

Attachment A

Pond Closure Drawings

CROSS REFS:

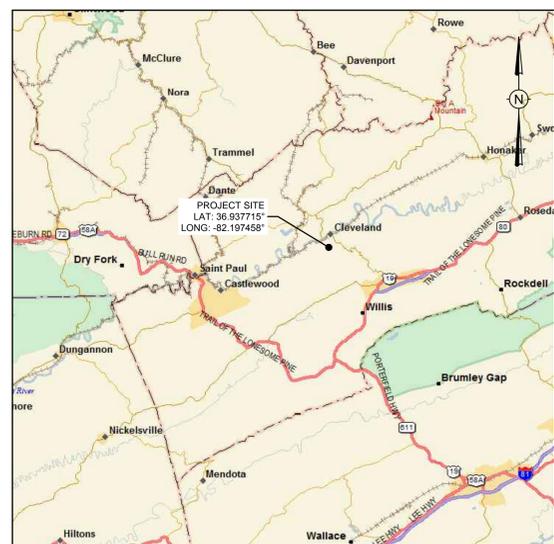
# POND 1A/1B CLINCH RIVER PLANT ASH DISPOSAL AREA CLOSURE PLAN

## APPALACHIAN POWER COMPANY, CLINCH RIVER PLANT CARBO, RUSSELL COUNTY, VIRGINIA

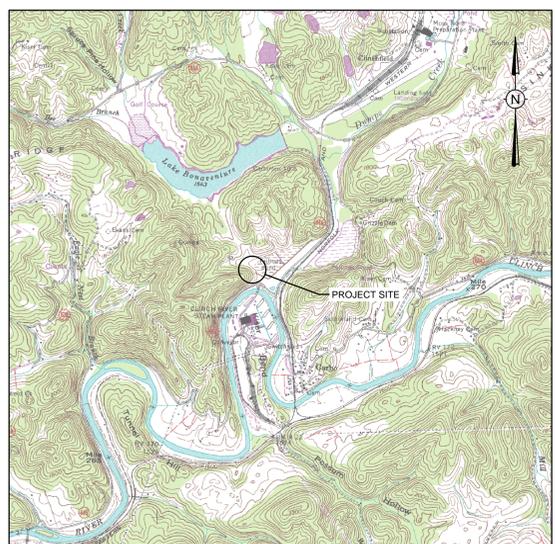
SUBMITTED AND OWNED BY:  
APPALACHIAN POWER COMPANY  
1 RIVERSIDE PLAZA, COLUMBUS, OHIO 43215

PREPARED BY:  
AMERICAN ELECTRIC POWER SERVICE CORPORATION  
1 RIVERSIDE PLAZA, COLUMBUS, OHIO 43215  
AND  
AMEC FOSTER WHEELER ENVIRONMENT & INFRASTRUCTURE, INC.  
9725 COGDILL ROAD, KNOXVILLE, TENNESSEE 37932

SEPTEMBER 11, 2013  
REVISED SEPTEMBER 8, 2015



LOCATION MAP



VICINITY MAP



LIST OF DRAWINGS

<u>SHEET NO.</u>	<u>DRAWING NO.</u>	<u>SHEET TITLE</u>
1	13-30235-14	COVER SHEET & LOCATION MAP
2	13-30235-15	EXISTING CONDITIONS - UTILITIES MAP
3	13-30235-28	DEMOLITION PLAN
4	13-30235-16	PVC LINER SUB GRADE PLAN
5	13-30235-17	FINAL GRADING PLAN
	13-30235-18	VOIDED
	13-30235-19	VOIDED
6	13-30235-20	CROSS SECTIONS
	13-30235-21	VOIDED
7	13-30235-22	POND 1A CENTRAL COLLECTION CHANNEL
8	13-30235-29	POND 1B DIVERSION CHANNELS - PLAN VIEW & UPPER DIVERSION
9	13-30235-30	POND 1B DIVERSION CHANNELS - LOWER DIVERSION
10	13-30235-31	POND 1B DIVERSION CHANNELS - LOWER DIVERSION
11	13-30235-23	POND 1B DIVERSION STRUCTURE
12	13-30235-24	TUNNEL CONSTRUCTION
13	13-30235-25	GENERAL DETAILS
14	13-30235-26	EROSION & SEDIMENT CONTROL PLAN
15	13-30235-27	EROSION & SEDIMENT CONTROL DETAILS

DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEQ COMMENTS	
4-6-15	B	REVISED AS NOTED	
3-28-14	A	ISSUED FOR PERMIT	

REVISIONS

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
CARBO VIRGINIA

**COVER SHEET**  
POND 1A/1B DIVERSION CHANNEL  
AND ASH DISPOSAL AREA CLOSURE PLAN  
CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-14	REV:	C
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SCALE GRAPHIC	APPROVED BY:
DR:	
CH:	
SJP:	
ENG:	
DATE:	



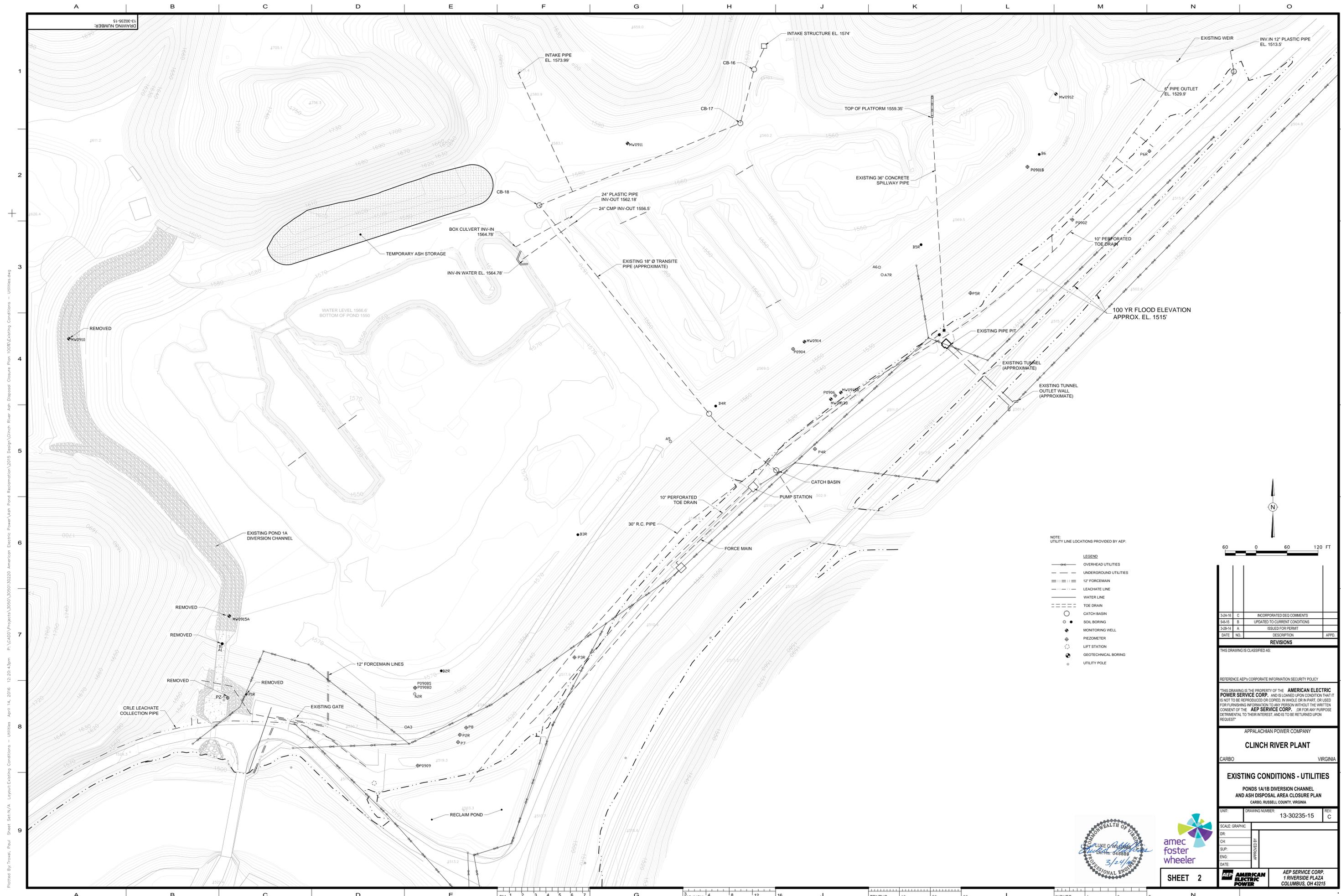
**SHEET 1**

AEP SERVICE CORP.  
1 RIVERSIDE PLAZA  
COLUMBUS, OH 43215

P:\CAD\Projects\30235\30235-14\13-30235-14.dwg American Electric Power\Ash Pond Reclamation\2015 Design\Clinch River Ash Disposal Closure Plan 100% Cover Sheet.dwg April 14, 2016 12:20:39pm

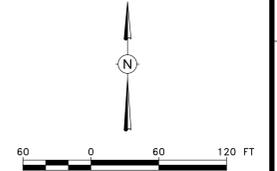
CROSS REFS:

CROSS REFS.



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 April 14, 2016 12:20:43pm  
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 April 14, 2016 12:20:43pm

- NOTE:  
UTILITY LINE LOCATIONS PROVIDED BY AEP.
- LEGEND**
- OVERHEAD UTILITIES
  - - - UNDERGROUND UTILITIES
  - 12" FORCEMAIN
  - - - LEACHATE LINE
  - WATER LINE
  - - - TOE DRAIN
  - CATCH BASIN
  - SOIL BORING
  - MONITORING WELL
  - PIEZOMETER
  - LIFT STATION
  - GEOTECHNICAL BORING
  - UTILITY POLE



DATE	NO.	DESCRIPTION	APPROV.
3-24-16	C	INCORPORATED DEO COMMENTS	
3-24-16	B	UPDATED TO CURRENT CONDITIONS	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY	
<b>CLINCH RIVER PLANT</b>	
CARBO	VIRGINIA
<b>EXISTING CONDITIONS - UTILITIES</b>	
POND 1A/1B DIVERSION CHANNEL AND ASH DISPOSAL AREA CLOSURE PLAN CARBO, RUSSELL COUNTY, VIRGINIA	

UNIT:	DRAWING NUMBER:	13-30235-15	REV:	C
SCALE GRAPHIC:	DR:			
CH:	SUP:			
ENG:	PROVISED BY:			
DATE:				



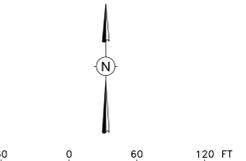
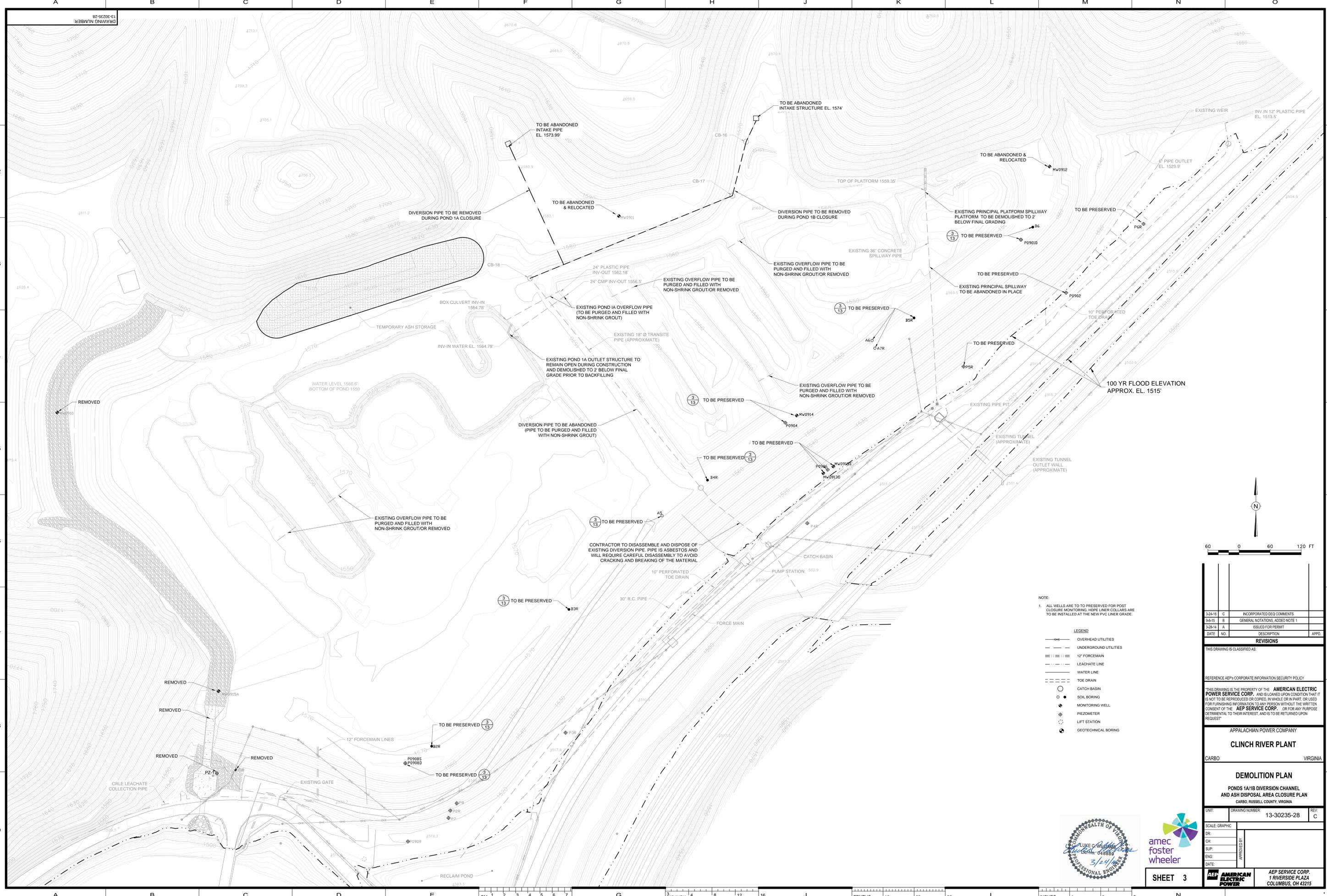
**SHEET 2**

AEP SERVICE CORP.  
1 RIVERSIDE PLAZA  
COLUMBUS, OH 43215

CROSS REFS.

CROSS REFS.

Project: B7, Travel, Pool, Sheet Set: N/A, Location: Demolition, Plan: April 14, 2016 12:20:58pm, P:\CAD\Projects\3050\3050\30220 American Electric Power\Ash Pond Remediation\2015 Design\Clinch River Ash Disposal Closure Plan 100% Demolition Plan.dwg



NOTE:  
1. ALL WELLS ARE TO BE PRESERVED FOR POST CLOSURE MONITORING. PIPE LINER COLLARS ARE TO BE INSTALLED AT THE NEW PVC LINER GRADE.

- LEGEND**
- OVERHEAD UTILITIES
  - - - UNDERGROUND UTILITIES
  - == 12" FORCEMAIN
  - - - LEACHATE LINE
  - - - WATER LINE
  - - - TOE DRAIN
  - CATCH BASIN
  - SOIL BORING
  - ⊕ MONITORING WELL
  - ⊖ PIEZOMETER
  - ⊕ LIFT STATION
  - ⊖ GEOTECHNICAL BORING

DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEO COMMENTS	
3-15-16	B	GENERAL NOTATIONS, ADDED NOTE 1	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
CARBO VIRGINIA

**DEMOLITION PLAN**  
PONDS 1A/1B DIVERSION CHANNEL  
AND ASH DISPOSAL AREA CLOSURE PLAN  
CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-28	REV:	C
SCALE:	GRAPHIC			
DR:				
CH:				
SUP:				
ENG:				
DATE:				



**SHEET 3**

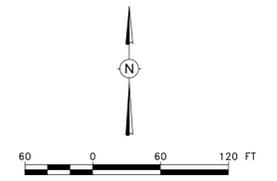
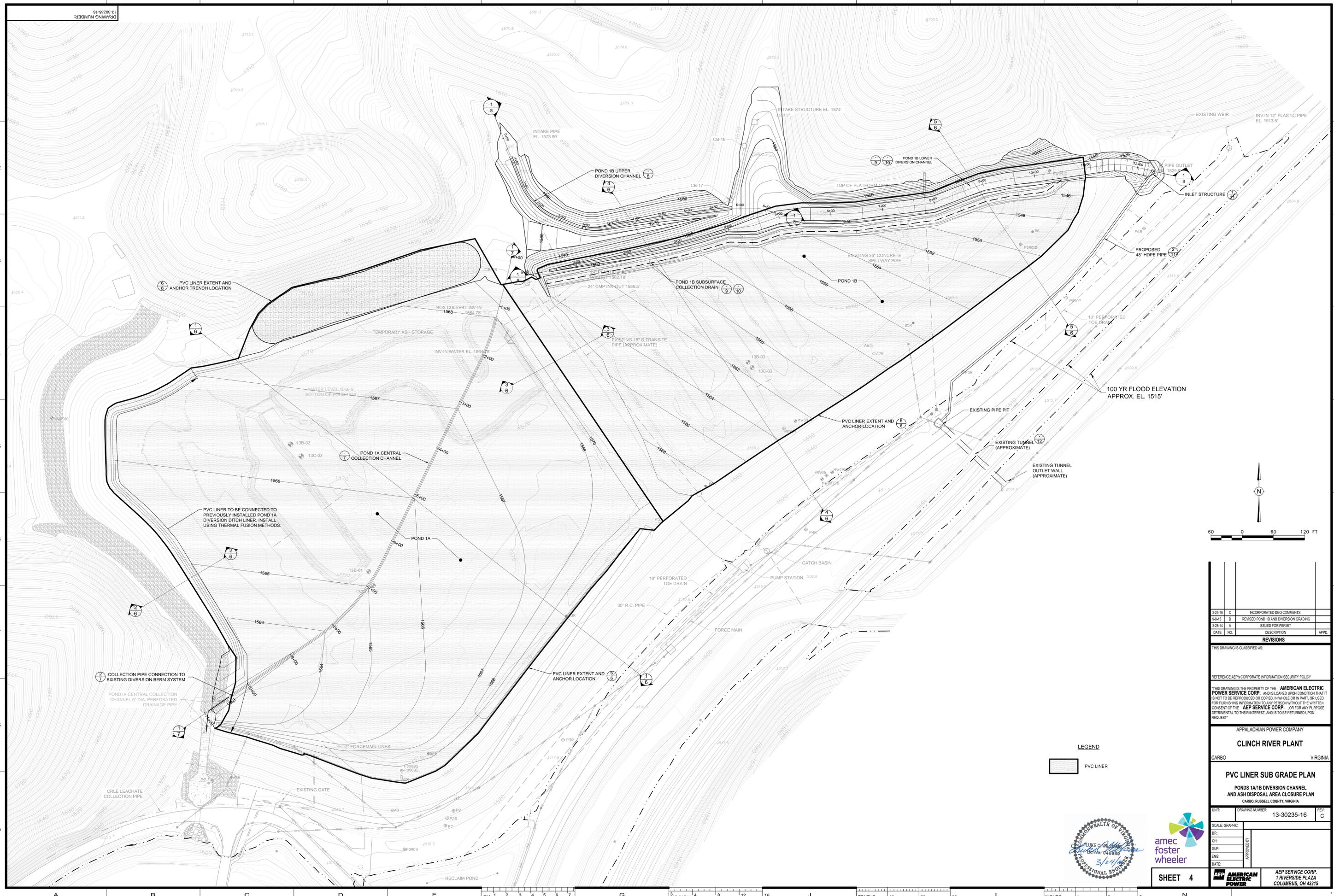
AEP SERVICE CORP.  
1 RIVERSIDE PLAZA  
COLUMBUS, OH 43215

CROSS REFS.

CROSS REFS.

DRAWING NUMBER: 13-30235-16

Project: B17 Travel Pool Sheet Set: N/A Location: PVC Liner Sub Grade Plan April 14, 2016 12:21:17pm P:\CAD\Projects\30235\30235 American Electric Power\Ash Pond Reclamation\2015 Design\Clinch River Ash Disposal Closure Plan 1023\13-30235-16 PVC Liner Sub Grade Plan.dwg



DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEQ COMMENTS	
3-24-16	B	REVISED POND 1B AND DIVERSION GRADING	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA

**PVC LINER SUB GRADE PLAN**  
 PONDS 1A/1B DIVERSION CHANNEL  
 AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT: DRAWING NUMBER: 13-30235-16 REV: C

SCALE GRAPHIC  
 DR: LUCAS WILSON  
 CH: [Signature]  
 SUP: [Signature]  
 ENG: [Signature]  
 DATE: 3/24/16

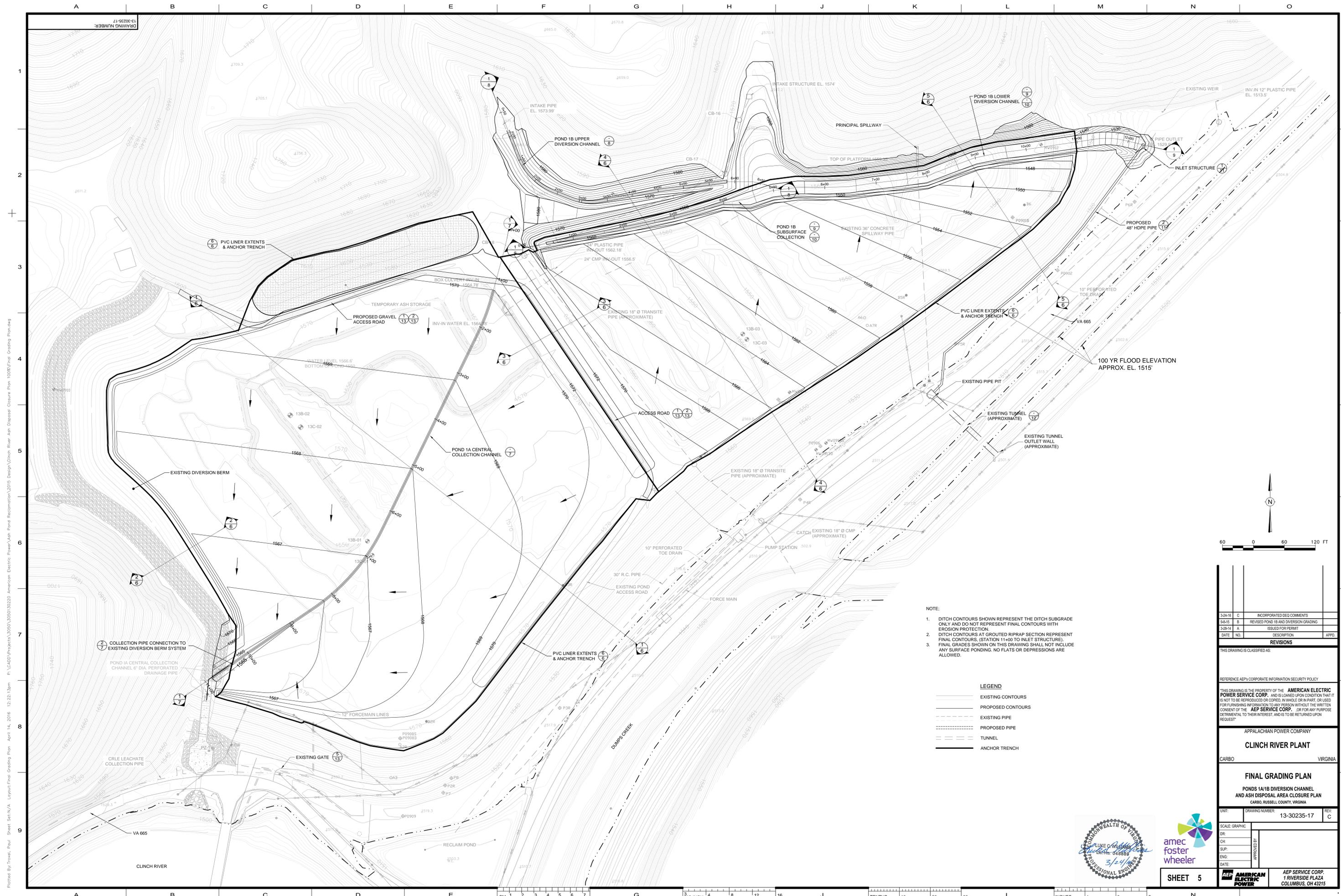
**SHEET 4**  
 AEP SERVICE CORP.  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215

**LEGEND**  
 PVC LINER



CM 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 INCHES 1 1/2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 TENTHS

CROSS REFS.

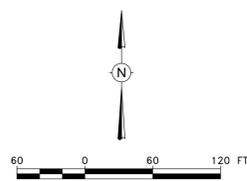


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 Date: April 14, 2016 12:22:13pm  
 P:\CAD\Projects\2015\2015032020 American Electric Power Ash Pond Recommendation 2015 Design/Clinch River Ash Disposal Closure Plan 100% Final Grading Plan.dwg

- NOTE:
- DITCH CONTOURS SHOWN REPRESENT THE DITCH SUBGRADE ONLY AND DO NOT REPRESENT FINAL CONTOURS WITH EROSION PROTECTION.
  - DITCH CONTOURS AT GROUTED RIPRAP SECTION REPRESENT FINAL CONTOURS. (STATION 11+00 TO INLET STRUCTURE)
  - FINAL GRADES SHOWN ON THIS DRAWING SHALL NOT INCLUDE ANY SURFACE PONDING. NO FLATS OR DEPRESSIONS ARE ALLOWED.

**LEGEND**

	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING PIPE
	PROPOSED PIPE
	TUNNEL
	ANCHOR TRENCH



DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEO COMMENTS	
3-24-16	B	REVISED POND 1B AND DIVERSION GRADING	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA

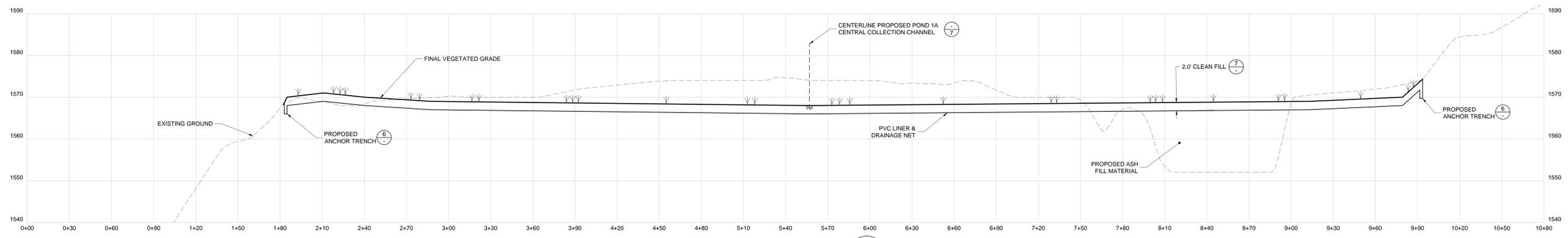
**FINAL GRADING PLAN**  
 PONDS 1A/1B DIVERSION CHANNEL  
 AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-17	REV:	C
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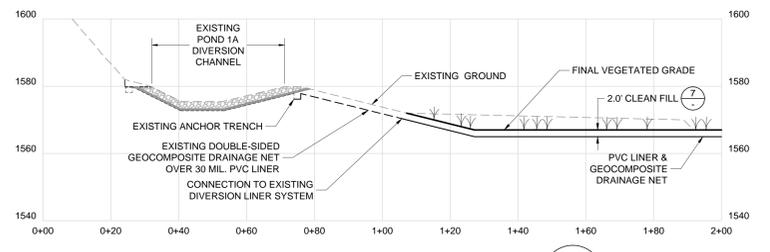
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DR:	PROVIDED BY:	
CH:		
SUP:		
ENG:		



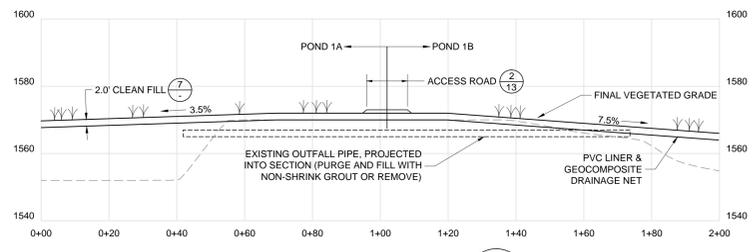
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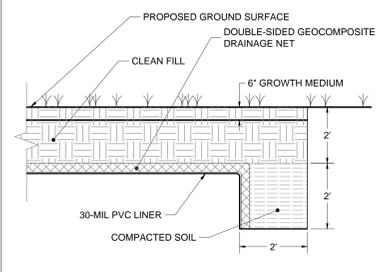
**POND 1A CROSS SECTION 1**  
VERTICAL EXAGGERATION 3X



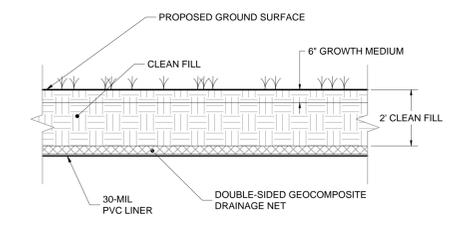
**POND 1A AND DIVERSION TYPICAL LINER CONNECTION 2**



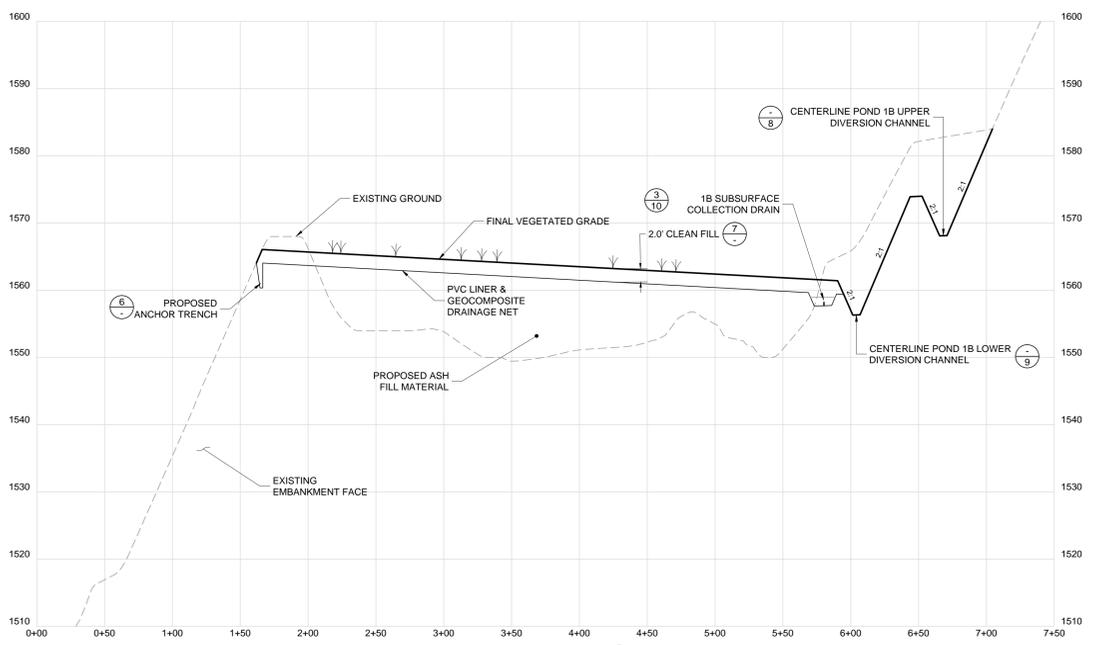
**POND 1A/1B SPLITTER DIKE SECTION 3**



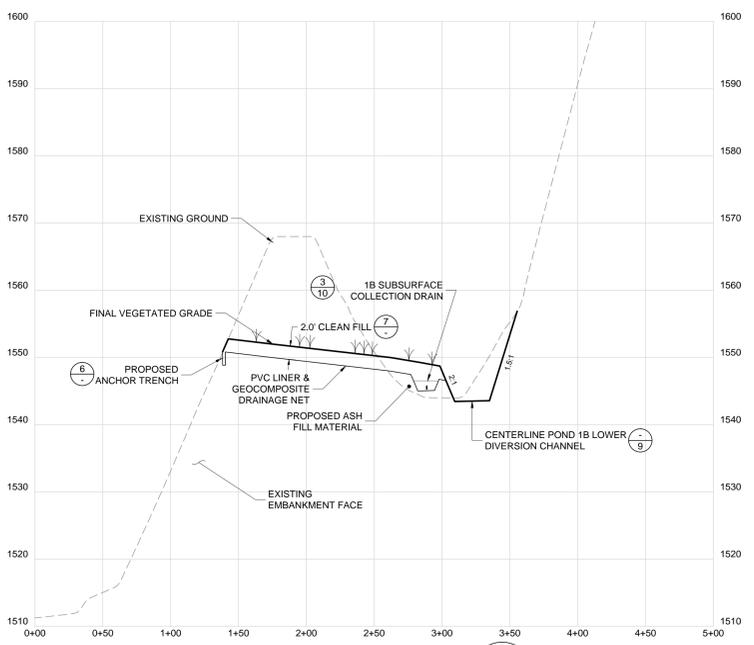
**ANCHOR TRENCH DETAIL 6**  
NTS



**TYPICAL CAP DETAIL 7**  
NTS



**POND 1B CROSS SECTION 4**  
VERTICAL EXAGGERATION 5X



**POND 1B CROSS SECTION 5**  
VERTICAL EXAGGERATION 5X

DATE	NO.	DESCRIPTION	APPRO.
3-28-14	A	ISSUED FOR PERMIT	
3-28-15	B	REVISED POND 1B AND DIVERSION GRADING	

**REVISIONS**

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
CARBO VIRGINIA

**CROSS SECTIONS**  
POND 1A/1B DIVERSION CHANNEL  
AND ASH DISPOSAL AREA CLOSURE PLAN  
CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-20	REV:	C
SCALE GRAPHIC:	DR:	CH:	SUP:	ENG:
DATE:	APPROVED BY:			



**SHEET 6**  
AEP SERVICE CORP.  
1 RIVERSIDE PLAZA  
COLUMBUS, OH 43215

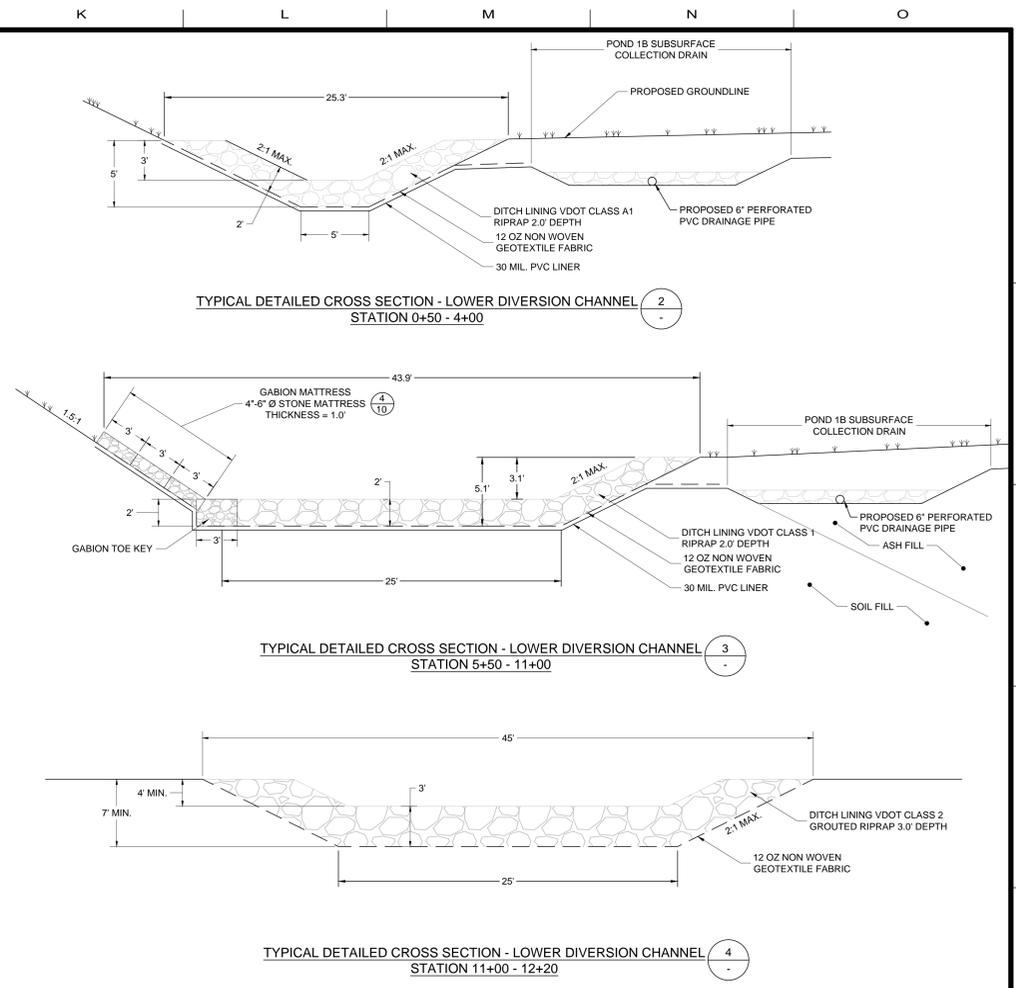
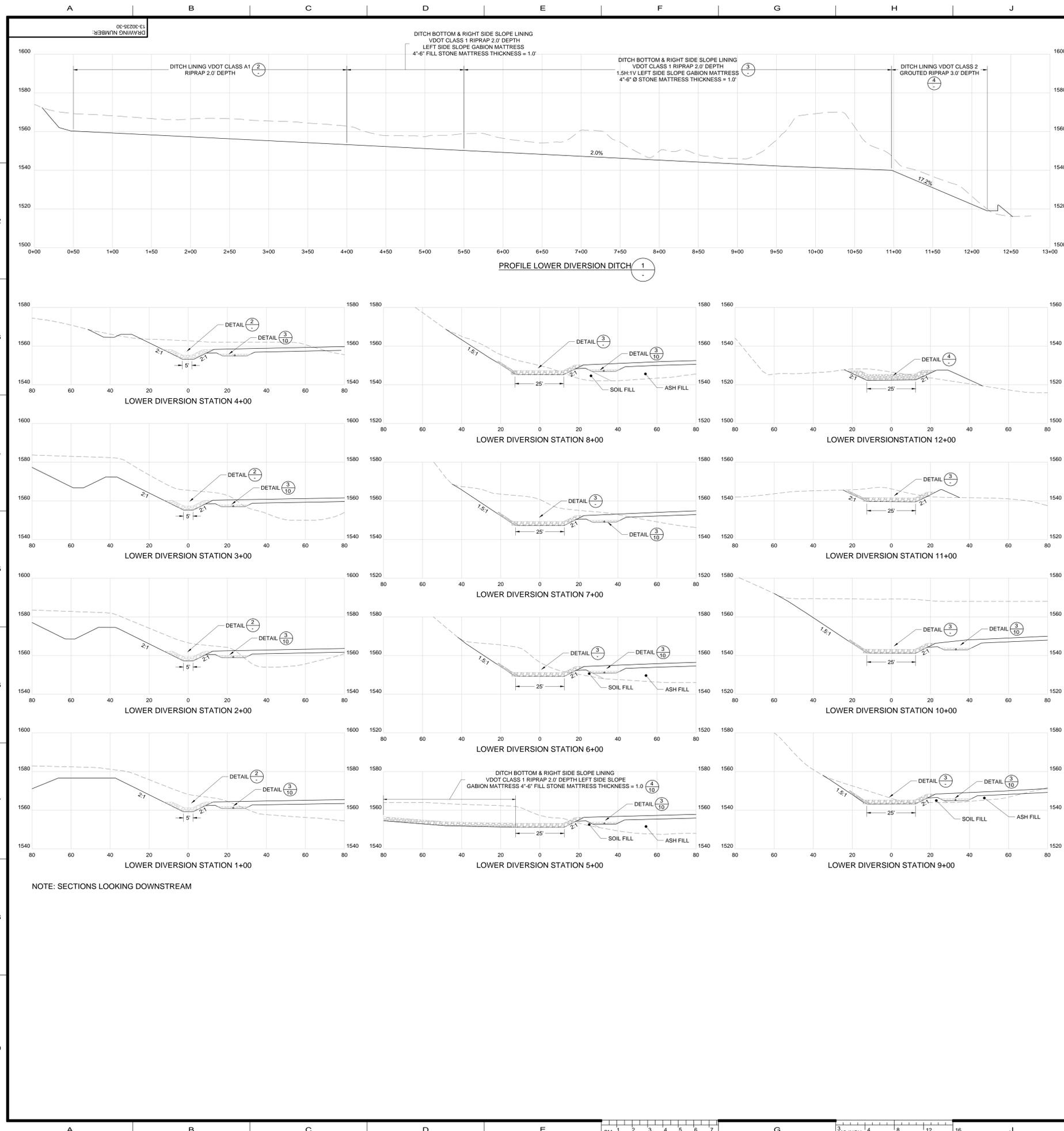
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 Plotted By: Travel, Paul Sheet Set: N/A Layout: Cross Sections April 14, 2016 12:22:26pm

CROSS REFS.





CROSS REFS.



- ALL GROUDED RIPRAP SHOWN ON THE PLANS SHALL MEET THE FOLLOWING REQUIREMENTS:
- MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS
  - ENTRAINED AIR SHOULD BE 5.5% TO 7.5%
  - A MAXIMUM OF 25% TYPE F FLY ASH MAY BE SUBSTITUTED FOR PORTLAND CEMENT.
  - SLUMP SHOULD BE 6" TO 8"
  - 1.5 LBS. OF FIBER MESH SHOULD BE INCLUDED PER CUBIC YARD OF GROUT.
- THE FOLLOWING INSTALLATION PROCEDURES SHOULD ALSO BE FOLLOWED:
- PRIOR TO PLACING THE GROUT, ANY TYPE OF DEBRIS, FINES, SMALLER ROCK, OR SILT SHALL BE REMOVED FROM AROUND OR UNDER AND ON THE BOULDERS.
  - DEWATERING SHALL BE IMPLEMENTED TO GUARANTEE THAT THE GROUT WILL NOT BE PLACED IN WATER AND FOR A PERIOD OF TWENTY-FOUR (24) HOURS AFTER THE GROUT HAS BEEN PLACED.
  - IMMEDIATELY BEFORE POURING THE GROUT, THE STONES SHALL BE WETTED BY SPRINKLING. THE GROUT SHALL BE CAREFULLY POURED INTO THE VOIDS BETWEEN THE STONES. THIS WORK SHALL BEGIN AT THE LOWER PORTIONS OF THE RIPRAP AND PROGRESS UPWARD. THE ENTIRE BOTTOM LINE OF VOIDS SHALL BE FILLED WITH GROUT BEFORE THE NEXT LINE OF VOIDS ABOVE IS POURED.
  - THE CONCRETE GROUT SHOULD BE PLACED BY INJECTION METHODS BY PUMPING UNDER LOW PRESSURE, THROUGH A TWO-INCH (2") MAXIMUM DIAMETER HOSE TO ENSURE COMPLETE PENETRATION OF THE GROUT INTO THE VOID AREA AS DETAILED ON THE CONSTRUCTION DRAWINGS. THE GROUT MIX SHALL BE STIFFENED AND OTHER MEASURES TAKEN TO RETAIN THE GROUT BETWEEN THE BOULDERS.
  - A "PENCIL" VIBRATOR SHALL BE USED TO MAKE SURE ALL VOIDS ARE FILLED BETWEEN THE BOULDERS FROM THE SUBGRADE AND AROUND THE BOULDERS TO A DEPTH AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE "PENCIL" VIBRATOR MAY BE USED TO SMOOTH THE APPEARANCE OF THE SURFACE, BUT THE CONTRACTOR SHOULD USE A WOOD FLOAT TO SMOOTH AND GRADE THE GROUT AROUND THE BOULDERS.
  - CLEAN AND WASH ANY SPILLAGE BEFORE THE GROUT SETS SO THE VISUAL SURFACES OF BOULDERS WILL BE FREE OF GROUT TO PROVIDE A CLEAN, NATURAL APPEARANCE.

DATE	NO.	DESCRIPTION	APPRO.
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA  
**POND 1B DIVERSION CHANNELS - LOWER DIVERSION**  
 PONDS 1A/1B DIVERSION CHANNEL AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT: DRAWING NUMBER: 13-30235-30 REV: C

SCALE GRAPHIC

DR: \_\_\_\_\_  
 CH: \_\_\_\_\_  
 SUP: \_\_\_\_\_  
 ENG: \_\_\_\_\_  
 DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

**SHEET 9**

AMERICAN ELECTRIC POWER  
 AEP SERVICE CORP.  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215



P:\CADD\Projects\3050\305030235\30235 American Electric Power\Site Plan Pond Reclamation\2015 Design\Clinch River Ash Disposal Closure Plan 100% (3) (2) 1B Diversion Channels.dwg  
 Plotted By: Travel, Poul Sheet Set: N/A Location: Lower Diversion April 14, 2016 12:23:53pm

CROSS REFS.

1

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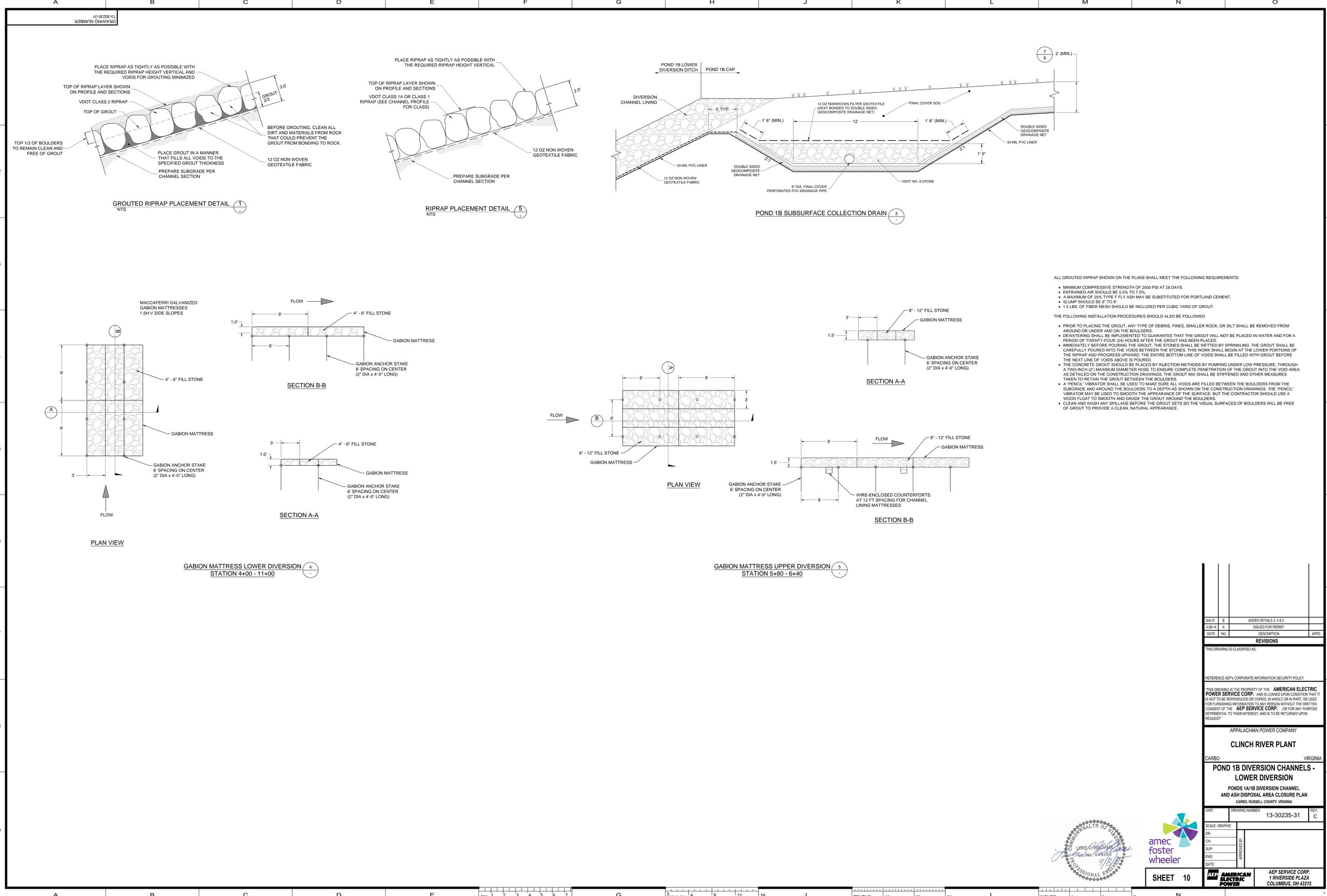
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9

CROSS REFS.

CROSS REFS.

P:\CADD\Projects\3050\3050\30220 American Electric Power\Ash Pond Remediation\2015 Design\Clinch River Ash Disposal Closure Plan 1018\1018 Pond 1B Diversion Channels.dwg  
Plotted By: Trowel, Paul Sheet Set: N/A Location: Lower Diversion 02 April 14, 2016 12:23:56pm



- ALL GROUTED RIPRAP SHOWN ON THE PLANS SHALL MEET THE FOLLOWING REQUIREMENTS:
- MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS
  - ENTRAINED AIR SHOULD BE 5.5% TO 7.5%.
  - A MAXIMUM OF 25% TYPE F FLY ASH MAY BE SUBSTITUTED FOR PORTLAND CEMENT.
  - SLUMP SHOULD BE 6" TO 8".
  - 1.5 LBS. OF FIBER MESH SHOULD BE INCLUDED PER CUBIC YARD OF GROUT.
- THE FOLLOWING INSTALLATION PROCEDURES SHOULD ALSO BE FOLLOWED:
- PRIOR TO PLACING THE GROUT, ANY TYPE OF DEBRIS, FINES, SMALLER ROCK, OR SILT SHALL BE REMOVED FROM AROUND OR UNDER AND ON THE BOULDERS.
  - DEWATERING SHALL BE IMPLEMENTED TO GUARANTEE THAT THE GROUT WILL NOT BE PLACED IN WATER AND FOR A PERIOD OF TWENTY-FOUR (24) HOURS AFTER THE GROUT HAS BEEN PLACED.
  - IMMEDIATELY BEFORE POURING THE GROUT, THE STONES SHALL BE WETTED BY SPRINKLING. THE GROUT SHALL BE CAREFULLY POURED INTO THE VOIDS BETWEEN THE STONES. THIS WORK SHALL BEGIN AT THE LOWER PORTIONS OF THE RIPRAP AND PROGRESS UPWARD. THE ENTIRE BOTTOM LINE OF VOIDS SHALL BE FILLED WITH GROUT BEFORE THE NEXT LINE OF VOIDS ABOVE IS POURED.
  - THE CONCRETE GROUT SHOULD BE PLACED BY INJECTION METHODS BY PUMPING UNDER LOW PRESSURE, THROUGH A TWO-INCH (2") MAXIMUM DIAMETER HOSE TO ENSURE COMPLETE PENETRATION OF THE GROUT INTO THE VOID AREA AS DETAILED ON THE CONSTRUCTION DRAWINGS. THE GROUT MIX SHALL BE STIFFENED AND OTHER MEASURES TAKEN TO RETAIN THE GROUT BETWEEN THE BOULDERS.
  - A "PENCIL" VIBRATOR SHALL BE USED TO MAKE SURE ALL VOIDS ARE FILLED BETWEEN THE BOULDERS FROM THE SUBGRADE AND AROUND THE BOULDERS TO A DEPTH AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE "PENCIL" VIBRATOR MAY BE USED TO SMOOTH THE APPEARANCE OF THE SURFACE, BUT THE CONTRACTOR SHOULD USE A WOOD FLOAT TO SMOOTH AND GRADE THE GROUT AROUND THE BOULDERS.
  - CLEAN AND WASH ANY SPILLAGE BEFORE THE GROUT SETS SO THE VISUAL SURFACES OF BOULDERS WILL BE FREE OF GROUT TO PROVIDE A CLEAN, NATURAL APPEARANCE.

DATE	NO.	DESCRIPTION	APPRO.
3-28-14	A	ISSUED FOR PERMIT	
4-8-15	B	ADDED DETAILS 3, 4 & 5	

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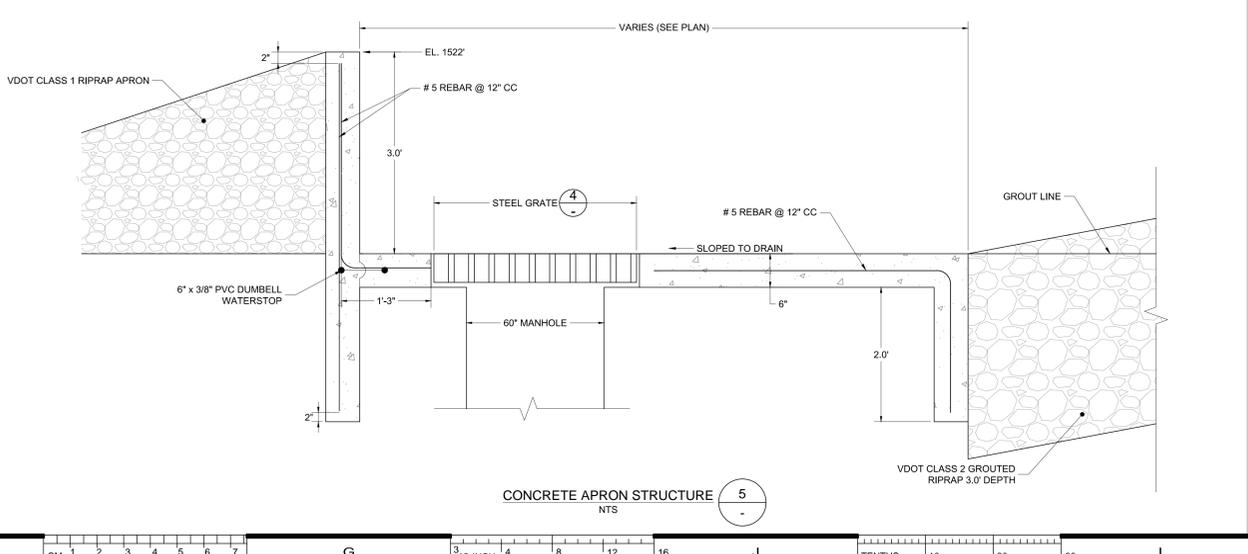
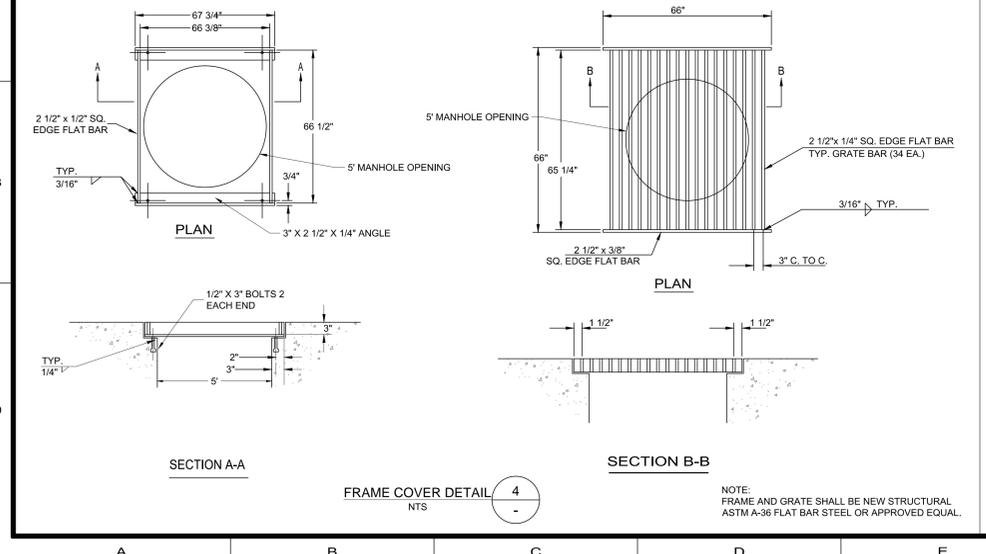
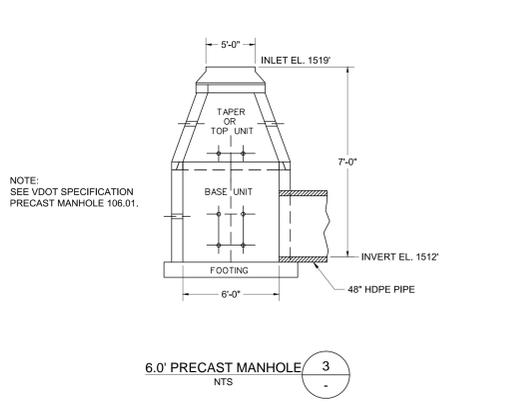
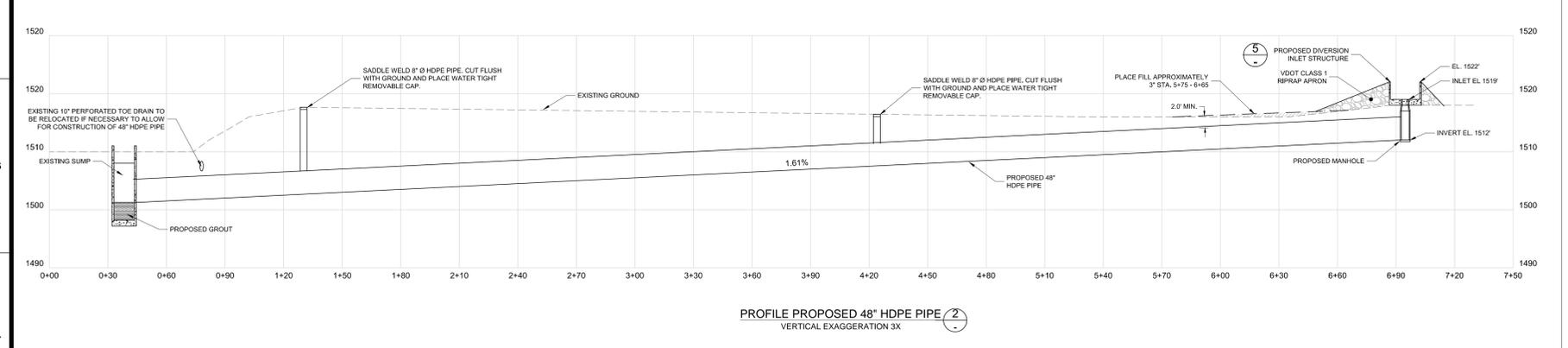
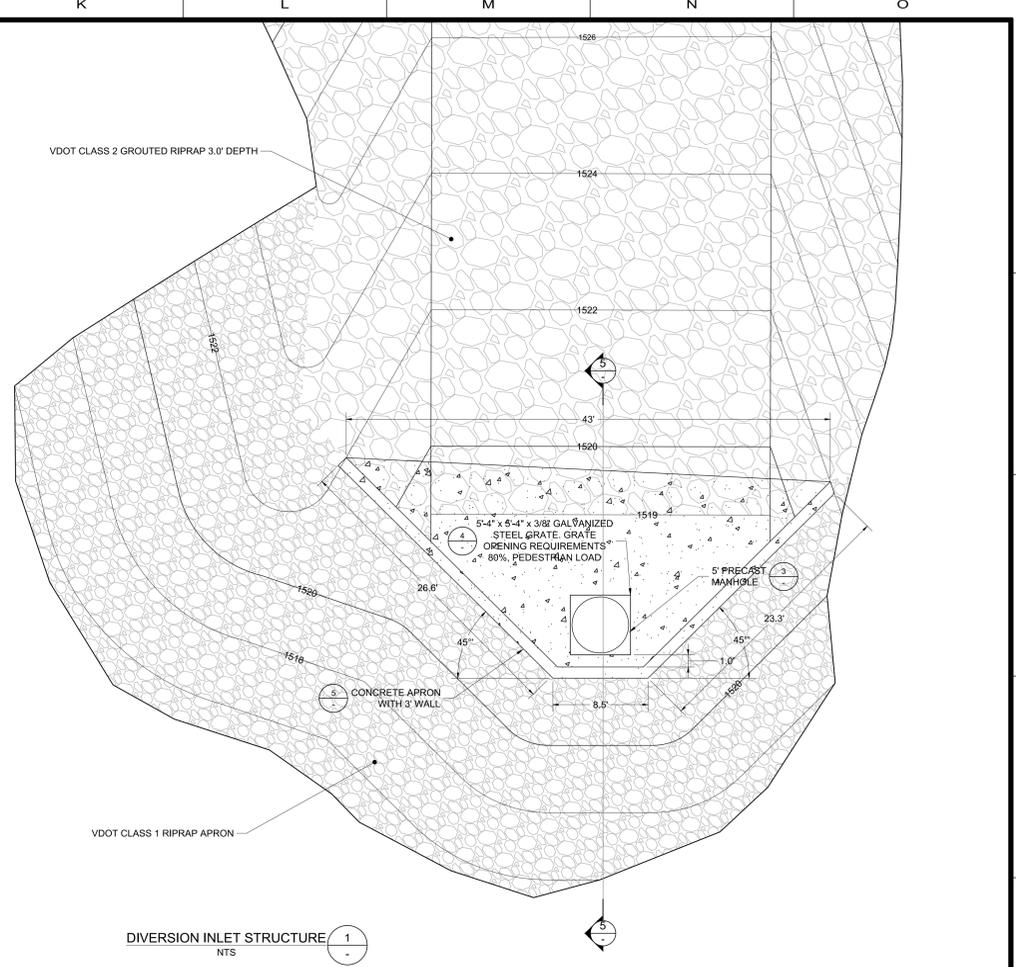
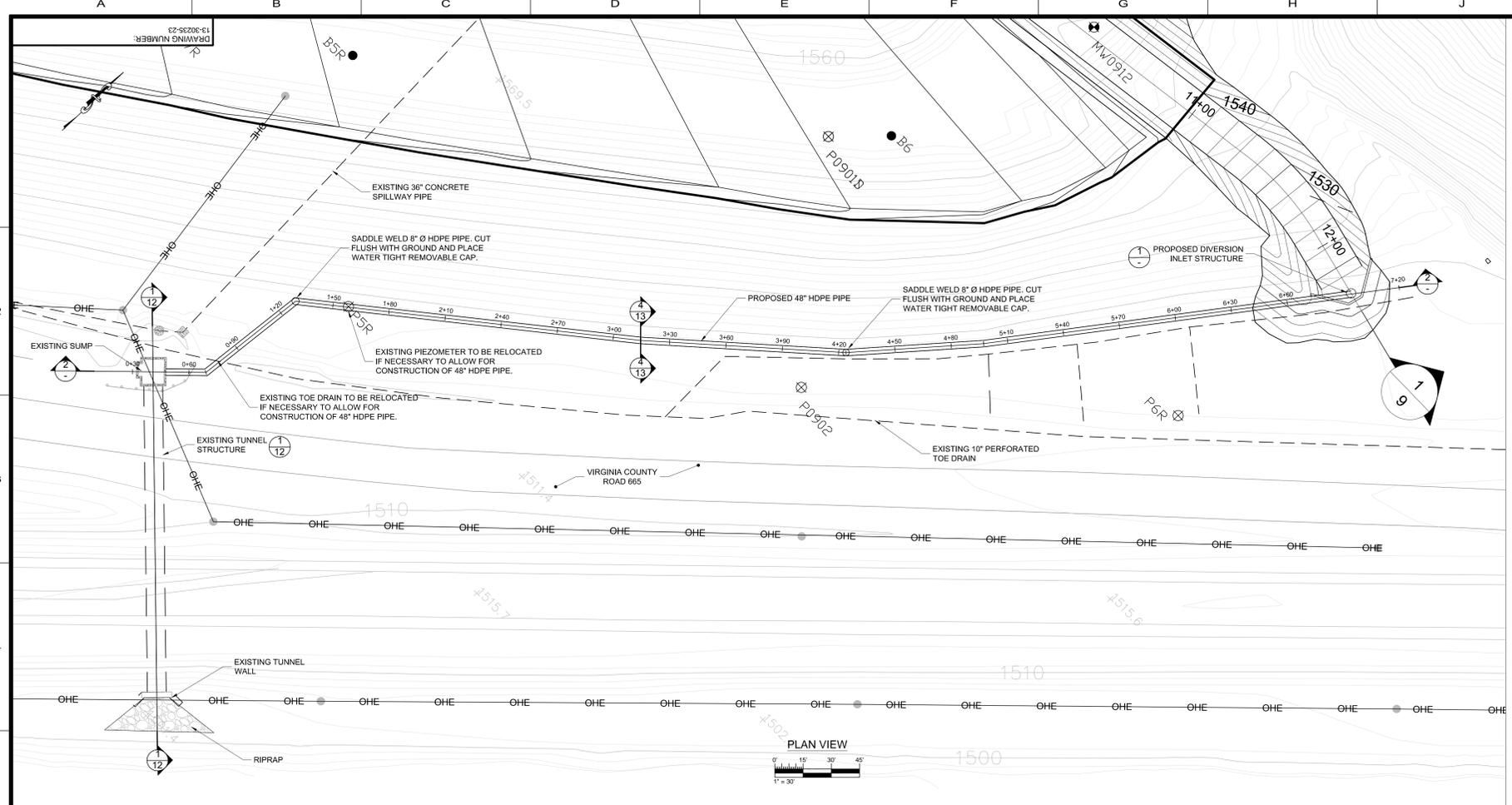
APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA  
**POND 1B DIVERSION CHANNELS - LOWER DIVERSION**  
 PONDS 1A/1B DIVERSION CHANNEL AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT: DRAWING NUMBER: 13-30235-31 REV: C  
 SCALE GRAPHIC: DR: CH: SJP: ENG: DATE: APPROVED BY:  
 SHEET 10  
 AEP SERVICE CORP. 1 RIVERSIDE PLAZA COLUMBUS, OH 43215



CROSS REFS.

CROSS REFS.



DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEQ COMMENTS	
3-24-16	B	REVISED POND 1B AND DIVERSION GRADING	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA

**POND 1B DIVERSION STRUCTURE**  
 PONDS 1A/1B DIVERSION CHANNEL  
 AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT: DRAWING NUMBER: 13-30235-23 REV: C

SCALE GRAPHIC  
 DR:  
 CH:  
 SJP:  
 ENG:  
 DATE: 3/24/16

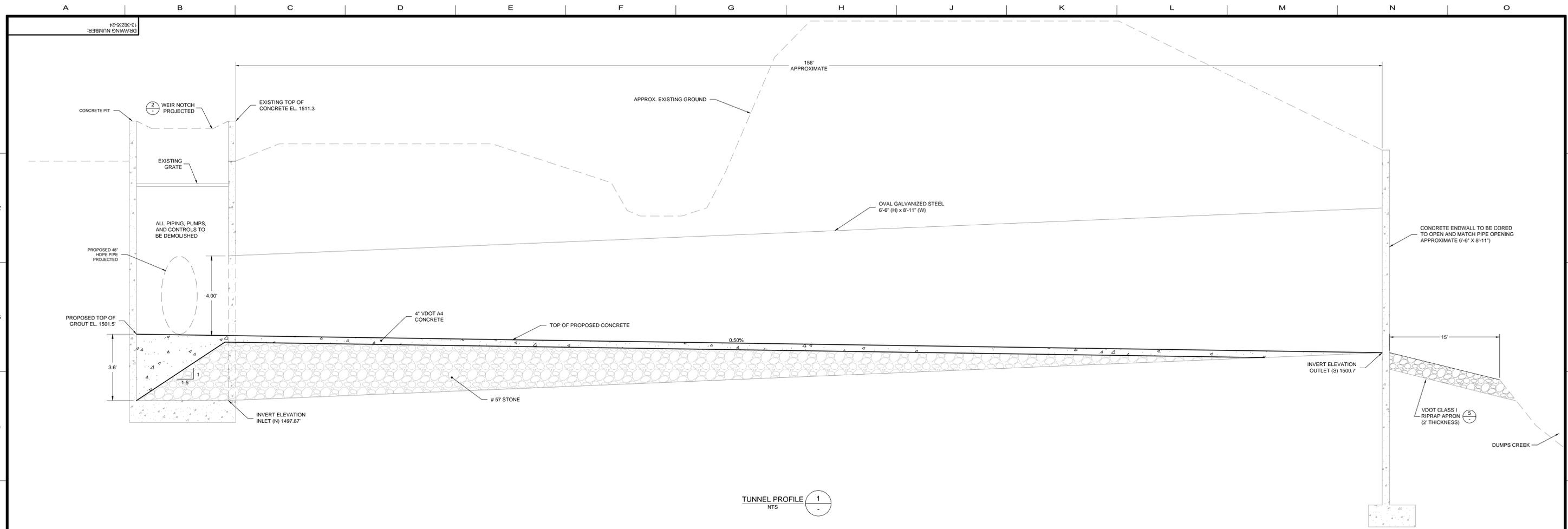
PROVIDED BY: amec foster wheeler

**SHEET 11**

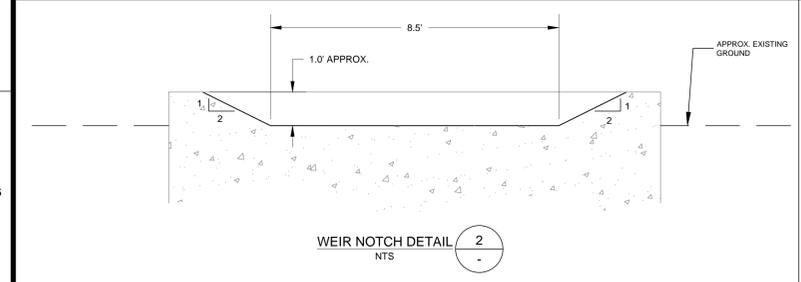
AMERICAN ELECTRIC POWER  
 AEP SERVICE CORP.  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215

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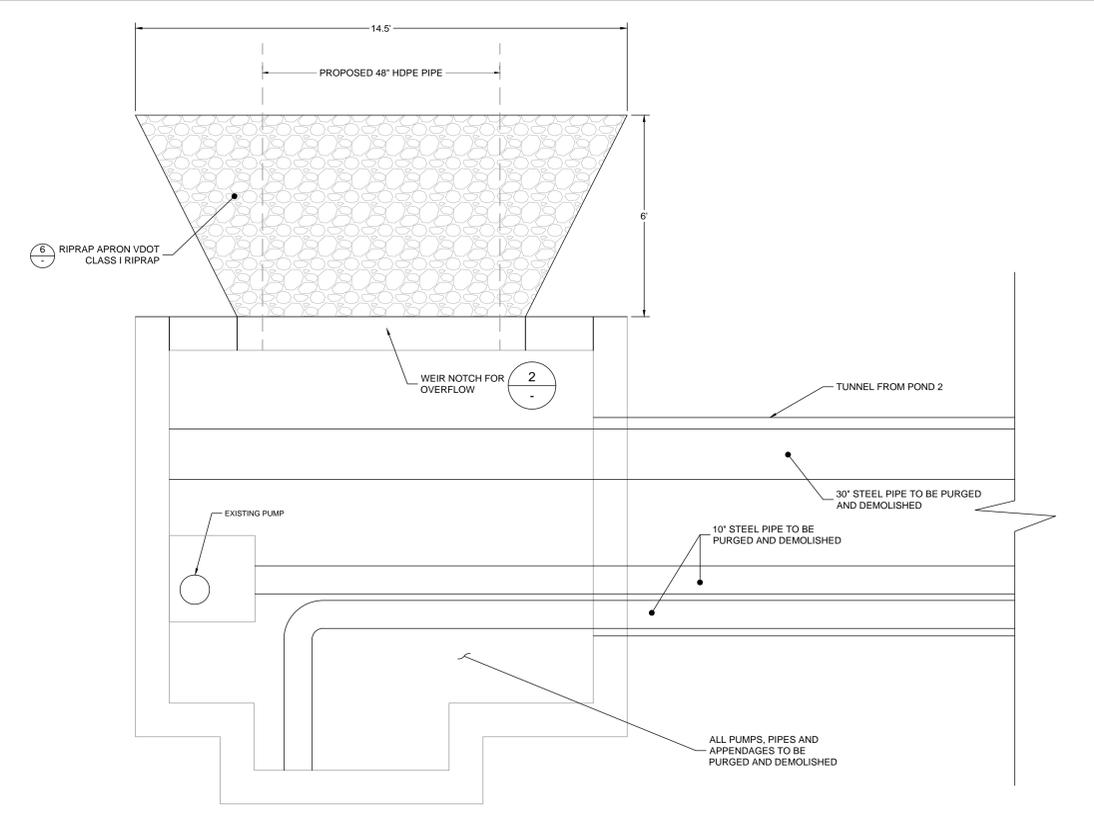
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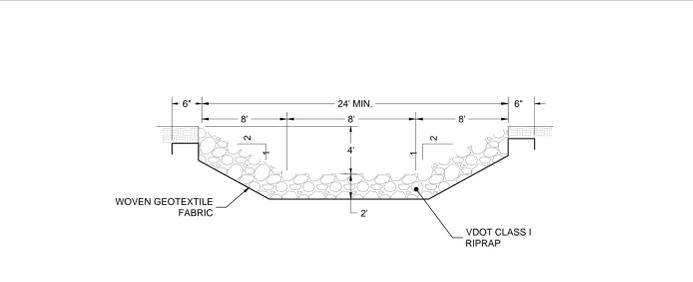
TUNNEL PROFILE 1  
NTS



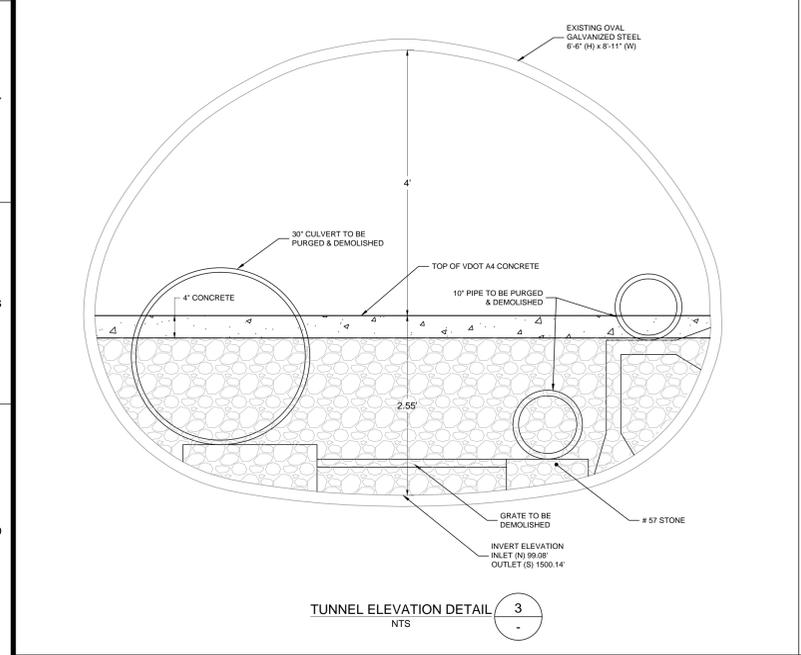
WEIR NOTCH DETAIL 2  
NTS



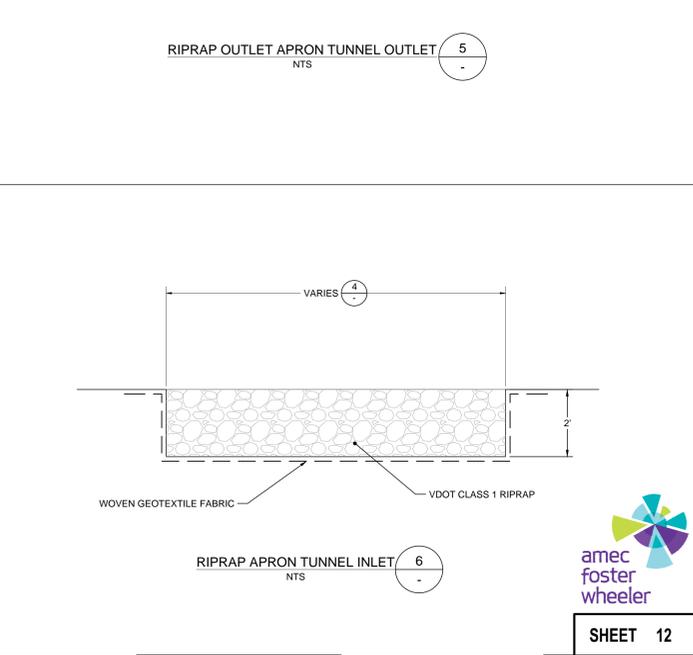
TUNNEL SUMP PLAN 4  
NTS



RIPRAP OUTLET APRON TUNNEL OUTLET 5  
NTS



TUNNEL ELEVATION DETAIL 3  
NTS



RIPRAP APRON TUNNEL INLET 6  
NTS



DATE	NO.	DESCRIPTION	APPROV.
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
CARBO VIRGINIA  
**TUNNEL CONSTRUCTION**  
POND 1A/1B DIVERSION CHANNEL AND ASH DISPOSAL AREA CLOSURE PLAN  
CARBO, RUSSELL COUNTY, VIRGINIA

UNIT: DRAWING NUMBER: 13-30235-24 REV: C  
SCALE GRAPHIC: DR: CH: SUP: ENG: DATE: APPROVED BY:  
**AMEC foster wheeler**  
**AMERICAN ELECTRIC POWER**  
AEP SERVICE CORP.  
1 RIVERSIDE PLAZA  
COLUMBUS, OH 43215

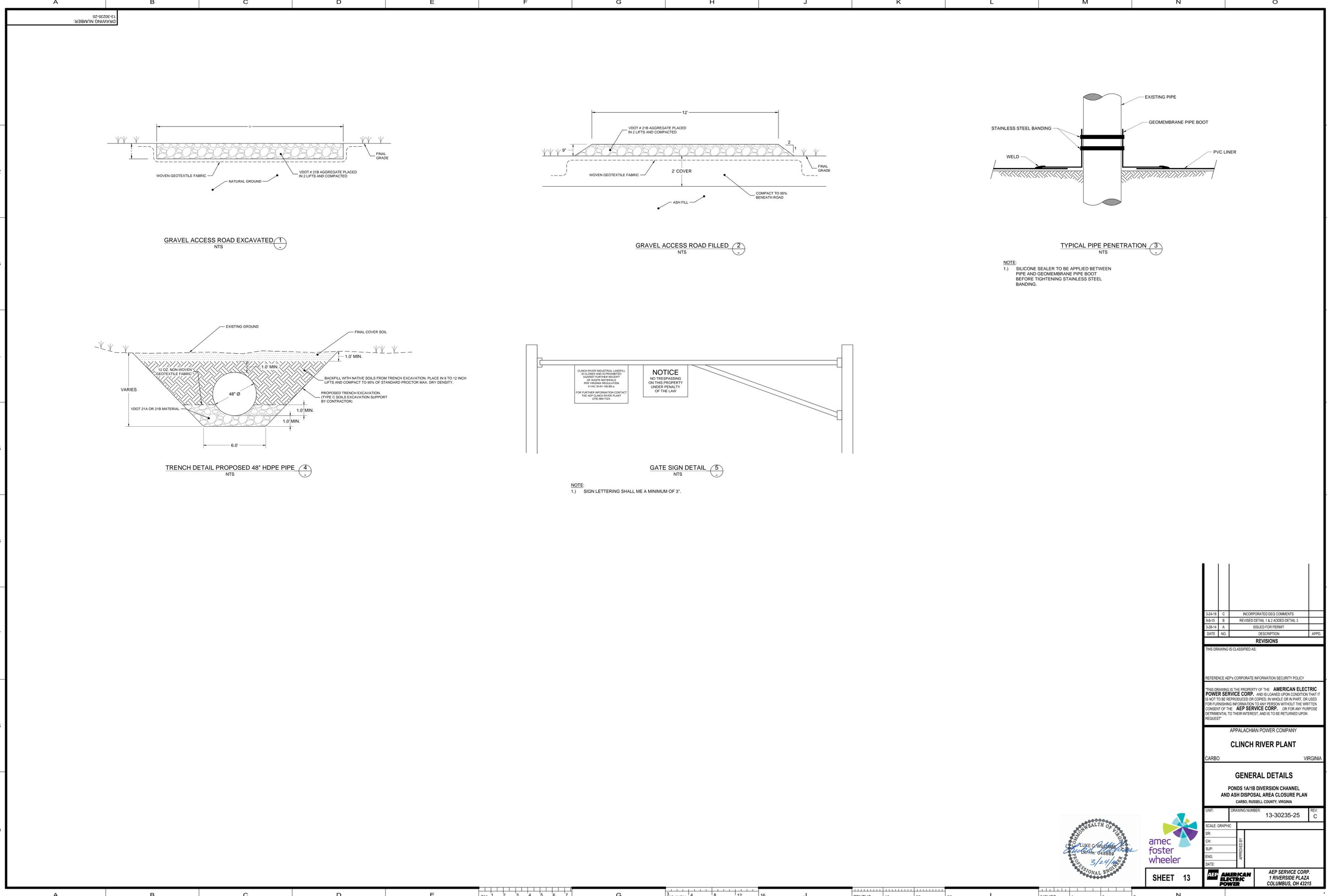
SHEET 12

Project: B7 Travel Pool Sheet Set: N/A Layout: Tunnel Construction April 14, 2016 12:26:50pm P:\CAD\Projects\3050\3050130220 American Electric Power\Ash Road Reclamation\2015 Design\Clinch River Ash Disposal Closure Plan 100%\Tunnel Construction.dwg  
 Plotted By: Travel Pool Sheet Set: N/A Layout: Tunnel Construction April 14, 2016 12:26:50pm

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F:\CADD\Projects\3050\3050\3050.dwg American Electric Power\Ash Pond Reclamation\2015 Design\Clinch River Ash Disposal Closure Plan 100A\General Details.dwg  
Plotted By: Travel, Paul Sheet Set: N/A Layout: General Details April 14, 2016 12:27:09pm



**NOTICE**  
 NO TRESPASSING  
 ON THIS PROPERTY  
 UNDER PENALTY  
 OF THE LAW

**NOTE:**  
 1.) SIGN LETTERING SHALL ME A MINIMUM OF 3".

**NOTE:**  
 1.) SILICONE SEALER TO BE APPLIED BETWEEN  
 PIPE AND GEOMEMBRANE PIPE BOOT  
 BEFORE TIGHTENING STAINLESS STEEL  
 BANDING.

DATE	NO.	DESCRIPTION	APPRO.
3-24-16	C	INCORPORATED DEO COMMENTS	
3-24-16	B	REVISED DETAIL 1 & 2 ADDED DETAIL 3	
3-28-14	A	ISSUED FOR PERMIT	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA  
**GENERAL DETAILS**  
 PONDS 1A/1B DIVERSION CHANNEL  
 AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-25	REV:	C
SCALE GRAPHIC:				
DR:				
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SUP:				
ENG:				
DATE:				

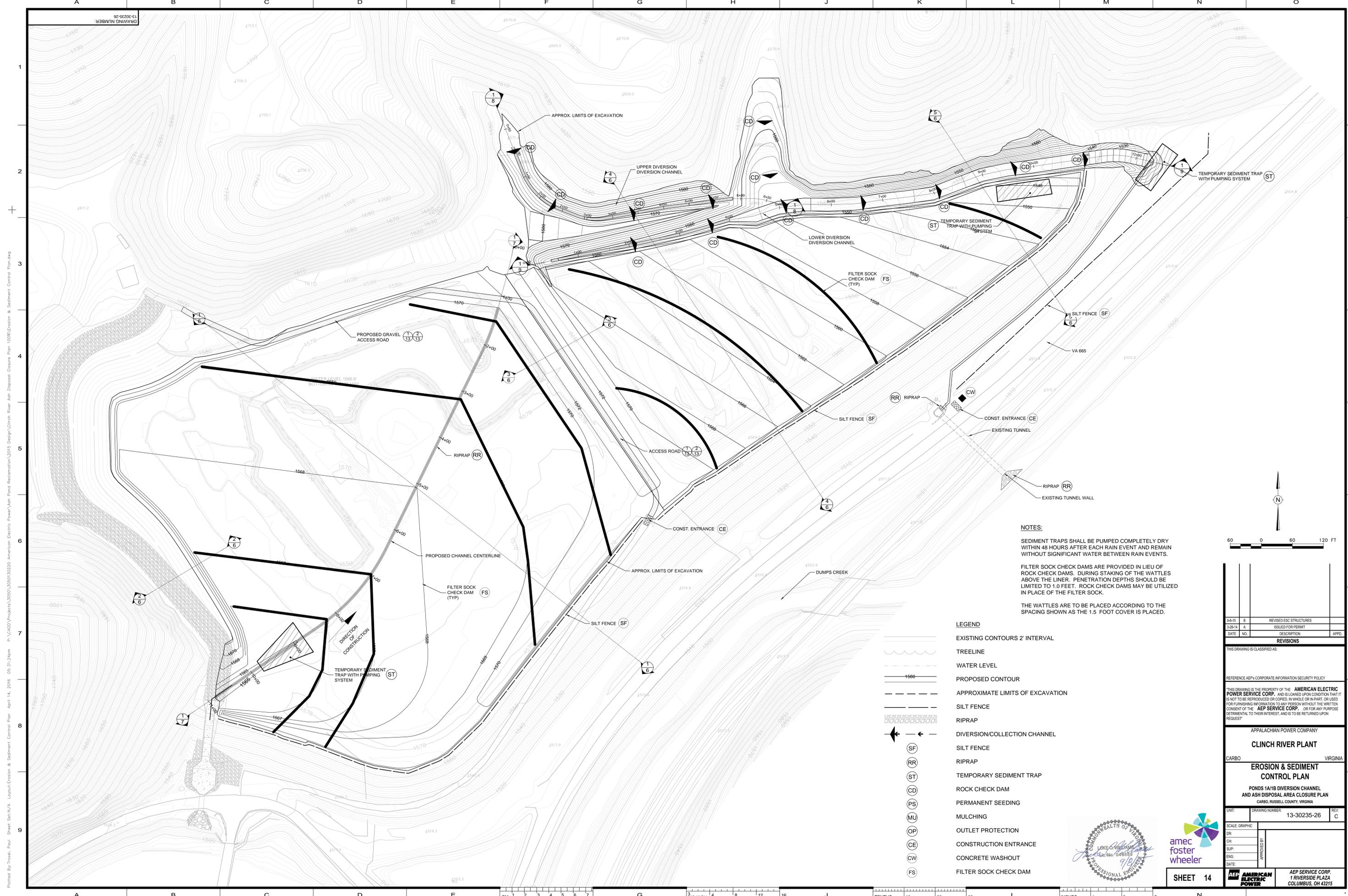


**SHEET 13**

**AMERICAN ELECTRIC POWER**  
 AEP SERVICE CORP.  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215

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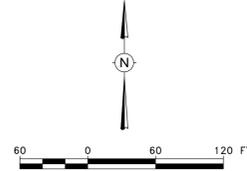
**NOTES:**

SEDIMENT TRAPS SHALL BE PUMPED COMPLETELY DRY WITHIN 48 HOURS AFTER EACH RAIN EVENT AND REMAIN WITHOUT SIGNIFICANT WATER BETWEEN RAIN EVENTS.

FILTER SOCK CHECK DAMS ARE PROVIDED IN LIEU OF ROCK CHECK DAMS. DURING STAKING OF THE WATTLES ABOVE THE LINER, PENETRATION DEPTHS SHOULD BE LIMITED TO 1.0 FEET. ROCK CHECK DAMS MAY BE UTILIZED IN PLACE OF THE FILTER SOCK.

THE WATTLES ARE TO BE PLACED ACCORDING TO THE SPACING SHOWN AS THE 1.5 FOOT COVER IS PLACED.

- LEGEND**
- EXISTING CONTOURS 2' INTERVAL
  - TREELINE
  - WATER LEVEL
  - PROPOSED CONTOUR
  - APPROXIMATE LIMITS OF EXCAVATION
  - SILT FENCE
  - RIPRAP
  - DIVERSION/COLLECTION CHANNEL
  - SILT FENCE
  - RIPRAP
  - TEMPORARY SEDIMENT TRAP
  - ROCK CHECK DAM
  - PERMANENT SEEDING
  - MULCHING
  - OUTLET PROTECTION
  - CONSTRUCTION ENTRANCE
  - CONCRETE WASHOUT
  - FILTER SOCK CHECK DAM



DATE	NO.	DESCRIPTION	APPRO.
REVISIONS			

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APALACHIAN POWER COMPANY

**CLINCH RIVER PLANT**

CARBO VIRGINIA

**EROSION & SEDIMENT CONTROL PLAN**

PONDS 1A/1B DIVERSION CHANNEL AND ASH DISPOSAL AREA CLOSURE PLAN

CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-26	REV:	C
SCALE GRAPHIC:	DR:		CH:	
SUP:	ENG:		DATE:	
APPROVED BY:				



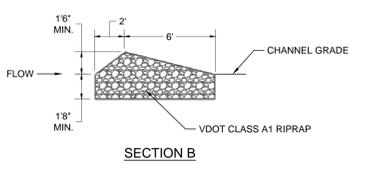
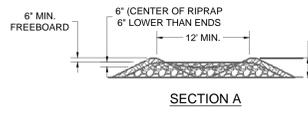
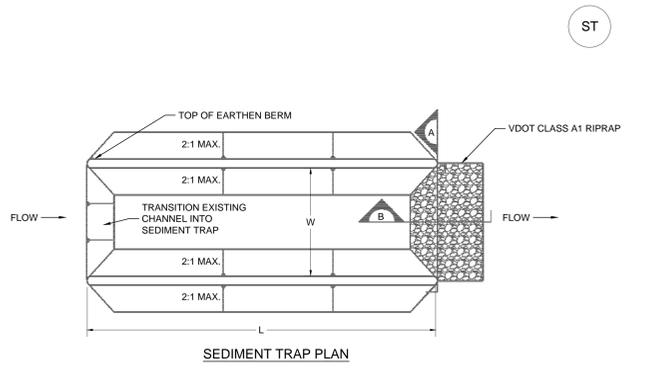
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 Drawing Number: 13-30235-26

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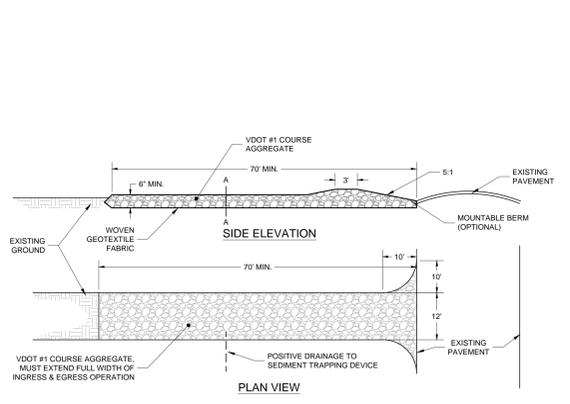
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A B C D E F G H J K L M N O

DRAWING NUMBER: 13-30235-27

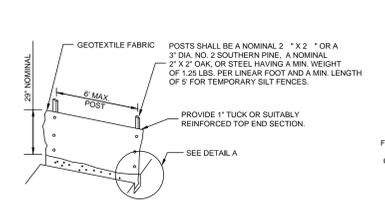


TEMPORARY SEDIMENT BASIN 1



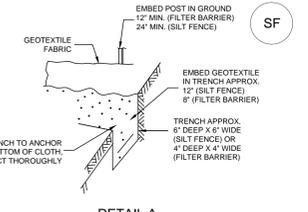
CONSTRUCTION ENTRANCE 2

VTC

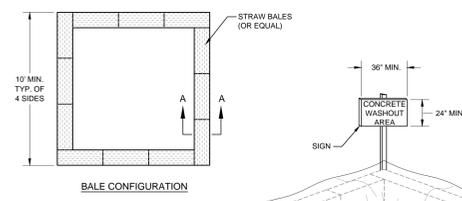


NOTE: SUPPORTS FOR TEMPORARY FILTER BARRIERS SHALL BE A NOMINAL 1" X 2" OR 1" X 3" DIA. NO. 2 SOUTHERN PINE OR OAK, OR STEEL HAVING A MIN. WEIGHT OF 1.00 LBS. PER LINEAR FOOT.

SILT FENCE 3

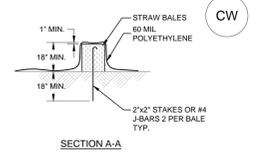


SLICING IS AN APPROVED ALTERNATE METHOD TO TRENCHING

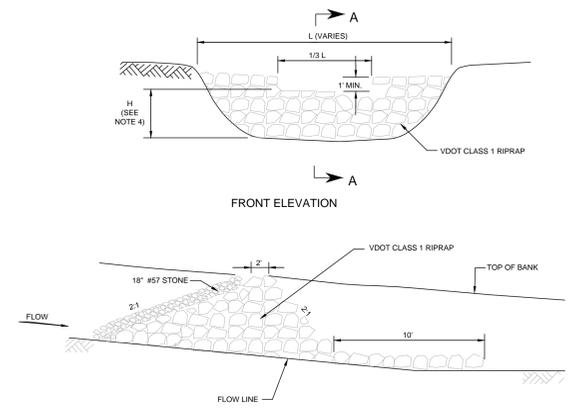


NOTES: 1. FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT. 2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

CONCRETE WASH-OUT DETAIL 4

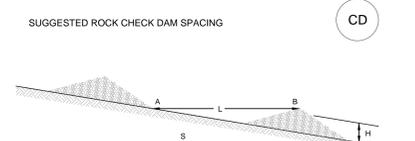


THIS SECTION REMOVED FOR GRAPHICAL REPRESENTATION ONLY. STRAW BALE PERIMETER SHALL BE CONTINUOUS.



TYPICAL DETAIL FOR ROCK CHECK DAM TYPE I

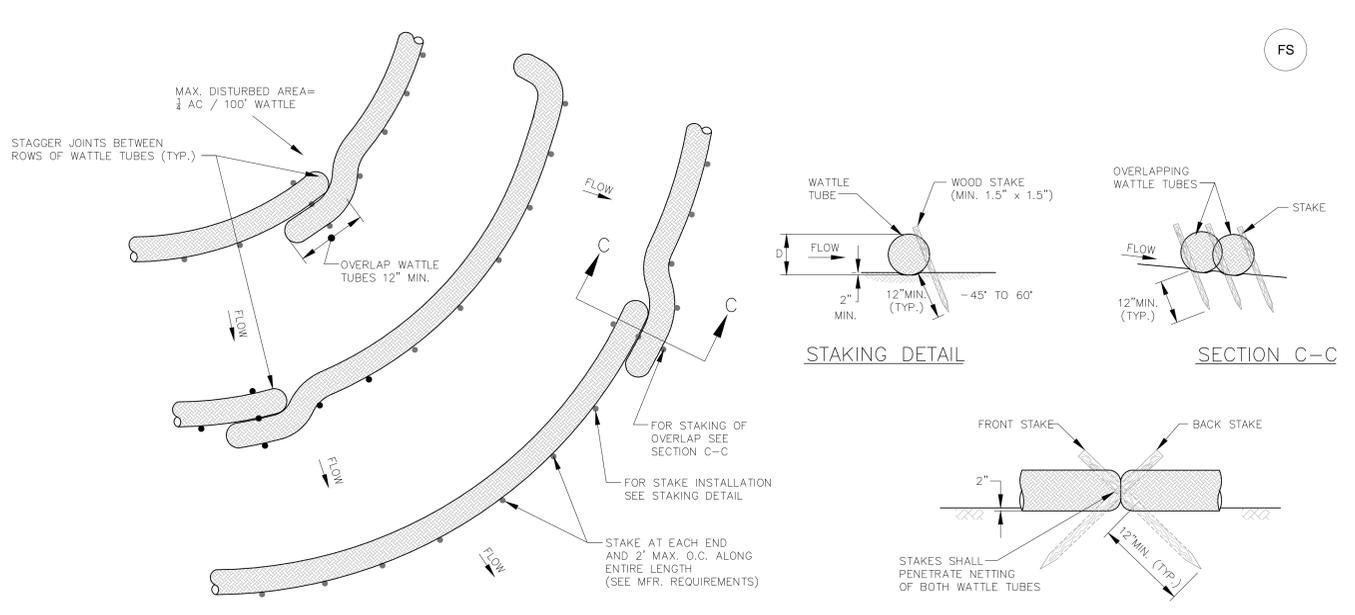
ROCK CHECK DAM 5



NOTE: 1. WHERE DRAINAGE AREAS EXCEED 1 ACRE OR DITCH GRADE EXCEEDS 3% - A TEMPORARY SEDIMENT FOREBAY SHALL BE INSTALLED WITH MINIMUM DIMENSIONS OF 12' DEPTH, 2' WIDTH AND 6' LENGTH. 2. IF CHECK DAMS IS LOCATED INSIDE CLEAR ZONE AND ADJACENT TO A TRAVELWAY, SLOPE FACING ON COMING TRAFFIC IS TO BE 6:1 AND MAXIMUM H IS TO BE 12". 3. CHECK DAM SHALL NOT BE USED FOR LOCATIONS IN LIVE STREAM. 4. HEIGHT (H) OF CREST IS TO BE 3" +/- IF CHANNEL OR SWALE IS DEEP ENOUGH.

- NOTES:
- WHERE DRAINAGE AREAS EXCEED 1 ACRE OR DITCH GRADE EXCEEDS 3% - A TEMPORARY SEDIMENT FOREBAY SHALL BE INSTALLED WITH MINIMUM DIMENSIONS OF 12' DEPTH, 2' WIDTH AND 6' LENGTH.
  - IF CHECK DAMS IS LOCATED INSIDE CLEAR ZONE AND ADJACENT TO A TRAVELWAY, SLOPE FACING ON COMING TRAFFIC IS TO BE 6:1 AND MAXIMUM H IS TO BE 12".
  - CHECK DAM SHALL NOT BE USED FOR LOCATIONS IN LIVE STREAM.
  - HEIGHT (H) OF CREST IS TO BE 3" +/- IF CHANNEL OR SWALE IS DEEP ENOUGH.

CD



FILTER SOCK CHECK DAM 6

- CONSTRUCTION SEQUENCE**
- INSTALL CONSTRUCTION ENTRANCE AND SILT FENCE ALONG THE PERIMETER OF THE SITE AS PER PLAN
  - PERFORM GRADING OPERATIONS NECESSARY TO PREPARE THE SUBGRADE ENSURING A ROUTE FOR STORMWATER RUNOFF TO THE TEMPORARY SEDIMENT BASIN. INSTALL BLANKET & MATTING AND WATTLES TO STABILIZE THE PREPARED SUBGRADE. INSTALL ROCK CHECK DAMS IN COLLECTION CHANNEL.
  - INSTALL AND ESTABLISH DIVERSION BERM/DITCHES, AS PER PLAN. INSTALL PERMANENT SEEDING, AND CHECK DAMS WITHIN DIVERSION DITCH AS PER PLAN
  - INSTALL LINER SYSTEM AND COVER SOIL TO FINISHED GRADE OVER EXPOSED SUBGRADE. INSTALL SEEDING AND CHECK DAMS TO STABILIZE THE TOP OF FINAL GRADES.
  - AFTER TOP OF FINAL GRADES ARE STABILIZED, REMOVE SEDIMENT BASIN AND CONTINUE CONSTRUCTION OF THE ENERGY DISSIPATER AND CONCRETE COVER.
  - ONCE THE ENTIRE AREA IS STABILIZED REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROLS.

- PERMANENT SEEDING**
- | GENERAL SLOPE (4:1 OR LESS) | TOTAL LBS PER ACRE |
|-----------------------------|--------------------|
| KENTUCKY 31 FESCUE          | 126 LBS            |
| RED TOP GRASS               | 2 LBS              |
| SEASONAL NURSE CROP*        | 20 LBS             |
- \*USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:  
 FEBRUARY 15TH THRU APRIL: ANNUAL RYE  
 MAY 1ST THRU AUGUST 15TH: FOXTAIL MILLET  
 AUGUST 16TH THRU OCTOBER: ANNUAL RYE  
 NOVEMBER THRU FEBRUARY 15TH: WINTER RYE
- A MULCH COVER IS REQUIRED ON EVERY SEEDING. STRAW OR APPROVED MULCH SHALL BE APPLIED AT 80 BALES PER ACRE
- MULCHING NOTES**
- PRIOR TO MULCHING, COMPLETE THE REQUIRED GRADING AND SUBGRADE PREPARATION AND INSTALL THE NEEDED SEDIMENT AND EROSION CONTROL DEVICES. SEED SHOULD BE APPLIED PRIOR TO MULCHING.
  - SPREAD MULCH MATERIALS UNIFORMLY, BY HAND OR MACHINE. WHEN SPREADING STRAW MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO APPROXIMATELY 1,000 SQUARE FOOT SECTIONS AND PLACE 70 - 90 POUNDS OF STRAW IN EACH SECTION TO FACILITATE A UNIFORM DISTRIBUTION. MULCH MATERIALS SHALL BE FREE FROM WEEDS AND COARSE MATTER.
  - STRAW MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT DISPLACEMENT. MULCH MATERIALS SHALL BE ANCHORED USING A CRIMPING TOOL, HYDROSEED FIBER OR LIQUID MULCH BINDER.

DATE	NO.	DESCRIPTION	APPRO.
3-28-14	A	ISSUED FOR PERMIT	
3-28-14	B	ADDED DETAILS	

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APPALACHIAN POWER COMPANY  
**CLINCH RIVER PLANT**  
 CARBO VIRGINIA

**EROSION & SEDIMENT CONTROL**  
**DETAILS**  
 PONDS 1A/1B DIVERSION CHANNEL  
 AND ASH DISPOSAL AREA CLOSURE PLAN  
 CARBO, RUSSELL COUNTY, VIRGINIA

UNIT:	DRAWING NUMBER:	13-30235-27
SCALE GRAPHIC:	DR:	
CH:	SUP:	
ENG:	DATE:	
APPROVED BY:	REV:	C



SHEET 15

AEP SERVICE CORP.  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215

Project: Bp Travel Pool Sheet Set: N/A Location: Clinch River Plant, Ash Disposal Area, Ponds 1A/1B, Diversion Channel, Sediment Control Details: Building

CROSS REFS.

1 2 3 4 5 6 7 8 9

A B C D E F G H J K L M N O