 1" = 20' (VERTICAL) ABOVE SECTION WAS FIRST REFERENCED 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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM **NPDES** NATIONAL STONE ASSOCIATION N.S.A.

NTS

NOT TO SCALE

NORTHEAST

NUMBER

NORTHWEST

ON CENTER

OUNCE

PERIMETER CHANNEL

PROJ PROJECT

REINFORCED CONCRETE PIPE

ROAD RD

ROLLED EROSION CONTROL PRODUCTS

REVISION

RECYCLE POND

SOUTH

SOUTHERN COMPANY SERVICES

SILT FENCE

STORMWATER PIPE

TURF REINFORCEMENT MAT TYP **TYPICAL**

ULTRAVIOLET

WEST OR WIDTH WATER SURFACE W.S.

WASTEWATER TREATMENT SYSTEM PERCENT OR PERCENTILE

ENVIRONMENTAL PROTECTION DIVISION Approved Solid Waste Management Program Keith Stevens Date: 2021.08.27 12:46:18

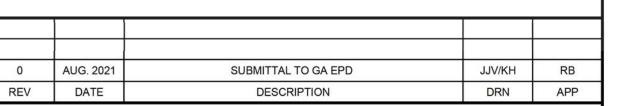
GEORGIA



NOT FOR CONSTRUCTION

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.
- 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
- 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.



LEGENDS, ABBREVIATIONS, AND REFERENCE NOTES

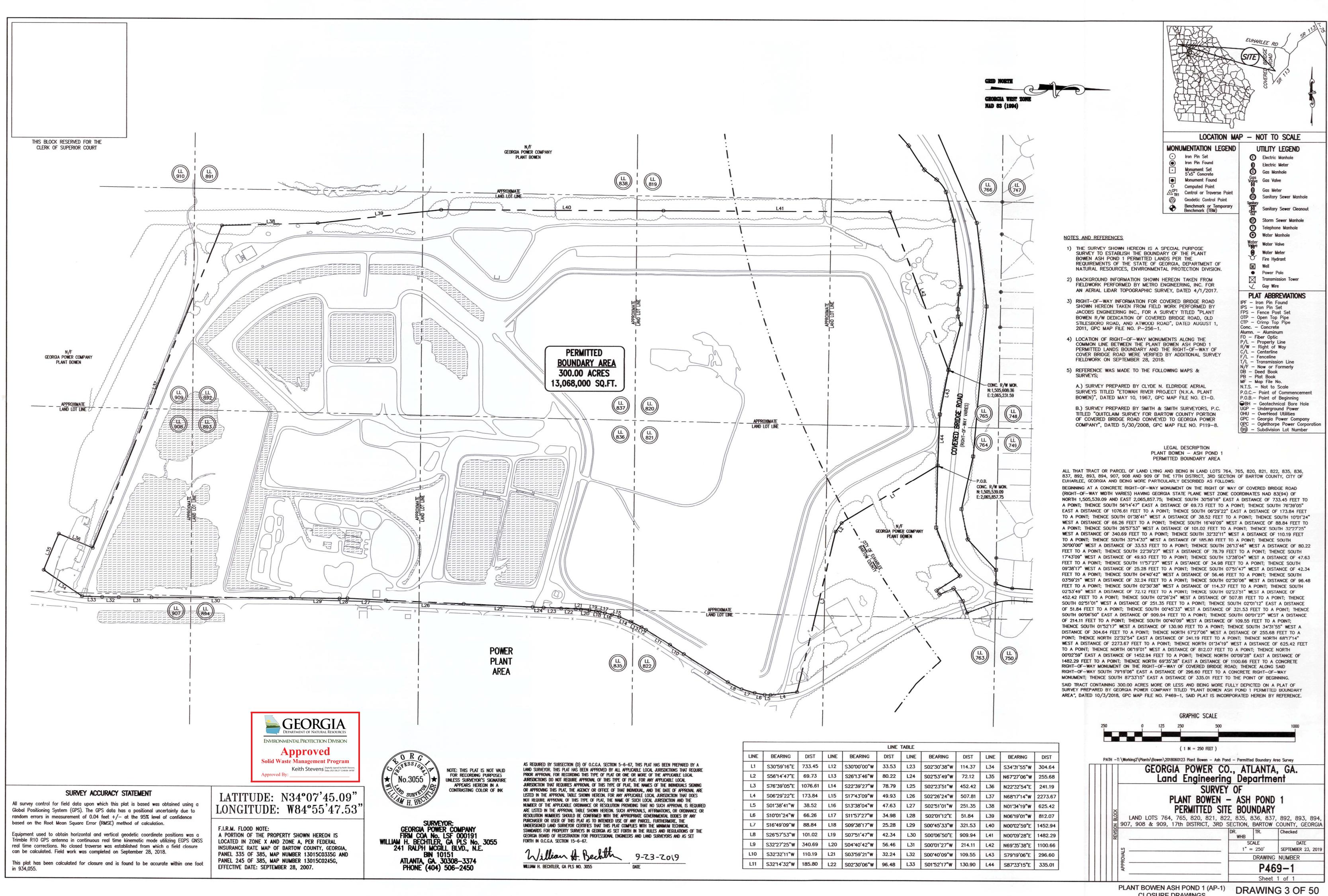
PLANT BOWEN ASH POND 1 (AP-1) **CLOSURE DRAWINGS** BARTOW COUNTY, GEORGIA

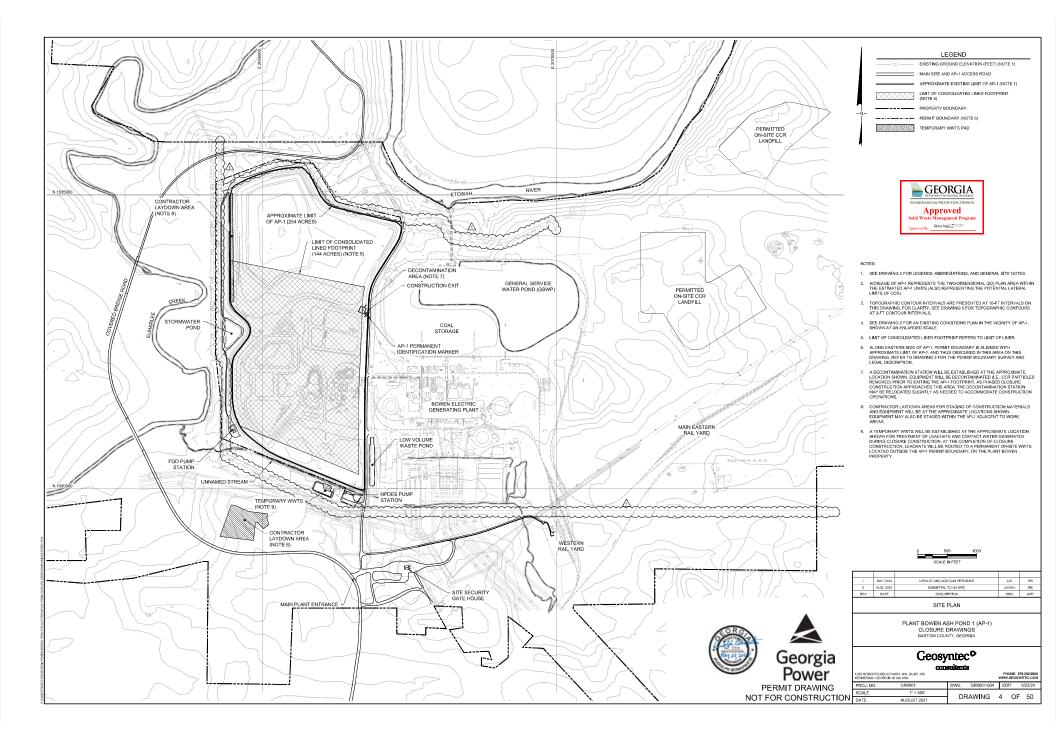
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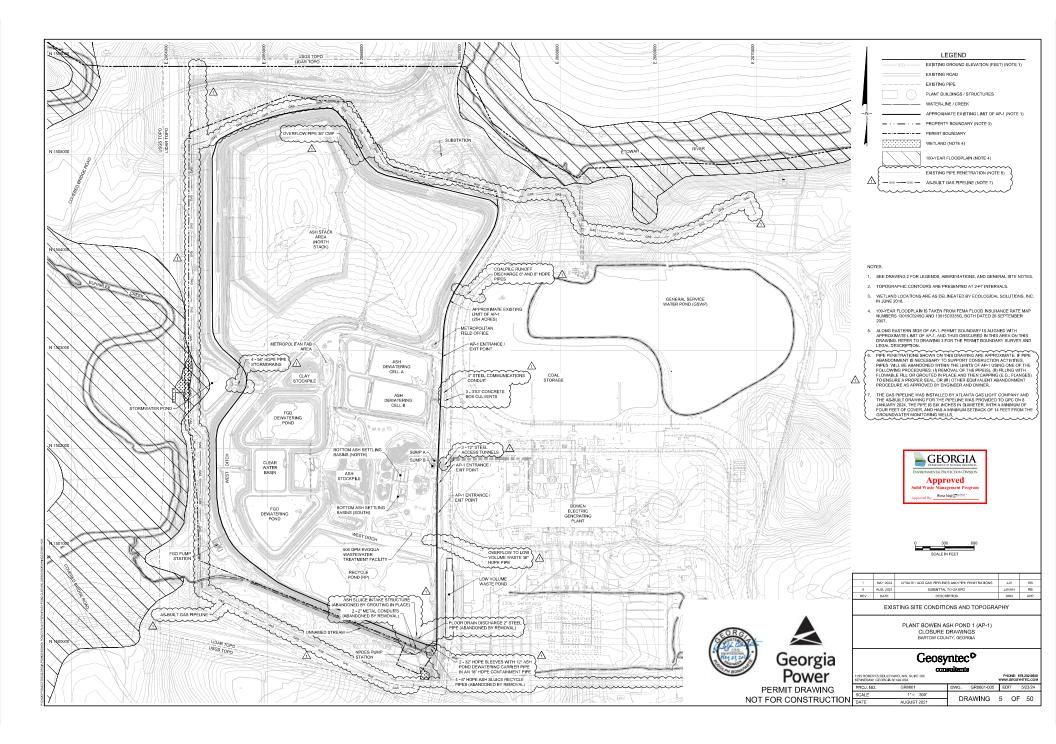
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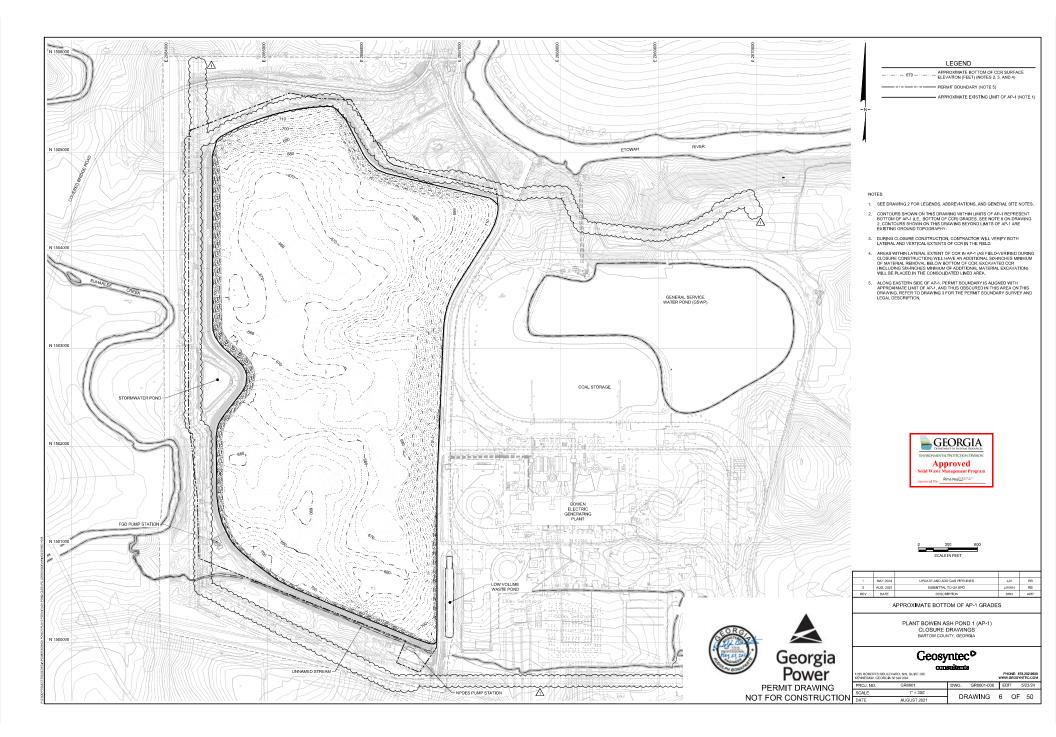
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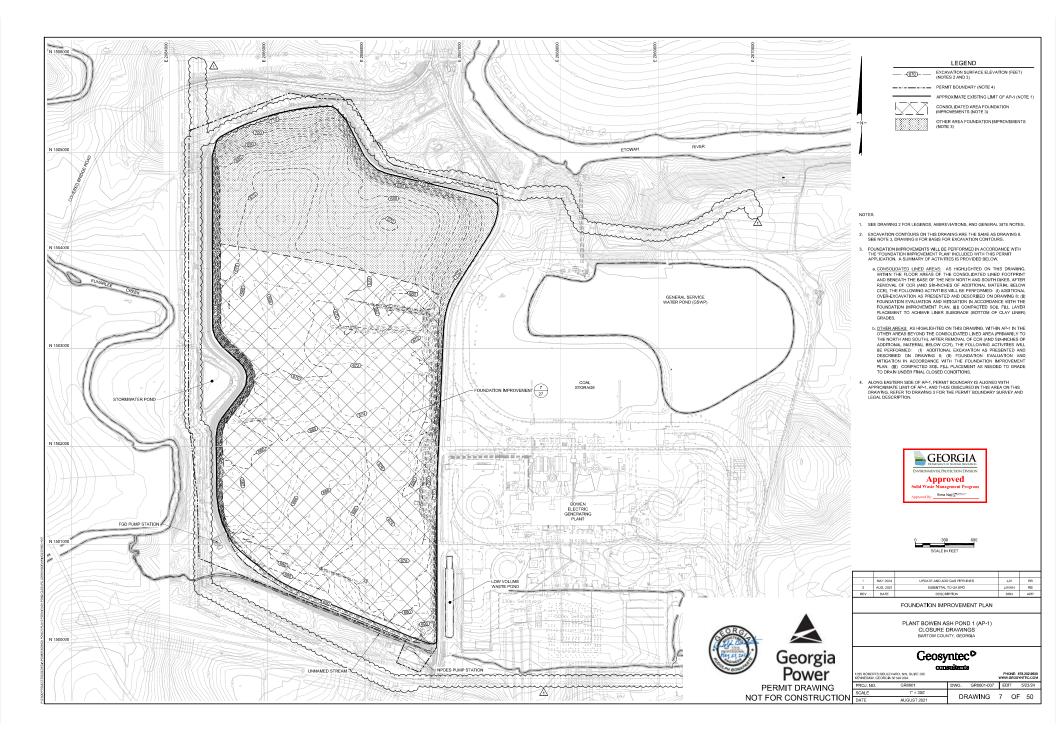
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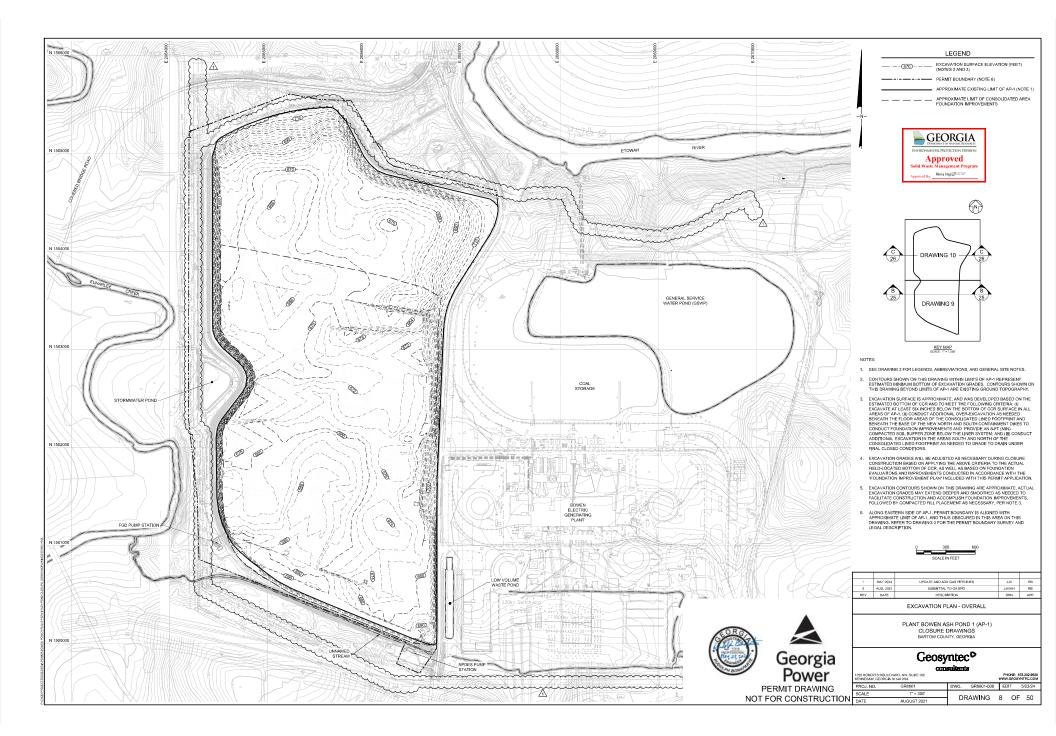


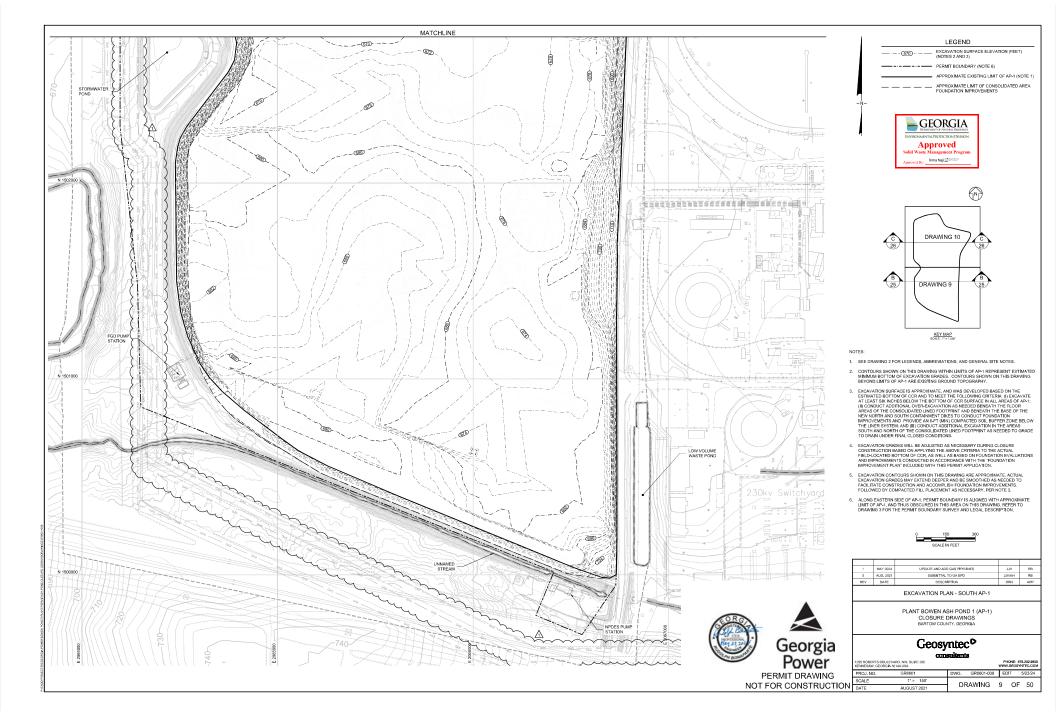


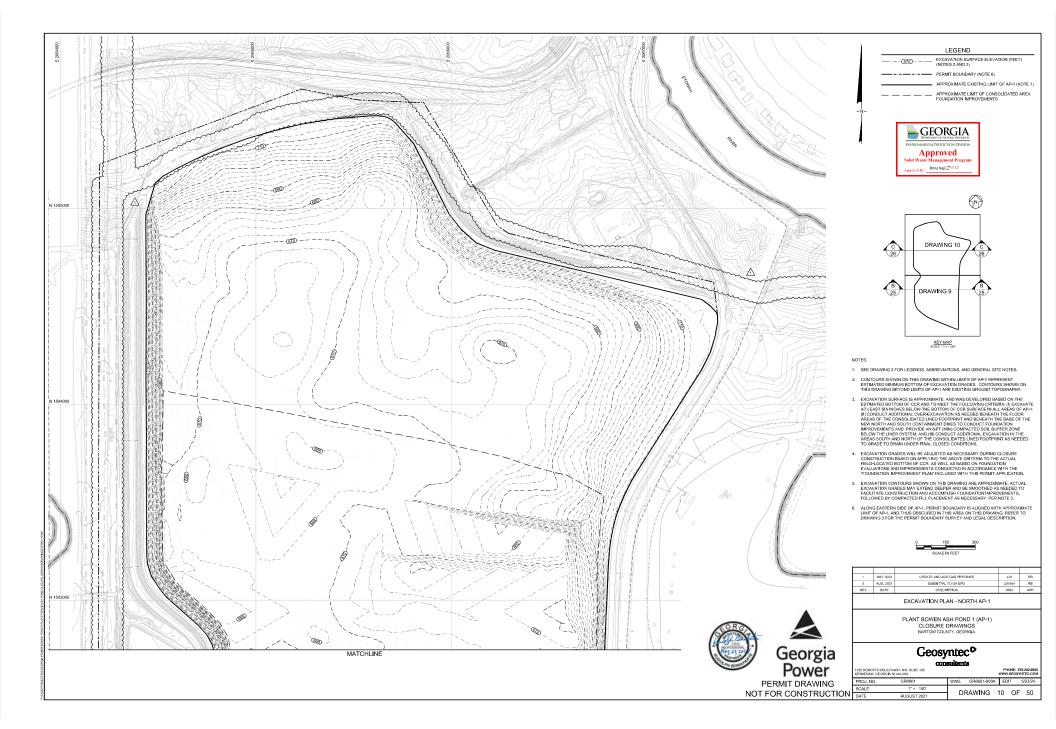


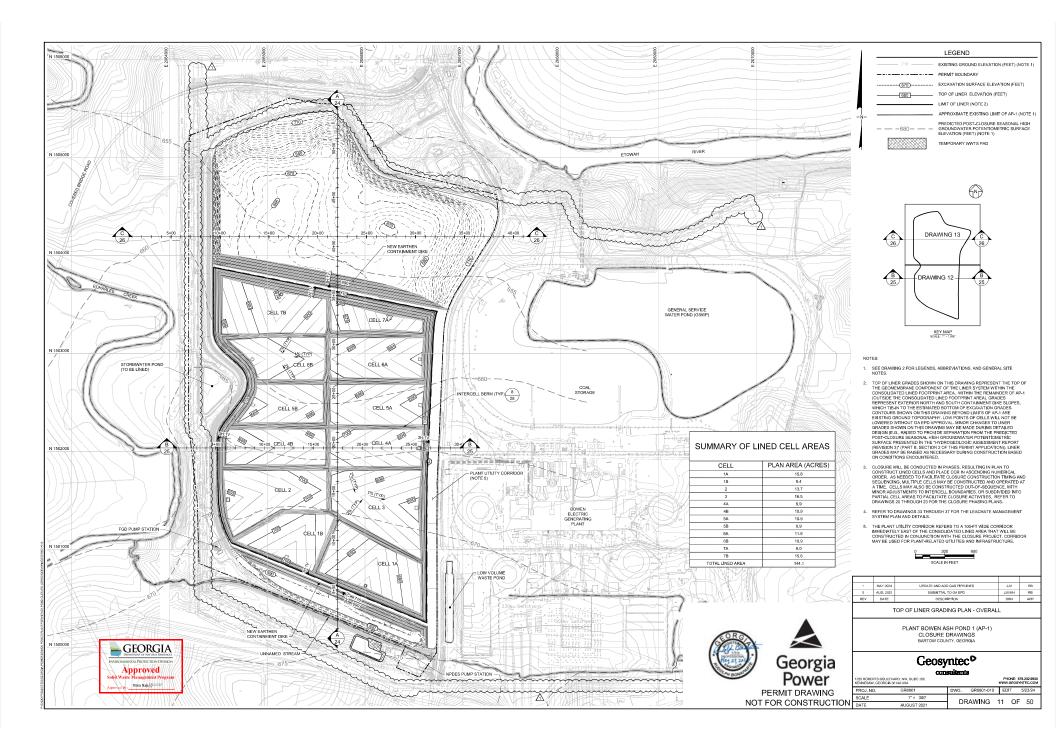


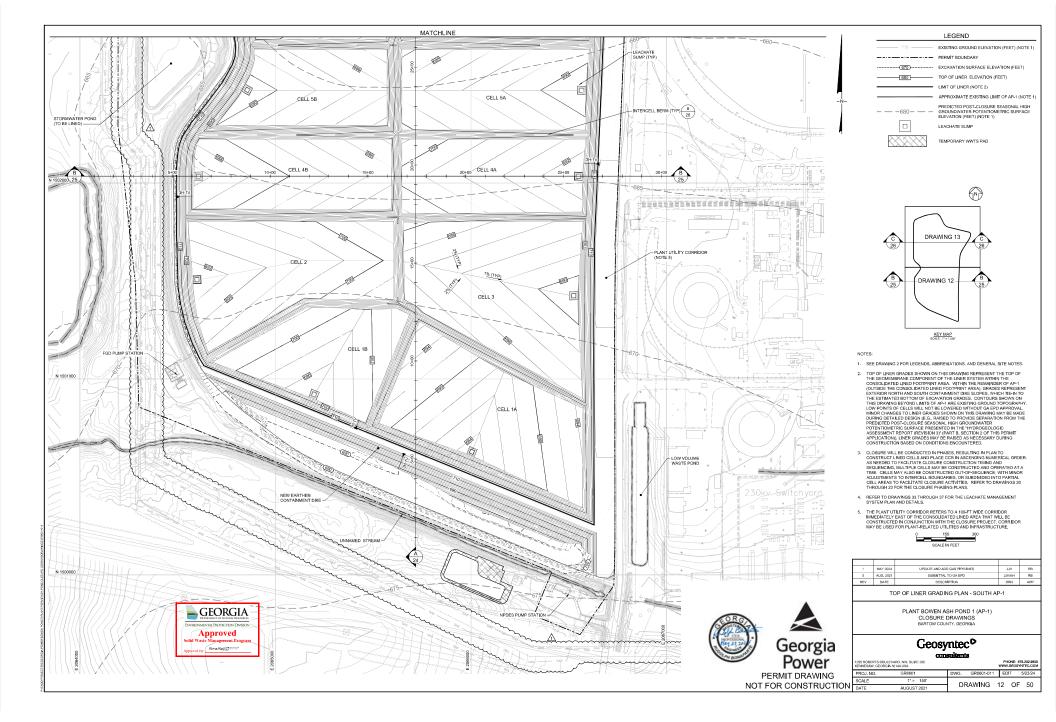


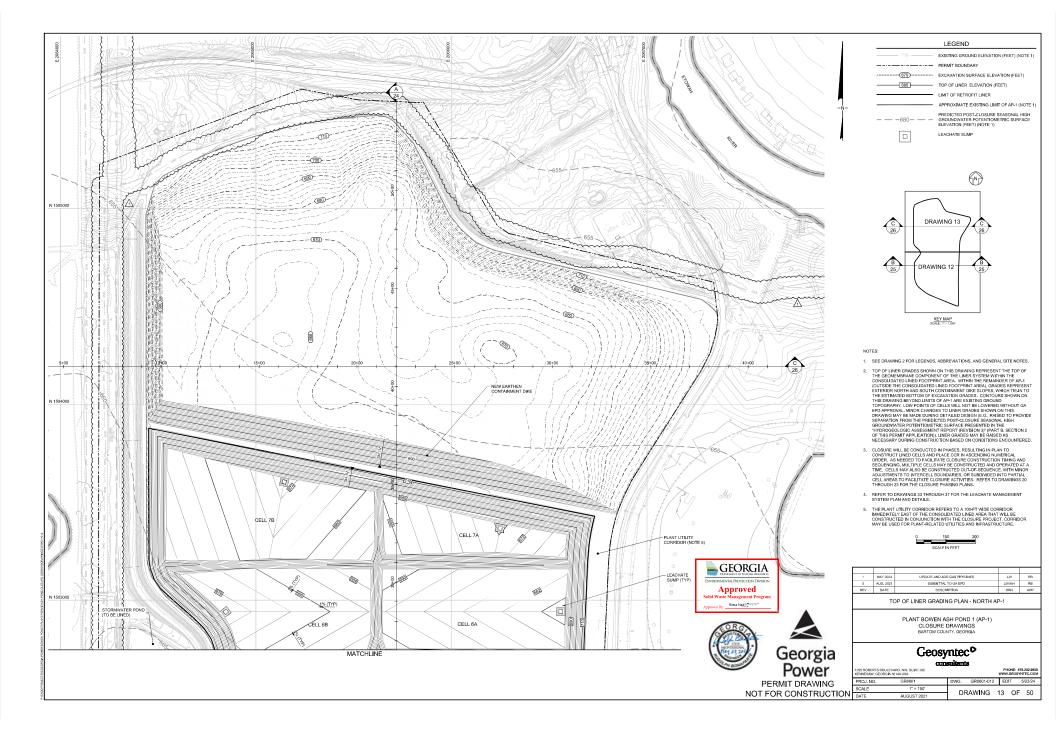


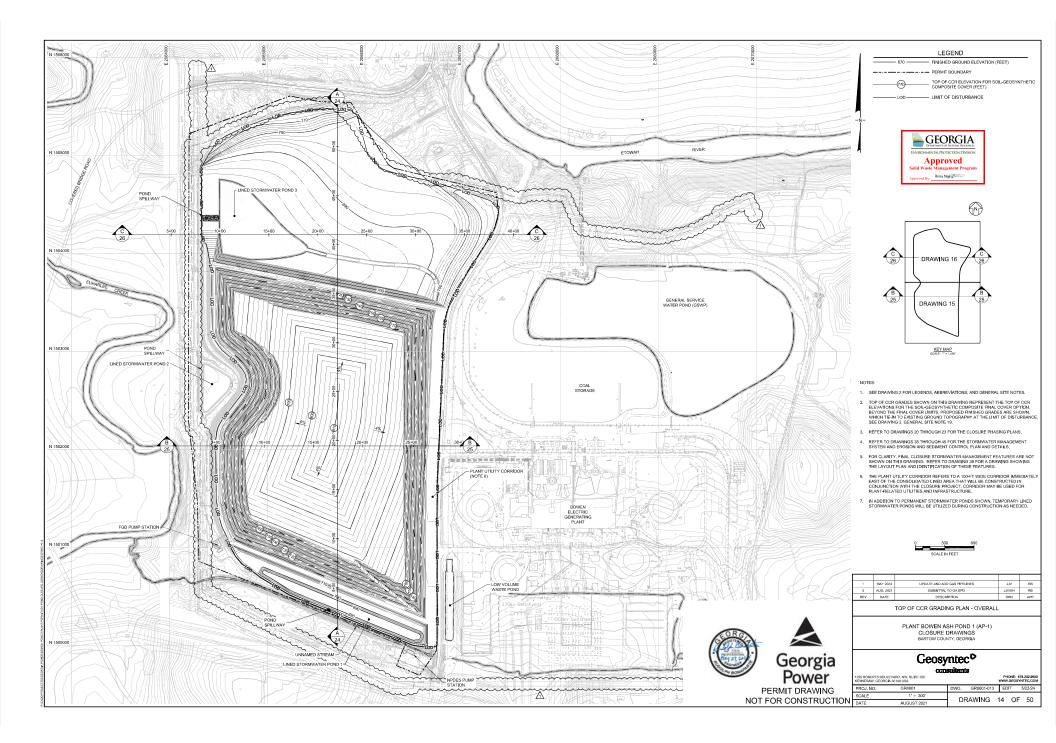


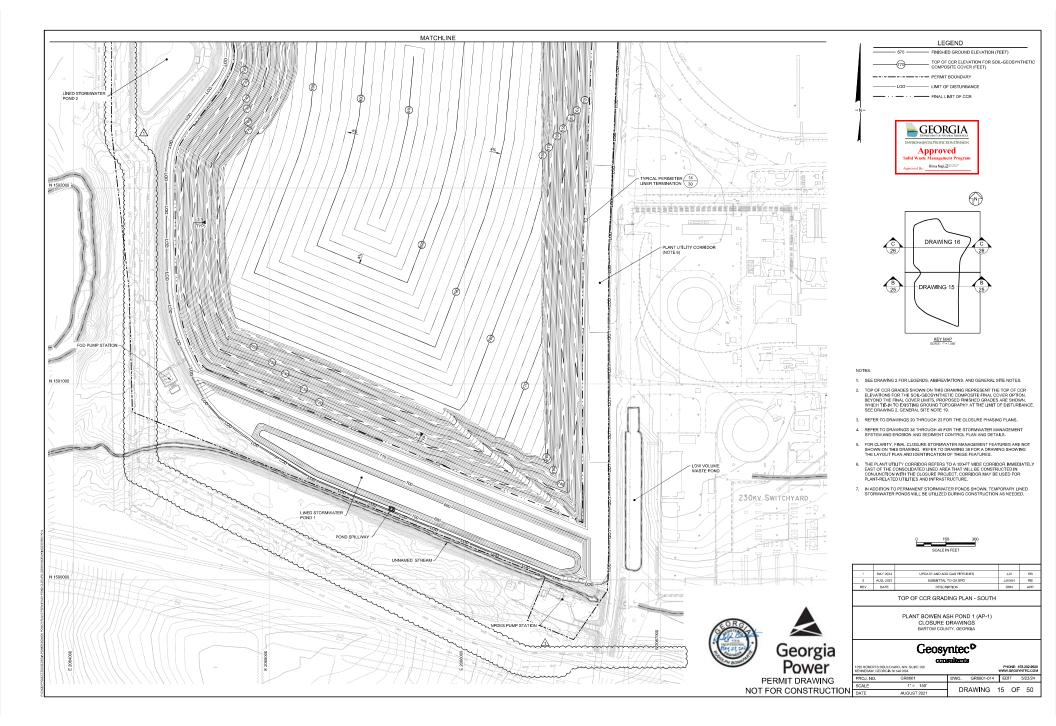


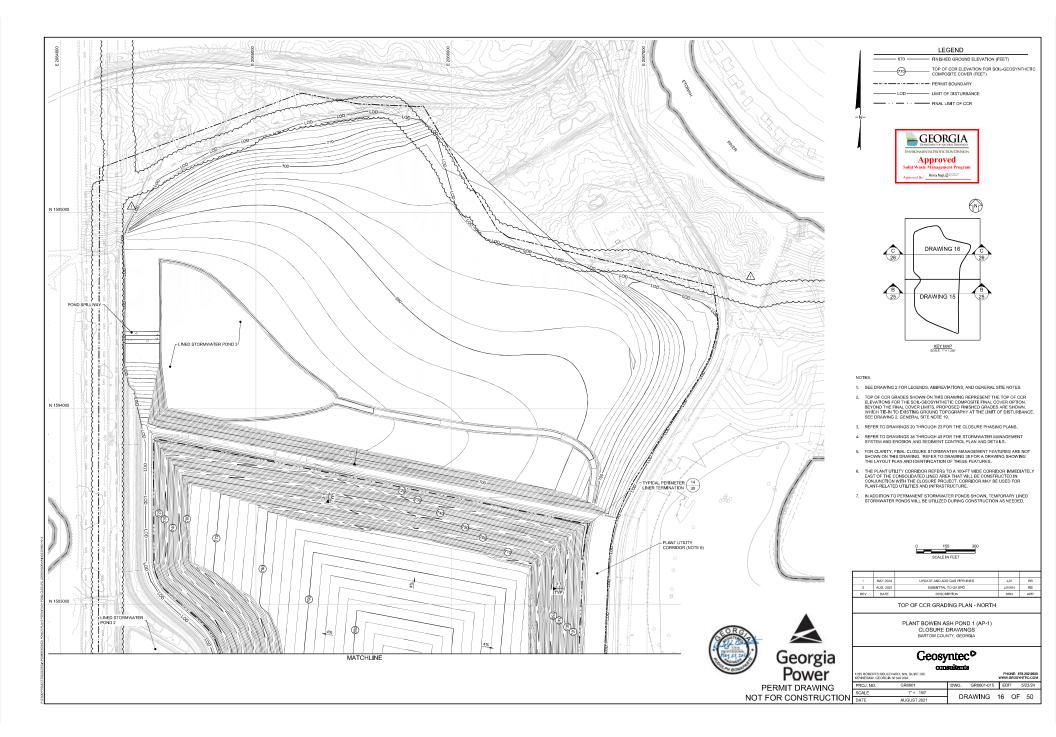


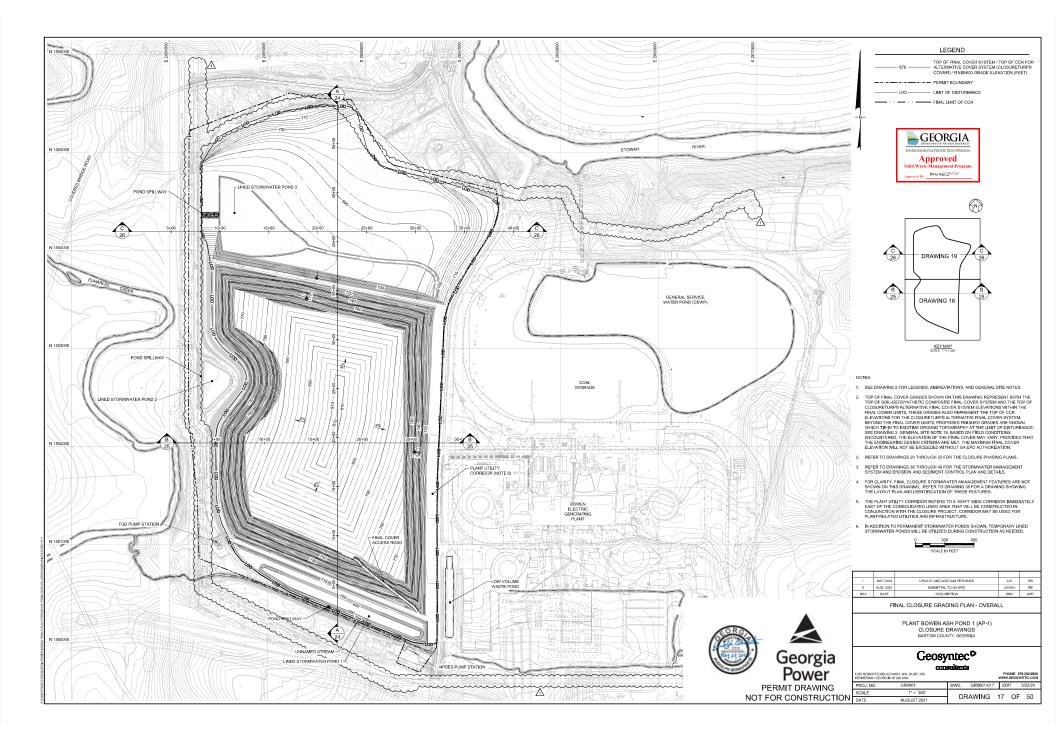


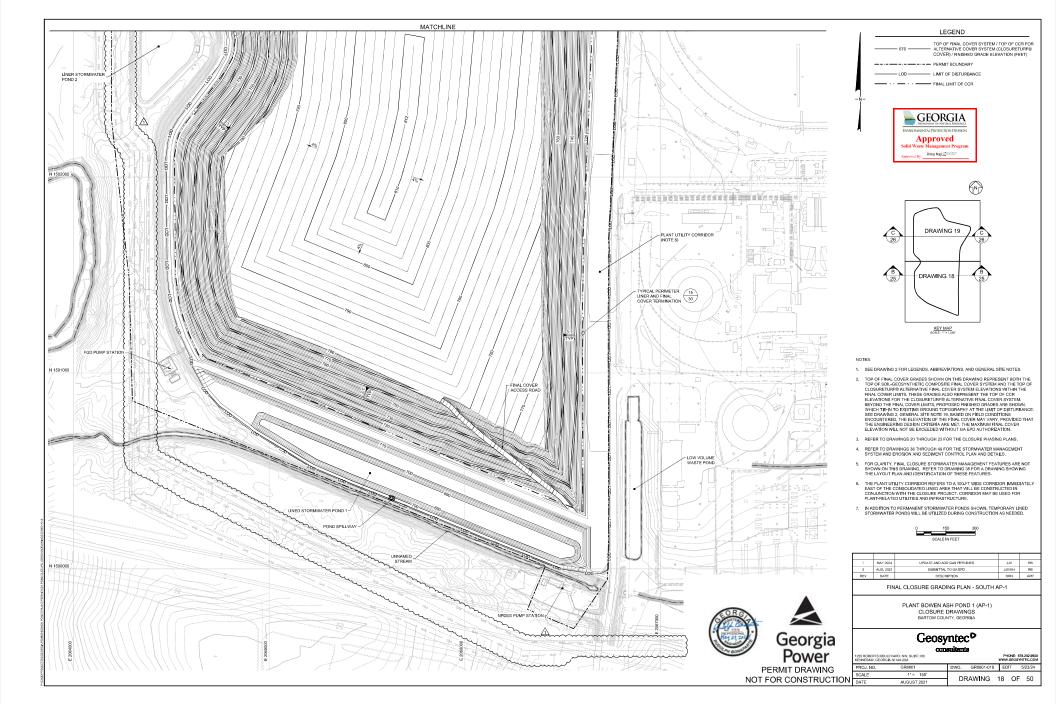


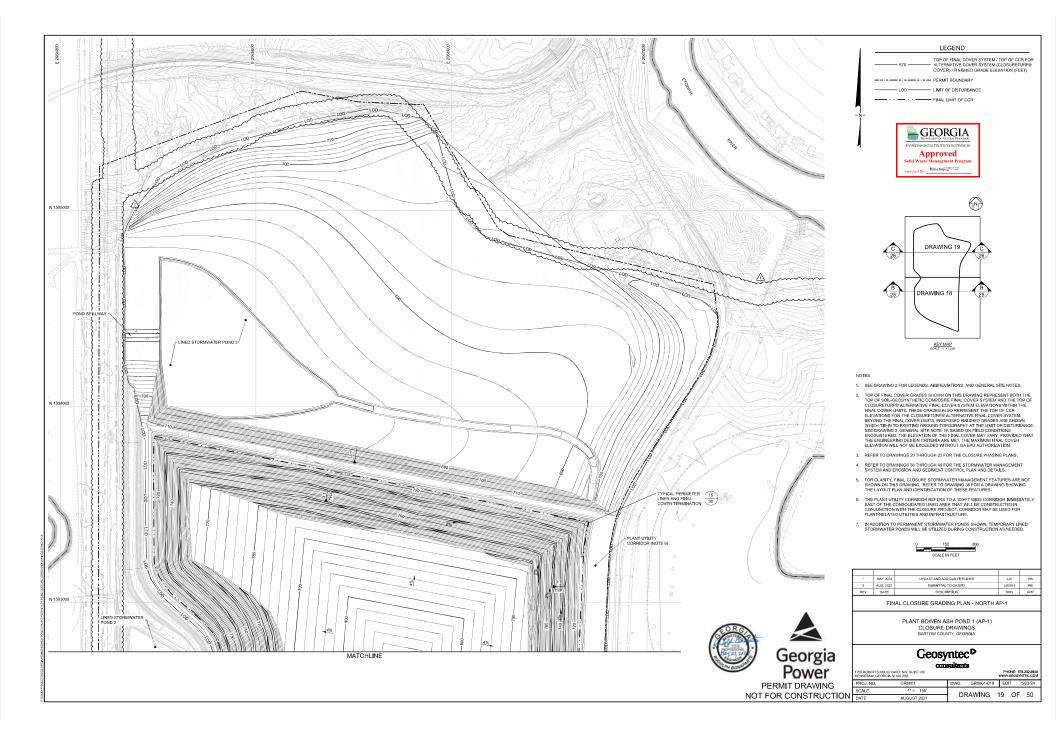


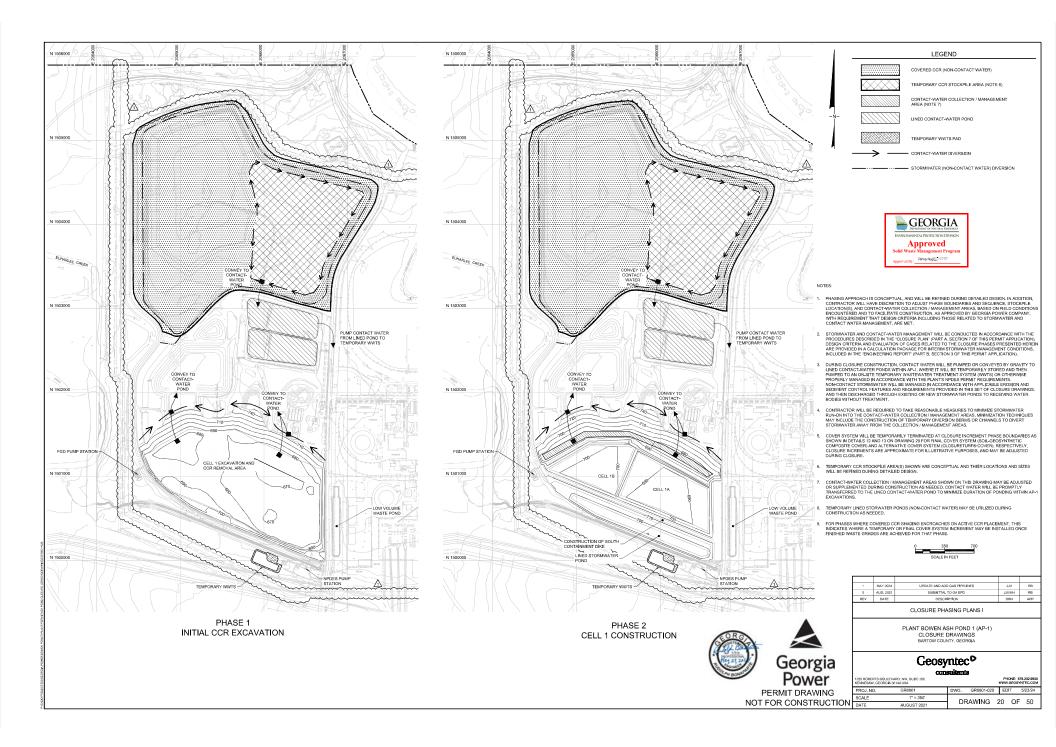


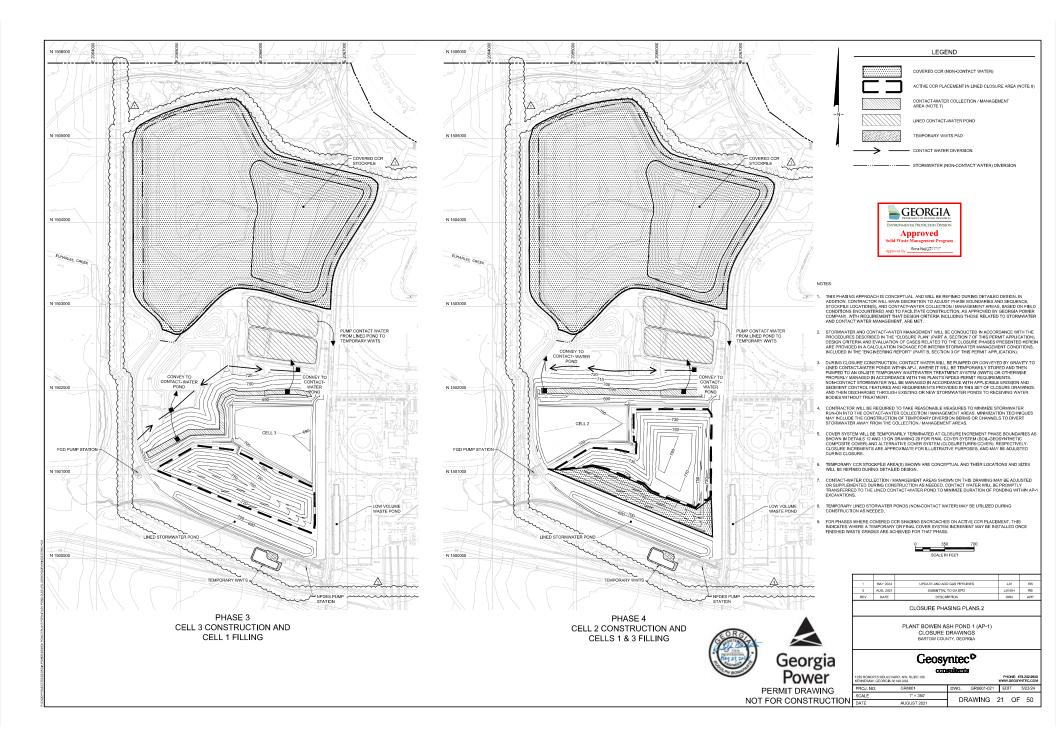


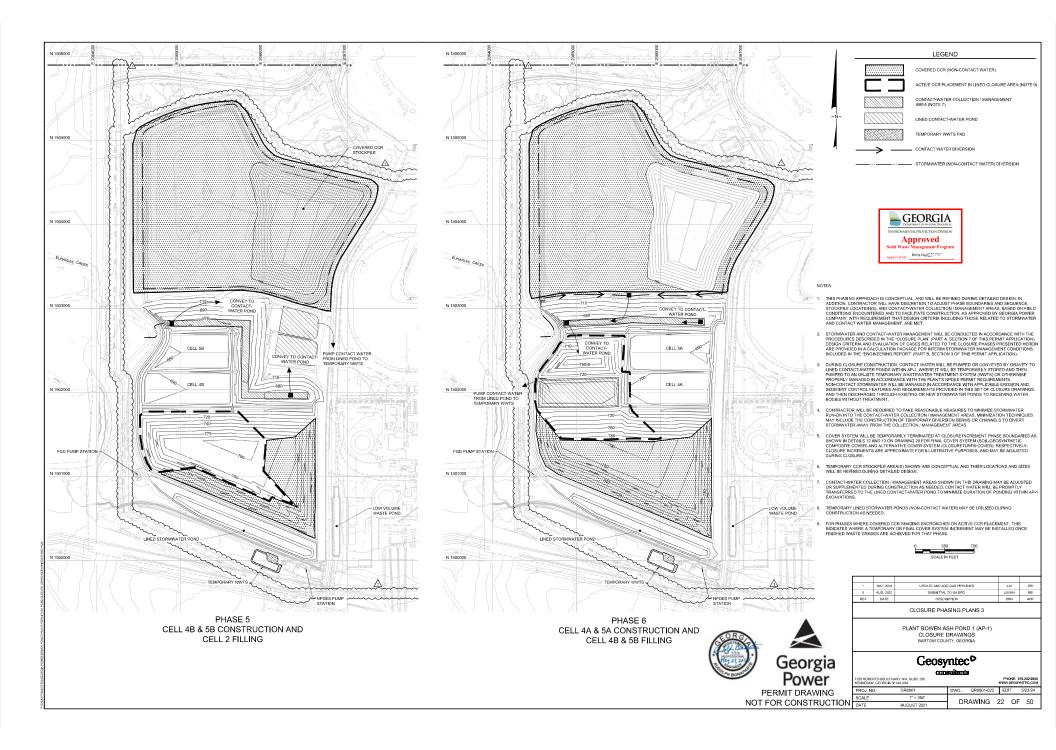


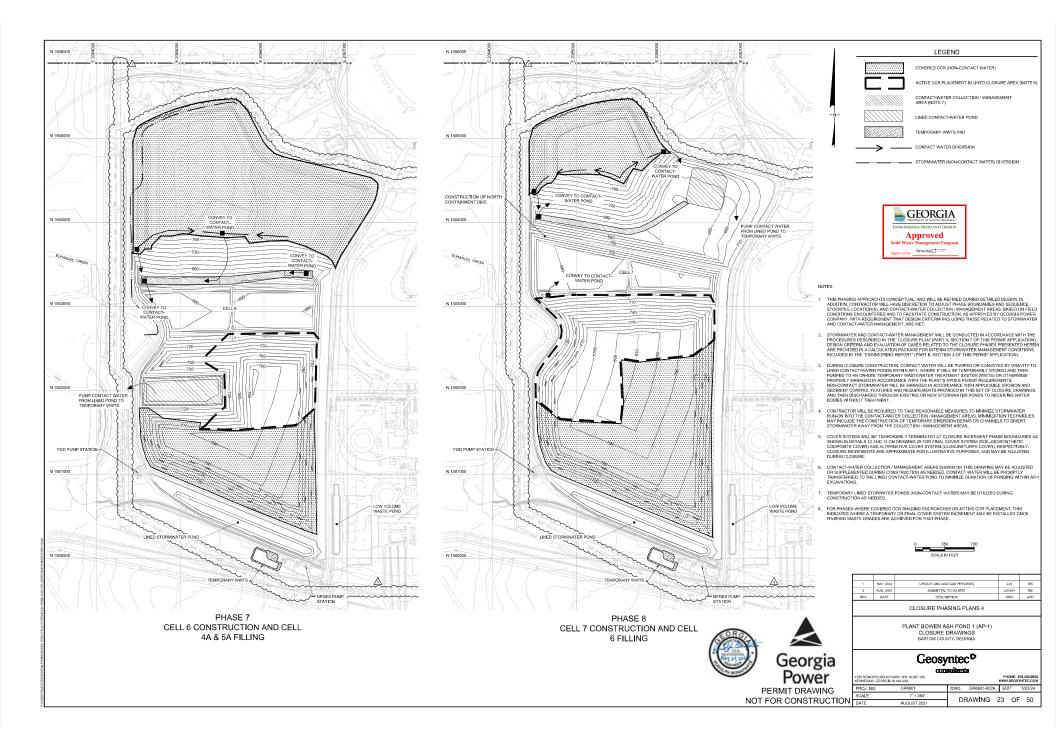


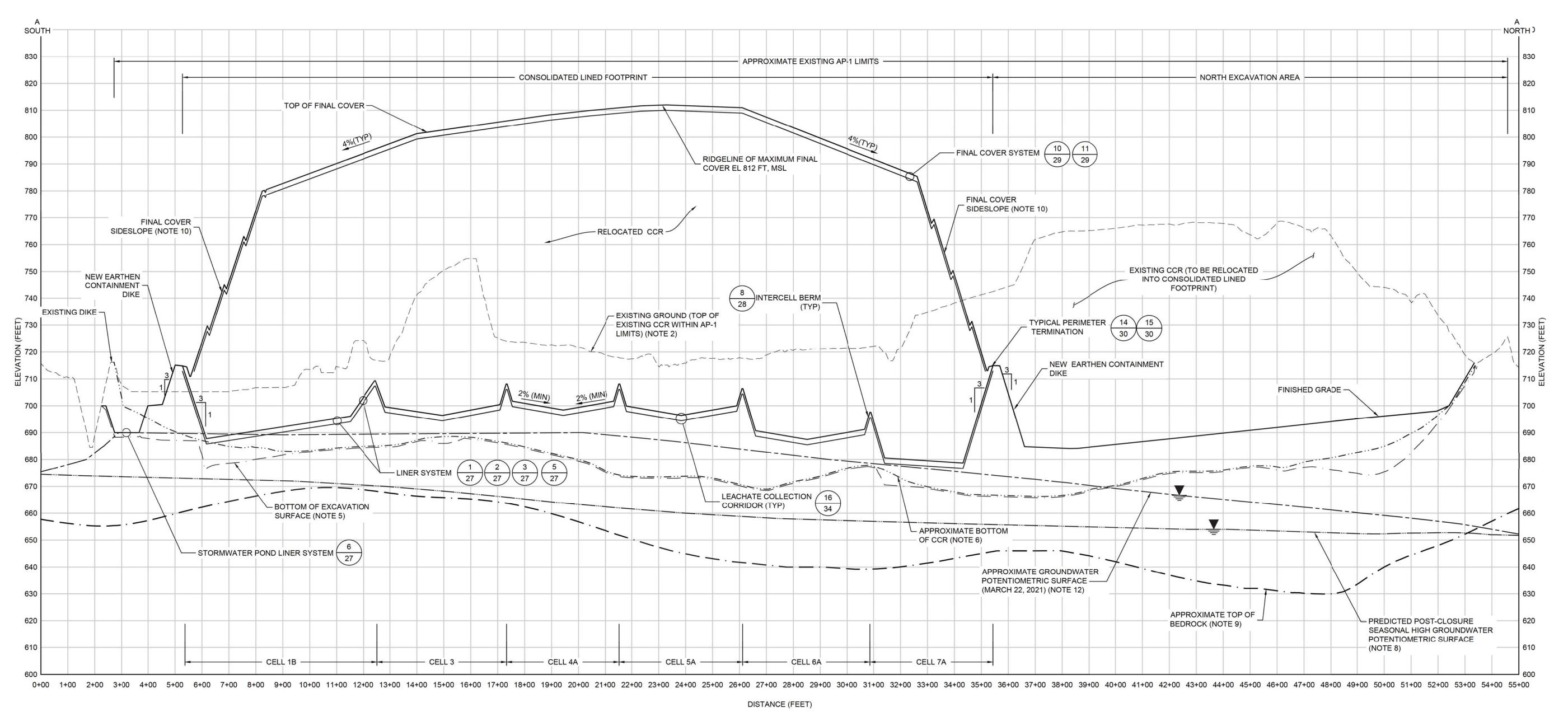






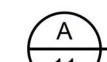






NOTES:

- 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.



SECTION

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







PERMIT DRAWING NOT FOR CONSTRUCTION DATE

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

(C) 26

25

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

BARTOW COUNTY, GEORGIA

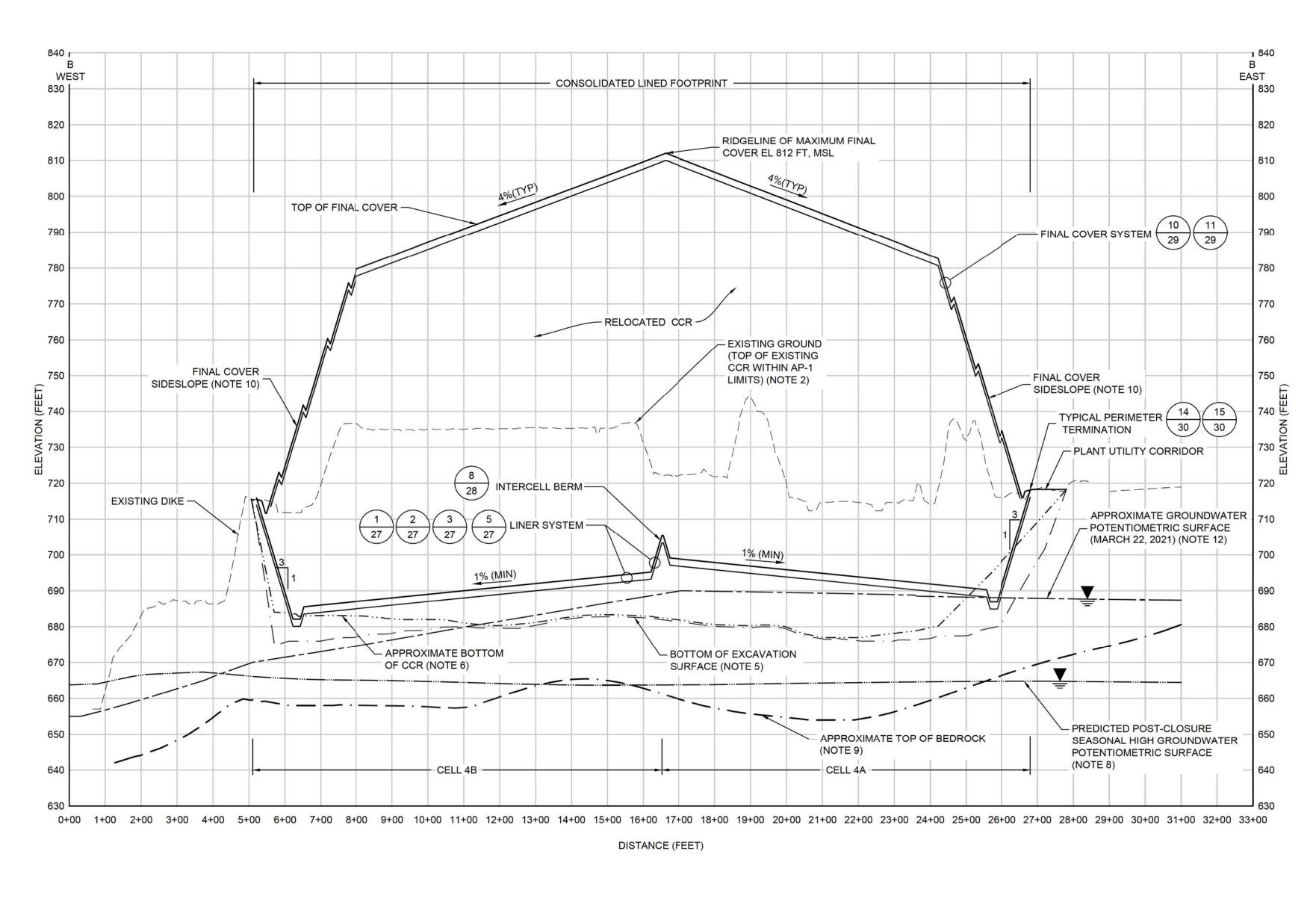
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1255 ROBERTS BOULEVARD, NW, SUITE 200

consultants

PHONE: 678.202.9500 WWW.GEOSYNTEC.COM

KENNESAW, GEORGIA 30144 USA DWG. GR6601-023 EDIT 8/16/21 PROJ. NO. GR6601 AS SHOWN DRAWING 24 OF 50 AUGUST 2021



NOTES:

- 1. SEE DRAWING 2 FOR LEGENDS, ABBREVIATIONS, AND GENERAL SITE NOTES.
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SECTION

EAST-WEST CROSS SECTION

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







Georgia Power

PERMIT DRAWING NOT FOR CONSTRUCTION DATE

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

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25

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

Geosyntec[©]

consultants 1255 ROBERTS BOULEVARD, NW. SUITE 200 PHONE: 678.202.9500 WWW.GEOSYNTEC.COM

KENNESAW, GEORGIA 30144 USA PROJ. NO. DWG. GR6601-024 EDIT 8/16/21 GR6601 AS SHOWN DRAWING 25 OF 50 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. 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.







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0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB
REV	DATE	DESCRIPTION	DRN	APP
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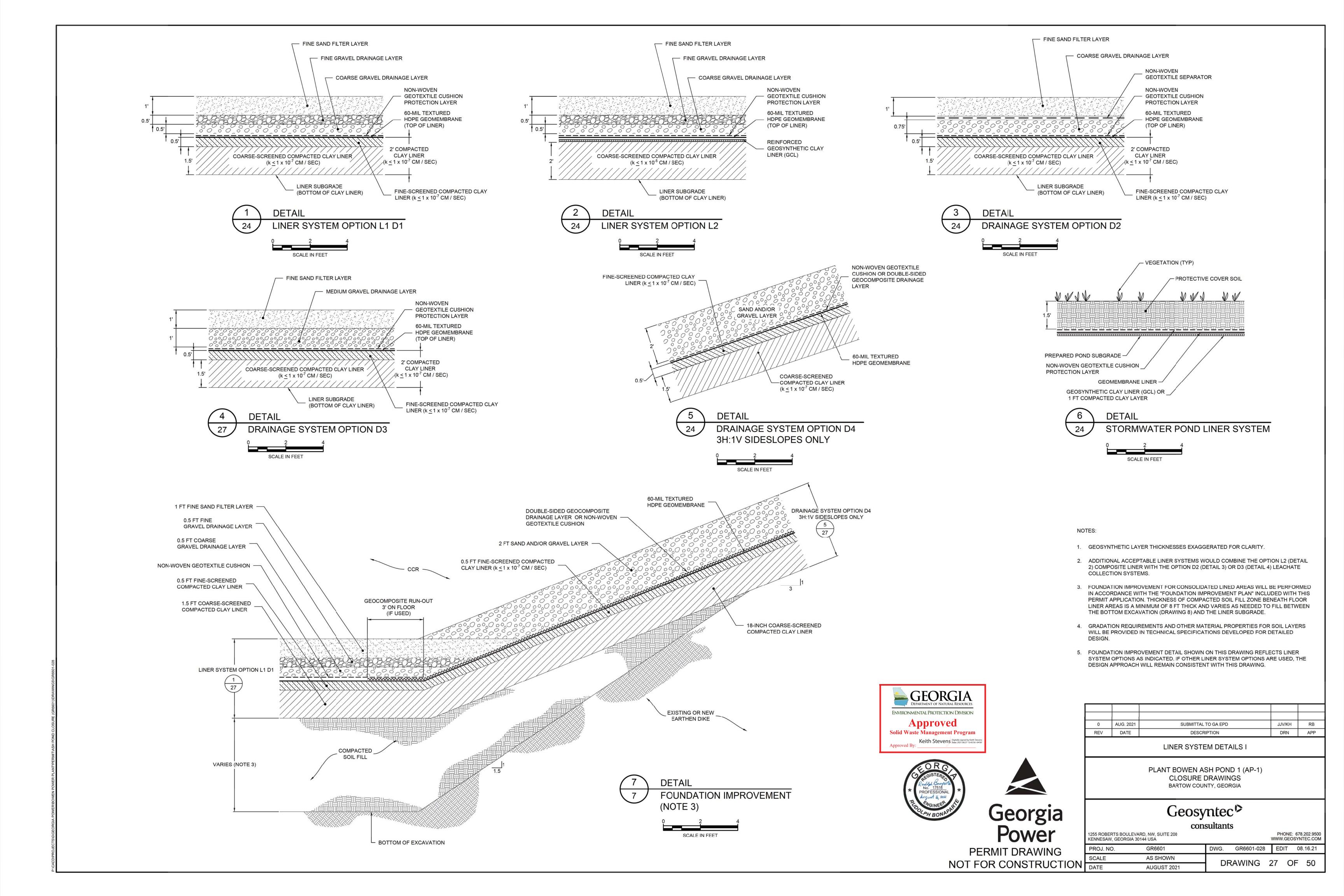
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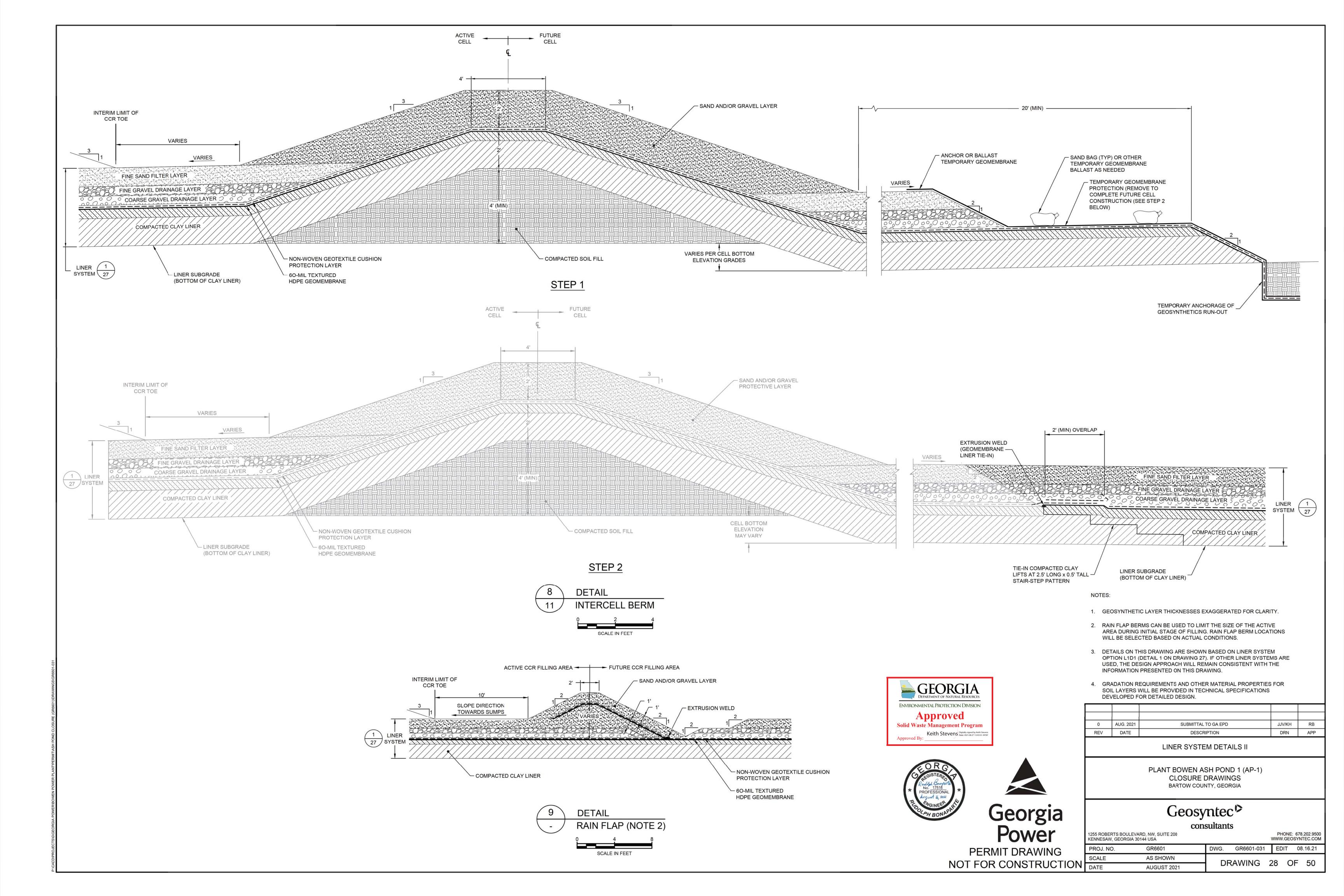
PLANT BOWEN ASH POND 1 (AP-1) **CLOSURE DRAWINGS** BARTOW COUNTY, GEORGIA

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1255 ROBERTS BOULEVARD, NW, SUITE 200 KENNESAW, GEORGIA 30144 USA PHONE: 678.202.9500 WWW.GEOSYNTEC.COM PROJ. NO. DWG. GR6601-025 EDIT 8/16/21 GR6601 AS SHOWN DRAWING 26 OF 50 AUGUST 2021

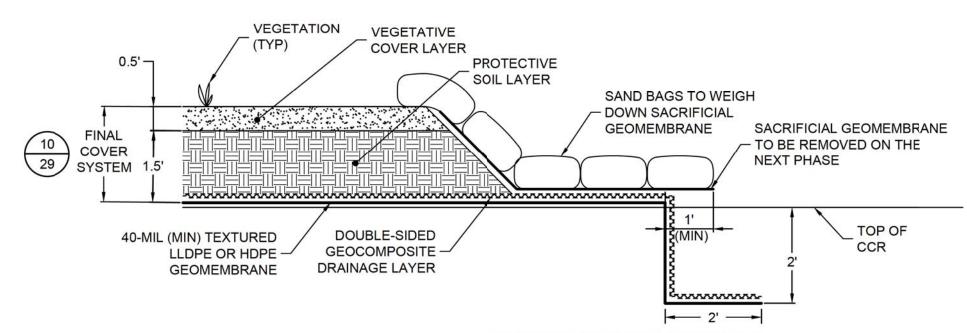




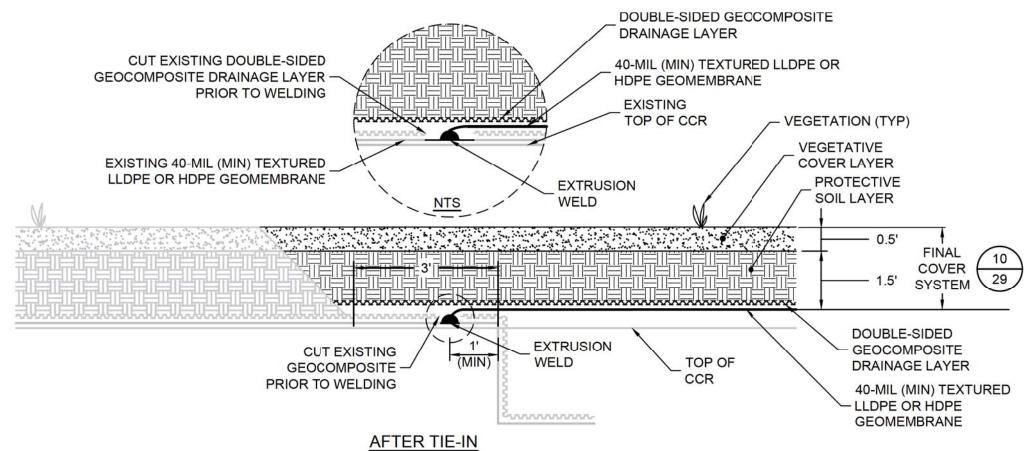
DETAIL

FINAL COVER SYSTEM (SOIL-GEOSYNTHETIC **COMPOSITE COVER OPTION)**

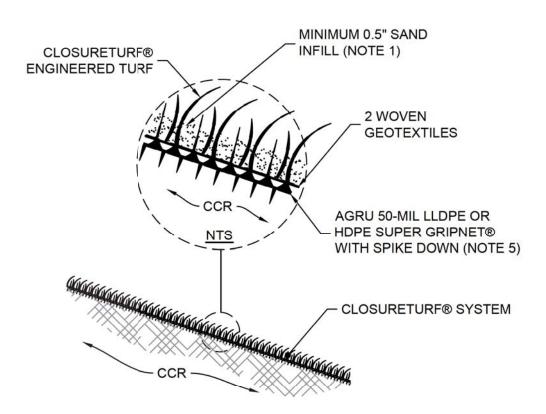




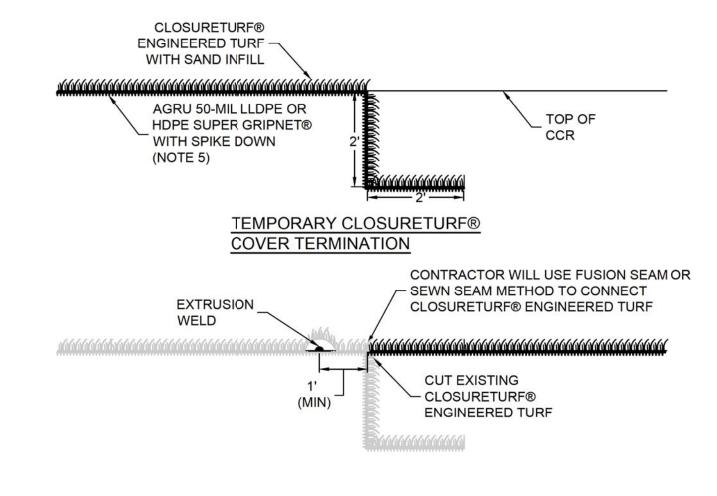
TEMPORARY FINAL COVER TERMINATION

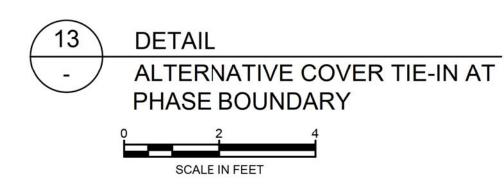






DETAIL FINAL COVER SYSTEM (CLOSURETURF® COVER OPTION) SCALE: NOT TO SCALE





Approved By: _

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.

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FINAL COVER SYSTEM DETAILS

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

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AUGUST 2021

KENNESAW, GEORGIA 30144 USA

PHONE: 678.202.9500 WWW.GEOSYNTEC.COM DWG. GR6601-029 EDIT 08.16.21

DRAWING 29 OF 50

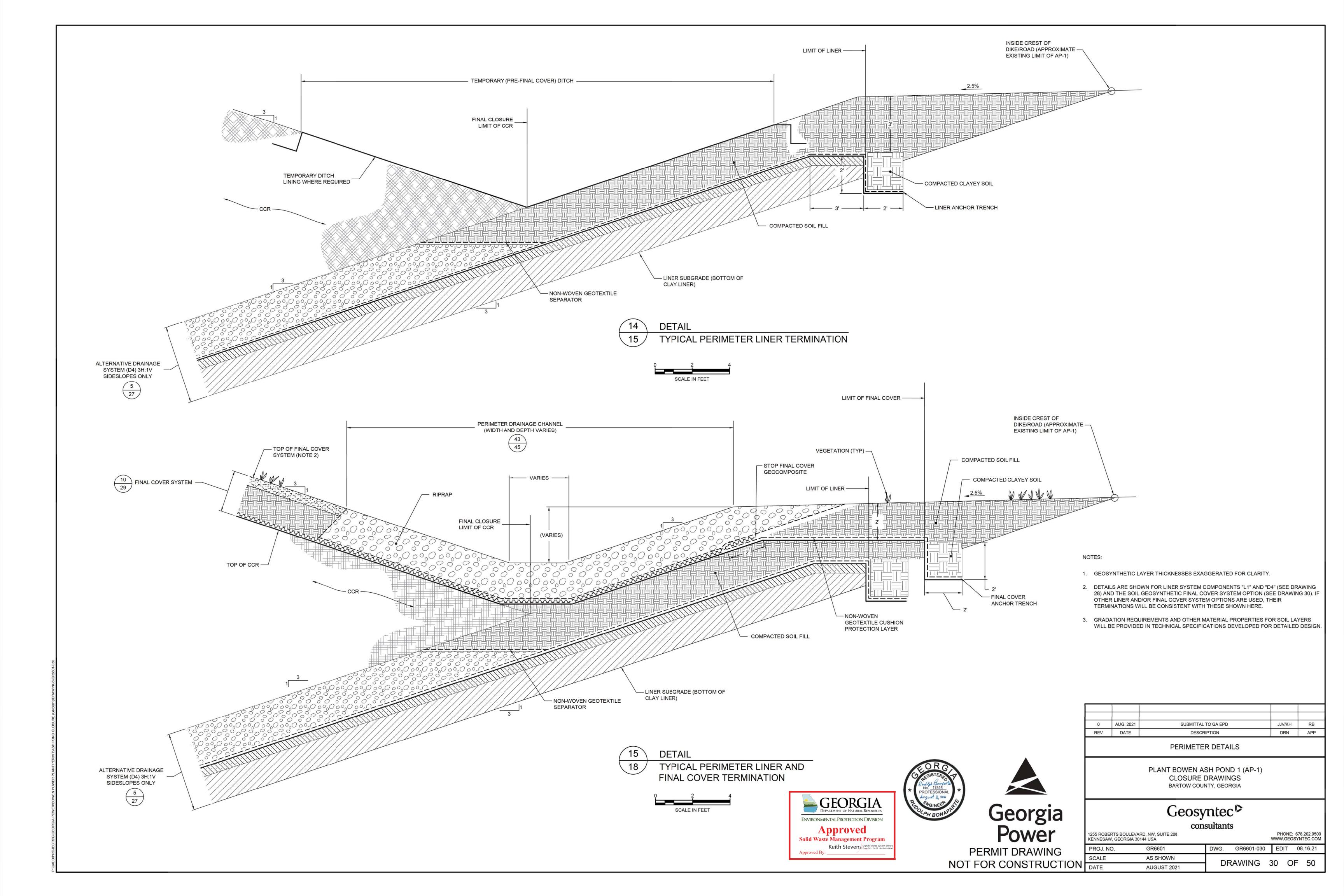
GEORGIA DEPARTMENT OF MATURE PROPERTY. ENVIRONMENTAL PROTECTION DIVISION Georgia Power Solid Waste Management Program

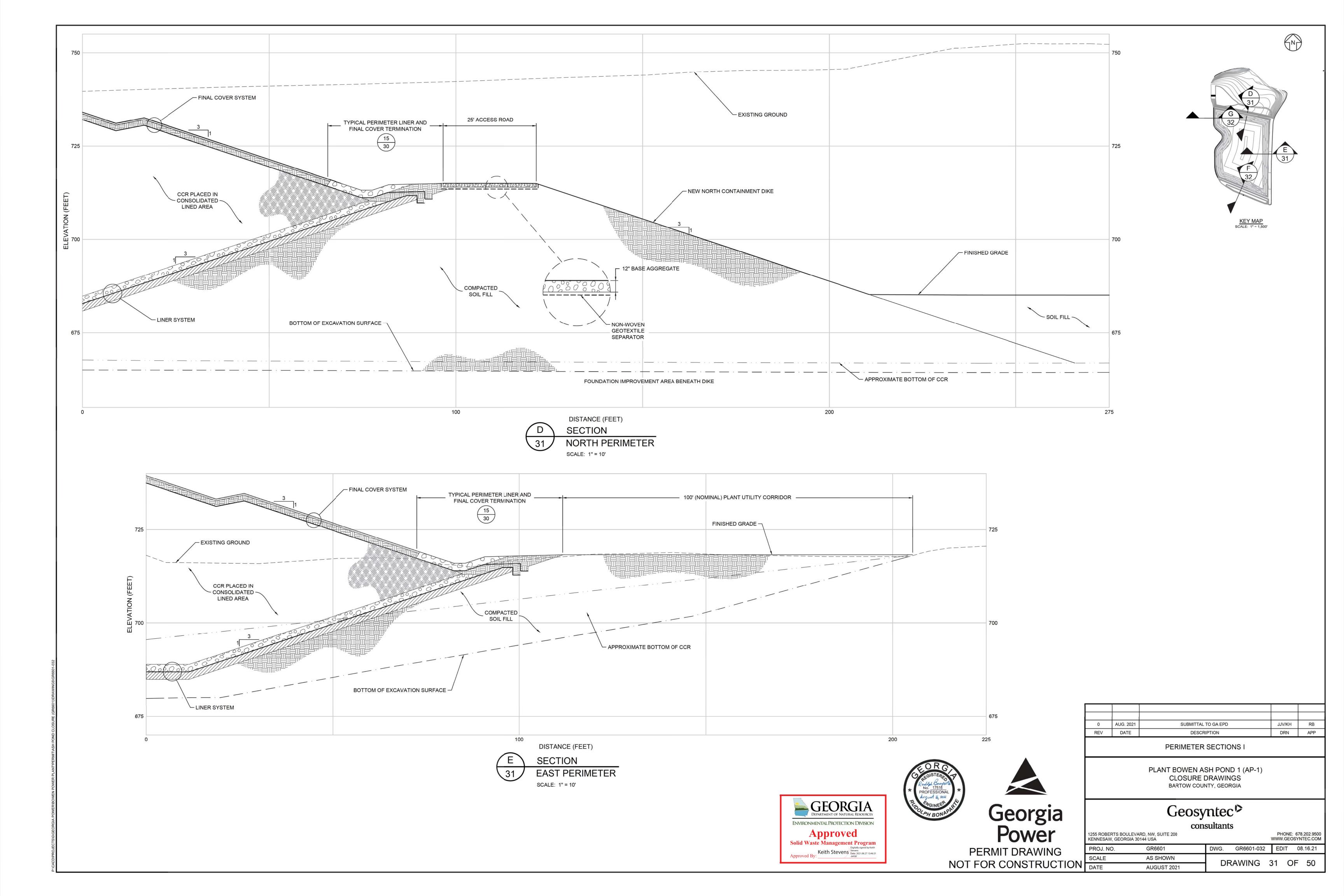
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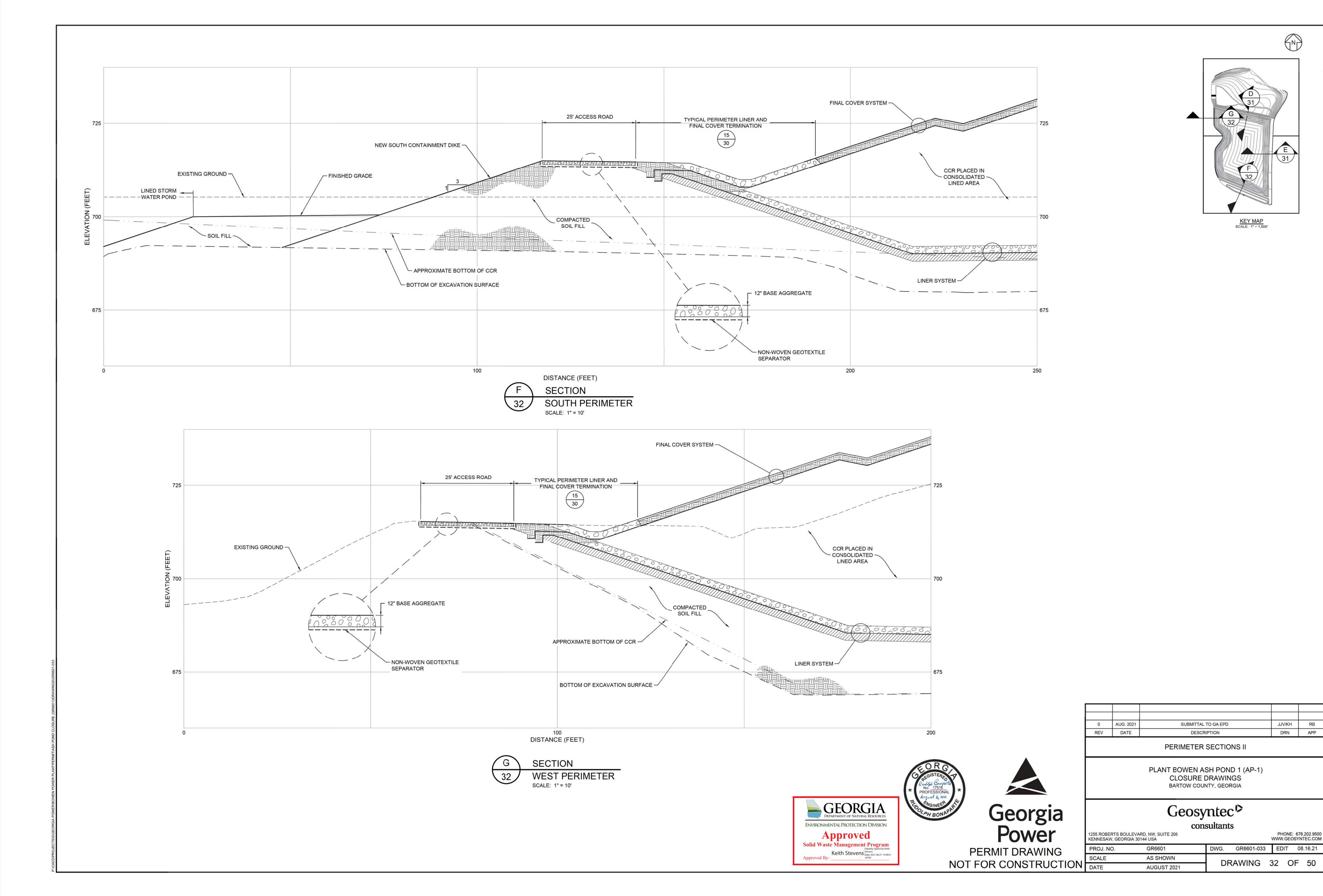
Approved By:

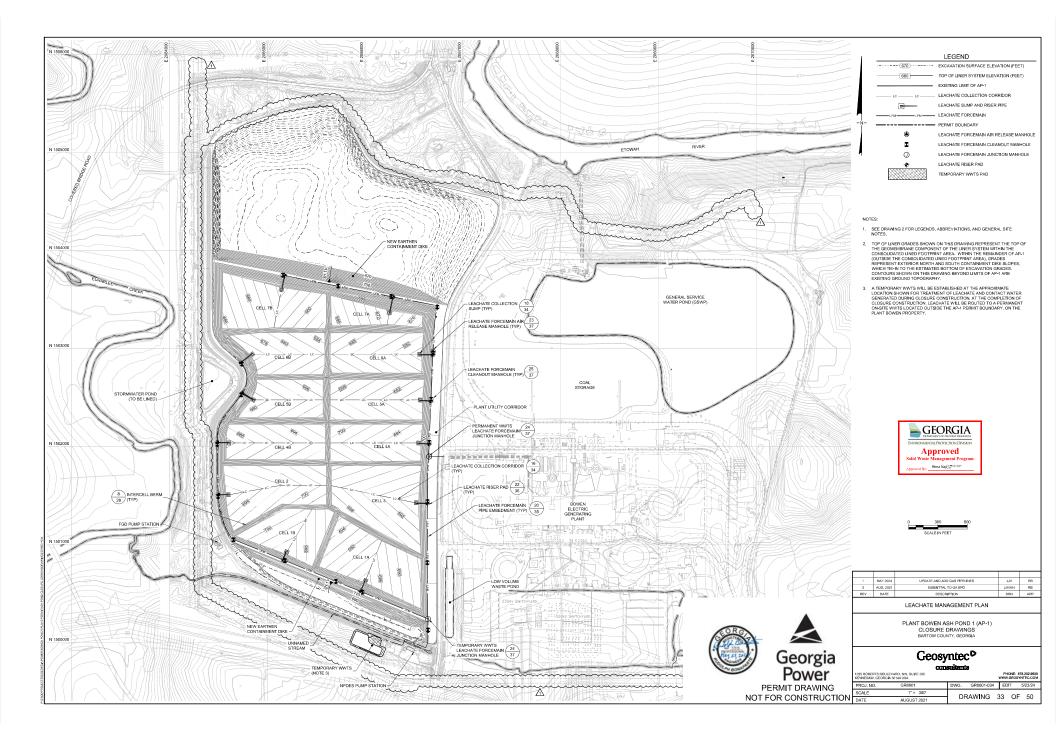
PERMIT DRAWING

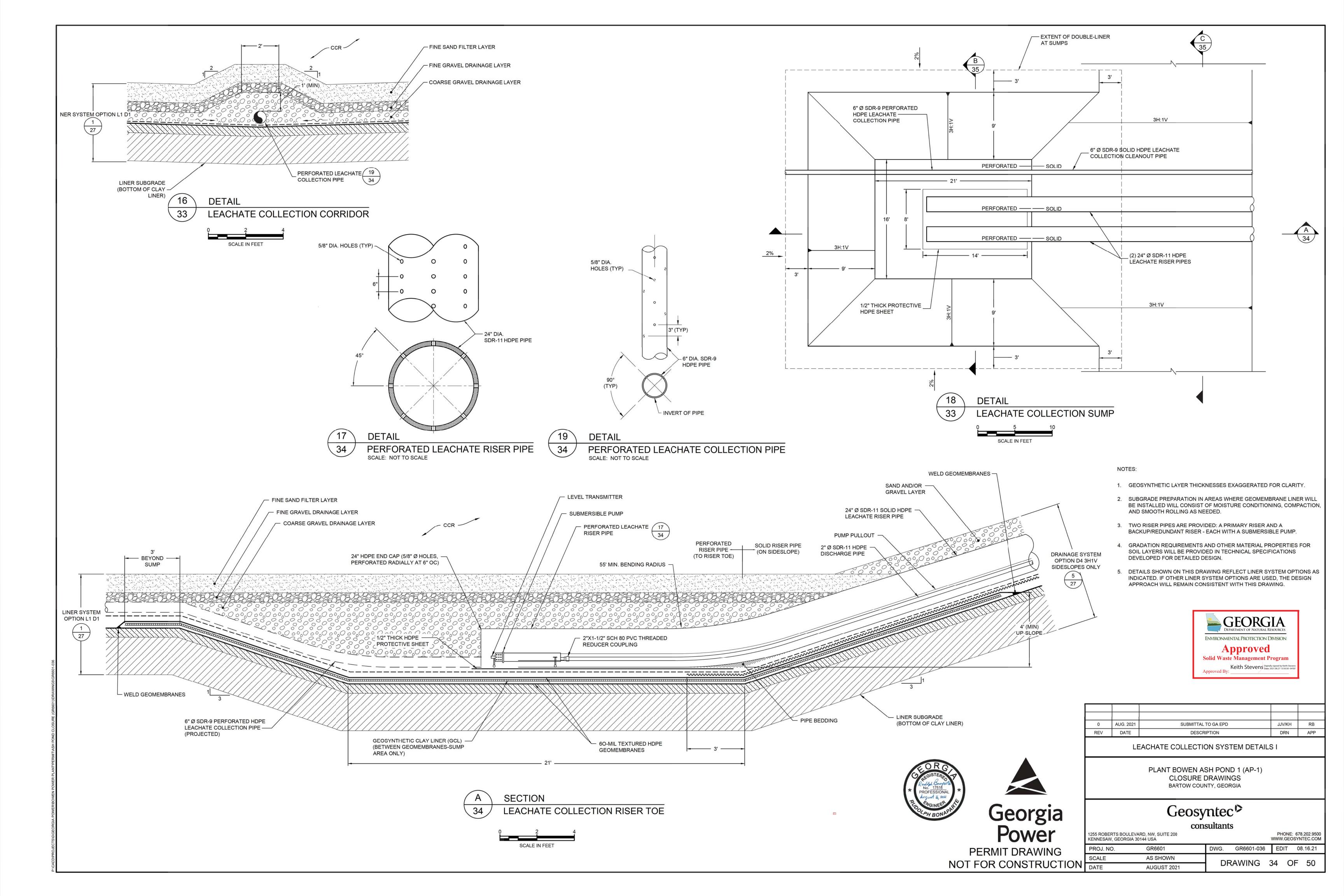
PROJ. NO. NOT FOR CONSTRUCTION DATE

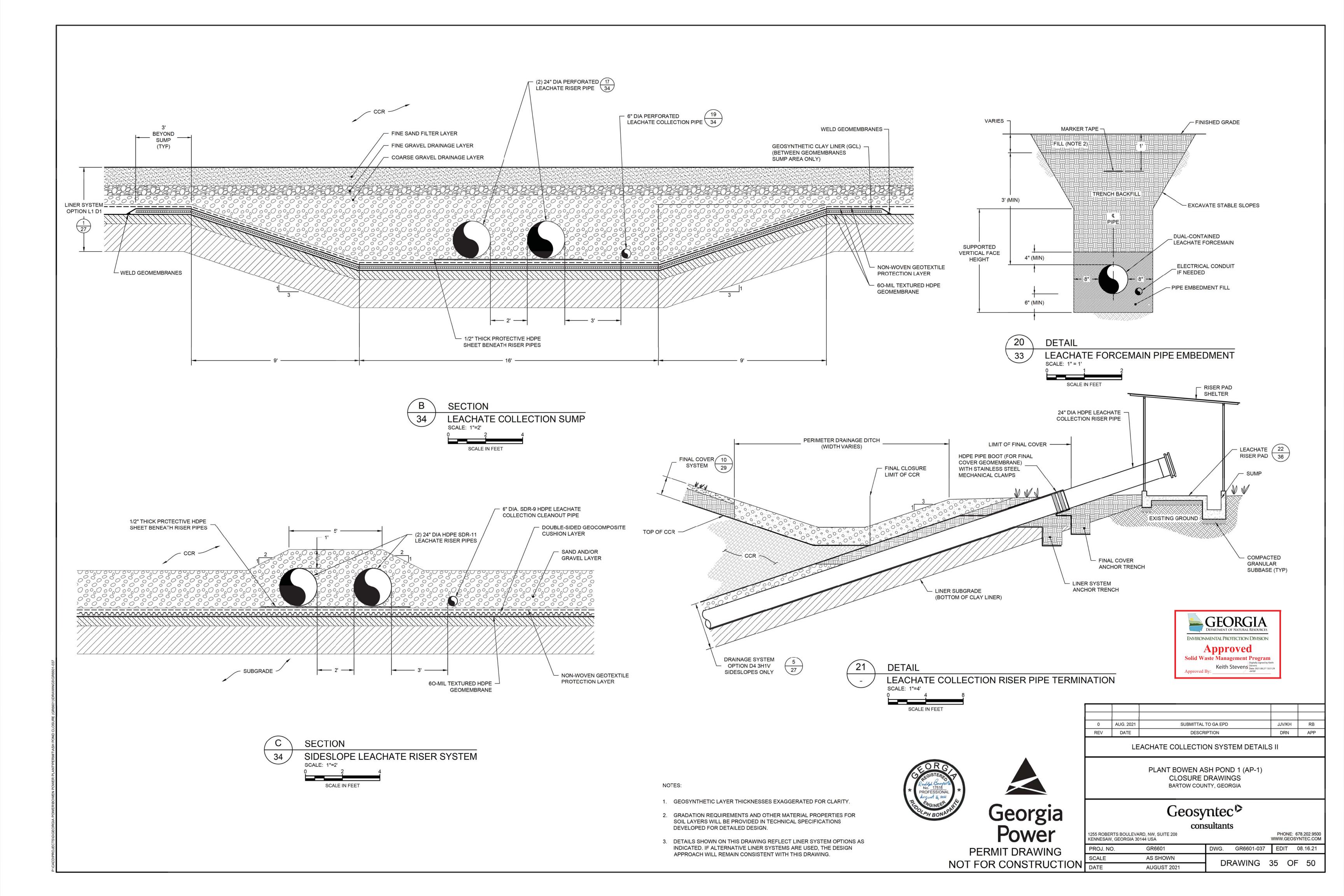


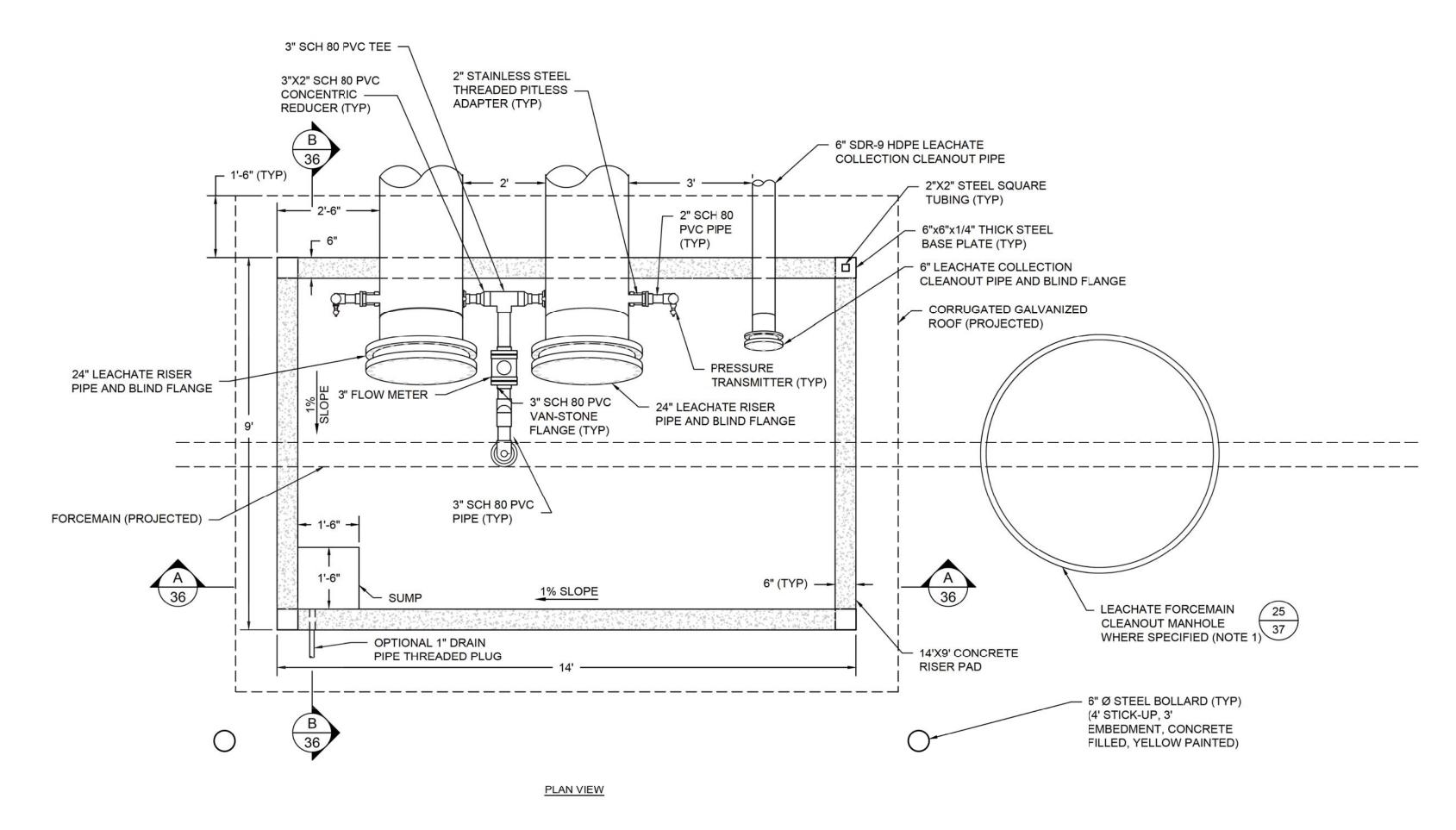


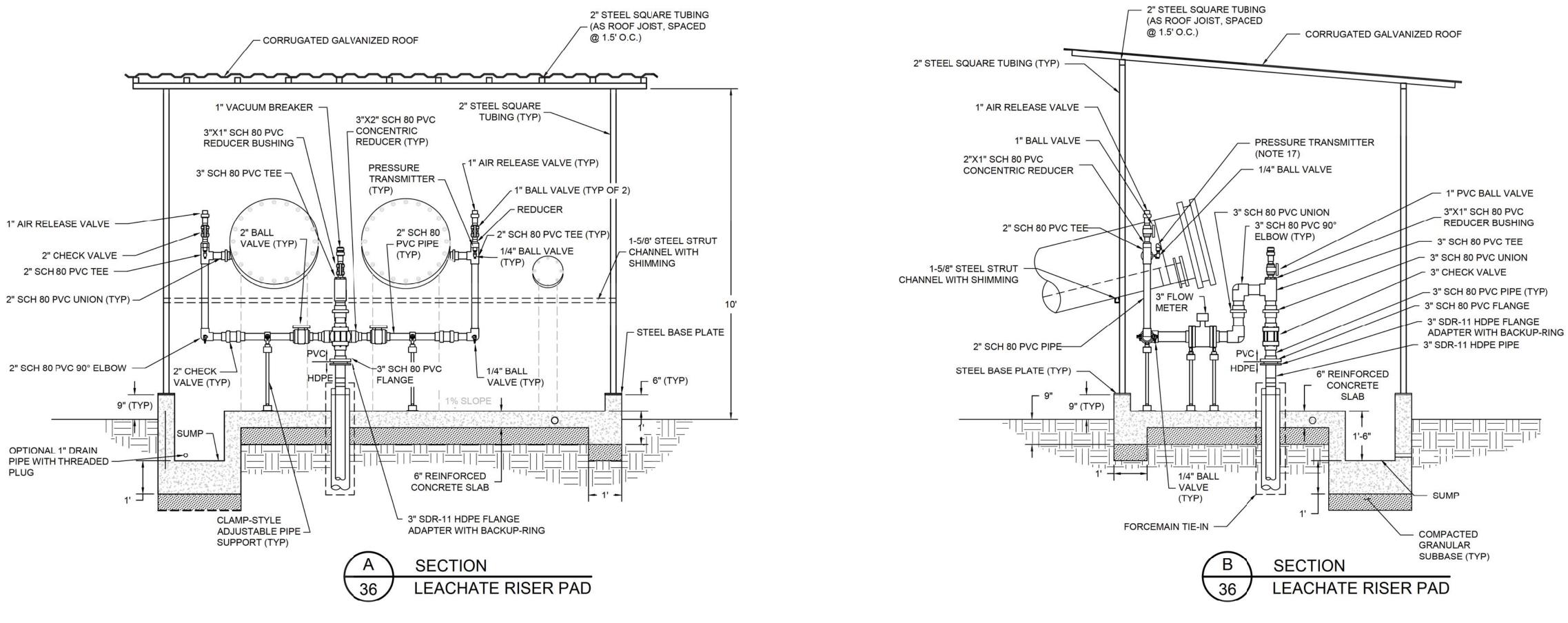












DETAIL

SCALE: NOT TO SCALE

LEACHATE RISER PAD

GEORGIA

DEPARTMENT OF NATURAL PROPERTY.

ENVIRONMENTAL PROTECTION DIVISION

Approved Solid Waste Management Program

Keith Stevens Date: 2021.08.27 13:52:22 -04'0

NOTE:

Georgia Power

PERMIT DRAWING

- 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.

0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB
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LEACHATE COLLECTION SYSTEM DETAILS III

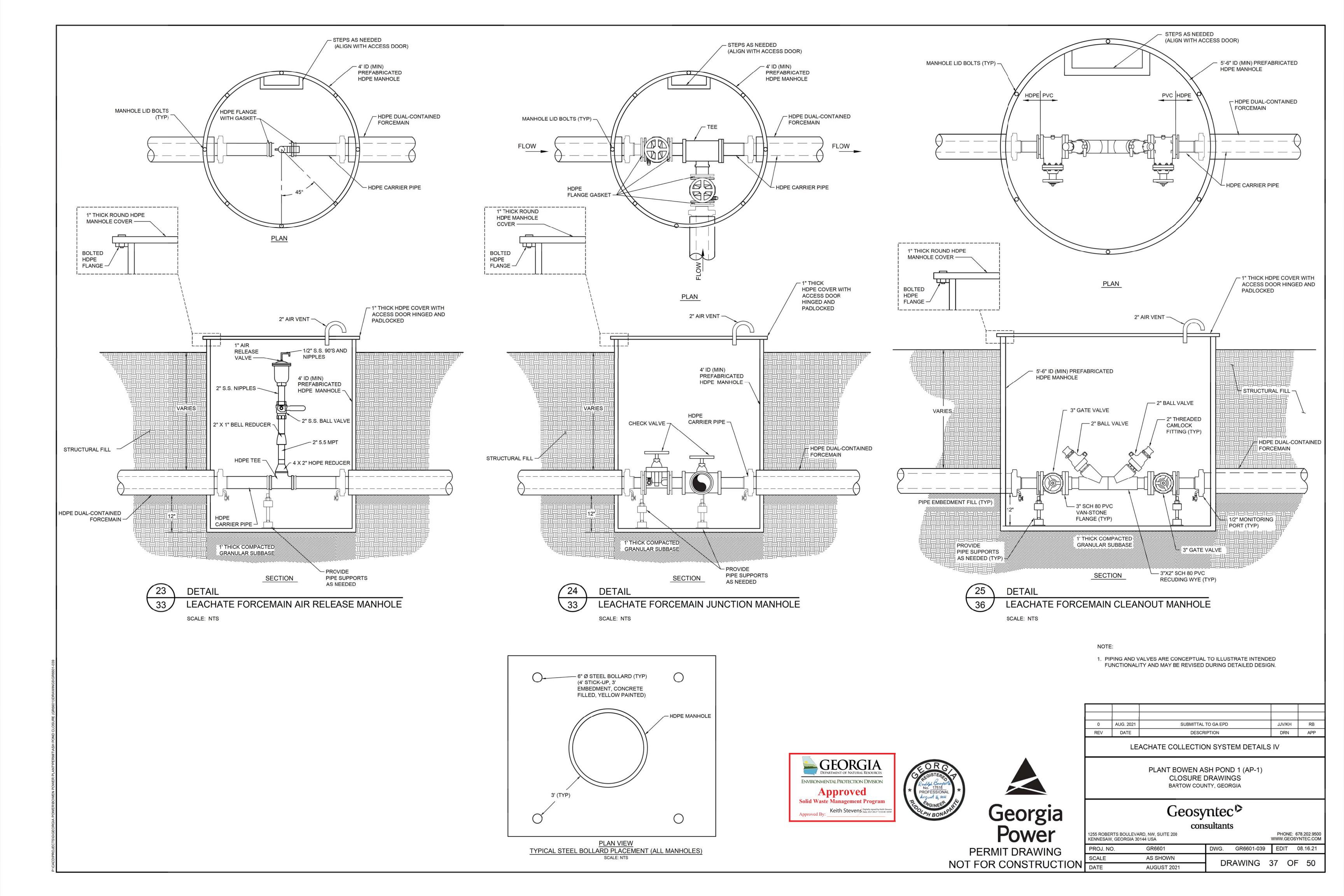
PLANT BOWEN ASH POND 1 (AP-1) **CLOSURE DRAWINGS** BARTOW COUNTY, GEORGIA

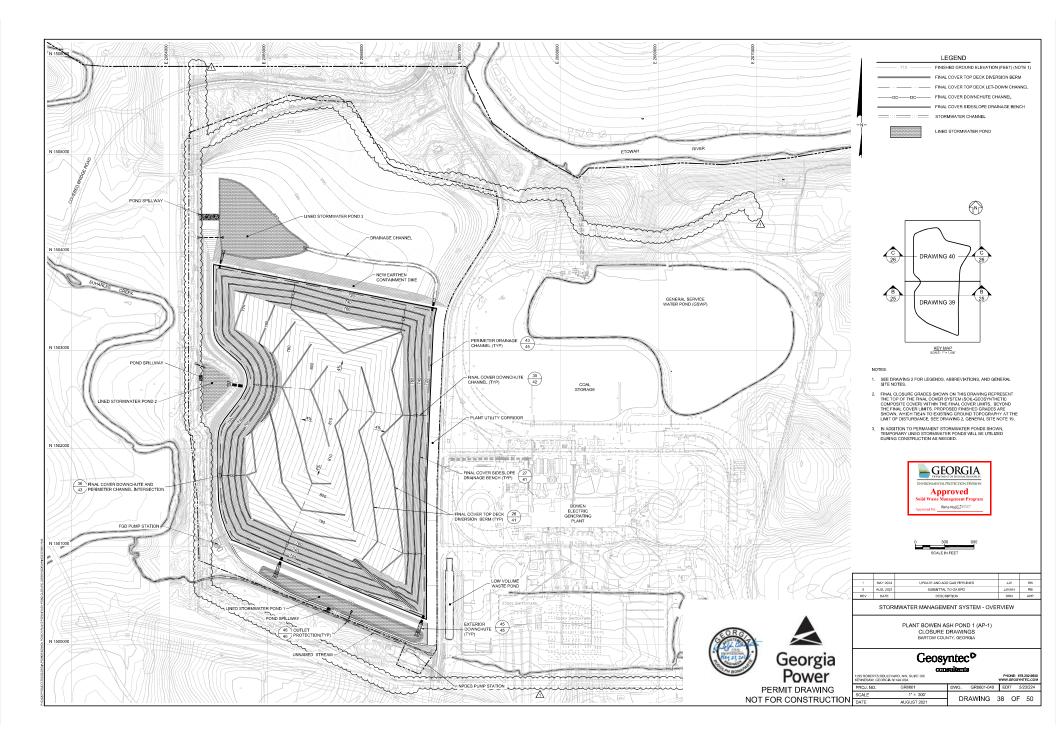
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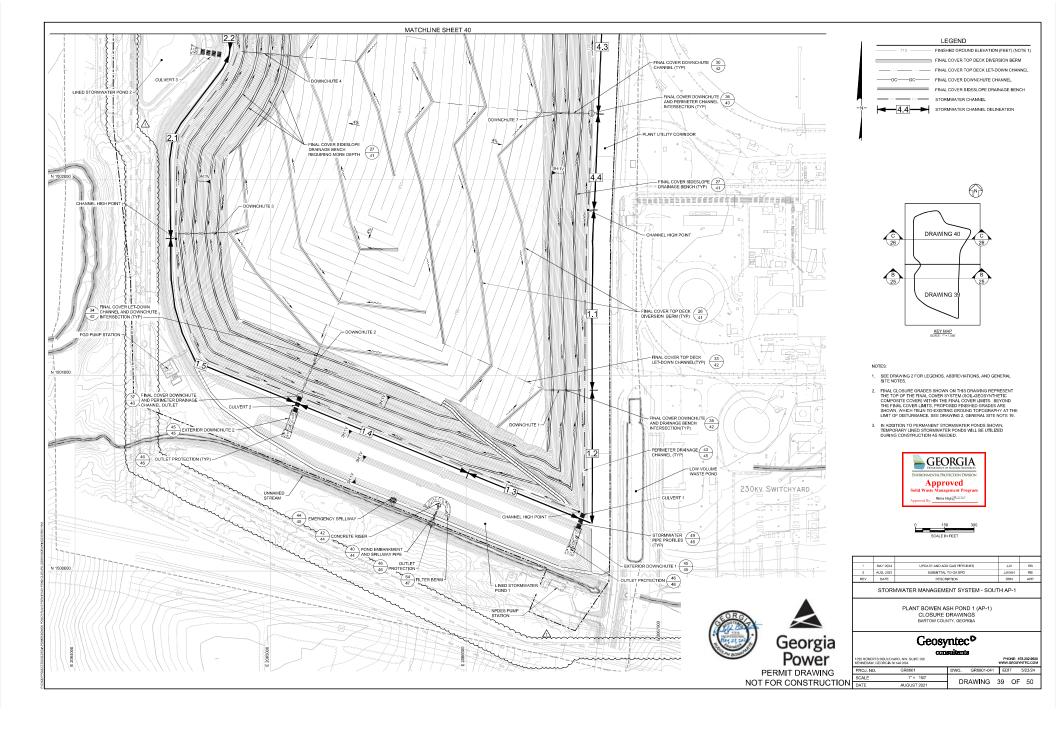
consultants

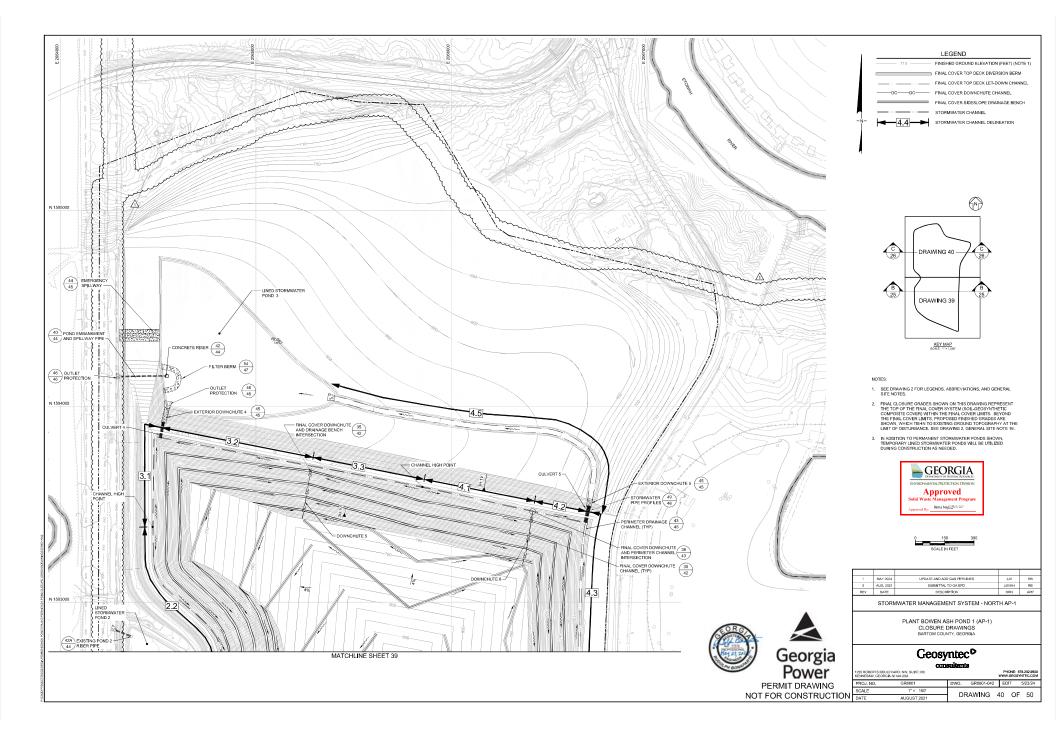
PHONE: 678.202.9500 WWW.GEOSYNTEC.COM

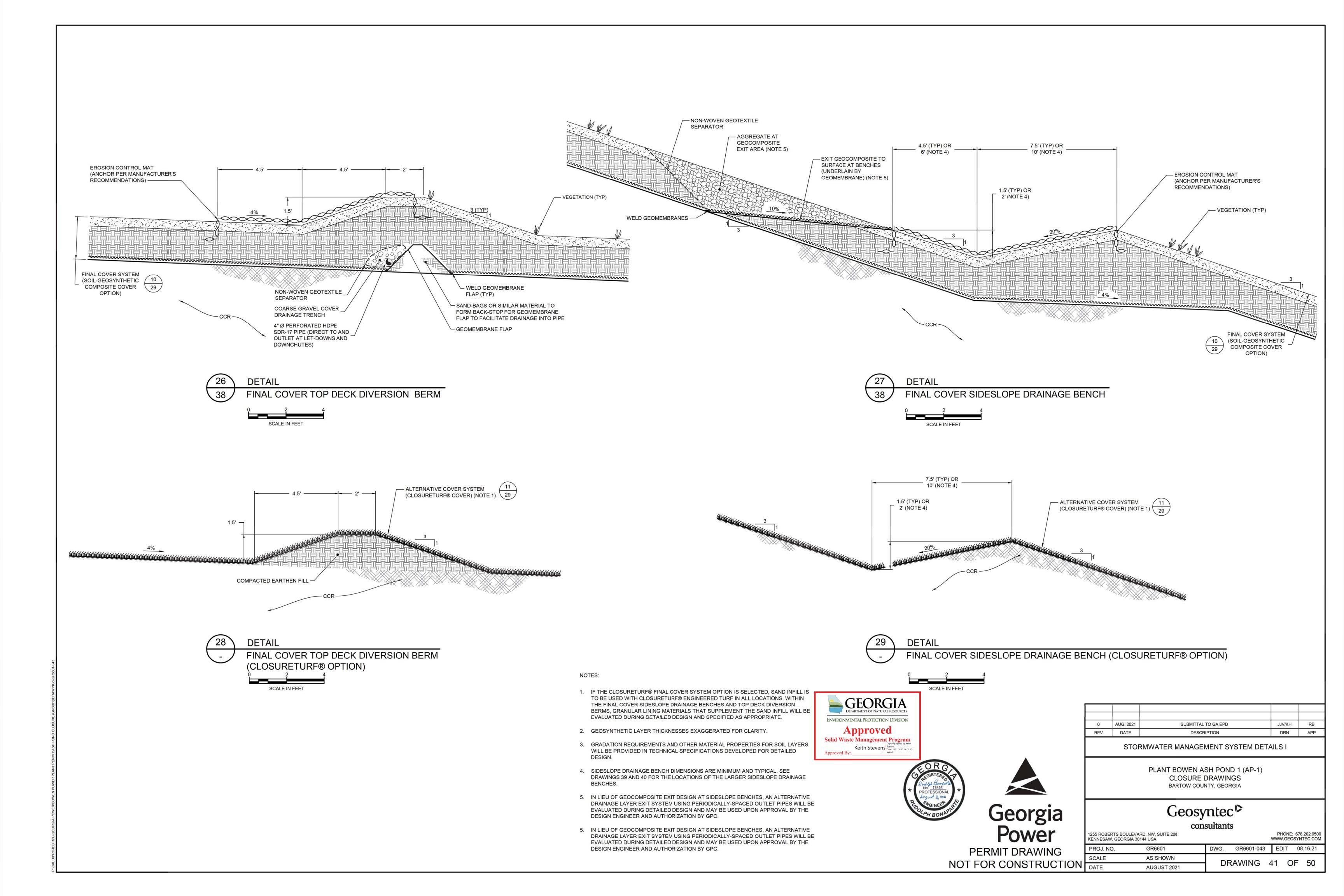
1255 ROBERTS BOULEVARD, NW, SUITE 200 KENNESAW, GEORGIA 30144 USA PROJ. NO. DWG. GR6601-038 EDIT 08.16.21 GR6601 NOT FOR CONSTRUCTION DATE AS SHOWN DRAWING 36 OF 50 AUGUST 2021

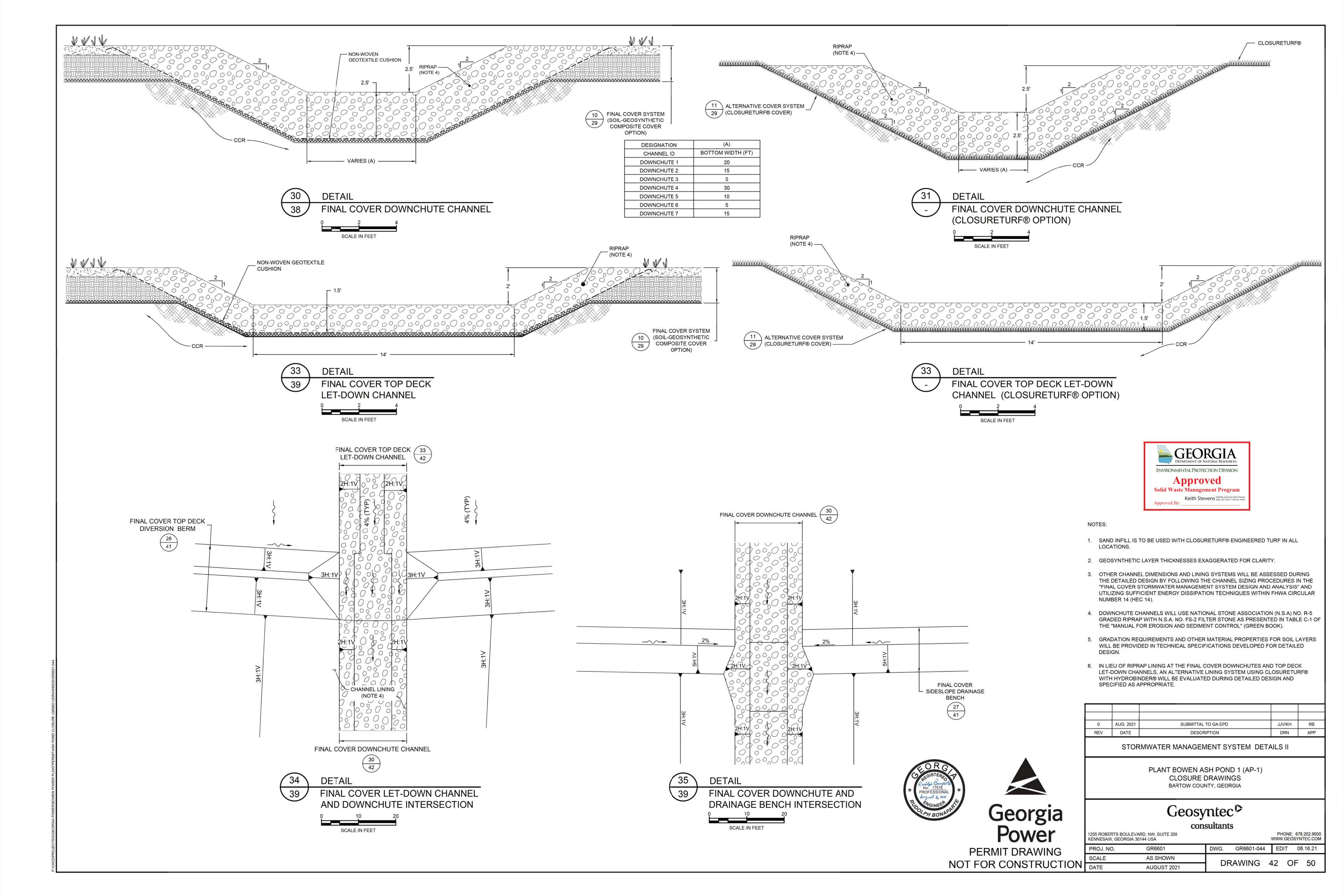


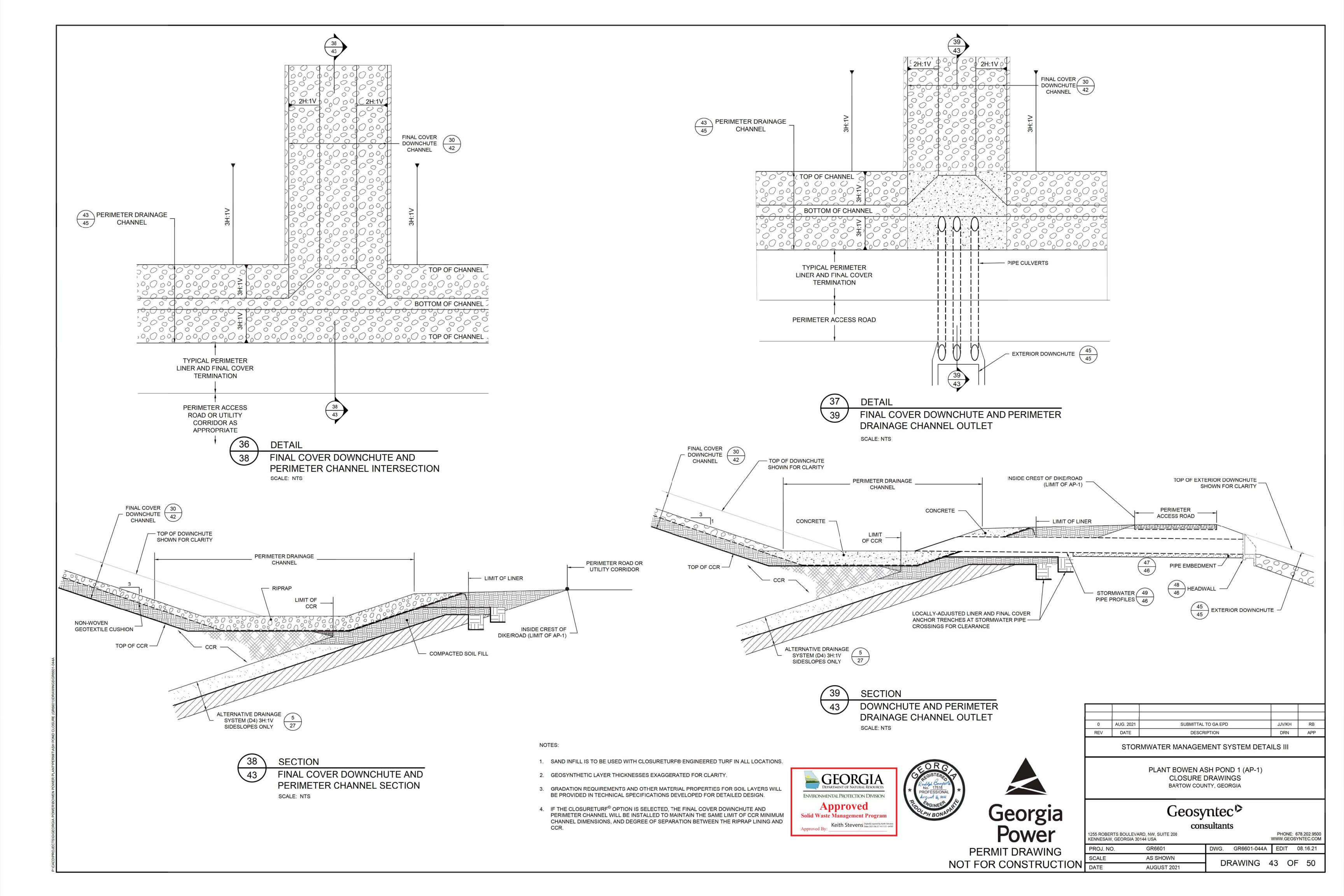


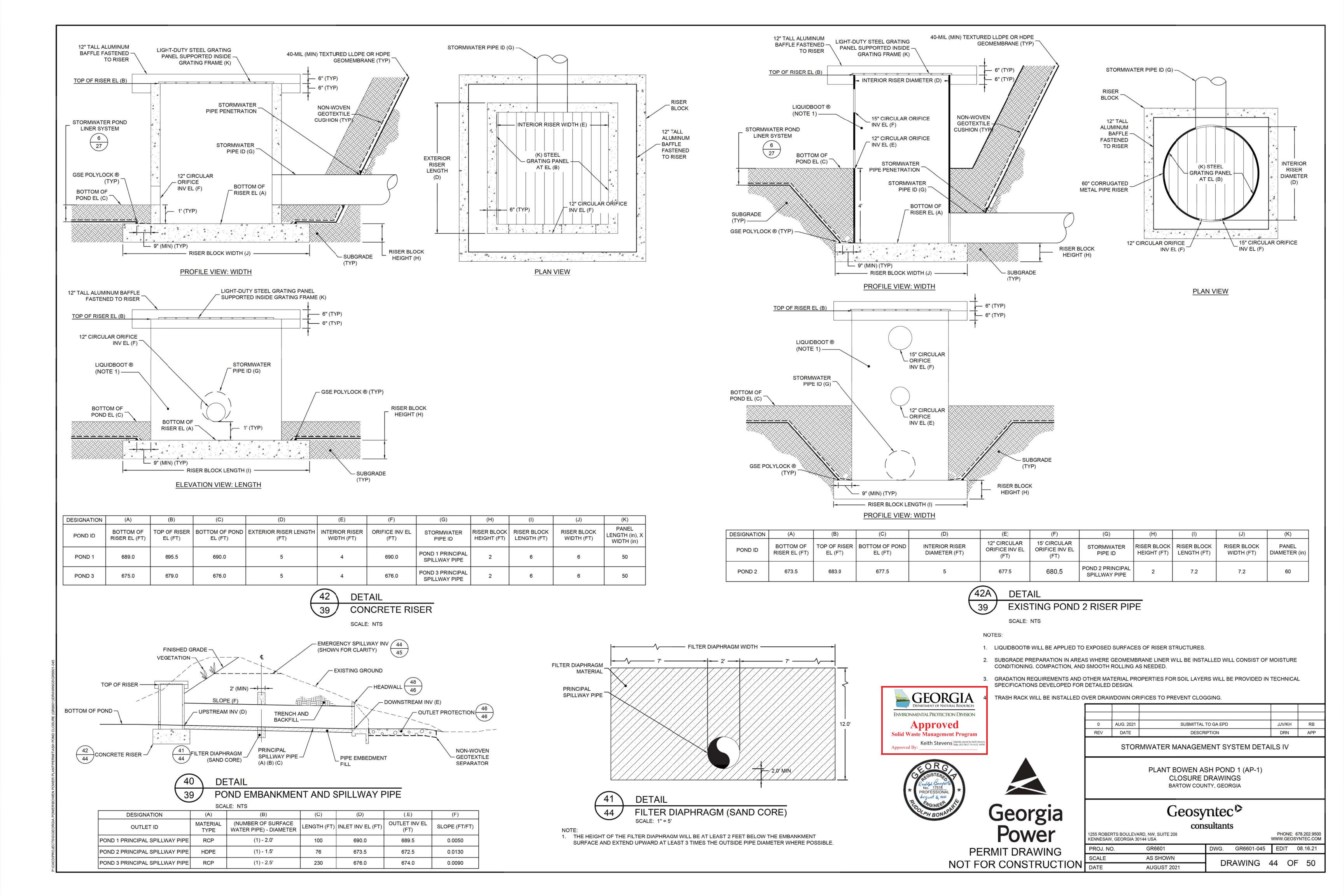








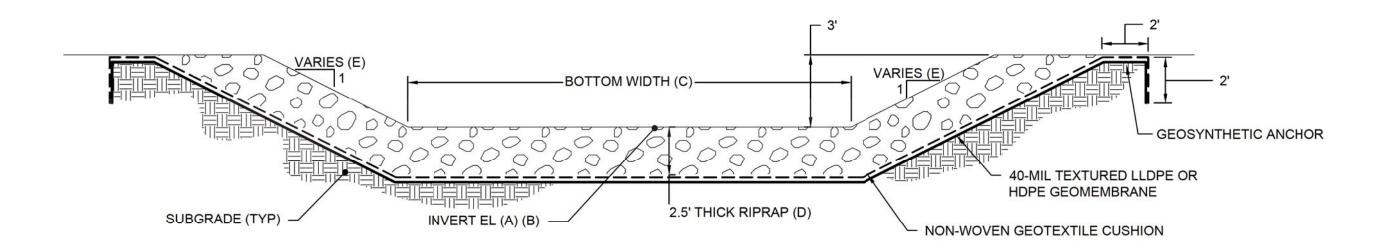




DESIGNATION			(A)	(B)	(C)	(D)	(E)	(F)
PERIMETER CHANNEL ID	LENGTH (FT)	SLOPE (FT/FT)	UPSTREAM INVERT EL (FT)	DOWNSTREAM INVERT EL (FT)	MIN DEPTH (FT)	BOTTOM WIDTH (FT)	RIPRAP STONE GRADE (FILTER STONE GRADE) (NOTE 2)	RIPRAP LINING THICKNESS
1.1	934	0.005	716.86	712.19	2.5	3	N.S.A. No. R-4 (FS-2)	1.5
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

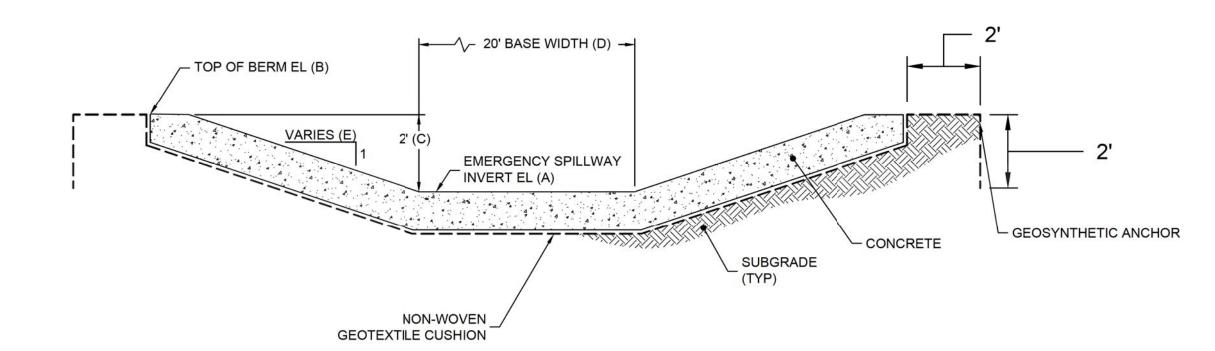
PERIMETER DRAINAGE CHANNEL

SCALE: NTS



DESIGNATION			(A)	(B)	(C)	(D)	(E)
EXTERIOR DOWNCHUTE	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





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



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.







STORMWATER MANAGEMENT SYSTEM DETAILS V PLANT BOWEN ASH POND 1 (AP-1) **CLOSURE DRAWINGS** BARTOW COUNTY, GEORGIA

0 AUG. 2021

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SUBMITTAL TO GA EPD

DESCRIPTION

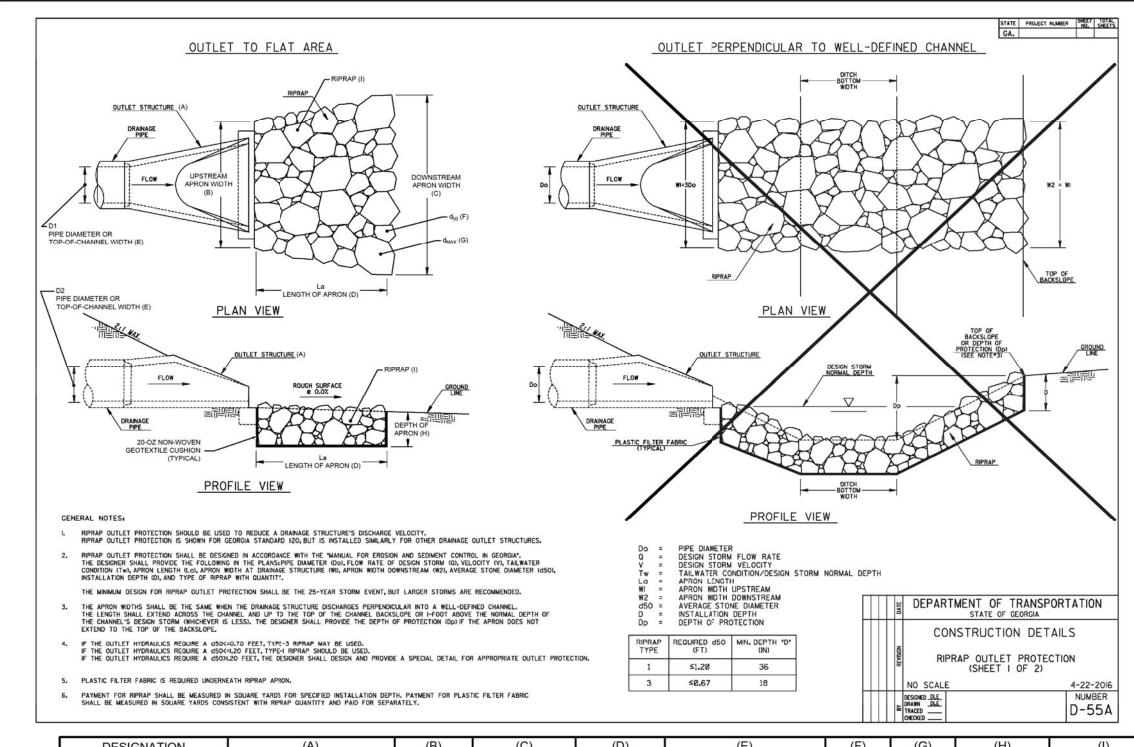
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JJV/KH

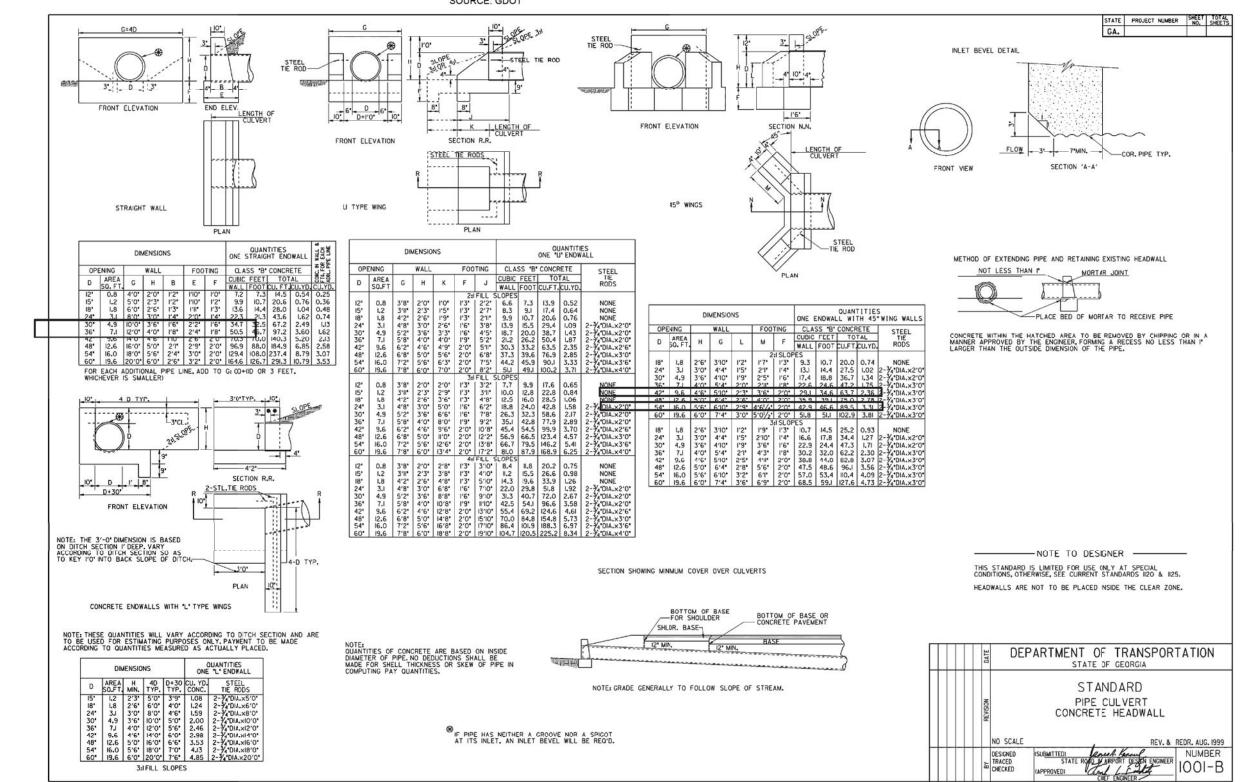
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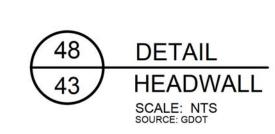
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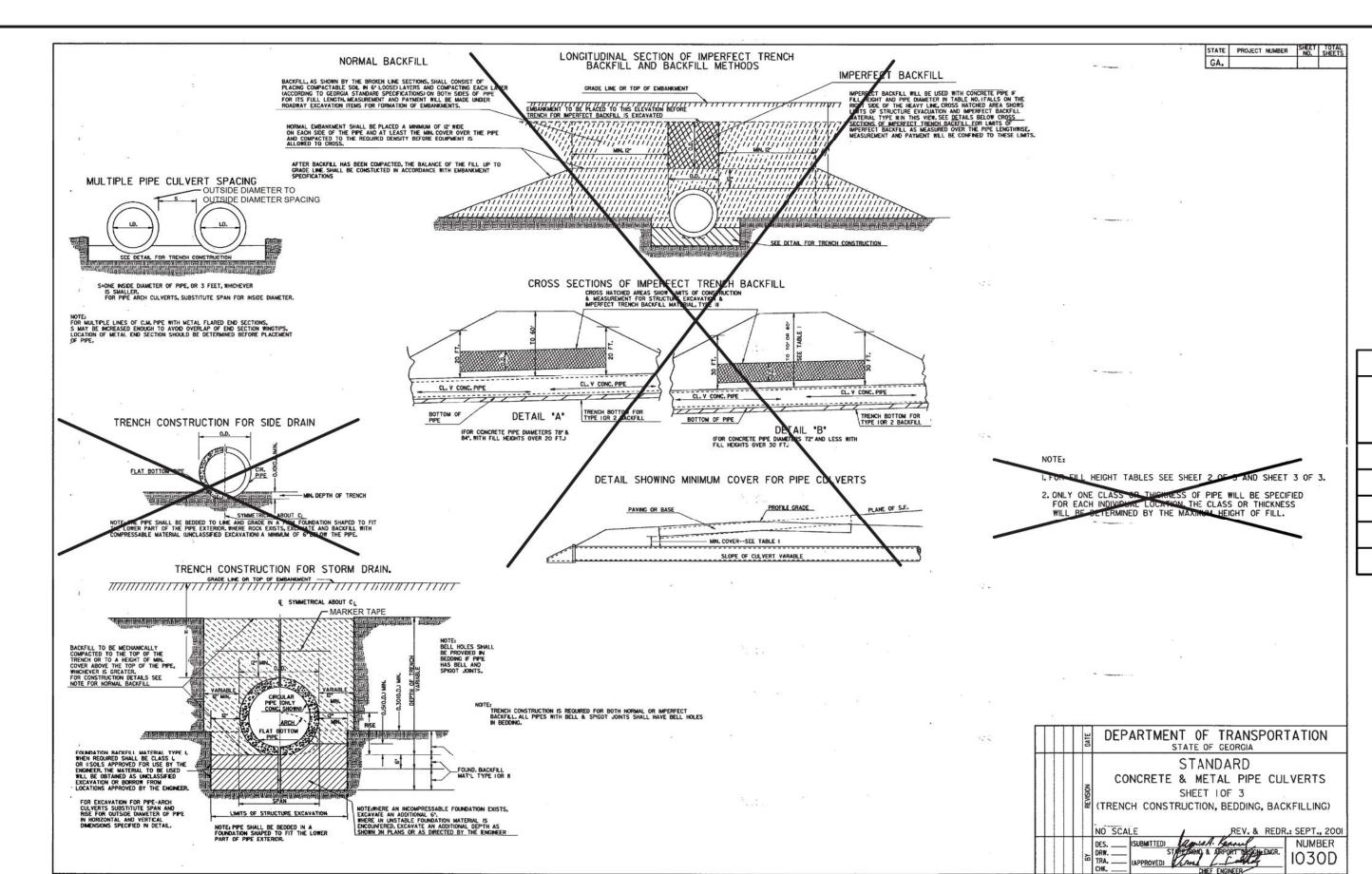


DESIGNATION	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(1)
OUTLET ID	OUTLET TYPE	UPSTREAM APRON WIDTH (FT)	DOWNSTREAM APRON WIDTH (FT)	LENGTH OF APRON (FT)	PIPE DIAMETER OR (TOP-OF-CHANNEL WIDTH x DEPTH) (FT)	d50 (in.)	dmax (in.)	DEPTH OF APRON (FT)	RIPRAP STONE GRADE (FILTER STONE GRADE) (NOTE 3)
POND 1 PRINCIPAL 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)

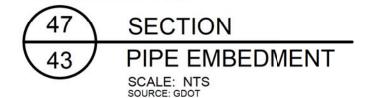


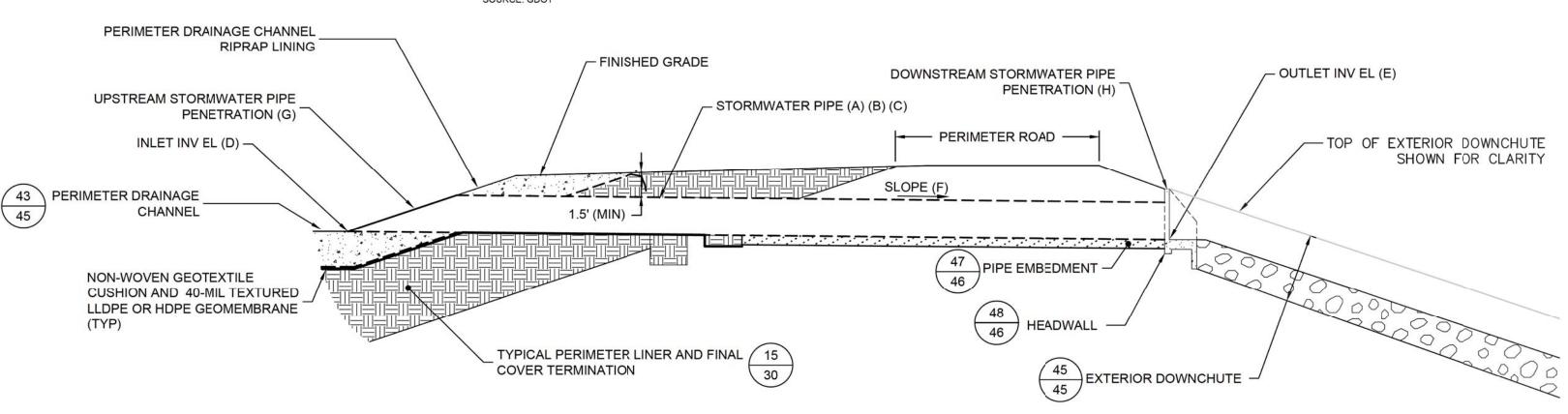






			(S)
NUMBER OF PIPES	NOMINAL PIPE DIAMETER (FT)	MINIMUM TRENCH WIDTH (FT)	OUTSIDE DIAMETER TO OUTSIDE DIAMETER SPACING (FT)
1	3	6	3
2	3	13	3
3	3	20	3
4	3	26	3
5	3	33	3





DESIGNAT ION	(A)	(B)	(C)	(D)	(.E)	(F)	(G)	(H)
CULVERT ID	MATERIAL TYPE	(NUMBER OF SURFACE WATER PIPE) - DIAMETER	LENGTH	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 **DETAIL** STORMWATER PIPE PROFILES 39

SCALE: NTS





Georgia Power PERMIT DRAWING

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).

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

STORMWATER MANAGEMENT SYSTEM DETAILS VI

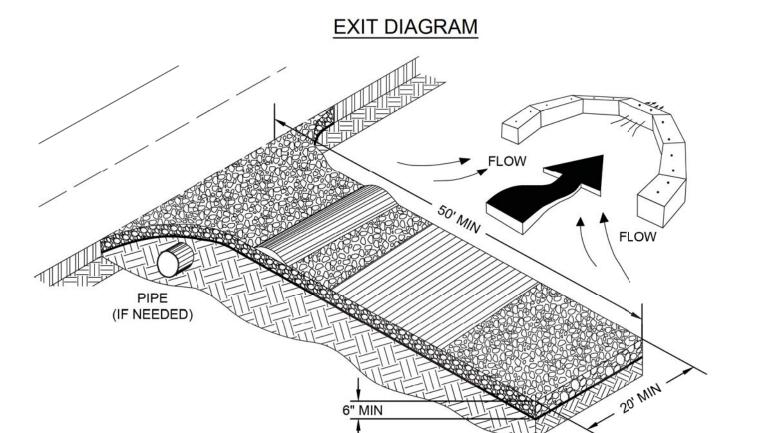
PLANT BOWEN ASH POND 1 (AP-1) **CLOSURE DRAWINGS** BARTOW COUNTY, GEORGIA

Geosyntec (>

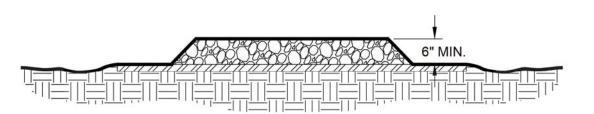
1255 ROBERTS BOULEVARD, NW, SUITE 200

consultants PHONE: 678.202.9500 WWW.GEOSYNTEC.COM

KENNESAW, GEORGIA 30144 USA DWG. GR6601-048 EDIT 08.16.21 PROJ. NO. SCALE AS SHOWN NOT FOR CONSTRUCTION DATE DRAWING 46 OF 50 AUGUST 2021

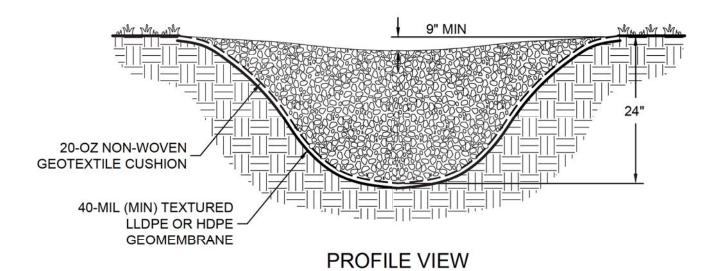


ENTRANCE ELEVATION

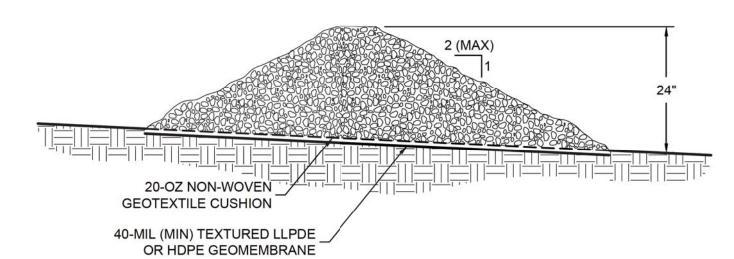


- 1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
- 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
- 3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
- 4. GRAVEL PAD 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
- 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.





CROSS SECTION



- 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
- 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.



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)

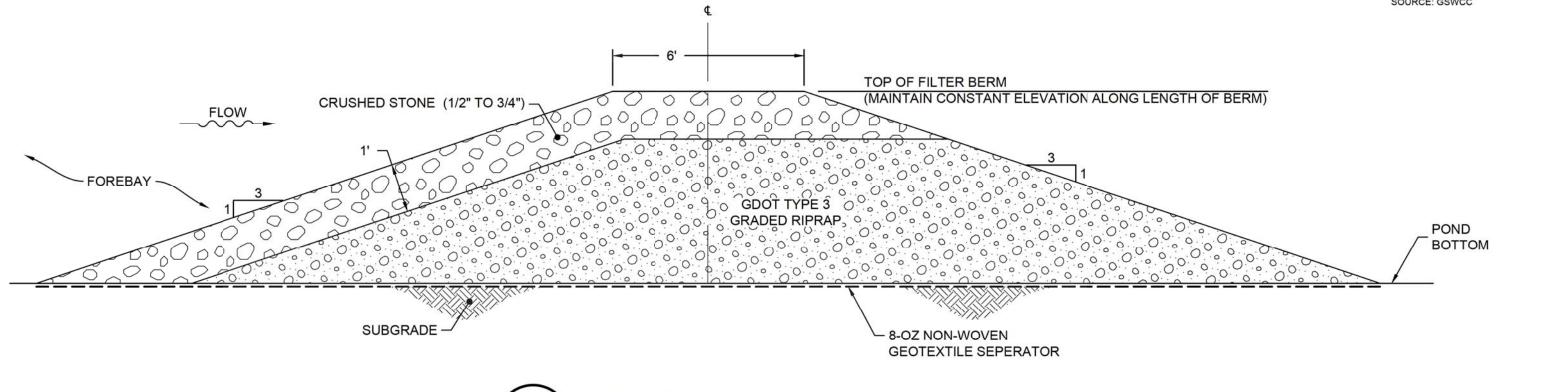
VEGETATIVE COVER. SEE SPECIFICATION Ds2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

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.









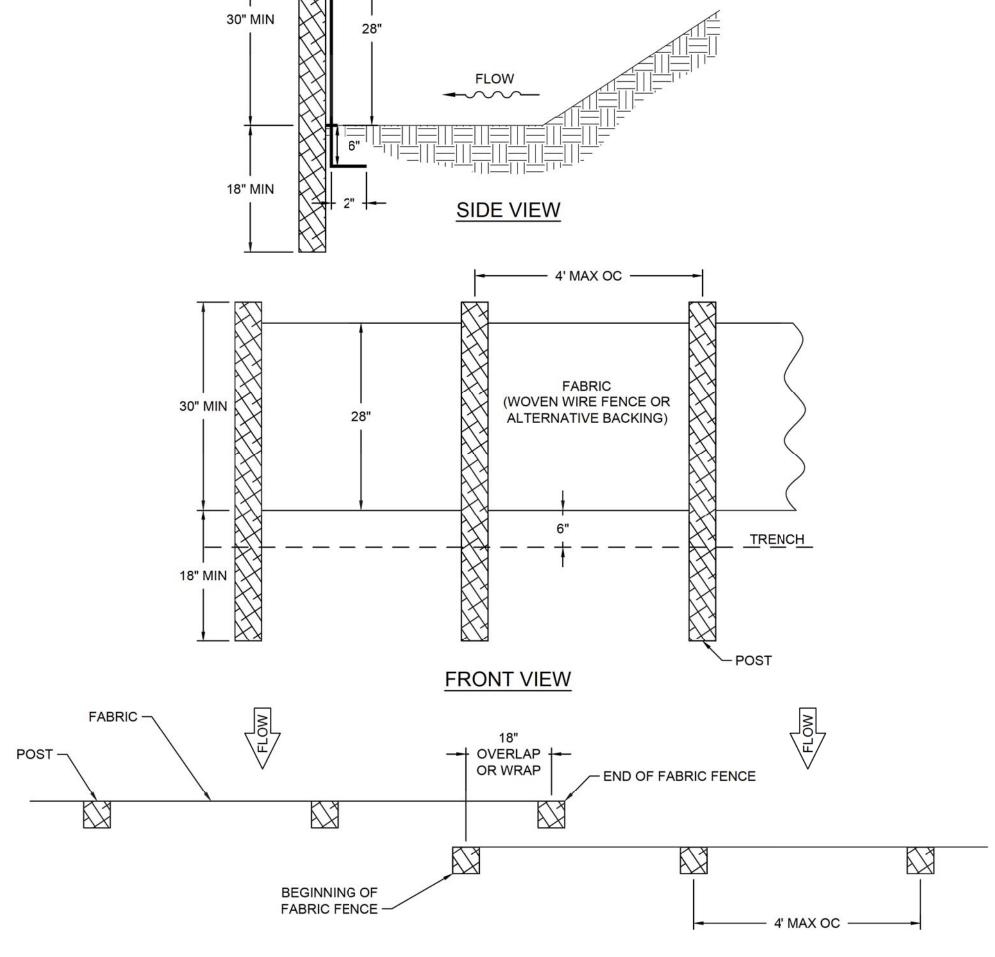
GENERAL EROSION AND SEDIMENT CONTROL NOTES

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

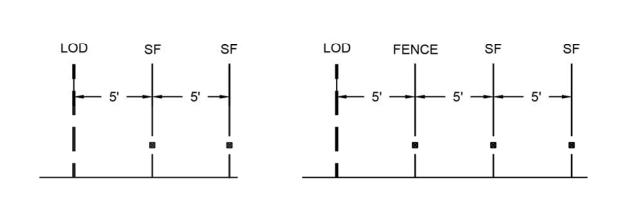
DISCHARGE GENERAL PERMIT AND/OR THE FACILITY'S NPDES INDUSTRIAL WASTEWATER DISCHARGE INDIVIDUAL PERMIT. 2. STORM WATER DISCHARGES ASSOCIATED WITH ASH POND CLOSURE ACTIVITIES WILL BE COVERED UNDER THE APPLICABLE NPDES CONSTRUCTION STORMWATER DISCHARGE GENERAL PERMIT, NPDES INDUSTRIAL STORMWATER DISCHARGE 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.







T FENCE PLACEMENT
MAXIMUM LENGTH OF SLOPE ABOVE FENCE (FEET)
100
75
50
25
15

SILT FENCE SPACING

- 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.

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 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.
- 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

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

- 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
- 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).



DETAIL

SILT FENCE - TYPE C



SUBMITTAL TO GA EPD AUG. 2021 JJV/KH REV DATE DESCRIPTION DRN APP **EROSION AND SEDIMENT CONTROL DETAILS I**

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

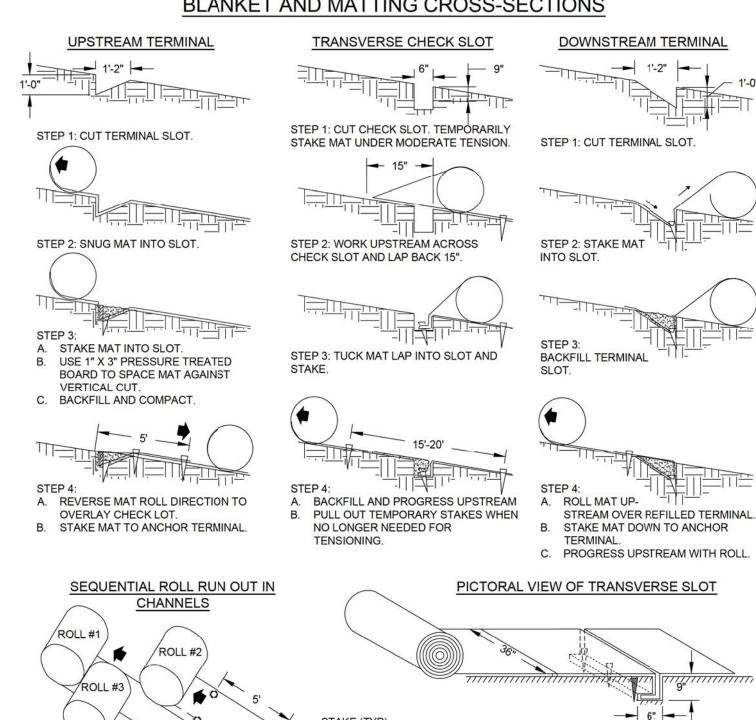
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KENNESAW, GEORGIA 30144 USA WWW.GEOSYNTEC.COM DWG. GR6601-049 EDIT 08.16.21 PROJ. NO. PERMIT DRAWING SCALE AS SHOWN NOT FOR CONSTRUCTION DRAWING 47 OF 50 AUGUST 2021

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS



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.

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.

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: C-FACTOR (MAX) SLOPE (H:V)

3:1 OR GREATER

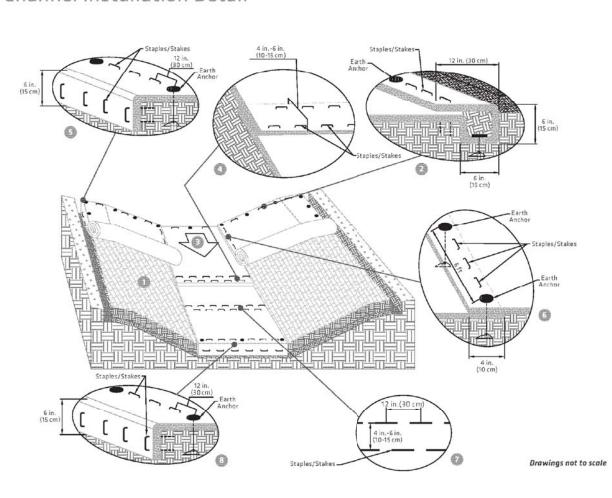
FOR A PRODUCT OR PRACTICE TO BE APPROVED AS SLOPE STABILIZATION, THAT PRODUCT OR PRACTICE MUST HAVE A DOCUMENTED C-FACTOR OF 0.080, AS SPECIFIED BY GSWCC. FOR COMPLETE TEST PROCEDURES AND APPROVED PRODUCTS LIST PLEASE VISIT WWW.GASWCC.GEORGIA.GOV.

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
- 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.

SOURCE: GWSCC

Channel Installation Detail



4. Place consecutive HPTRMs end over end (shingle style) with

to secure HPTRMs.

the trench after stapling.

a 4 in. x6 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

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. (15cm) deep x 6 in. (15 cm) wide trench. Backfill and compact

6. Adjacent HPTRMs must be overlapped approximately 4 in. (10 cm)

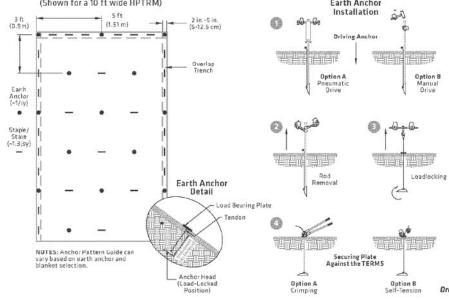
recommended at 30 ft to 40 ft (9 m-12 m) intervals. Use a double

row of staples/stakes staggered 4 in. (10 cm) apart and 12 in.

7. In high flow channel applications, a staple/stake check slot is

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.
- 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.



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.

- pullout. Longer staples and/or stakes may be needed in 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

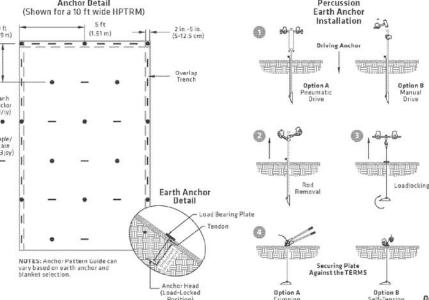
3. Lock the anchor assembly by swiftly pulling the cable

(30 cm) on center over entire width of the channel. upwards until the anchor head rotates as signaled by sudden 8. The terminal end of the HPTRMs must be anchored with a row of resistance to pulling. A hooked setting tool may be used staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) to aid in this step. deep x 6 in. (15 cm) wide trench. Backfill and compact the trench NOTE: Largeranchors may require more force to set the anchor. This can be

DETAIL

achieved through using simple mechanical equipment for greater leverage, such as a fulcium, 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

Anchoring Detail



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. 1. Staples and/or stakes should be at least 6 in. (15 cm) in Install matting as directed. C-TRM does not require soil infill length and with sufficient ground penetration to resist 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
 - 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.

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

GDOT GRADED RIPRAP (TYPE 1) -

GDOT GRADED RIPRAP (TYPE 3) -

FLOW --

8-OZ NON-WOVEN

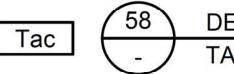
40-MIL (MIN) TEXTURED LLDPE OR HDPE GEOMEMBRANE

GEOTEXTILE SEPERATOR

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.

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.

SOURCE: GWSCC



Le = L1 + L2Le = TOTAL DISTANCE FROM THE POINT OF INFLOW AROUND THE BAFFLE TO THE RISER Normal pool—

FINISHED GRADE

STORMWATER PIPE

PENETRATION

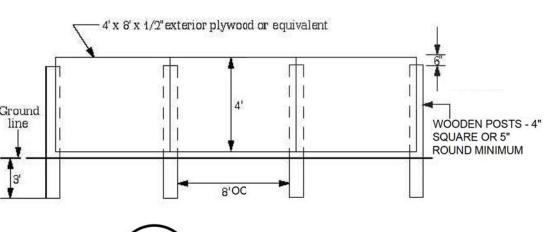
- STORMWATER PIPE (

STORMWATER PIPE

PROFILE

PERSPECTIVE

PENETRATION











Georgia Power

PERMIT DRAWING

0	AUG. 2021	SUBMITTAL TO GA EPD	JJV/KH	RB
REV	DATE	DESCRIPTION	DRN	APP
	ER	OSION AND SEDIMENT CONTROL DETAIL	S II	

PLANT BOWEN ASH POND 1 (AP-1)

CLOSURE DRAWINGS BARTOW COUNTY, GEORGIA

Geosyntec (*)

consultants

AUGUST 2021

1255 ROBERTS BOULEVARD, NW, SUITE 200 PHONE: 678.202.9500 KENNESAW, GEORGIA 30144 USA WWW.GEOSYNTEC.COM DWG. GR6601-050 EDIT 08.16.21 AS SHOWN

DRAWING 48 OF 50

NOT FOR CONSTRUCTION DATE

TURF REINFORCEMENT MATTING SCALE: NTS SOURCE: NORTH AMERICAN GREEN

PROJ. NO.

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

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).

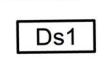
MULCHING WITHOUT SEEDING: THIS STANDARD APPLIES TO GRADED OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION

- 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.



SOURCE: GSWCC

DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

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.

WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED

- 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.

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

THIS PRACTICE IS RECOMMENDED FOR SITES OF 2H:1V OR FLATTER SLOPES WHERE:

- . 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.
- THE SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

APPLY IN SPRING FOLLOWING SEEDING.

APPLY IN 3 SPLIT APPLICATIONS.

APPLY GRASS SPECIES ONLY.

4. APPLY WHEN PLANTS ARE PRUNED.

2. APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.

6. APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

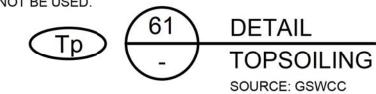
CONSTRUCTION SPECIFICATIONS

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.

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

F 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.



MAINTAINED.

SITE PREPARATION (WHERE TOPSOIL IS TO BE ADDED)

OF THE ENGINEER OR LANDSCAPE ARCHITECT.

Solid Waste Management Program Keith Stevens Date: 2021.08.27 14:25:

SEEDING RATES FOR TEMPORARY SEEDING

	OLL	DINO	I W I I	LUI	OIT	LIV	1 01	VIII	OL	ווטו	10				
BROADCAST															
SPECIES	RATES		PLANTING DATES			COMMENTS									
		J	F	М	Α	М	J	J	Α	S	0	N	D		
BARLEY ALONE	144 LBS./AC									···· —		• • • • • • • • • • • • • • • • • • • •		WINTER HARDY, USE ON	
BARLEY IN MIXTURE	24 LBS./AC									··· -		• • • • • • • • • • • • • • • • • • • •	···	PRODUCTIVE SOILS	
LESPEDEZA, ANNUAL ALONE	40 LBS./AC		•••	_	• • • • • • • • • • • • • • • • • • • •									MAY VOLUNTEER FOR SEVERAL	
LESPEDEZA, ANNUAL IN MIXTURE	10 LBS./AC		•••	-										YEARS. USE INOCULANT TYPE EL.	
LOVEGRASS, WEEPING	4 LBS./AC			••••										MAY LAST FOR SEVERAL	
ALONE LOVEGRASS, WEEPING IN MIXTURE	2 LBS./AC													YEARS. MIX WITH SERICEA LESPEDEZA.	
MILLET, BROWNTOP ALONE	40 LBS./AC													QUICK DENSE COVER. WILL PROVIDE TOO MUCH COMPETITION	
MILLET, BROWNTOP IN MIXTURE	10 LBS./AC													IN MIXTURES IF SEEDED AT HIGH RATES.	
MILLET, PEARL ALONE	50 LBS./AC									•				QUICK DENSE COVER. MAY REACH FEET IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.	
OATS ALONE	128 LBS./AC									··· -				USE ON PRODUCTIVE SOILS. NOT A	
OATS IN MIXTURE	32 LBS./AC									···-				WINTER HARDY AS RYE OR BARLEY	
RYE ALONE	168 LBS./AC									··· -				QUICK COVER. DROUGHT	
RYE IN MIXTURE	28 LBS./AC									··· -				TOLERANT AND WINTER HARDY.	
RYEGRASS, ANNUAL ALONE	40 LBS./AC				•••						Š		— …	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 SOUTHER	
TRITICALE IN MIXTURE	24 LBS./AC										•••			COASTAL PLAIN AND IN ATLANTIC COASTAL FLATWOODS ONLY.	
WHEAT ALONE	180 LBS./AC									••••				WINITED HARDY	
WHEAT WITH OTHER PERENNIALS	30 LBS./AC												_	WINTER HARDY.	

SEEDING

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

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

TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED. WITH THE REMAINING REQUIRED APPLICATION RATE. 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.

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

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.

AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR pH.





DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

APPLICATIONS SHOULD BE MADE WHEN NEEDED.

LATEST EDITION, FOR MORE INFORMATION.

QUICK ACTING LIME SHOULD BE INCORPORATED TO MODIFY PH DURING THE

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,

EQUIPMENT, FERTILIZER SHALL BE HYDRAULICALLY APPLIED, PREFERABLY IN

SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND

CYCLONE SEEDER, DRILL, CULTIPACKER-SEEDER, OR HYDRAULIC SEEDER

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,

TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT

THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL

GERMINATION AND VEGETATION ESTABLISHMENT. MULCH WITHOUT SEEDING

CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED

TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT

HOWEVER, THE USE OF MULCH CAN OFTEN ACCELERATE AND ENHANCE

SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO

DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT

Ds1-DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND,

(SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER

GERMINATION PERIOD. BIO STIMULANTS SHOULD ALSO BE CONSIDERED

WHEN THERE IS LESS THAN 3% ORGANIC MATTER IN THE SOIL. GRADED

RIPPER, OR CHISEL. ON SLOPES TOO STEEP FOR OR INACCESSIBLE TO

SOURCE: GSWCC

FERTILIZER REQUIREMENTS WARM SEASON GRASSES

YEAR	EQUIVALENT N-P-K	ANALYSIS OR RATE	N TOP DRESSING					
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							
			N					
YEAR	EQUIVALENT N-P-K	ANALYSIS OR RATE	TOP DRESSING					
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.						

PLANT, PLANTING RATE & PLANTING DATE FOR PERMANENT COVER

SPECIES	BROADCAST RATES					PLA	ANTIN	G DAT	PLANTING DATE REMARKS					
		J	F	М	Α	М	J	J	Α	S	0	N	D	
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
WILMINGTON BAHIA WITH OTHER PERENNIALS	30 LBS./AC		••••											PASTURES AND LAWNS. MIX WITH SERICEA LESPEDEZA.
TALL FESCUE ALONE	50 LBS./AC													USE ALONE ONLY ON BETTER SITES. MIX WITH PERENNIAL LESPEDEZA OR CROWNVETCH. APPLY TOP DRESSING IN
TALL FESCUE WITH OTHER PERENNIALS	30 LBS./AC								•••		_			SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
REED CANARY GRASS ALONE	50 LBS./AC								•••		— …			
REED CANARY GRASS WITH OTHER PERENNIALS	30 LBS./AC									<u>.</u>	_	•••	119	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.

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.

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

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 UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND AFTER THE MIXTURE IS MADE PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. 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

- 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.
- TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE.
- HYDRAULIC SEEDING MAY ALSO BE USED.

TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.

NDIVIDUAL PLANTS

- 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.
- 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.

HYDRAULIC SEEDING

MIX THE SEED (INNOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY

CONVENTIONAL SEEDING 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

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.

FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE

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 EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES

> 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
- 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. 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.
- SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE. 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. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK
- SOD, MULCH IS NOT REQUIRED. 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.

PPLYING MULCH

RAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS TER SEEDING AND/OR PLANTING. THE MULCH MAY BE SPREAD BY LOWER-TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE. OOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY ITH 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

SOURCE: GSWCC

DISTURBED AREA STABILIZATION (WITH PERMANENT **VEGETATION**)





PERMIT DRAWING NOT FOR CONSTRUCTION

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

BE VERIFIED NONTOXIC THROUGH EPA 2021.0 TESTING. REFER TO

- 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

TOPSOILING - WHEN TOPSOILING, MAINTAIN NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE

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

1. TILLING, AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO

2. TRACKING. PASSING A BULLDOZER OVER THE ENTIRE SURFACE AREA OF THE SLOPE TO LEAVE HORIZONTAL

TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL

PER 1,000 SQUARE FEET. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE

DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENED BY DISCING OR SCARIFYING TO A

2. A UNIFORM APPLICATION OF 6 INCHES (UNSETTLED) IS RECOMMENDED, BUT MAY BE ADJUSTED AT THE DISCRETION

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

STABILIZATION STRUCTURES, BERMS, DIKES, LEVEL SPREADERS, WATERWAYS, SEDIMENT BASINS, ETC.

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:

DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL

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.
- 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.

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.

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EROSION AND SEDIMENT CONTROL DETAILS III

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