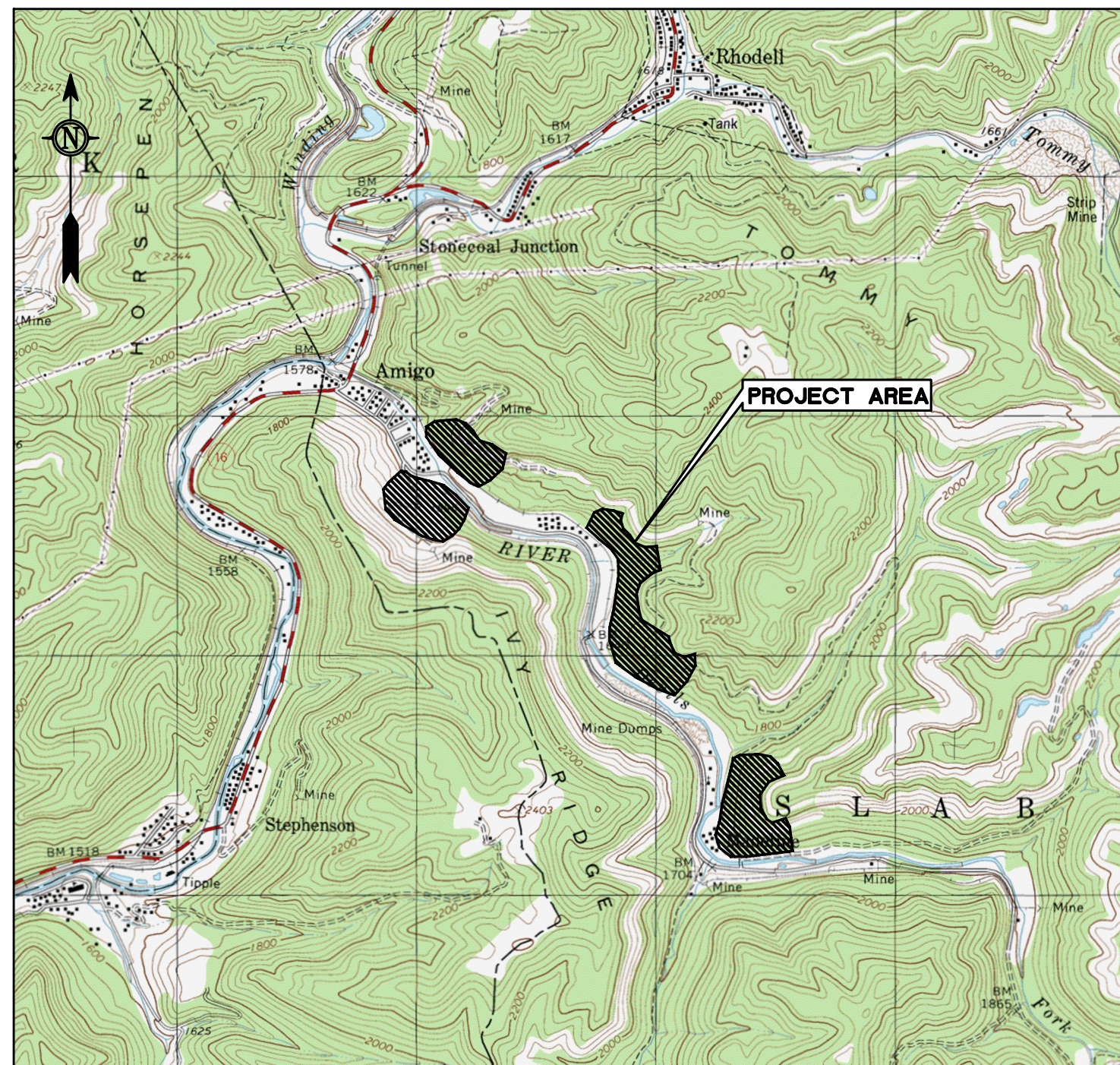


west virginia department of environmental protection

EARL RAY TOMBLIN, GOVERNOR  
 RANDY C. HUFFMAN, CABINET SECRETARY  
 OFFICE OF ABANDONED MINE LANDS  
 AMIGO PORTALS  
 RALEIGH COUNTY, WEST VIRGINIA

U.S.G.S. LOCATION MAP  
 SCALE: 1 INCH = 2000 FEET



MAPPING REFERENCE:  
 CRUMPLER, WEST VIRGINIA  
 U.S.G.S. 7.5 MINUTE QUADRANGLE  
 1997

BID FORM

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	1	"Mobilization and Demobilization," per lump sum. Cannot be more than 10% of the Total Amount Bid for the project.	ls.	\$
2.0	1	"Construction Layout," per lump sum. Cannot be more than 3% of the Total Amount Bid for the project.	ls.	\$
3.0	1	"Quality Control," per lump sum. Cannot be more than 3% of the Total Amount Bid for the project.	ls.	\$
4.1	1	"Site Preparation," per lump sum. Cannot be more than 10% of the Total Amount Bid for the project.	ls.	\$
4.2	200	"Class 1 Aggregate," per ton	\$	\$
4.3	120	"Temporary Culvert," per linear foot	\$	\$
5.1	2,700	"Silt Fence," per linear foot	\$	\$
5.2	2,700	"Straw Wattles," per linear foot	\$	\$
5.3	6	"Stabilized Construction Entrance," per each	\$	\$
5.4	500	"Rock Check Dams," per linear foot	\$	\$
6.0	6	"Revegetation," per plan view acre	\$	\$
7.1	60	"2-Foot Deep Riprap 2H:1V VEE Channel," per linear foot	\$	\$
7.2	900	"Stream Bank Protection," per linear foot	\$	\$
7.3	1	"Type A Manhole," per each	\$	\$
9.1	2	"Wet/Modified Wet Seal," per each	\$	\$
9.2	13	"Bat Gate," per each	\$	\$
9.3	1	"Dry Seal," per each	\$	\$
9.4	2	"Low Slump Concrete Dry Seal," per each	\$	\$
9.5	100	"Soda Ash Briquettes," per 50 pound bag	\$	\$
10.1	100	"Underdrain," per linear foot	\$	\$
10.2	100	"12-inch Conveyance Pipe," per linear foot	\$	\$
12.0	1,000	"Erosion Control Matting," per square yard	\$	\$
TOTAL				\$

SHEET INDEX

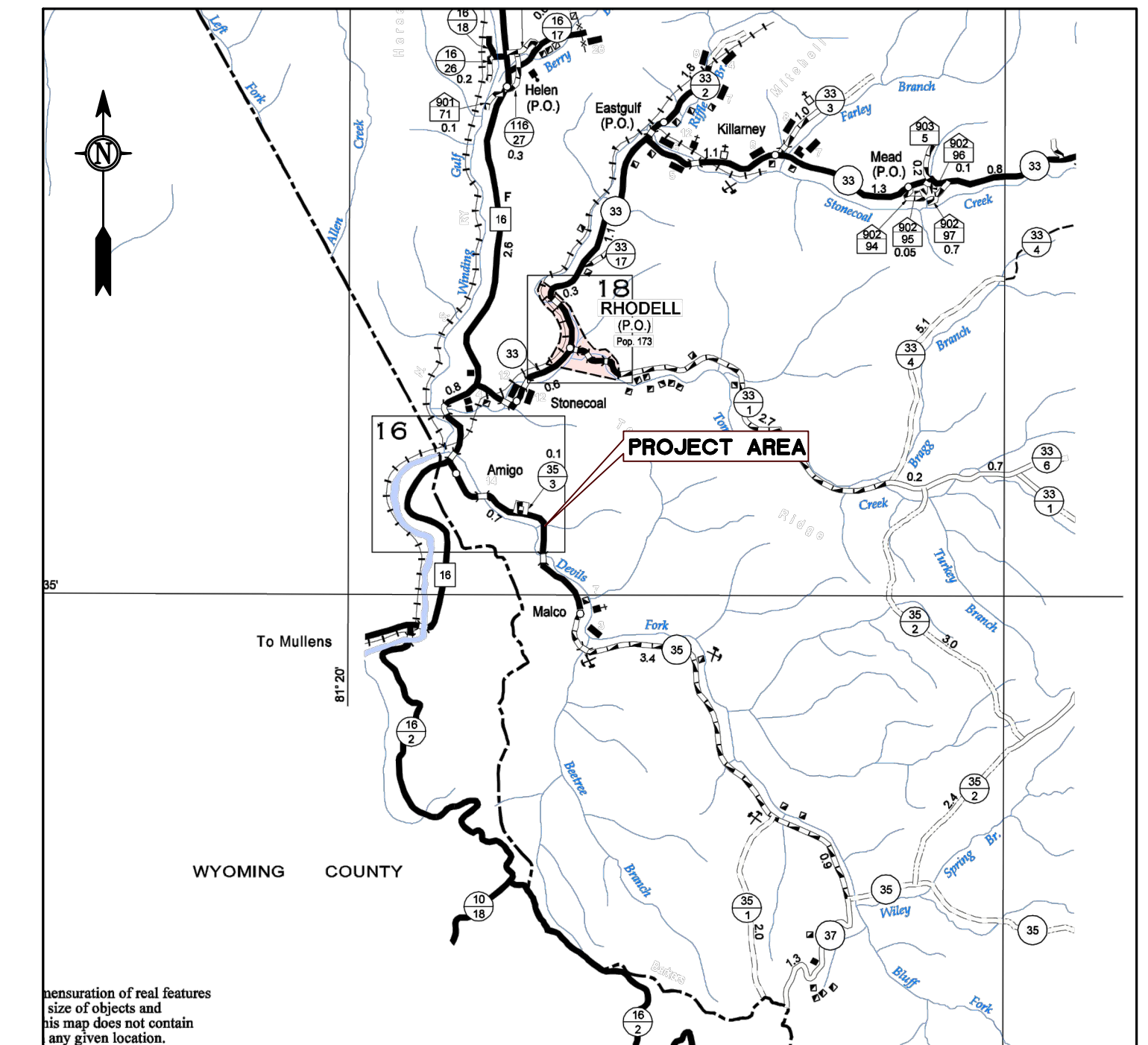
DRAWING NO.	DESCRIPTION
1	TITLE AND SHEET INDEX
2	GENERAL NOTES AND SURVEY CONTROL POINT LOCATIONS
3	COMPOSITE
4 - 12	EXISTING CONDITIONS
13 - 21	EROSION & SEDIMENTATION
22 - 30	PROPOSED
31 - 39	TAX MAP OVERLAY
40	CHANNEL AND MISCELLANEOUS DETAILS
41	MISCELLANEOUS DETAILS
42 - 44	MINE SEAL DETAILS

PLANS PREPARED BY:



gai consultants  
 300 SUMMERS STREET, SUITE 1100  
 CHARLESTON, WEST VIRGINIA 25301  
 304-926-8100

COUNTY HIGHWAY MAP  
 SCALE: 1 INCH = 1 MILE



representation of real features  
 size of objects and  
 this map does not contain  
 any given location.

MAPPING REFERENCE:  
 RALEIGH COUNTY, WEST VIRGINIA  
 GENERAL HIGHWAY MAP  
 (2011)

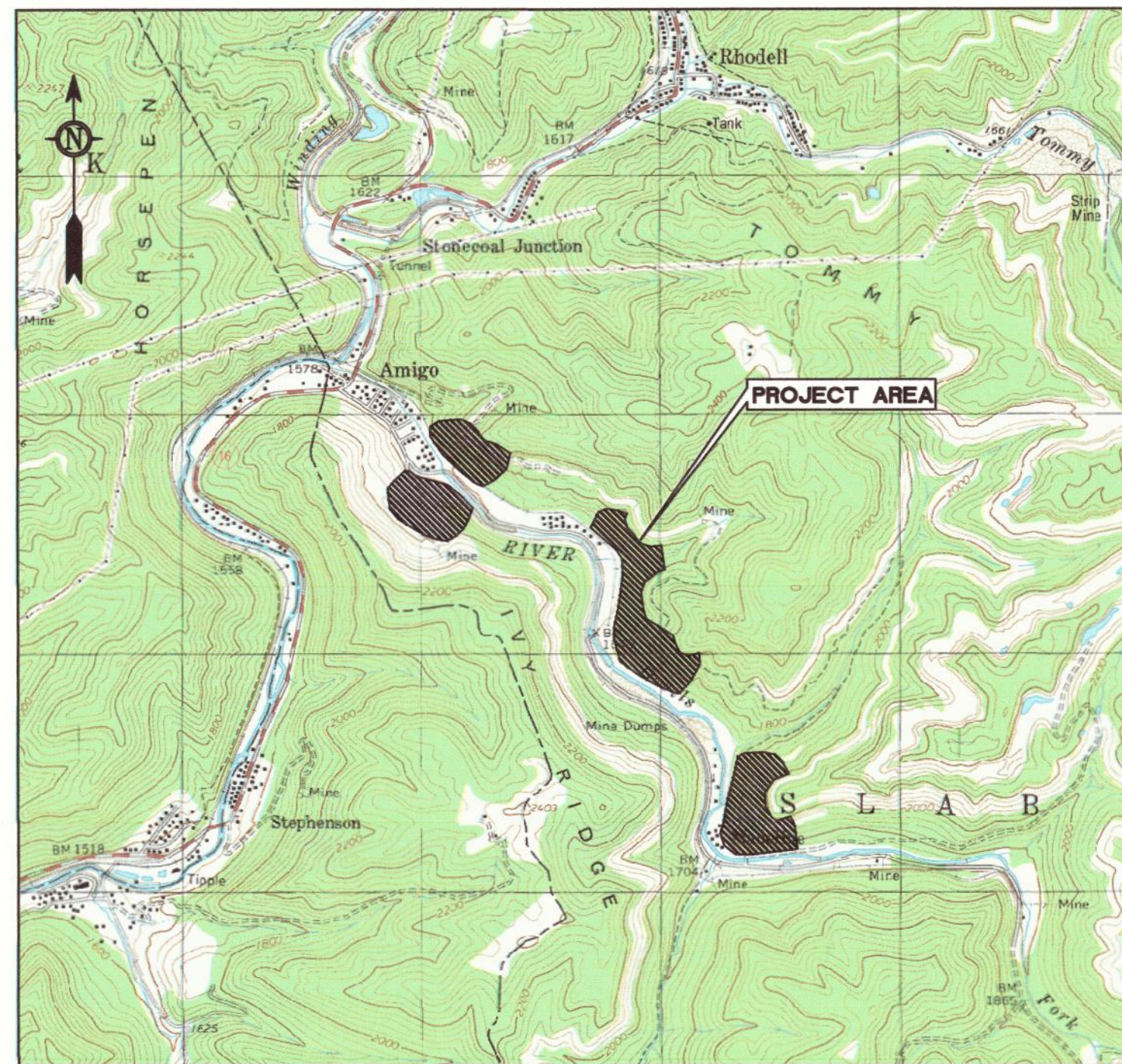




west virginia department of environmental protection

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**OFFICE OF ABANDONED MINE LANDS**  
**AMIGO PORTALS**  
**RALEIGH COUNTY, WEST VIRGINIA**

**U.S.G.S. LOCATION MAP**  
 SCALE: 1 INCH = 2000 FEET



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<b>TOTAL</b>			\$	\$

**SHEET INDEX**

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PLANS PREPARED BY:



**gai consultants**

300 SUMMERS STREET, SUITE 1100  
 CHARLESTON, WEST VIRGINIA 25301  
 304-926-8100

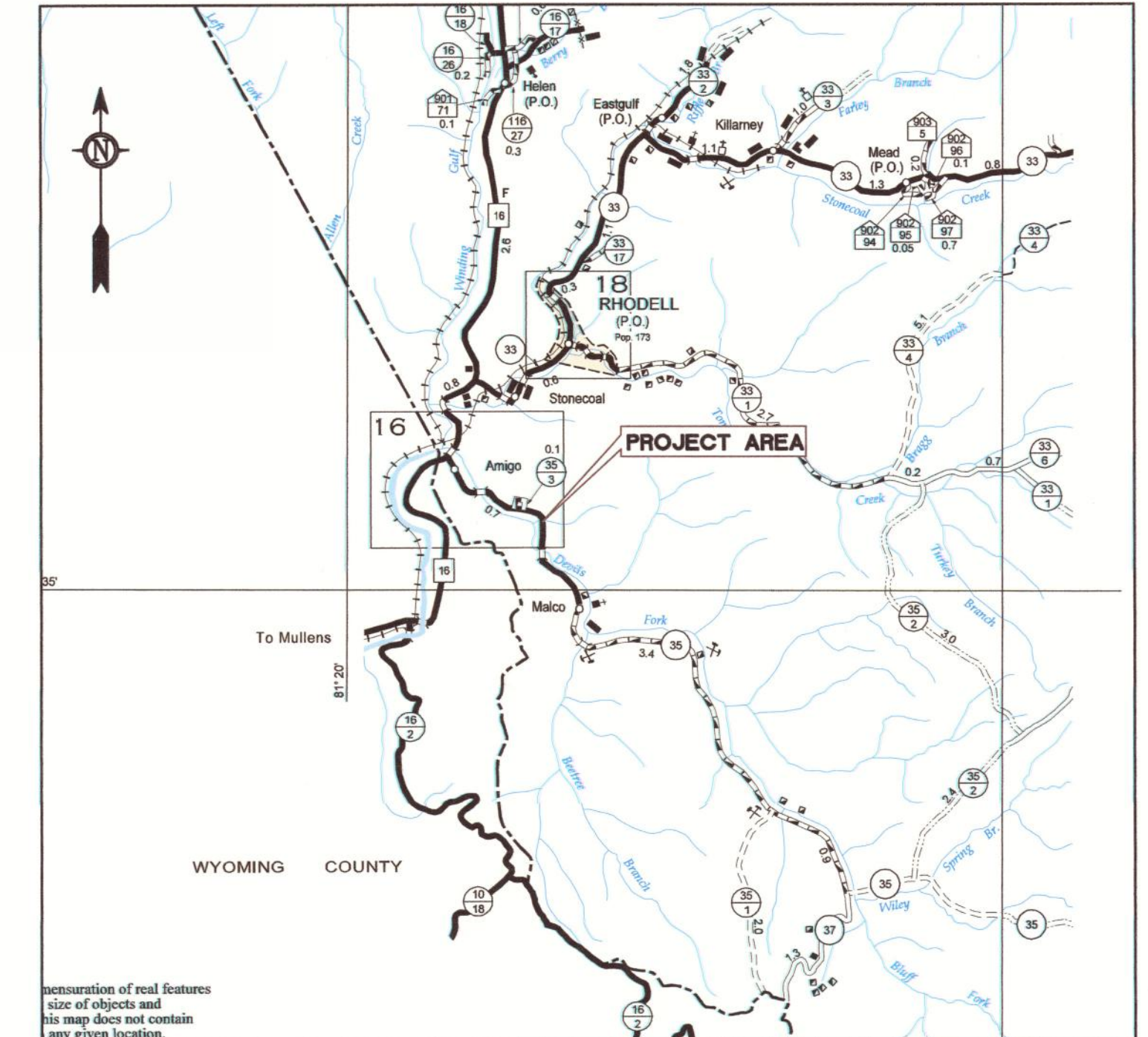


Charles F. Straley, PE

1-15-14

Date

**COUNTY HIGHWAY MAP**  
 SCALE: 1 INCH = 1 MILE



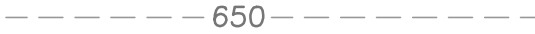

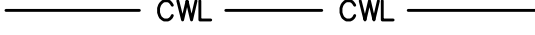
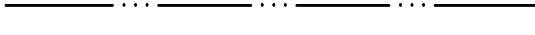




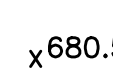
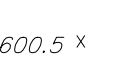
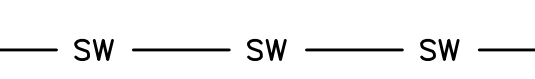
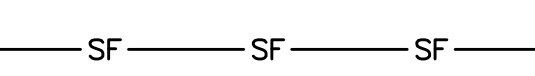




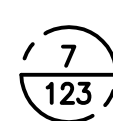
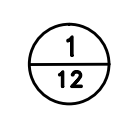
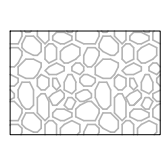



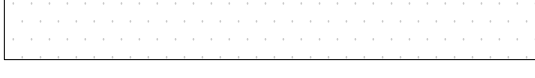
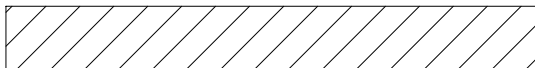


Representation of real features  
 size of objects and  
 this map does not contain  
 any given location.

MAPPING REFERENCE:  
 RALEIGH COUNTY, WEST VIRGINIA  
 GENERAL HIGHWAY MAP  
 (2011)




**LEGEND**

	EXISTING FEATURE
	PROPOSED FEATURE
	EXISTING CONTOUR (SURVEY)
	PROPOSED CONTOUR
	CONSTRUCTION WORK LIMIT
	EXISTING STREAM OR PRIMARY FLOW PATH
	EXISTING ROAD
	EXISTING OVERHEAD ELECTRIC
	EXISTING OVERHEAD UTILITY
	PROPOSED CHANNEL CENTERLINE AND TOP EDGES (AT MIN. DEPTH)
	SPOT ELEVATION, PROPOSED GRADE
	SPOT ELEVATION, EXISTING GROUND SURFACE
	STRAW WATTLE
	SILT FENCE
	EXISTING STORM SEWER LINE
	FLOW DIRECTION
	PROPERTY LINE
	PROPOSED FENCE
	PARCEL NUMBER
	DETAIL NUMBER 1 (OR SECTION OR PROFILE REFERENCE) DRAWING 12
	RIPRAP/ROCK
	COMPACTED BACKFILL
	EX. CONCRETE PAVING
	EX. ASPHALT PAVING
	EX. GRAVEL PAVING
	AGGREGATE PLACEMENT

**GENERAL NOTES**

- IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, FACILITIES, AND OTHER STRUCTURES AND OBSTRUCTIONS. UTILITY LOCATIONS ARE BASED ON INFORMATION PROVIDED ON THE BASE MAPPING, ADDITIONAL SURVEYING, AND ON SITE OBSERVATIONS, AND MAY NOT BE ALL INCLUSIVE. ACTUAL LOCATIONS MAY DEVIATE FROM THAT SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. CONTACT EACH RESPECTIVE UTILITY/LANDOWNER FOR SERVICE LINE LOCATIONS.
- SANITARY SYSTEMS, STORM DRAINS, AND CULVERTS ARE NOT SHOWN OR ARE NOT SHOWN IN THEIR ENTIRETY AND MUST BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- ALL FENCES ARE NOT DEPICTED. THE CONTRACTOR SHALL REPAIR/REPLACE ANY EXISTING FENCES AND GATES THAT ARE DAMAGED/DESTROYED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL MAINTAIN UNRESTRICTED ACCESS AT THE SITE AT ALL TIMES DURING CONSTRUCTION.
- LOCATIONS OF SURVEY CONTROL POINTS SHOULD BE FIELD VERIFIED PRIOR TO COMMENCING WORK. FIELD VERIFICATION OF CROSS SECTIONS SHALL ALSO BE COMPLETED AND ACCEPTED BY THE WVDEP PRIOR TO COMMENCING WORK.
- REFER TO THE OTHER DRAWINGS FOR SPECIFIC NOTES REGARDING THE RECLAMATION WORK.
- ALL DISTURBED AREAS WITHIN THE CONSTRUCTION WORK LIMIT SHALL BE REVEGETATED. ALL OTHER AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE CONSTRUCTION WORK LIMIT SHALL BE REVEGETATED AT THE CONTRACTOR'S OWN EXPENSE.
- IT IS POSSIBLE THAT CERTAIN ASPECTS OF THE BASE TOPOGRAPHIC MAPPING MAY BE DIFFERENT FROM CONDITIONS EXISTING IN THE FIELD. OTHER NATURAL OCCURRENCES SUCH AS EROSION MAY HAVE RESULTED IN CONDITIONS DIFFERENT THAN SHOWN ON THE BASE MAPPING.
- CONTOUR INTERVAL OF BASE MAPPING IS 2-FOOT. CERTAIN AREAS OF PROPOSED GRADING VARY IN CONTOUR INTERVAL.
- THE CONTRACTOR SHALL UTILIZE EXISTING ACCESS ROADS TO THE PROJECT AREA IN ACCORDANCE WITH THE SPECIFICATIONS.

CONTROL POINTS				
CONTROL POINT	NORTHING (FT)	EASTING (FT)	ELEVATION (FT)	REF PLAN SHEET
1	216299.885	1876740.977	1589.97	5
2	216233.890	1877043.286	1593.92	5
3	216083.137	1877133.426	1595.62	5
4	215203.446	1879207.313	1626.70	7
5	214949.039	1879310.050	1633.37	7
6	214791.721	1879256.976	1631.53	7
7	214030.892	1879128.366	1642.98	8
8	213912.131	1879090.141	1643.76	8
9	213537.550	1879340.727	1648.09	9
10	213399.265	1879610.111	1652.33	9
11	212287.179	1880723.694	1676.33	11
12	212170.055	1880731.617	1675.74	11
13	210854.549	1881014.742	1706.13	12
14	210811.291	1881317.494	1713.33	12

SURVEY CONTROL POINT LOCATIONS 

**GAI CONSULTANTS, INC.**  
 300 SUMMERS STREET, SUITE 100  
 CHARLESTON, WEST VIRGINIA 25301  
 P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

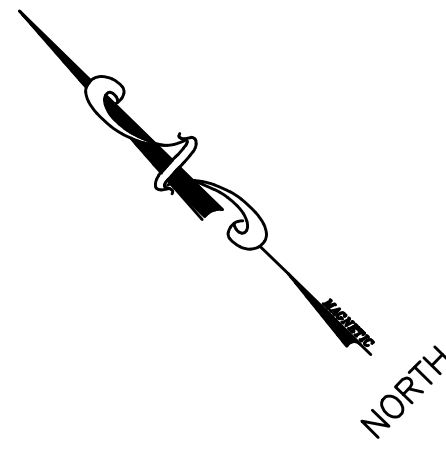
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 DESIGNED BY: TAC  
 DRAWN BY: JTG  
 CHECKED BY: CFS  
 APPROVED BY: JTG  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**GENERAL NOTES &  
 SURVEY CONTROL  
 POINT LOCATIONS**

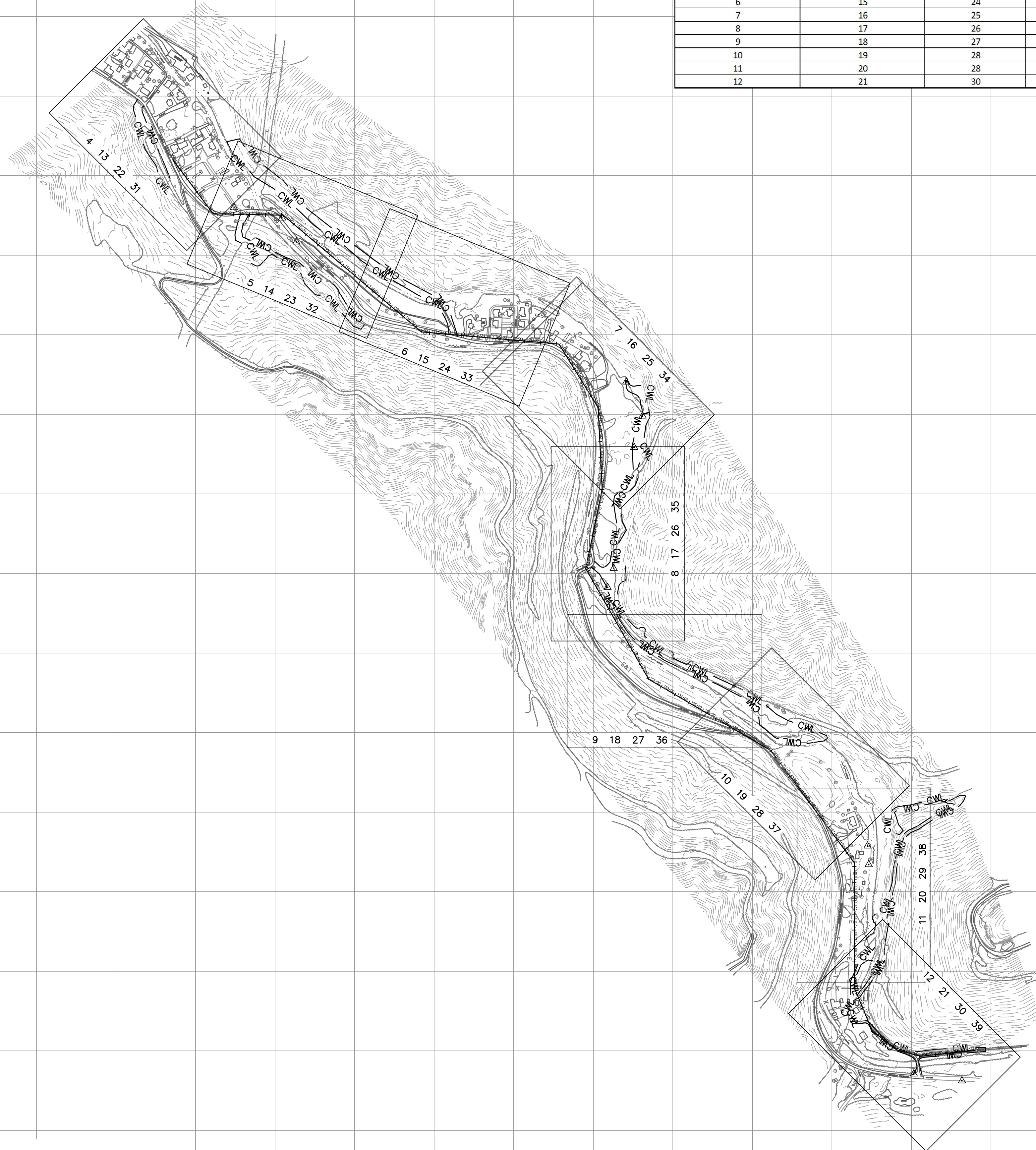
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REV. NO.	N/A
DATE	DRAWING NUMBER
DESCRIPTION	2







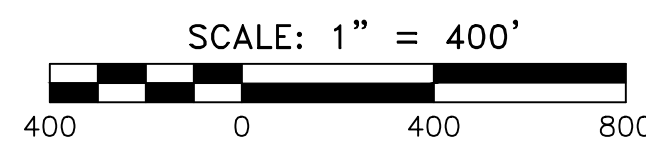
SHEET INDEX			
EXISTING CONDITIONS	EROSION & SEDIMENTATION	PROPOSED	TAX MAP OVERLAY
4	13	22	31
5	14	23	32
6	15	24	33
7	16	25	34
8	17	26	35
9	18	27	36
10	19	28	37
11	20	28	38
12	21	30	39



**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**

300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

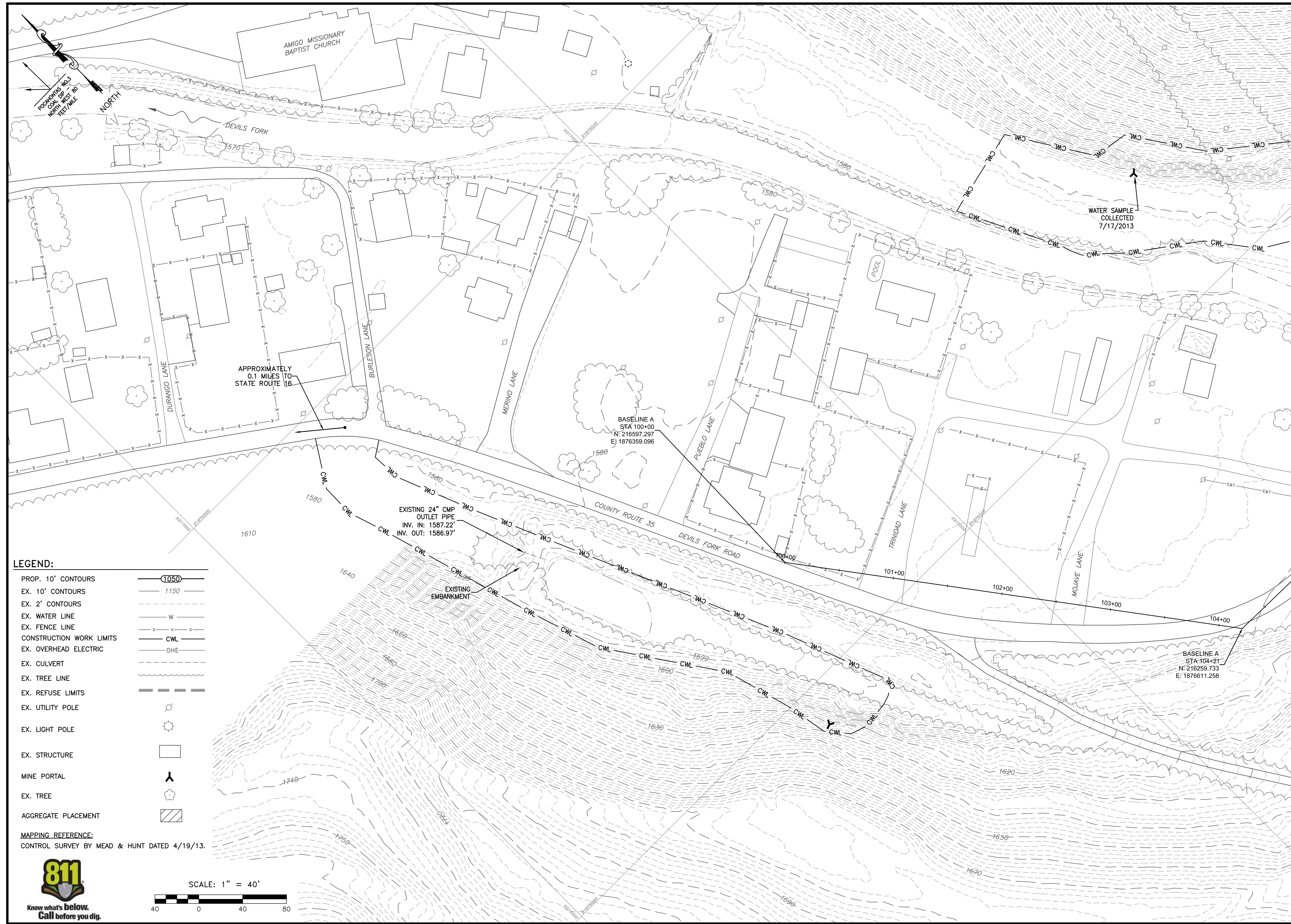
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DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**COMPOSITE**

REVISED  
REV. NO. DATE DESCRIPTION

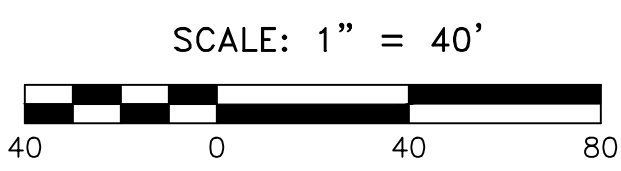
SCALE  
**1" = 400'**  
DRAWING NUMBER  
**3**





MATCHLINE SHEET 5

- LEGEND:**
- PROP. 10' CONTOURS
  - EX. 10' CONTOURS
  - EX. 2' CONTOURS
  - EX. WATER LINE
  - EX. FENCE LINE
  - CONSTRUCTION WORK LIMITS
  - EX. OVERHEAD ELECTRIC
  - EX. CULVERT
  - EX. TREE LINE
  - EX. REFUSE LIMITS
  - EX. UTILITY POLE
  - EX. LIGHT POLE
  - EX. STRUCTURE
  - MINE PORTAL
  - EX. TREE
  - AGGREGATE PLACEMENT
- MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

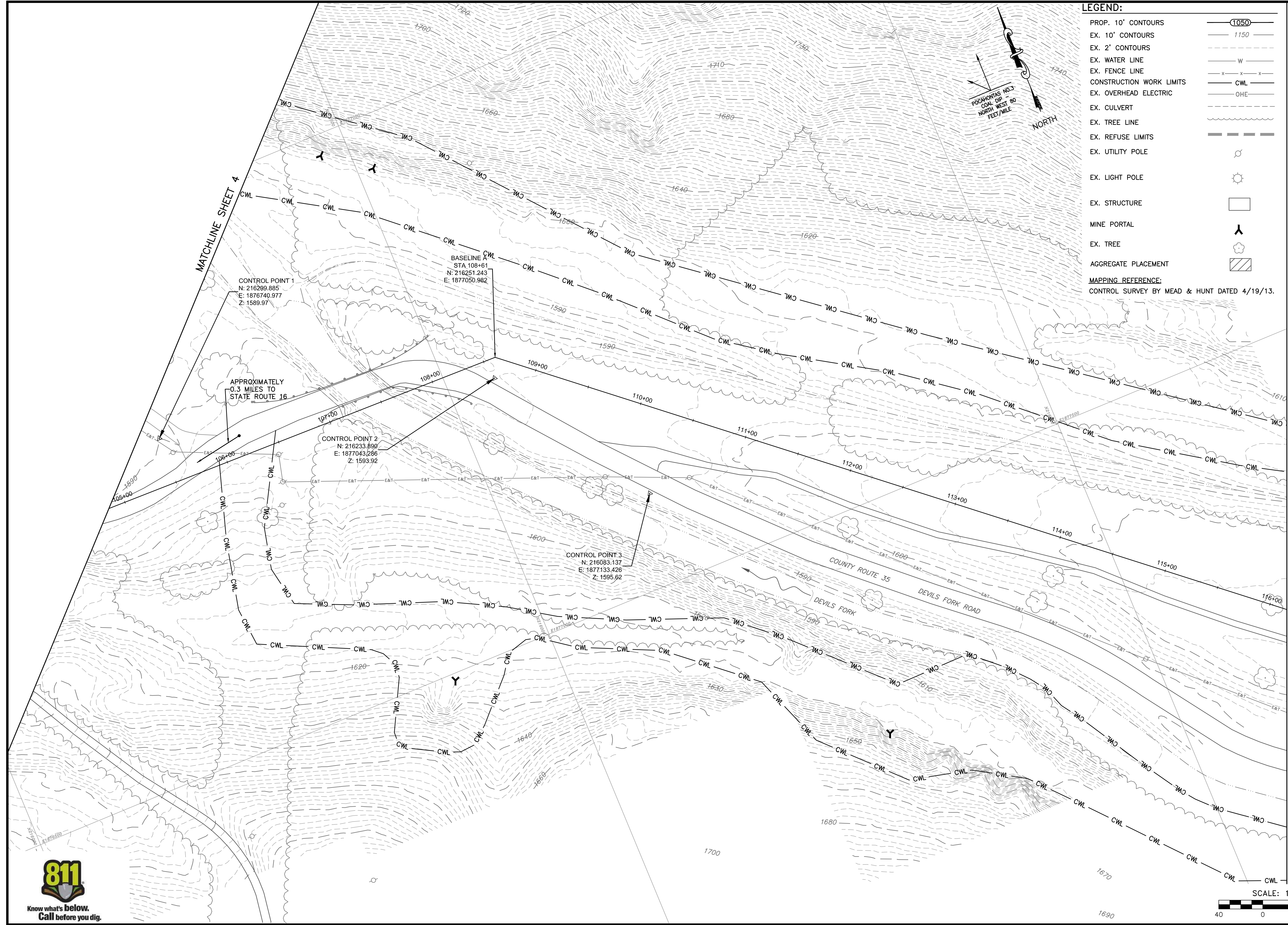
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DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**4**





**LEGEND:**

PROP. 10' CONTOURS		1050
EX. 10' CONTOURS		1150
EX. 2' CONTOURS		
EX. WATER LINE		W
EX. FENCE LINE		X
CONSTRUCTION WORK LIMITS		CWL
EX. OVERHEAD ELECTRIC		OHE
EX. CULVERT		
EX. TREE LINE		
EX. REFUSE LIMITS		
EX. UTILITY POLE		
EX. LIGHT POLE		
EX. STRUCTURE		
MINE PORTAL		
EX. TREE		
AGGREGATE PLACEMENT		

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

MATCHLINE SHEET 4

MATCHLINE SHEET 6

CONTROL POINT 1  
N: 216269.885  
E: 1876740.977  
Z: 1589.97

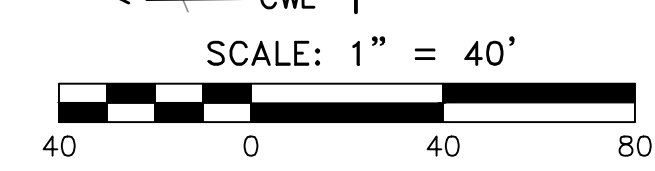
BASELINE  
STA 108+61  
N: 216251.243  
E: 1877050.982

CONTROL POINT 2  
N: 216233.890  
E: 1877043.286  
Z: 1593.92

CONTROL POINT 3  
N: 216083.137  
E: 1877133.426  
Z: 1595.62

APPROXIMATELY  
0.3 MILES TO  
STATE ROUTE 16

COUNTY ROUTE 35  
DEVILS FORK  
DEVILS FORK ROAD



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

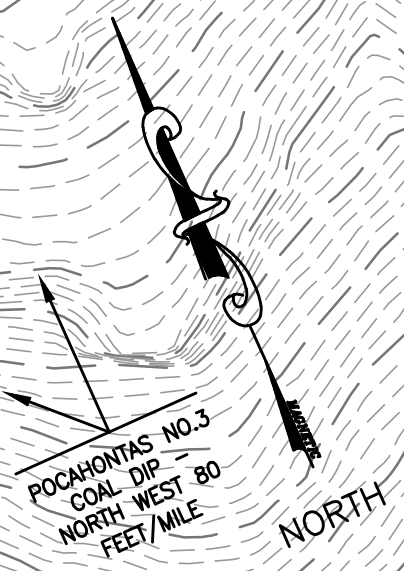
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DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**5**

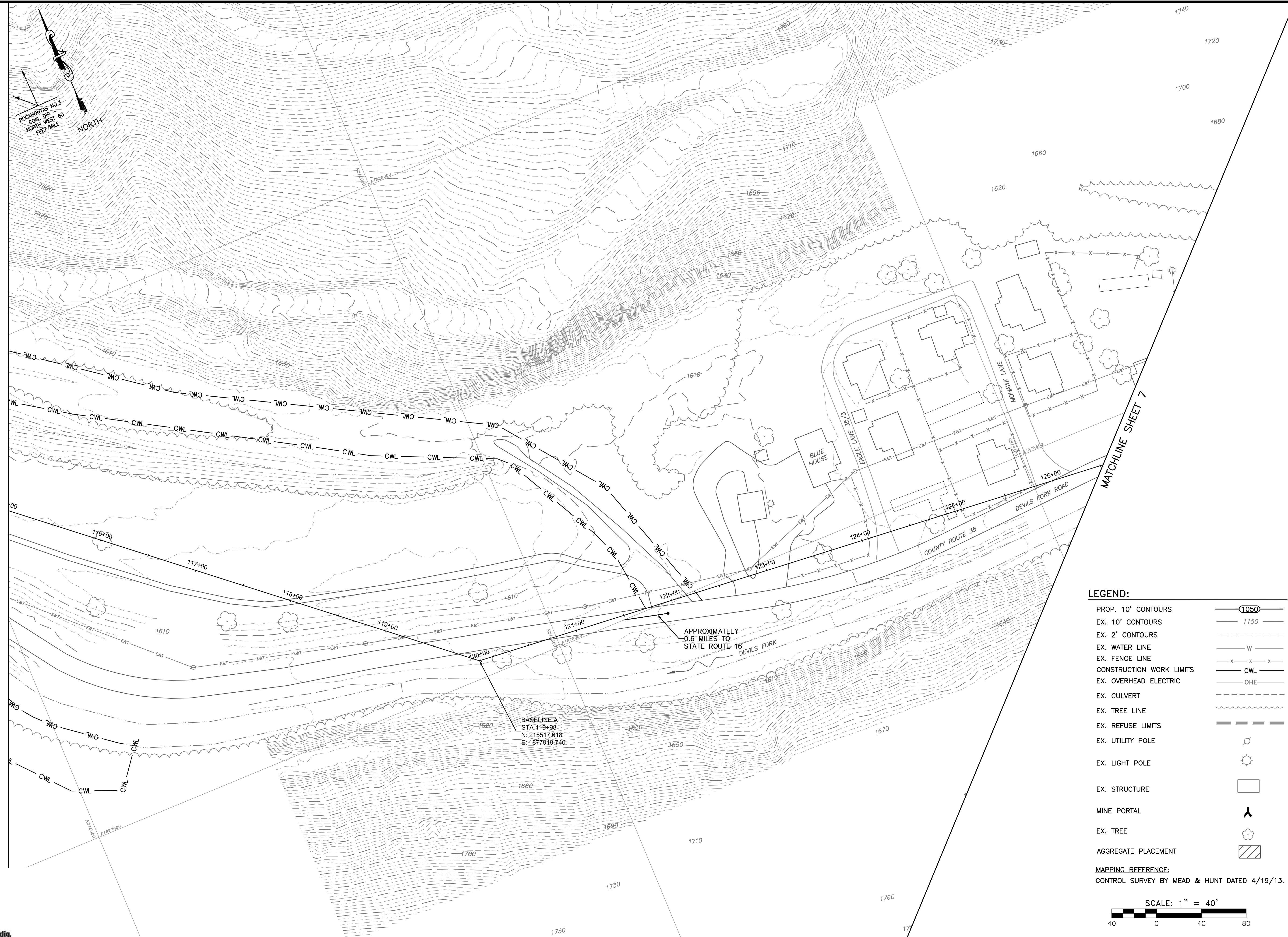




POCAHONTAS NO. 3  
COAL DIP  
NORTH WEST 80  
FEET/MILE

MATCHLINE SHEET 5

MATCHLINE SHEET 7



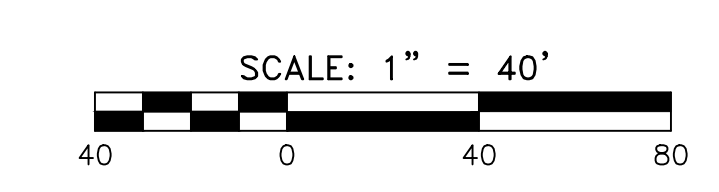
BASELINE A  
STA 119+98  
N: 215517.618  
E: 1877919.740

APPROXIMATELY  
0.6 MILES TO  
STATE ROUTE 16  
DEVILS FORK

**LEGEND:**

PROP. 10' CONTOURS	
EX. 10' CONTOURS	
EX. 2' CONTOURS	
EX. WATER LINE	
EX. FENCE LINE	
CONSTRUCTION WORK LIMITS	
EX. OVERHEAD ELECTRIC	
EX. CULVERT	
EX. TREE LINE	
EX. REFUSE LIMITS	
EX. UTILITY POLE	
EX. LIGHT POLE	
EX. STRUCTURE	
MINE PORTAL	
EX. TREE	
AGGREGATE PLACEMENT	

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1 TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: CFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

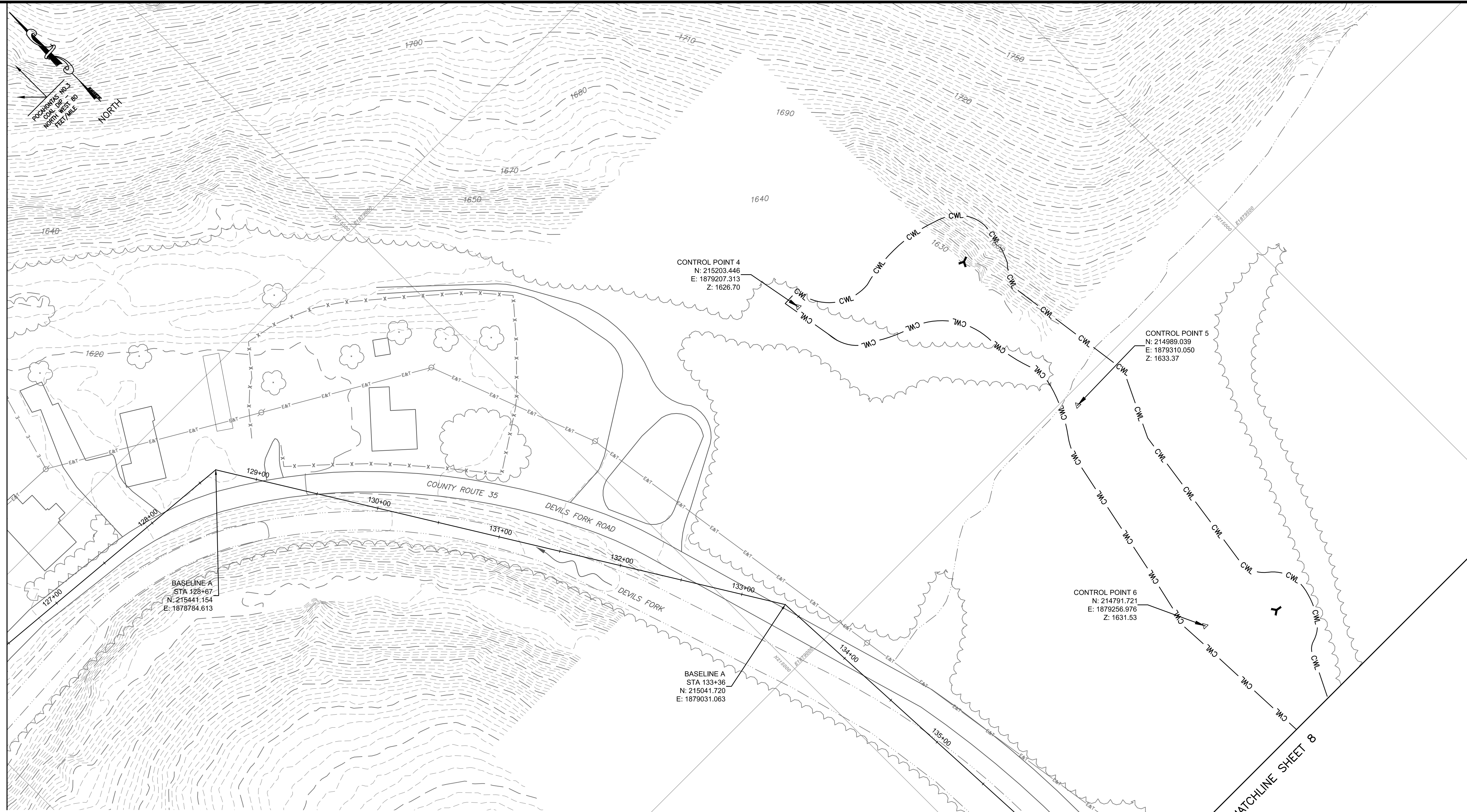
**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**6**



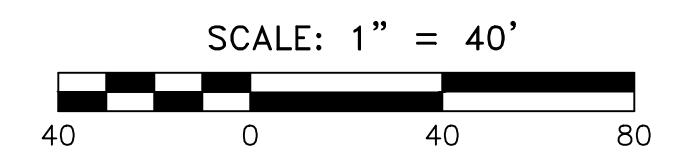
MATCHLINE SHEET 6



**LEGEND:**

PROP. 10' CONTOURS		EX. UTILITY POLE	
EX. 10' CONTOURS		EX. LIGHT POLE	
EX. 2' CONTOURS		EX. STRUCTURE	
EX. WATER LINE		MINE PORTAL	
EX. FENCE LINE		EX. TREE	
CONSTRUCTION WORK LIMITS		AGGREGATE PLACEMENT	
EX. OVERHEAD ELECTRIC			
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			

**MAPPING REFERENCE:**  
 CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
 300 SUMMERS STREET, SUITE 100  
 CHARLESTON, WEST VIRGINIA 25301  
 P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

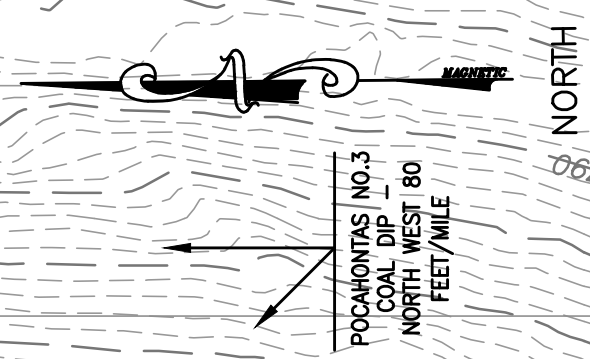
PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 APPROVED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**7**





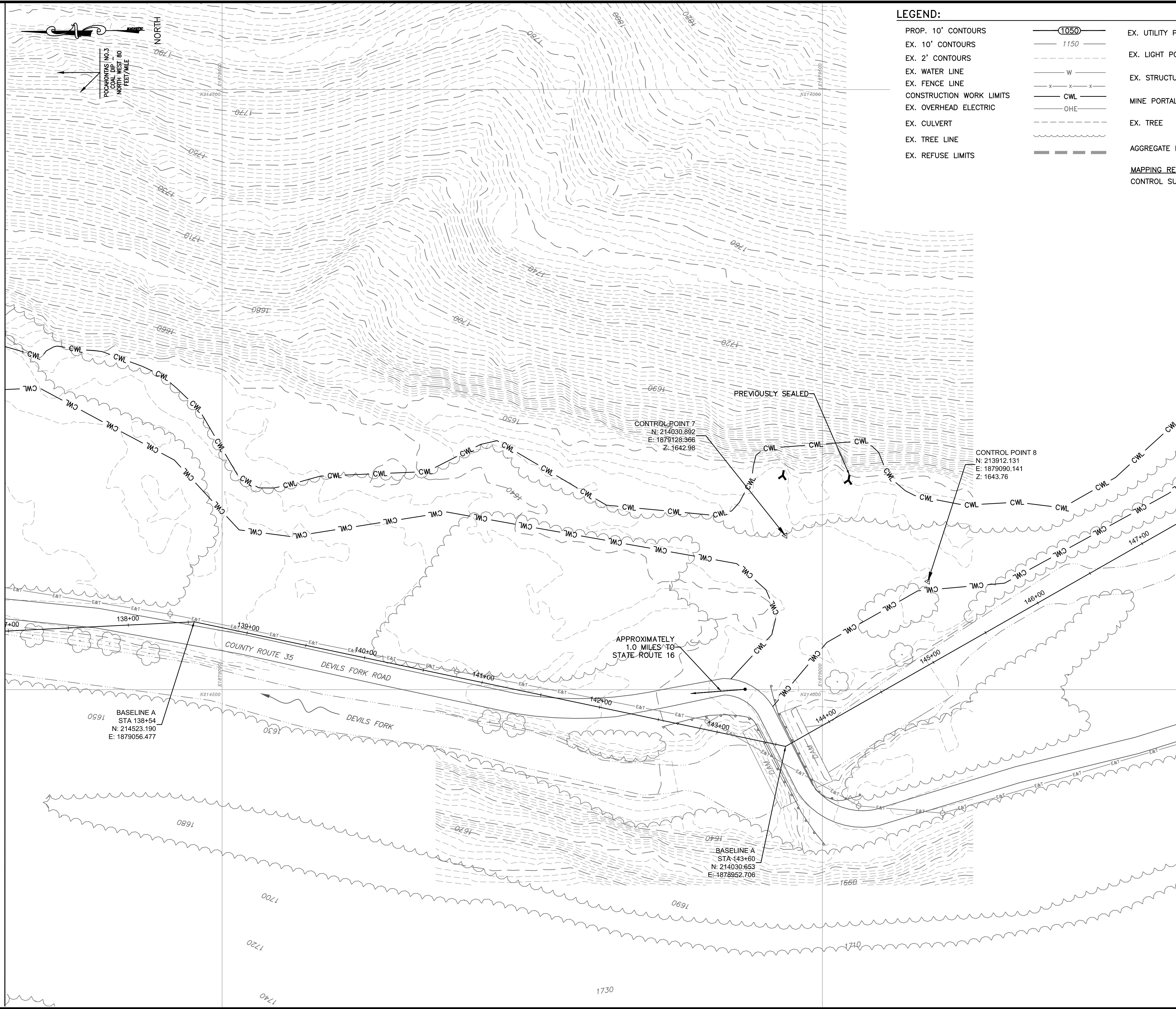
**LEGEND:**

PROP. 10' CONTOURS		EX. UTILITY POLE	
EX. 10' CONTOURS		EX. LIGHT POLE	
EX. 2' CONTOURS		EX. STRUCTURE	
EX. WATER LINE		EX. TREE	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS			
EX. OVERHEAD ELECTRIC			
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

MATCHLINE SHEET 7

MATCHLINE SHEET 9



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180

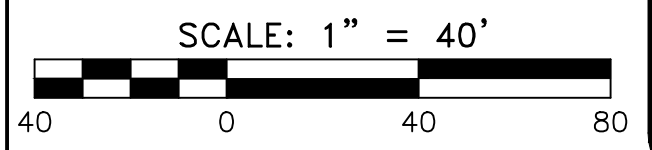


**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE:	1/1
DESIGNED BY:	TAC
DRAWN BY:	TAC
CHECKED BY:	JTG
APPROVED BY:	CFS
DATE:	January 14, 2014
PROJECT NUMBER:	E130389

**EXISTING CONDITIONS**

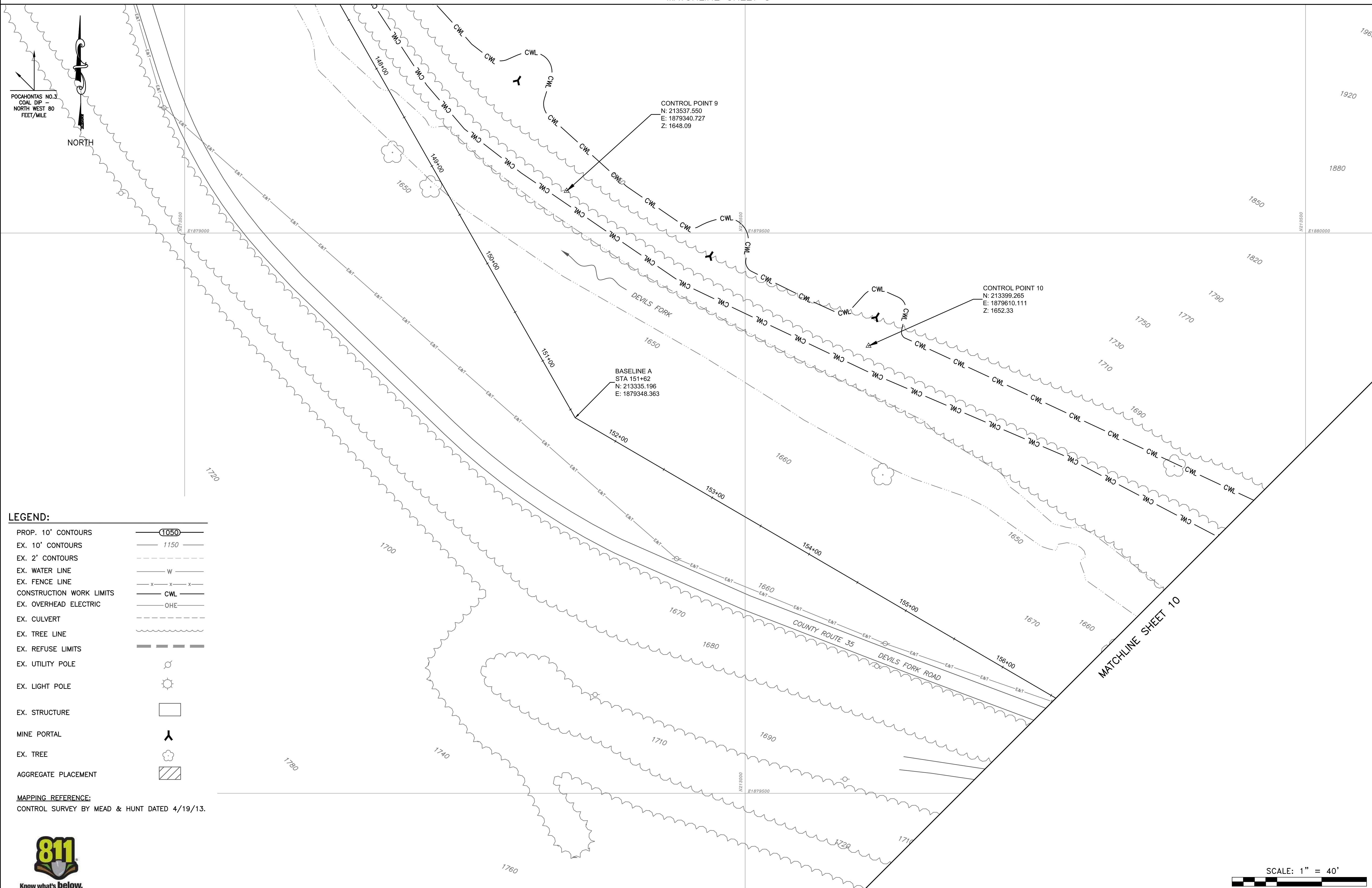
REVISED	REV. NO.	DATE	DESCRIPTION



SCALE  
**1" = 40'**  
DRAWING NUMBER  
**8**







**LEGEND:**

PROP. 10' CONTOURS		1050
EX. 10' CONTOURS		1150
EX. 2' CONTOURS		
EX. WATER LINE		
EX. FENCE LINE		
CONSTRUCTION WORK LIMITS		
EX. OVERHEAD ELECTRIC		
EX. CULVERT		
EX. TREE LINE		
EX. REFUSE LIMITS		
EX. UTILITY POLE		
EX. LIGHT POLE		
EX. STRUCTURE		
MINE PORTAL		
EX. TREE		
AGGREGATE PLACEMENT		

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE:	TAC
DESIGNED BY:	TAC
DRAWN BY:	JTG
CHECKED BY:	CFS
APPROVED BY:	JTG
DATE:	January 14, 2014
PROJECT NUMBER:	E130389

**EXISTING CONDITIONS**

REVISED	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**9**



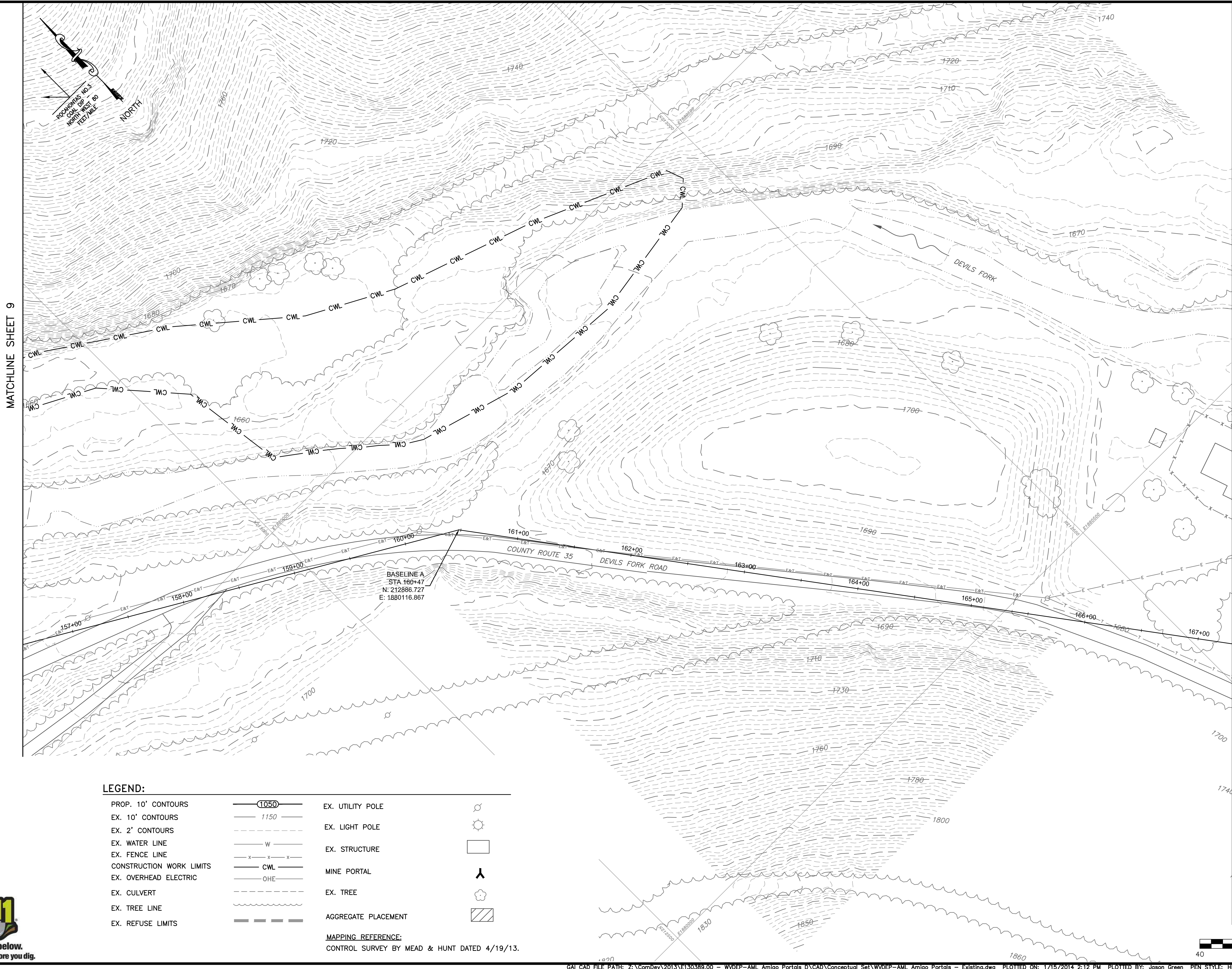


PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 APPROVED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**10**



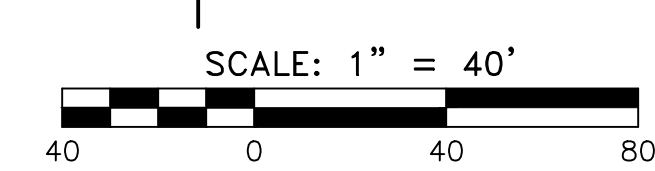
MATCHLINE SHEET 9

MATCHLINE SHEET 11

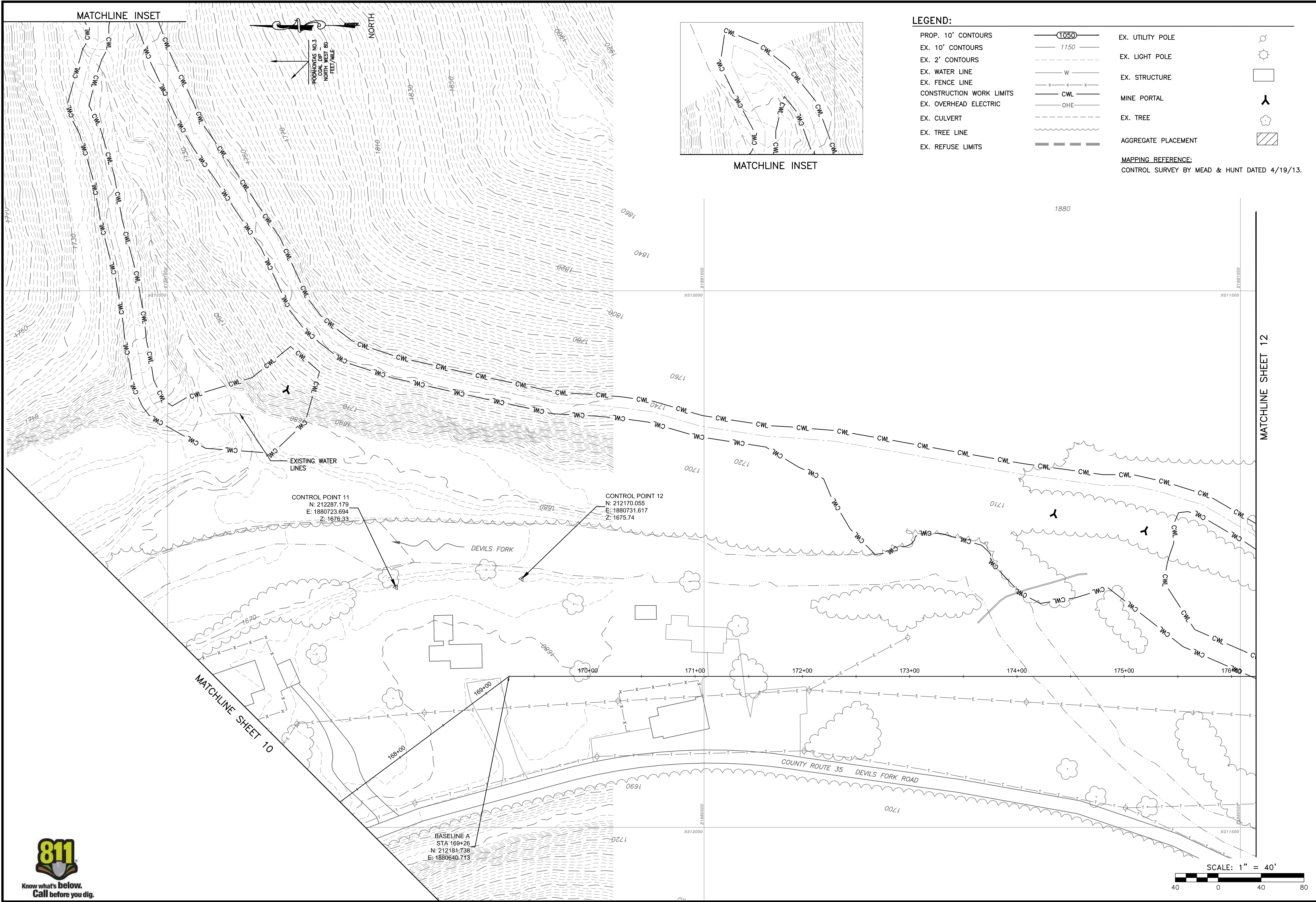
**LEGEND:**

PROP. 10' CONTOURS		EX. UTILITY POLE	
EX. 10' CONTOURS		EX. LIGHT POLE	
EX. 2' CONTOURS		EX. STRUCTURE	
EX. WATER LINE		MINE PORTAL	
EX. FENCE LINE		EX. TREE	
CONSTRUCTION WORK LIMITS		AGGREGATE PLACEMENT	
EX. OVERHEAD ELECTRIC			
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			

**MAPPING REFERENCE:**  
 CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.







**LEGEND:**

PROP. 10' CONTOURS		EX. UTILITY POLE	
EX. 10' CONTOURS		EX. LIGHT POLE	
EX. 2' CONTOURS		EX. STRUCTURE	
EX. WATER LINE		MINE PORTAL	
EX. FENCE LINE		EX. TREE	
CONSTRUCTION WORK LIMITS		AGGREGATE PLACEMENT	
EX. OVERHEAD ELECTRIC			
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

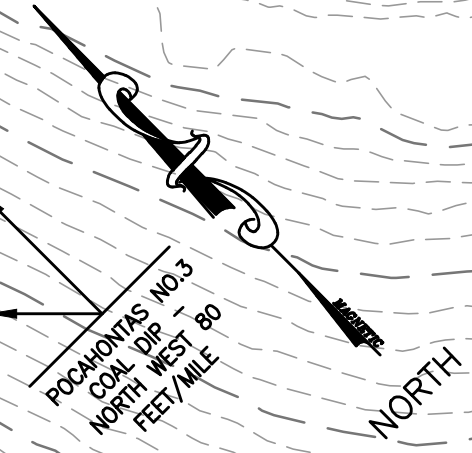
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**11**





MATCHLINE SHEET 11



BASELINE A  
STA 177+13  
N: 211395.574  
E: 1880640.650

BASELINE A  
STA 180+09  
N: 211123.607  
E: 1880754.323

BASELINE A  
STA 182+03  
N: 211004.896  
E: 1880908.745

BASELINE A  
STA 183+57  
N: 210965.665  
E: 1881058.201

BASELINE A  
STA 187+00  
N: 211002.597  
E: 1881399.429

CONTROL POINT 14  
N: 210811.291  
E: 1881317.494  
Z: 1713.33

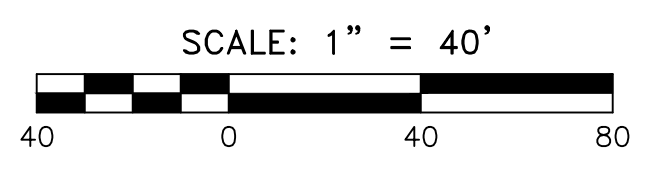
CONTROL POINT 13  
N: 210854.549  
E: 1881014.742  
Z: 1706.13

APPROXIMATELY  
1.8 MILES TO  
STATE ROUTE 16

**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE PORTAL
- EX. TREE
- AGGREGATE PLACEMENT

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EXISTING CONDITIONS**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**12**

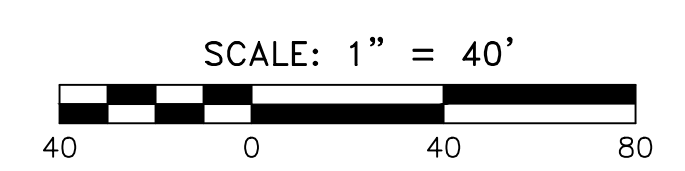






- LEGEND:**
- PROP. 10' CONTOURS
  - EX. 10' CONTOURS
  - EX. 2' CONTOURS
  - EX. WATER LINE
  - EX. FENCE LINE
  - CONSTRUCTION WORK LIMITS
  - EX. OVERHEAD ELECTRIC
  - EX. CULVERT
  - EX. TREE LINE
  - EX. REFUSE LIMITS
  - SILT FENCE
  - EX. UTILITY POLE
  - EX. LIGHT POLE
  - EX. STRUCTURE
  - MINE PORTAL
  - EX. TREE
  - AGGREGATE PLACEMENT
  - STABILIZED CONSTRUCTION ENTRANCE

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



MATCHLINE SHEET 14

**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180

**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

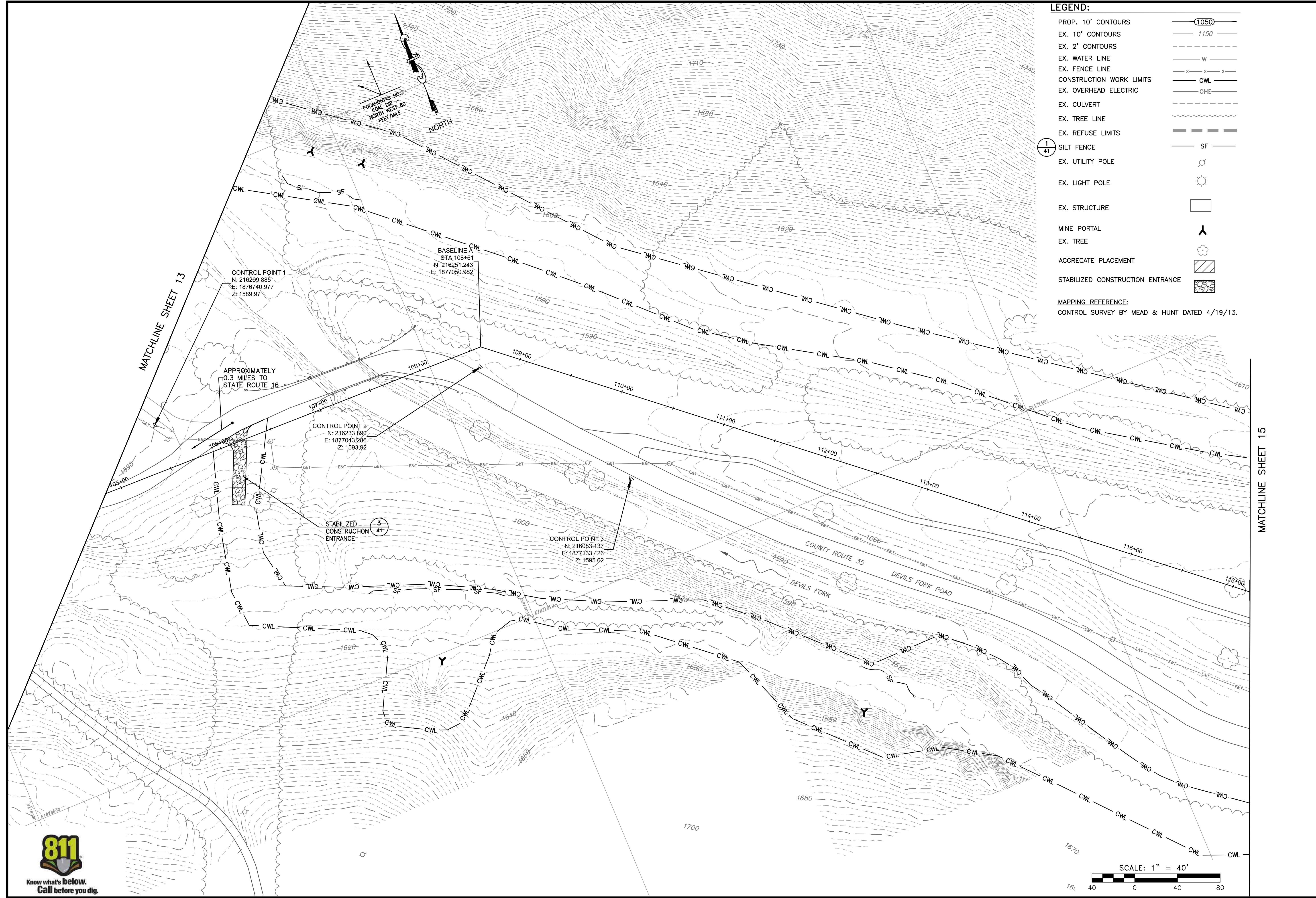
PLOT SCALE:	1/1	TAC	TAC	JTG	CFS
DESIGNED BY:		DRAWN BY:		CHECKED BY:	
DATE:	January 14, 2014	PROJECT NUMBER:	E130389		

**EROSION & SEDIMENTATION**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**13**





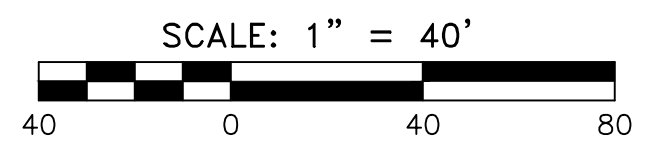
**LEGEND:**

PROP. 10' CONTOURS	(1050)
EX. 10' CONTOURS	1150
EX. 2' CONTOURS	W
EX. WATER LINE	x-x-x-x
EX. FENCE LINE	CWL
CONSTRUCTION WORK LIMITS	OHE
EX. OVERHEAD ELECTRIC	~ ~ ~ ~
EX. CULVERT	~ ~ ~ ~
EX. TREE LINE	~ ~ ~ ~
EX. REFUSE LIMITS	--- ---
SILT FENCE	SF
EX. UTILITY POLE	⊙
EX. LIGHT POLE	☀
EX. STRUCTURE	□
MINE PORTAL	⋈
EX. TREE	☼
AGGREGATE PLACEMENT	▨
STABILIZED CONSTRUCTION ENTRANCE	▩

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

MATCHLINE SHEET 13

MATCHLINE SHEET 15



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

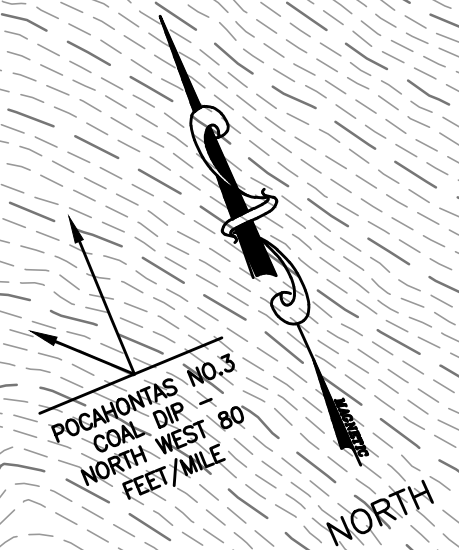
PLOT SCALE:	1/1	TAC	JTG	CFS
DESIGNED BY:	TAC	TAC	JTG	CFS
DRAWN BY:	TAC	TAC	JTG	CFS
CHECKED BY:	TAC	TAC	JTG	CFS
DATE:	January 14, 2014			
PROJECT NUMBER:	E130389			

**EROSION & SEDIMENTATION**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**14**





MATCHLINE SHEET 14

MATCHLINE SHEET 16



3  
41  
STABILIZED  
CONSTRUCTION  
ENTRANCE

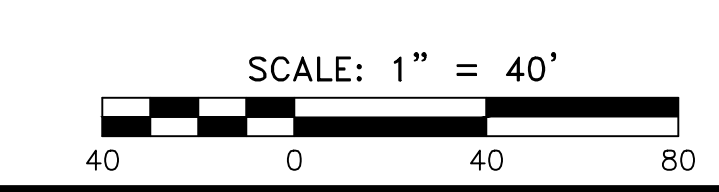
APPROXIMATELY  
0.6 MILES TO  
STATE ROUTE 16

BASELINE A  
STA 119+98  
N: 215517.618  
E: 1877919.740

**LEGEND:**

PROP. 10' CONTOURS		1050
EX. 10' CONTOURS		1150
EX. 2' CONTOURS		
EX. WATER LINE		W
EX. FENCE LINE		X-X-X-X
CONSTRUCTION WORK LIMITS		CWL
EX. OVERHEAD ELECTRIC		OHE
EX. CULVERT		
EX. TREE LINE		
EX. REFUSE LIMITS		
1 41 SILT FENCE		SF
EX. UTILITY POLE		
EX. LIGHT POLE		
EX. STRUCTURE		
MINE PORTAL		
EX. TREE		
AGGREGATE PLACEMENT		
STABILIZED CONSTRUCTION ENTRANCE		

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

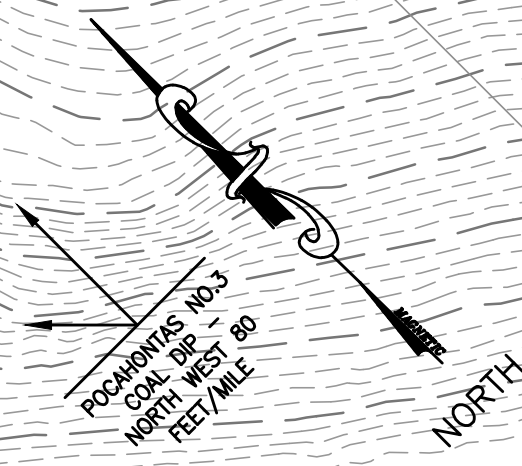
PLOT SCALE: TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: JFS  
APPROVED BY: CFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EROSION & SEDIMENTATION**

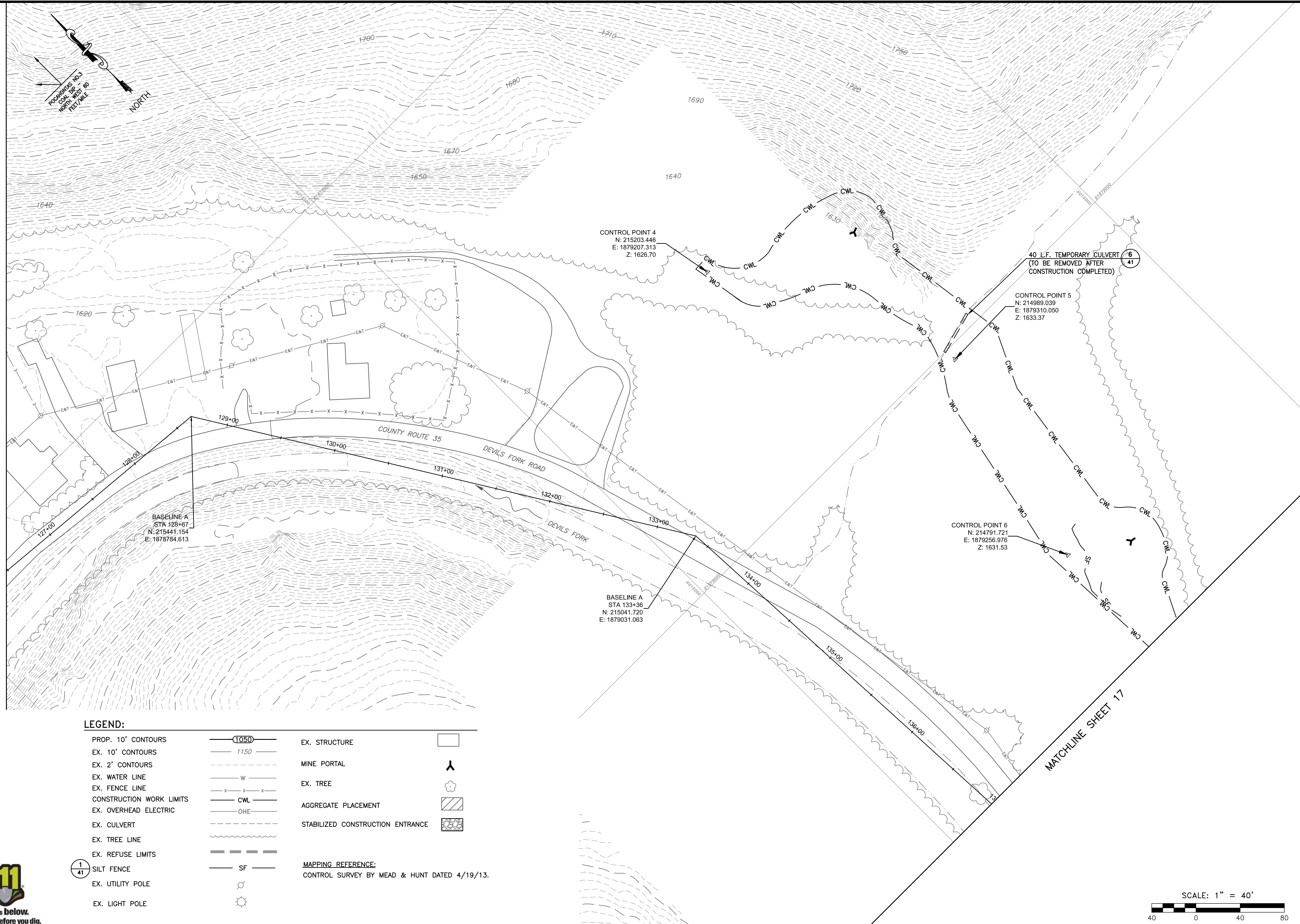
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**15**





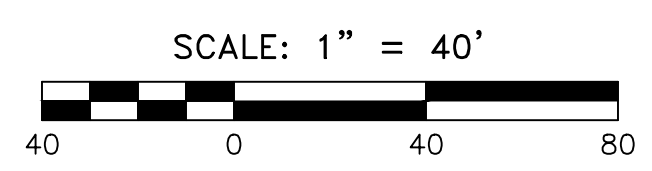
MATCHLINE SHEET 15



**LEGEND:**

PROP. 10' CONTOURS		EX. STRUCTURE	
EX. 10' CONTOURS		MINE PORTAL	
EX. 2' CONTOURS		EX. TREE	
EX. WATER LINE		AGGREGATE PLACEMENT	
EX. FENCE LINE		STABILIZED CONSTRUCTION ENTRANCE	
CONSTRUCTION WORK LIMITS			
EX. OVERHEAD ELECTRIC			
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			
EX. SILT FENCE			
EX. UTILITY POLE			
EX. LIGHT POLE			

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: CFS  
APPROVED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**EROSION & SEDIMENTATION**

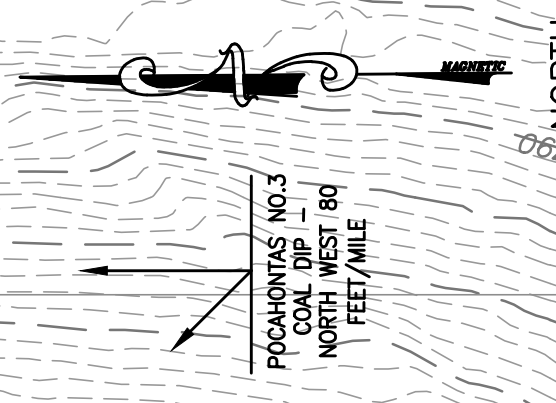
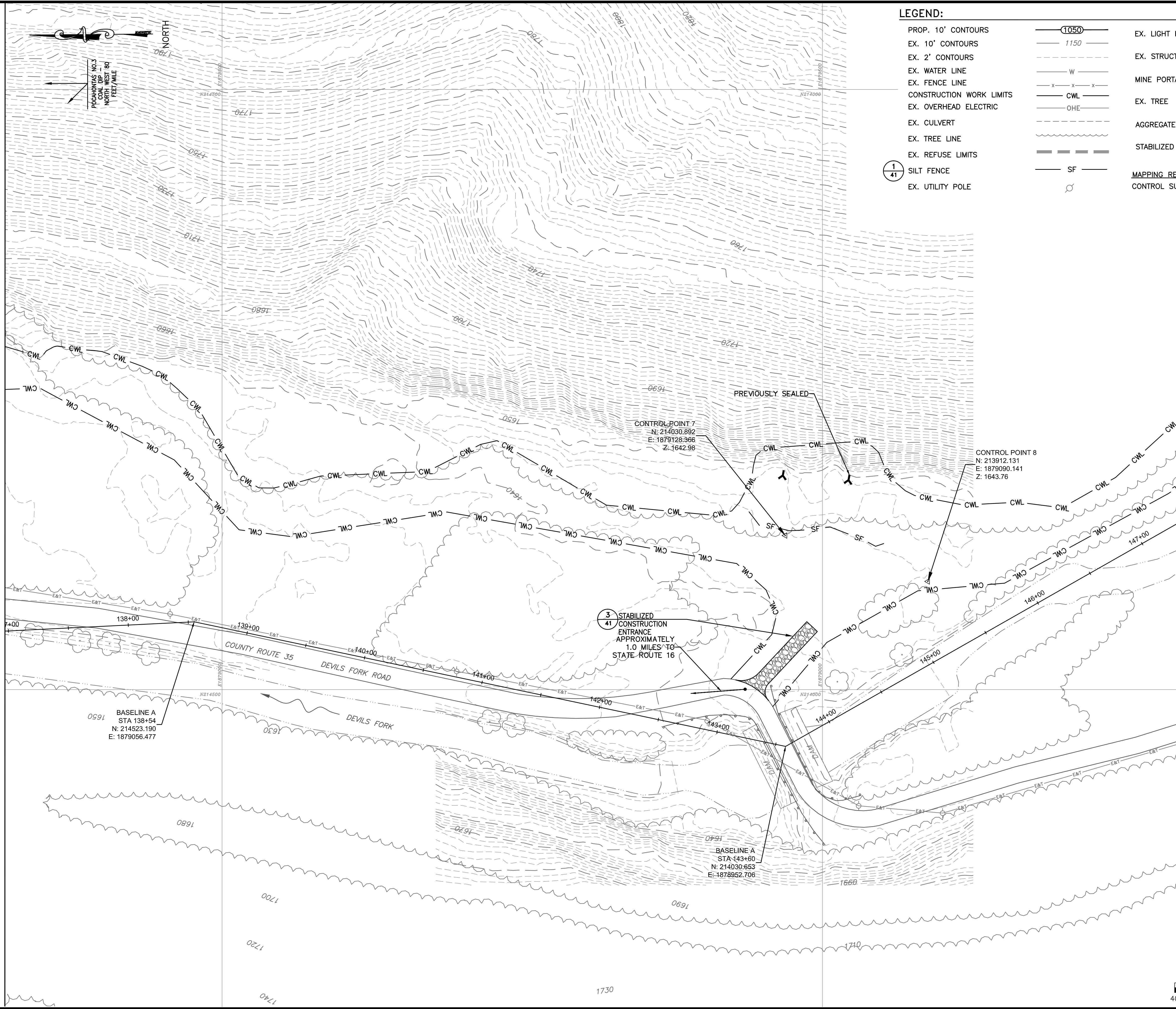
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**16**



MATCHLINE SHEET 16

MATCHLINE SHEET 18



**LEGEND:**

PROP. 10' CONTOURS		EX. LIGHT POLE	
EX. 10' CONTOURS		EX. STRUCTURE	
EX. 2' CONTOURS		MINE PORTAL	
EX. WATER LINE		EX. TREE	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS		STABILIZED CONSTRUCTION ENTRANCE	
EX. OVERHEAD ELECTRIC		<b>MAPPING REFERENCE:</b>	
EX. CULVERT		CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.	
EX. TREE LINE			
EX. REFUSE LIMITS			
	SILT FENCE		
EX. UTILITY POLE			

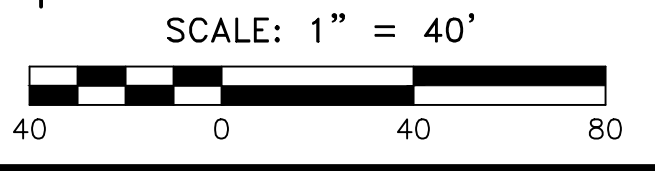
BASELINE A  
STA 138+54  
N: 214523.190  
E: 1879056.477

BASELINE A  
STA 143+60  
N: 214030.653  
E: 1872952.706

3  
41  
STABILIZED  
CONSTRUCTION  
ENTRANCE  
APPROXIMATELY  
1.0 MILES TO  
STATE ROUTE 16

CONTROL POINT 7  
N: 214030.892  
E: 1879128.366  
Z: 1642.98

CONTROL POINT 8  
N: 213912.131  
E: 1879090.141  
Z: 1643.76



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

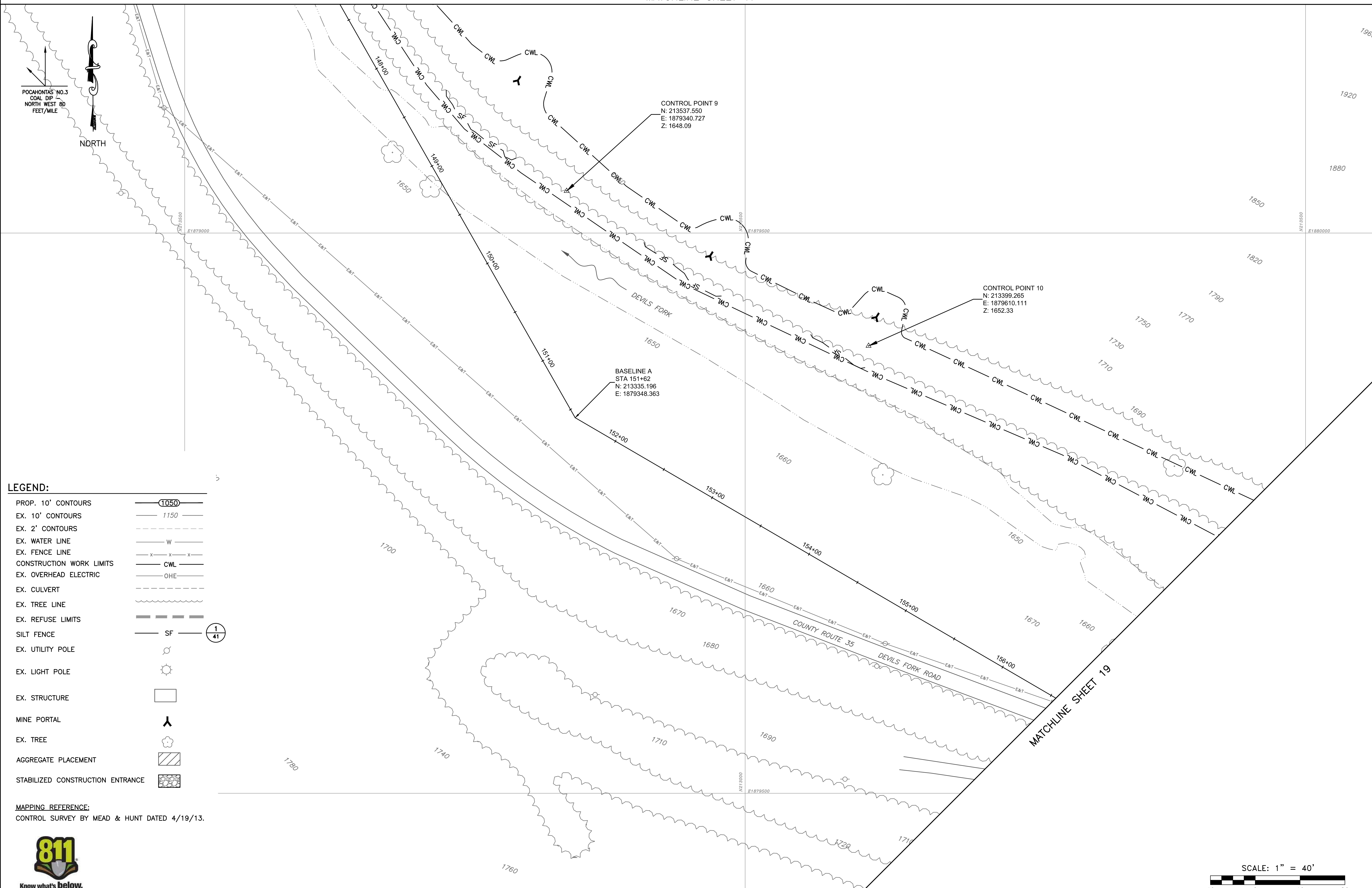
PLOT SCALE:	1/1	TAC	JTG	CFS
DESIGNED BY:	TAC	TAC	JTG	CFS
DRAWN BY:	TAC	TAC	JTG	CFS
CHECKED BY:	TAC	TAC	JTG	CFS
DATE:	January 14, 2014			
PROJECT NUMBER:	E130389			

**EROSION & SEDIMENTATION**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**17**

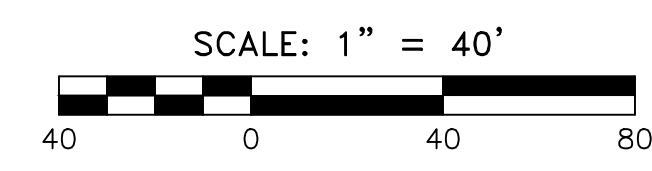




**LEGEND:**

PROP. 10' CONTOURS	
EX. 10' CONTOURS	
EX. 2' CONTOURS	
EX. WATER LINE	
EX. FENCE LINE	
CONSTRUCTION WORK LIMITS	
EX. OVERHEAD ELECTRIC	
EX. CULVERT	
EX. TREE LINE	
EX. REFUSE LIMITS	
SILT FENCE	
EX. UTILITY POLE	
EX. LIGHT POLE	
EX. STRUCTURE	
MINE PORTAL	
EX. TREE	
AGGREGATE PLACEMENT	
STABILIZED CONSTRUCTION ENTRANCE	

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE:	TAC
DESIGNED BY:	TAC
DRAWN BY:	JTG
CHECKED BY:	CFS
APPROVED BY:	CFS
DATE:	January 14, 2014
PROJECT NUMBER:	E130389

**EROSION & SEDIMENTATION**

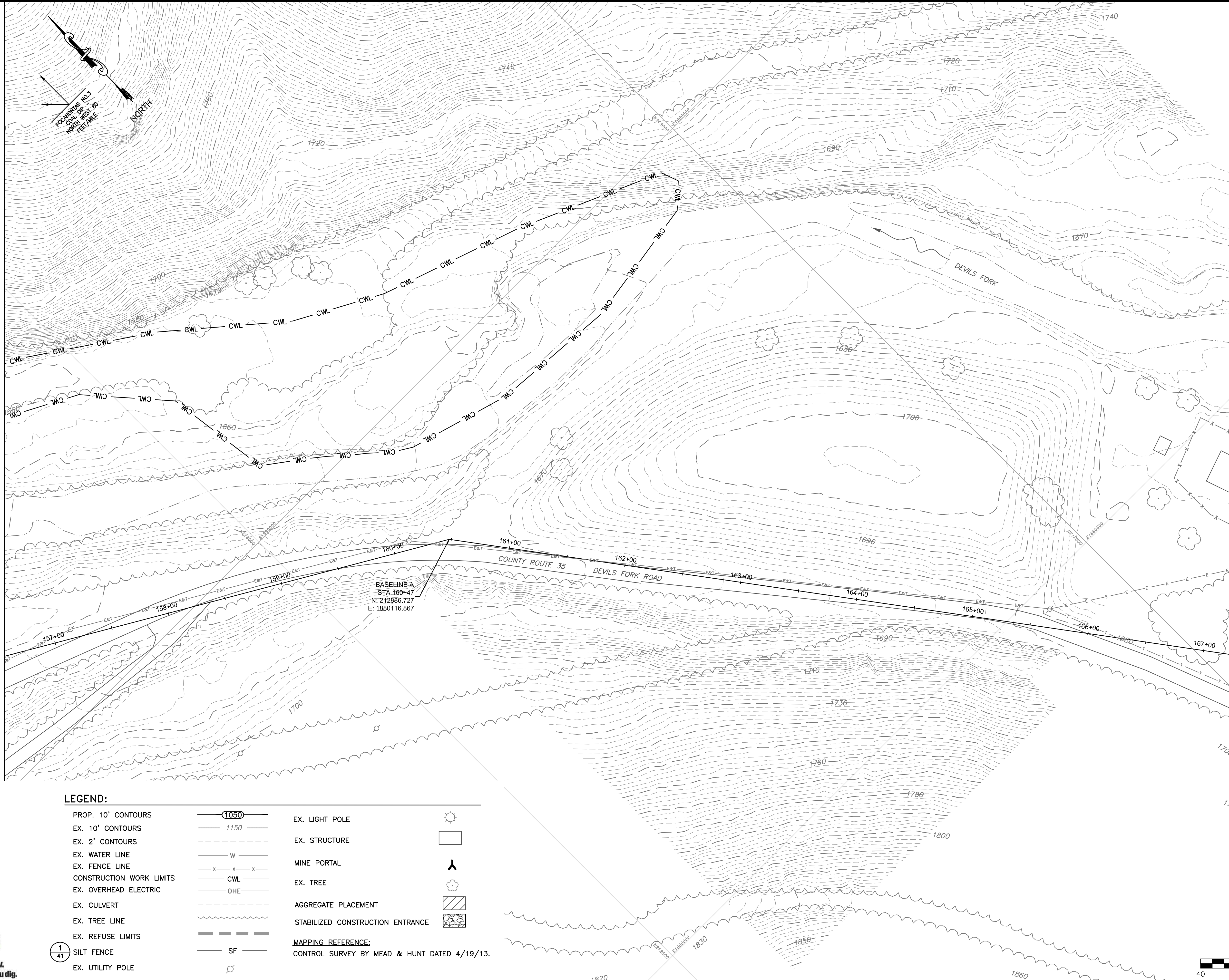
REVISED	DESCRIPTION
REV. NO.	DATE

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**18**



MATCHLINE SHEET 18

MATCHLINE SHEET 20



**LEGEND:**

PROP. 10' CONTOURS		EX. LIGHT POLE	
EX. 10' CONTOURS		EX. STRUCTURE	
EX. 2' CONTOURS		MINE PORTAL	
EX. WATER LINE		EX. TREE	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS		STABILIZED CONSTRUCTION ENTRANCE	
EX. OVERHEAD ELECTRIC		MAPPING REFERENCE:	
EX. CULVERT		CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.	
EX. TREE LINE			
EX. REFUSE LIMITS			
EX. SILT FENCE			
EX. UTILITY POLE			

BASELINE A  
 STA 160+47  
 N: 212886.727  
 E: 1880116.867



SCALE: 1" = 40'



**GAI CONSULTANTS, INC.**  
 300 SUMMERS STREET, SUITE 100  
 CHARLESTON, WEST VIRGINIA 25301  
 P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

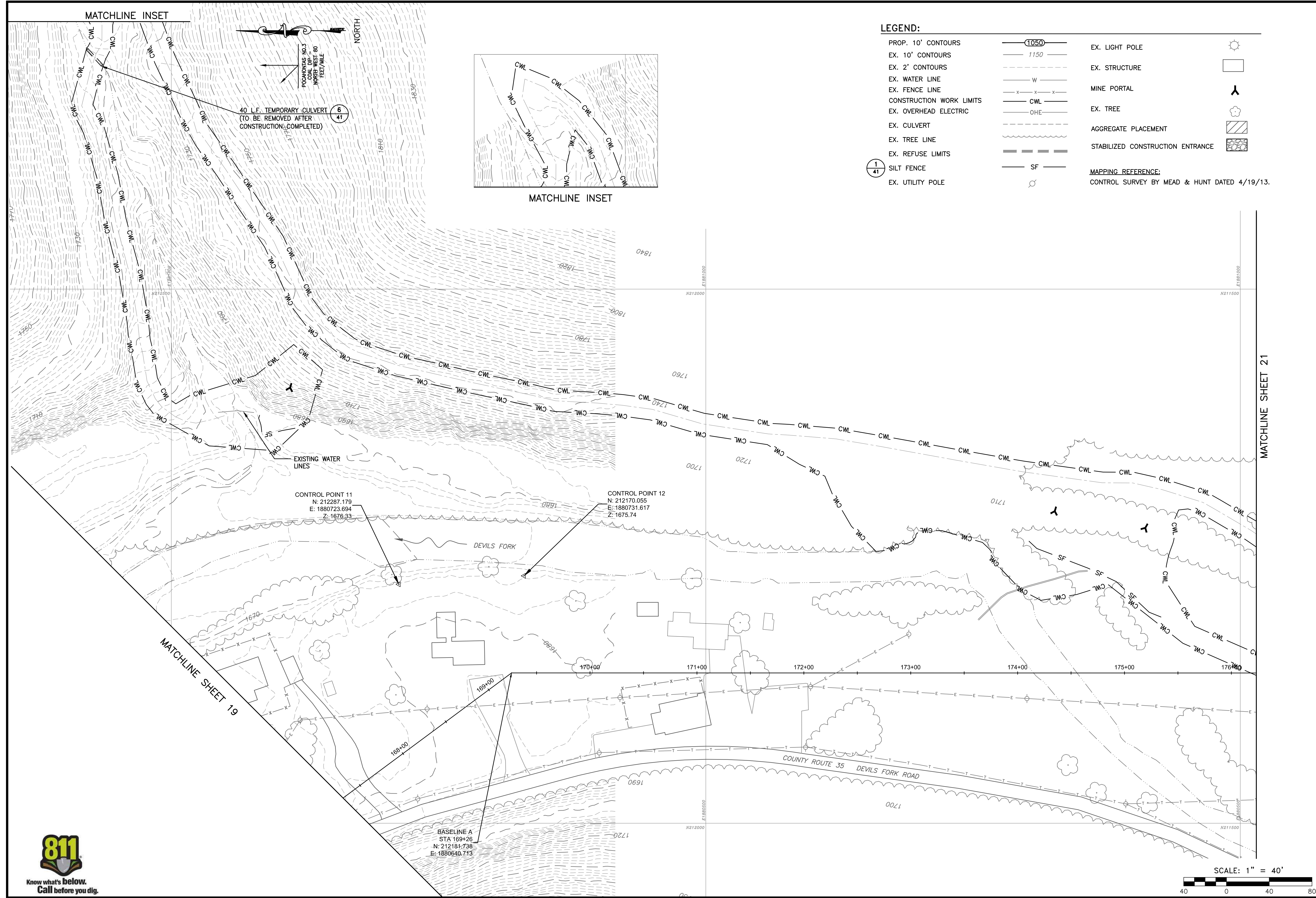
PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 APPROVED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**EROSION & SEDIMENTATION**

REVISED	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**19**





**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304.926.8100 F: 304.926.8180

gai consultants  
Engineering & Construction

**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: CFS  
DATE: January 14, 2014  
APPROVED BY:  
PROJECT NUMBER: E130389

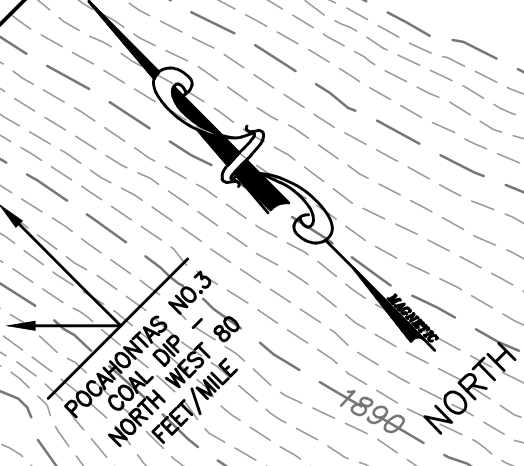
**EROSION & SEDIMENTATION**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**20**







MATCHLINE SHEET 20

BASELINE A  
STA 187+00  
N: 211002.597  
E: 1881399.429

CONTROL POINT 14  
N: 210811.291  
E: 1881317.494  
Z: 1713.33

BASELINE A  
STA 177+13  
N: 211395.574  
E: 1880640.650

STABILIZED  
CONSTRUCTION  
ENTRANCE

BASELINE A  
STA 180+09  
N: 211123.607  
E: 1880754.323

BASELINE A  
STA 182+03  
N: 211004.896  
E: 1880908.745

BASELINE A  
STA 183+57  
N: 210965.665  
E: 1881058.201

APPROXIMATELY  
1.8 MILES TO  
STATE ROUTE 16

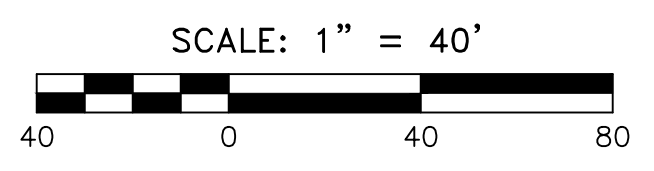
CONTROL POINT 13  
N: 210854.549  
E: 1881014.742  
Z: 1706.13

**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- EX. SILT FENCE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE PORTAL
- EX. TREE
- AGGREGATE PLACEMENT
- STABILIZED CONSTRUCTION ENTRANCE

**MAPPING REFERENCE:**

CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

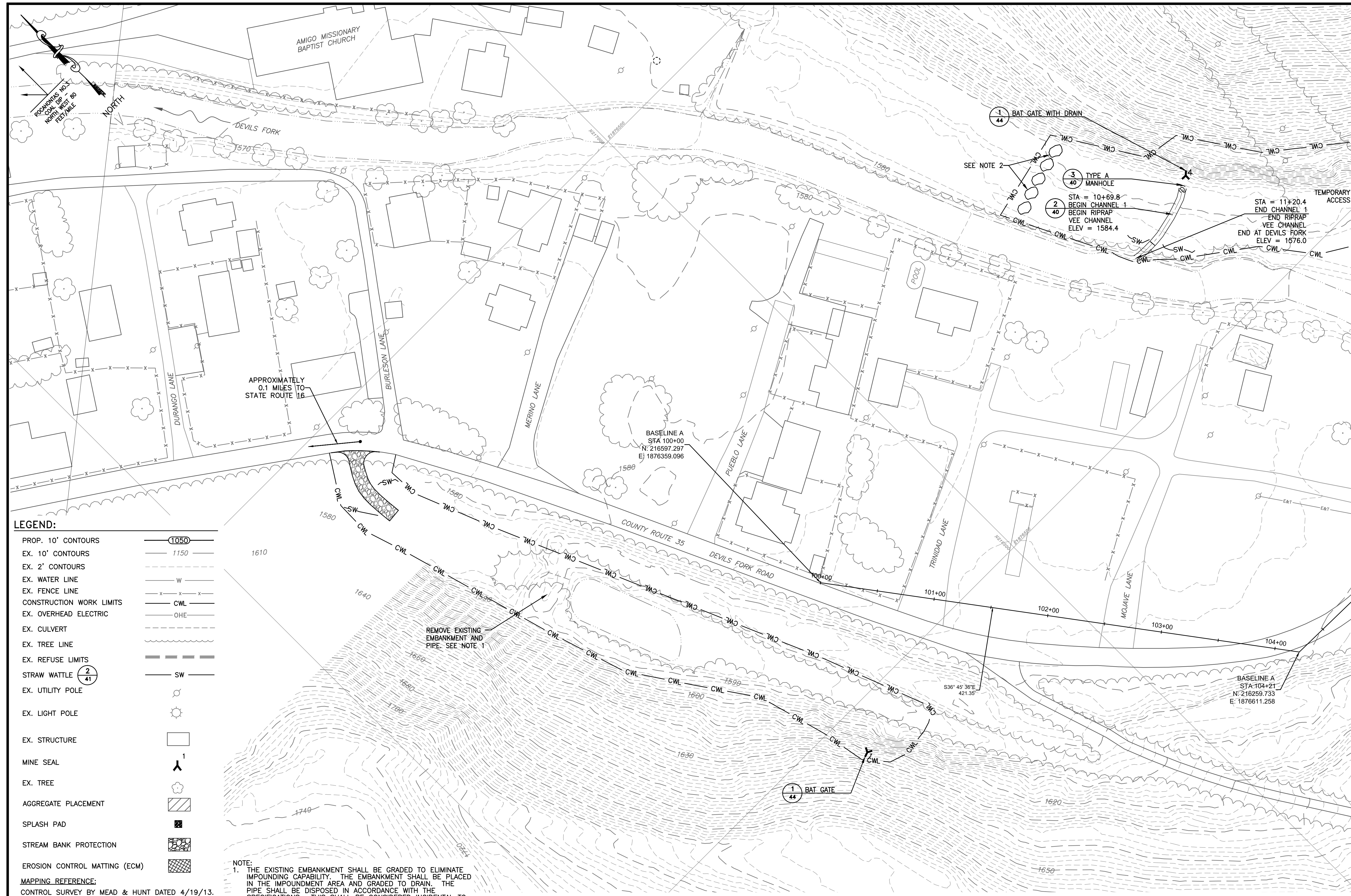
**EROSION & SEDIMENTATION**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**21**



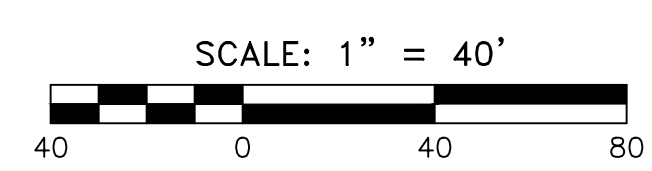




- LEGEND:**
- PROP. 10' CONTOURS
  - EX. 10' CONTOURS
  - EX. 2' CONTOURS
  - EX. WATER LINE
  - EX. FENCE LINE
  - CONSTRUCTION WORK LIMITS
  - EX. OVERHEAD ELECTRIC
  - EX. CULVERT
  - EX. TREE LINE
  - EX. REFUSE LIMITS
  - STRAW WATTLE
  - EX. UTILITY POLE
  - EX. LIGHT POLE
  - EX. STRUCTURE
  - MINE SEAL
  - EX. TREE
  - AGGREGATE PLACEMENT
  - SPLASH PAD
  - STREAM BANK PROTECTION
  - EROSION CONTROL MATTING (ECM)
- MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

**NOTE:**  
1. THE EXISTING EMBANKMENT SHALL BE GRADED TO ELIMINATE IMPOUNDING CAPABILITY. THE EMBANKMENT SHALL BE PLACED IN THE IMPOUNDMENT AREA AND GRADED TO DRAIN. THE PIPE SHALL BE DISPOSED IN ACCORDANCE WITH THE SPECIFICATIONS. THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION AND CONSISTS OF APPROXIMATELY 750 CY.  
2. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PLACE ON-SITE OVERSIZE ROCK AS A DETERRENT TO ACCESS. AT THE DIRECTION OF THE ENGINEER, THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION.

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
1	BAT GATE	1593.6	48"
4	BAT GATE	-	48"



MATCHLINE SHEET 23

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CHARLESTON, WEST VIRGINIA 25301  
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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1 TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: JFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

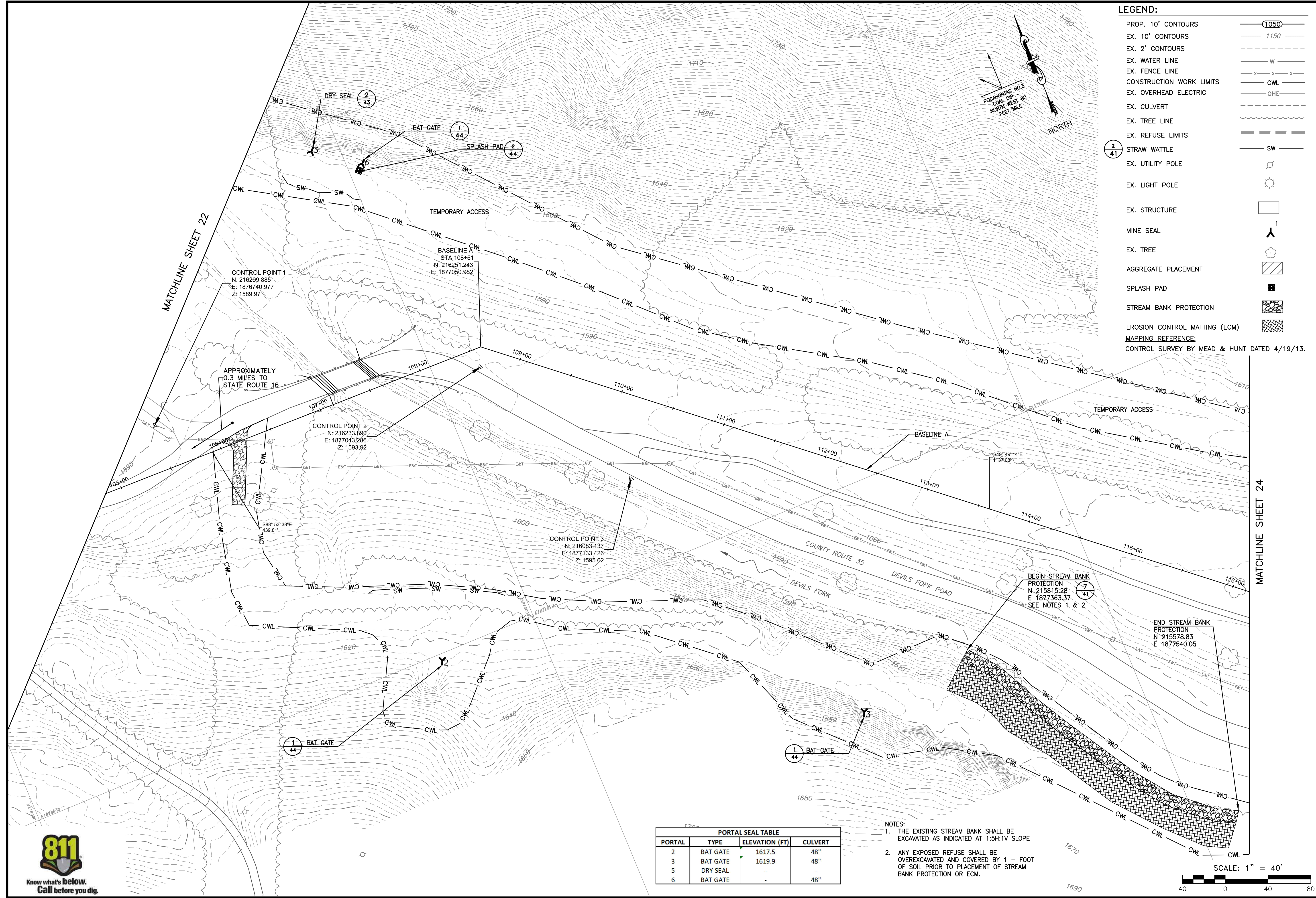
**PROPOSED**

REVISED	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**22**







**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

MATCHLINE SHEET 22

MATCHLINE SHEET 24

CONTROL POINT 1  
N: 216269.885  
E: 1876740.977  
Z: 1589.97

BASELINE  
STA 108+61  
N: 216251.243  
E: 1877050.982

CONTROL POINT 2  
N: 216233.890  
E: 1877043.286  
Z: 1593.92

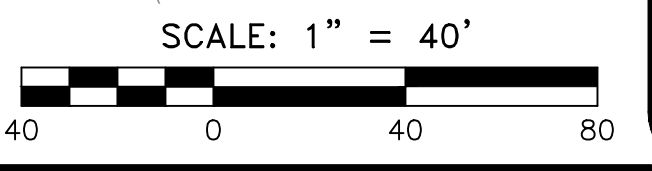
CONTROL POINT 3  
N: 216083.137  
E: 1877133.426  
Z: 1595.62

BEGIN STREAM BANK PROTECTION  
N: 215815.28  
E: 1877363.37  
SEE NOTES 1 & 2

END STREAM BANK PROTECTION  
N: 215578.83  
E: 1877540.05

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
2	BAT GATE	1617.5	48"
3	BAT GATE	1619.9	48"
5	DRY SEAL	-	-
6	BAT GATE	-	48"

- NOTES:**
- THE EXISTING STREAM BANK SHALL BE EXCAVATED AS INDICATED AT 1.5H:1V SLOPE
  - ANY EXPOSED REFUSE SHALL BE OVEREXCAVATED AND COVERED BY 1 - FOOT OF SOIL PRIOR TO PLACEMENT OF STREAM BANK PROTECTION OR ECM.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**PROPOSED**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**23**

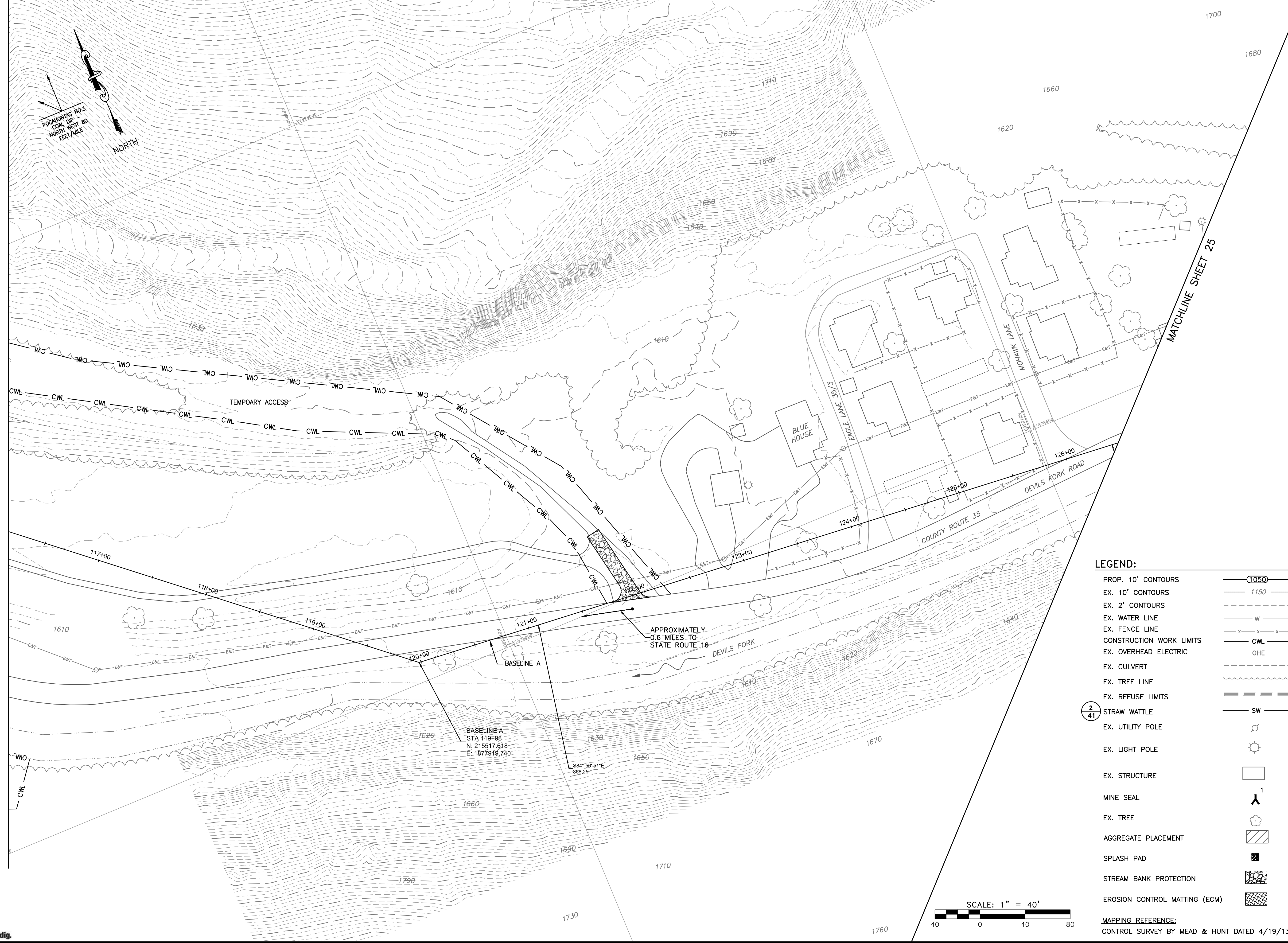


POCAHONTAS NO.3  
CON. DIP  
NORTH WEST 90  
FEET/MILE

NORTH

MATCHLINE SHEET 23

MATCHLINE SHEET 25



**LEGEND:**

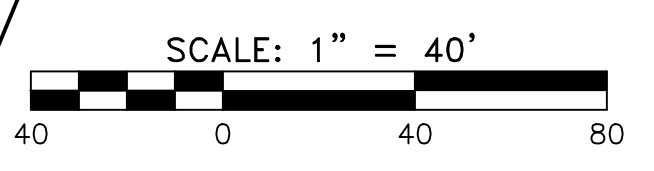
- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)

STRAW WATTLE

BASELINE A  
STA 119+98  
N: 215517.638  
E: 1877919.740

APPROXIMATELY  
0.6 MILES TO  
STATE ROUTE 16

S84° 56' 51"E  
888.29'



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

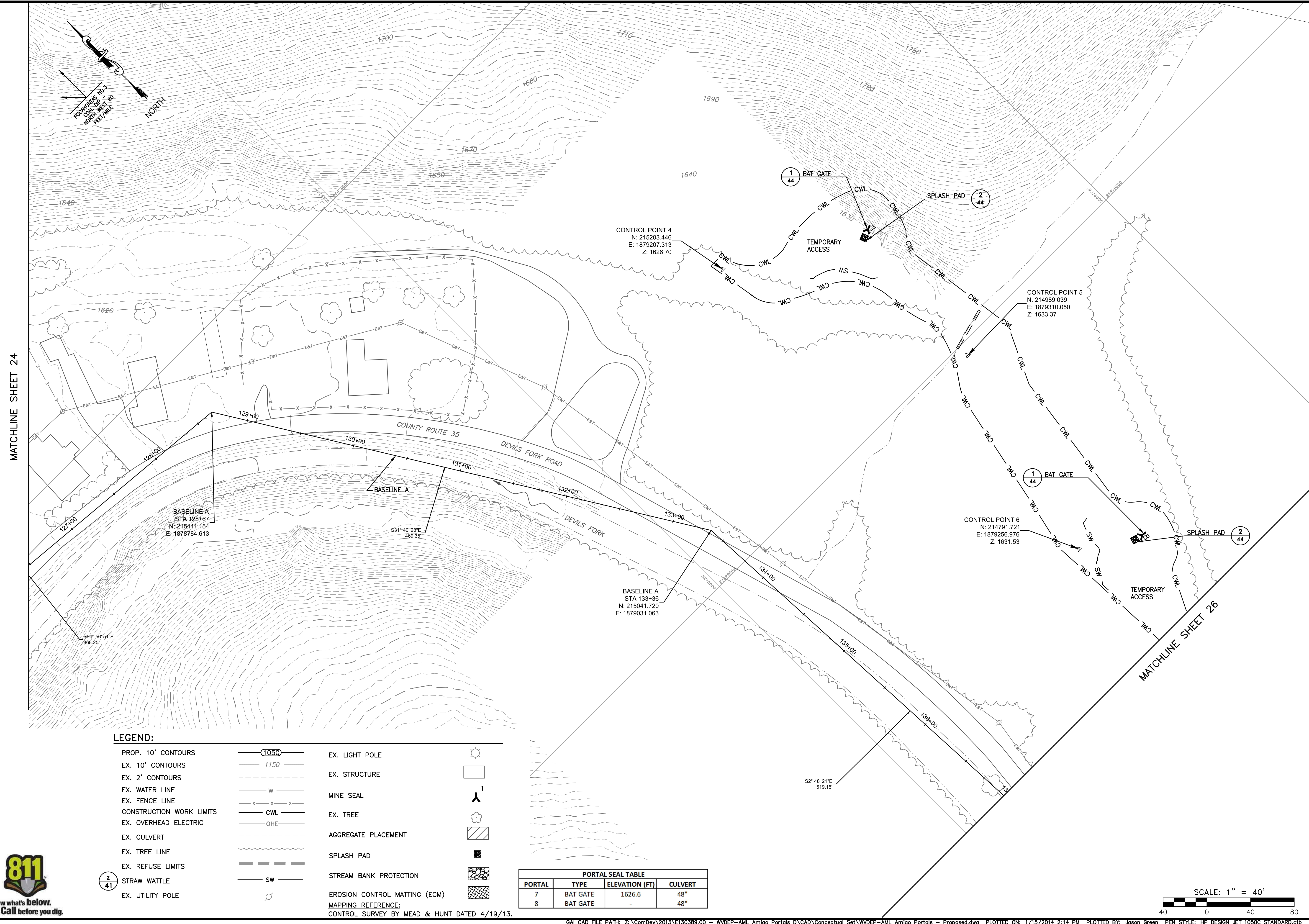
PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**PROPOSED**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**24**





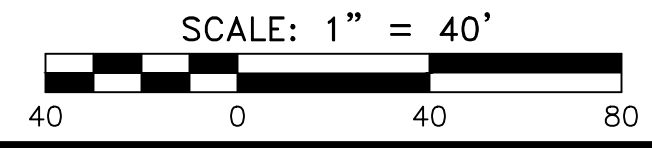
MATCHLINE SHEET 24

MATCHLINE SHEET 26

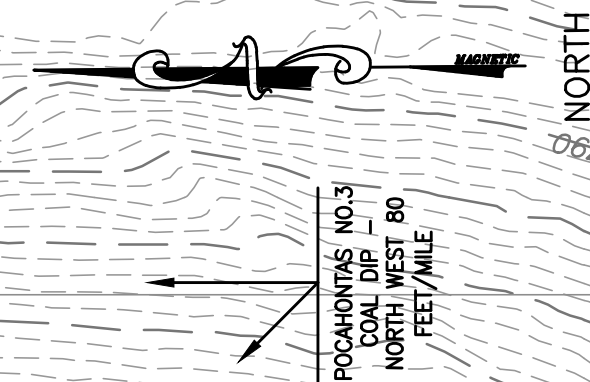
**LEGEND:**

- |                          |  |  |  |
|--------------------------|--|--|--|
| PROP. 10' CONTOURS       |  | EX. LIGHT POLE                               |  |
| EX. 10' CONTOURS         |  | EX. STRUCTURE                                |  |
| EX. 2' CONTOURS          |  | MINE SEAL                                    |  |
| EX. WATER LINE           |  | EX. TREE                                     |  |
| EX. FENCE LINE           |  | AGGREGATE PLACEMENT                          |  |
| CONSTRUCTION WORK LIMITS |  | SPLASH PAD                                   |  |
| EX. OVERHEAD ELECTRIC    |  | STREAM BANK PROTECTION                       |  |
| EX. CULVERT              |  | EROSION CONTROL MATTING (ECM)                |  |
| EX. TREE LINE            |  | MAPPING REFERENCE:                           |  |
| EX. REFUSE LIMITS        |  | CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13. |  |
| STRAW WATTLE             |  |  |  |
| EX. UTILITY POLE         |  |  |  |

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
7	BAT GATE	1626.6	48"
8	BAT GATE	-	48"



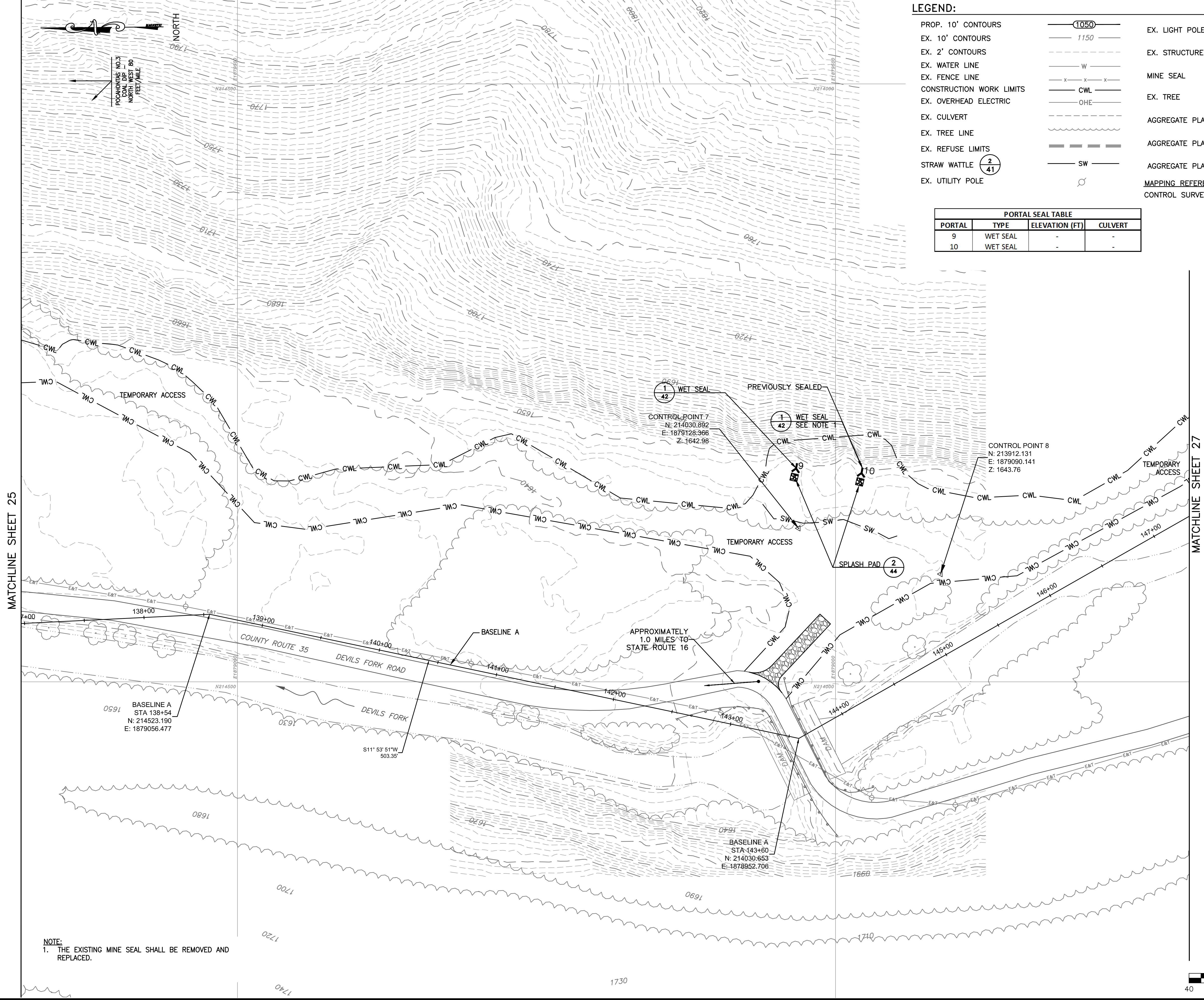




**LEGEND:**

PROP. 10' CONTOURS		EX. LIGHT POLE	
EX. 10' CONTOURS		EX. STRUCTURE	
EX. 2' CONTOURS		MINE SEAL	
EX. WATER LINE		EX. TREE	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS		AGGREGATE PLACEMENT	
EX. OVERHEAD ELECTRIC		AGGREGATE PLACEMENT	
EX. CULVERT		MAPPING REFERENCE:	
EX. TREE LINE		CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.	
EX. REFUSE LIMITS			
STRAW WATTLE			
EX. UTILITY POLE			

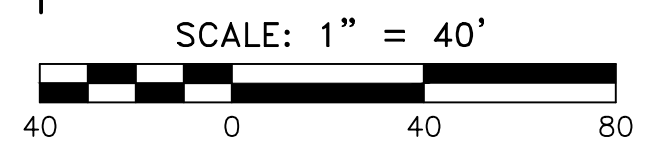
PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
9	WET SEAL	-	-
10	WET SEAL	-	-



MATCHLINE SHEET 25

MATCHLINE SHEET 27

**NOTE:**  
1. THE EXISTING MINE SEAL SHALL BE REMOVED AND REPLACED.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

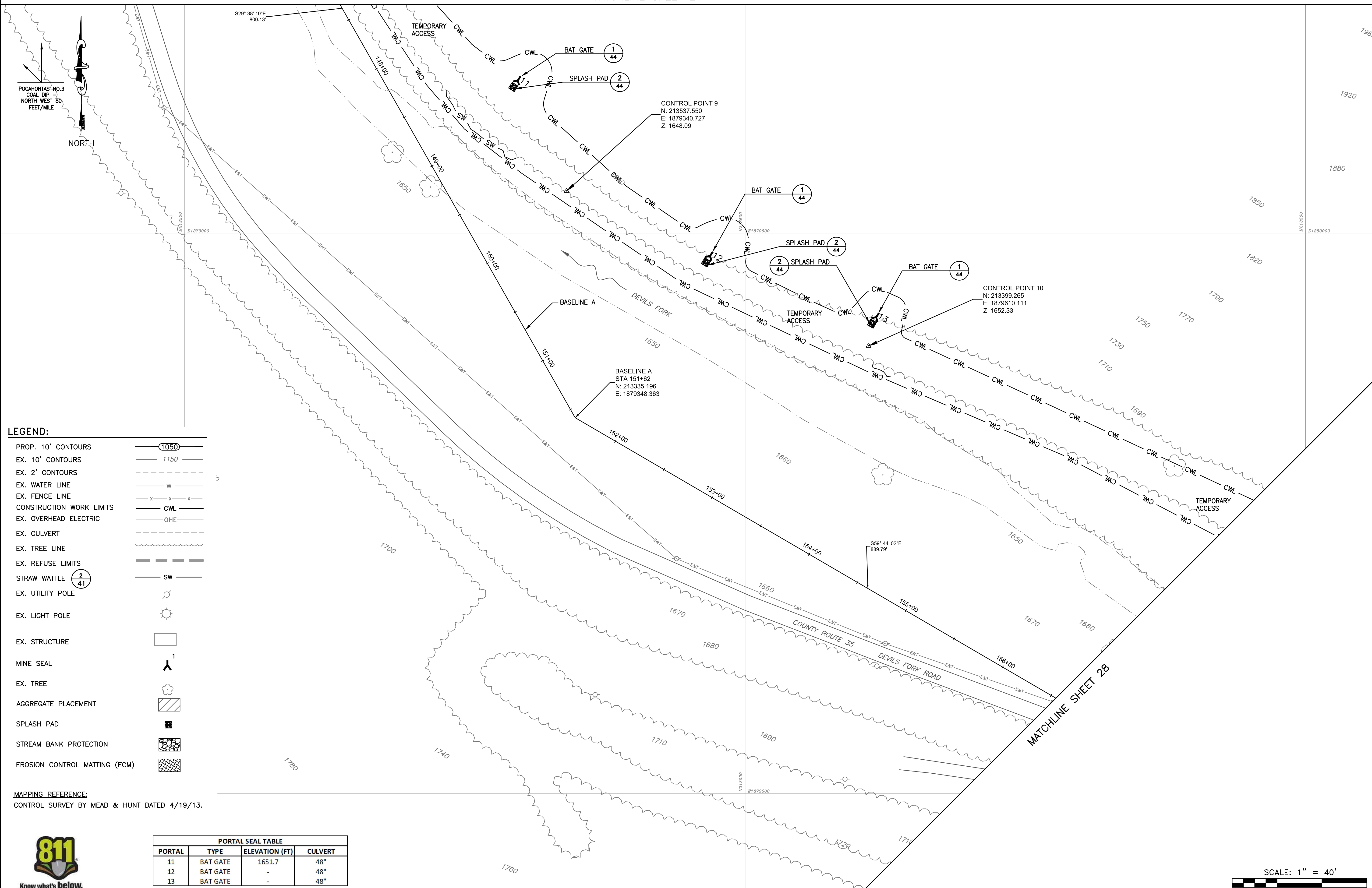
**PROPOSED**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**26**



MATCHLINE SHEET 26

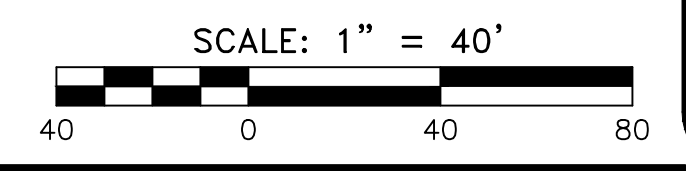


**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
11	BAT GATE	1651.7	48"
12	BAT GATE	-	48"
13	BAT GATE	-	48"



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CHARLESTON, WEST VIRGINIA 25301  
P: 304. 926. 8100 F: 304. 926. 8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: JCS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**PROPOSED**

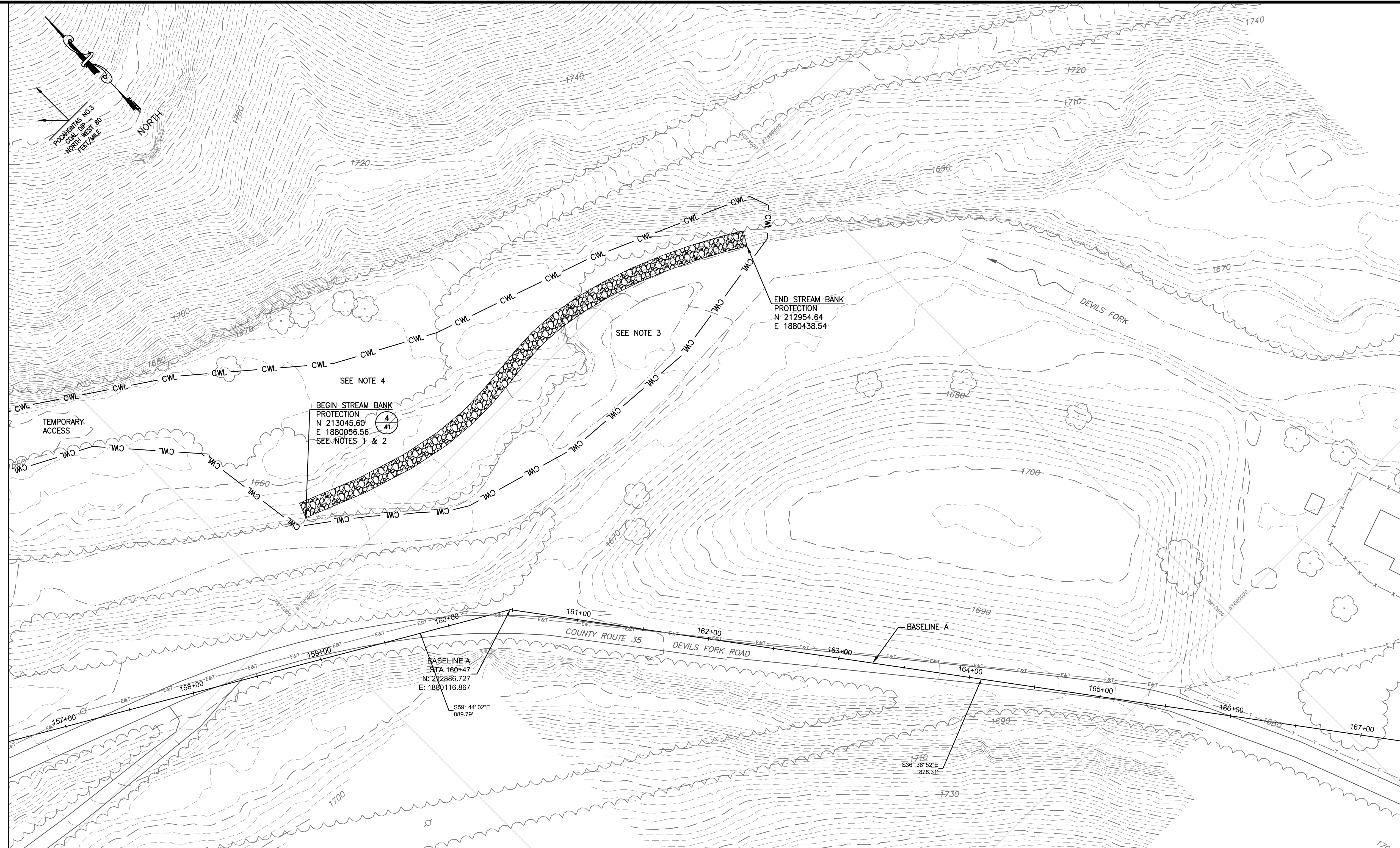
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**27**



MATCHLINE SHEET 27

MATCHLINE SHEET 29



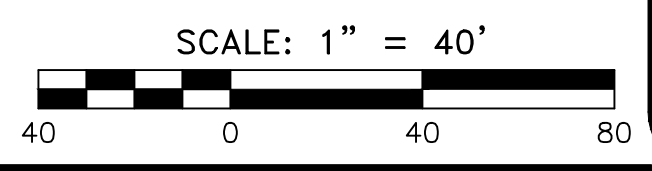
**LEGEND:**

PROP. 10' CONTOURS		EX. STRUCTURE	
EX. 10' CONTOURS		MINE SEAL	
EX. 2' CONTOURS		EX. TREE	
EX. WATER LINE		AGGREGATE PLACEMENT	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS		AGGREGATE PLACEMENT	
EX. OVERHEAD ELECTRIC		EROSION CONTROL MATTING (ECM)	
EX. CULVERT			
EX. TREE LINE			
EX. REFUSE LIMITS			
STRAW WATTLE			
EX. UTILITY POLE			
EX. LIGHT POLE			

**NOTES:**

1. THE EXISTING STREAM BANK SHALL BE EXCAVATED AND REALIGNED AS INDICATED AT 2H:1V SLOPE
2. ANY EXPOSED REFUSE SHALL BE OVEREXCAVATED AND COVERED BY 1 - FOOT OF SOIL PRIOR TO PLACEMENT OF STREAM BANK PROTECTION.
3. THE EXISTING SAND BAR/ROCK ISLAND SHALL BE REMOVED. THIS SHALL BE CONSIDERED INCIDENTAL TO THE STREAM BANK PROTECTION PAY ITEM.
4. THE EXCESS MATERIAL FROM THE REALIGNMENT OF THE STREAM BANK AND REMOVAL OF THE SAND BAR/ROCK ISLAND SHALL BE PLACED IN THIS AREA. UPON COMPLETION THE AREA SHALL BE GRADED TO POSITIVELY DRAIN TO THE STREAM AS DIRECTED BY THE ENGINEER. THIS SHALL BE CONSIDERED INCIDENTAL TO THE STREAM BANK PROTECTION PAY ITEM.

**MAPPING REFERENCE:**  
 CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



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 CHARLESTON, WEST VIRGINIA 25301  
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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

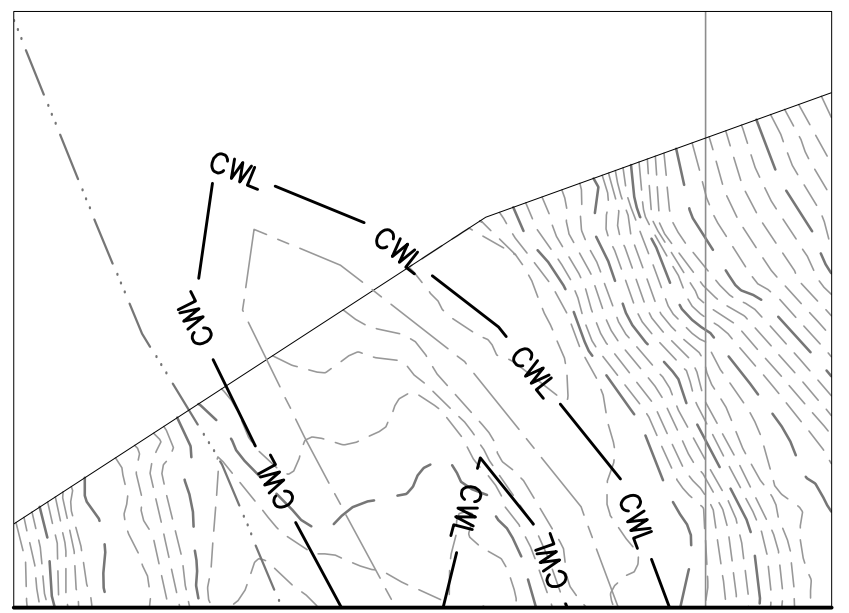
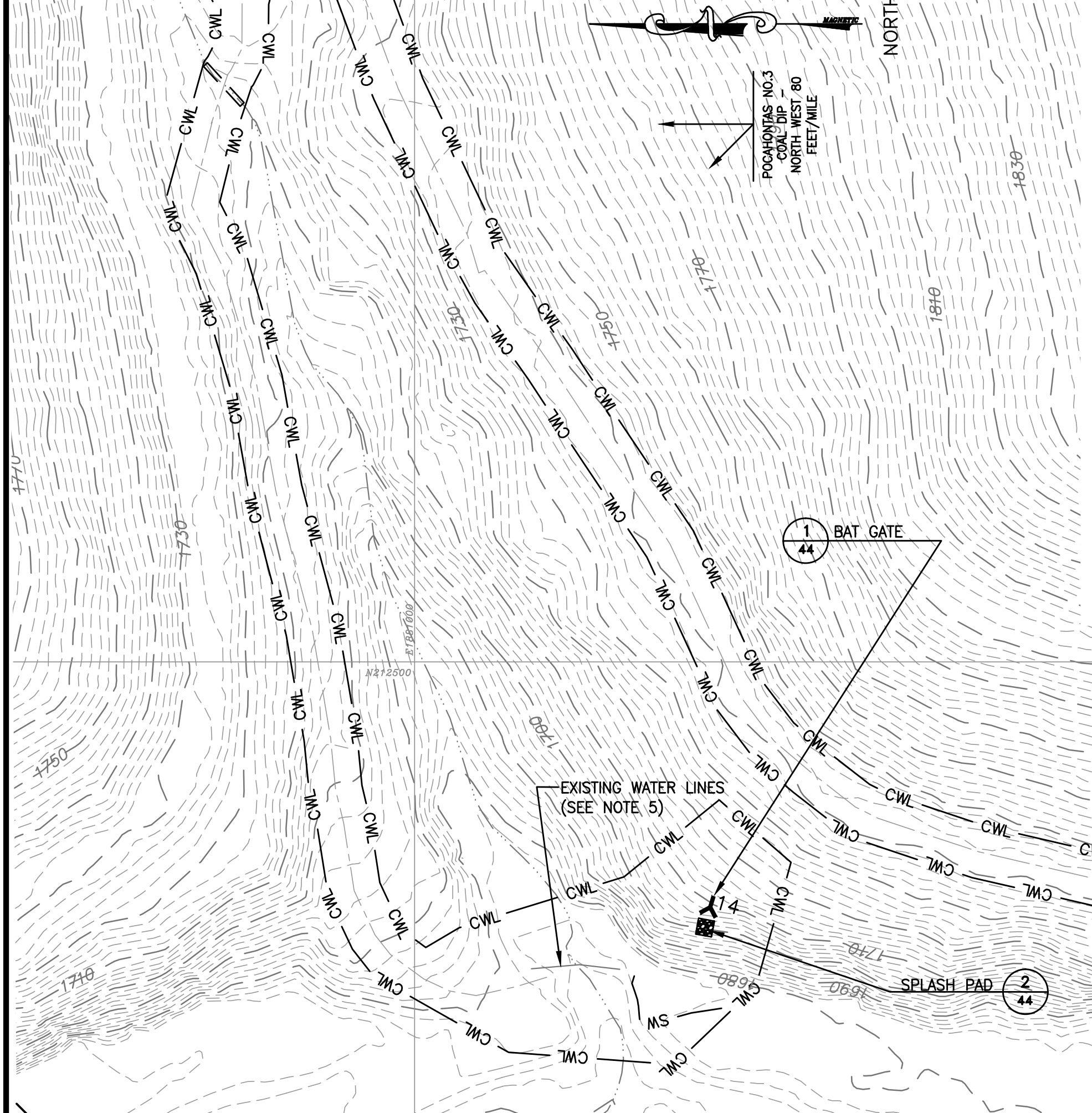
**PROPOSED**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**28**



MATCHLINE INSET



MATCHLINE INSET

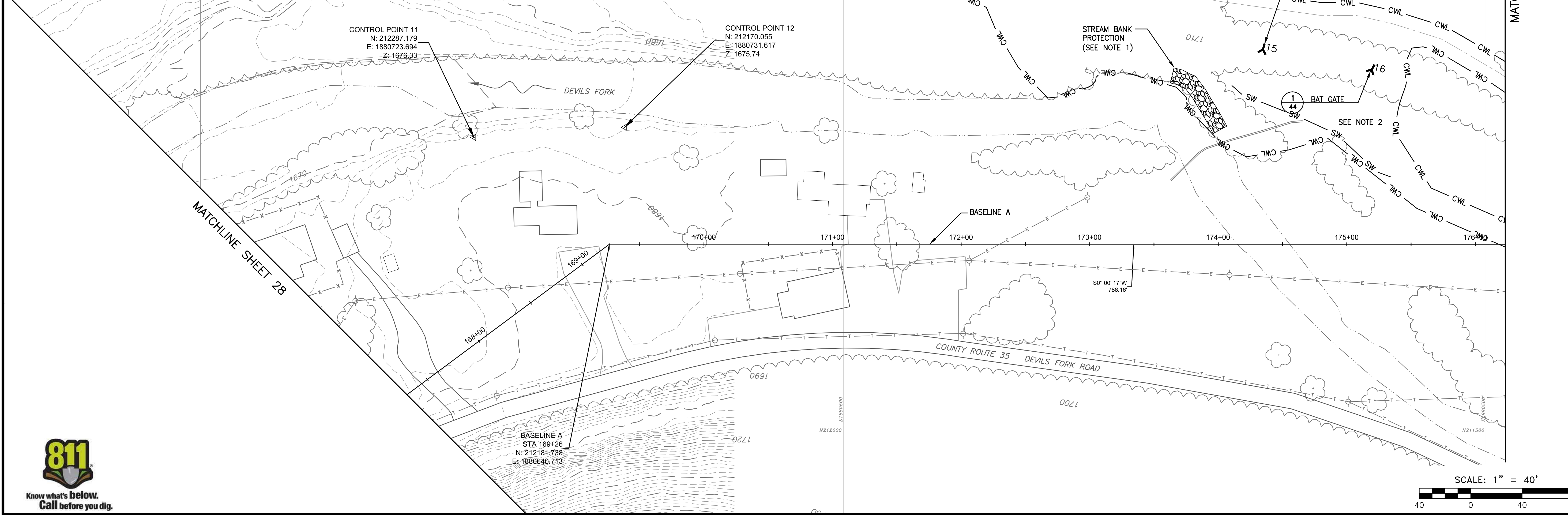
PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
14	BAT GATE	1676.4	48"
15	BAT GATE	1686.9	48"
16	BAT GATE	1691.7	48"

- NOTES:
- EXISTING ROCK AND ROCKY MATERIAL REMOVED FROM PORTALS 15 AND 16 SHALL BE REDUCED IN SIZE TO A D50 OF 18 INCHES AND PLACED ALONG THE EXISTING SLOPE AS STREAM BANK PROTECTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
  - THE AREA INDICATED SHALL BE REVEGETATED USING SEED FOR HORSE PASTURE.
  - POTENTIAL ACCESS ROUTES FOR PORTAL 14.
  - TRASH IN PORTAL SHALL BE REMOVED AND DISPOSED OF PROPERLY.
  - EXISTING WATERLINES SHALL NOT BE DISTURBED AND ARE TO REMAIN IN USE AFTER CONSTRUCTION.

**LEGEND:**

PROP. 10' CONTOURS		EX. LIGHT POLE	
EX. 10' CONTOURS		EX. STRUCTURE	
EX. 2' CONTOURS		MINE SEAL	
EX. WATER LINE		EX. TREE	
EX. FENCE LINE		AGGREGATE PLACEMENT	
CONSTRUCTION WORK LIMITS		SPLASH PAD	
EX. OVERHEAD ELECTRIC		STREAM BANK PROTECTION	
EX. CULVERT		EROSION CONTROL MATTING (ECM)	
EX. TREE LINE			
EX. REFUSE LIMITS			
STRAW WATTLE			
EX. UTILITY POLE			

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



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300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

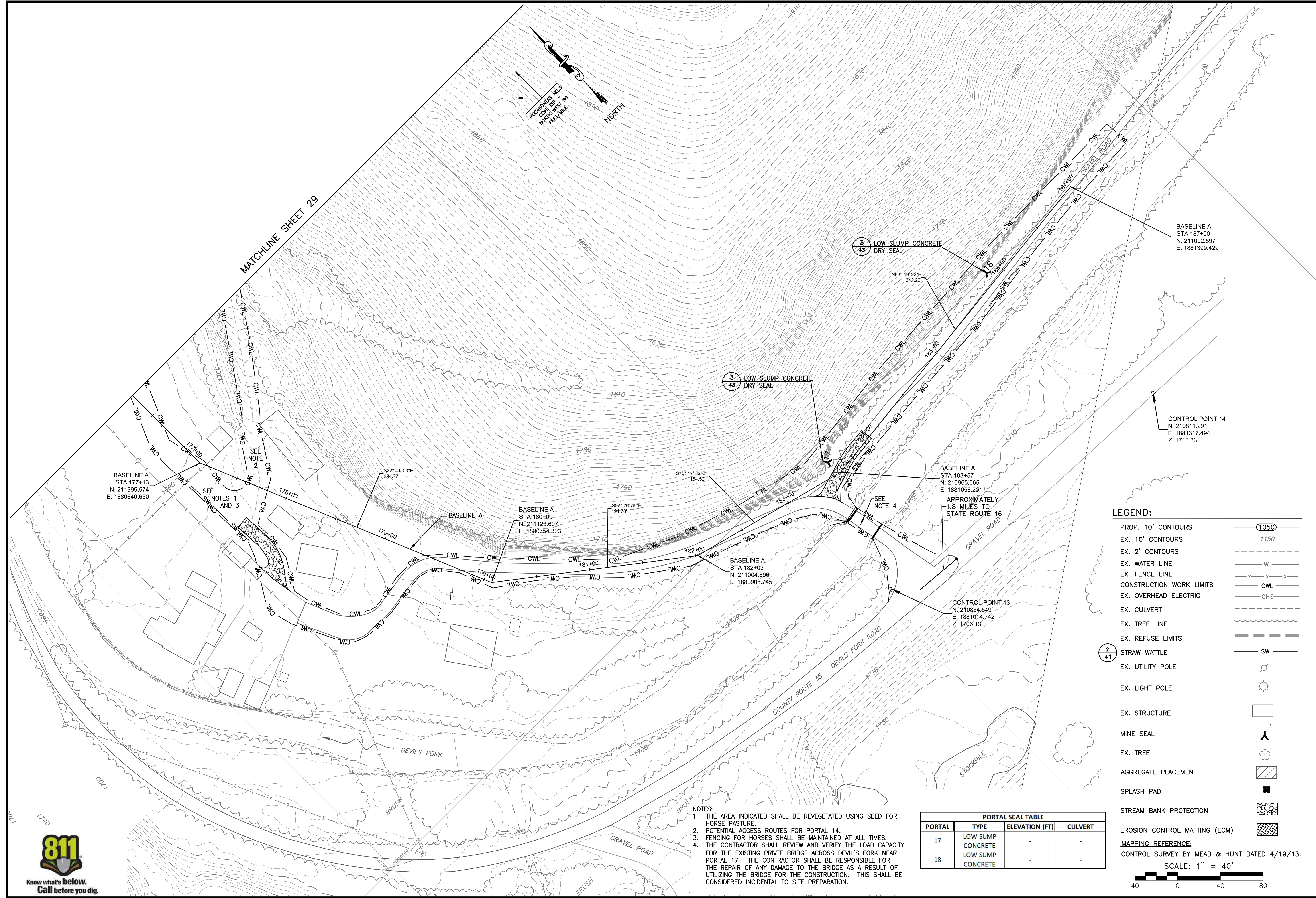
**PROPOSED**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**29**







MATCHLINE SHEET 29

PROXIMITIES INDICATED  
FROM LOCAL DEPT.  
NORTH WEST 90  
FEET/MILE

BASELINE A  
STA 187+00  
N: 211002.597  
E: 1881399.429

3  
43 LOW SLUMP CONCRETE  
DRY SEAL

3  
43 LOW SLUMP CONCRETE  
DRY SEAL

CONTROL POINT 14  
N: 210811.291  
E: 1881317.494  
Z: 1713.33

BASELINE A  
STA 177+13  
N: 211395.574  
E: 1880640.650

SEE NOTES 1 AND 3

S22° 41' 00"E  
294.77

BASELINE A  
STA 180+09  
N: 211123.607  
E: 1880754.323

S52° 26' 56"E  
194.76

S75° 17' 32"E  
154.52

BASELINE A  
STA 182+03  
N: 211004.896  
E: 1880908.745

BASELINE A  
STA 183+57  
N: 210965.665  
E: 1881058.201

APPROXIMATELY  
1.8 MILES TO  
STATE ROUTE 16

CONTROL POINT 13  
N: 210854.549  
E: 1881014.742  
Z: 1706.13

**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- 2  
41 STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.  
SCALE: 1" = 40'

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
17	LOW SLUMP CONCRETE	-	-
18	LOW SLUMP CONCRETE	-	-

- NOTES:
1. THE AREA INDICATED SHALL BE REVEGETATED USING SEED FOR HORSE PASTURE.
  2. POTENTIAL ACCESS ROUTES FOR PORTAL 14.
  3. FENCING FOR HORSES SHALL BE MAINTAINED AT ALL TIMES.
  4. THE CONTRACTOR SHALL REVIEW AND VERIFY THE LOAD CAPACITY FOR THE EXISTING PRIVATE BRIDGE ACROSS DEVIL'S FORK NEAR PORTAL 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO THE BRIDGE AS A RESULT OF UTILIZING THE BRIDGE FOR THE CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

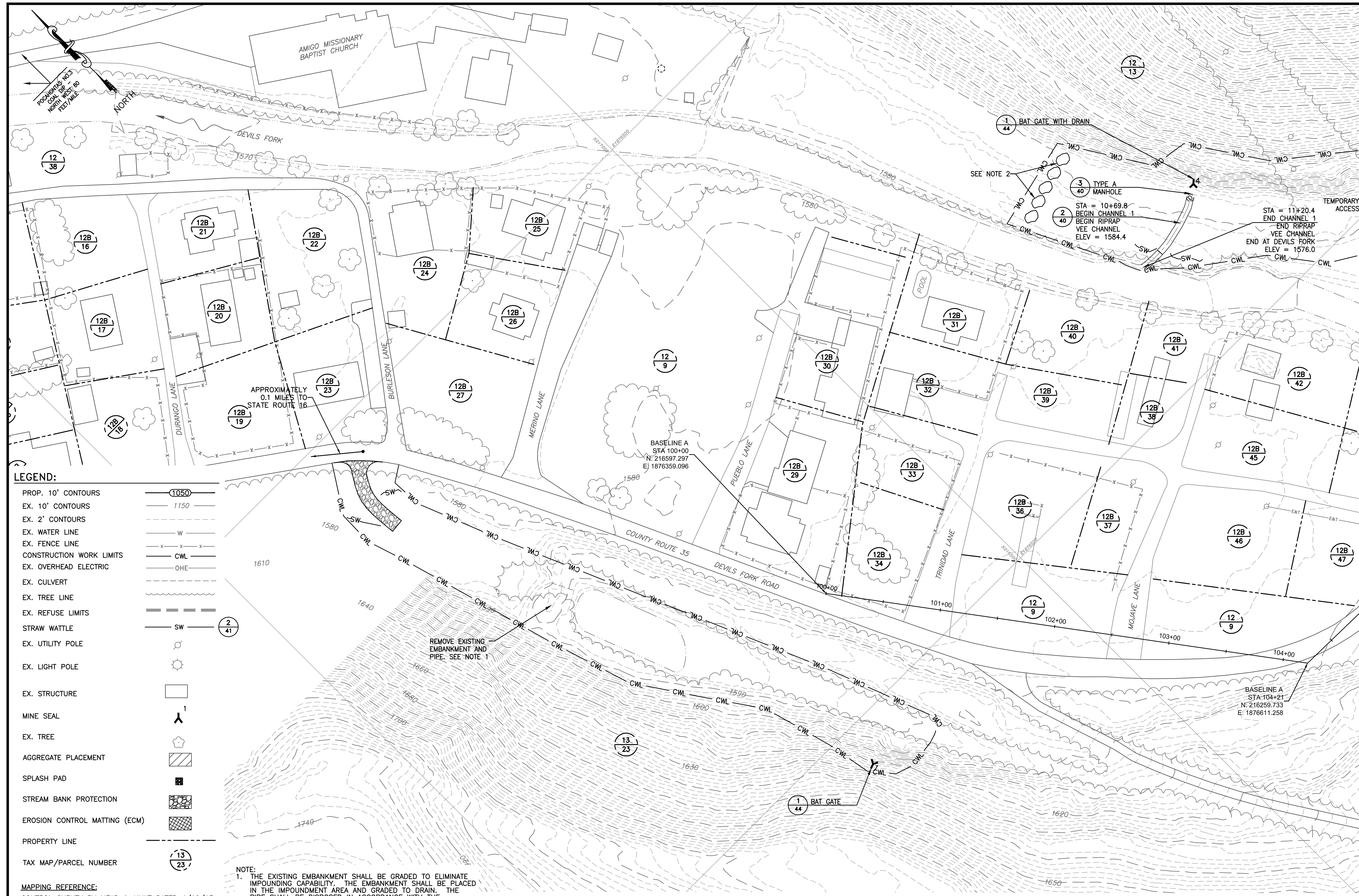
PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
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DATE: January 14, 2014  
PROJECT NUMBER: E130389

**PROPOSED**

REVISED  
REV. NO. DATE DESCRIPTION

SCALE  
1" = 40'  
DRAWING NUMBER  
**30**





- LEGEND:**
- PROP. 10' CONTOURS 1050
  - EX. 10' CONTOURS 1150
  - EX. 2' CONTOURS W
  - EX. WATER LINE W
  - EX. FENCE LINE x x x x
  - CONSTRUCTION WORK LIMITS CWL
  - EX. OVERHEAD ELECTRIC OHE
  - EX. CULVERT ---
  - EX. TREE LINE ---
  - EX. REFUSE LIMITS ---
  - STRAW WATTLE SW 2
  - EX. UTILITY POLE ○
  - EX. LIGHT POLE ☼
  - EX. STRUCTURE □
  - MINE SEAL ⋈
  - EX. TREE ☼
  - AGGREGATE PLACEMENT ▨
  - SPLASH PAD ■
  - STREAM BANK PROTECTION ▨
  - EROSION CONTROL MATTING (ECM) ▨
  - PROPERTY LINE ---
  - TAX MAP/PARCEL NUMBER 13

**NOTE:**  
 1. THE EXISTING EMBANKMENT SHALL BE GRADED TO ELIMINATE IMPOUNDING CAPABILITY. THE EMBANKMENT SHALL BE PLACED IN THE IMPOUNDMENT AREA AND GRADED TO DRAIN. THE PIPE SHALL BE DISPOSED IN ACCORDANCE WITH THE SPECIFICATIONS. THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION AND CONSISTS OF APPROXIMATELY 750 CY.  
 2. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PLACE ON-SITE OVERSIZE ROCK AS A DETERRENT TO ACCESS. AT THE DIRECTION OF THE ENGINEER, THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION.

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
1	BAT GATE	1593.6	48"
4	BAT GATE	-	48"

**MAPPING REFERENCE:**  
 CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

MATCHLINE SHEET 32

**GAI CONSULTANTS, INC.**  
 300 SUMMERS STREET, SUITE 100  
 CHARLESTON, WEST VIRGINIA 25301  
 P: 304.926.8100 F: 304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

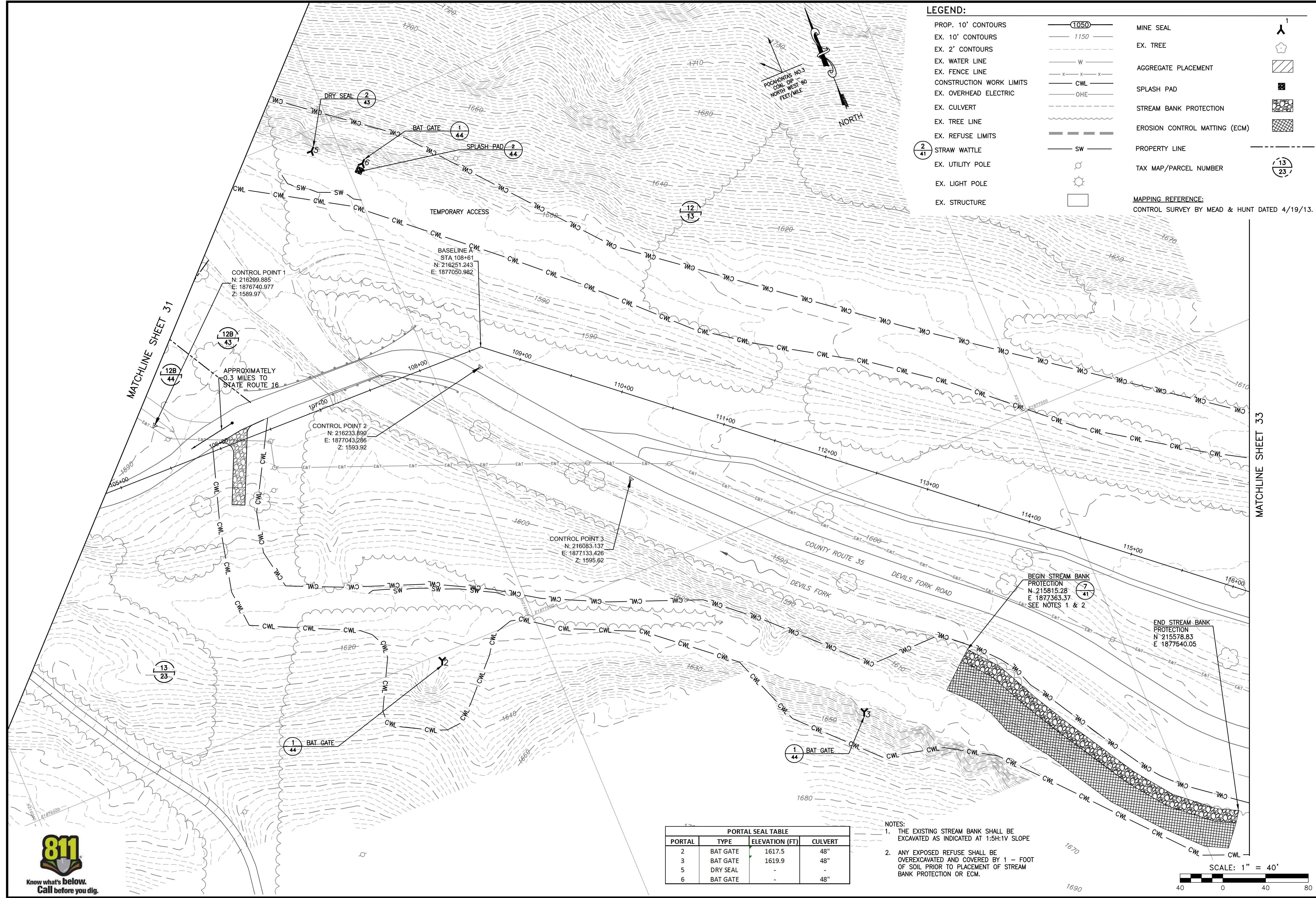
PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 APPROVED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

REVISED	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**31**





- LEGEND:**
- PROP. 10' CONTOURS
  - EX. 10' CONTOURS
  - EX. 2' CONTOURS
  - EX. WATER LINE
  - EX. FENCE LINE
  - CONSTRUCTION WORK LIMITS
  - EX. OVERHEAD ELECTRIC
  - EX. CULVERT
  - EX. TREE LINE
  - EX. REFUSE LIMITS
  - STRAW WATTLE
  - EX. UTILITY POLE
  - EX. LIGHT POLE
  - EX. STRUCTURE
  - MINE SEAL
  - EX. TREE
  - AGGREGATE PLACEMENT
  - SPLASH PAD
  - STREAM BANK PROTECTION
  - EROSION CONTROL MATTING (ECM)
  - PROPERTY LINE
  - TAX MAP/PARCEL NUMBER

CONTROL POINT 1  
N: 216299.885  
E: 1876740.977  
Z: 1589.97

CONTROL POINT 2  
N: 216233.890  
E: 1877043.286  
Z: 1593.92

CONTROL POINT 3  
N: 216083.137  
E: 1877133.426  
Z: 1595.62

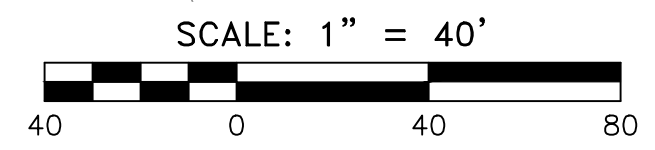
BASELINE STA 108+61  
N: 216251.243  
E: 1877050.982

APPROXIMATELY 0.3 MILES TO STATE ROUTE 16

**PORTAL SEAL TABLE**

PORTAL	TYPE	ELEVATION (FT)	CULVERT
2	BAT GATE	1617.5	48"
3	BAT GATE	1619.9	48"
5	DRY SEAL	-	-
6	BAT GATE	-	48"

- NOTES:**
- THE EXISTING STREAM BANK SHALL BE EXCAVATED AS INDICATED AT 1.5H:1V SLOPE
  - ANY EXPOSED REFUSE SHALL BE OVEREXCAVATED AND COVERED BY 1 - FOOT OF SOIL PRIOR TO PLACEMENT OF STREAM BANK PROTECTION OR ECM.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

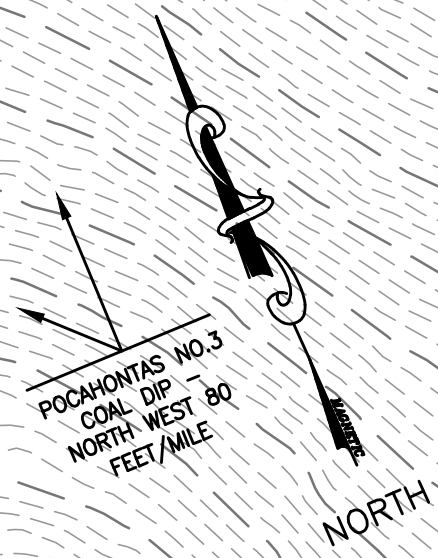
**TAX MAP OVERLAY**

REVISED	REV. NO.	DATE	DESCRIPTION

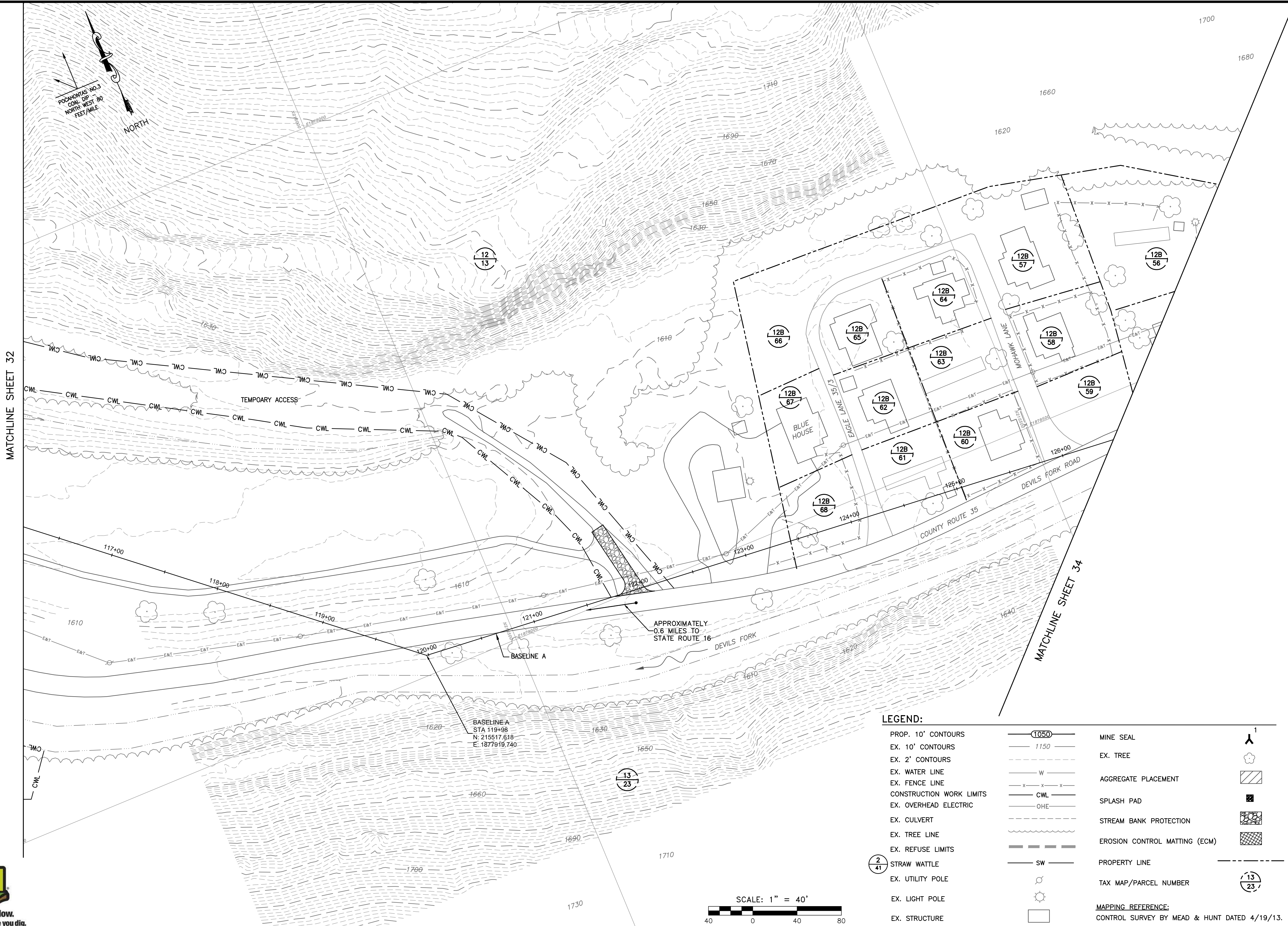
SCALE  
**1" = 40'**  
DRAWING NUMBER  
**32**





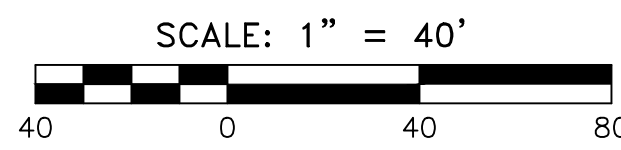


MATCHLINE SHEET 32



**LEGEND:**

PROP. 10' CONTOURS		MINE SEAL	
EX. 10' CONTOURS		EX. TREE	
EX. 2' CONTOURS		AGGREGATE PLACEMENT	
EX. WATER LINE		SPLASH PAD	
EX. FENCE LINE		STREAM BANK PROTECTION	
CONSTRUCTION WORK LIMITS		EROSION CONTROL MATTING (ECM)	
EX. OVERHEAD ELECTRIC		PROPERTY LINE	
EX. CULVERT		TAX MAP/PARCEL NUMBER	
EX. TREE LINE		MAPPING REFERENCE:	
EX. REFUSE LIMITS		CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.	
	SW		
EX. UTILITY POLE			
EX. LIGHT POLE			
EX. STRUCTURE			



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

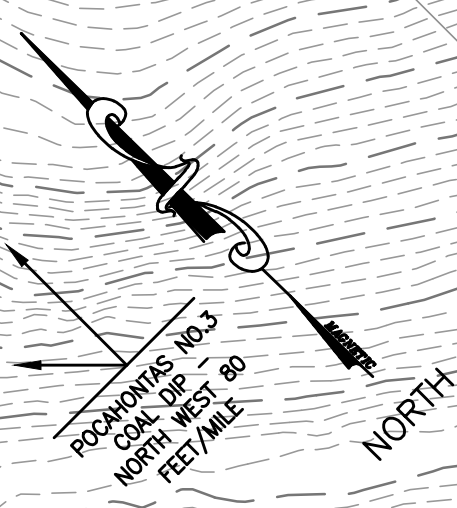
PLOT SCALE: 1/1 TAC  
 DESIGNED BY: TAC  
 DRAWN BY: JTG  
 CHECKED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

REVISED	REV. NO.	DATE	DESCRIPTION

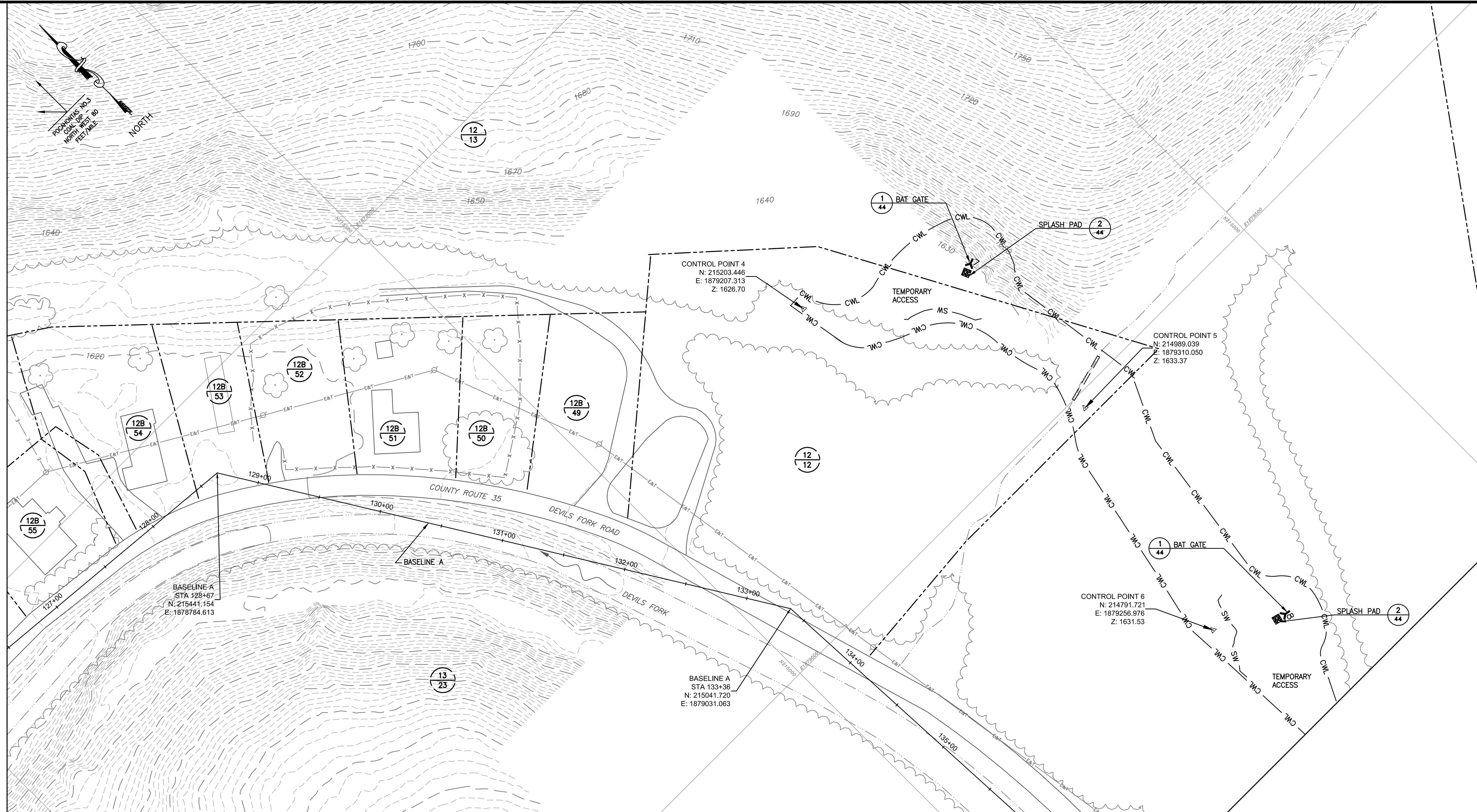
SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**33**





MATCHLINE SHEET 33

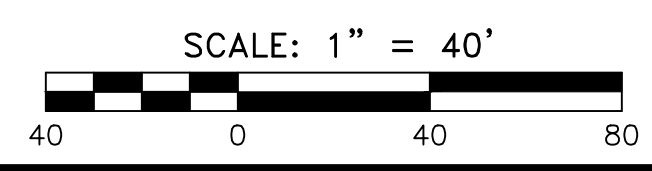
MATCHLINE SHEET 35



**LEGEND:**

- |                          |  |  |  |
|--------------------------|--|--|--|
| PROP. 10' CONTOURS       |  | MINE SEAL                                    |  |
| EX. 10' CONTOURS         |  | EX. TREE                                     |  |
| EX. 2' CONTOURS          |  | AGGREGATE PLACEMENT                          |  |
| EX. WATER LINE           |  | SPLASH PAD                                   |  |
| EX. FENCE LINE           |  | STREAM BANK PROTECTION                       |  |
| CONSTRUCTION WORK LIMITS |  | EROSION CONTROL MATTING (ECM)                |  |
| EX. OVERHEAD ELECTRIC    |  | PROPERTY LINE                                |  |
| EX. CULVERT              |  | TAX MAP/PARCEL NUMBER                        |  |
| EX. TREE LINE            |  | MAPPING REFERENCE:                           |  |
| EX. REFUSE LIMITS        |  | CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13. |  |
| STRAW WATTLE             |  |  |  |
| EX. UTILITY POLE         |  |  |  |
| EX. LIGHT POLE           |  |  |  |
| EX. STRUCTURE            |  |  |  |

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
7	BAT GATE	1626.6	48"
8	BAT GATE	-	48"



**GAI CONSULTANTS, INC.**  
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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

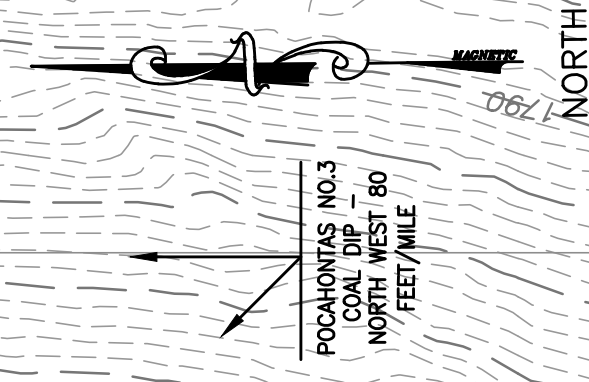
PLOT SCALE: 1/1  
 DESIGNED BY: TAC  
 DRAWN BY: TAC  
 CHECKED BY: JTG  
 APPROVED BY: CFS  
 DATE: January 14, 2014  
 PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
 DRAWING NUMBER  
**34**





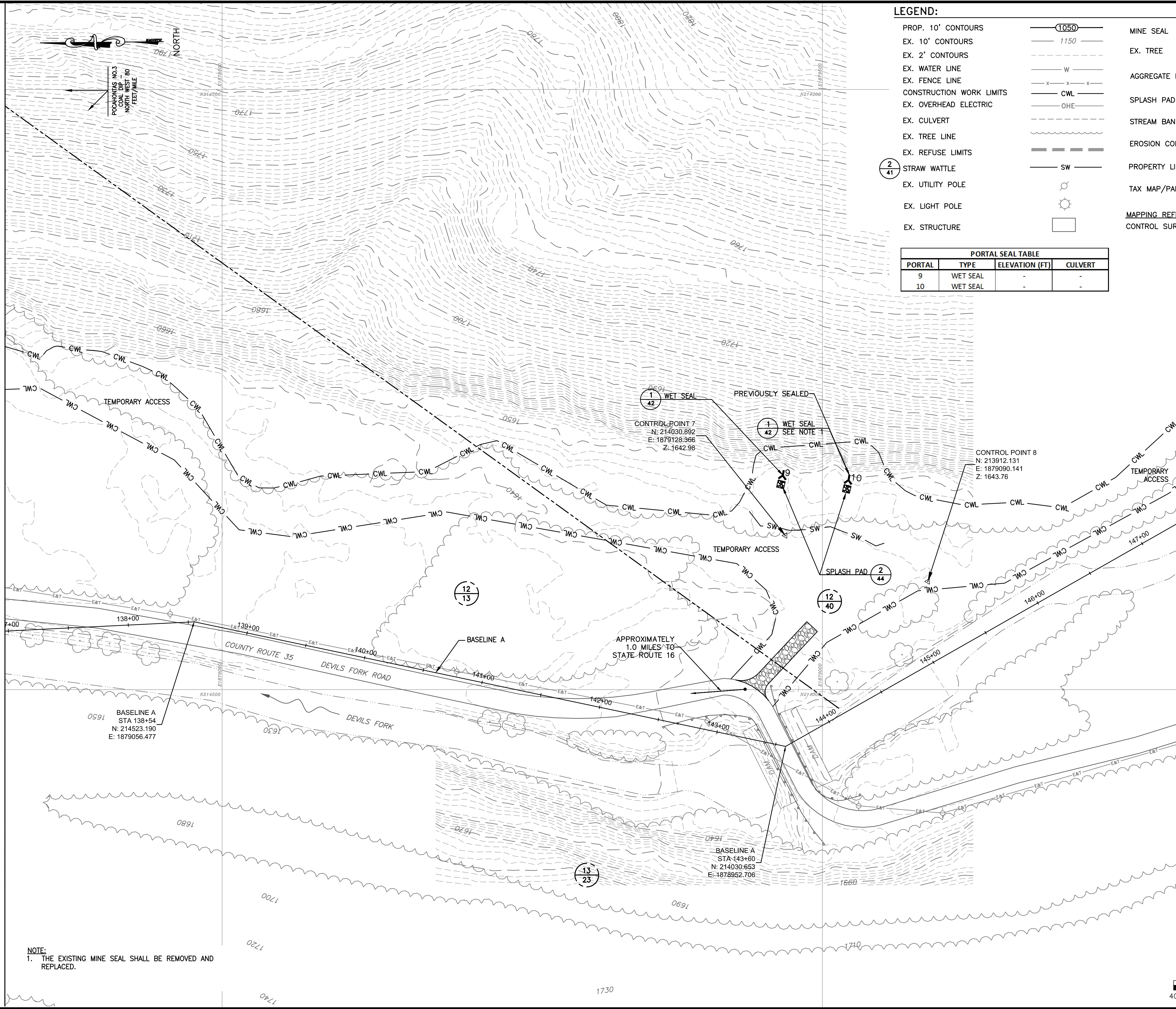
**LEGEND:**

- PROP. 10' CONTOURS (1050) MINE SEAL
- EX. 10' CONTOURS 1150 EX. TREE
- EX. 2' CONTOURS --- AGGREGATE PLACEMENT
- EX. WATER LINE W SPLASH PAD
- EX. FENCE LINE -x-x- STREAM BANK PROTECTION
- CONSTRUCTION WORK LIMITS CWL EROSION CONTROL MATTING (ECM)
- EX. OVERHEAD ELECTRIC OHE PROPERTY LINE
- EX. CULVERT --- TAX MAP/PARCEL NUMBER
- EX. TREE LINE --- MAPPING REFERENCE:
- EX. REFUSE LIMITS --- CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.
- (2/41) STRAW WATTLE SW
- EX. UTILITY POLE ⊙
- EX. LIGHT POLE ⊙
- EX. STRUCTURE □

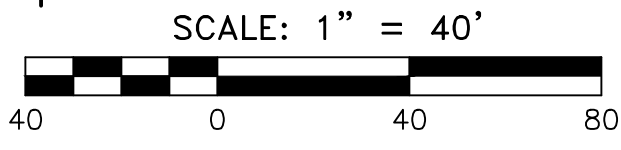
PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
9	WET SEAL	-	-
10	WET SEAL	-	-

MATCHLINE SHEET 34

MATCHLINE SHEET 36



**NOTE:**  
1. THE EXISTING MINE SEAL SHALL BE REMOVED AND REPLACED.



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**AMIGO PORTALS**  
RALEIGH COUNTY, WV

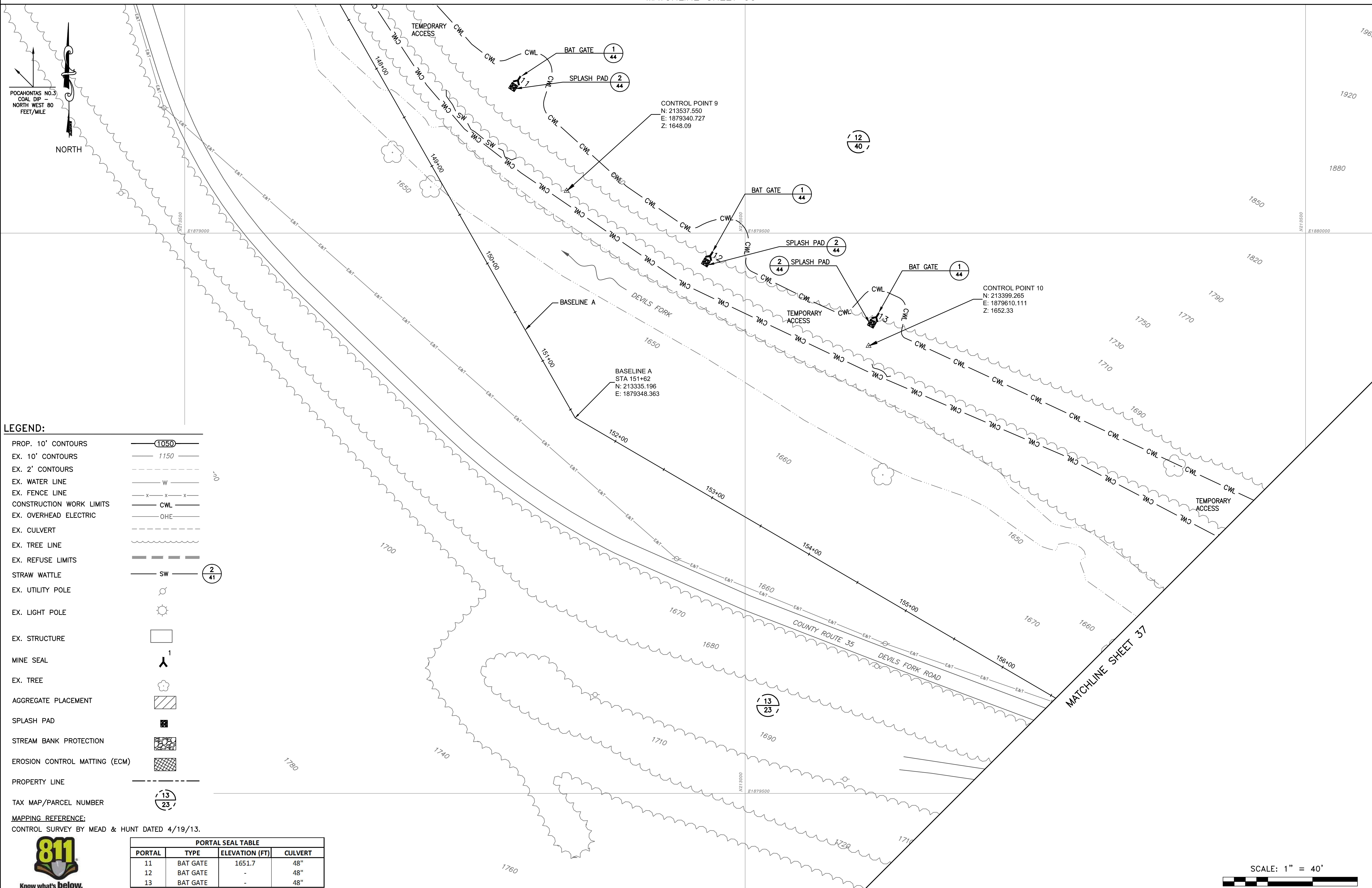
DESIGNED BY:	TAC	TAC	JTG	CFS
DRAWN BY:				
CHECKED BY:				
DATE:	January 14, 2014			
PROJECT NUMBER:	E130389			

**TAX MAP OVERLAY**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**35**



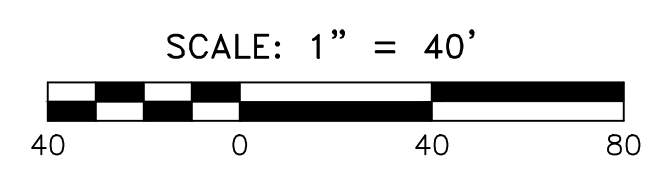


LEGEND:

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)
- PROPERTY LINE
- TAX MAP/PARCEL NUMBER

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
11	BAT GATE	1651.7	48"
12	BAT GATE	-	48"
13	BAT GATE	-	48"



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: TAC TAC JTG CFS  
DESIGNED BY: TAC TAC JTG CFS  
DRAWN BY: TAC TAC JTG CFS  
CHECKED BY: TAC TAC JTG CFS  
APPROVED BY: TAC TAC JTG CFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

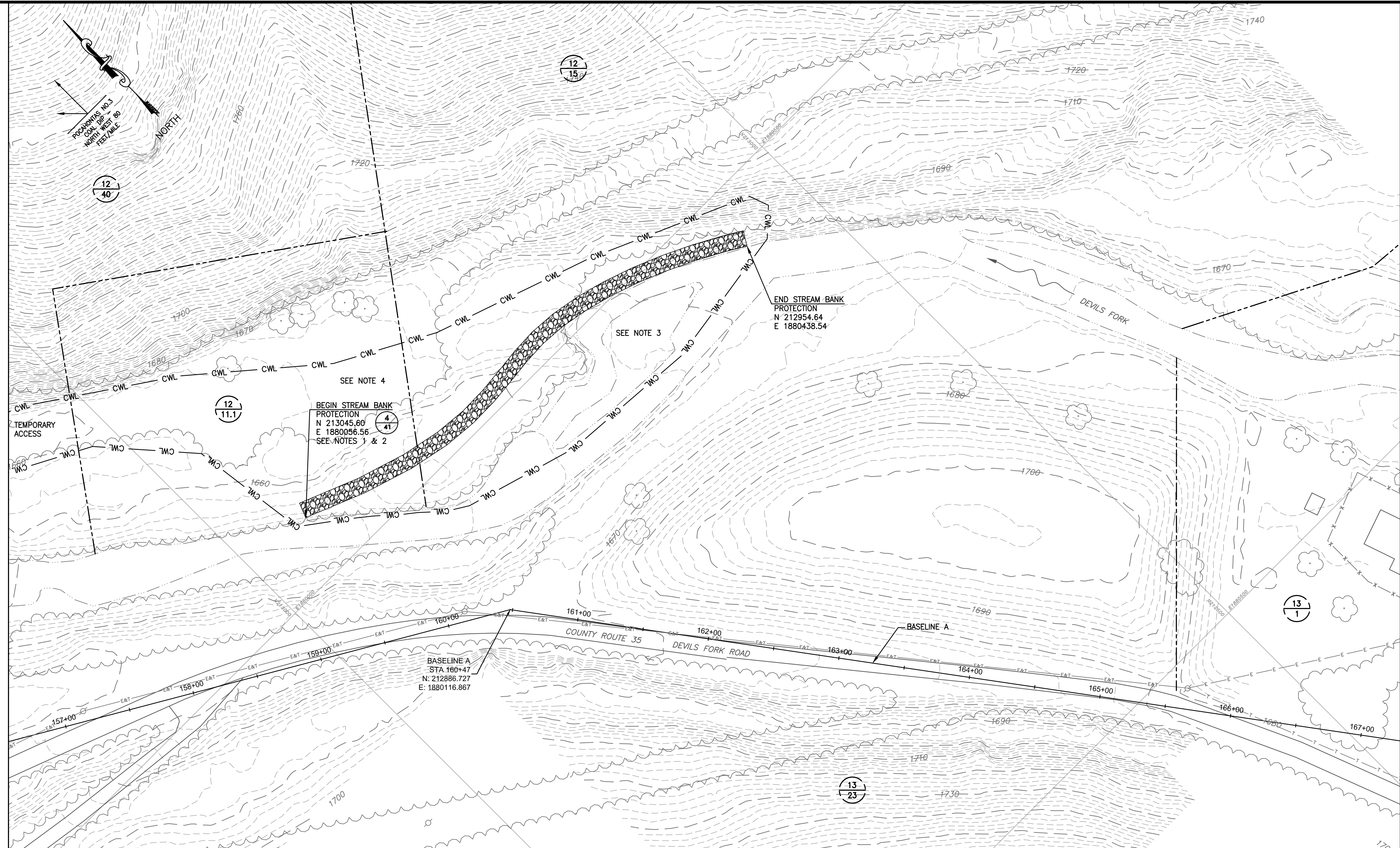
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**36**



MATCHLINE SHEET 36

MATCHLINE SHEET 38

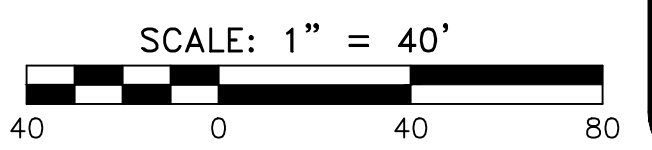


LEGEND:

PROP. 10' CONTOURS		MINE SEAL	
EX. 10' CONTOURS		EX. TREE	
EX. 2' CONTOURS		AGGREGATE PLACEMENT	
EX. WATER LINE		SPLASH PAD	
EX. FENCE LINE		STREAM BANK PROTECTION	
CONSTRUCTION WORK LIMITS		EROSION CONTROL MATTING (ECM)	
EX. OVERHEAD ELECTRIC		PROPERTY LINE	
EX. CULVERT		TAX MAP/PARCEL NUMBER	
EX. TREE LINE			
EX. REFUSE LIMITS			
STRAW WATTLE			
EX. UTILITY POLE			
EX. LIGHT POLE			
EX. STRUCTURE			

- NOTES:
1. THE EXISTING STREAM BANK SHALL BE EXCAVATED AND REALIGNED AS INDICATED AT 2H:1V SLOPE
  2. ANY EXPOSED REFUSE SHALL BE OVEREXCAVATED AND COVERED BY 1 - FOOT OF SOIL PRIOR TO PLACEMENT OF STREAM BANK PROTECTION.
  3. THE EXISTING SAND BAR/ROCK ISLAND SHALL BE REMOVED. THIS SHALL BE CONSIDERED INCIDENTAL TO THE STREAM BANK PROTECTION PAY ITEM.
  4. THE EXCESS MATERIAL FROM THE REALIGNMENT OF THE STREAM BANK AND REMOVAL OF THE SAND BAR/ROCK ISLAND SHALL BE PLACED IN THIS AREA. UPON COMPLETION THE AREA SHALL BE GRADED TO POSITIVELY DRAIN TO THE STREAM AS DIRECTED BY THE ENGINEER. THIS SHALL BE CONSIDERED INCIDENTAL TO THE STREAM BANK PROTECTION PAY ITEM.

MAPPING REFERENCE:  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

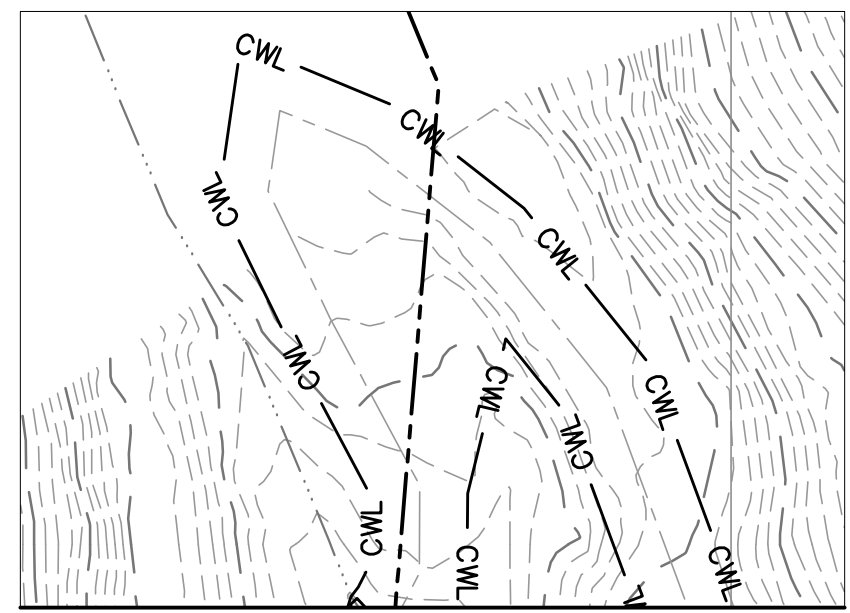
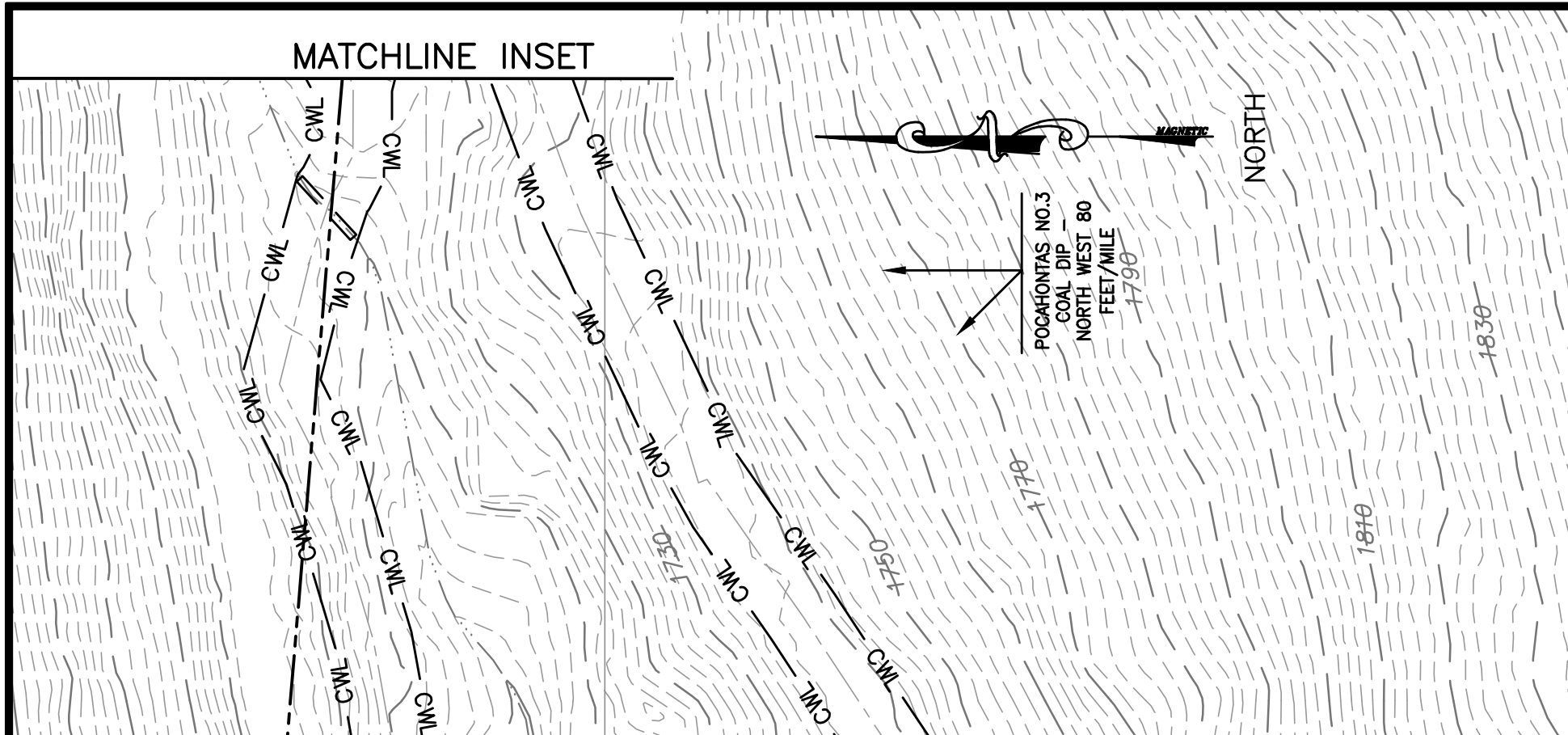
PLOT SCALE: 1/1  
DESIGNED BY: TAC  
DRAWN BY: TAC  
CHECKED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**37**





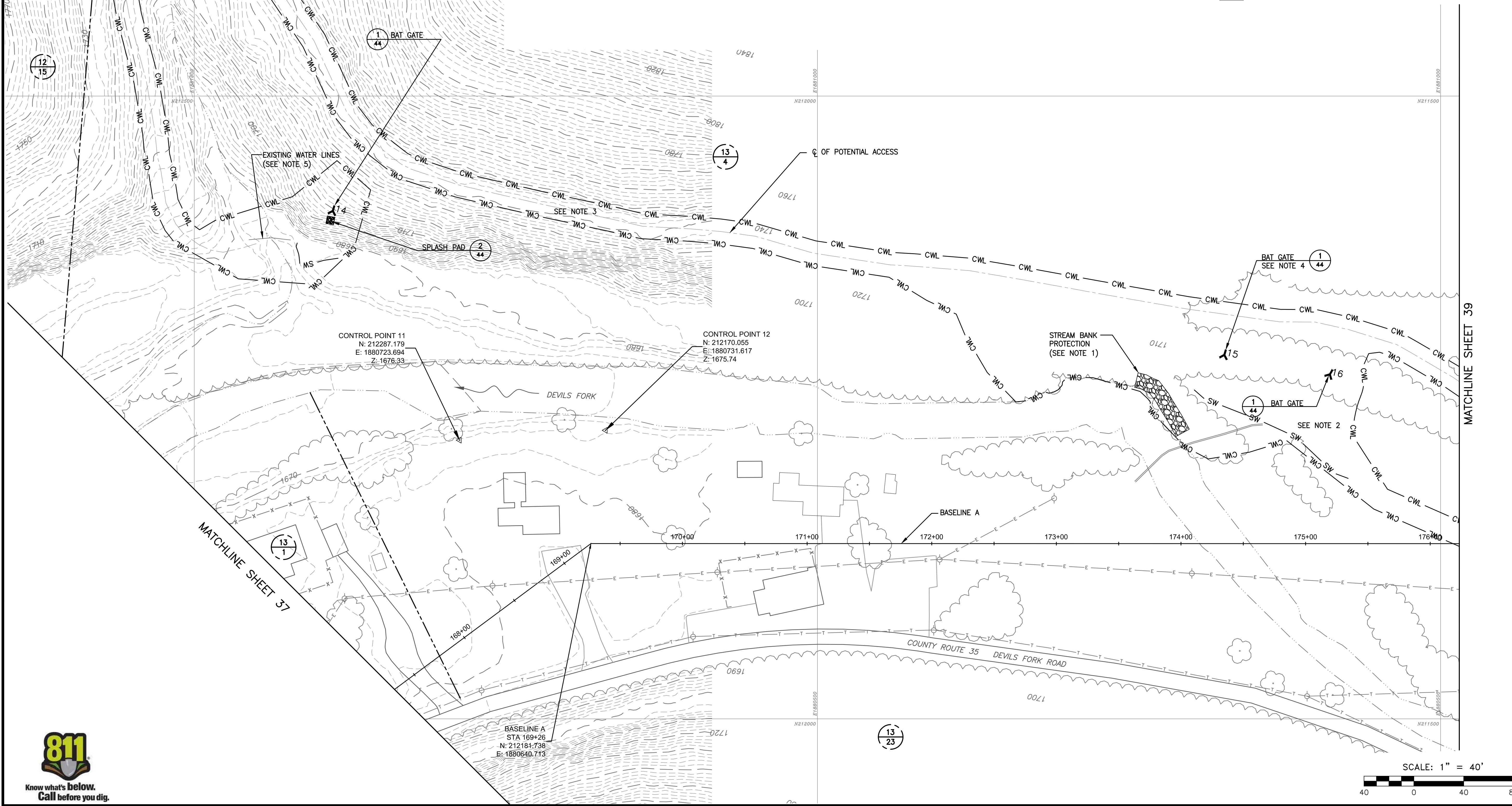
PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
14	BAT GATE	1676.4	48"
15	BAT GATE	1686.9	48"
16	BAT GATE	1691.7	48"

- NOTES:
- EXISTING ROCK AND ROCKY MATERIAL REMOVED FROM PORTALS 15 AND 16 SHALL BE REDUCED IN SIZE TO A D50 OF 18 INCHES AND PLACED ALONG THE EXISTING SLOPE AS STREAM BANK PROTECTION. THIS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
  - THE AREA INDICATED SHALL BE REVEGETATED USING SEED FOR HORSE PASTURE.
  - POTENTIAL ACCESS ROUTES FOR PORTAL 14.
  - TRASH IN PORTAL SHALL BE REMOVED AND DISPOSED OF PROPERLY.
  - EXISTING WATERLINES SHALL NOT BE DISTURBED AND ARE TO REMAIN IN USE AFTER CONSTRUCTION.

**LEGEND:**

PROP. 10' CONTOURS		MINE SEAL	
EX. 10' CONTOURS		EX. TREE	
EX. 2' CONTOURS		AGGREGATE PLACEMENT	
EX. WATER LINE		SPLASH PAD	
EX. FENCE LINE		STREAM BANK PROTECTION	
CONSTRUCTION WORK LIMITS		EROSION CONTROL MATTING (ECM)	
EX. OVERHEAD ELECTRIC		PROPERTY LINE	
EX. CULVERT		TAX MAP/PARCEL NUMBER	
EX. TREE LINE			
EX. REFUSE LIMITS			
	STRAW WATTLE		
	EX. UTILITY POLE		
	EX. LIGHT POLE		
	EX. STRUCTURE		

**MAPPING REFERENCE:**  
CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.



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**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: 1/1 TAC  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: CFS  
APPROVED BY: JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**TAX MAP OVERLAY**

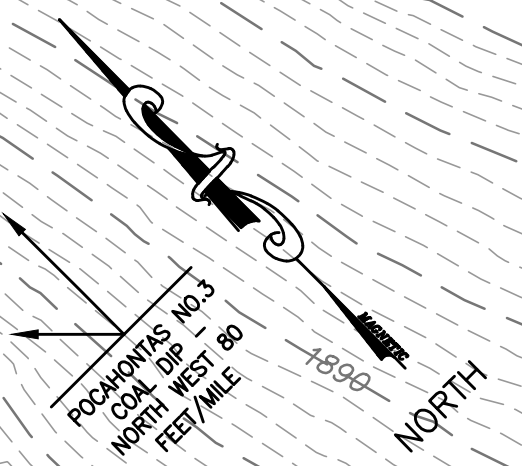
REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
**1" = 40'**  
DRAWING NUMBER  
**38**





MATCHLINE SHEET 38



POSITIONS  
COM. ON - 10.3  
NORTH WEST 80  
FEET/MILE

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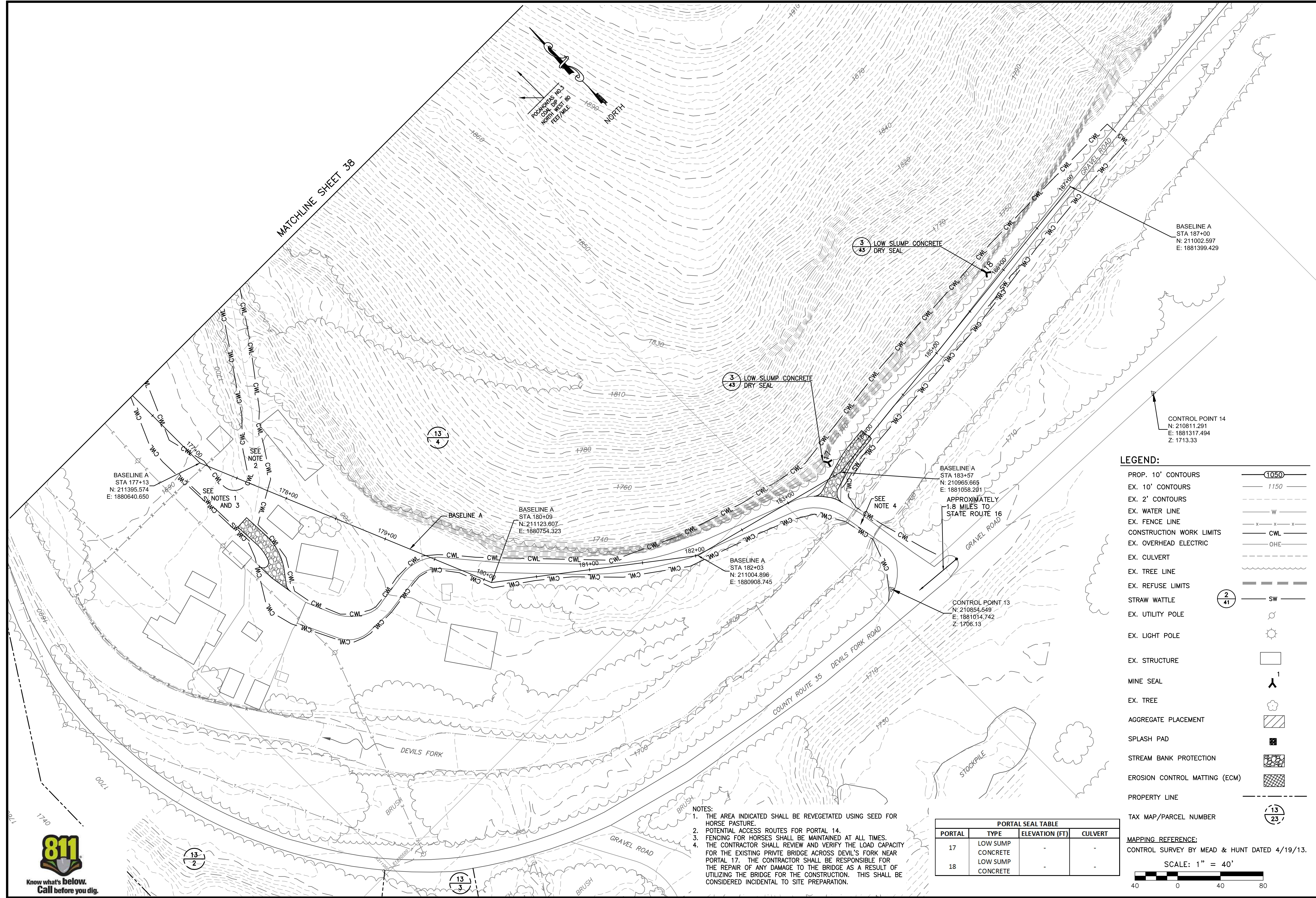
**AMIGO PORTALS**  
RALEIGH COUNTY, WV

1/1 TAC TAC JTG CFS  
PLOT SCALE: DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: DATE: PROJECT NUMBER:  
January 14, 2014 E130389

**TAX MAP OVERLAY**

REVISED  
REV. NO. DATE DESCRIPTION

SCALE  
1" = 40'  
DRAWING NUMBER  
39



**LEGEND:**

- PROP. 10' CONTOURS
- EX. 10' CONTOURS
- EX. 2' CONTOURS
- EX. WATER LINE
- EX. FENCE LINE
- CONSTRUCTION WORK LIMITS
- EX. OVERHEAD ELECTRIC
- EX. CULVERT
- EX. TREE LINE
- EX. REFUSE LIMITS
- STRAW WATTLE
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. STRUCTURE
- MINE SEAL
- EX. TREE
- AGGREGATE PLACEMENT
- SPLASH PAD
- STREAM BANK PROTECTION
- EROSION CONTROL MATTING (ECM)
- PROPERTY LINE
- TAX MAP/PARCEL NUMBER

PORTAL SEAL TABLE			
PORTAL	TYPE	ELEVATION (FT)	CULVERT
17	LOW SLUMP CONCRETE	-	-
18	LOW SLUMP CONCRETE	-	-

**NOTES:**  
 1. THE AREA INDICATED SHALL BE REVEGETATED USING SEED FOR HORSE PASTURE.  
 2. POTENTIAL ACCESS ROUTES FOR PORTAL 14.  
 3. FENCING FOR HORSES SHALL BE MAINTAINED AT ALL TIMES.  
 4. THE CONTRACTOR SHALL REVIEW AND VERIFY THE LOAD CAPACITY FOR THE EXISTING PRIVATE BRIDGE ACROSS DEVIL'S FORK NEAR PORTAL 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO THE BRIDGE AS A RESULT OF UTILIZING THE BRIDGE FOR THE CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO SITE PREPARATION.

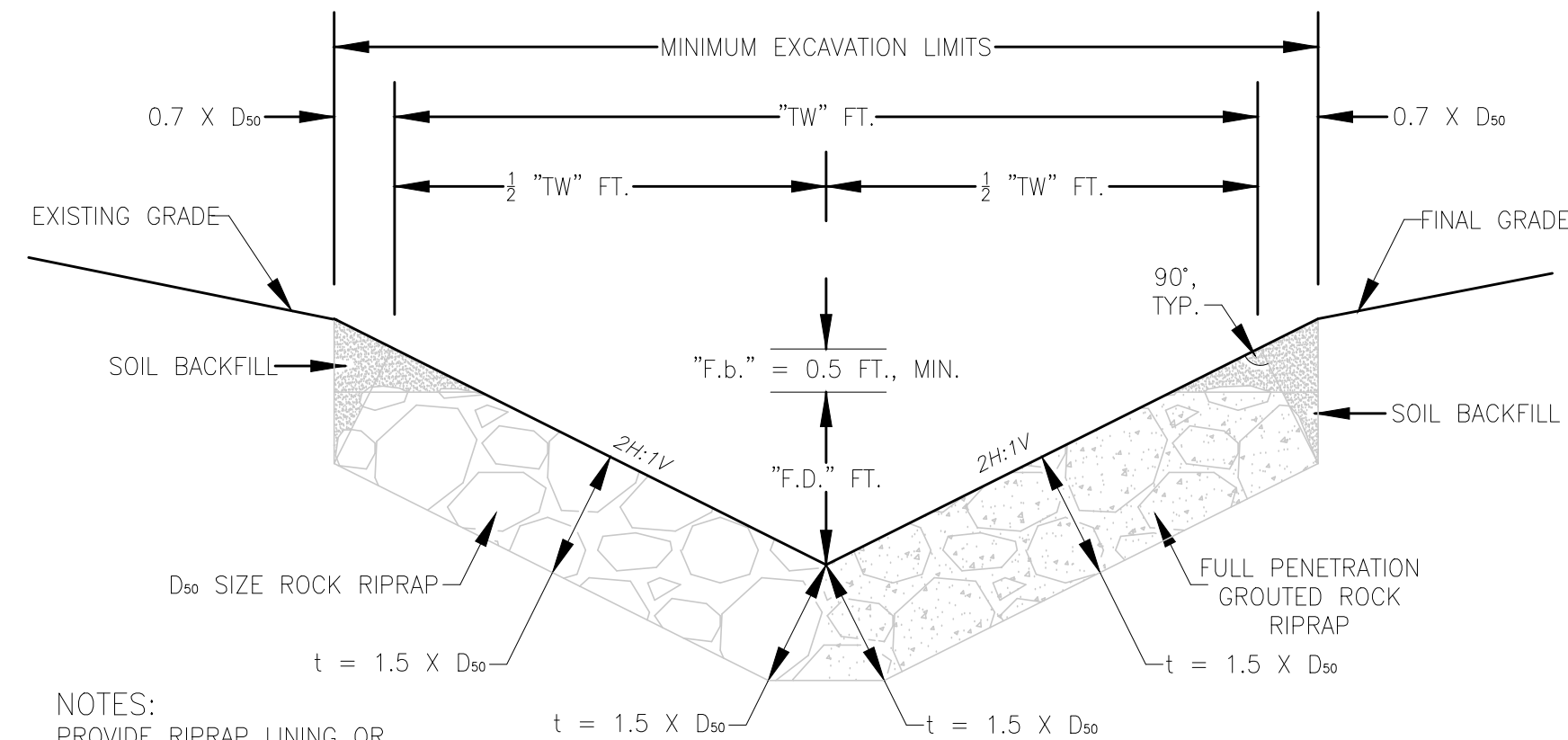
**MAPPING REFERENCE:**  
 CONTROL SURVEY BY MEAD & HUNT DATED 4/19/13.  
 SCALE: 1" = 40'





CHANNEL SUMMARY									
CHANNEL	TYPE	STATION	DEPTH (FT. MIN.)	SIDE SLOPES	AVG. SLOPE (%)	LINING	LINING THICKNESS	TOP WIDTH (FT. MIN.)	BOTTOM WIDTH (FT.)
1	VEE	10+69.8 - 10+79.1	2	2:1	1.0	RIPRAP	18"	8	0
	VEE	10+79.1 - 11+03.0	2	2:1	10.0	RIPRAP	18"	8	0
	VEE	11+03.0 - 11+10.6	2	2:1	50.0	RIPRAP	18"	8	0
	VEE	11+10.6 - 11+16.6	2	2:1	35.0	RIPRAP	18"	8	0
	VEE	11+16.6 - 11+20.4	2	2:1	0.02	RIPRAP	18"	8	0

NOTE: DEPTH = F.D. + F.b FROM DETAIL 2/40



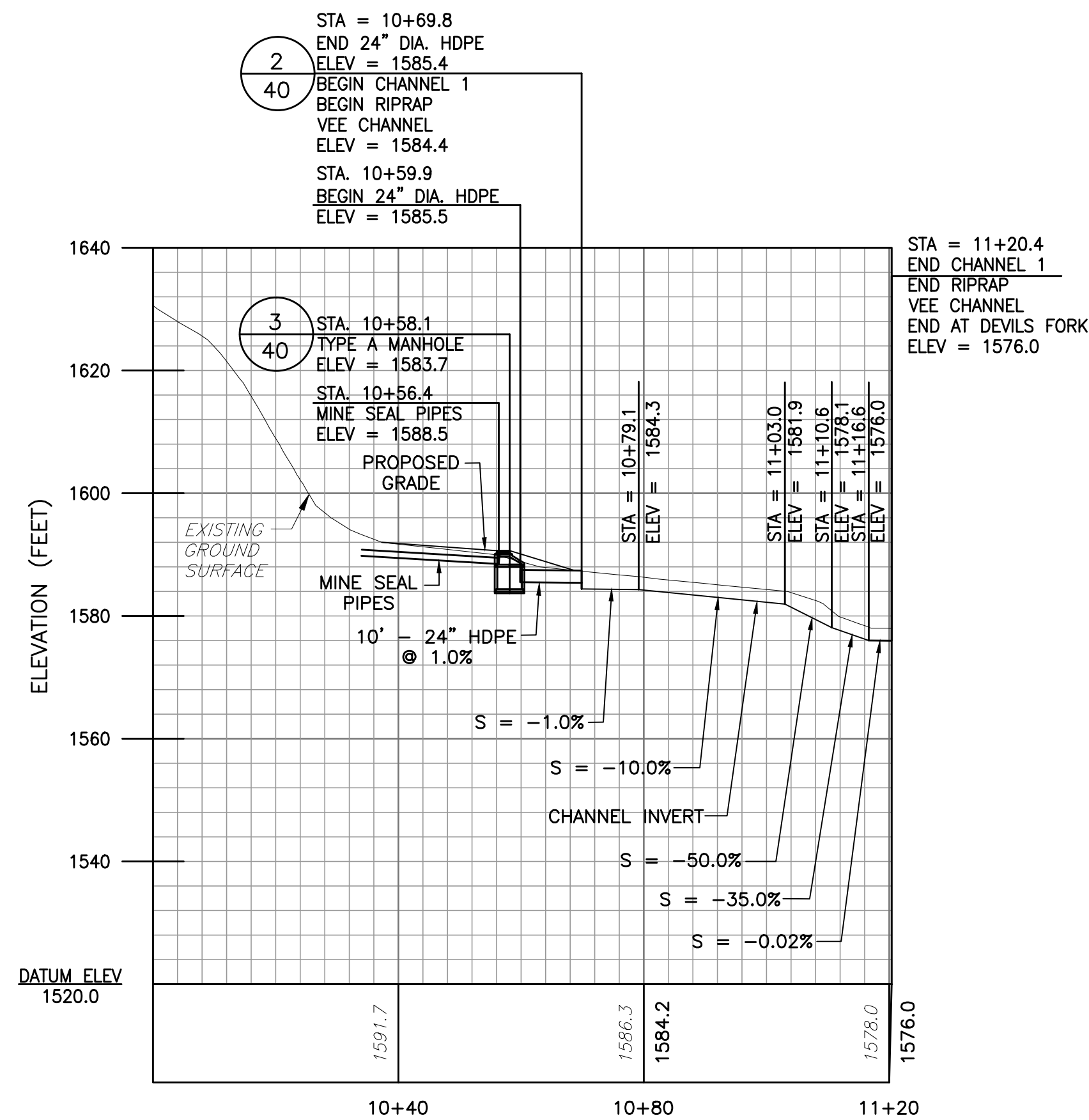
NOTES:  
PROVIDE RIPRAP LINING OR GROUTED RIPRAP LINING.

PLACE ROCK RIPRAP FULL WIDTH OF EXCAVATION LIMITS TO THE DESIGNED FLOW DEPTH (FD).

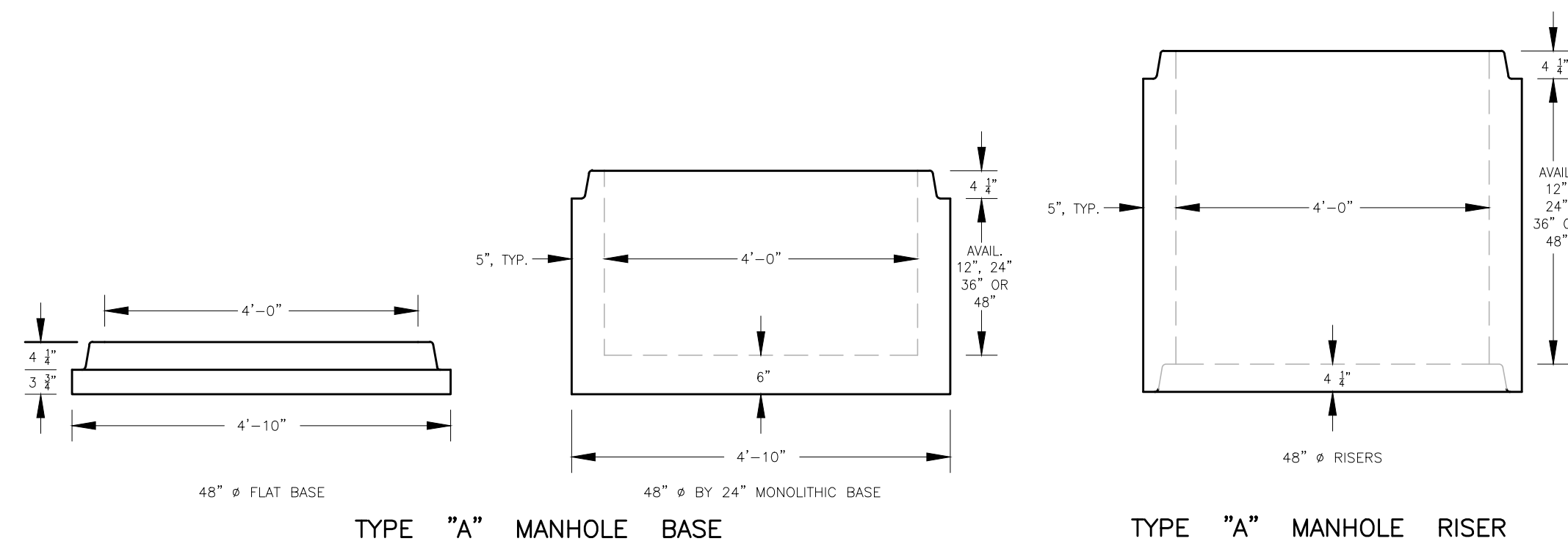
"TW" = TOP WIDTH  
"F.b." = FREEBOARD DEPTH  
"F.D." = FLOW DEPTH  
"t" = THICKNESS

GRADATION	ROCK RIPRAP SIZING			
	D <sub>50</sub> =6"	D <sub>50</sub> =12"	D <sub>50</sub> =18"	D <sub>50</sub> =24"
50%	6" - 9"	12" - 18"	18" - 27"	24" - 36"
35%	3" - 6"	6" - 12"	9" - 18"	12" - 24"
15%	<= 3"	3" - 6"	4.5" - 9"	6" - 12"

RIPRAP "VEE" CHANNEL 2/40  
NOT TO SCALE

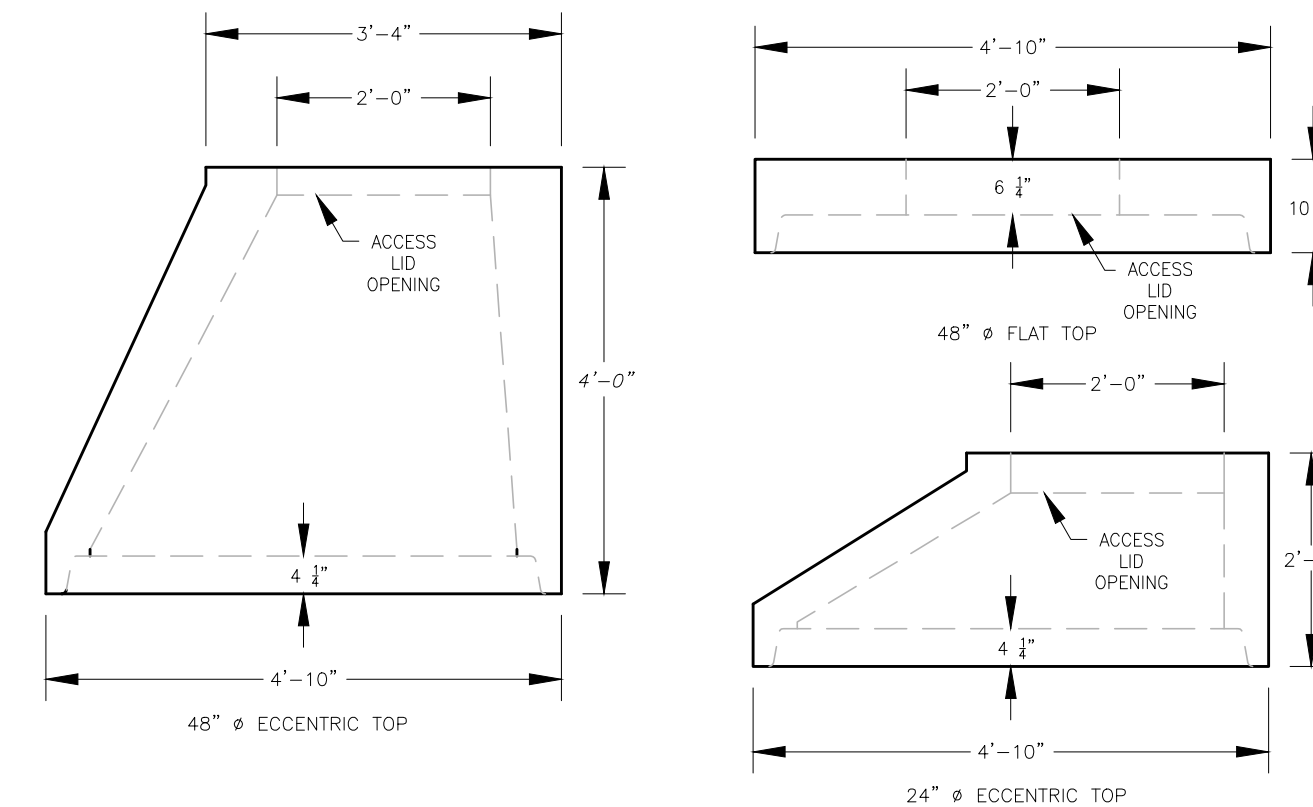


CHANNEL 1 PROFILE 1/40  
1 INCH = 20 FEET

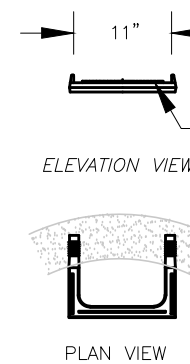


NOTES:

- UNITS SHOWN ARE PRE-CAST.
- MINIMUM HEIGHT OF RISER ABOVE TOP OF PIPE IS 25% OF THE DIAMETER OF PIPE.
- RISER AND BOTTOM SECTIONS MAY BE USED IN ANY COMBINATION TO PRODUCE MANHOLE OF DESIRED DEPTH. FLAT TOPS WILL ONLY BE USED AS APPROVED BY THE ENGINEER.
- JOINTS SHALL CONSIST OF MORTAR OR SEALED O-RINGS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- THE MANHOLE BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.
- ALL MANHOLES SHALL BE 4'-0\"/>
- ALL MANHOLES SHALL HAVE SLOTTED GRATES.



TYPE "A" MANHOLE TOPS

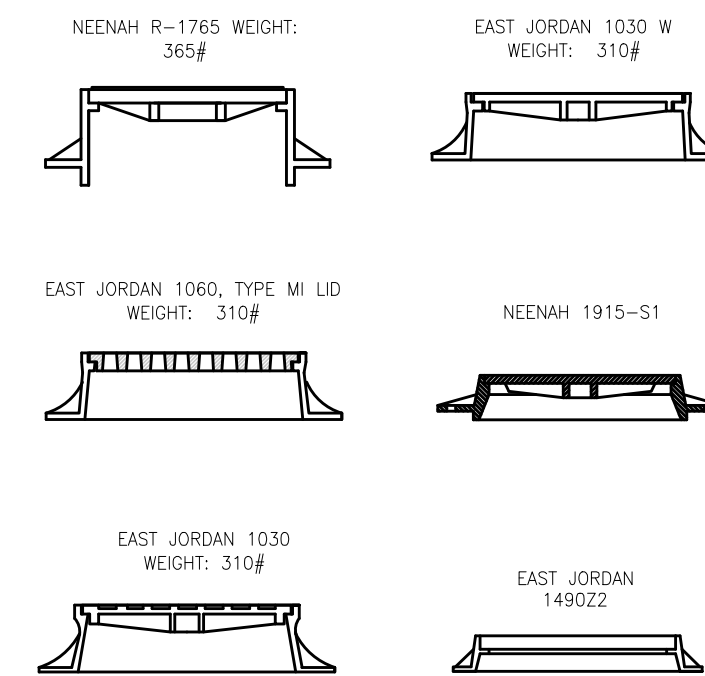


TYPE "A" MANHOLE 11" STEP

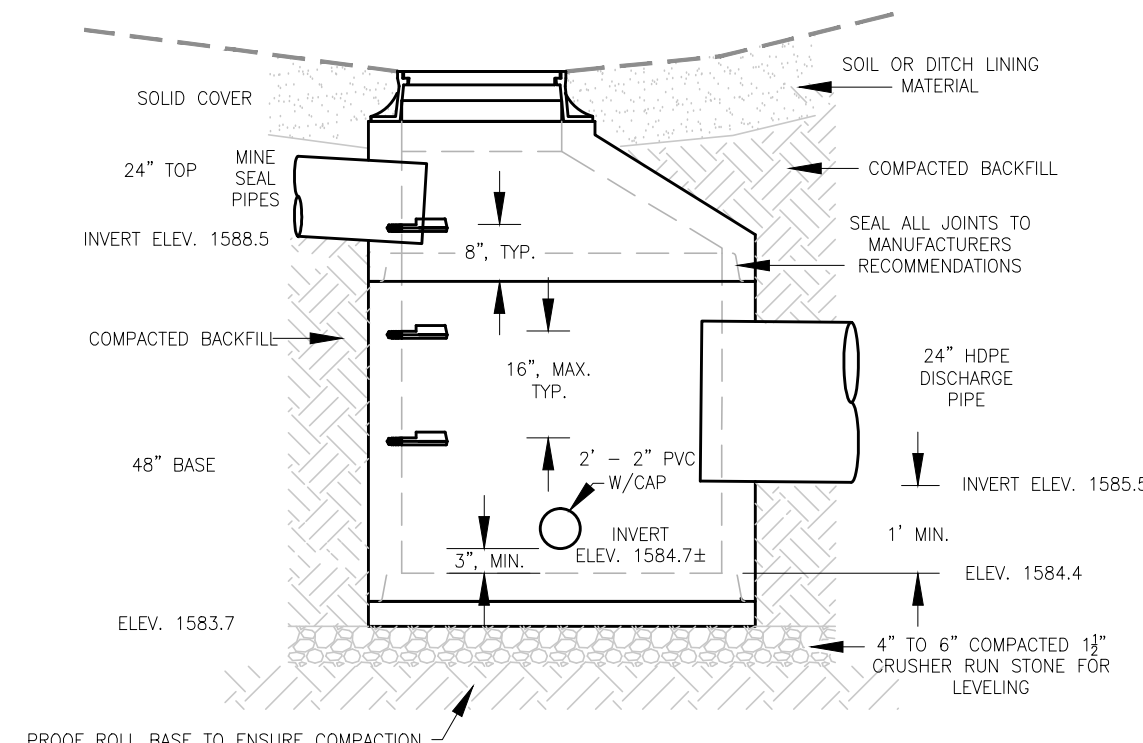
PRESS-SEAL GASKETS	
TYPE PIPE AND SIZE	ITEM NUMBER
6" Ø PVC PIPE	12Y PSX
8" Ø PVC PIPE	12M PSX
10" Ø PVC PIPE	16Y PSX
12" Ø PVC PIPE	16M PSX
18" Ø PVC PIPE	22M PSX
24" Ø RCP	34L PSX



TYPE "A" MANHOLE PIPE GASKETS



TYPE "A" MANHOLE FRAMES AND COVERS



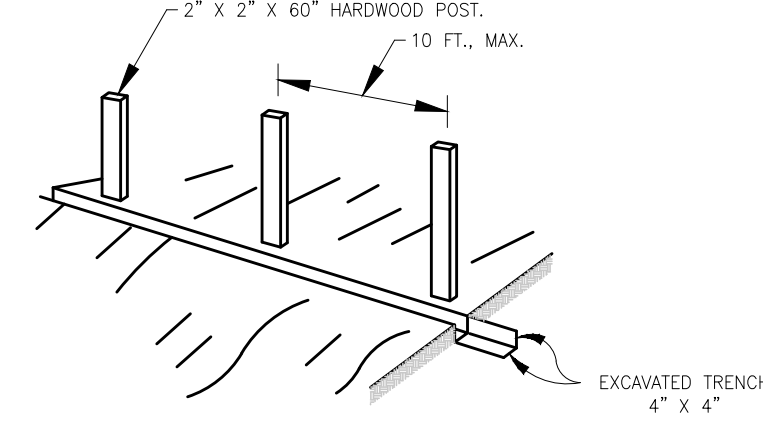
TYPE "A" MANHOLE INSTALLATION, TYP.

TYPE A MANHOLE 3/40  
NOT TO SCALE

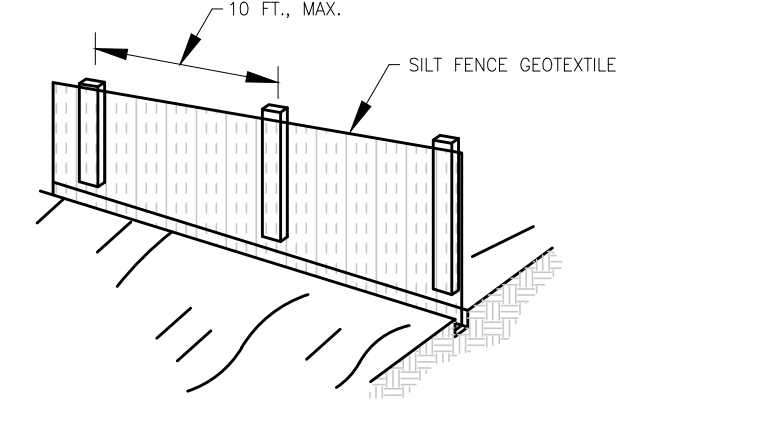




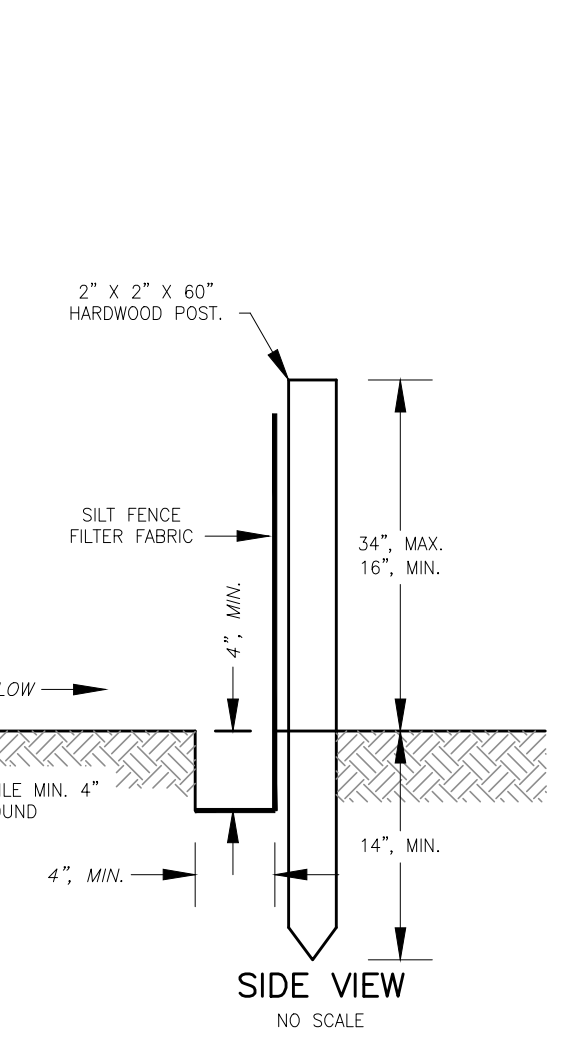
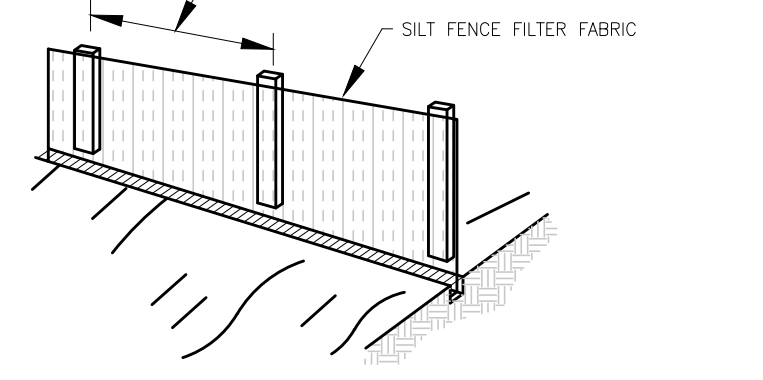
1. SET POSTS ALONG CONTOUR OF THE LAND AND EXCAVATE TRENCH UPSLOPE ALONG THE LINE OF POSTS.



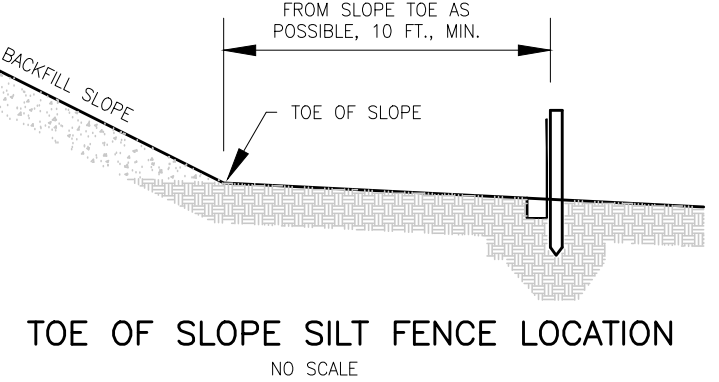
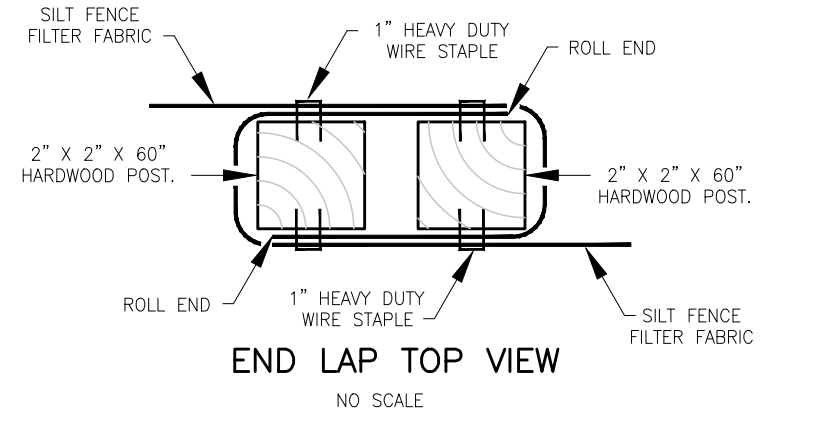
2. ATTACH THE GEOTEXTILE TO THE FENCE POSTS AND EXTEND IT INTO THE DITCH.



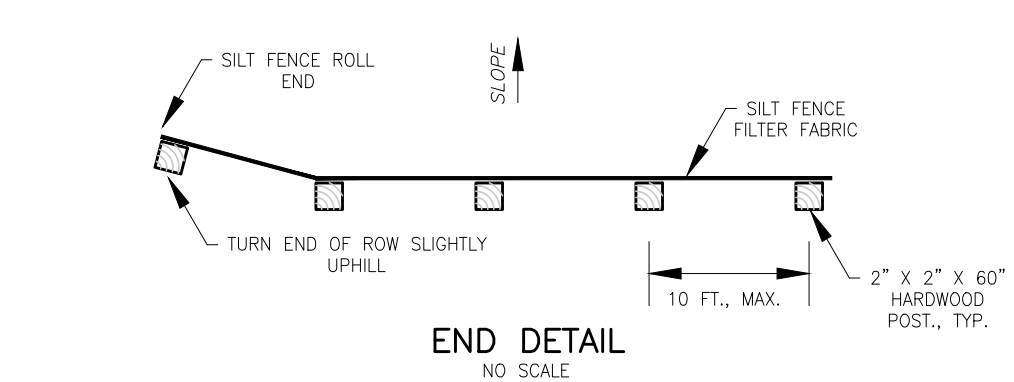
3. BACKFILL AND COMPACT THE TRENCH WITH EXCAVATED SOILS.



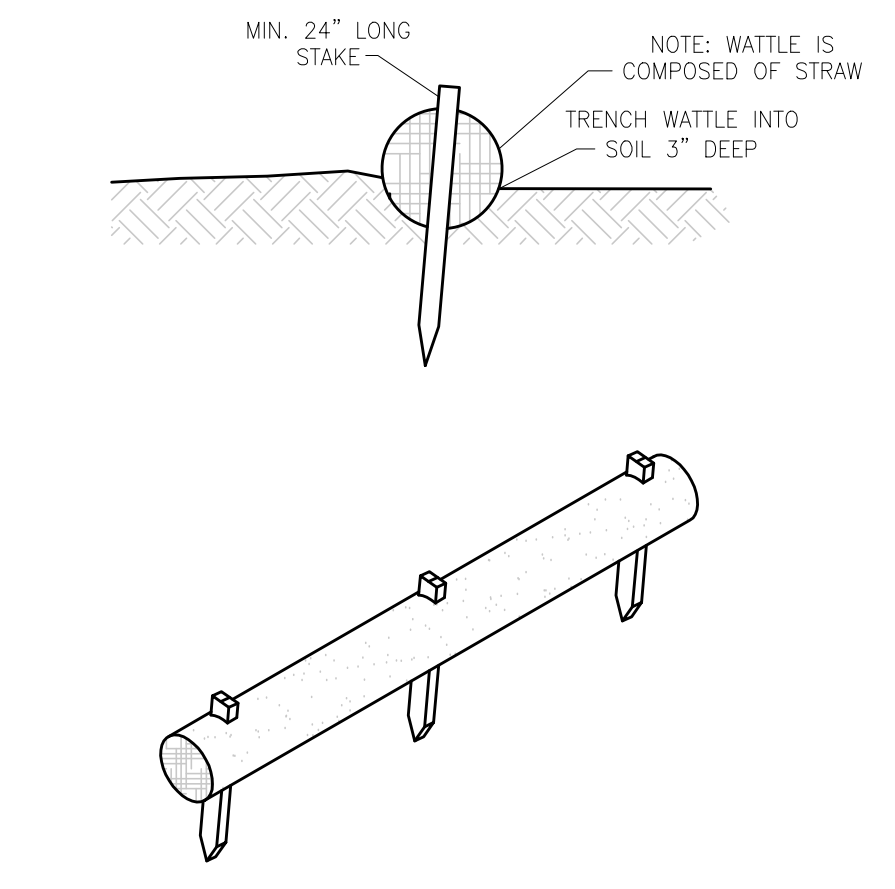
- SILT FENCE NOTES:**
1. GEOTEXTILE SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO ALIGNMENT LENGTH TO AVOID JOINTS. WHERE JOINTS ARE UNAVOIDABLE, THE FABRIC SHALL BE SPLICED TOGETHER AT A SUPPORT POST BY TWISTING THE POST OF EACH RUN AROUND EACH OTHER.
  2. GEOTEXTILE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE SUPPORT POSTS USING ONE INCH, MINIMUM, LONG HEAVY-DUTY WIRE STAPLES OR TIE WIRES WITH EIGHT INCHES, MINIMUM, OF FABRIC EXTENDED INTO THE TRENCH. DO NOT STAPLE FABRIC TO TREES.
  3. COMPACTED SOIL BACKFILL SHALL BE PLACED IN THE 4" BY 4" TRENCH ATOP THE EXTENDED FABRIC.
  4. POSTS SHALL BE CONSTRUCTED OF 2" X 2" HARDWOOD OR 2" X 4" PINE BY 60" LONG.
  5. GEOTEXTILE SHALL BE NON-WOVEN "MIRAFI 100X", "EXXON GTF 180" OR EQUAL.
  6. APPROVED PREFABRICATED UNITS INCLUDE "GEOFAB", "ENVIROFENCE", OR APPROVED EQUAL.
  7. THE MAXIMUM RUN OF SLOPE ABOVE A ROW OF SILT FENCE IS 110 FEET.



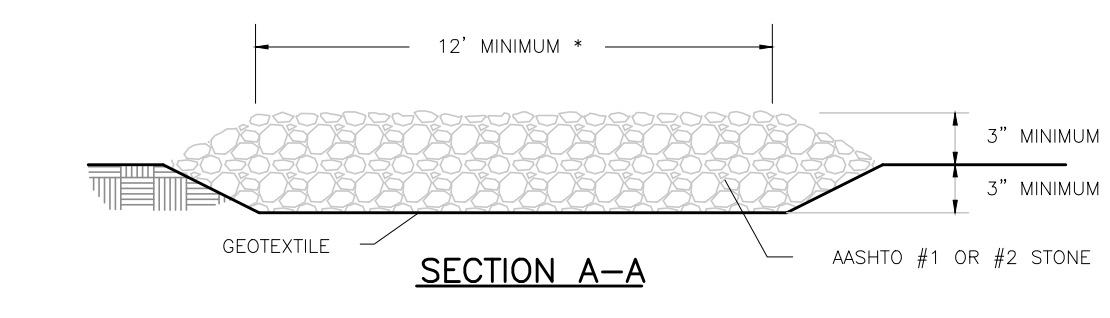
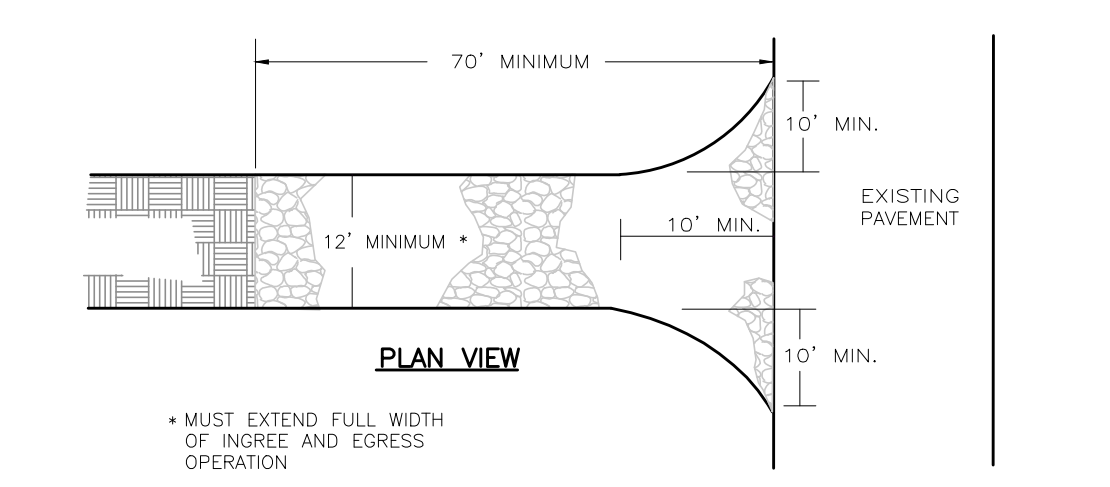
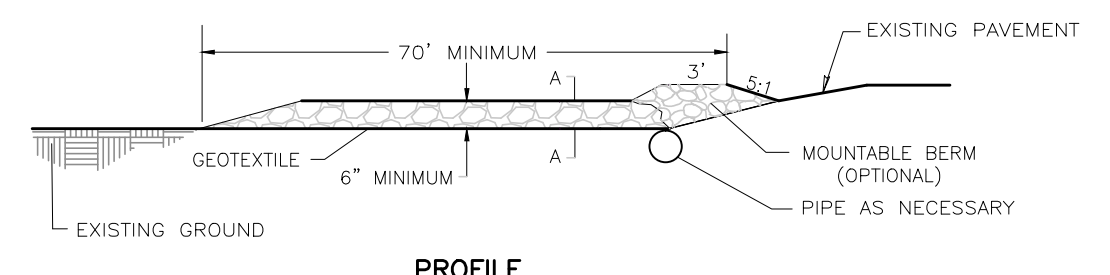
**SILT FENCE**  
NOT TO SCALE



**END DETAIL**  
NOT TO SCALE

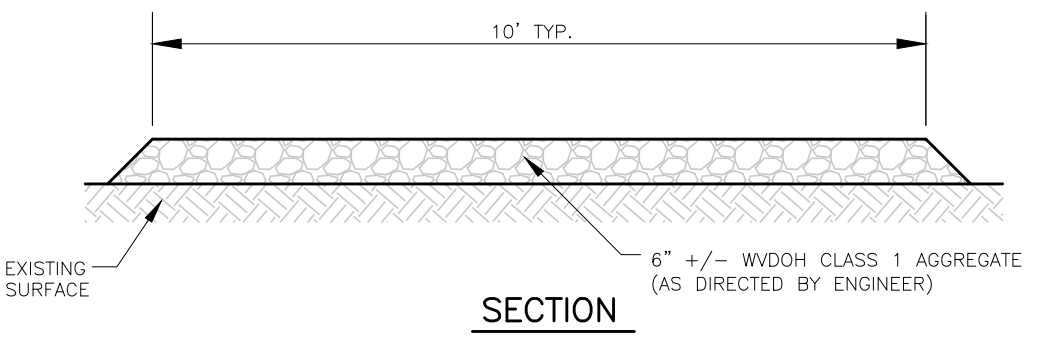


**STRAW WATTLE**  
NOT TO SCALE



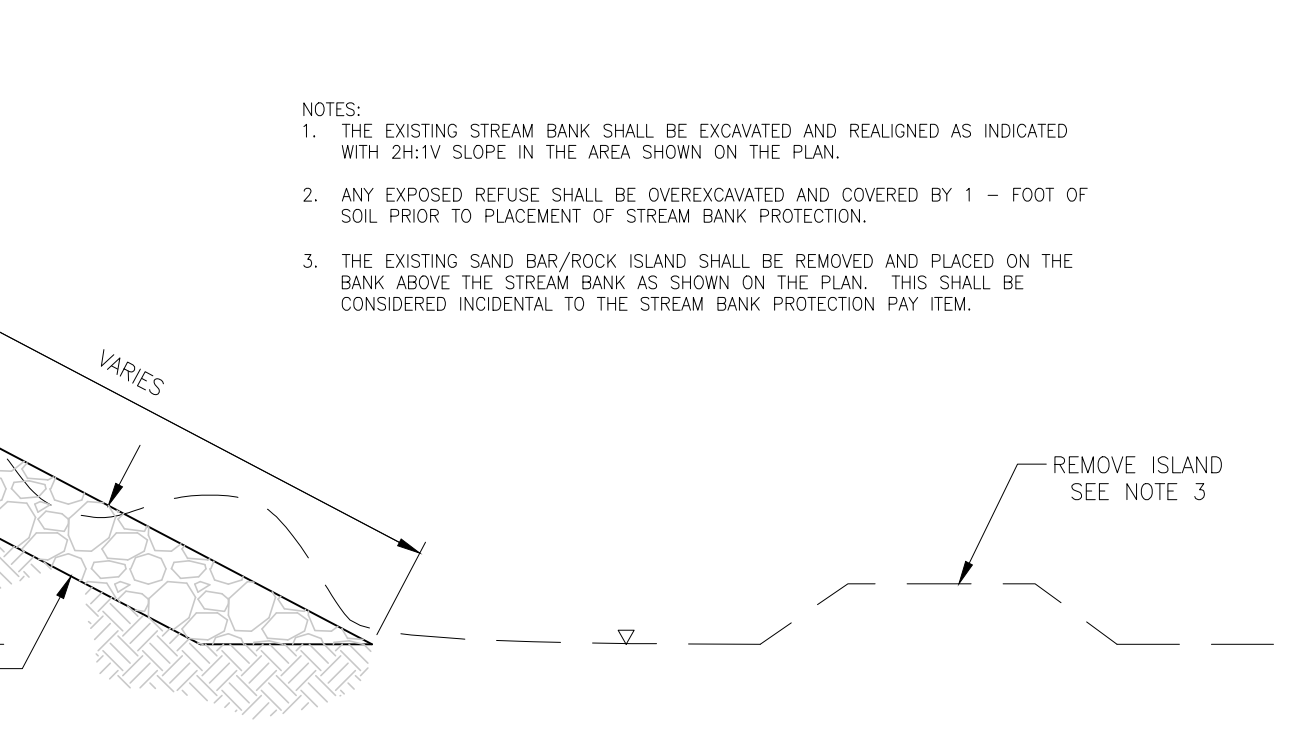
**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE

- VEGETATIVE PRACTICES:**
- EXCEPT AS NOTED BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.
- WHERE THE INITIATION OF STABILIZATION MEASURES BY THE FOURTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.
  - WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.
- AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDED IMMEDIATELY OR AS SOON AS WEATHER CONDITIONS ALLOW.
- AT A MINIMUM, INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROLS WILL BE CONDUCTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAIN EVENT OF 0.5 INCHES OR GREATER OF RAINFALL IN 24 HOURS.

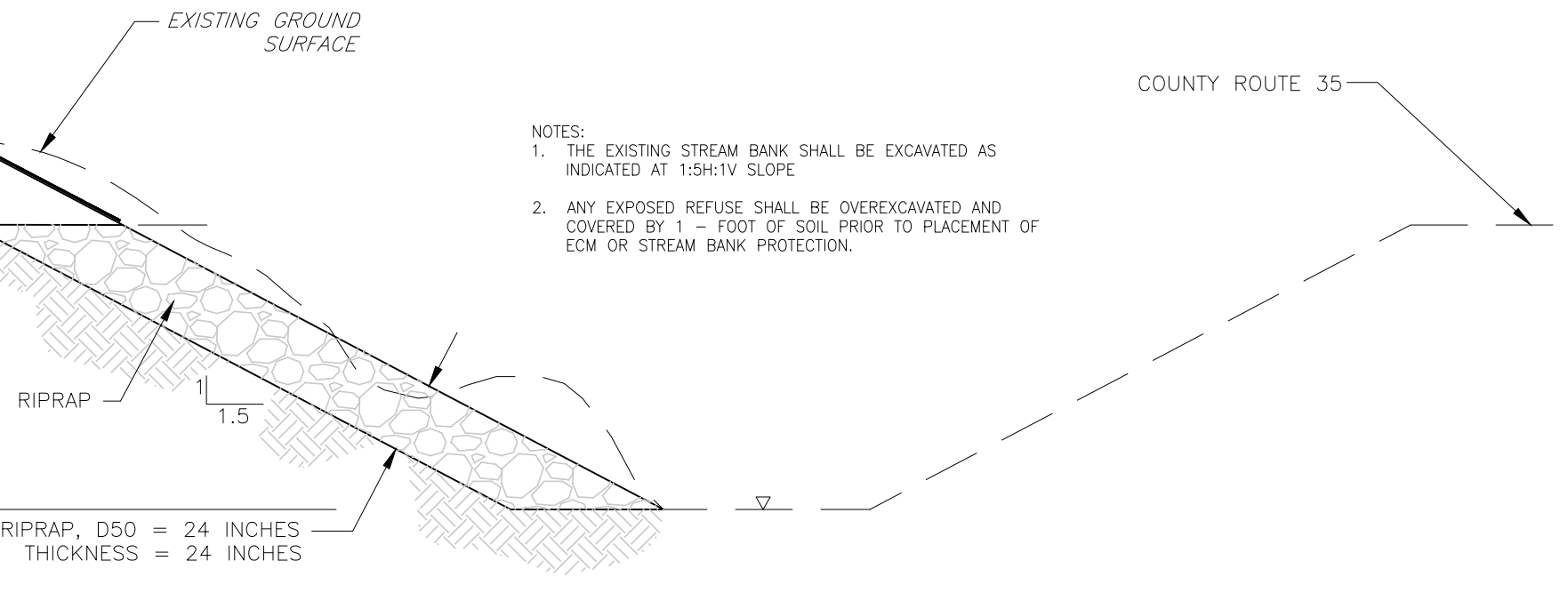


**CLASS 1 AGGREGATE PLACEMENT**  
NOT TO SCALE

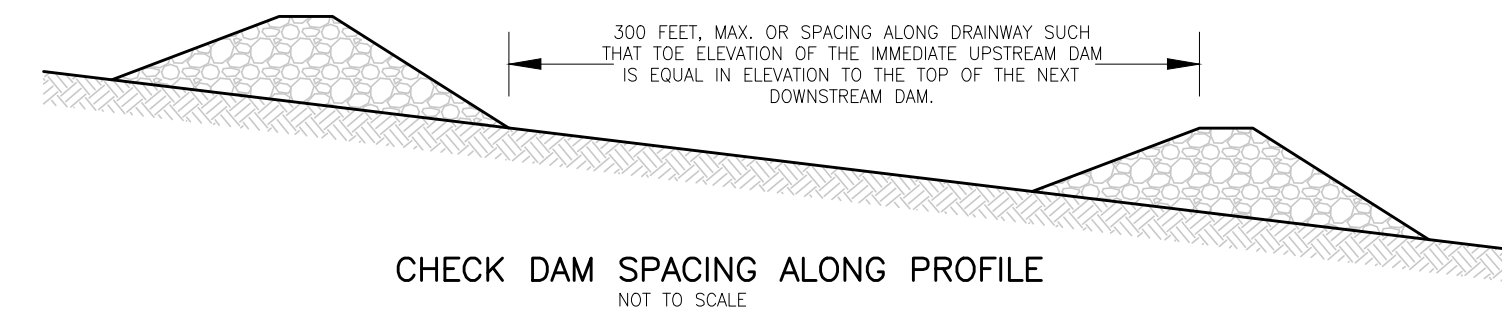
- NOTES:**
1. "X" DIMENSION AS DETAILED BY THE SPECIFICATIONS, FOR SEDIMENT CONTROL THE MAXIMUM HEIGHT OF THE ROCK CHECK DAM IS 3 FEET. HOWEVER, ROCK CHECK DAMS CAN BE CONSTRUCTED IN SMALLER DITCHES. THE CENTER OF THE ROCK CHECK DAM SHALL BE 0'-6" LOWER THAN THE OUTER EDGES AS SHOWN.
  2. ROCK CHECK DAMS ARE NORMALLY INSTALLED IN EXISTING DRAINS AND THE TOP CROSS SECTION OF THE DAM SHOULD HAVE A LEVEL CENTER SECTION THE SAME WIDTH AS THE EXISTING CHANNEL BOTTOM AND 0'-6" LOWER THAN THE OUTER EDGES OF THE DAM. ROCK CHECK DAMS PLACED IN PROJECT CONSTRUCTED FLAT-BOTTOM DITCHES SHALL HAVE SIMILAR DIMENSIONS.
  3. THE CENTER OF ROCK CHECK DAMS CONSTRUCTED IN PROJECT CONSTRUCTED "VEE" SHAPED OR EXISTING "VEE" SHAPED DITCHES SHALL BE 0'-6" LOWER THAN AND SLOPED TO THE OUTER TOP EDGES OF THE DITCH SO HIGH FLOWS GO OVER THE TOP OF THE DAM AND NOT AROUND THE EDGES.
  4. ROCK CHECK DAMS SHALL BE REMOVED AFTER THE FIRST GROWING SEASON.



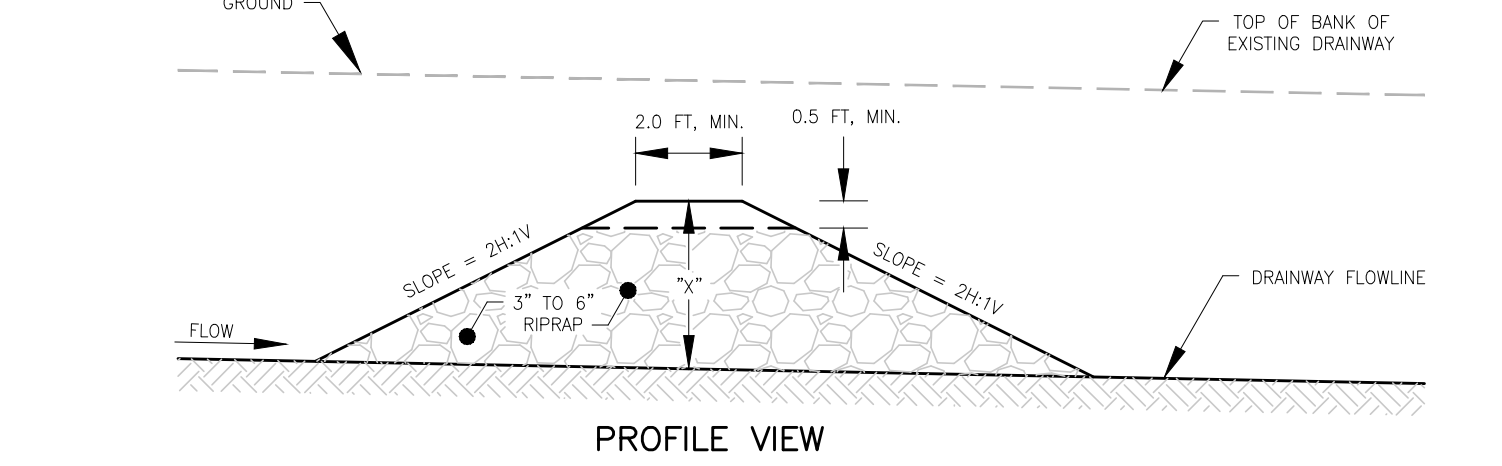
**STREAM BANK PROTECTION**  
NOT TO SCALE  
STA. 159+16.1 TO STA. 161+85.6



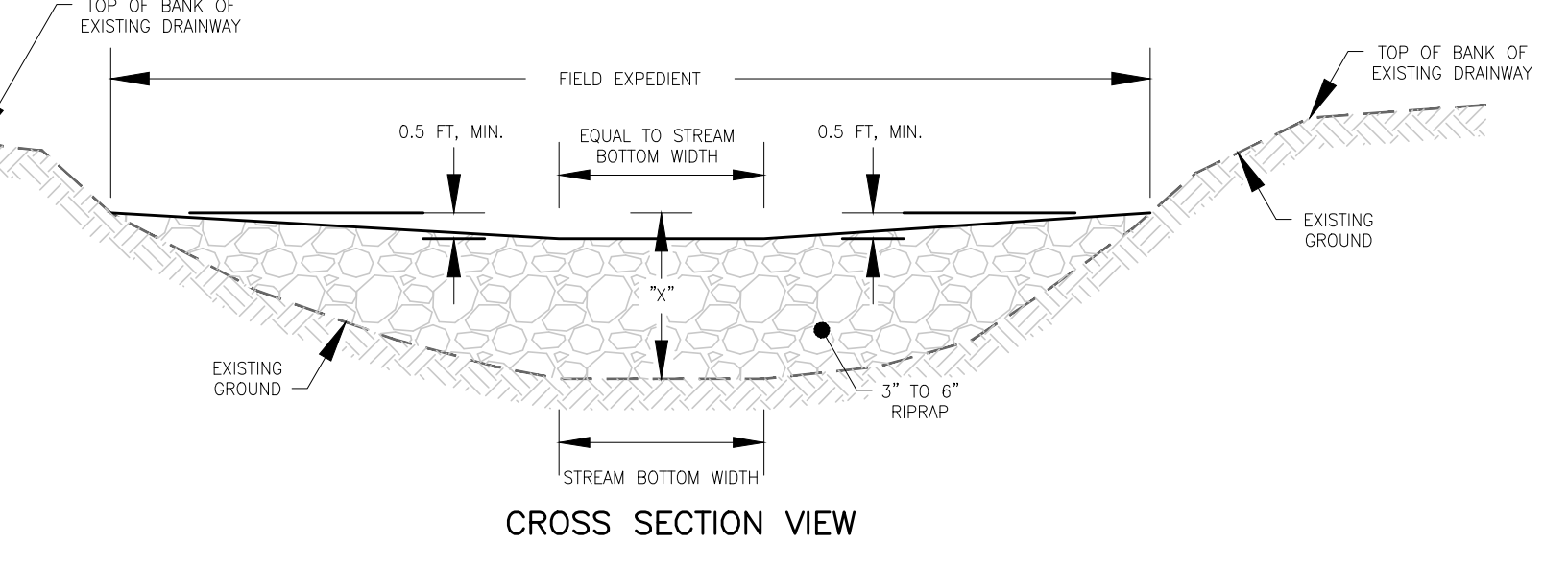
**STREAM BANK PROTECTION**  
NOT TO SCALE  
STA. 113+81.1 TO STA. 116+88.8



**CHECK DAM SPACING ALONG PROFILE**  
NOT TO SCALE

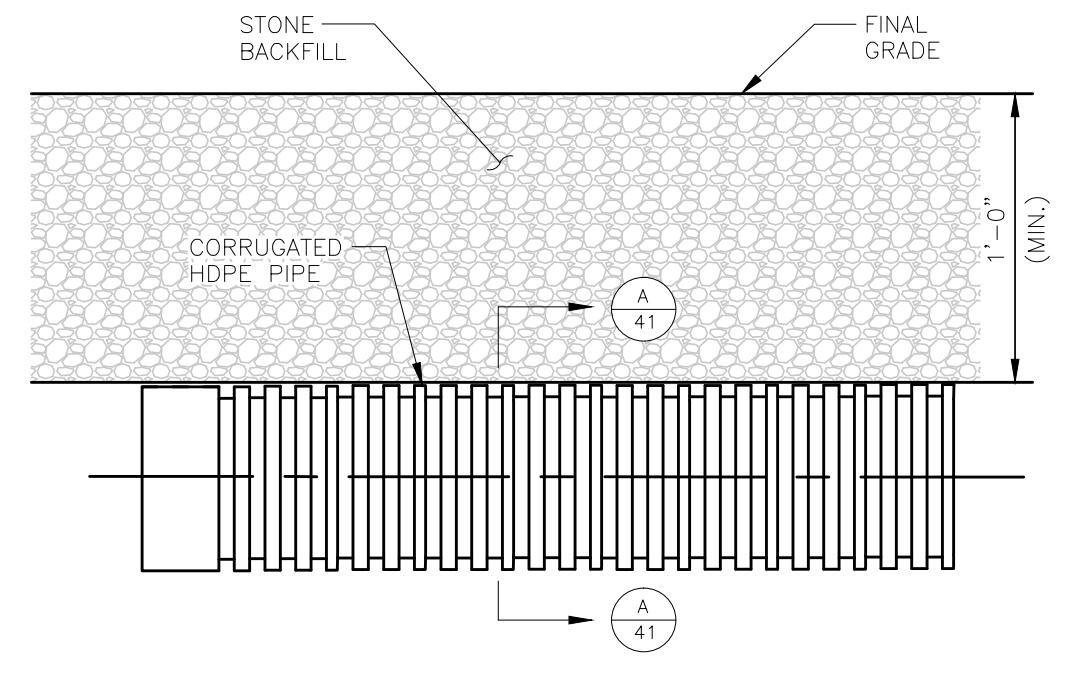


**PROFILE VIEW**

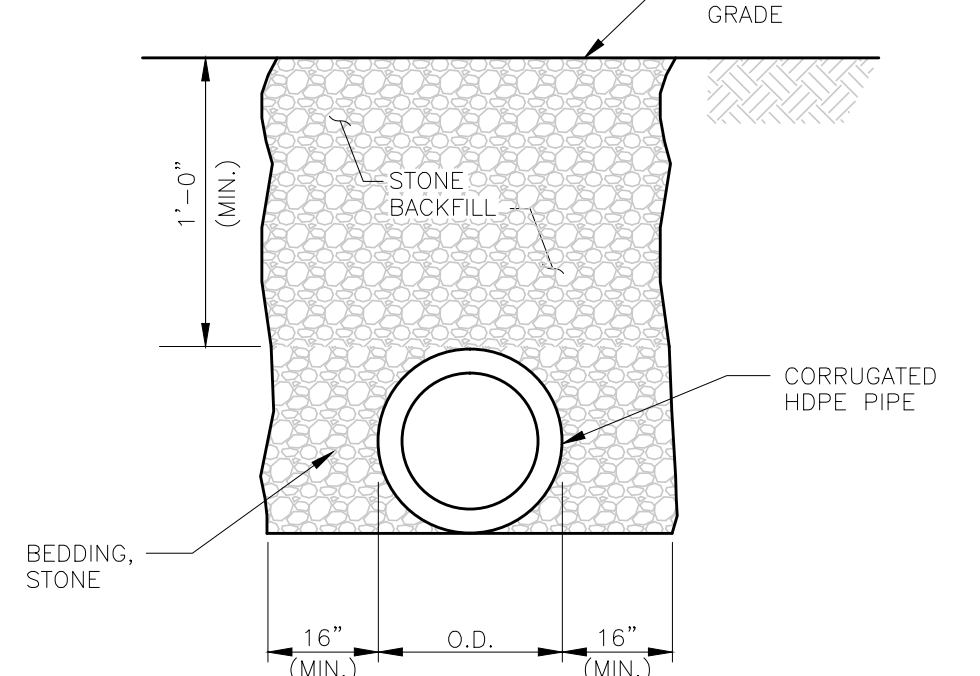


**CROSS SECTION VIEW**

**ROCK CHECK DAM**  
NOT TO SCALE



**PROFILE**



**SECTION**

**TEMPORARY CULVERT**  
NOT TO SCALE

**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P-304.926.8100 F-304.926.8180

**gai consultants**  
INCORPORATED

**AMIGO PORTALS**  
RALEIGH COUNTY, WV

PLOT SCALE: TAC TAC JTG CFS  
DESIGNED BY: TAC TAC JTG CFS  
DRAWN BY: TAC TAC JTG CFS  
CHECKED BY: TAC TAC JTG CFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

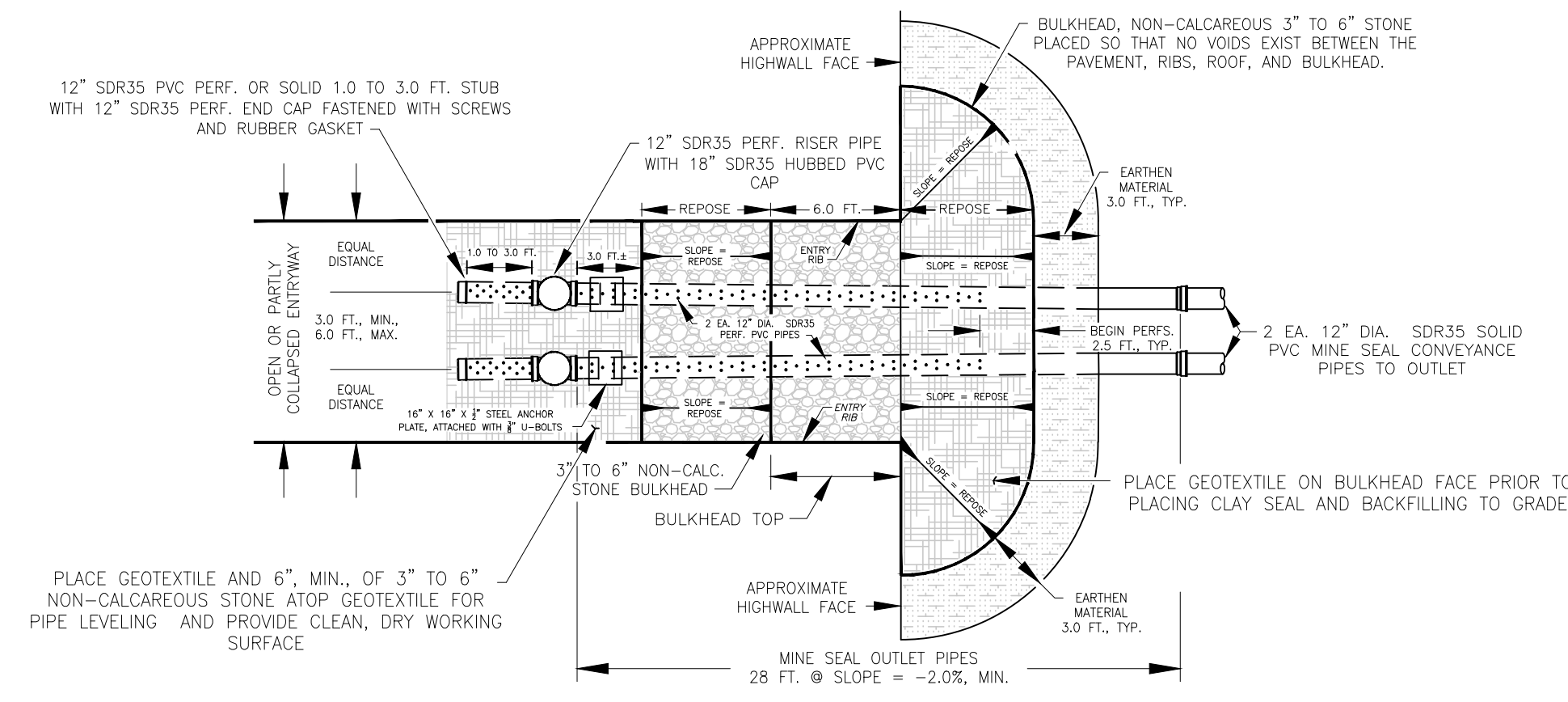
**MISCELLANEOUS DETAILS**

REVISED  
DATE DESCRIPTION  
REV. NO. DATE DESCRIPTION

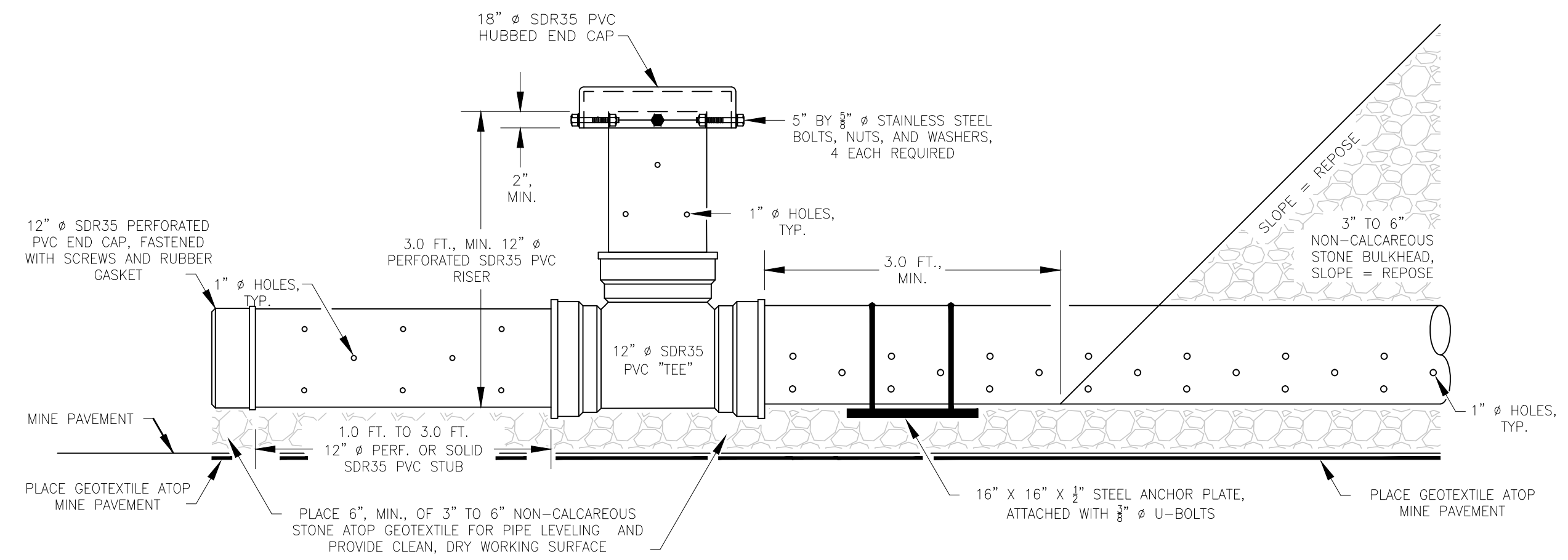
SCALE  
AS SHOWN  
DRAWING NUMBER  
41





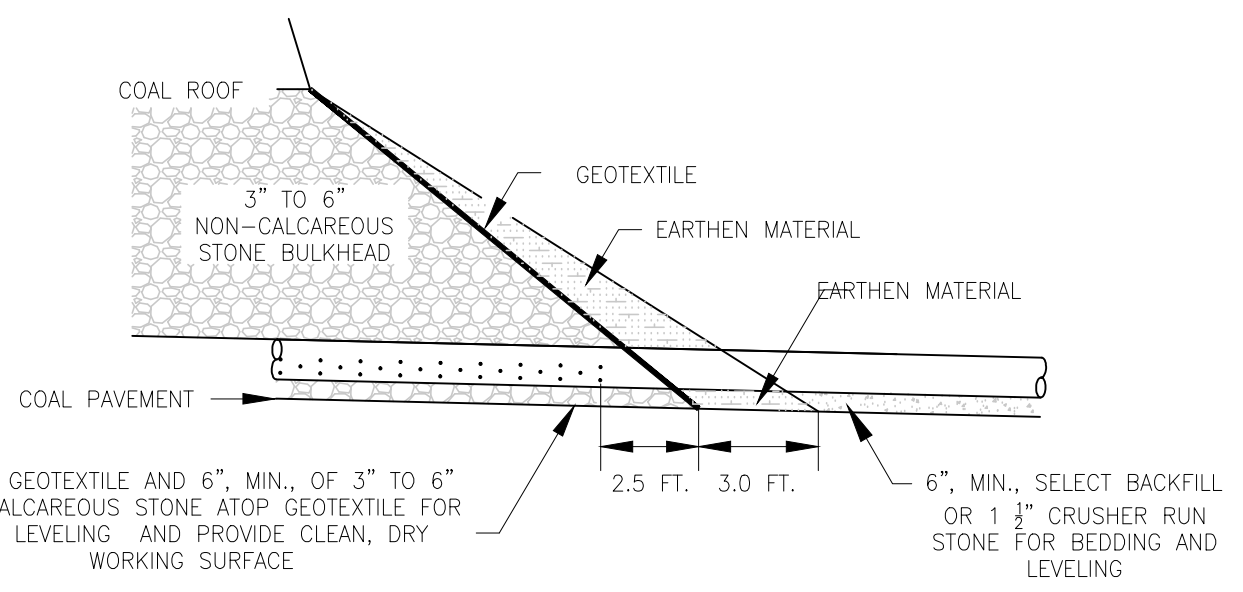


PLAN VIEW TOP OF BULKHEAD ELEVATION

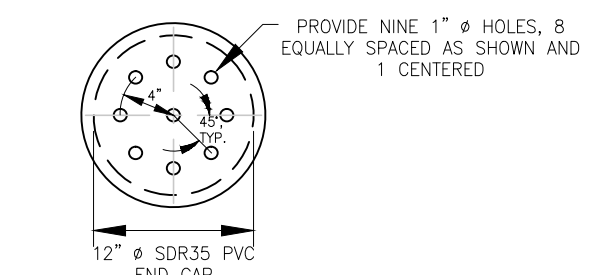


"TEE" RISER DETAIL

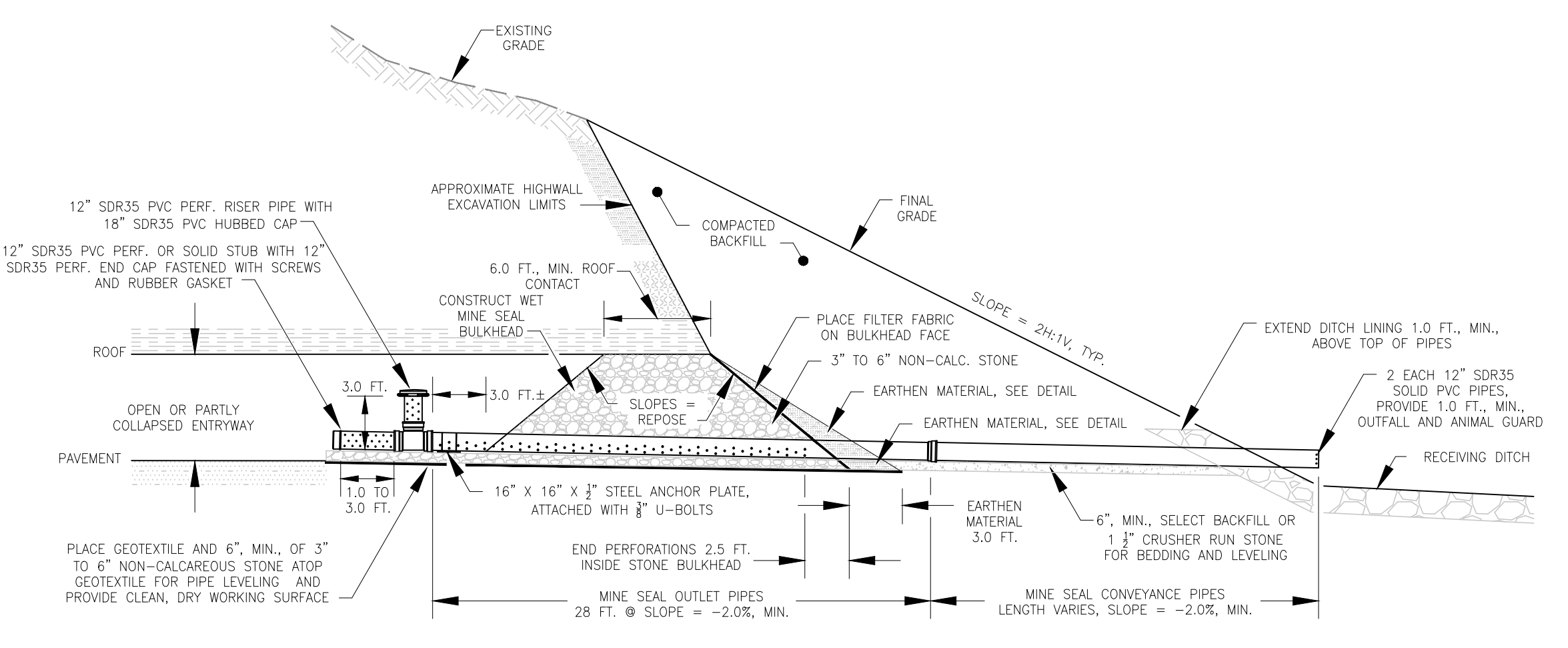
- NOTES:
1. THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS" REGARDLESS OF WHERE THESE PIPES END IN THE INSTALLATION.
  2. THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES". MINE SEAL CONVEYANCE PIPES BEGIN AT THE END OF THE MINE SEAL OUTLET PIPES AND EXTEND TO THE PLANNED OUTFALL.
  3. THE PERFORATED END CAP LOCATED INSIDE THE MINE AT THE END OF THE ONE TO THREE FOOT (1.0' TO 3.0') STUB SHALL HAVE A RUBBER GASKET, PLACED ON THE UPSTREAM END OF THE STUB AND SCREWED IN PLACE.
  4. THE STONE BULKHEAD SHALL BE IN CONTACT WITH COAL ROOF FOR A DISTANCE EQUAL TO THE OPENING HEIGHT OR A MINIMUM OF 6.0 FEET. THE INSIDE AND OUTSIDE STONE BULKHEAD FACES SHALL BE CONSTRUCTED AT THE ANGLE OF REPOSE OF THE 3" TO 6" NON-CALCAREOUS STONE PLACED.
  5. 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE WVDOT SPECIFICATIONS FOR ROADS AND BRIDGES.



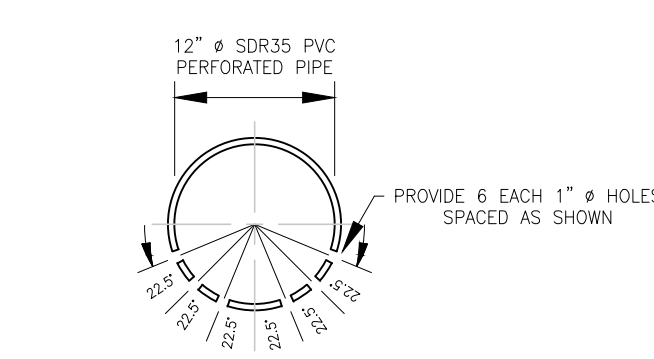
EARTHEN MATERIAL DETAILS



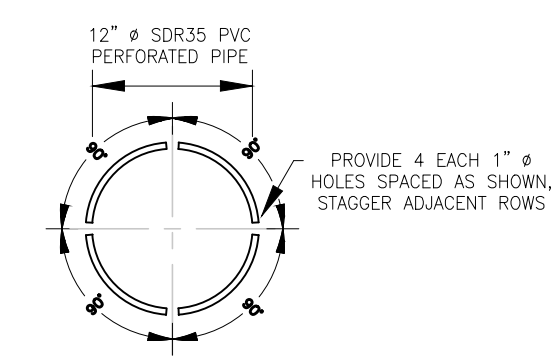
PERFORATED END CAP



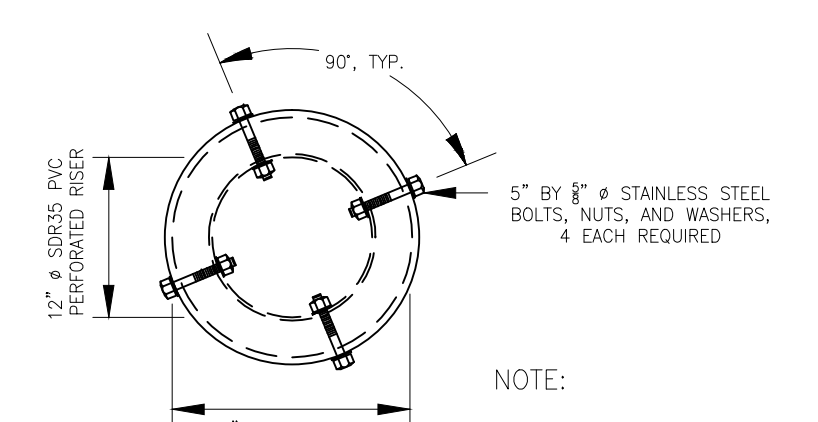
PROFILE VIEW, TYP.



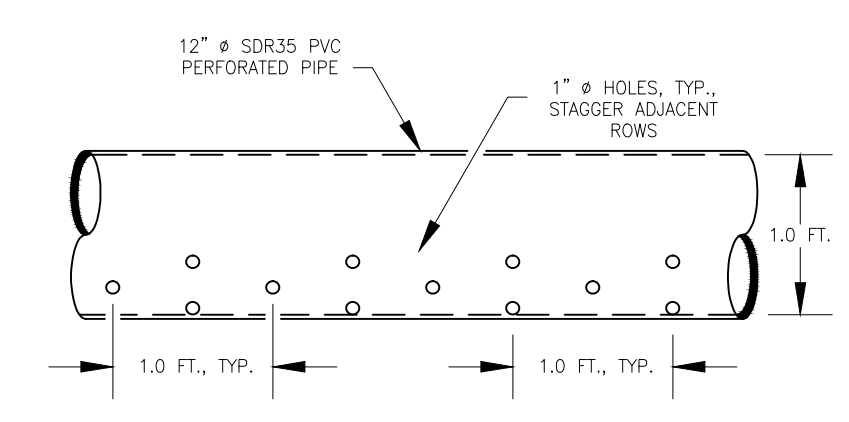
WET MINE SEAL OUTLET PIPES CROSS SECTION



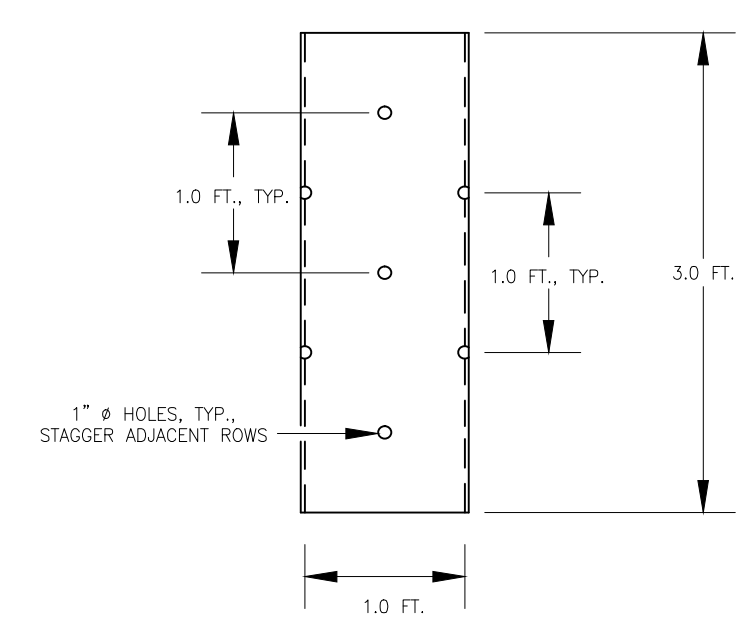
WET MINE SEAL RISER PIPES AND STUBS CROSS SECTION



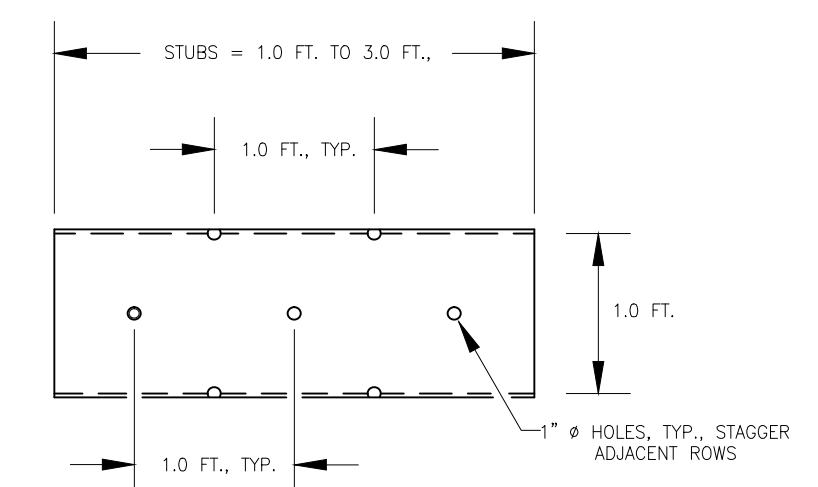
RISER CAP DETAIL



WET MINE SEAL OUTLET PIPES LONGITUDINAL VIEW



WET MINE SEAL RISER PIPES ELEVATION VIEW



WET MINE SEAL STUBS LONGITUDINAL VIEW.

WET MINE SEAL PIPES  
NOT TO SCALE

WET SEAL 1/42  
NOT TO SCALE

GAI CONSULTANTS, INC.  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P-304. 926. 8100 F-304. 926. 8180



AMIGO PORTALS  
RALEIGH COUNTY, WV

PLOT SCALE: TAC TAC JTG CFS  
DESIGNED BY: TAC  
DRAWN BY: JTG  
CHECKED BY: CFS  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

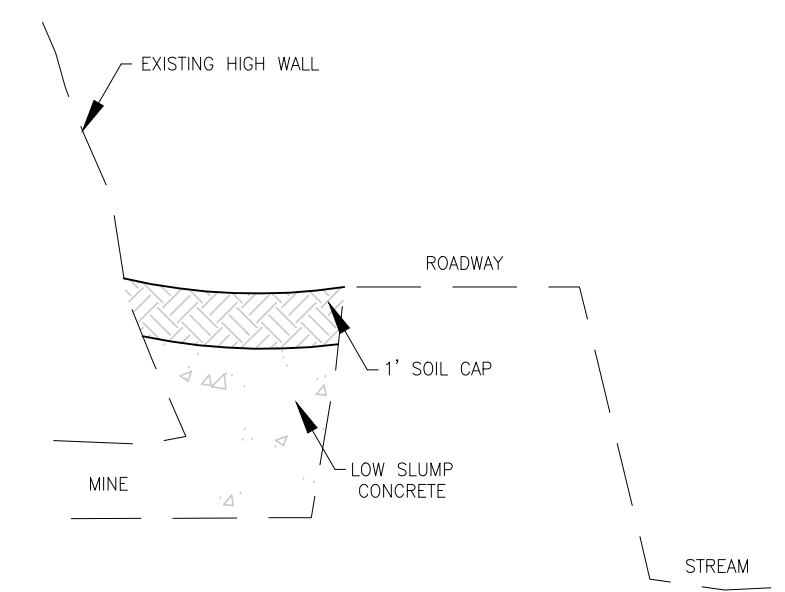
MINE SEAL  
DETAILS

REVISED	REV. NO.	DATE	DESCRIPTION

SCALE  
AS SHOWN  
DRAWING NUMBER  
42

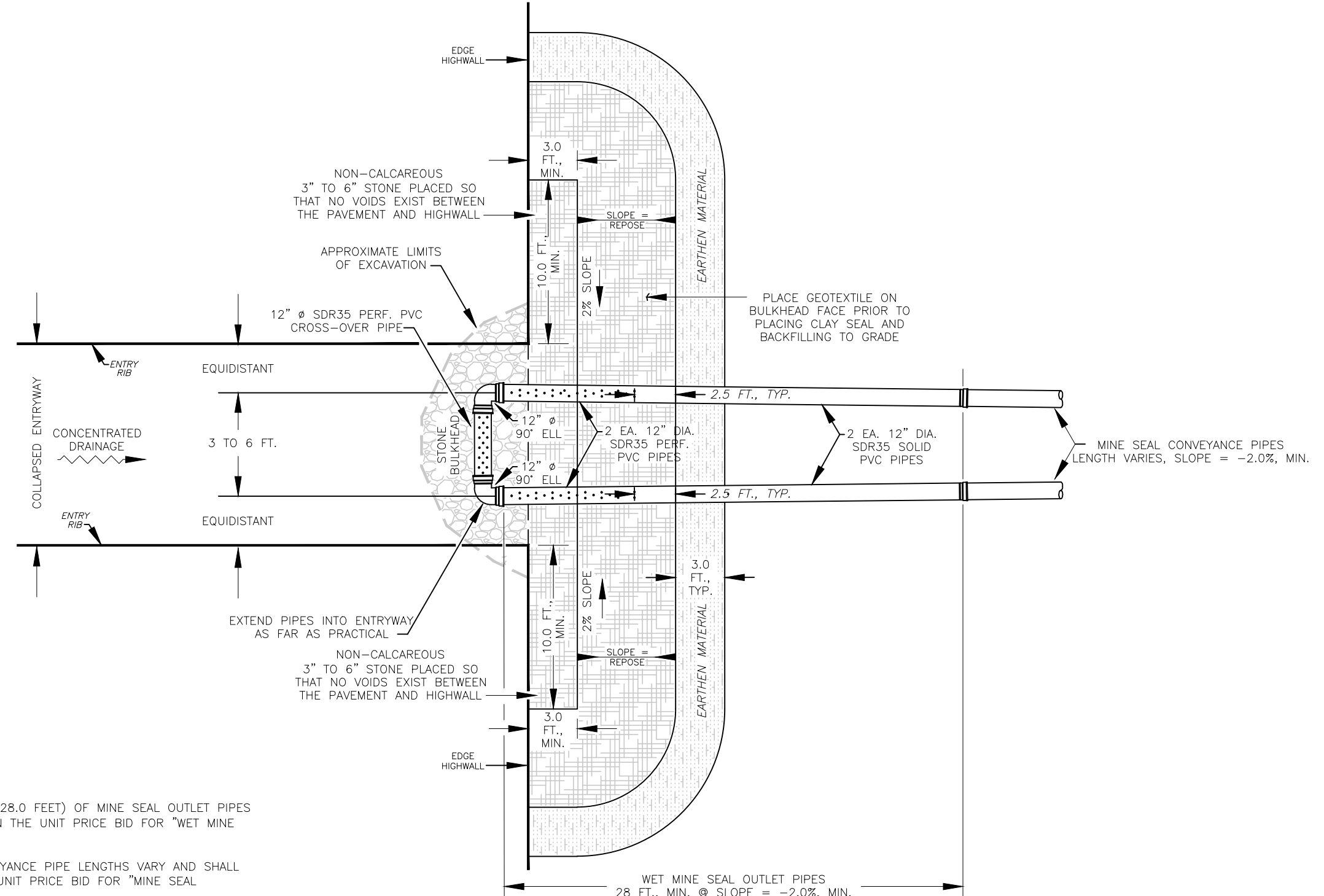






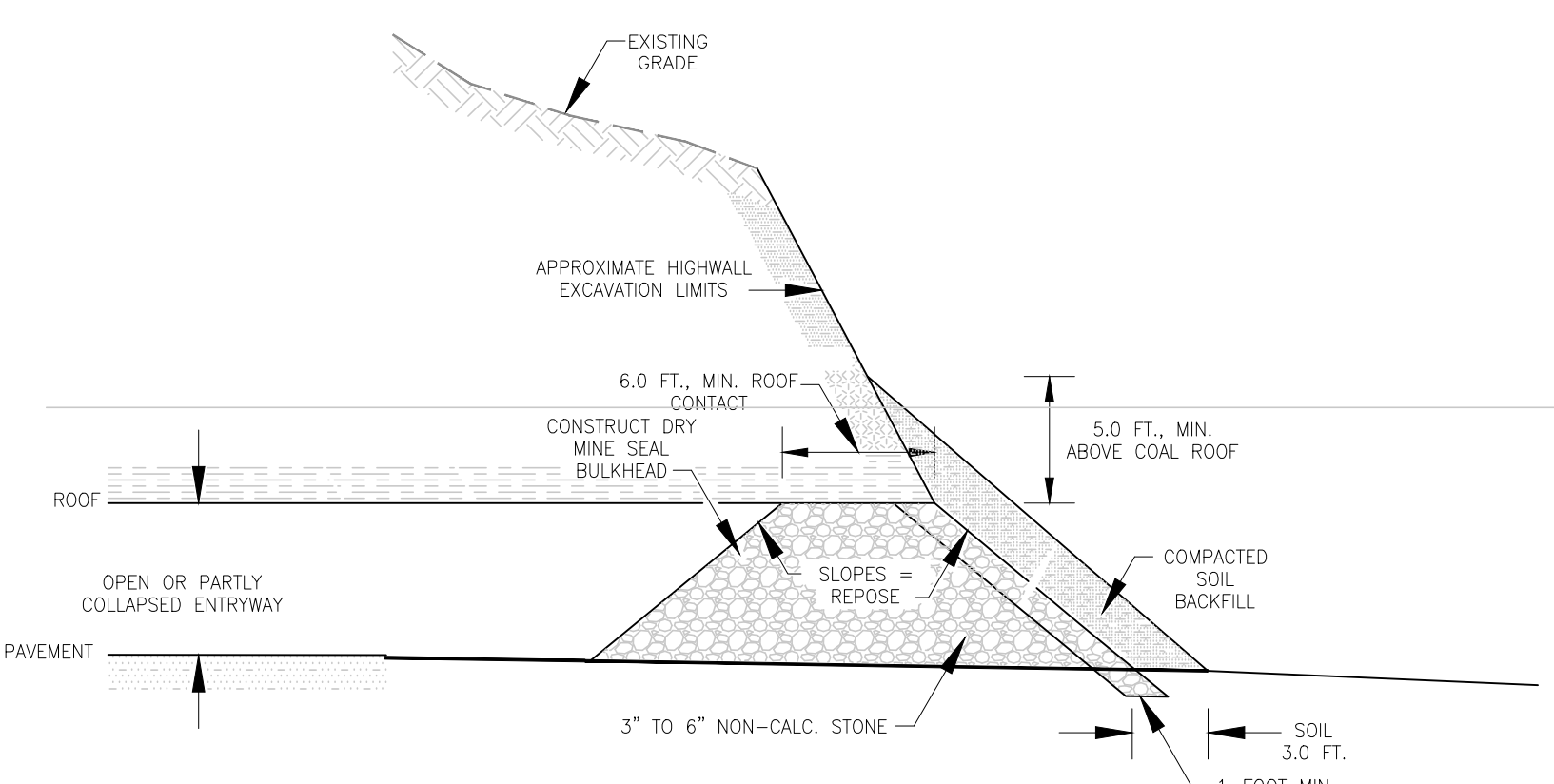
LOW SLUMP CONCRETE DRY SEAL  
 NOT TO SCALE

3  
 43



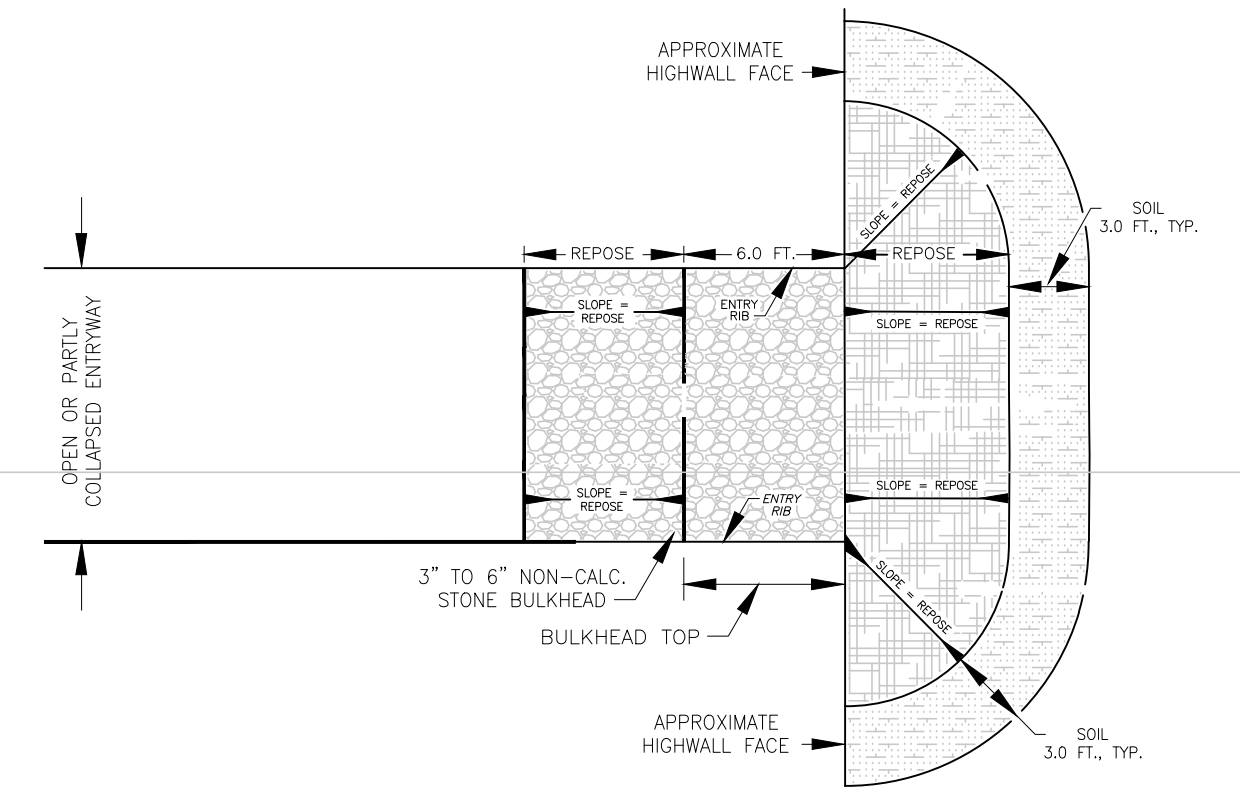
PLAN VIEW TOP OF BULKHEAD ELEVATION

- NOTES:
1. THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS".
  2. THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES".
  3. 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 1 AGGREGATE IN TABLE 704.6.2A OF THE WDOH SPECIFICATIONS FOR ROADS AND BRIDGES.



PROFILE VIEW, TYP.

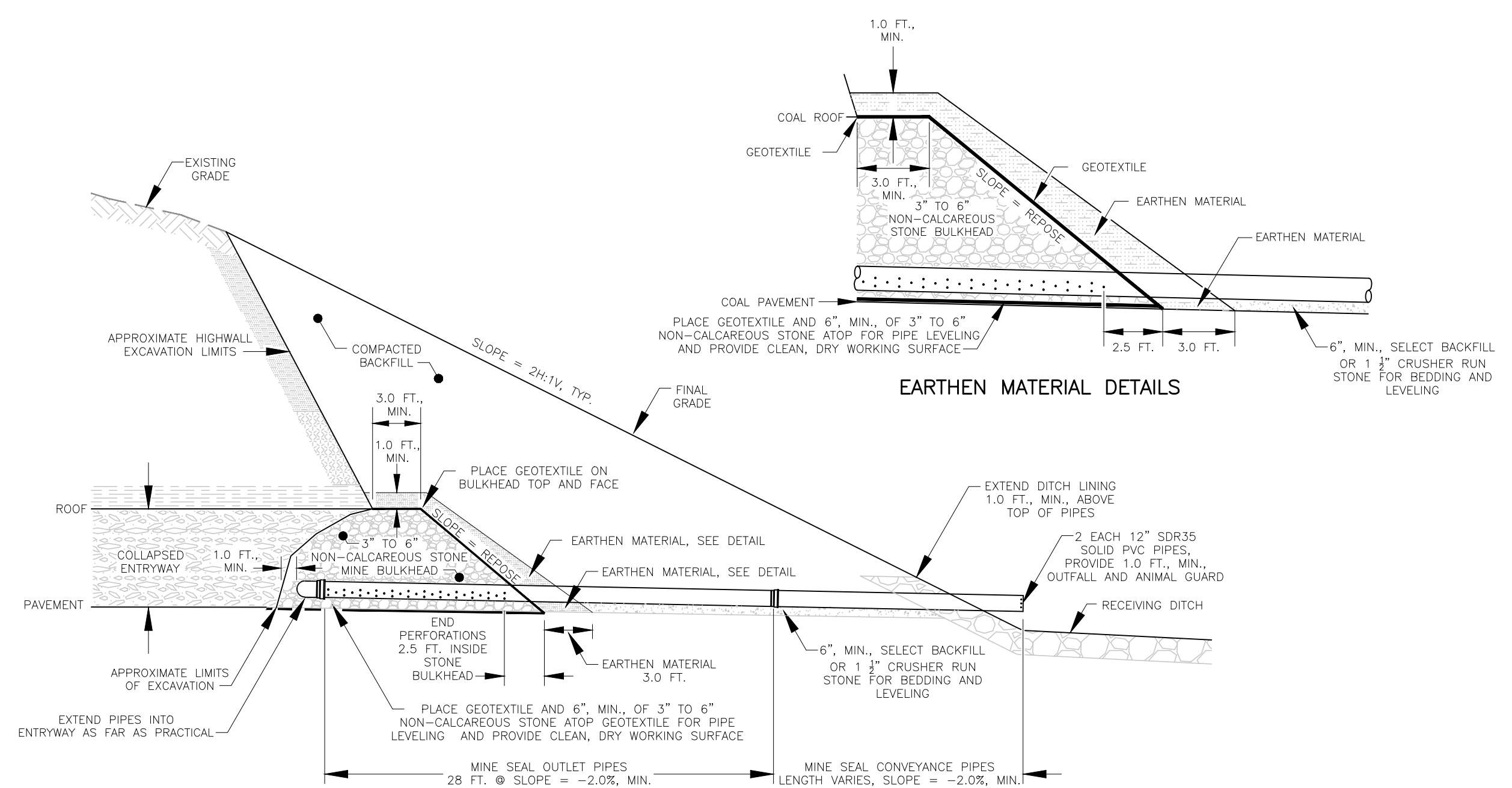
- NOTES:
1. THE STONE BULKHEAD SHALL BE IN CONTACT WITH COAL ROOF FOR A DISTANCE EQUAL TO THE OPENING HEIGHT OR A MINIMUM OF 6.0 FEET. THE INSIDE AND OUTSIDE STONE BULKHEAD FACES SHALL BE CONSTRUCTED AT THE ANGLE OF REPOSE OF THE 3" TO 6" NON-CALCAREOUS STONE PLACED.



PLAN VIEW TOP OF BULKHEAD ELEVATION

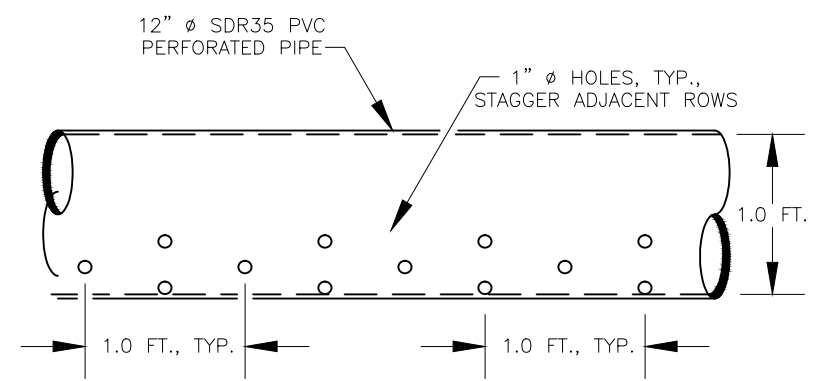
DRY SEAL  
 NOT TO SCALE

2  
 43

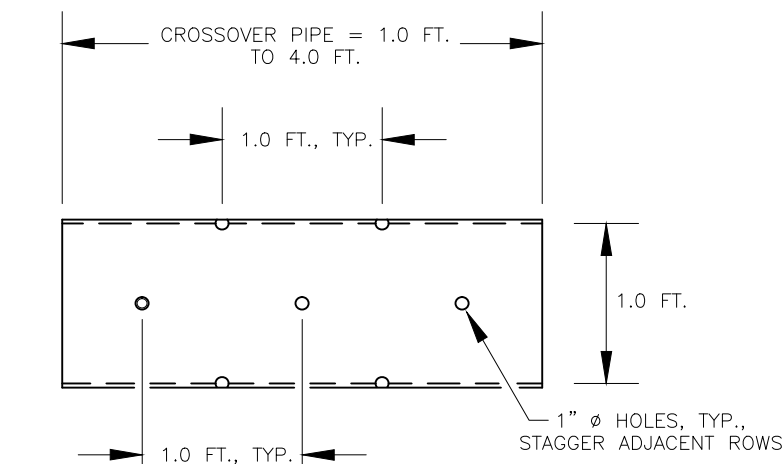


PROFILE VIEW

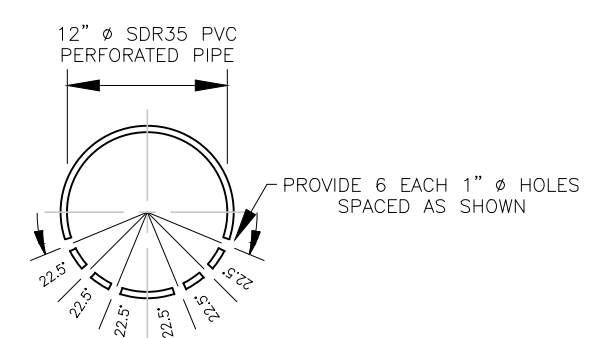
EARTHEN MATERIAL DETAILS



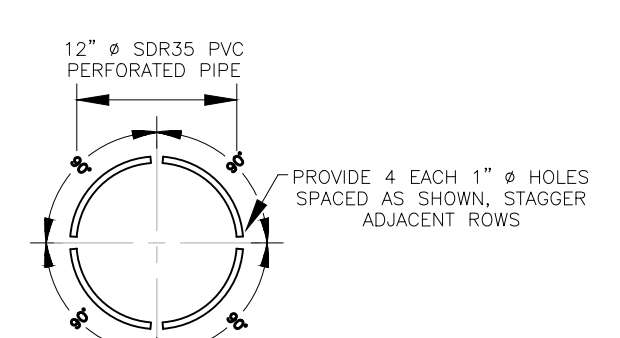
MODIFIED WET SEAL OUTLET PIPES LONGITUDINAL VIEW



MODIFIED WET SEAL CROSS-OVER PIPE LONGITUDINAL VIEW



MODIFIED WET SEAL OUTLET PIPES CROSS SECTION



MODIFIED WET SEAL CROSS-OVER PIPE CROSS SECTION

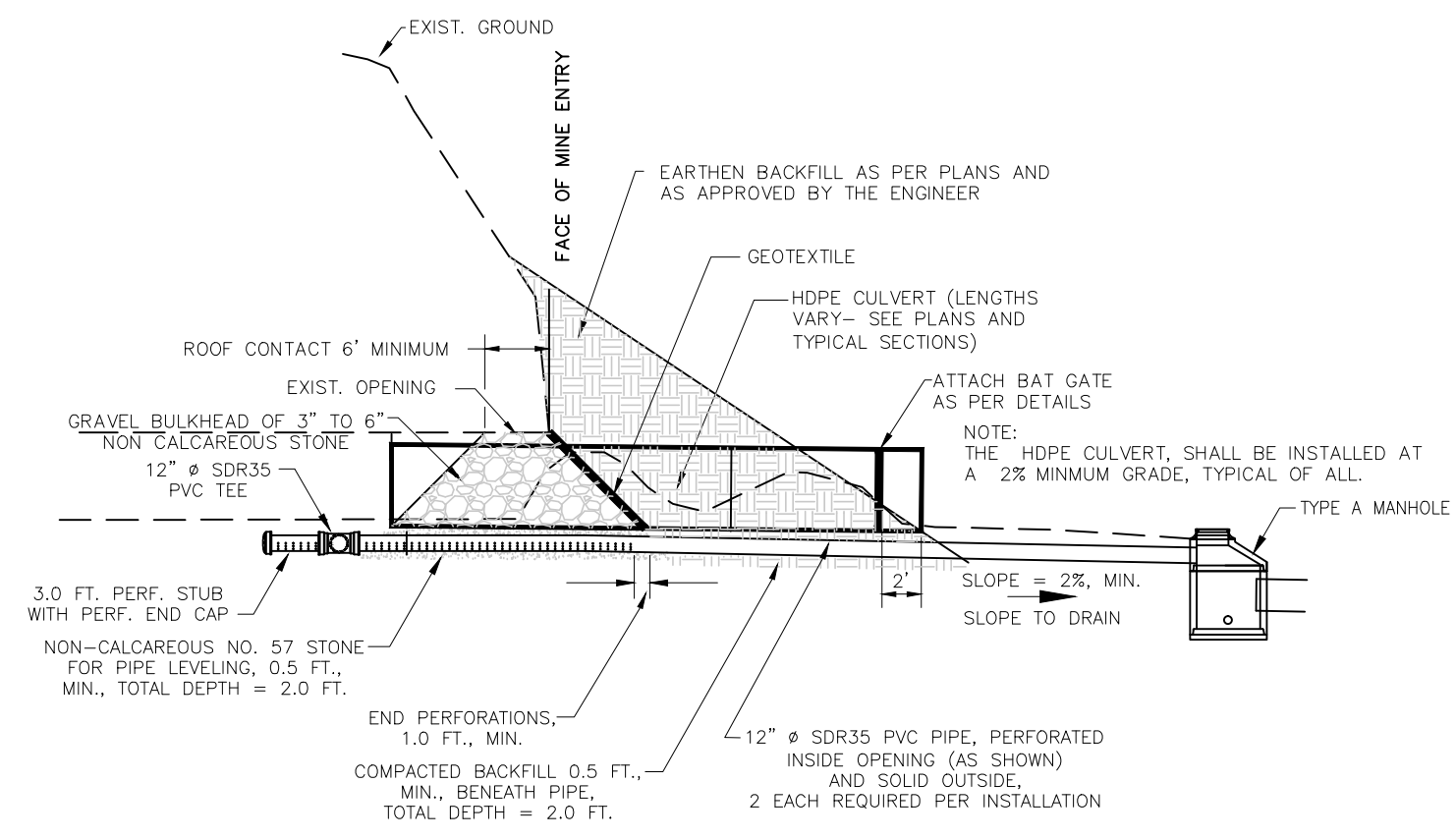
MODIFIED WET SEAL  
 NOT TO SCALE

1  
 43

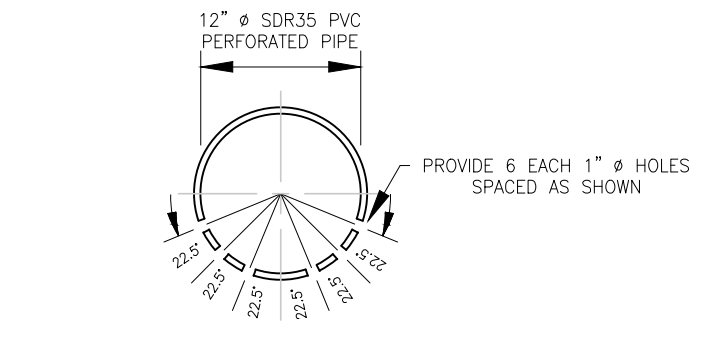
MODIFIED WET SEAL PIPES  
 NOT TO SCALE



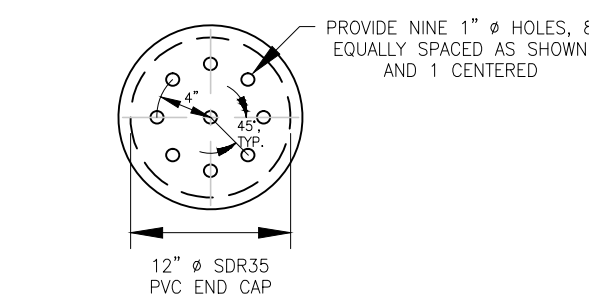




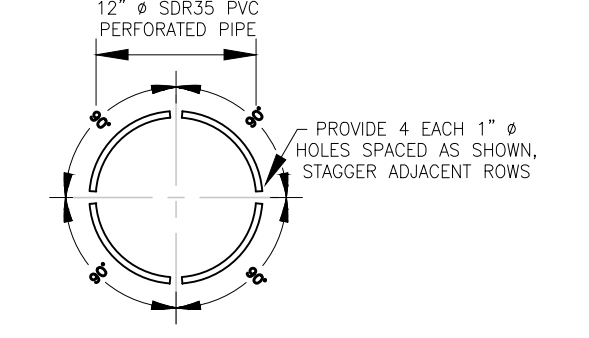
**BATE GATE WITH DRAIN**  
(ONLY TO BE USED ON PORTAL #4)  
NOT TO SCALE



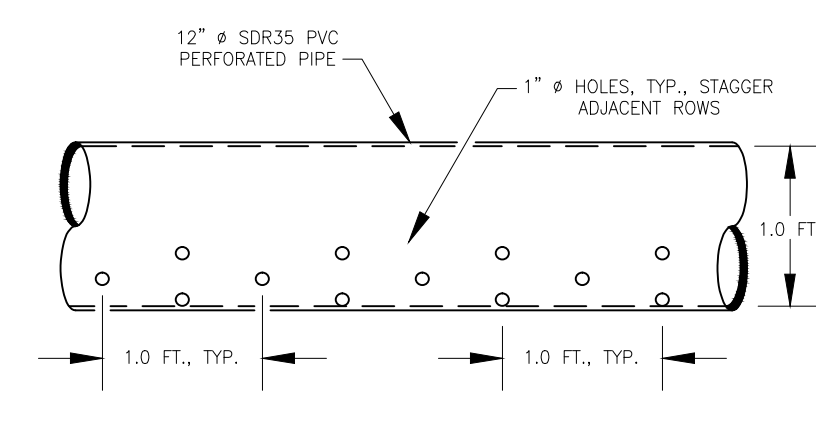
**BAT GATE SEAL OUTLET PIPES CROSS SECTION**



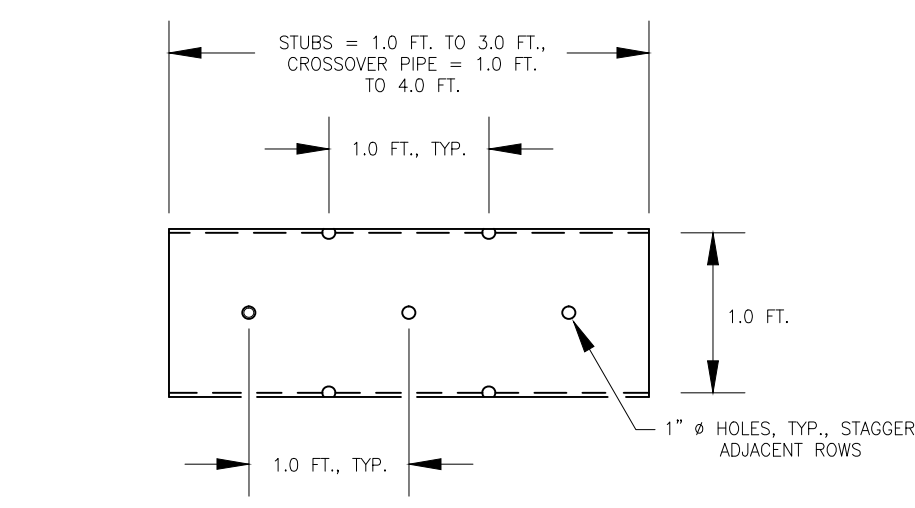
**PERFORATED END CAP**



**BAT GATE SEAL CROSS-OVER PIPE AND STUBS CROSS SECTION**



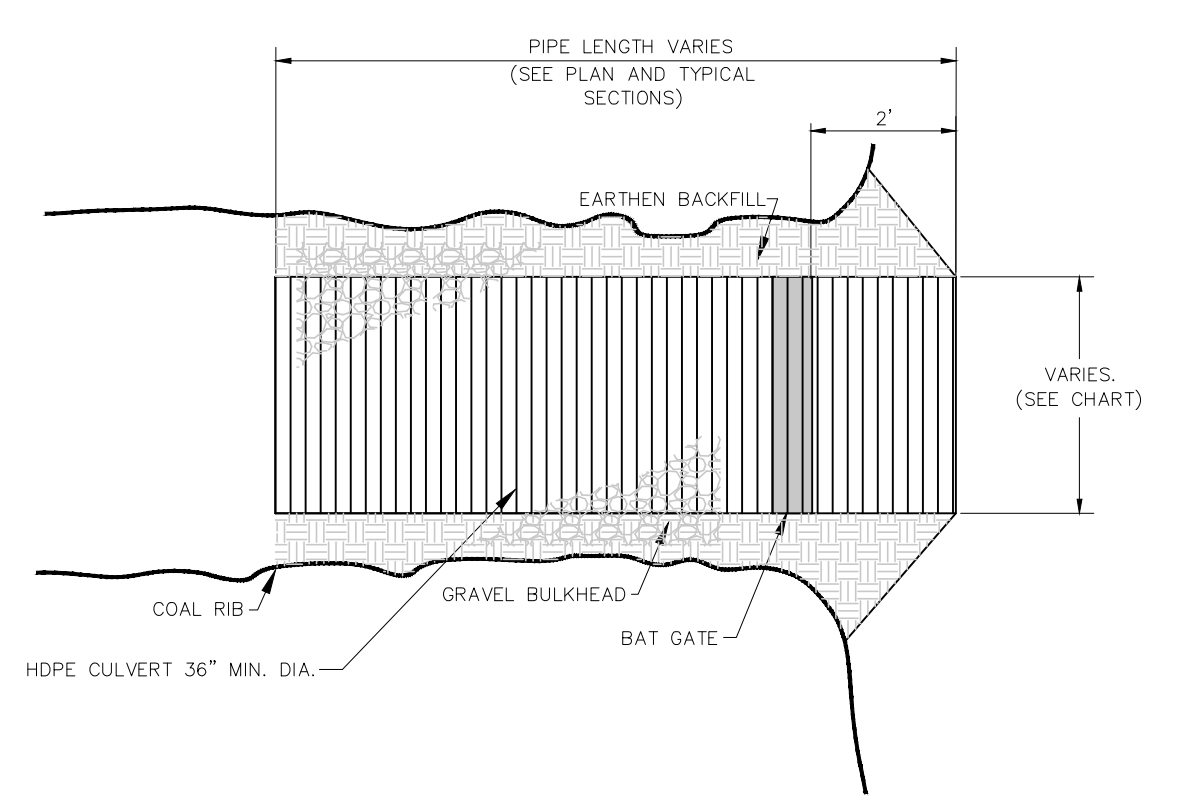
**BAT GATE WITH DRAIN SEAL OUTLET PIPES LONGITUDINAL VIEW**



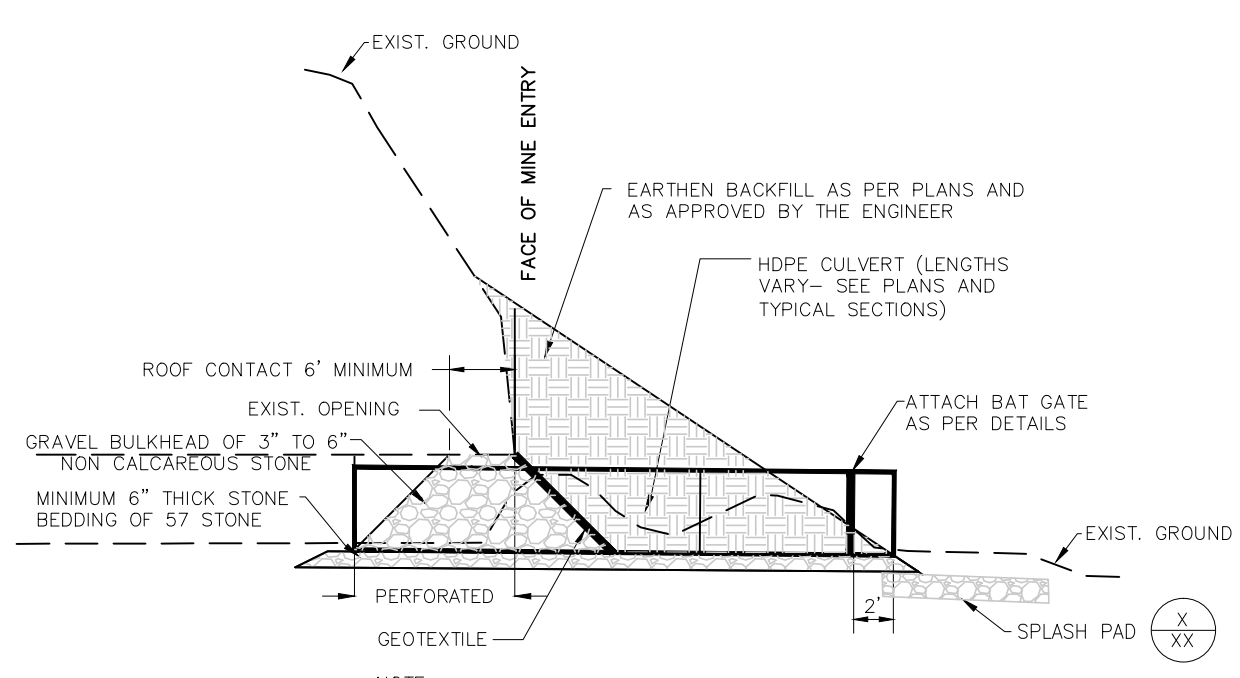
**BAT GATE SEAL CROSS-OVER PIPE AND STUBS LONGITUDINAL VIEW**

NOTE: ALL INFORMATION FROM BATE GATE DETAIL IS USED IN BATE GATE WITH DRAIN DETAIL UNLESS OTHERWISE NOTED.

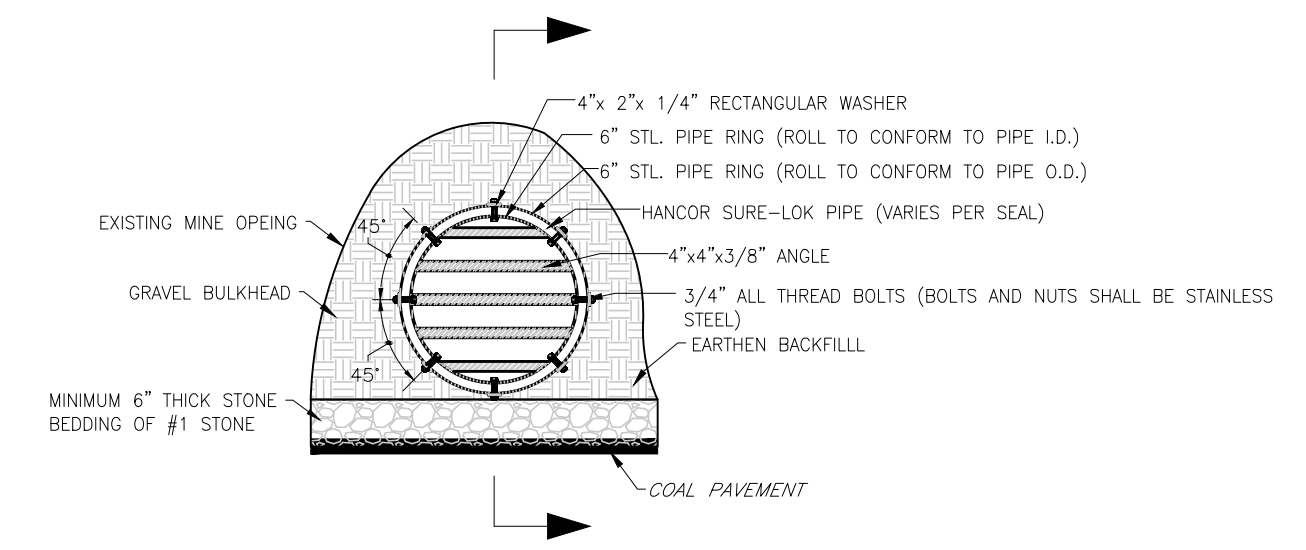
**BAT GATE WITH DRAIN PIPES**  
NOT TO SCALE



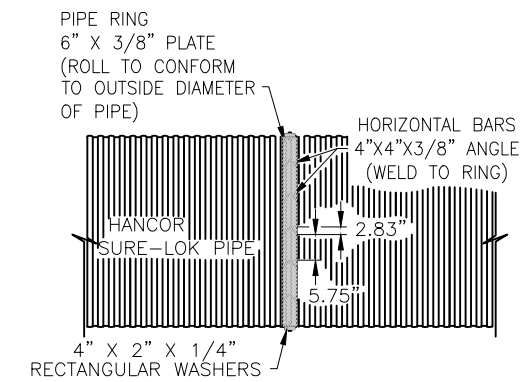
**PLAN**



**TYPICAL CONSTRUCTION DETAILS**  
(APPLICABLE TO ALL BAT GATES UNLESS NOTED)

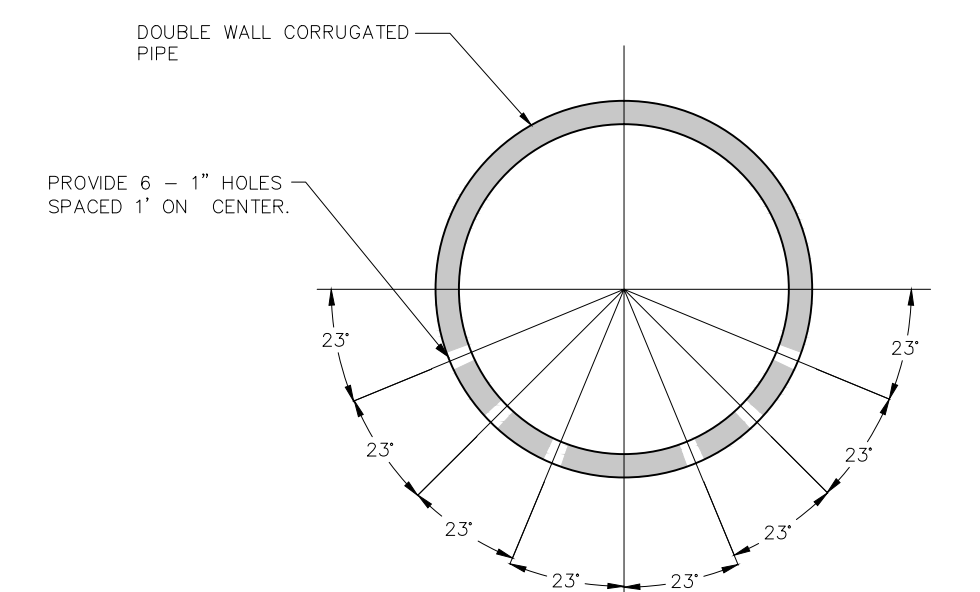


**END VIEW**



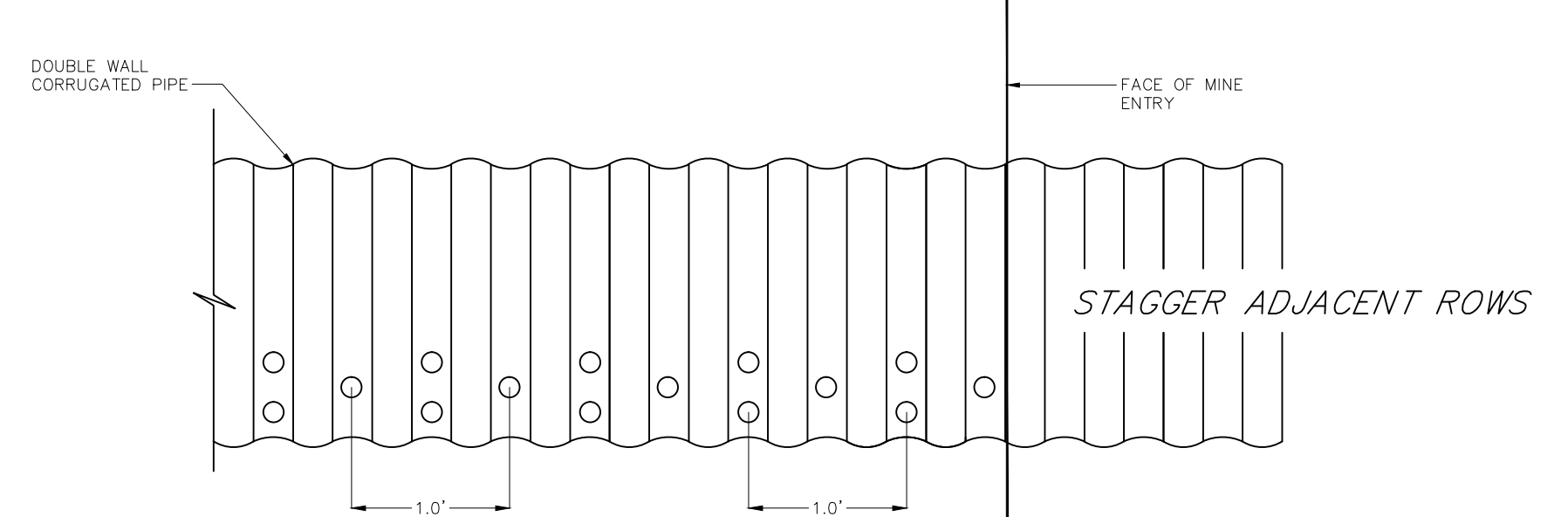
**PIPE RING SECTION**

PORTAL	PIPE (INCHES)
1	48
3	48
4	48
6	36
7	48
8	48
11	36
12	48
13	36
14	48
15	48
16	48

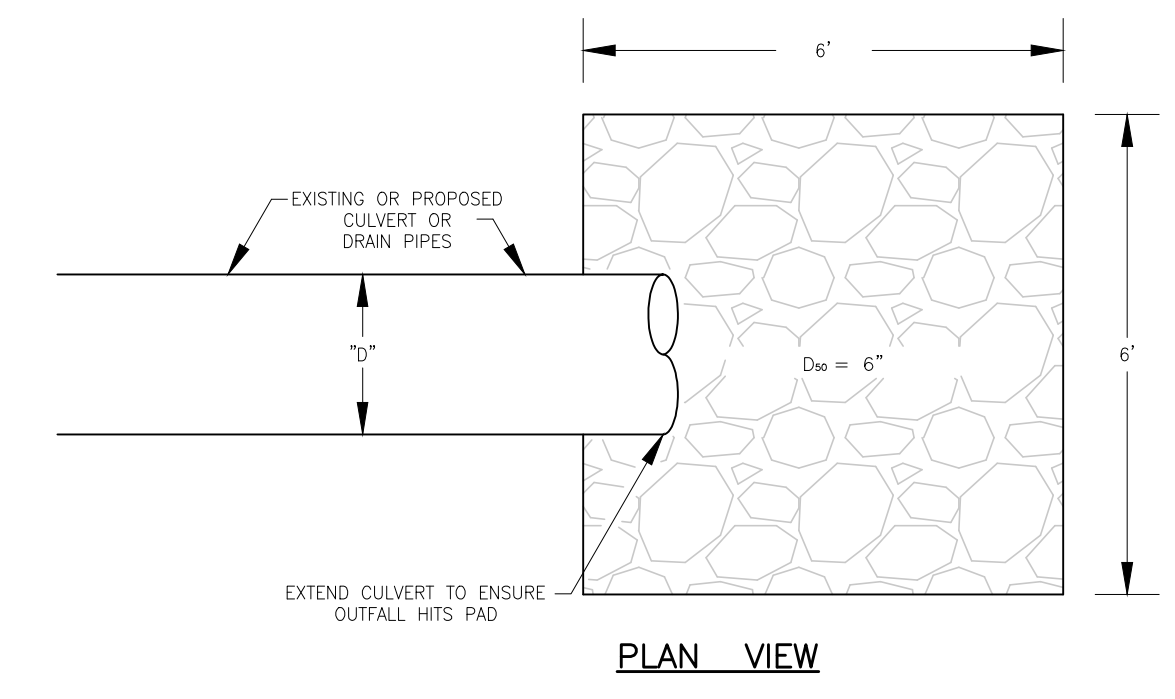
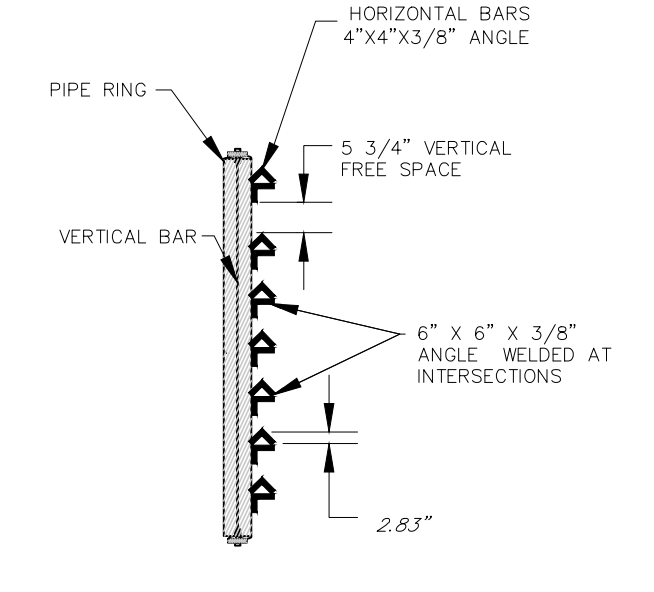


NOTE: PERFORATE ON PIPE WALLS NOT ON RIBS.

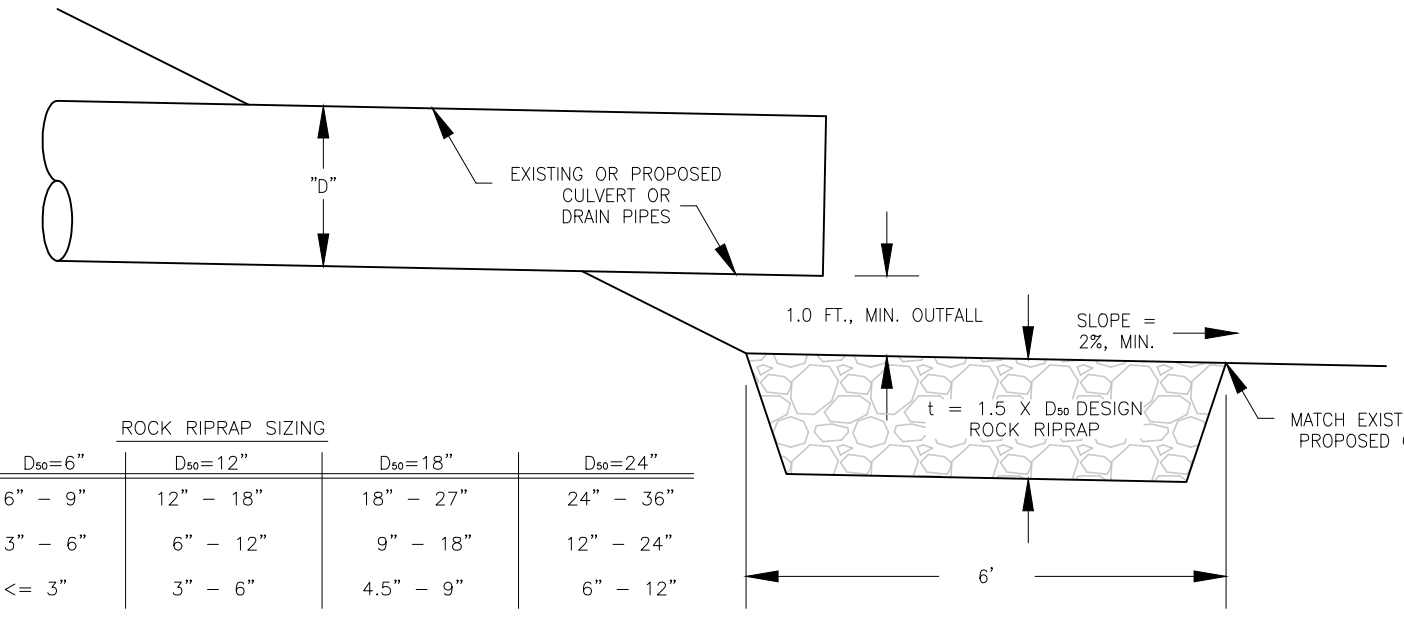
**PERFORATION DETAIL**



**VERTICAL BAR SIDE VIEW**



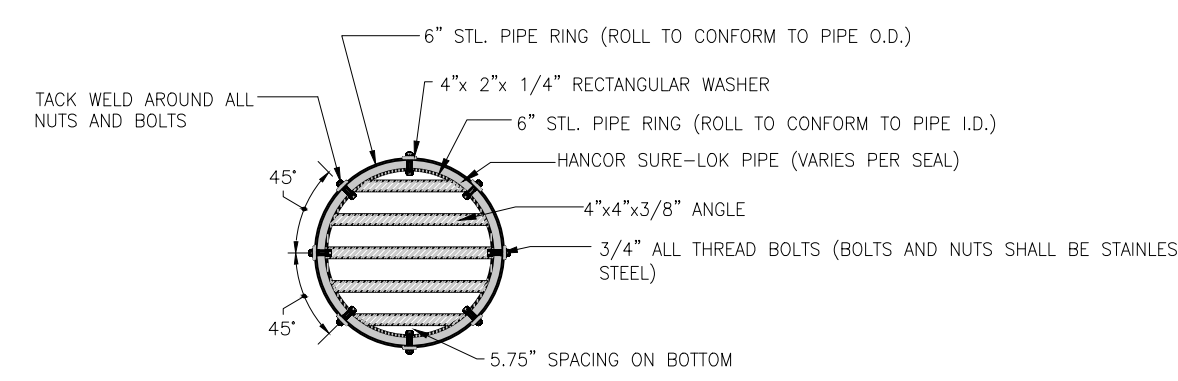
**PLAN VIEW**



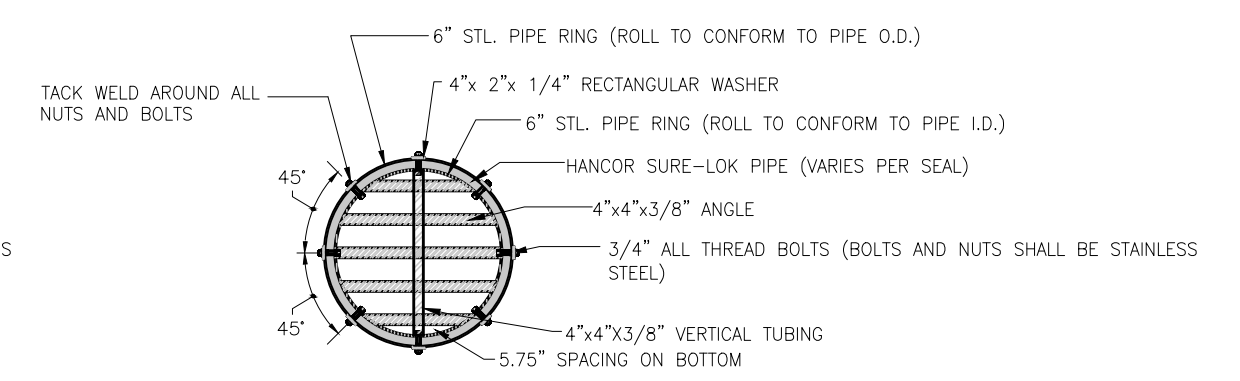
**PROFILE**

GRADATION	ROCK RIPRAP SIZING			
	D <sub>o</sub> =6"	D <sub>o</sub> =12"	D <sub>o</sub> =18"	D <sub>o</sub> =24"
50%	6" - 9"	12" - 18"	18" - 27"	24" - 36"
35%	3" - 6"	6" - 12"	9" - 18"	12" - 24"
15%	< 3"	3" - 6"	4.5" - 9"	6" - 12"

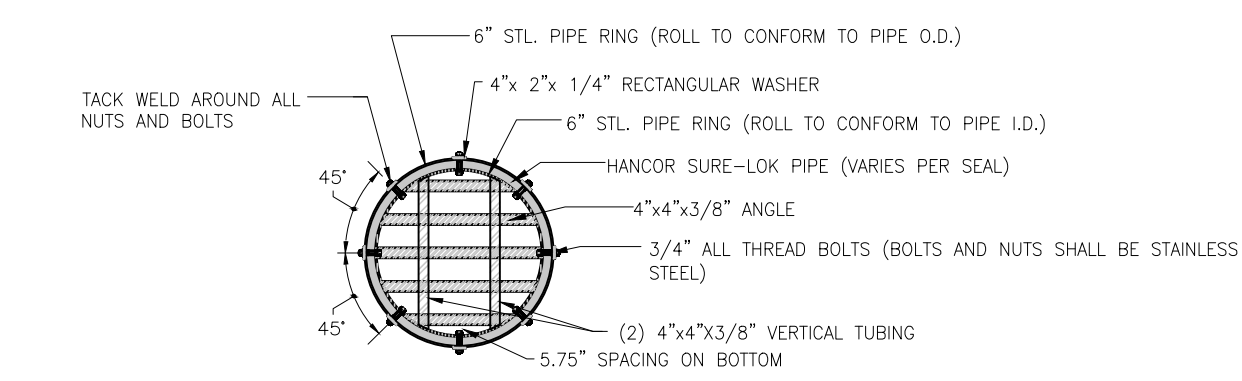
NOTES:  
D<sub>o</sub> = CULVERT DIAMETER  
T = THICKNESS



**GATE DETAIL**  
(CULVERT 36"-42" DIA)



**GATE DETAIL**  
(CULVERT 48"-60")



**GATE DETAIL**  
(CULVERT GREATER THAN 60" DIA)

**BAT GATE** 1/44

**SPLASH PAD** 2/44

NOTE: HORIZONTAL BAR SPACINGS ARE NOT TO BE ALTERED. AN ADDITIONAL HORIZONTAL "FLAT" BAR MAY BE REQUIRED TO MAINTAIN SPACINGS THROUGHOUT ENTIRE HEIGHT OF CULVERT. THESE MODIFICATIONS ARE TO BE APPROVED BY THE ENGINEER PRIOR TO BEING PERFORMED.



**GAI CONSULTANTS, INC.**  
300 SUMMERS STREET, SUITE 100  
CHARLESTON, WEST VIRGINIA 25301  
P-304.926.8100 F-304.926.8180



**AMIGO PORTALS**  
**RALEIGH COUNTY, WV**

PLOT SCALE: TAC TAC TAC TAC  
DESIGNED BY: JTG JTG JTG JTG  
DRAWN BY: JTG JTG JTG JTG  
CHECKED BY: JTG JTG JTG JTG  
DATE: January 14, 2014  
PROJECT NUMBER: E130389

**MINE SEAL DETAILS**

REVISED  
REV. NO. DATE DESCRIPTION

SCALE  
AS SHOWN  
DRAWING NUMBER  
**44**