



west virginia department of environmental protection



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

EARL RAY TOMBLIN, GOVERNOR

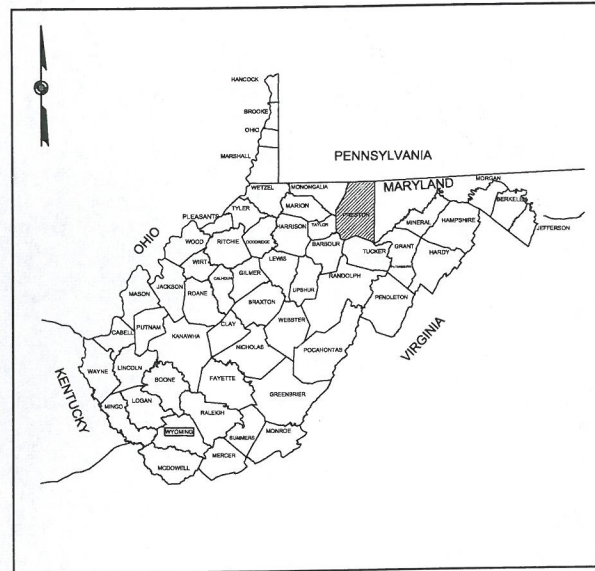
RANDY C. HUFFMAN, CABINET SECRETARY

OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

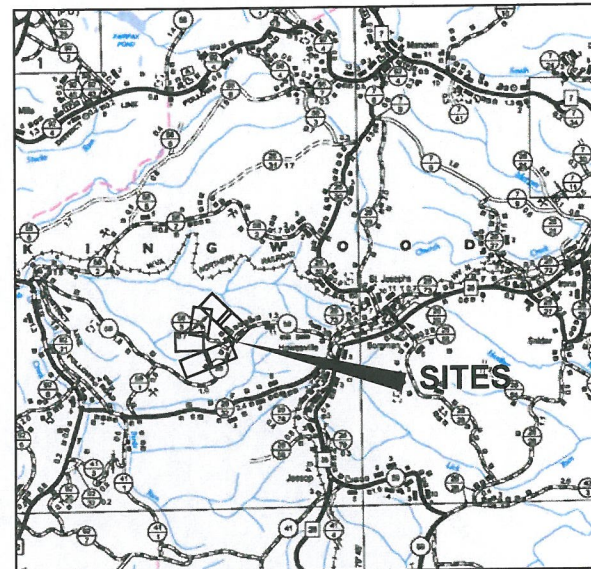
CONSTRUCTION DRAWINGS FOR

DONNIE THORN HIGHWALL

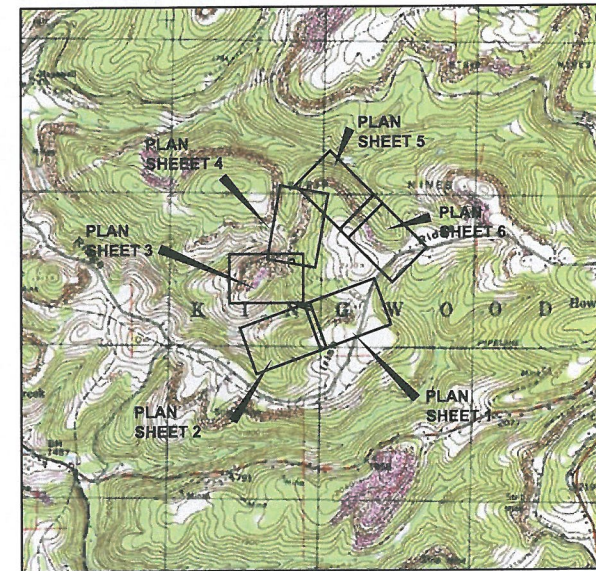
PRESTON COUNTY, WEST VIRGINIA



STATE VICINITY MAP



COUNTY VICINITY MAP
PRESTON COUNTY



USGS VICINITY MAP
NEWBURG QUADRANGLE

ITEM NUMBER	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	LS	LS	MOBILIZATION & DEMOBILIZATION (LUMP SUM) (CANNOT EXCEED 10% OF TOTAL AMOUNT BID)		
2.0	LS	LS	CONSTRUCTION LAYOUT (LUMP SUM) (CANNOT EXCEED 5% OF TOTAL AMOUNT BID)		
3.0	LS	LS	QUALITY CONTROL (LUMP SUM) (CANNOT EXCEED 3% OF TOTAL AMOUNT BID)		
4.1	LS	LS	SITE PREPARATION (LUMP SUM) (CANNOT EXCEED 10% OF TOTAL AMOUNT BID)		
4.2	1,000	TON	ROAD RESTORATION STONE (PER TON)		
4.3	400	LF	FENCE CONSTRUCTION (PER LINEAR FOOT)		
4.4	1	EA	FARM GATE (PER EACH)		
5.1	4,400	LF	SILT FENCE (PER LINEAR FOOT)		
5.2	4,200	LF	SUPER SILT FENCE (PER LINEAR FOOT)		
5.3	15,150	LF	STRAW WATTLE (PER LINEAR FOOT)		
5.4	30	EA	STONE CHECK DAM (PER EACH)		
5.5	2	EA	STABILIZED CONSTRUCTION ENTRANCE (PER EACH)		
5.6	5,200	SY	EROSION CONTROL MATTING (PER SQUARE YARD)		
6.0	48	ACRE	REVEGETATION (PER PLAN VIEW ACRE)		
7.1	1335	LF	TYPE I GRASS LINED DITCH (PER LINEAR FOOT)		
7.2	2721	LF	TYPE II RIPRAP DITCH (PER LINEAR FOOT)		
7.3	2372	LF	TYPE III GROUDED RIPRAP DITCH (PER LINEAR FOOT)		
7.4	8	EA	LEVEL SPREADER		
7.5	7	EA	LOW WATER CROSSING (PER EACH)		
8.1	145,000	CY	UNCLASSIFIED EXCAVATION (PER CUBIC YARD)		
8.2	1	ACRE	SOIL COVER (PER PLAN VIEW ACRE)		
9.1	19	EA	WET MINE SEAL (PER EACH)		
9.2	2	EA	MODIFIED WET MINE SEAL (PER EACH)		
9.3	1	EA	BAT GATE MINE SEAL (PER EACH)		
9.4	1,700	LF	MINE SEAL CONVEYANCE PIPE (PER LINEAR FOOT)		
9.5	100	BAG	ACID MINE DRAINAGE TREATMENT (PER 50 LB. BAG)		
10.1	1000	LF	UNDERDRAIN (PER LINEAR FOOT)		
10.2	180	LF	UNDERDRAIN CONVEYANCE PIPE (PER LINEAR FOOT)		

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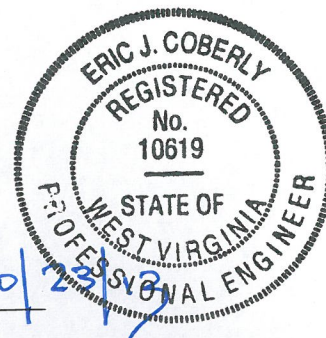
INDEX TO SHEETS

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PLANS PREPARED BY

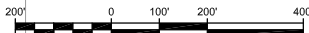
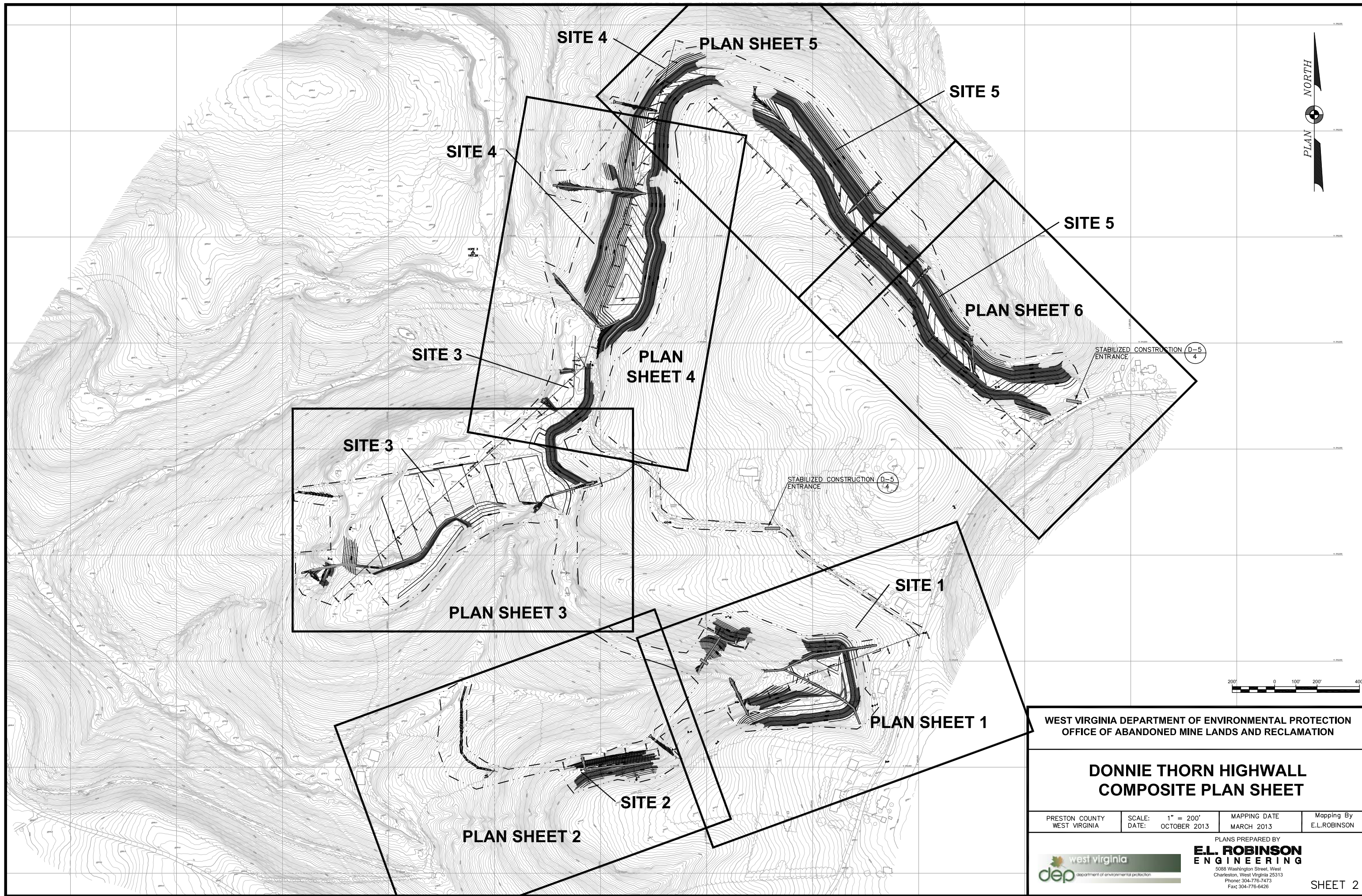
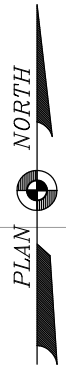
**E.L. ROBINSON
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5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
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www.elrobinsonengineering.com



ERIC COBERLY R.E. NO. 10619 DATE

Eric J. Coberly 10/12/17



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

DONNIE THORN HIGHWALL COMPOSITE PLAN SHEET

PRESTON COUNTY WEST VIRGINIA	SCALE: DATE: OCTOBER 2013	1" = 200'	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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PLANS PREPARED BY



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SHEET 2

MATCHLINE PLAN SHEET 2

B-4 ELEV. 2017.44 Water Table Elevation 1983.04, 3.6' of water in boring.		
2.5'	Core	Brown Sandy Clay with Rock Frag.
5'	Core	Brown Sandstone
28'	Core	Brown & Gray Sandstone
34'-3"	Core	Couple Small tool Drops Between 28' to 33' Brown & Gray Sandstone
38'	Core	Top of Mine 34'-3" to 37'-9" with Brown Sandstone & Some Coal
40'-4"	Core	Gray Claystone with Some Coal
BOTTOM OF VOID 1979.44		

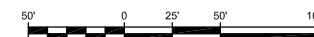
B-5 ELEV. 2049.82 Water Table Elevation 2012.82, 3' of water in boring		
10'	Core	Brown Sandstone
18'	Core	Brown & Gray Sandstone
23'	Core	Loosely Cemented Brown & Gray Sandstone
23' - 28'	Core	Multiple Small Tool Drops
40'	Core	Top of Mine 31'-8" to 40' with Some Mine-Gob
BOTTOM OF VOID 2009.82		

SURVEY DATA			
DESCRIPTION	NORTHING	EASTING	ELEV.
CONTROL POINT 25	343132.84	1890521.99	2065.02
CONTROL POINT 34	342620.36	1889553.43	2008.09
CONTROL POINT 45	342806.68	1889647.11	1963.54
CONTROL POINT 46	342666.04	1889413.21	1959.49
CONTROL POINT 60	342525.71	1890345.49	2070.54
BASELINE 1 STA. 100+00	342789.21	1889600.26	
BASELINE 1 STA. 110+00	343138.54	1890537.26	
BASELINE 2 STA. 200+00	343172.36	1889461.00	
BASELINE 2 STA. 202+50	343056.14	1889682.35	

- NOTES
- CONTOUR INTERVAL IS TWO FEET.
 - UTILITY LOCATIONS ARE BASED UPON INFORMATION PROVIDED BY RESPECTIVE OWNERS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
 - THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
 - ALL CONTROL POINTS ARE 5/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
 - MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 - THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
 - CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- CP200
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL



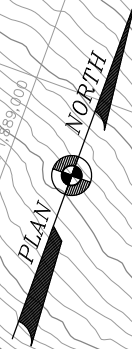
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 1
EXISTING CONDITIONS**

PRESTON COUNTY WEST VIRGINIA	SCALE: DATE: 1" = 50' OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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- NOTES
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REGIONAL DIP 5.0%
UPPER FREEPORT
COAL SEAM

AMD FLOW

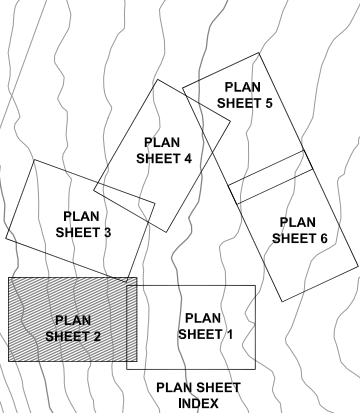
B-6 ELEV. 1970.82		Water Table
0'-13'	Core	Brown Sandstone Semi Hard Augering
13'-18'	Core	Void
		BOTTOM OF VOID ELEVATION 1952.82

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL

SURVEY DATA

DESCRIPTION	NORTHING	EASTING	ELEV.
CONTROL POINT 47	342583.27	1889339.83	1956.90
CONTROL POINT 49	342486.93	1888908.09	1933.75
CONTROL POINT 2308	342500.55	1888992.76	1937.56
BASELINE 3 STA. 300+00	342490.45	1888829.57	
BASELINE 3 STA. 304+50	342587.99	1889268.87	



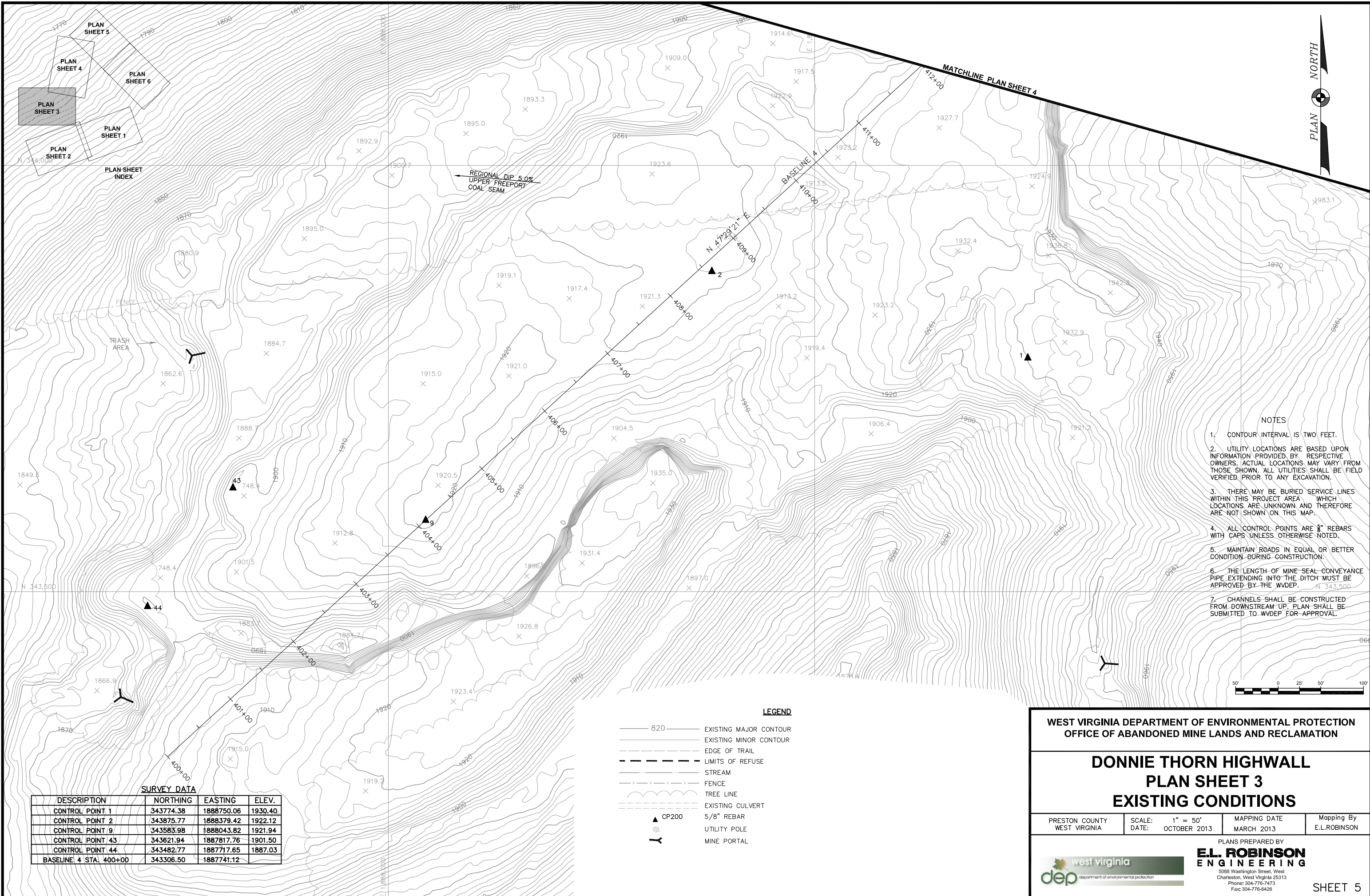
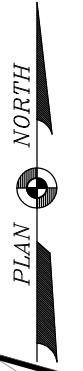
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 2
EXISTING CONDITIONS**

PRESTON COUNTY WEST VIRGINIA SCALE: 1" = 50' MAPPING DATE: OCTOBER 2013 MARCH 2013 Mapping By: E.L.ROBINSON

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E.L. ROBINSON ENGINEERING
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MATCHLINE PLAN SHEET 1



REGIONAL DIP 5.0%
UPPER FREEPORT
COAL SEAM

MATCHLINE PLAN SHEET 4

BASELINE A

NOTES

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5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.



LEGEND

- 820 ——— EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- - - - - EDGE OF TRAIL
- - - - - LIMITS OF REFUSE
- STREAM
- x - x - x - FENCE
- ~ ~ ~ ~ ~ TREE LINE
- - - - - EXISTING CULVERT
- ▲ CP200 5/8" REBAR
- ⊕ UTILITY POLE
- Y MINE PORTAL

SURVEY DATA

DESCRIPTION	NORTHING	EASTING	ELEV.
CONTROL POINT 1	343774.38	1888750.06	1930.40
CONTROL POINT 2	343875.77	1888379.42	1922.12
CONTROL POINT 9	343583.98	1888043.82	1921.94
CONTROL POINT 43	343621.94	1887817.76	1901.50
CONTROL POINT 44	343482.77	1887717.65	1887.03
BASELINE 4 STA. 400+00	343306.50	1887741.12	

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 3
EXISTING CONDITIONS**

PRESTON COUNTY WEST VIRGINIA SCALE: 1" = 50' MAPPING DATE: MARCH 2013 Mapping By: E.L.ROBINSON

PLANS PREPARED BY
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NOTES

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4. ALL CONTROL POINTS ARE 3/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
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B-2 ELEV. 1940.66		Water Table Elevation 1927.16, 4.5' of water in boring	
0'-2.5'	Auger	Brown Sandy Clay with Rock Frag. (Hard Augering at 3')	
2.5'-6'	Auger	Coal Refuse	
6'-10'	Auger	Brown Clay with rock fragmentw	
10'-18'	Auger	Gray Moist Clay very soft with rock fragments	
BOTTOM OF MINE ELEVATION 1922.66			

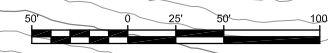
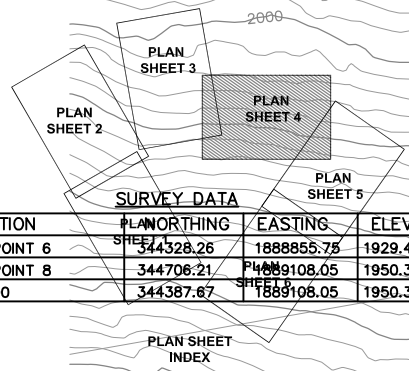
B-3 ELEV. 1963.16		Water Table Elevation 1924.16, 3' of water in boring	
0'-5'	Core	Brown Sandy Clay with Rock Frag. Hard Augering at 3'	
5'-13'	Core	Brown Sandstone	
13'-25'	Core	Brown & Gray Sandstone	
25'-28'	Core	Gray Clay Stone	
28'-33'-6"	Core	Busted Clay Stone Red & Brown with Gray Clay with Coal	
33.5'-39'3"	Core	COAL	
39'3"-41'6"	Core	Gray Clay Stone Underneath	
41'6"-43'	Core	COAL	
B-3 ELEV. 1920.16			

B-1 ELEV. 1981.58		Water Table 1934.08, no water in boring	
0'-3'	Core	Brown Sandy Clay with Rock with Boulders	
3'-25'	Core	Boulders and Sandstone	
25'-28'	Core	Small Void at 25'	
28'-35'-6"	Core	Void and Soft material	
35'6"-47'6"	Core	Broken and Soft With small voids	
47'6"-48'	Core	CLAYSTONE	
BOTTOM OF VOID ELEVATION 1934.08			

LEGEND

- 820 — EXISTING MAJOR CONTOUR
- — — EXISTING MINOR CONTOUR
- - - - - EDGE OF TRAIL
- - - - - LIMITS OF REFUSE
- — — — — STREAM
- x - x - x - x - FENCE
- — — — — TREE LINE
- - - - - EXISTING CULVERT
- ▲ CP200 5/8" REBAR
- ⊕ UTILITY POLE
- Y MINE PORTAL

SURVEY DATA			
DESCRIPTION	PLANNORTHING	EASTING	ELEV.
CONTROL POINT 6	344328.26	188885.75	1929.41
CONTROL POINT 8	344708.21	1889108.05	1950.33
STA 416+00	344387.67	1889108.05	1950.33









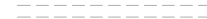





WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 4
EXISTING CONDITIONS**

PRESTON COUNTY WEST VIRGINIA SCALE: 1" = 50' MAPPING DATE: OCTOBER 2013 Mapping By: E.L.ROBINSON

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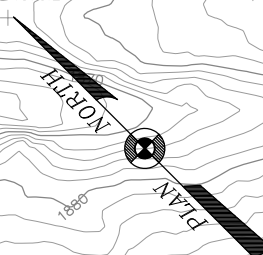
LEGEND

-  820 EXISTING MAJOR CONTOUR
-  EXISTING MINOR CONTOUR
-  EDGE OF TRAIL
-  LIMITS OF REFUSE
-  STREAM
-  FENCE
-  TREE LINE
-  EXISTING CULVERT
-  CP200
-  5/8" REBAR
-  UTILITY POLE
-  MINE PORTAL

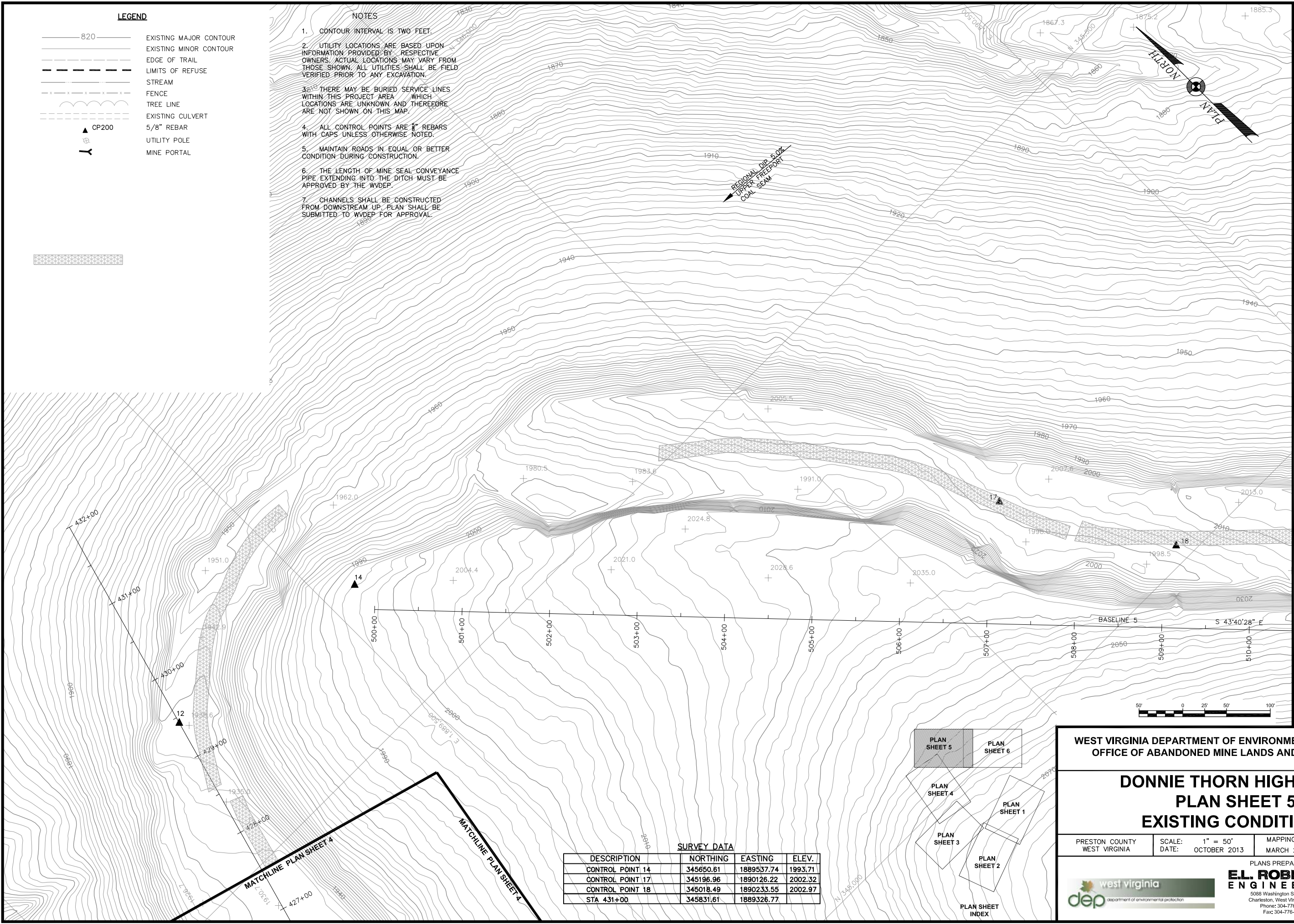
NOTES

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REGIONAL DIP 5.0%
UPPER FREEPORT
COAL SEAM

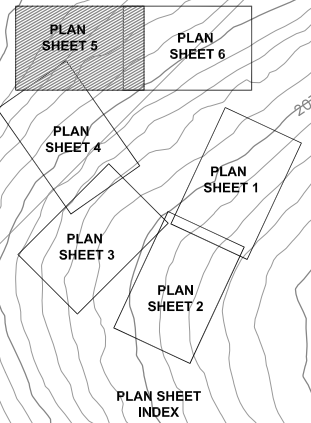


MATCHLINE PLAN SHEET 6



SURVEY DATA

DESCRIPTION	NORTHING	EASTING	ELEV.
CONTROL POINT 14	345650.61	1889537.74	1993.71
CONTROL POINT 17	345196.96	1890126.22	2002.32
CONTROL POINT 18	345018.49	1890233.55	2002.97
STA 431+00	345831.61	1889326.77	



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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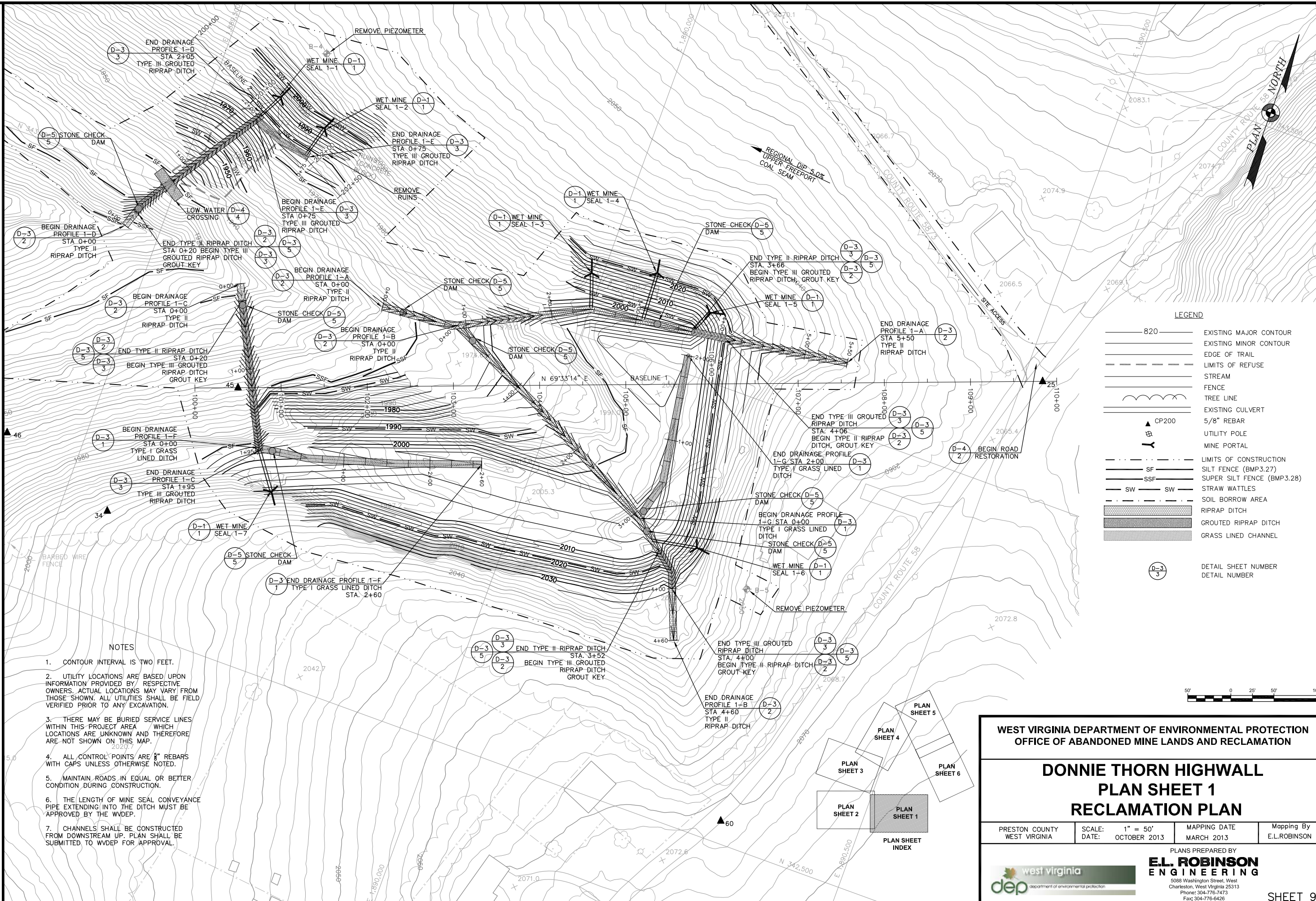
**DONNIE THORN HIGHWALL
PLAN SHEET 5
EXISTING CONDITIONS**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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PLANS PREPARED BY
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SHEET 7

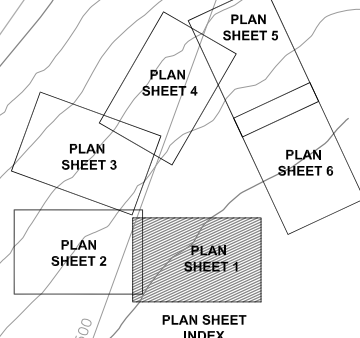
MATCHLINE PLAN SHEET 2



LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- CP200
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SF SILT FENCE (BMP.3.27)
- SSF SUPER SILT FENCE (BMP.3.28)
- SW STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUTED RIPRAP DITCH
- GRASS LINED CHANNEL
- D-3/3 DETAIL SHEET NUMBER
- DETAIL NUMBER

- NOTES
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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

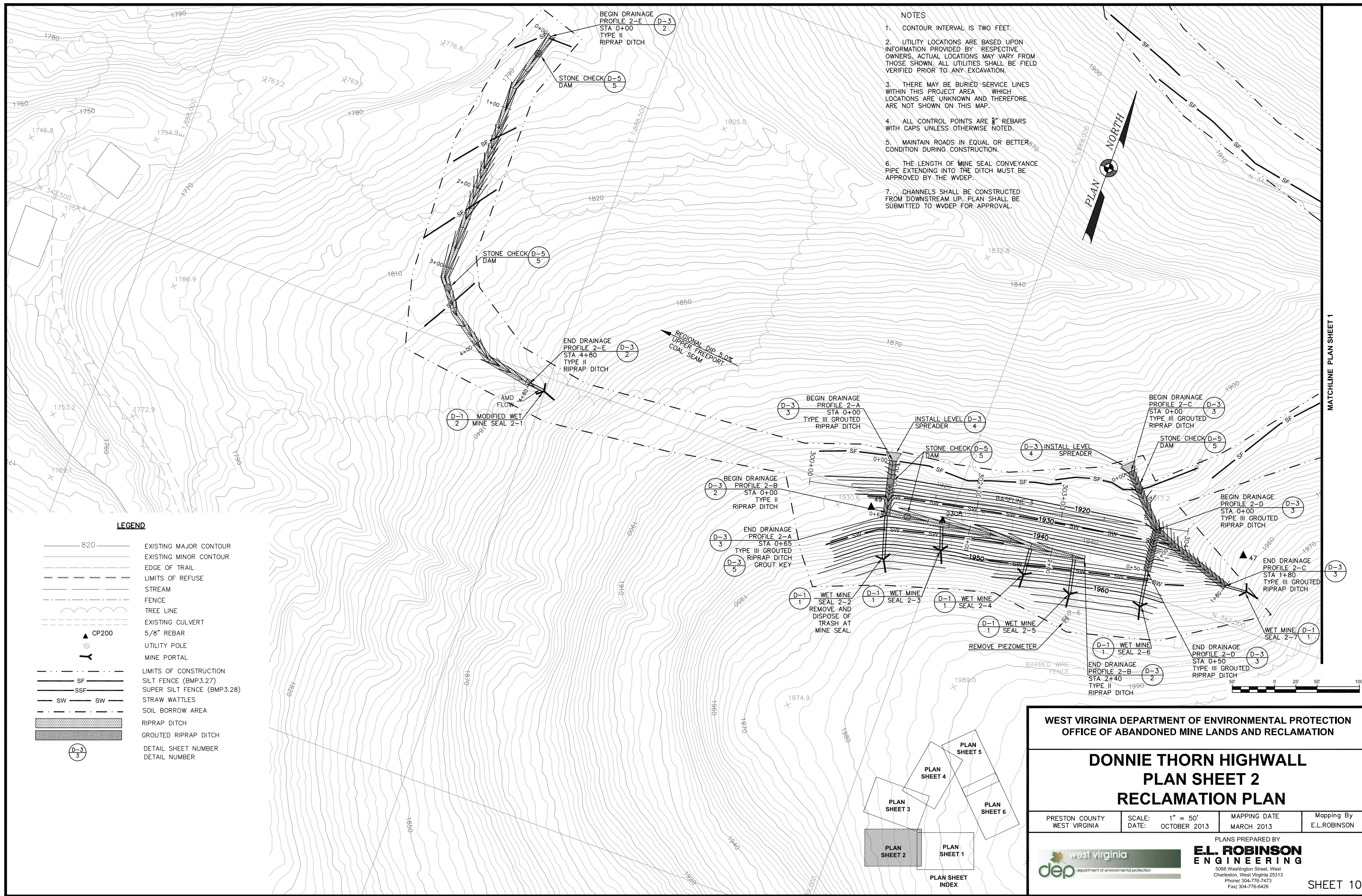
**DONNIE THORN HIGHWALL
PLAN SHEET 1
RECLAMATION PLAN**

PRESTON COUNTY WEST VIRGINIA	SCALE: DATE: 1" = 50' OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	--	----------------------------	----------------------------

PLANS PREPARED BY
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west virginia
dep department of environmental protection

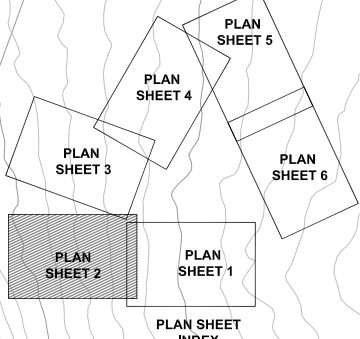
SHEET 9



- NOTES
1. CONTOUR INTERVAL IS TWO FEET.
 2. UTILITY LOCATIONS ARE BASED UPON INFORMATION PROVIDED BY RESPECTIVE OWNERS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
 3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
 4. ALL CONTROL POINTS ARE 8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SF SILT FENCE (BMP3.27)
- SSF SUPER SILT FENCE (BMP3.28)
- SW STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUTED RIPRAP DITCH
- DETAIL SHEET NUMBER
- DETAIL NUMBER



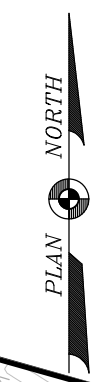
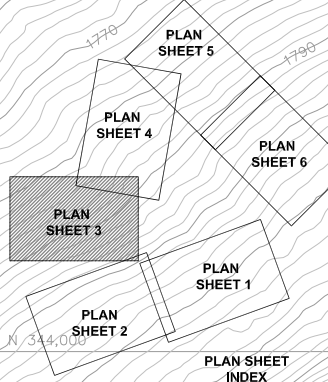
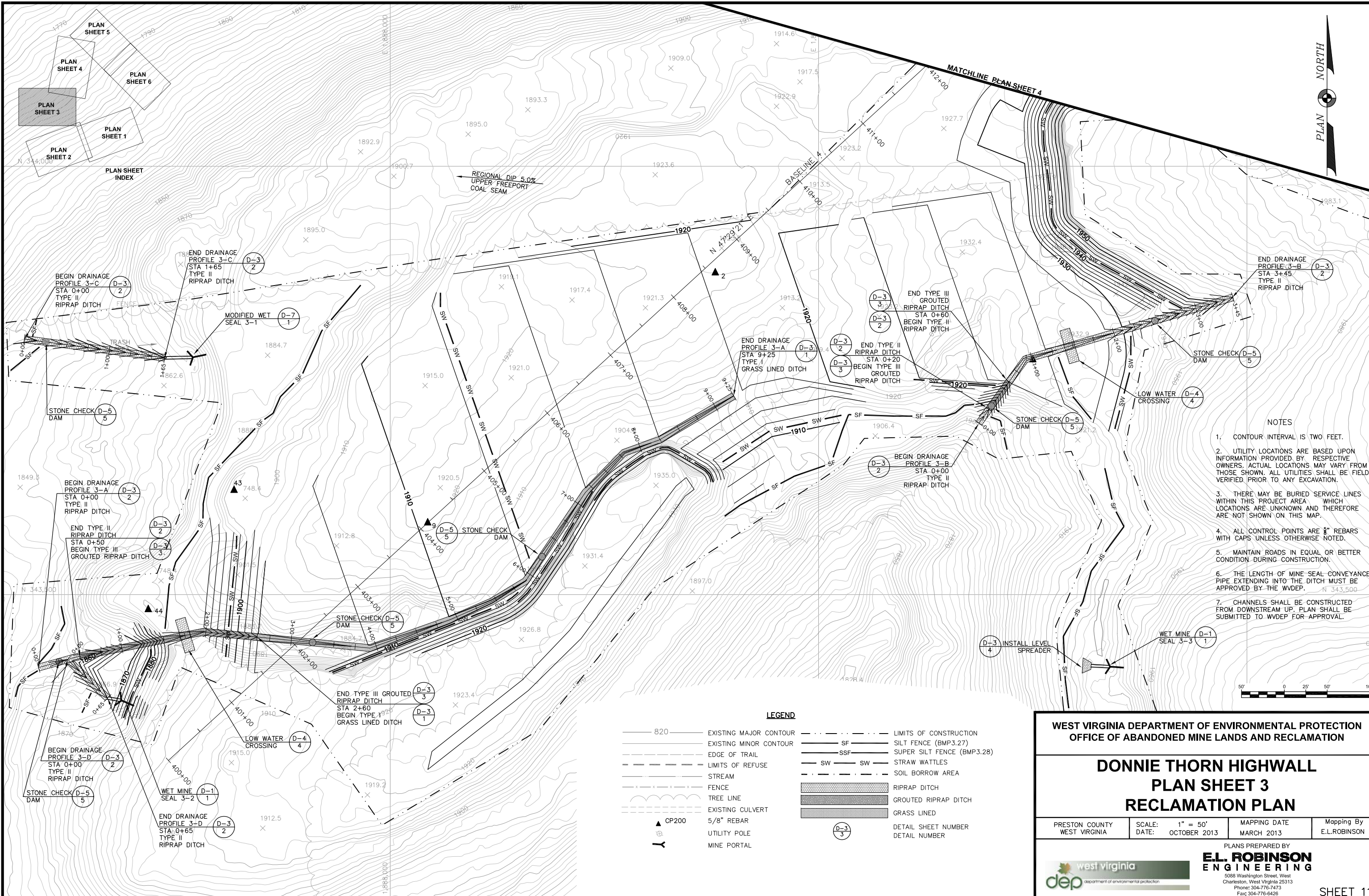
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 2
RECLAMATION PLAN**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
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Fax: 304-776-6428

SHEET 10



REGIONAL DIP 5.0%
UPPER FREEPORT
COAL SEAM

MATCHLINE PLAN SHEET 4

- NOTES**
1. CONTOUR INTERVAL IS TWO FEET.
 2. UTILITY LOCATIONS ARE BASED UPON INFORMATION PROVIDED BY RESPECTIVE OWNERS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
 3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
 4. ALL CONTROL POINTS ARE 8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

LEGEND

820	EXISTING MAJOR CONTOUR	---	LIMITS OF CONSTRUCTION
---	EXISTING MINOR CONTOUR	SF	SILT FENCE (BMP3.27)
---	EDGE OF TRAIL	SSF	SUPER SILT FENCE (BMP3.28)
---	LIMITS OF REFUSE	SW	STRAW WATTLES
---	STREAM	---	SOIL BORROW AREA
---	FENCE	---	RIPRAP DITCH
---	TREE LINE	---	GROUTED RIPRAP DITCH
---	EXISTING CULVERT	---	GRASS LINED
▲	5/8" REBAR	---	DETAIL SHEET NUMBER
⊕	UTILITY POLE	---	DETAIL NUMBER
⊕	MINE PORTAL	---	

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 3
RECLAMATION PLAN**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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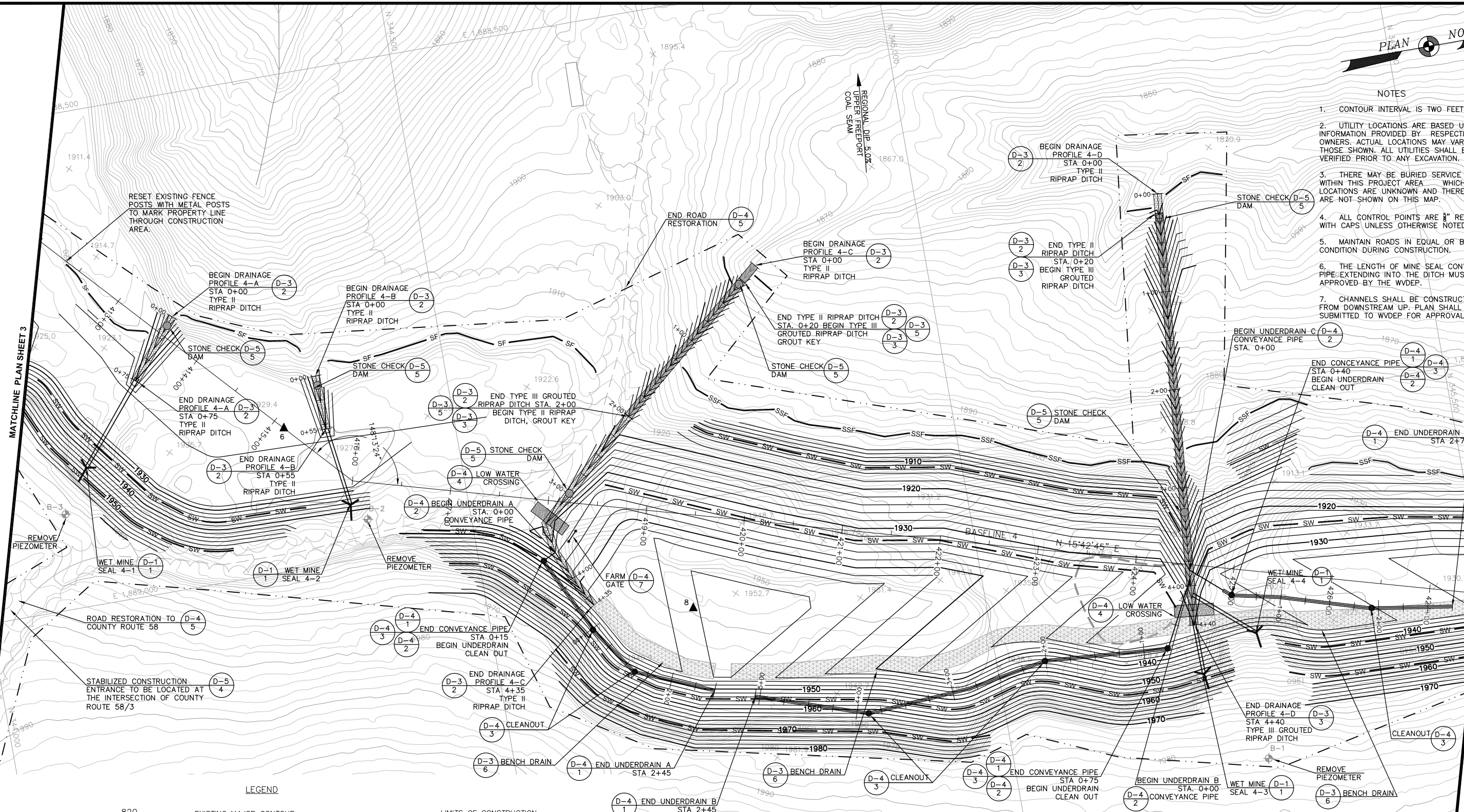
PLANS PREPARED BY
**E.L. ROBINSON
ENGINEERING**
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Charleston, West Virginia 25313
Phone: 304-776-7473
Fax: 304-776-6428

SHEET 11



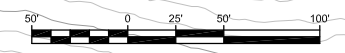
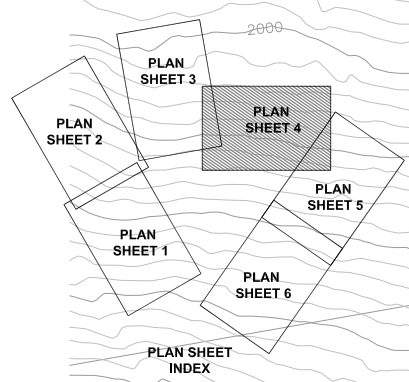
NOTES

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3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
4. ALL CONTROL POINTS ARE 3/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.



LEGEND

	820	EXISTING MAJOR CONTOUR		LIMITS OF CONSTRUCTION
		EXISTING MINOR CONTOUR		SILT FENCE (BMP3.27)
		EDGE OF TRAIL		SUPER SILT FENCE (BMP3.28)
		LIMITS OF REFUSE		STRAW WATTLES
		STREAM		SOIL BORROW AREA
		FENCE		RIPRAP DITCH
		TREE LINE		GROUTED RIPRAP DITCH
		EXISTING CULVERT		BENCH DRAIN
	CP200	5/8" REBAR		DETAIL SHEET NUMBER
		UTILITY POLE		DETAIL NUMBER
		MINE PORTAL		



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 4
RECLAMATION PLAN**

PRESTON COUNTY WEST VIRGINIA SCALE: 1" = 50' MAPPING DATE: OCTOBER 2013 Mapping By: E.L.ROBINSON

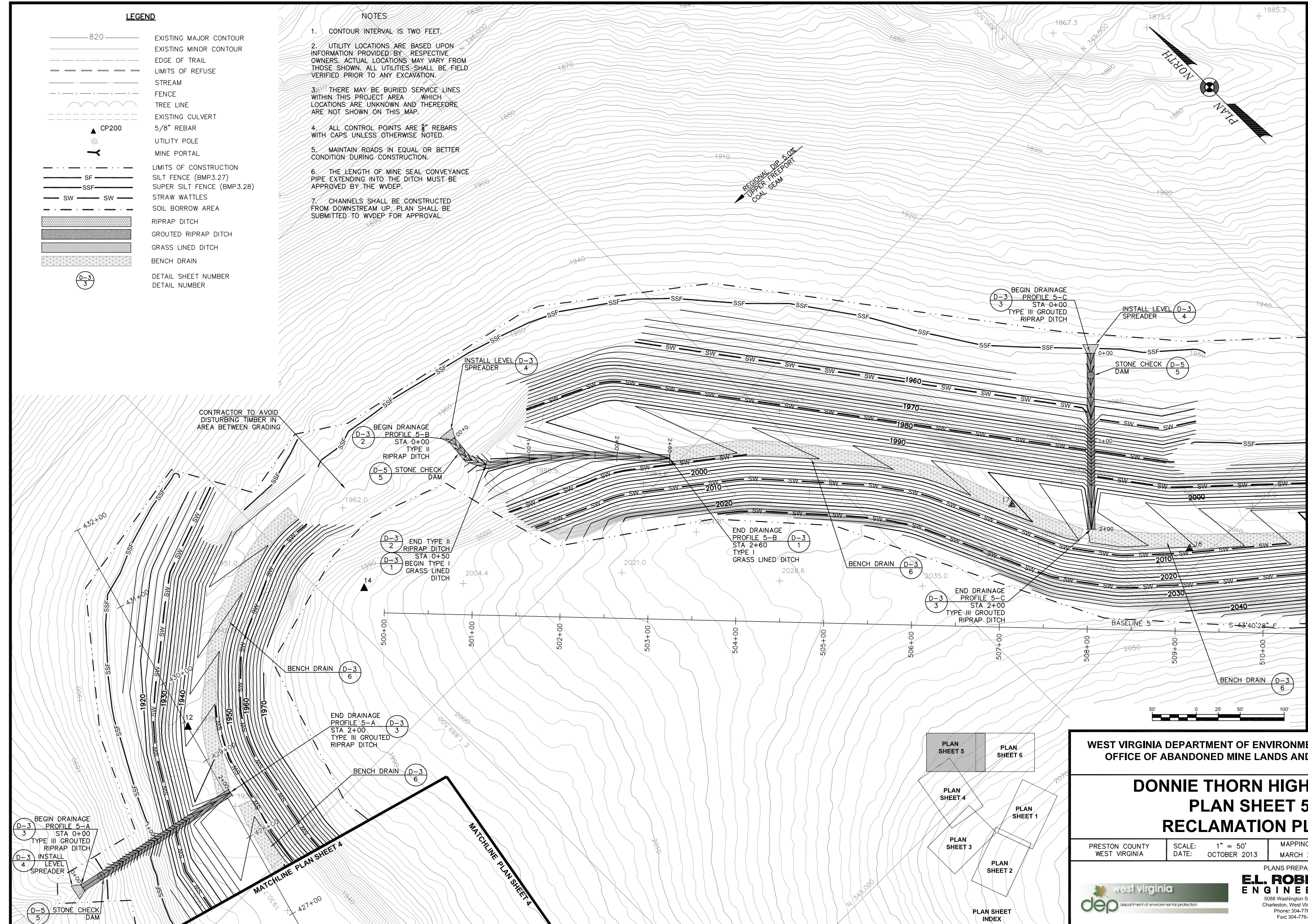
PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
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Phone: 304-776-7473 Fax: 304-776-6428

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- CP200
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SILT FENCE (BMP3.27)
- SUPER SILT FENCE (BMP3.28)
- STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUTED RIPRAP DITCH
- GRASS LINED DITCH
- BENCH DRAIN
- DETAIL SHEET NUMBER
- DETAIL NUMBER

NOTES

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4. ALL CONTROL POINTS ARE 5/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.



MATCHLINE PLAN SHEET 6

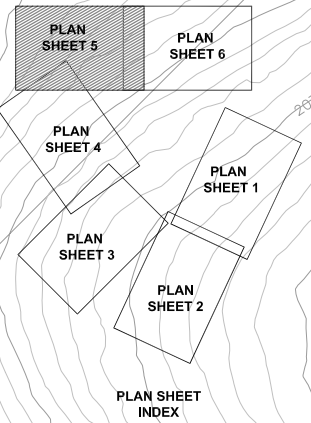
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 5
RECLAMATION PLAN**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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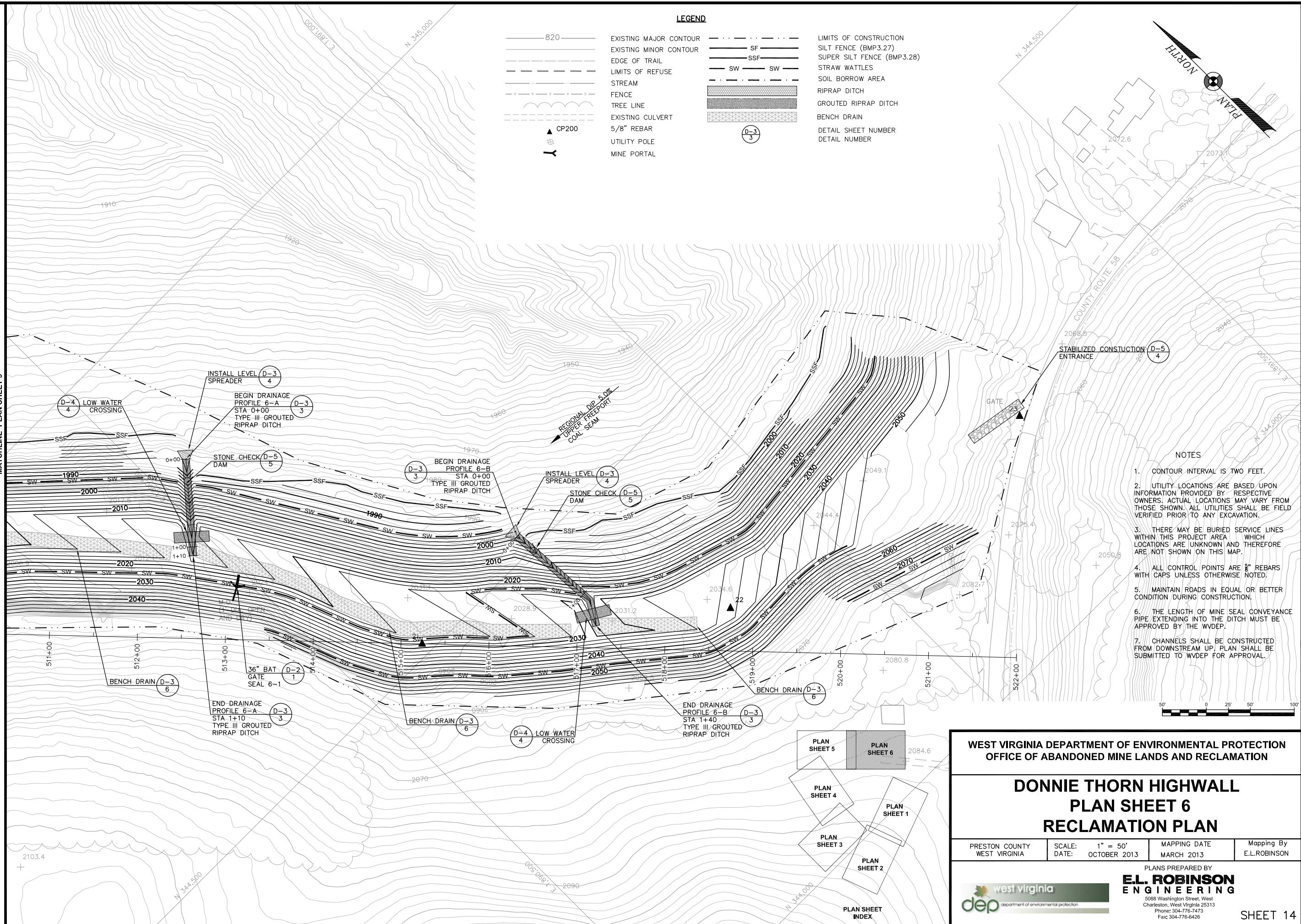
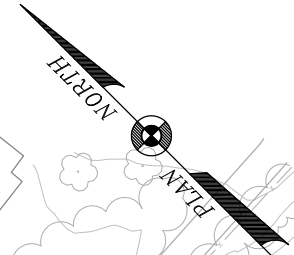
SHEET 13



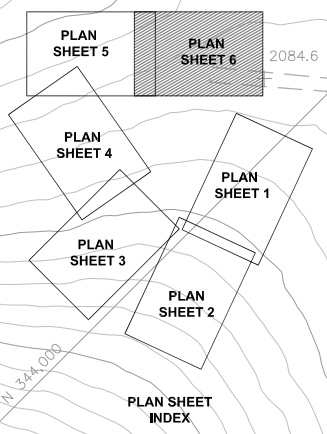
MATCHLINE PLAN SHEET 5

LEGEND

	EXISTING MAJOR CONTOUR		LIMITS OF CONSTRUCTION
	EXISTING MINOR CONTOUR		SILT FENCE (BMP3.27)
	EDGE OF TRAIL		SUPER SILT FENCE (BMP3.28)
	LIMITS OF REFUSE		STRAW WATTLES
	STREAM		SOIL BORROW AREA
	FENCE		RIPRAP DITCH
	TREE LINE		GROUTED RIPRAP DITCH
	EXISTING CULVERT		BENCH DRAIN
	5/8" REBAR		DETAIL SHEET NUMBER
	UTILITY POLE		DETAIL NUMBER
	MINE PORTAL		



- NOTES
1. CONTOUR INTERVAL IS TWO FEET.
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 3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
 4. ALL CONTROL POINTS ARE 3" REBARs WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WDEP FOR APPROVAL.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 6
RECLAMATION PLAN**

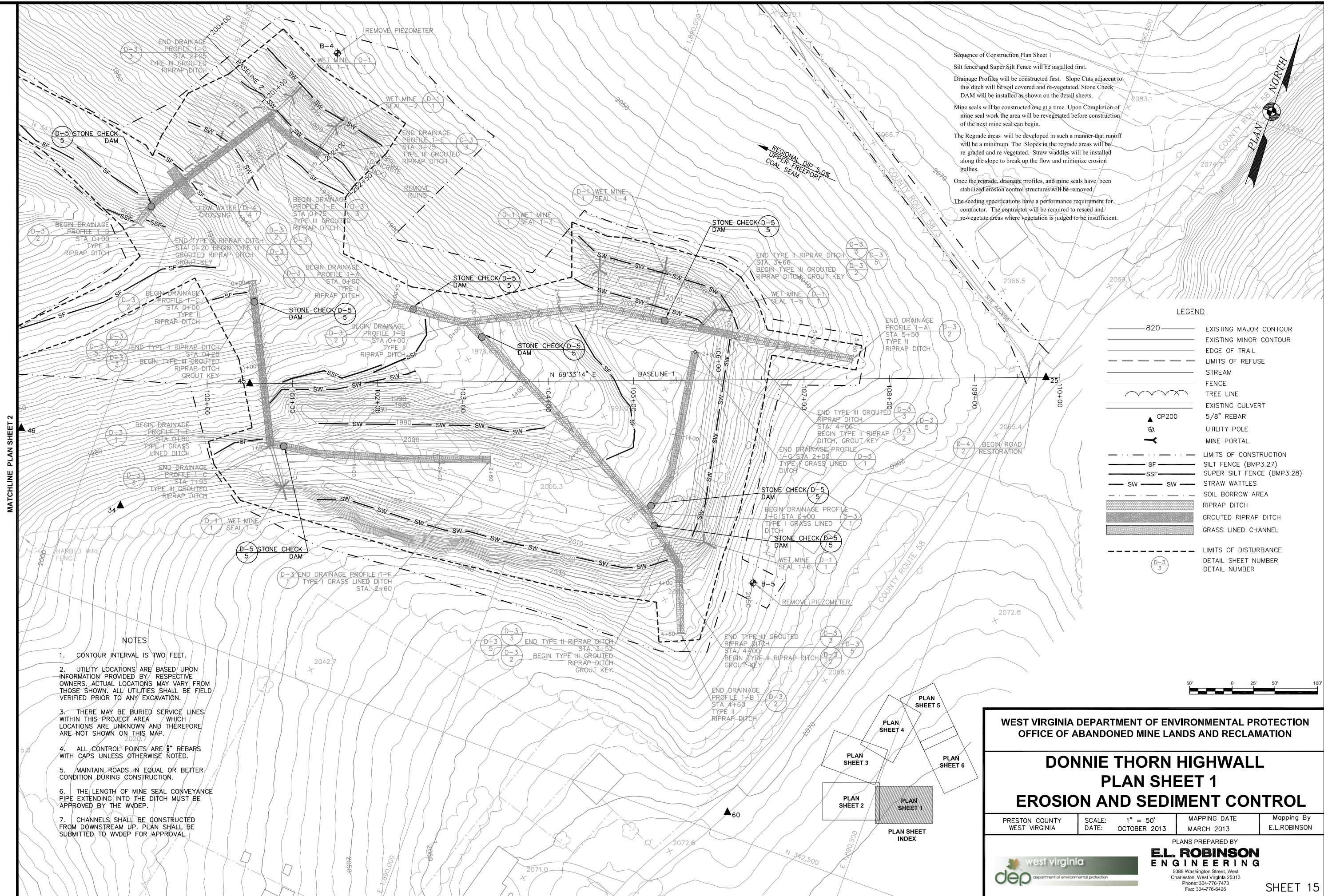
PRESTON COUNTY WEST VIRGINIA	SCALE: DATE: 1" = 50' OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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PLANS PREPARED BY
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west virginia
dep department of environmental protection

SHEET 14

MATCHLINE PLAN SHEET 2



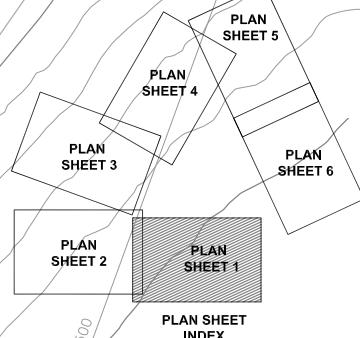
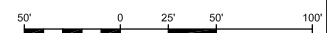
Sequence of Construction Plan Sheet 1
 Silt fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 Mine seals will be constructed one at a time. Upon Completion of mine seal work the area will be revegetated before construction of the next mine seal can begin.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
 Once the regrade, drainage profiles, and mine seals have been stabilized erosion control structures will be removed.
 The seeding specifications have a performance requirement for contractor. The contractor will be required to reseed and/ or re-vegetate areas where vegetation is judged to be insufficient.

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SF SILT FENCE (BMP3.27)
- SSF SUPER SILT FENCE (BMP3.28)
- SW STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUTED RIPRAP DITCH
- GRASS LINED CHANNEL
- LIMITS OF DISTURBANCE
- DETAIL SHEET NUMBER
- DETAIL NUMBER

NOTES

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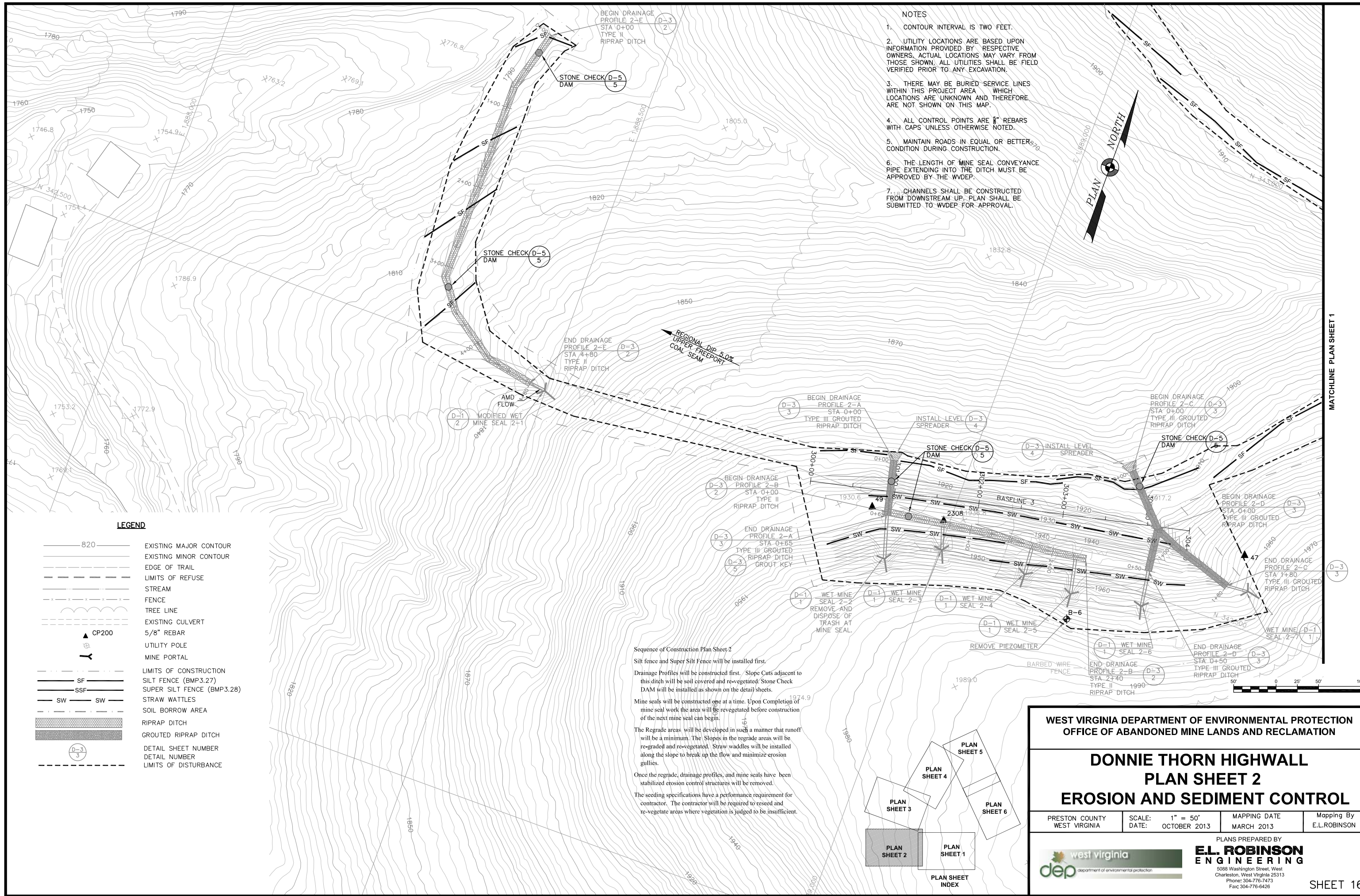
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 1
EROSION AND SEDIMENT CONTROL**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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SHEET 15

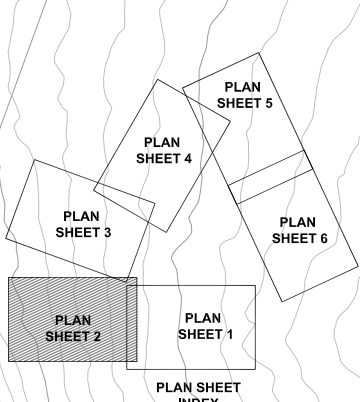


- NOTES
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LEGEND

- 820 ——— EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- - - - - EDGE OF TRAIL
- - - - - LIMITS OF REFUSE
- STREAM
- x - x - x - FENCE
- TREE LINE
- - - - - EXISTING CULVERT
- ▲ CP200
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- - - - - LIMITS OF CONSTRUCTION
- SF ——— SILT FENCE (BMP3.27)
- SSF ——— SUPER SILT FENCE (BMP3.28)
- SW ——— SW ——— STRAW WATTLES
- SOIL BORROW AREA
- RIPPRAP DITCH
- GROUTED RIPRAP DITCH
- (D-3) 3 ——— DETAIL SHEET NUMBER
- DETAIL NUMBER
- - - - - LIMITS OF DISTURBANCE

Sequence of Construction Plan Sheet 2
 Silt fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 Mine seals will be constructed one at a time. Upon Completion of mine seal work the area will be re-vegetated before construction of the next mine seal can begin.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
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 The seeding specifications have a performance requirement for contractor. The contractor will be required to reseed and re-vegetate areas where vegetation is judged to be insufficient.



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

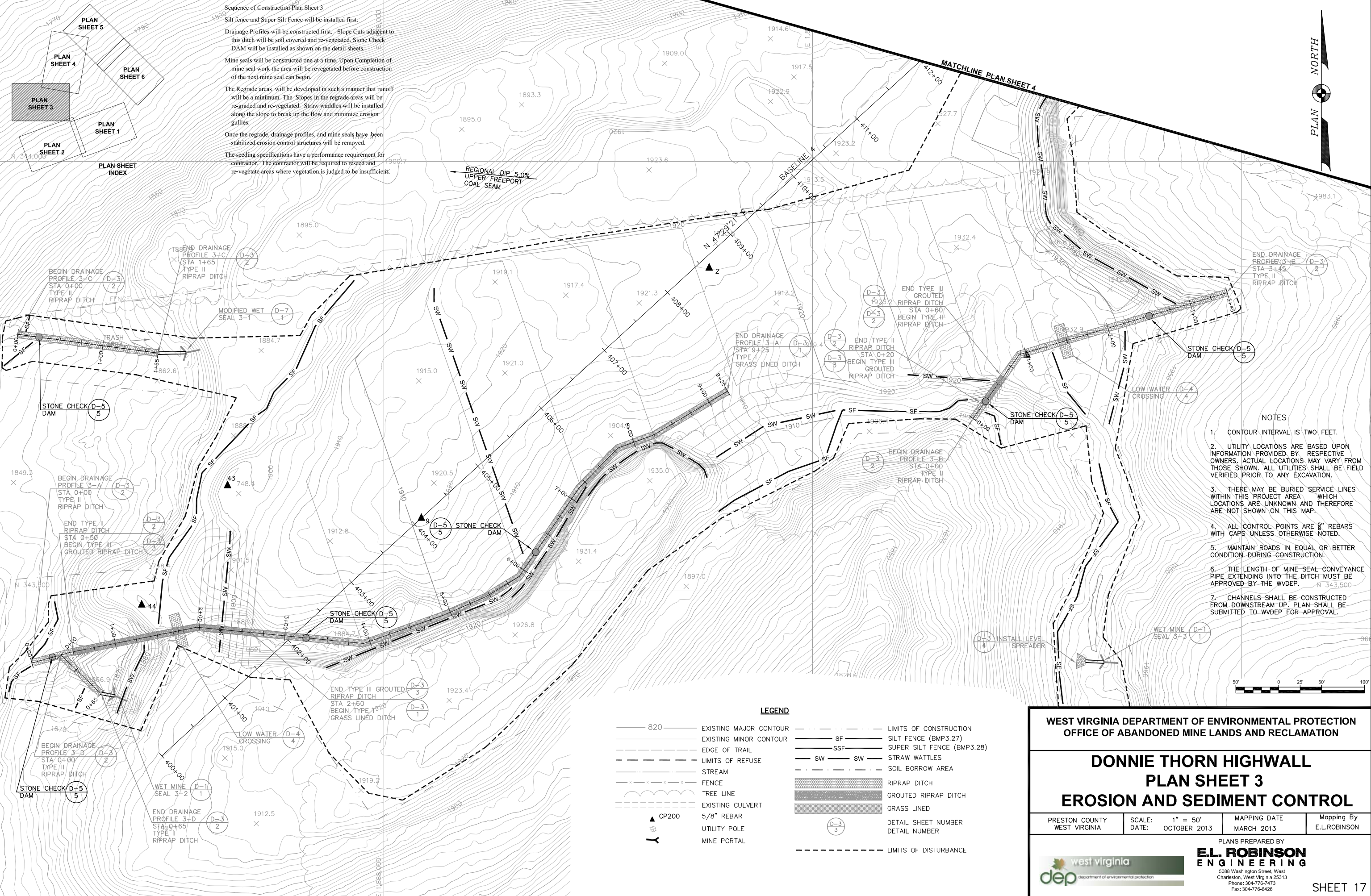
**DONNIE THORN HIGHWALL
PLAN SHEET 2
EROSION AND SEDIMENT CONTROL**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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SHEET 16

Sequence of Construction Plan Sheet 3
 Silt fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 Mine seals will be constructed one at a time. Upon Completion of mine seal work the area will be re-vegetated before construction of the next mine seal can begin.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
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 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

LEGEND

820	EXISTING MAJOR CONTOUR	---	LIMITS OF CONSTRUCTION
---	EXISTING MINOR CONTOUR	SF	SILT FENCE (BMP3.27)
---	EDGE OF TRAIL	SSF	SUPER SILT FENCE (BMP3.28)
---	LIMITS OF REFUSE	SW	STRAW WATTLES
---	STREAM	---	SOIL BORROW AREA
---	FENCE	---	RIPRAP DITCH
---	TREE LINE	---	GROUTED RIPRAP DITCH
---	EXISTING CULVERT	---	GRASS LINED
▲	CP200	(D-3)	DETAIL SHEET NUMBER
○	UTILITY POLE	(D-3)	DETAIL NUMBER
Y	MINE PORTAL	---	LIMITS OF DISTURBANCE

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
 PLAN SHEET 3
 EROSION AND SEDIMENT CONTROL**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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 Charleston, West Virginia 25313
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west virginia dep department of environmental protection

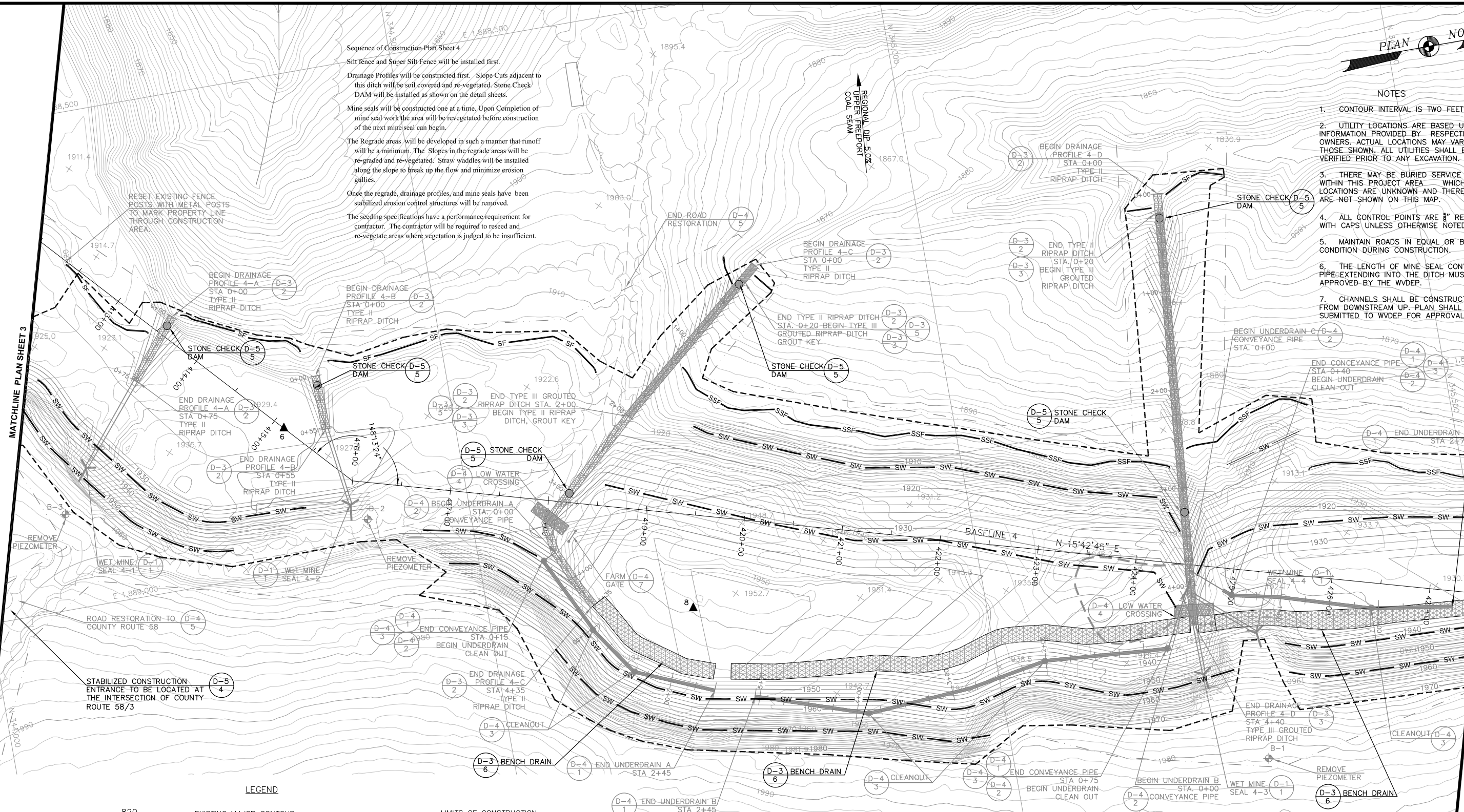
SHEET 17



NOTES

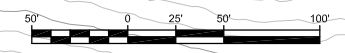
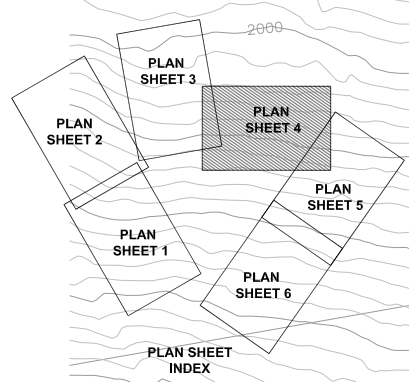
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Sequence of Construction Plan Sheet 4
 Silt Fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 Mine seals will be constructed one at a time. Upon Completion of mine seal work the area will be revegetated before construction of the next mine seal can begin.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
 Once the regrade, drainage profiles, and mine seals have been stabilized erosion control structures will be removed.
 The seeding specifications have a performance requirement for contractor. The contractor will be required to reseed and re-vegetate areas where vegetation is judged to be insufficient.



LEGEND

820	EXISTING MAJOR CONTOUR	SF	LIMITS OF CONSTRUCTION
	EXISTING MINOR CONTOUR	SSF	SILT FENCE (BMP3.27)
	EDGE OF TRAIL	SW	SUPER SILT FENCE (BMP3.28)
	LIMITS OF REFUSE		STRAW WATTLES
	STREAM		SOIL BORROW AREA
	FENCE		RIPRAP DITCH
	TREE LINE		GROUTED RIPRAP DITCH
	EXISTING CULVERT		BENCH DRAIN
CP200	5/8" REBAR	D-3	DETAIL SHEET NUMBER
	UTILITY POLE		DETAIL NUMBER
	MINE PORTAL		LIMITS OF DISTURBANCE



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
 PLAN SHEET 4
 EROSION AND SEDIMENT CONTROL**

PRESTON COUNTY WEST VIRGINIA	SCALE: DATE: 1" = 50' OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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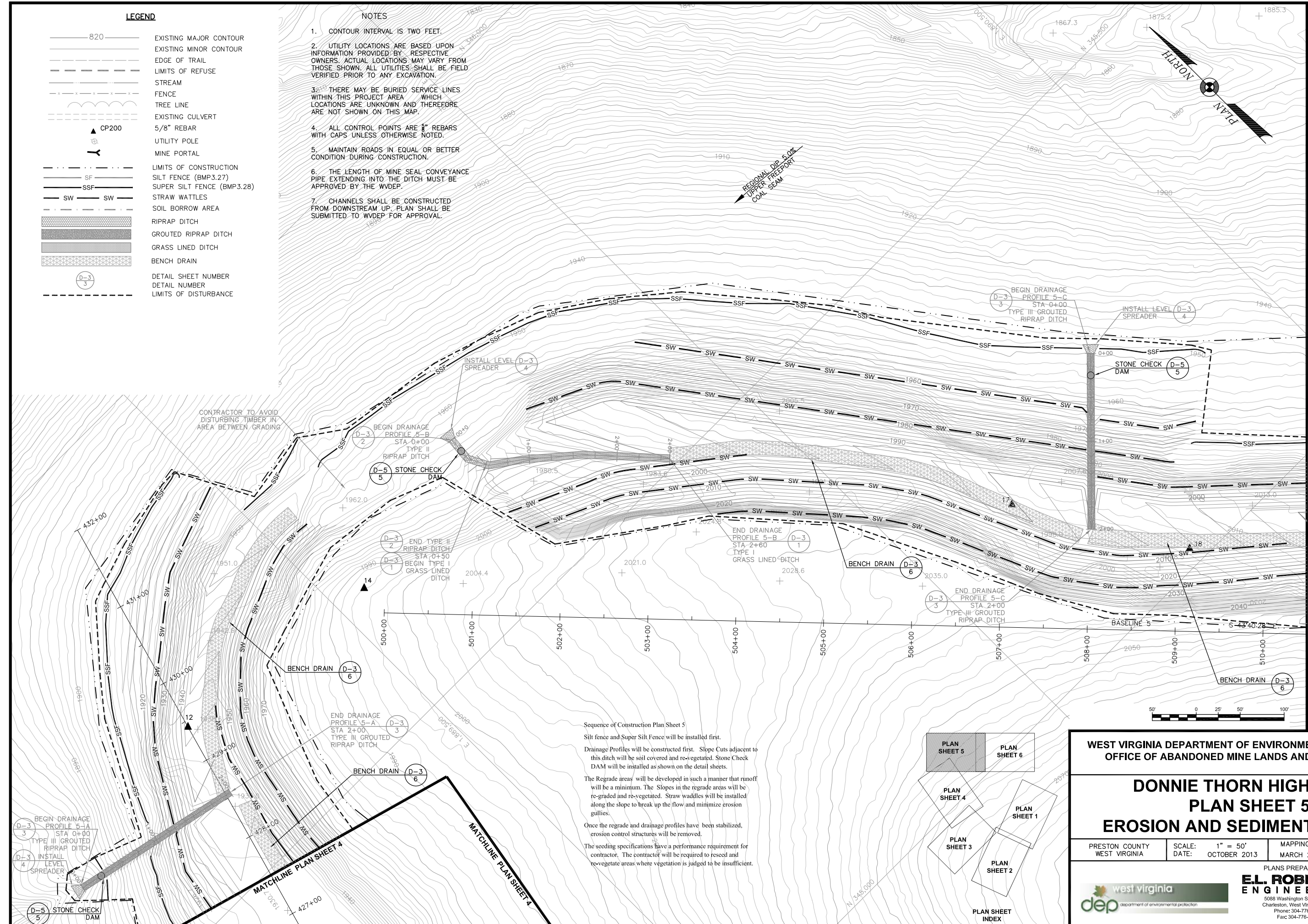
PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
 5088 Washington Street, West
 Charleston, West Virginia 25313
 Phone: 304-776-7473
 Fax: 304-776-6428

LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- CP200
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SILT FENCE (BMP3.27)
- SUPER SILT FENCE (BMP3.28)
- STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUDED RIPRAP DITCH
- GRASS LINED DITCH
- BENCH DRAIN
- DETAIL SHEET NUMBER
- DETAIL NUMBER
- LIMITS OF DISTURBANCE

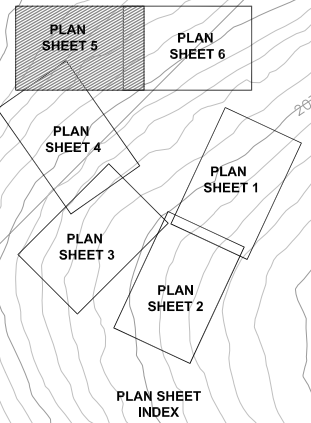
NOTES

1. CONTOUR INTERVAL IS TWO FEET.
2. UTILITY LOCATIONS ARE BASED UPON INFORMATION PROVIDED BY RESPECTIVE OWNERS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
4. ALL CONTROL POINTS ARE 5/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.



MATCHLINE PLAN SHEET 6

Sequence of Construction Plan Sheet 5
 Silt fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
 Once the regrade and drainage profiles have been stabilized, erosion control structures will be removed.
 The seeding specifications have a performance requirement for contractor. The contractor will be required to reseed and re-vegetate areas where vegetation is judged to be insufficient.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
 PLAN SHEET 5
 EROSION AND SEDIMENT CONTROL**

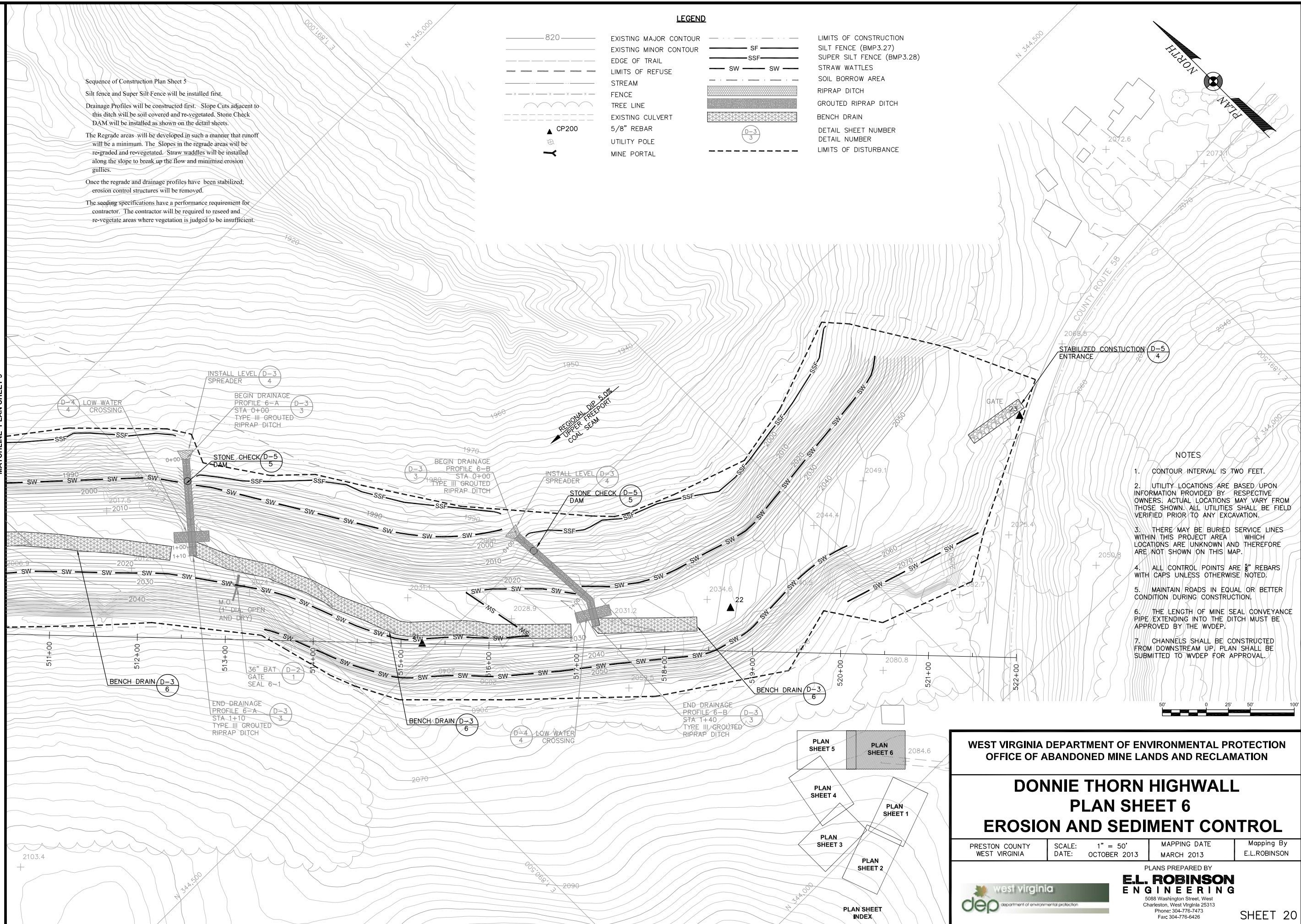
PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
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 Charleston, West Virginia 25313
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 Fax: 304-776-6428

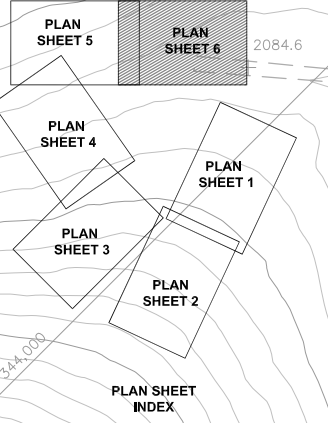
Sequence of Construction Plan Sheet 5
 Silt fence and Super Silt Fence will be installed first.
 Drainage Profiles will be constructed first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.
 The Regrade areas will be developed in such a manner that runoff will be a minimum. The Slopes in the regrade areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.
 Once the regrade and drainage profiles have been stabilized, erosion control structures will be removed.
 The seeding specifications have a performance requirement for contractor. The contractor will be required to reseed and re-vegetate areas where vegetation is judged to be insufficient.

LEGEND			
820	EXISTING MAJOR CONTOUR	--- SF	LIMITS OF CONSTRUCTION
---	EXISTING MINOR CONTOUR	--- SSF	SILT FENCE (BMP3.27)
---	EDGE OF TRAIL	--- SW	SUPER SILT FENCE (BMP3.28)
---	LIMITS OF REFUSE	---	STRAW WATTLES
---	STREAM	---	SOIL BORROW AREA
---	FENCE	---	RIPRAP DITCH
---	TREE LINE	---	GROUTED RIPRAP DITCH
---	EXISTING CULVERT	---	BENCH DRAIN
---	5/8" REBAR	---	DETAIL SHEET NUMBER
---	UTILITY POLE	---	DETAIL NUMBER
---	MINE PORTAL	---	LIMITS OF DISTURBANCE

MATCHLINE PLAN SHEET 5



- NOTES
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 2. UTILITY LOCATIONS ARE BASED UPON INFORMATION PROVIDED BY RESPECTIVE OWNERS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO ANY EXCAVATION.
 3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
 4. ALL CONTROL POINTS ARE 3/8" REBAR WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WDEP FOR APPROVAL.



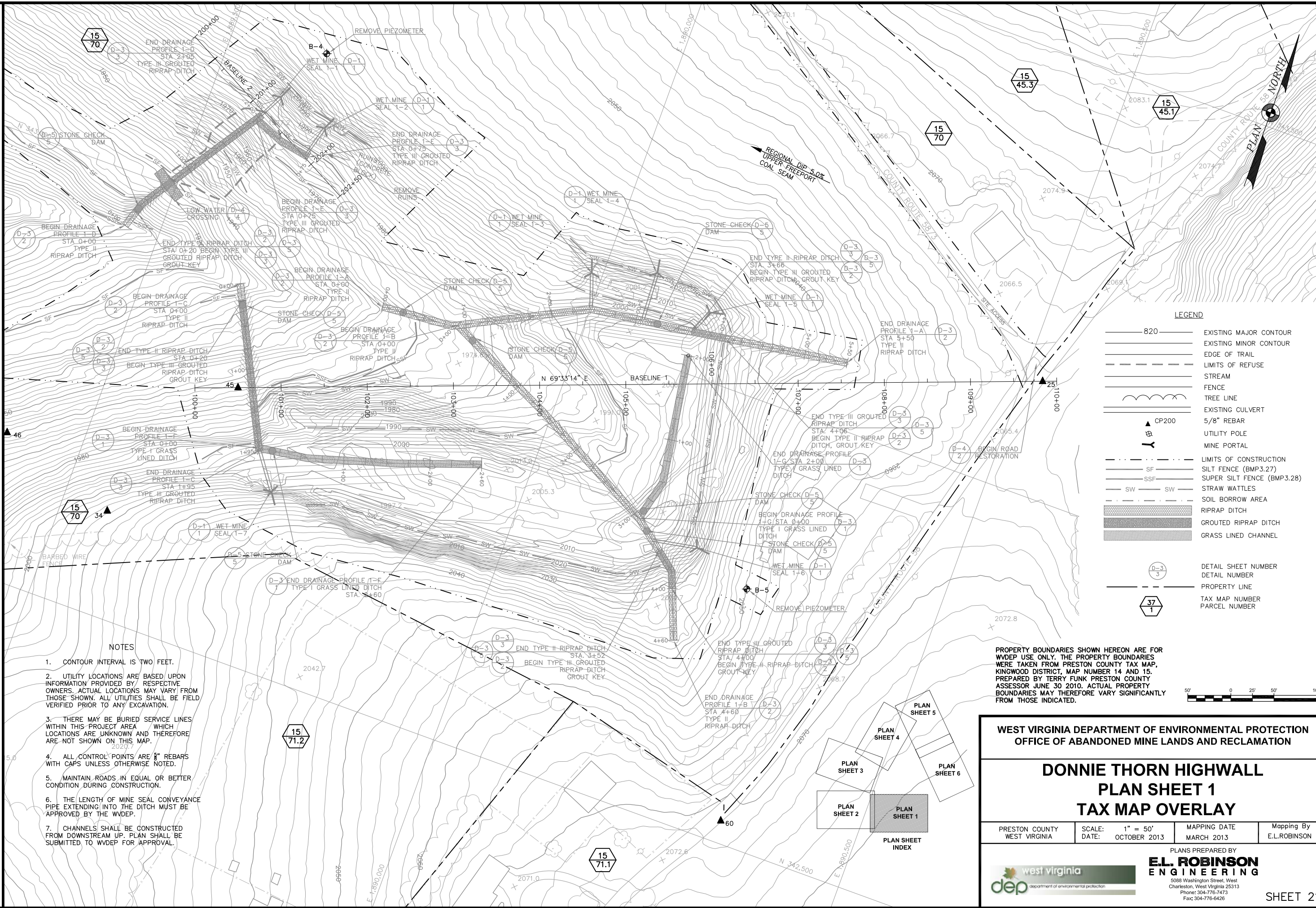
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
 PLAN SHEET 6
 EROSION AND SEDIMENT CONTROL**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
**E.L. ROBINSON
 ENGINEERING**
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 Charleston, West Virginia 25313
 Phone: 304-776-7473
 Fax: 304-776-6428

MATCHLINE PLAN SHEET 2



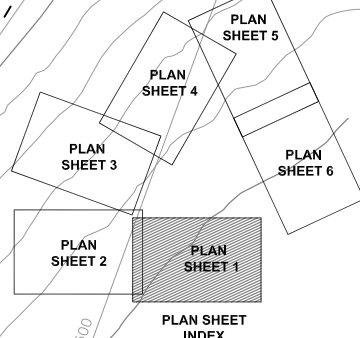
LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF TRAIL
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- 5/8" REBAR
- UTILITY POLE
- MINE PORTAL
- LIMITS OF CONSTRUCTION
- SF SILT FENCE (BMP.3.27)
- SSF SUPER SILT FENCE (BMP.3.28)
- SW STRAW WATTLES
- SOIL BORROW AREA
- RIPRAP DITCH
- GROUTED RIPRAP DITCH
- GRASS LINED CHANNEL
- D-3 DETAIL SHEET NUMBER
- 3 DETAIL NUMBER
- PROPERTY LINE
- 37 TAX MAP NUMBER
- 1 PARCEL NUMBER

NOTES

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4. ALL CONTROL POINTS ARE 5/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

PROPERTY BOUNDARIES SHOWN HEREON ARE FOR WVDEP USE ONLY. THE PROPERTY BOUNDARIES WERE TAKEN FROM PRESTON COUNTY TAX MAP, KINGWOOD DISTRICT, MAP NUMBER 14 AND 15. PREPARED BY TERRY FUNK PRESTON COUNTY ASSESSOR JUNE 30 2010. ACTUAL PROPERTY BOUNDARIES MAY THEREFORE VARY SIGNIFICANTLY FROM THOSE INDICATED.



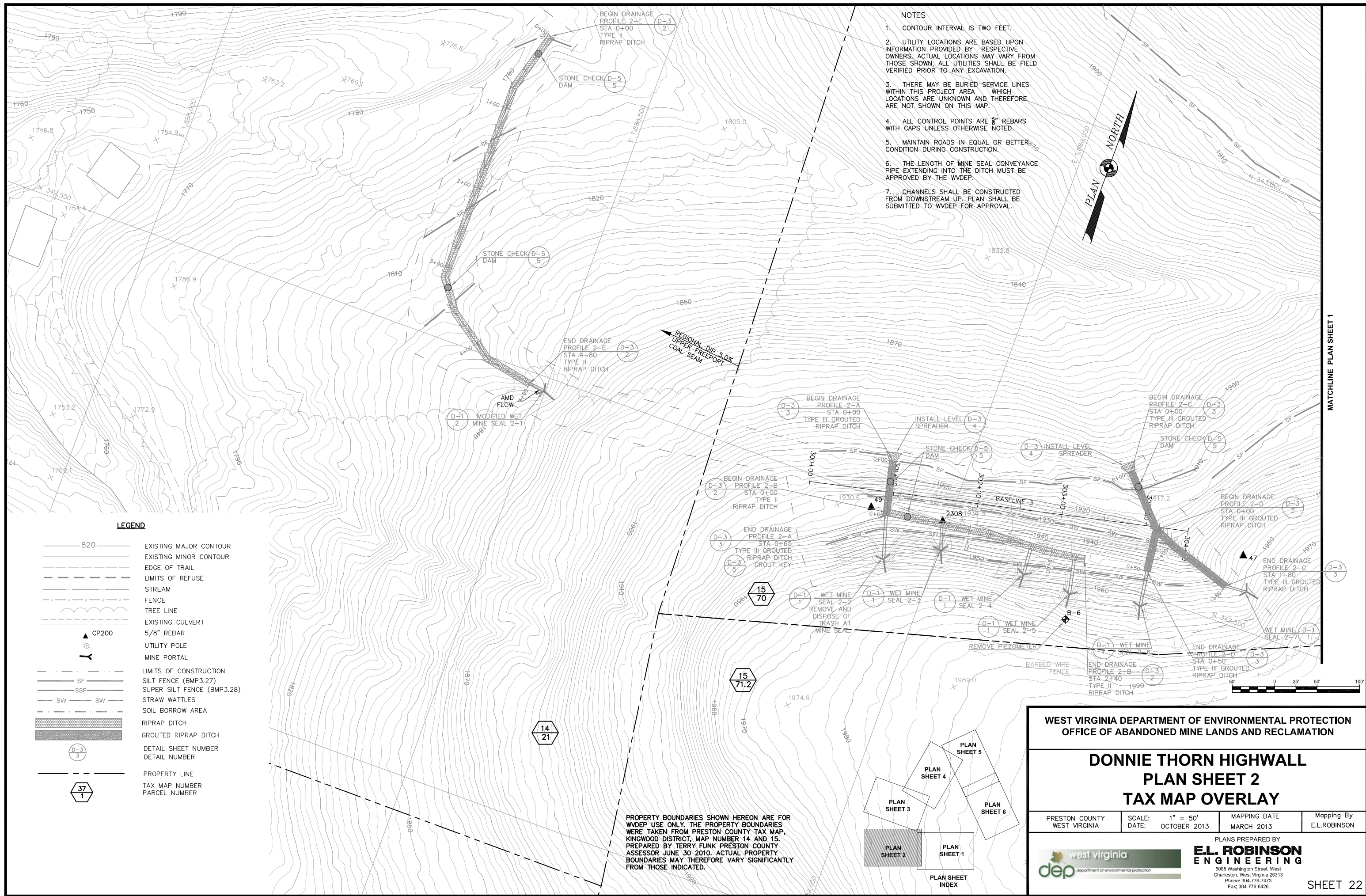
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 1
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
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Charleston, West Virginia 25313
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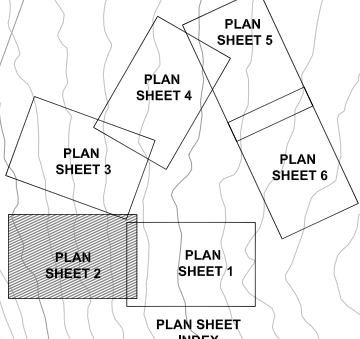
west virginia dep department of environmental protection



- NOTES
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 4. ALL CONTROL POINTS ARE 8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

- LEGEND**
- 820 ——— EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - - - - - EDGE OF TRAIL
 - - - - - LIMITS OF REFUSE
 - STREAM
 - x - x - x - FENCE
 - TREE LINE
 - EXISTING CULVERT
 - ▲ CP200 5/8" REBAR
 - ▲ UTILITY POLE
 - ▲ MINE PORTAL
 - - - - - LIMITS OF CONSTRUCTION
 - SF ——— SILT FENCE (BMP3.27)
 - SSF ——— SUPER SILT FENCE (BMP3.28)
 - SW ——— SW ——— STRAW WATTLES
 - SOIL BORROW AREA
 - RIPRAP DITCH
 - GROUDED RIPRAP DITCH
 - D-3/3 ——— DETAIL SHEET NUMBER
 - DETAIL NUMBER
 - - - - - PROPERTY LINE
 - 37/1 ——— TAX MAP NUMBER
 - PARCEL NUMBER

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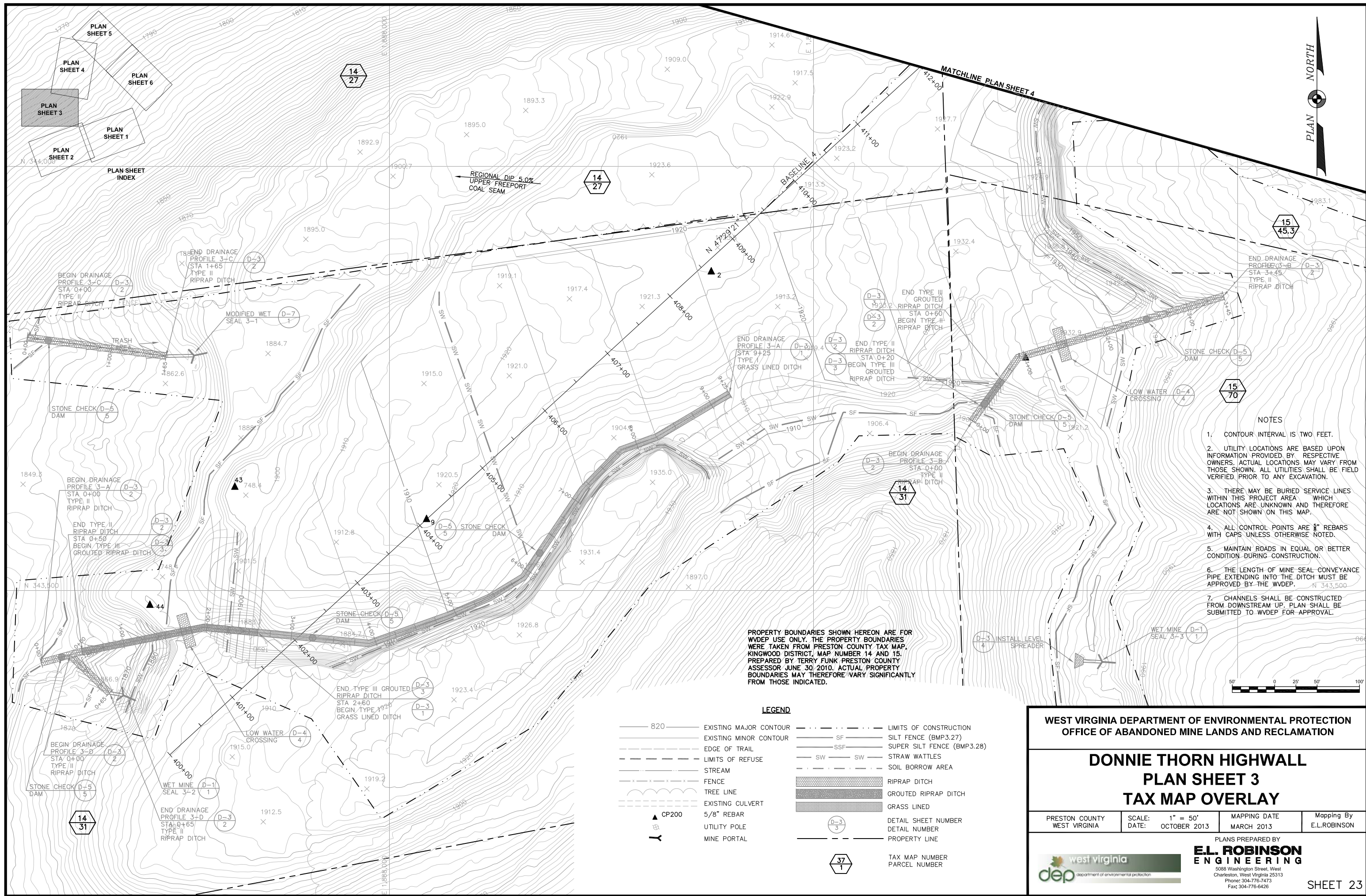
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 2
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
Fax: 304-776-6428

SHEET 22



REGIONAL DIP 5.0%
UPPER FREEPORT
COAL SEAM

PROPERTY BOUNDARIES SHOWN HEREON ARE FOR WVDEP USE ONLY. THE PROPERTY BOUNDARIES WERE TAKEN FROM PRESTON COUNTY TAX MAP, KINGWOOD DISTRICT, MAP NUMBER 14 AND 15. PREPARED BY TERRY FUNK PRESTON COUNTY ASSESSOR JUNE 30 2010. ACTUAL PROPERTY BOUNDARIES MAY THEREFORE VARY SIGNIFICANTLY FROM THOSE INDICATED.

- NOTES**
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 4. ALL CONTROL POINTS ARE 8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
 5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
 6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
 7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.

LEGEND

820	EXISTING MAJOR CONTOUR	---	LIMITS OF CONSTRUCTION
---	EXISTING MINOR CONTOUR	SF	SILT FENCE (BMP3.27)
---	EDGE OF TRAIL	SSSF	SUPER SILT FENCE (BMP3.28)
---	LIMITS OF REFUSE	SW	STRAW WATTLES
---	STREAM	---	SOIL BORROW AREA
---	FENCE	---	RIPRAP DITCH
---	TREE LINE	---	GROUTED RIPRAP DITCH
---	EXISTING CULVERT	---	GRASS LINED
▲	5/8" REBAR	---	DETAIL SHEET NUMBER
⊕	UTILITY POLE	---	DETAIL NUMBER
⊕	MINE PORTAL	---	PROPERTY LINE
⬠		---	TAX MAP NUMBER
		---	PARCEL NUMBER

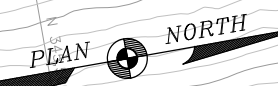
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**DONNIE THORN HIGHWALL
PLAN SHEET 3
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
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SHEET 23

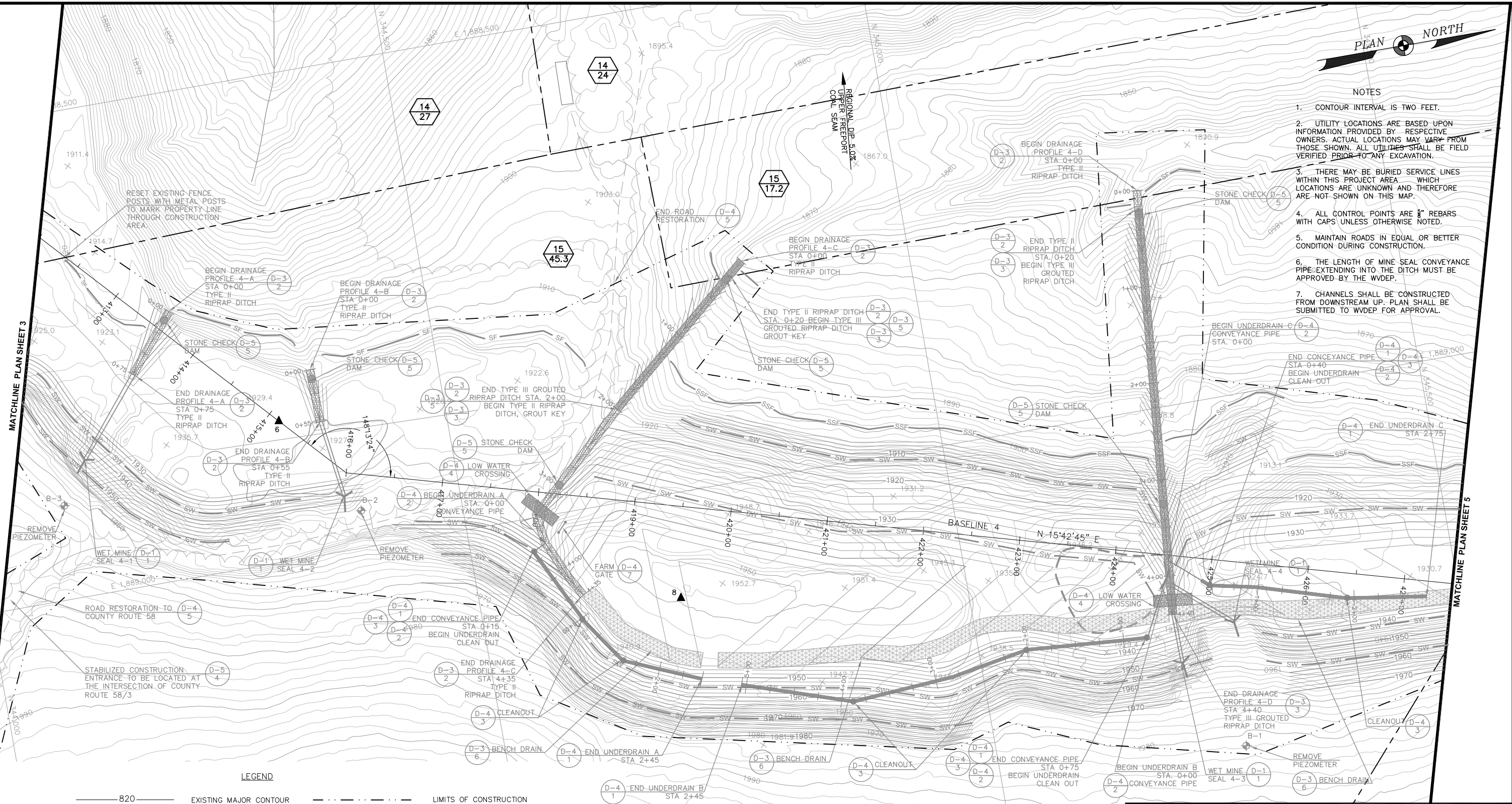


NOTES

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5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
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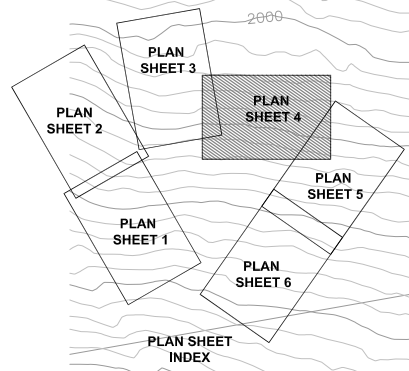
MATCHLINE PLAN SHEET 3

MATCHLINE PLAN SHEET 5

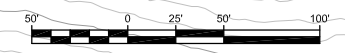


LEGEND

- | | | | |
|-----|------------------------|--|----------------------------|
| 820 | EXISTING MAJOR CONTOUR | | LIMITS OF CONSTRUCTION |
| | EXISTING MINOR CONTOUR | | SILT FENCE (BMP3.27) |
| | EDGE OF TRAIL | | SUPER SILT FENCE (BMP3.28) |
| | LIMITS OF REFUSE | | STRAW WATTLES |
| | STREAM | | SOIL BORROW AREA |
| | FENCE | | RIPRAP DITCH |
| | TREE LINE | | GROUTED RIPRAP DITCH |
| | EXISTING CULVERT | | BENCH DRAIN |
| | CP200 | | DETAIL SHEET NUMBER |
| | 5/8" REBAR | | DETAIL NUMBER |
| | UTILITY POLE | | PROPERTY LINE |
| | MINE PORTAL | | TAX MAP NUMBER |
| | | | PARCEL NUMBER |



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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 4
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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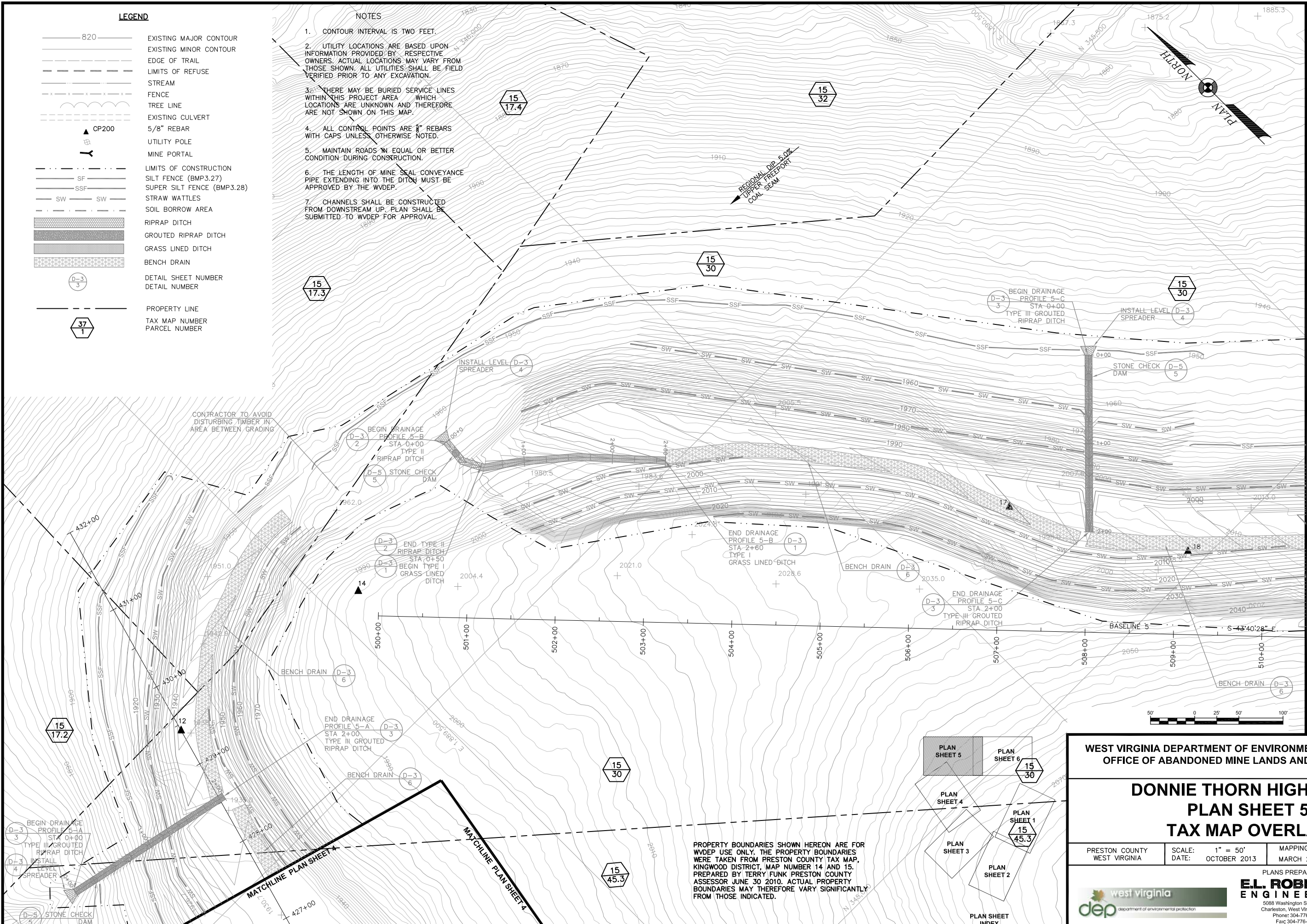
PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
Fax: 304-776-6428

LEGEND

- 820 — EXISTING MAJOR CONTOUR
- — — EXISTING MINOR CONTOUR
- - - - - EDGE OF TRAIL
- - - - - LIMITS OF REFUSE
- — — — — STREAM
- x - x - x - FENCE
- - - - - TREE LINE
- - - - - EXISTING CULVERT
- ▲ CP200
- ⊕ UTILITY POLE
- — — — — MINE PORTAL
- - - - - LIMITS OF CONSTRUCTION
- - - - - SILT FENCE (BMP3.27)
- - - - - SUPER SILT FENCE (BMP3.28)
- - - - - STRAW WATTLES
- - - - - SOIL BORROW AREA
- ▨ RIPRAP DITCH
- ▨ GROUTED RIPRAP DITCH
- ▨ GRASS LINED DITCH
- ▨ BENCH DRAIN
- (D-3)
3
- (D-3)
1
- - - - - PROPERTY LINE
- ⬠ TAX MAP NUMBER
- ⬠ PARCEL NUMBER

NOTES

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3. THERE MAY BE BURIED SERVICE LINES WITHIN THIS PROJECT AREA WHICH LOCATIONS ARE UNKNOWN AND THEREFORE ARE NOT SHOWN ON THIS MAP.
4. ALL CONTROL POINTS ARE 5/8" REBARS WITH CAPS UNLESS OTHERWISE NOTED.
5. MAINTAIN ROADS IN EQUAL OR BETTER CONDITION DURING CONSTRUCTION.
6. THE LENGTH OF MINE SEAL CONVEYANCE PIPE EXTENDING INTO THE DITCH MUST BE APPROVED BY THE WVDEP.
7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.



MATCHLINE PLAN SHEET 6

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

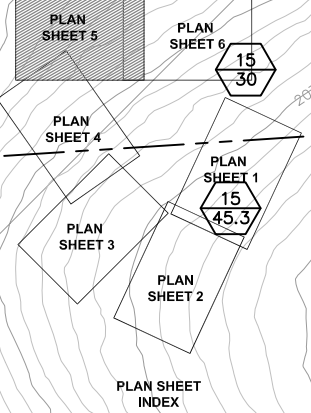
**DONNIE THORN HIGHWALL
PLAN SHEET 5
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
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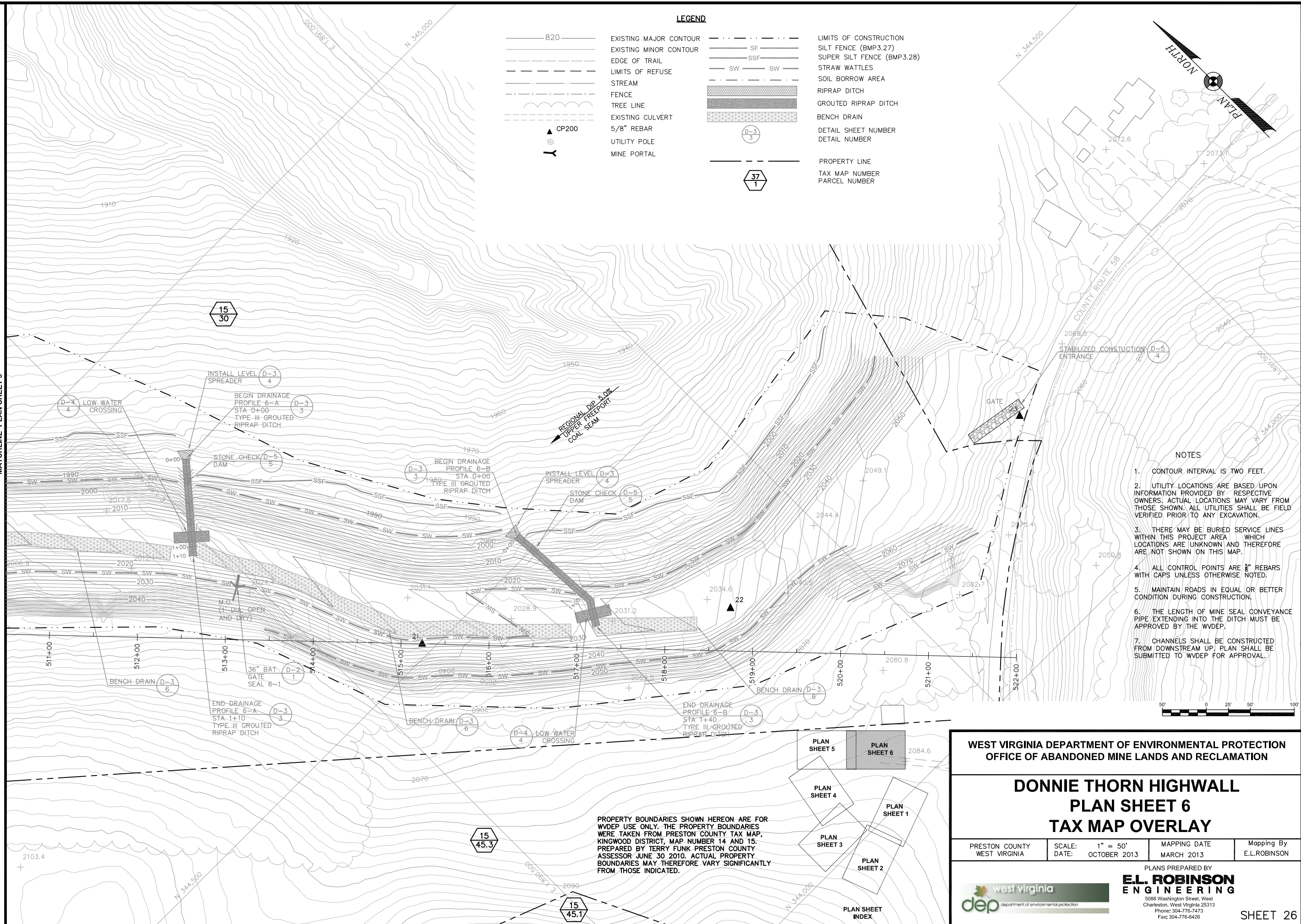
PLANS PREPARED BY
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5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
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west virginia
dep department of environmental protection

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MATCHLINE PLAN SHEET 5



LEGEND

820	EXISTING MAJOR CONTOUR	---	LIMITS OF CONSTRUCTION
---	EXISTING MINOR CONTOUR	SF	SILT FENCE (BMP3.27)
---	EDGE OF TRAIL	SSF	SUPER SILT FENCE (BMP3.28)
---	LIMITS OF REFUSE	SW	STRAW WATTLES
---	STREAM	---	SOIL BORROW AREA
---	FENCE	---	RIPRAP DITCH
---	TREE LINE	---	GROUTED RIPRAP DITCH
---	EXISTING CULVERT	---	BENCH DRAIN
▲	CP200	---	DETAIL SHEET NUMBER
---	5/8" REBAR	---	DETAIL NUMBER
---	UTILITY POLE	---	PROPERTY LINE
---	MINE PORTAL	---	TAX MAP NUMBER
			PARCEL NUMBER

NOTES

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7. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. PLAN SHALL BE SUBMITTED TO WDEP FOR APPROVAL.

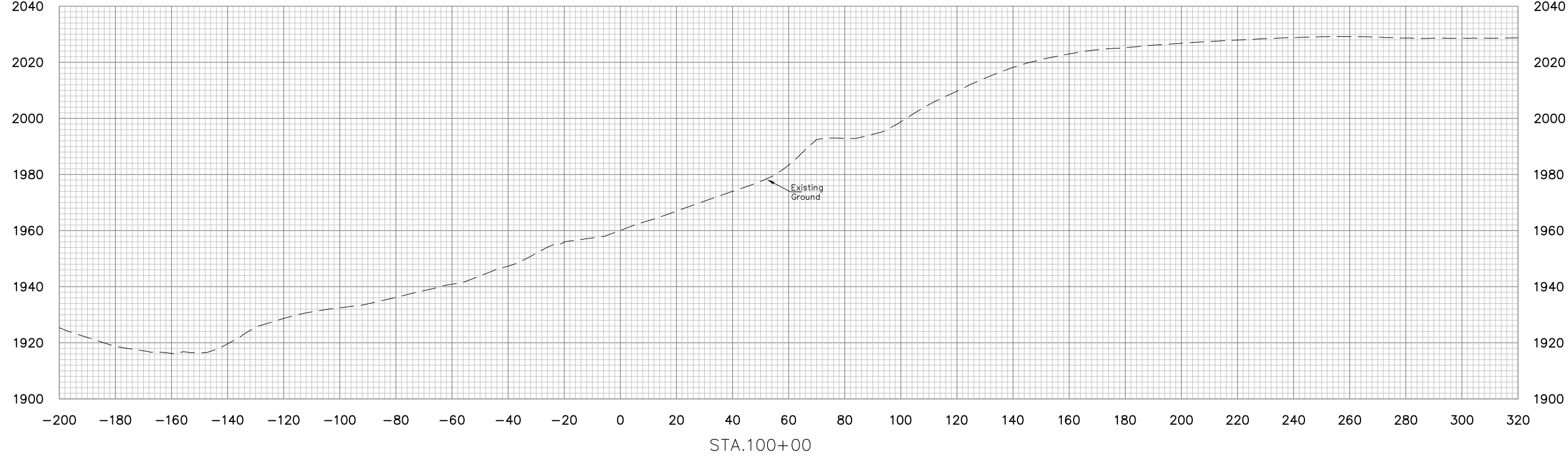
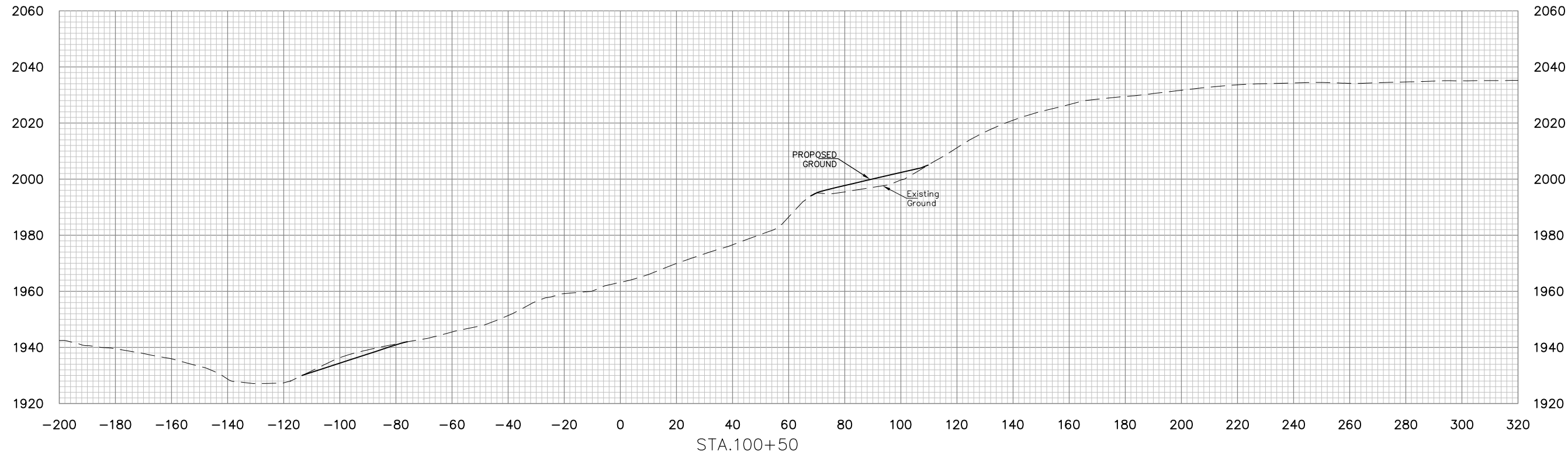
PROPERTY BOUNDARIES SHOWN HEREON ARE FOR WDEP USE ONLY. THE PROPERTY BOUNDARIES WERE TAKEN FROM PRESTON COUNTY TAX MAP, KINGWOOD DISTRICT, MAP NUMBER 14 AND 15. PREPARED BY TERRY FUNK, PRESTON COUNTY ASSESSOR JUNE 30 2010. ACTUAL PROPERTY BOUNDARIES MAY THEREFORE VARY SIGNIFICANTLY FROM THOSE INDICATED.

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION

**DONNIE THORN HIGHWALL
PLAN SHEET 6
TAX MAP OVERLAY**

PRESTON COUNTY WEST VIRGINIA	SCALE: 1" = 50' DATE: OCTOBER 2013	MAPPING DATE MARCH 2013	Mapping By E.L.ROBINSON
---------------------------------	---------------------------------------	----------------------------	----------------------------

PLANS PREPARED BY
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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

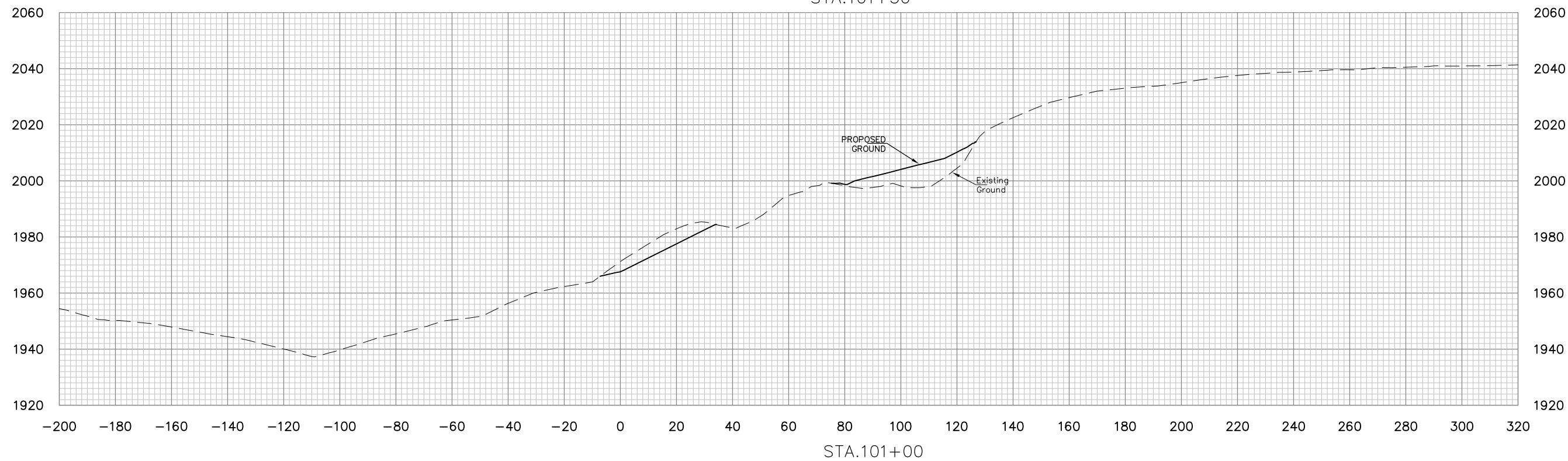
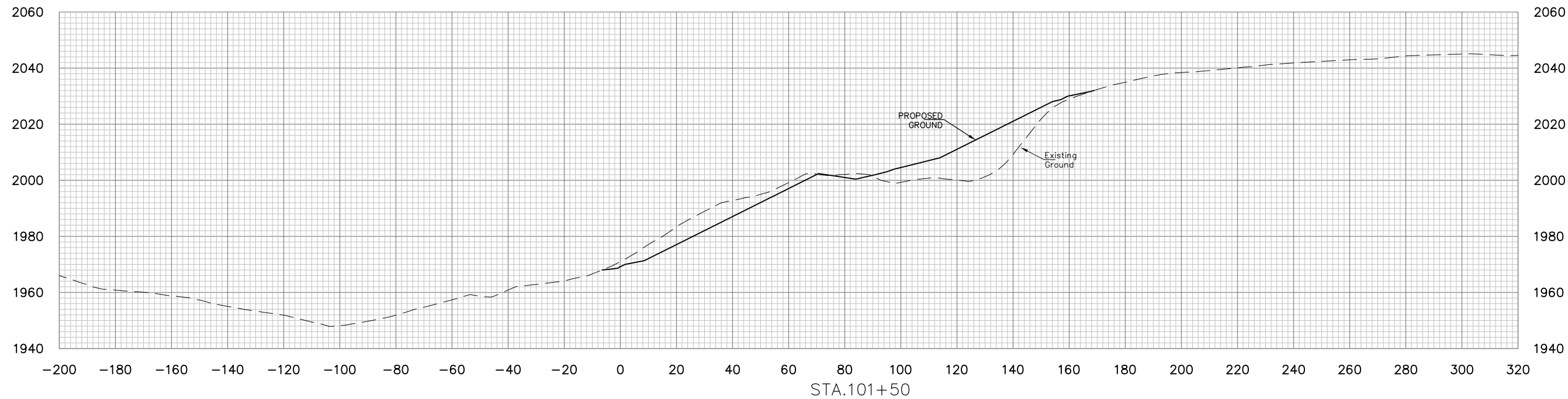
DRAWING TITLE

**BASELINE 1
CROSS SECTIONS
STA. 100+00 TO STA. 100+50**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
27



NO.	DATE	REVISION	BY

PROJECT INFORMATION

west virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

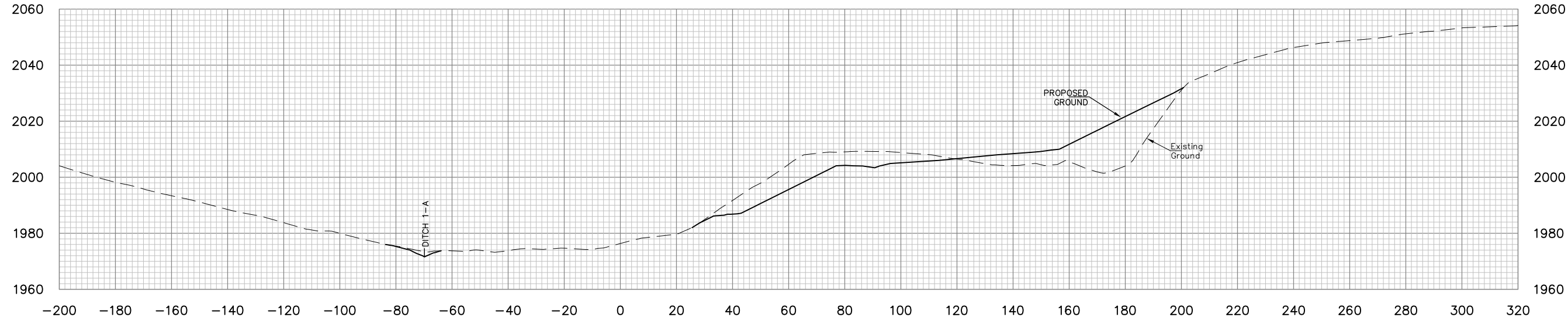
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CROSS SECTIONS
STA. 101+00 TO STA. 101+50**

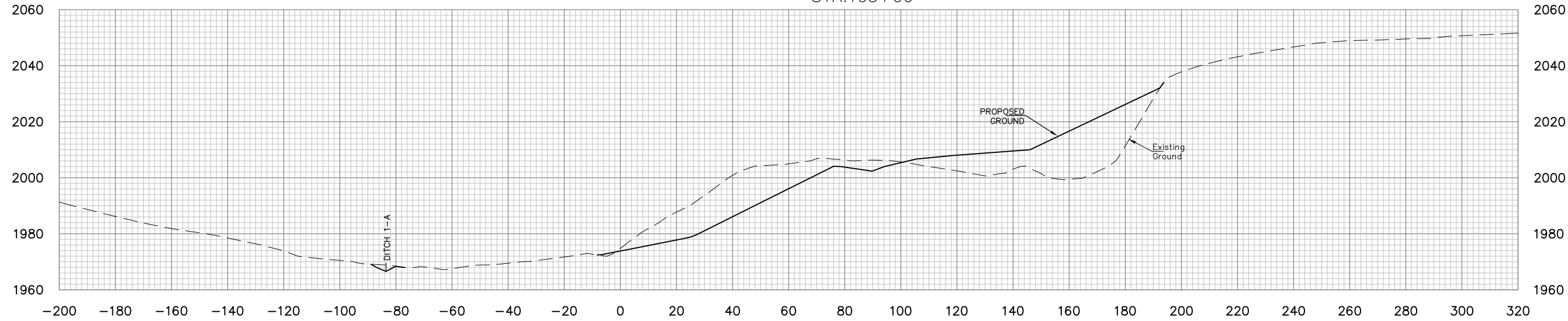
DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
28



STA.103+00



STA.102+50



STA.102+00

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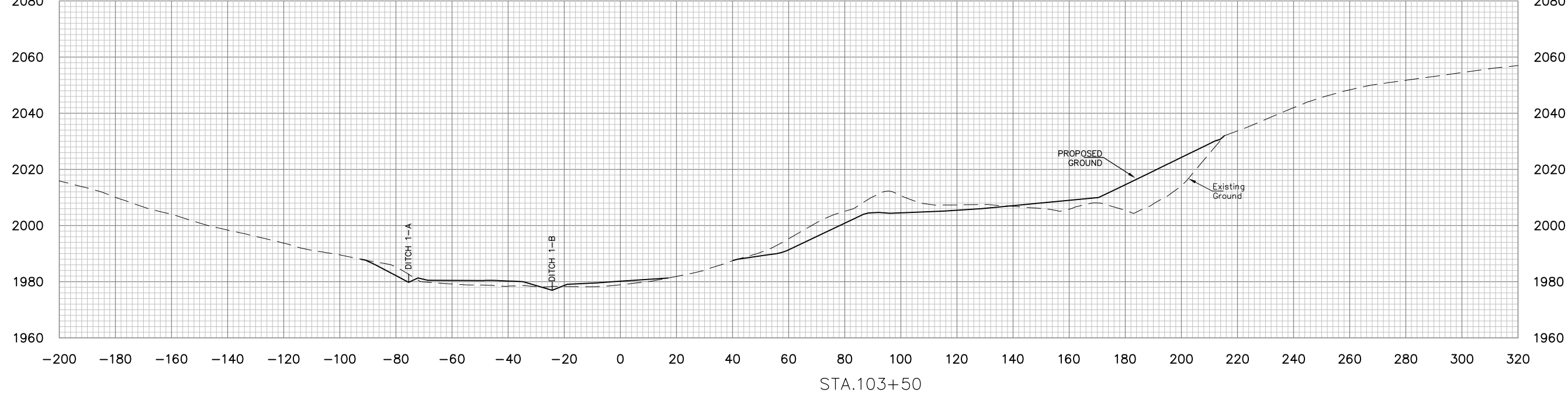
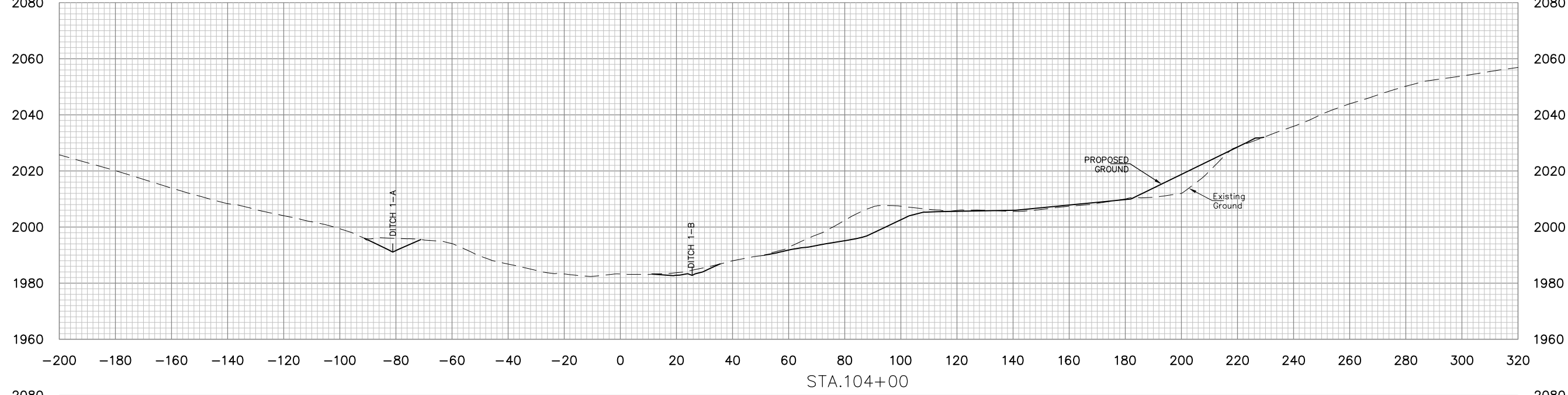
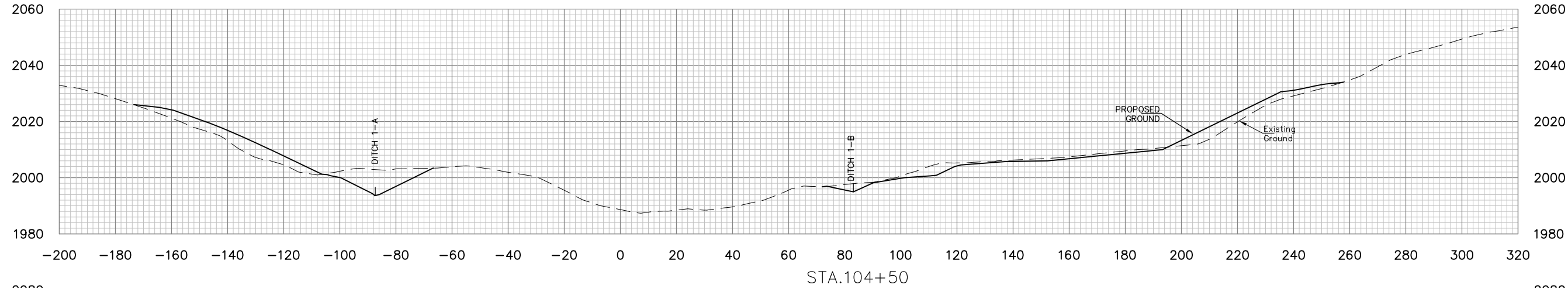
NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
BASELINE 1
CROSS SECTIONS
STA. 102+00 TO STA. 103+00

DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
29



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PROJECT INFORMATION

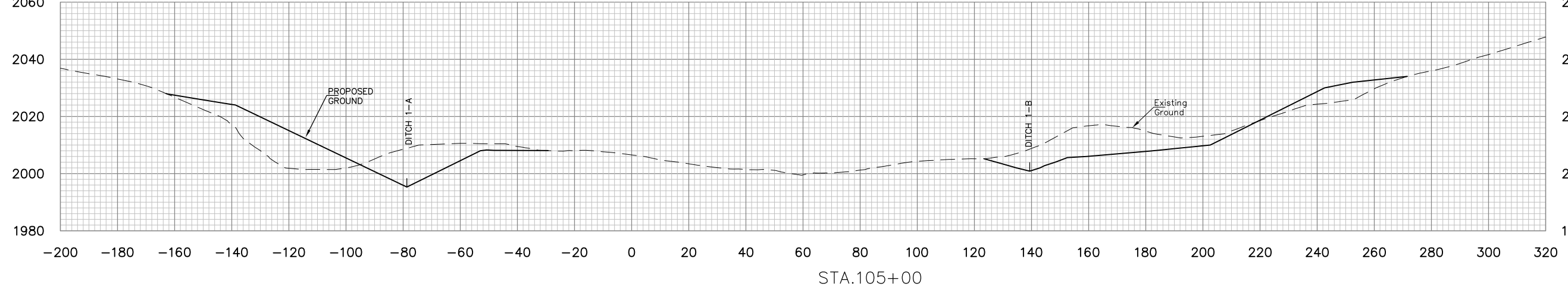
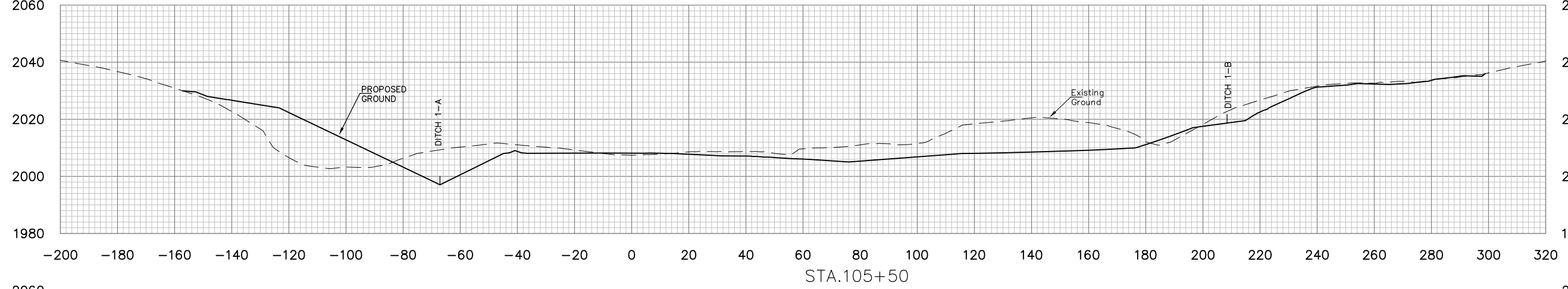
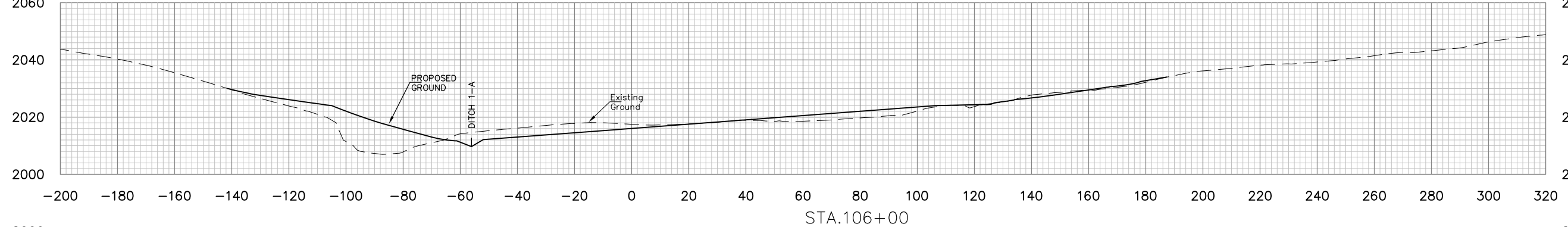
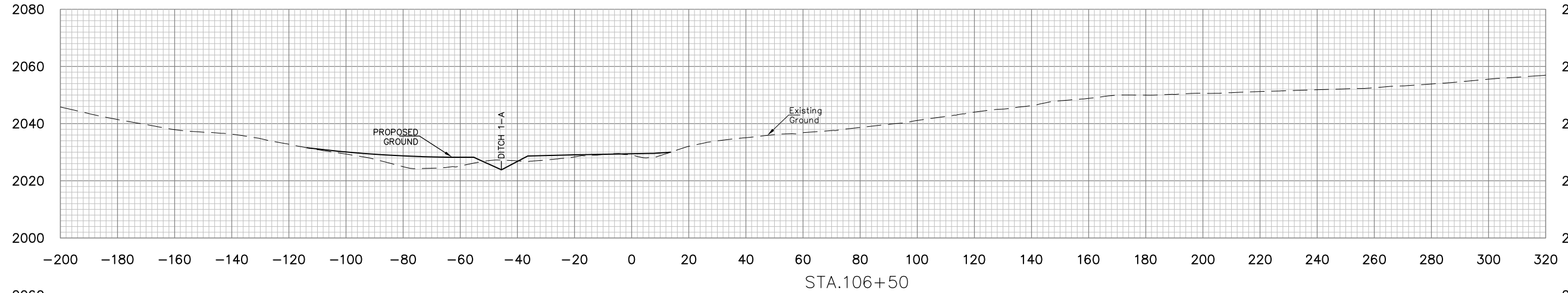
 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 1
 CROSS SECTIONS
 STA. 103+50 TO STA.104+50**

DATE
 OCTOBER 2013

SCALE
 1"=20'

DRAWING NUMBER
30



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PROJECT INFORMATION

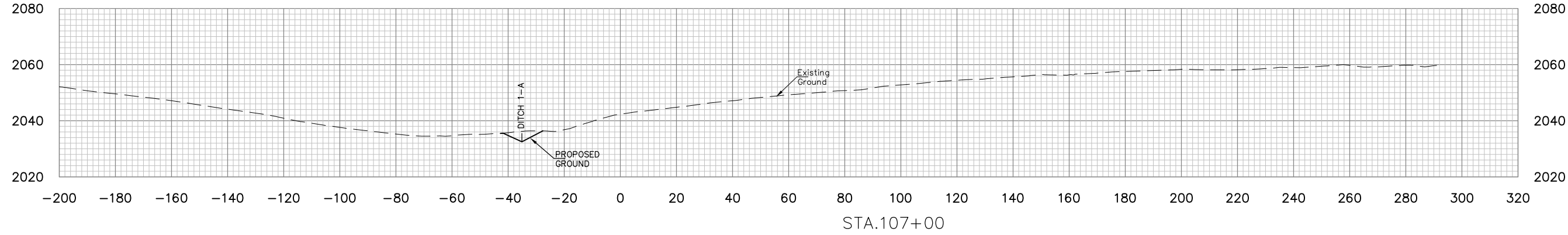
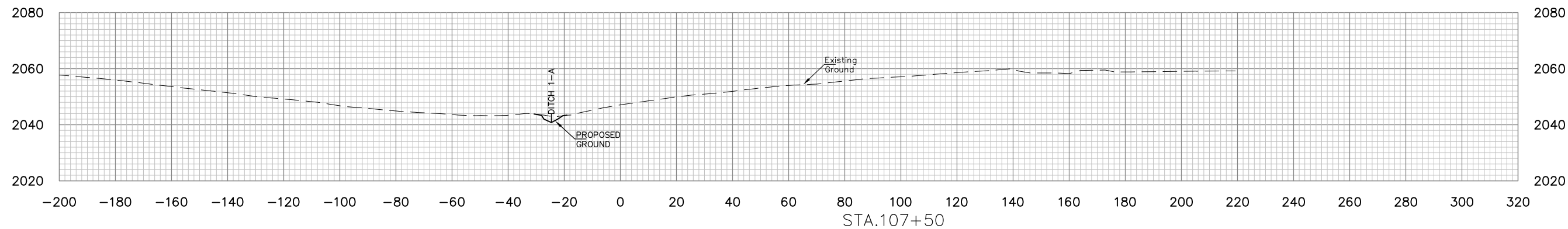
 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 1
 CROSS SECTIONS
 STA. 105+00 TO STA. 106+50**

DATE
 OCTOBER 2013

SCALE
 1"=20'

DRAWING NUMBER
31



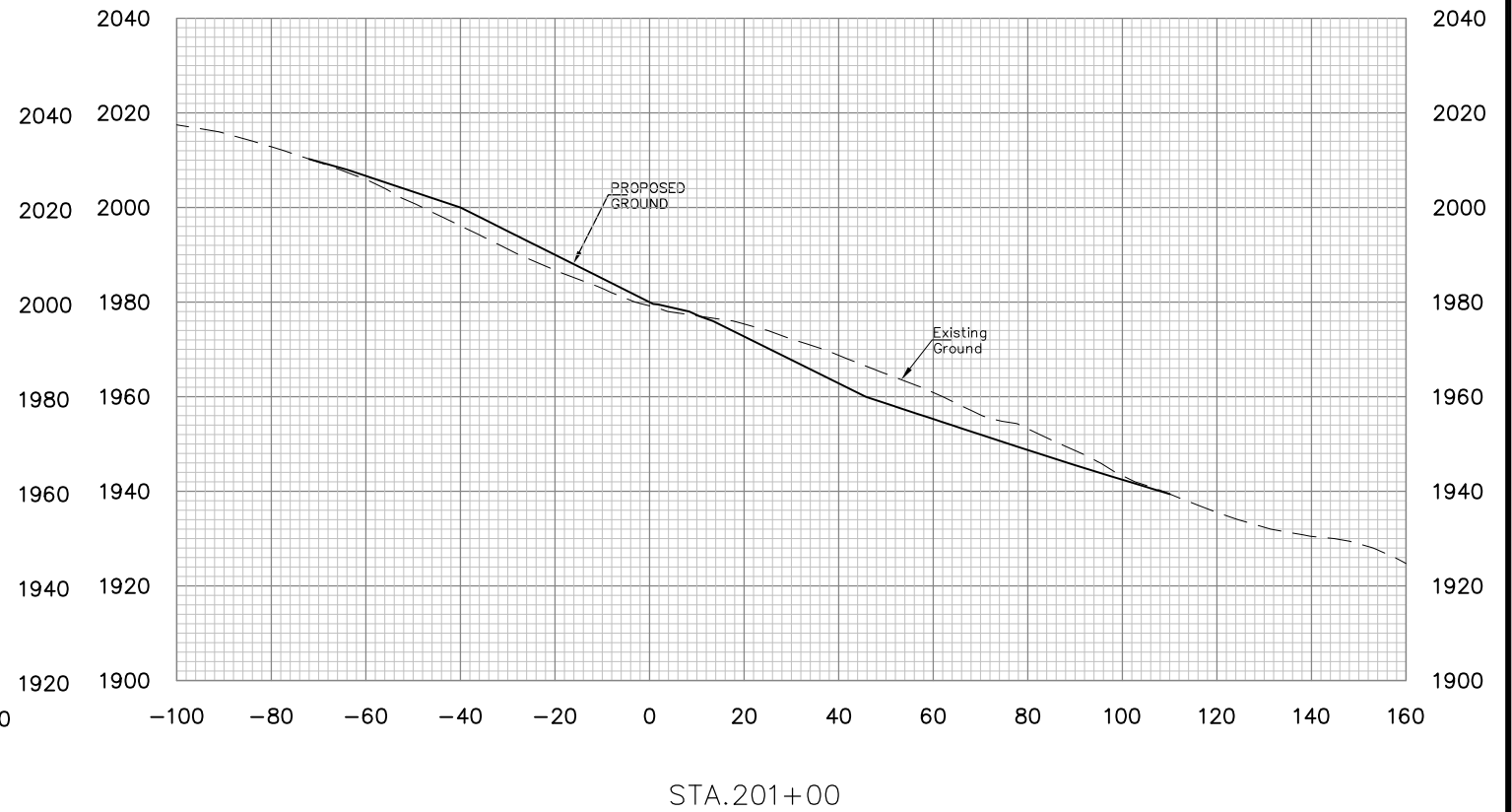
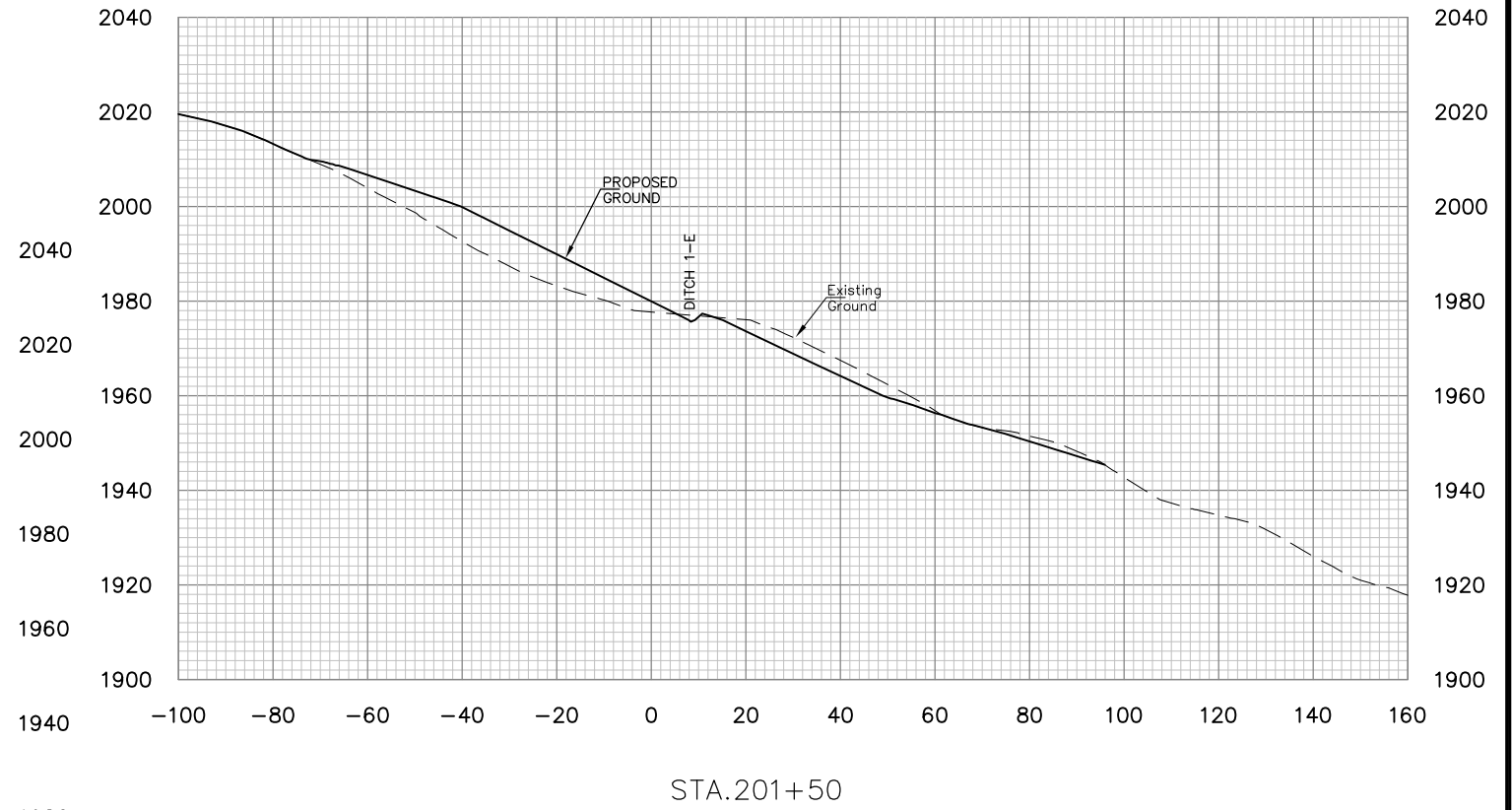
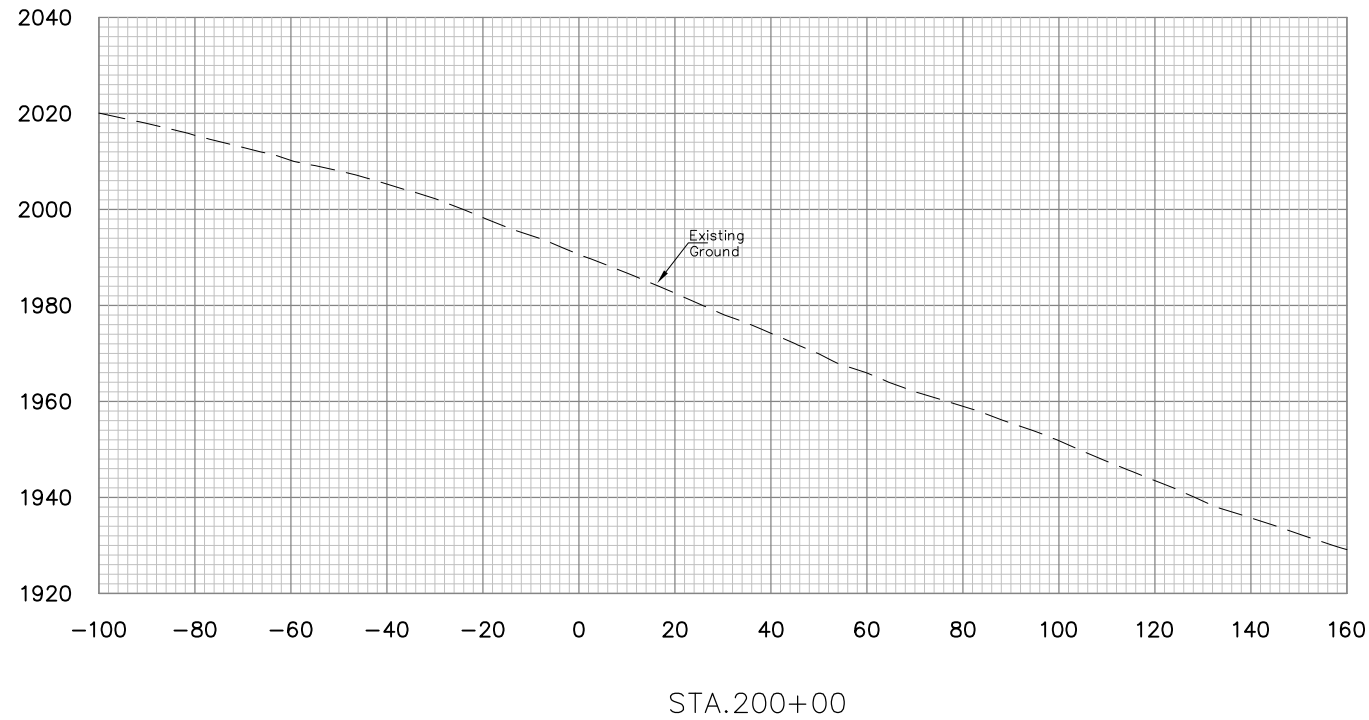
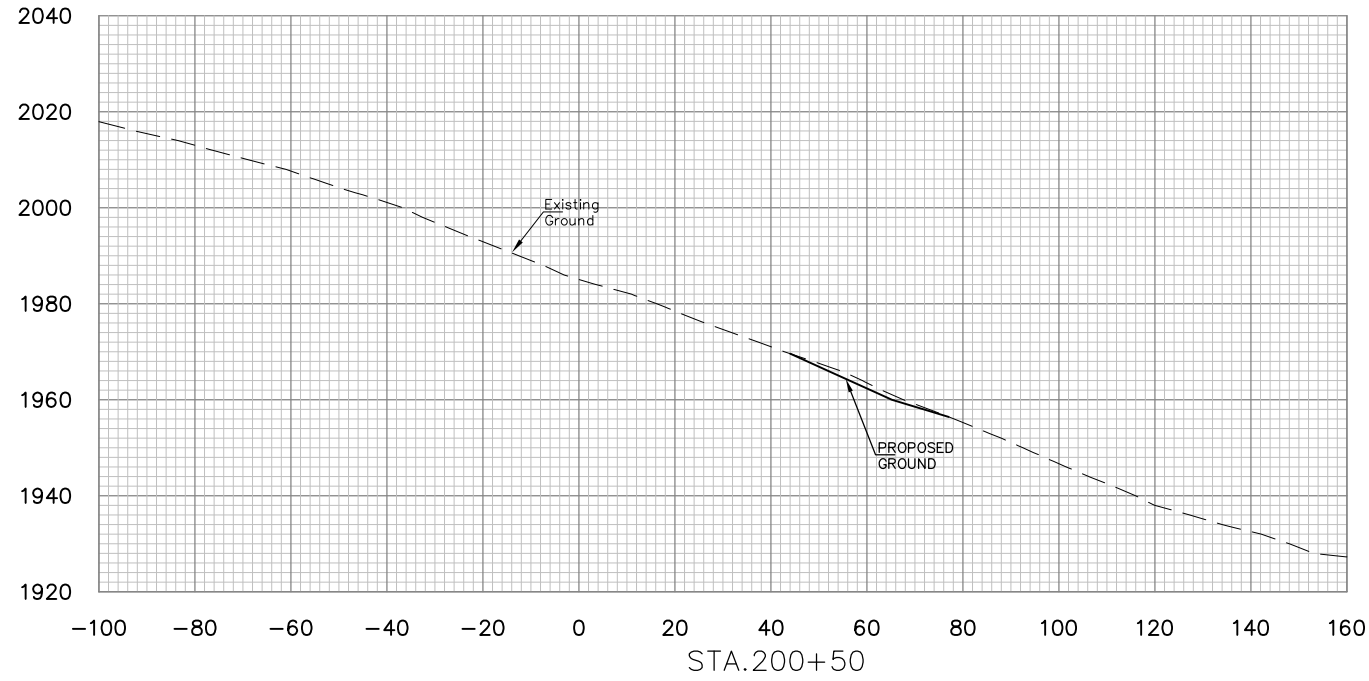
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NO.	DATE	REVISION	BY

PROJECT INFORMATION
west Virginia
dep
DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 1
CROSS SECTIONS
STA. 107+00 TO STA. 107+50**

DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
32



E.L. ROBINSON
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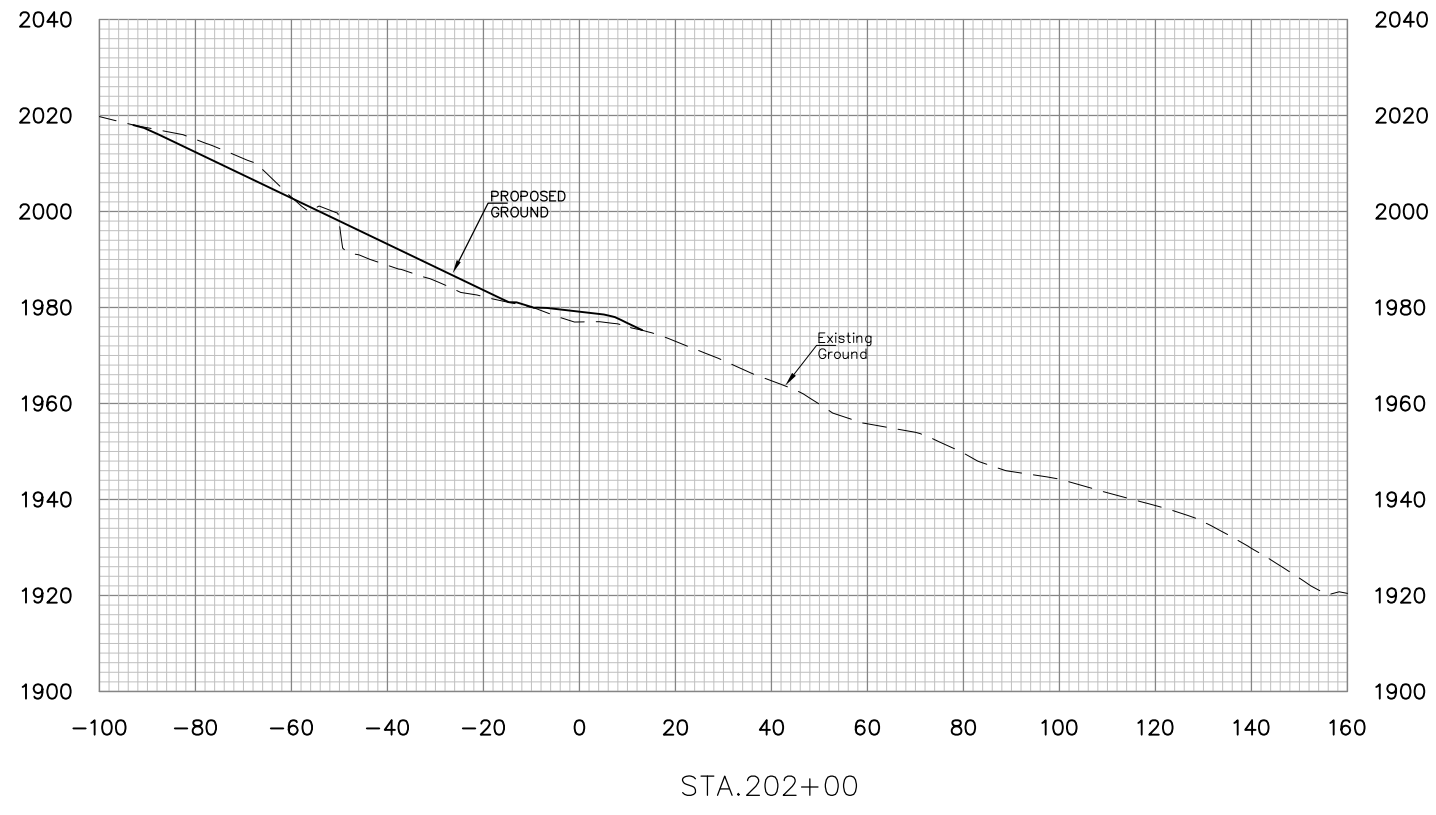
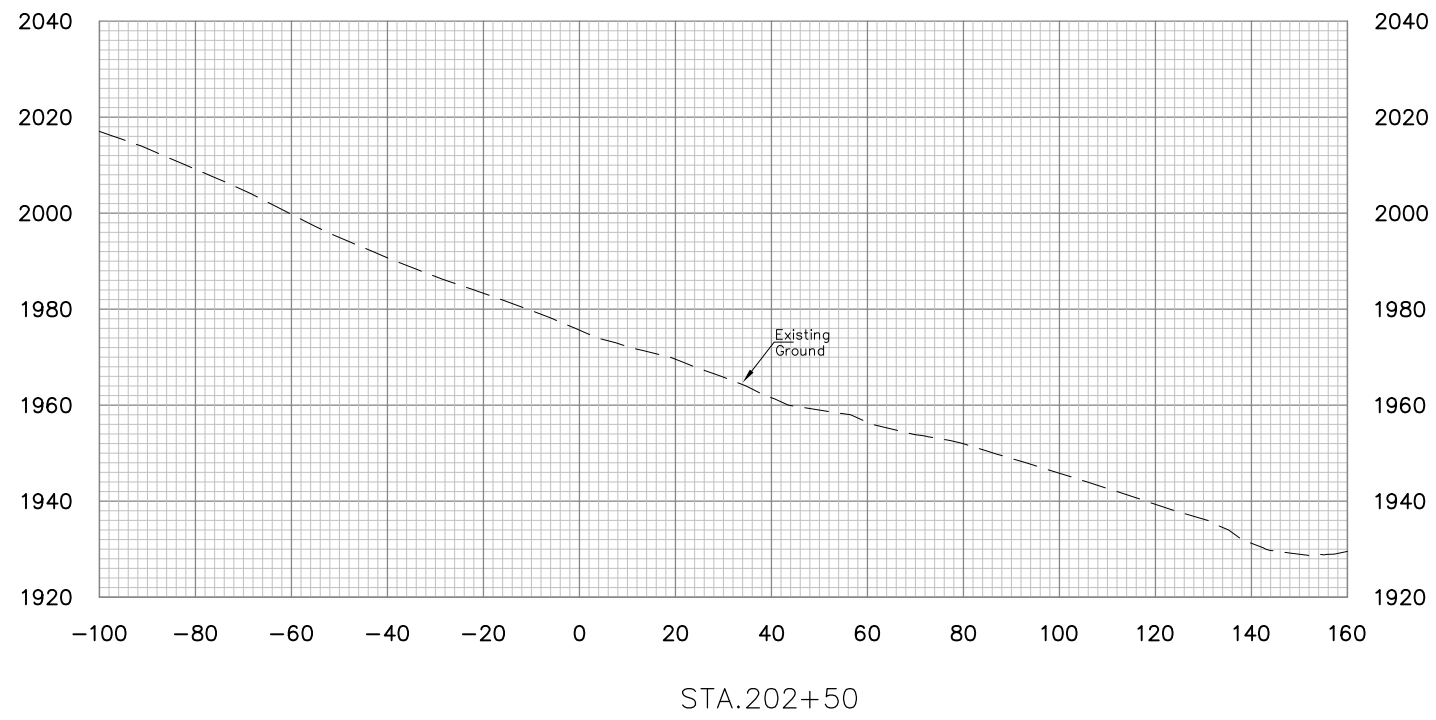
5088 Washington Street, West
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Fax: 304.776.6426

NO.	DATE	REVISION	BY

PROJECT INFORMATION
west virginia
dep
DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
BASELINE 2
CROSS SECTIONS
STA. 200+00 TO STA. 201+50

DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
33



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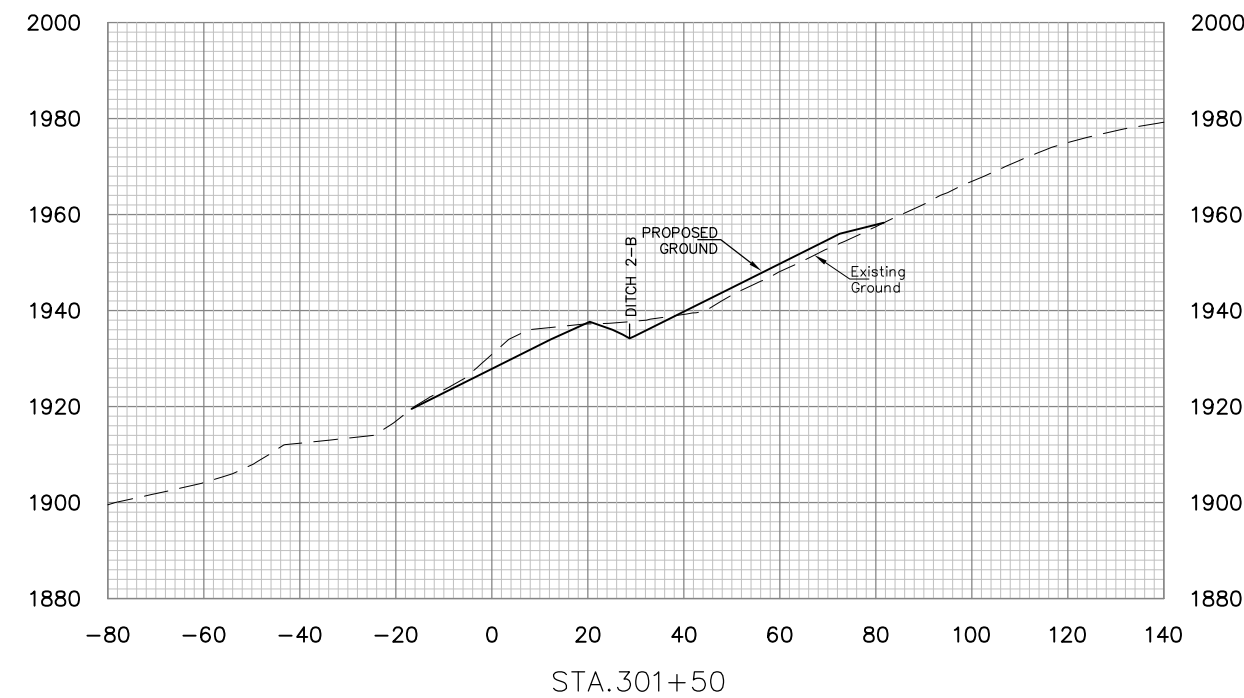
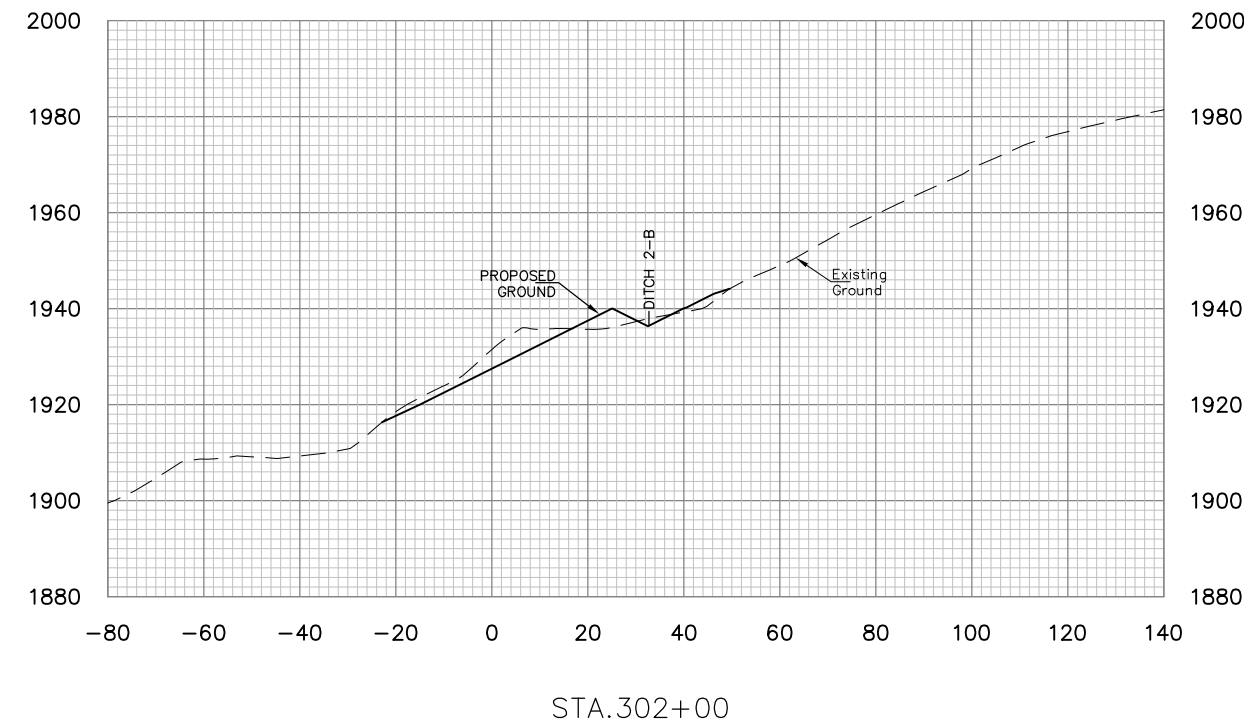
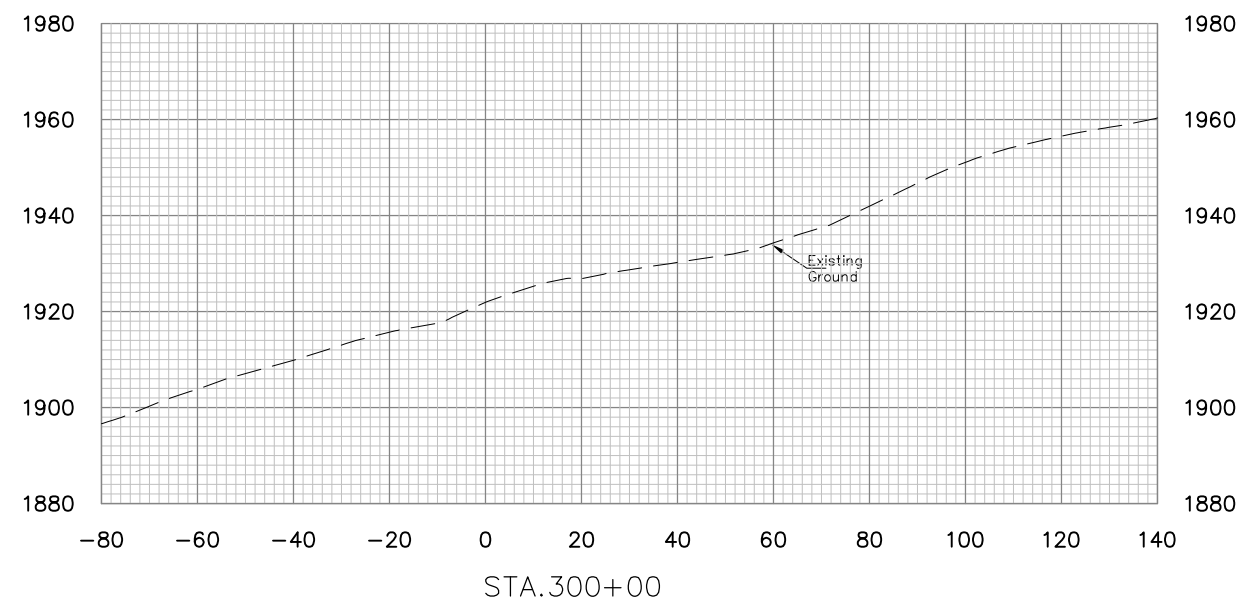
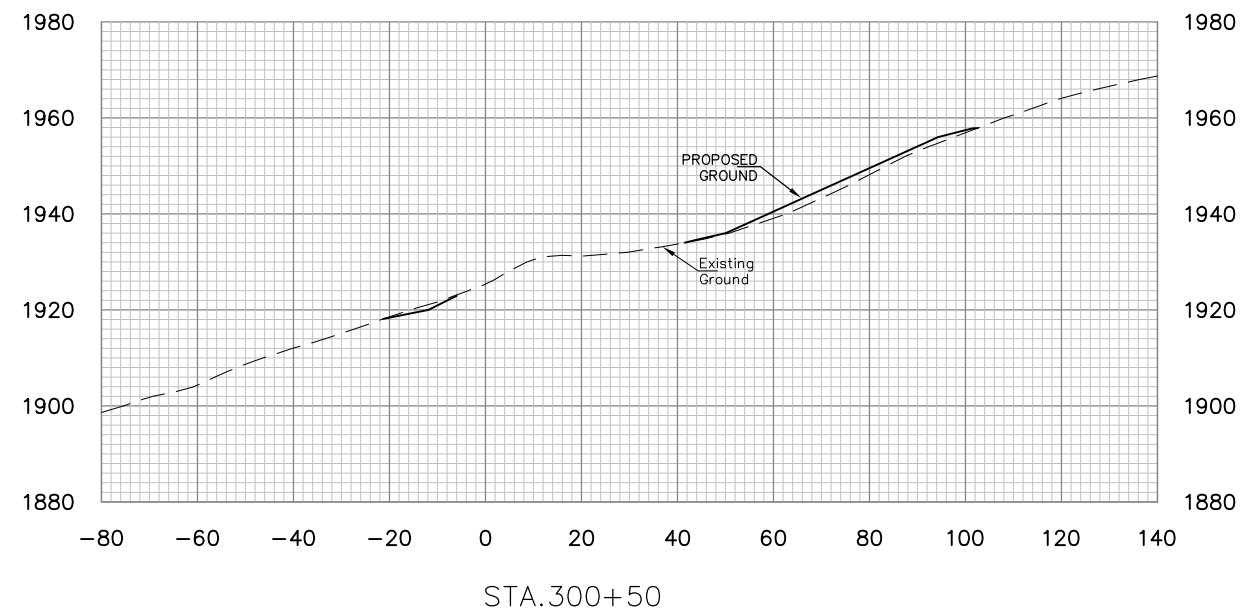
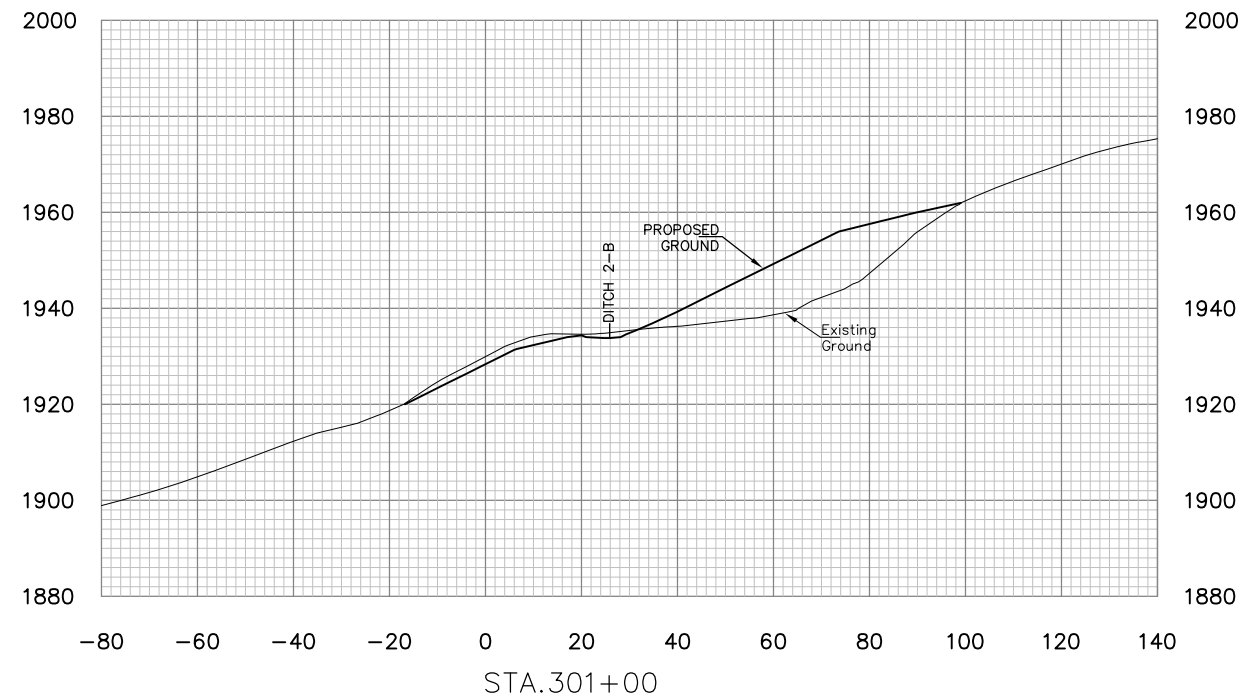
NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 2
 CROSS SECTIONS
 STA. 202+00 TO STA. 202+50**

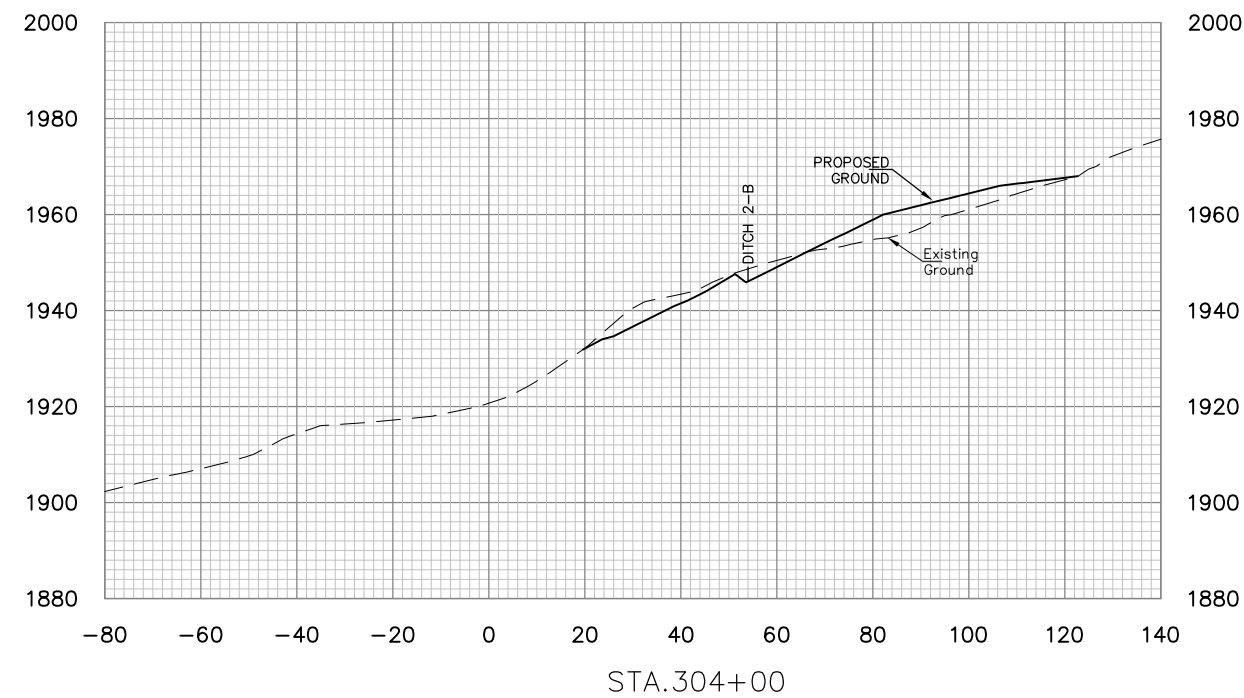
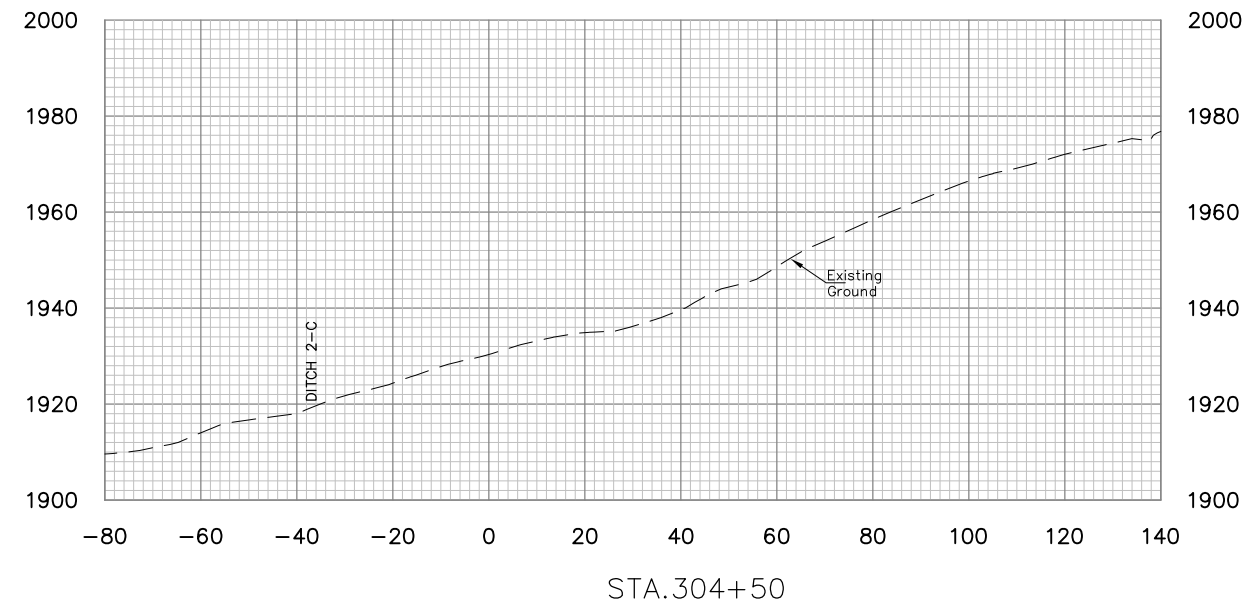
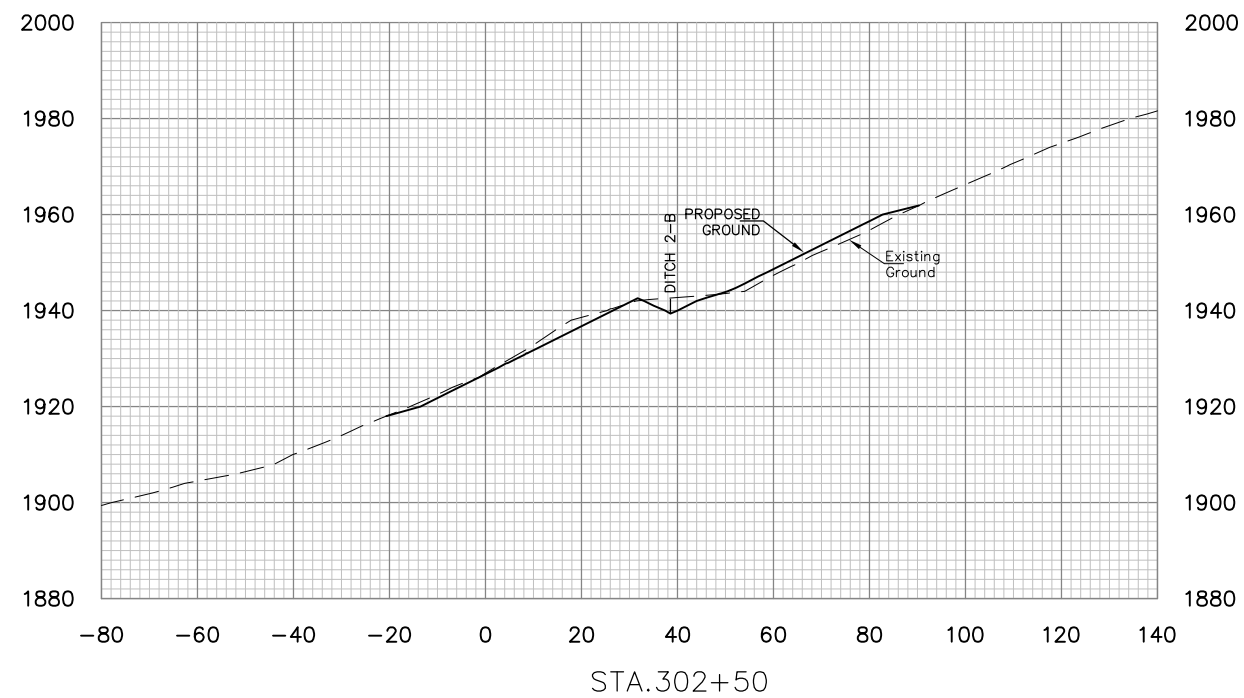
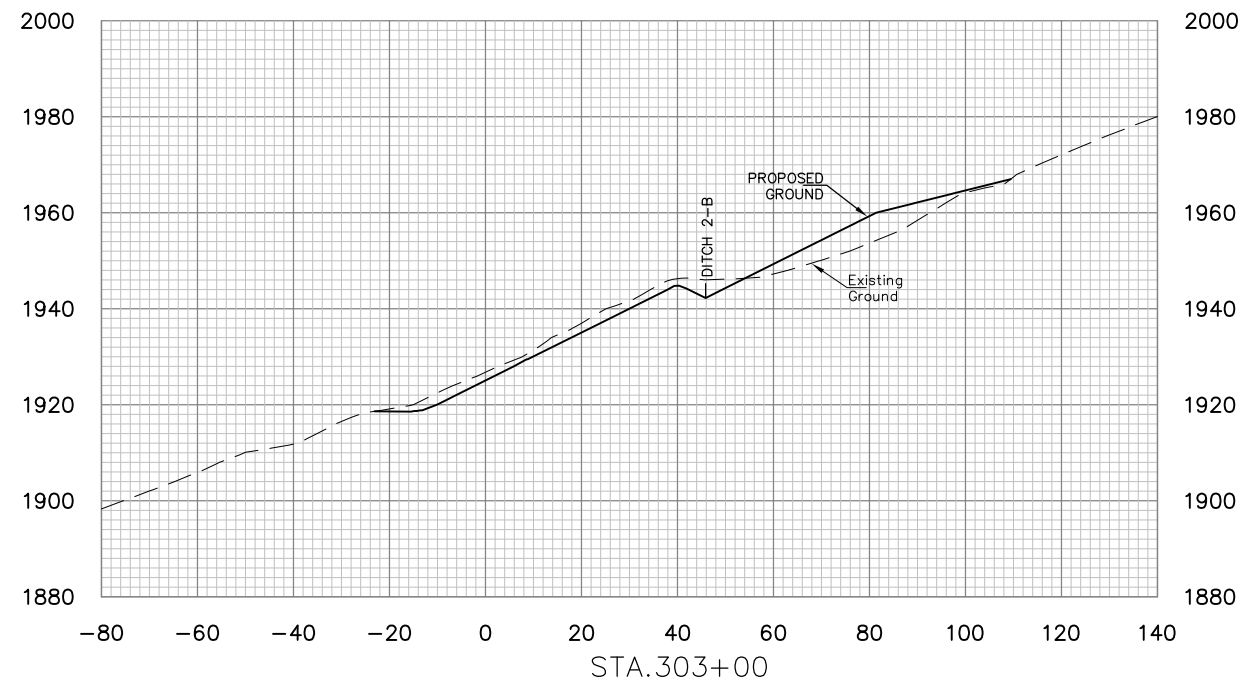
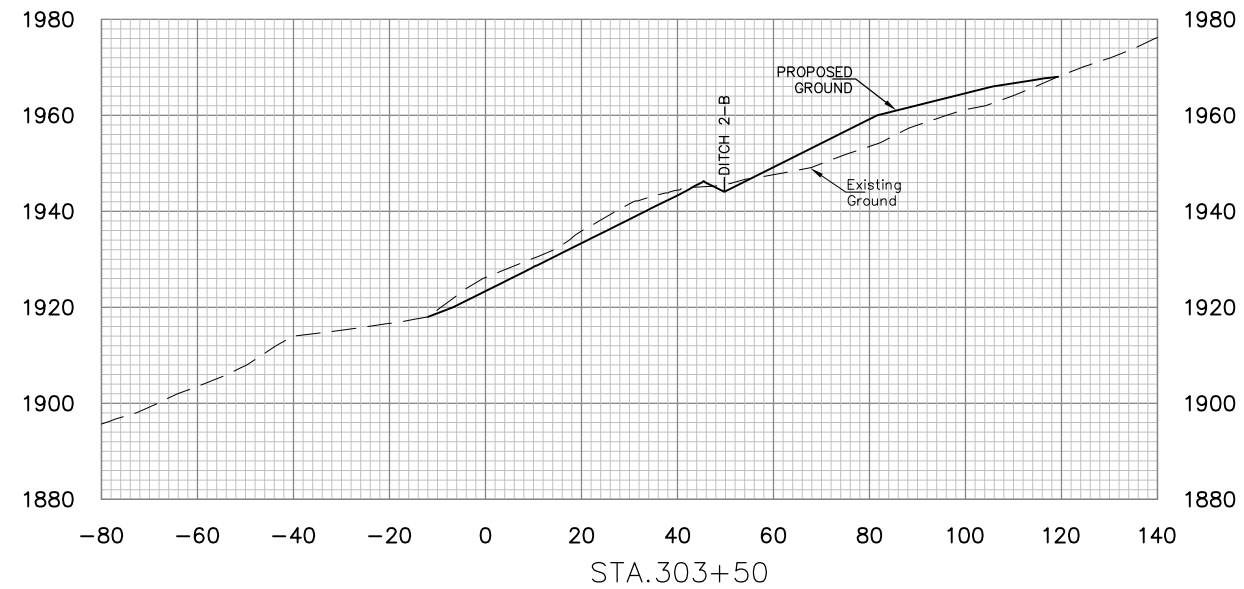
DATE
 OCTOBER 2013
 SCALE
 1"=20'
 DRAWING NUMBER
34



NO.	DATE	REVISION	BY



DRAWING TITLE
**BASELINE 3
CROSS SECTIONS
STA. 300+00 TO STA. 302+00**



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
DEPARTMENT OF ENVIRONMENTAL PROTECTION
dep

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

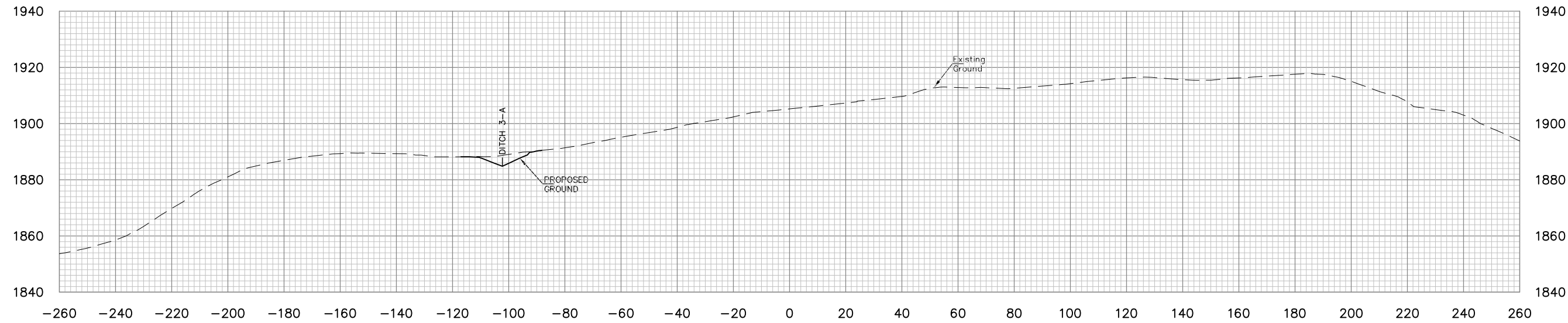
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**BASELINE 3
CROSS SECTIONS
STA. 302+50 TO STA. 304+50**

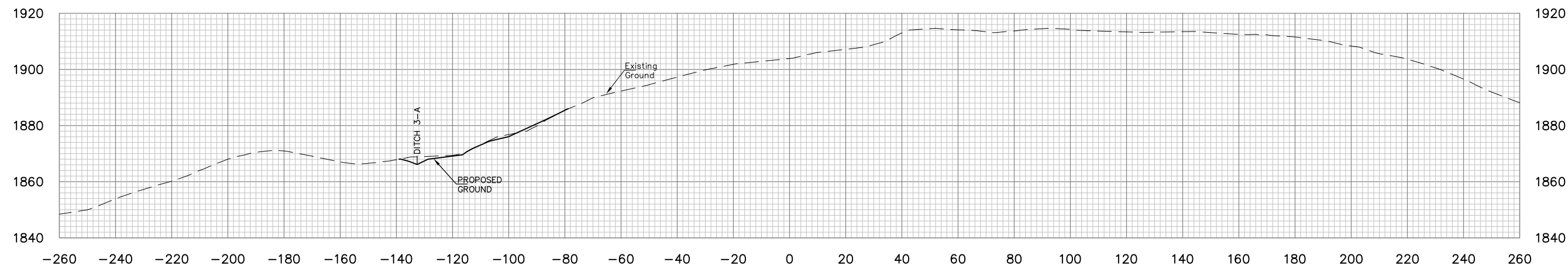
DATE
OCTOBER 2013

SCALE
1"=20'

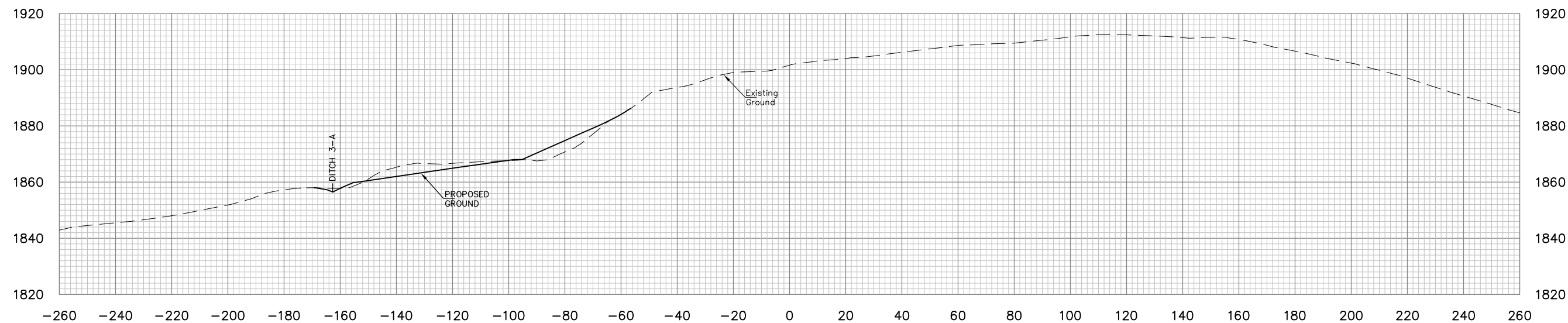
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STA.401+00



STA.400+50




STA.400+00

E.L. ROBINSON
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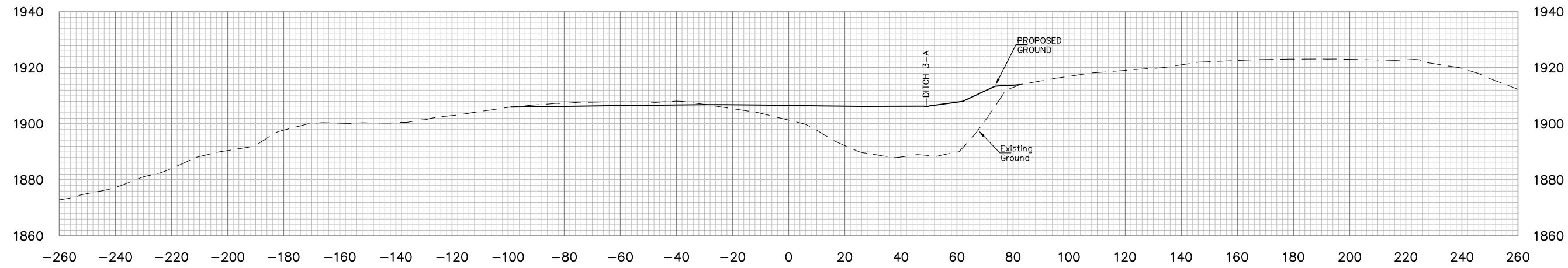
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304.776.4743
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NO.	DATE	REVISION	BY

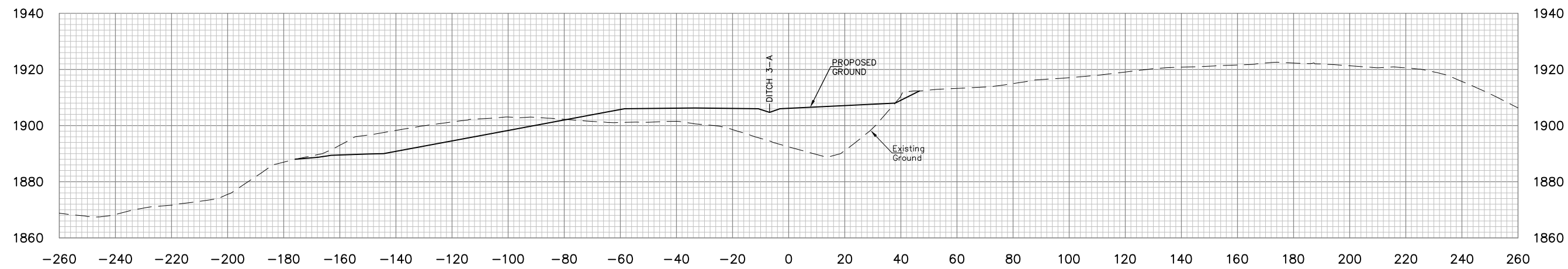
PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 400+00 TO STA. 401+00**

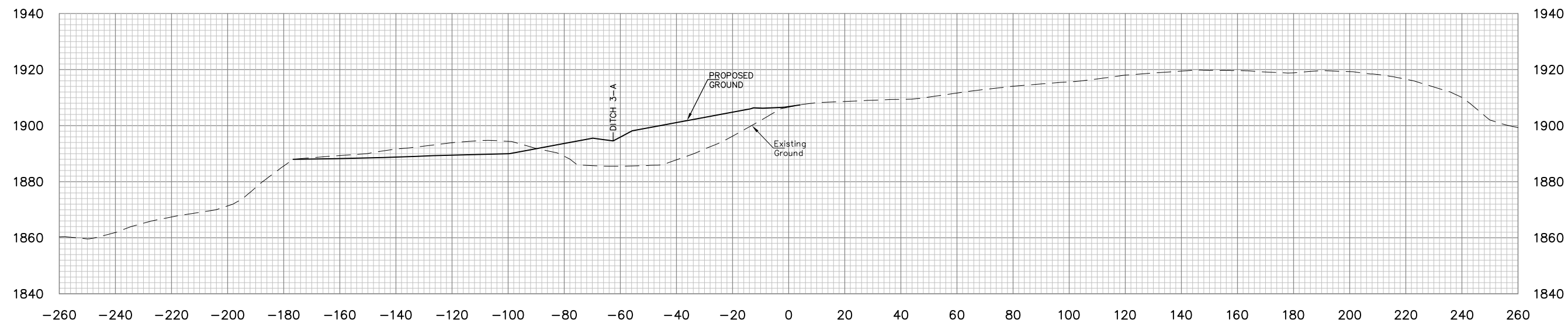
DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
37



STA.402+50



STA.402+00



STA.401+50

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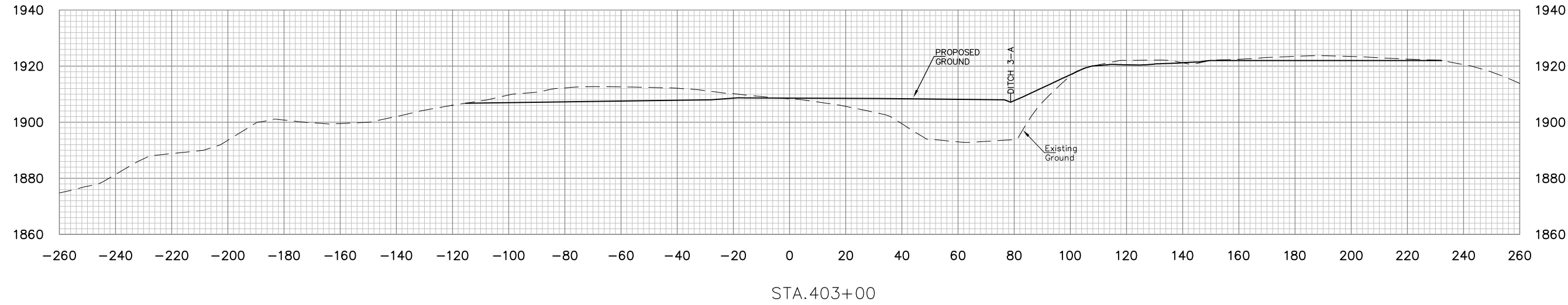
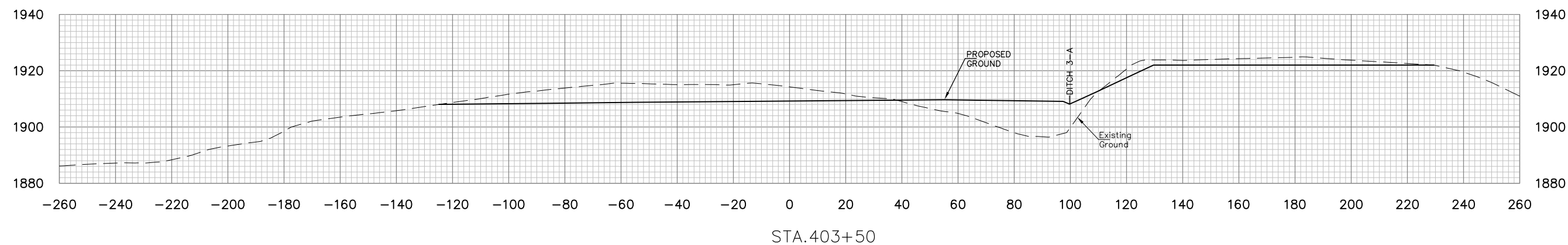
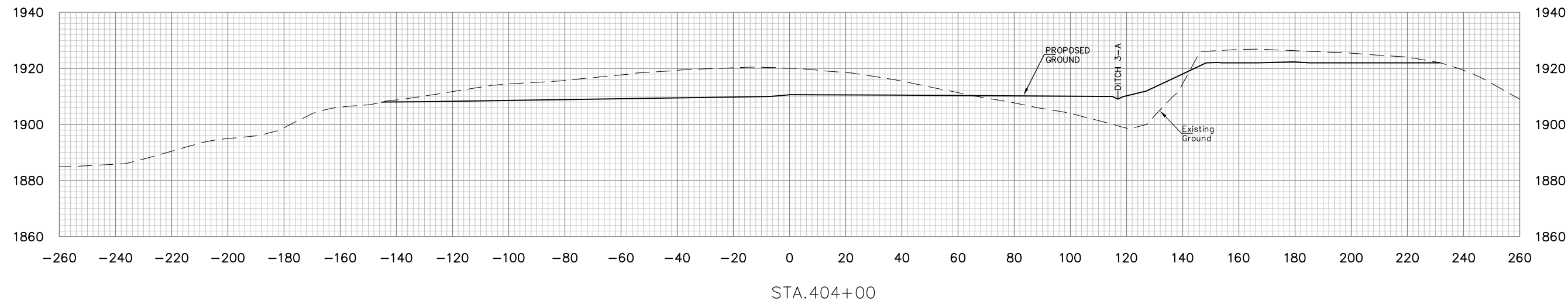
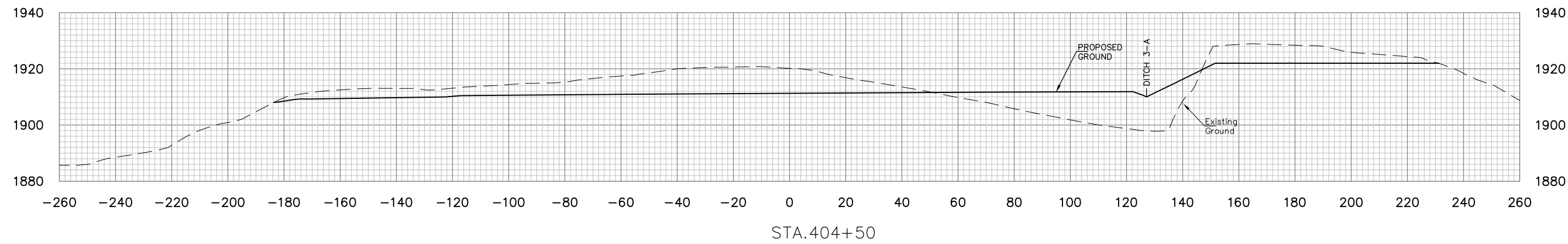
NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 401+50 TO STA. 402+50**

DATE
OCTBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
38



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

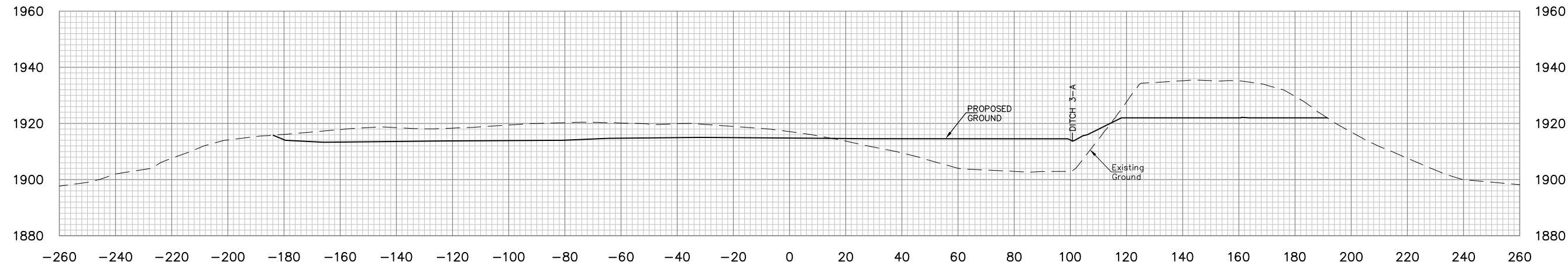
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**BASELINE 4
CROSS SECTIONS
STA. 403+00 TO STA.404+50**

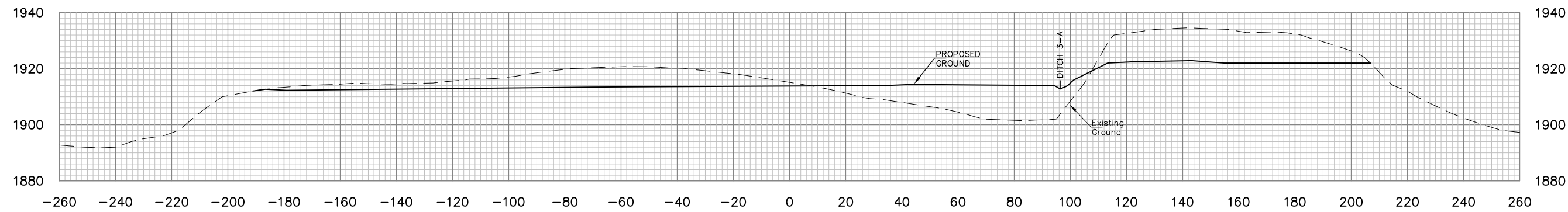
DATE
OCTBER 2013

SCALE
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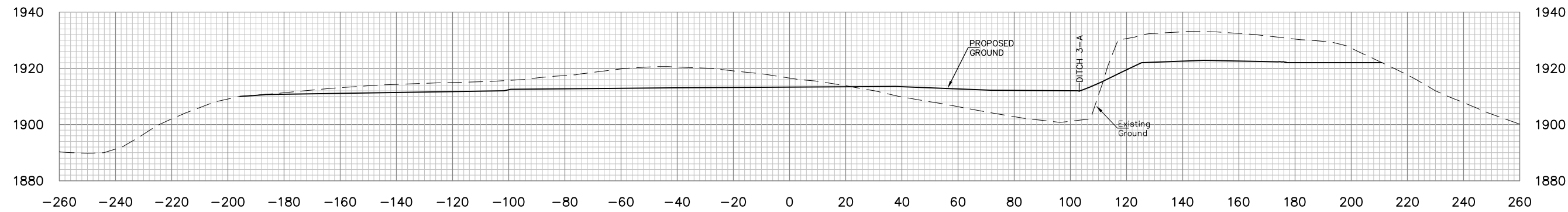
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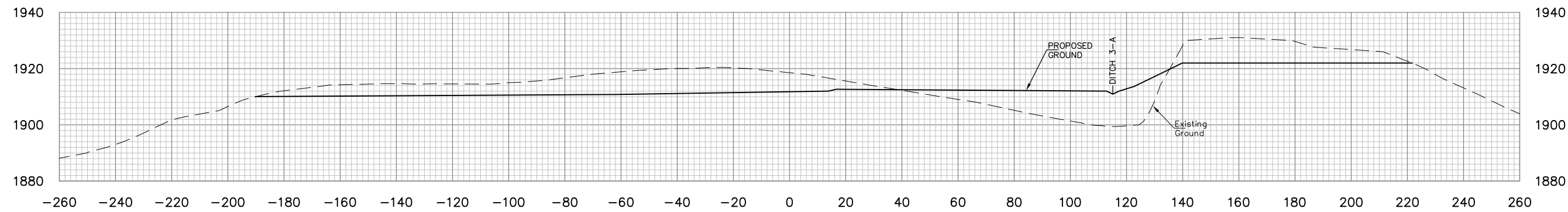
STA.406+50



STA.406+00



STA.405+50



STA.405+00

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NO.	DATE	REVISION	BY

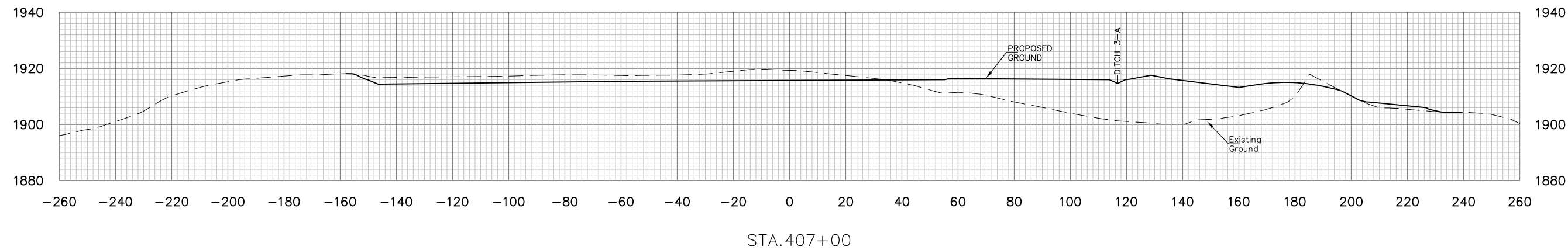
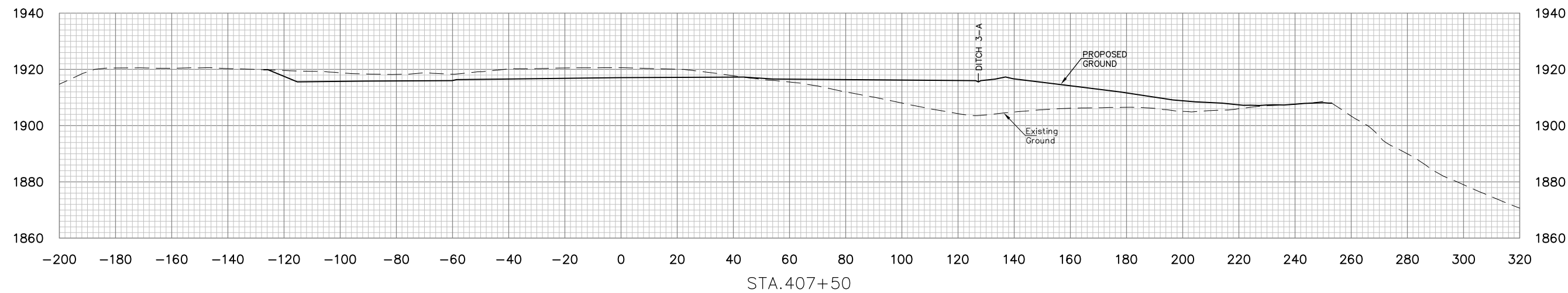
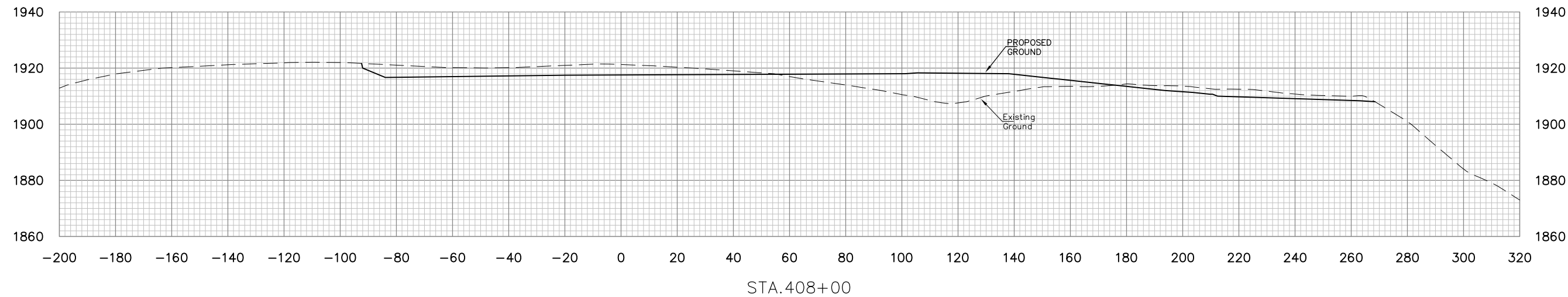
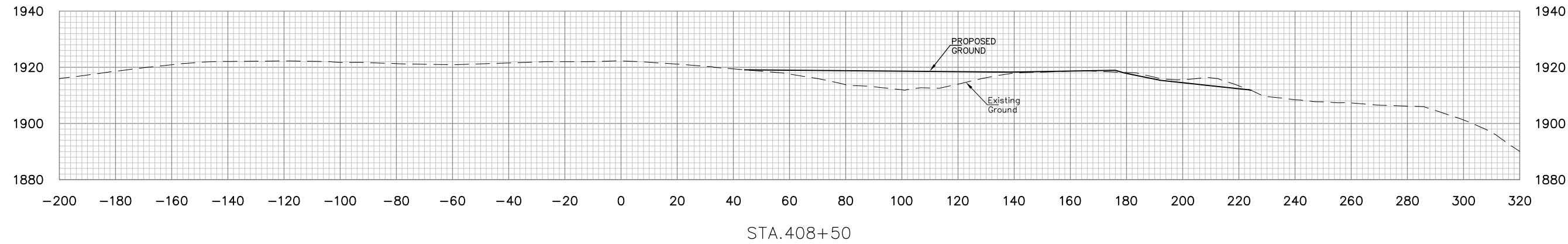
PROJECT INFORMATION
 west Virginia
 dep
 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 405+00 TO STA.406+50**

DATE
 OCTBER 2013

SCALE
 1"=20'

DRAWING NUMBER
40



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 407+00 TO STA. 408+50**

DATE
OCTBER 2013

SCALE
1"=20'

DRAWING NUMBER
41

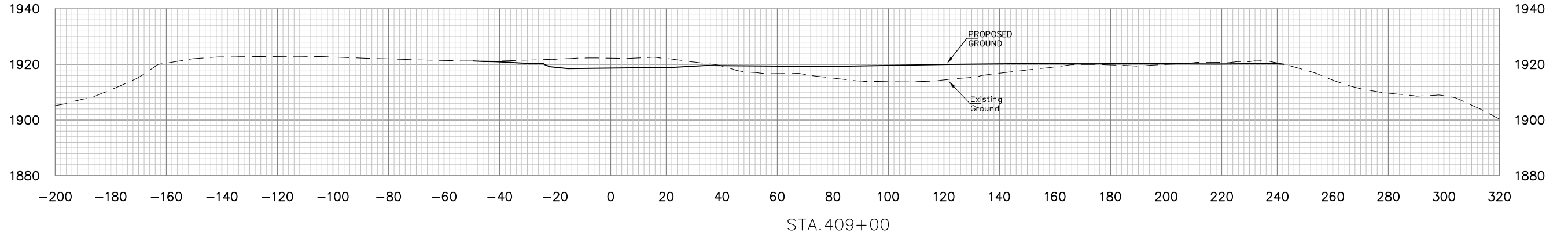
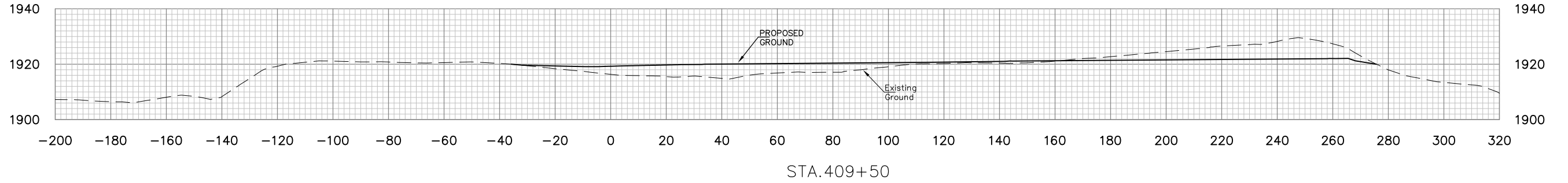
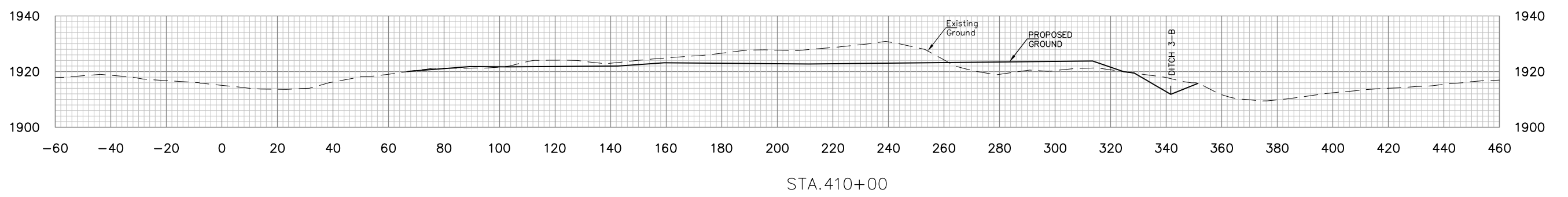
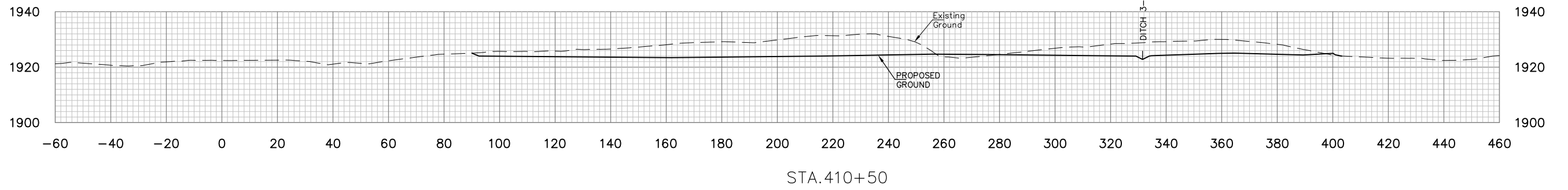
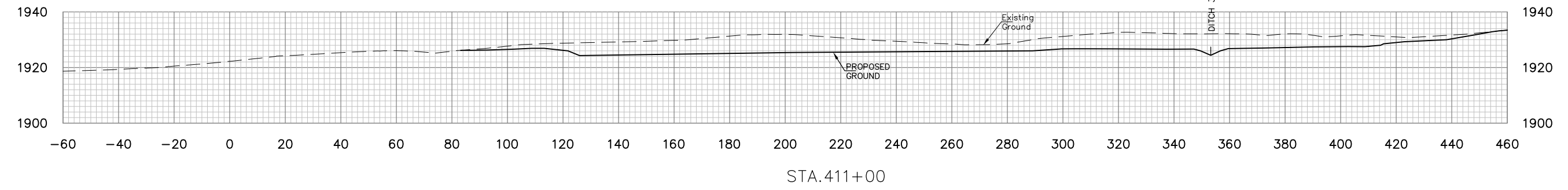
NO.	DATE	REVISION	BY

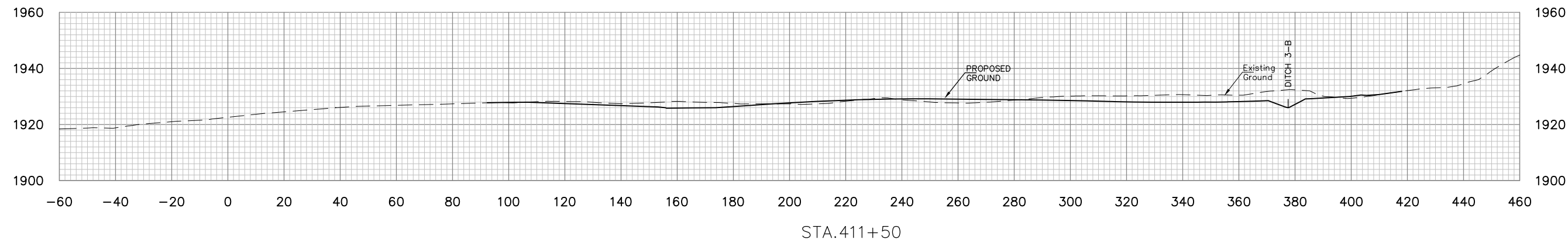
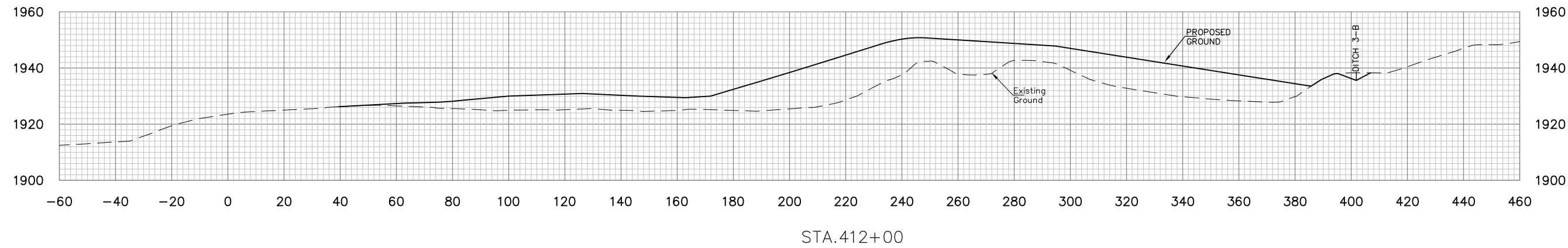
PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 409+00 TO STA. 411+00**

DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
42





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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

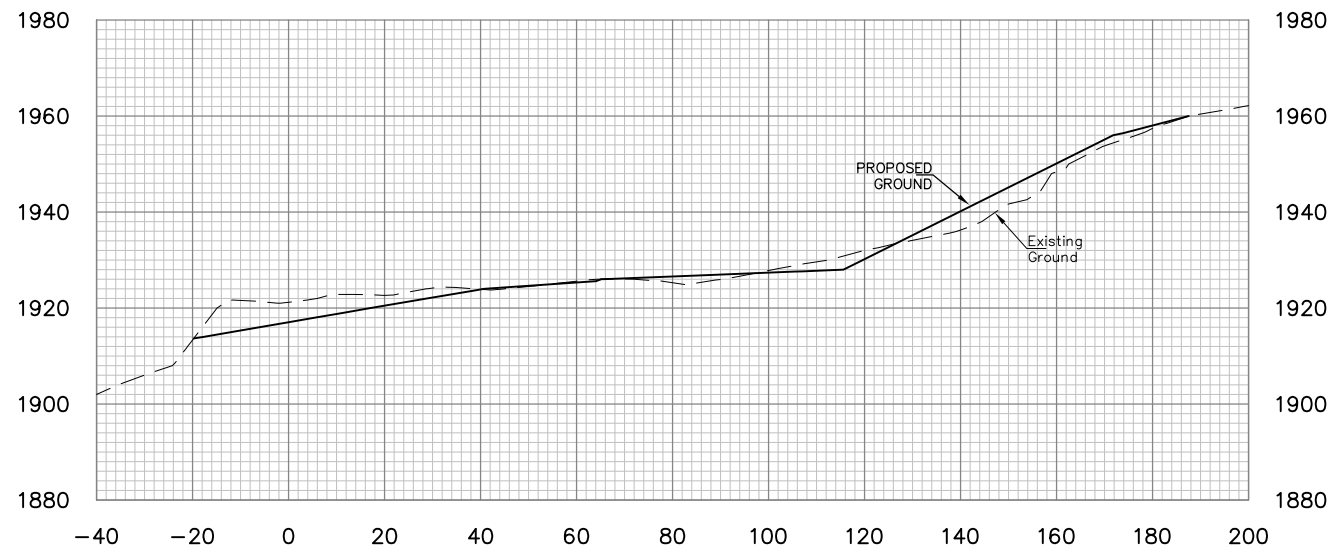
DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 411+50 TO STA. 412+00**

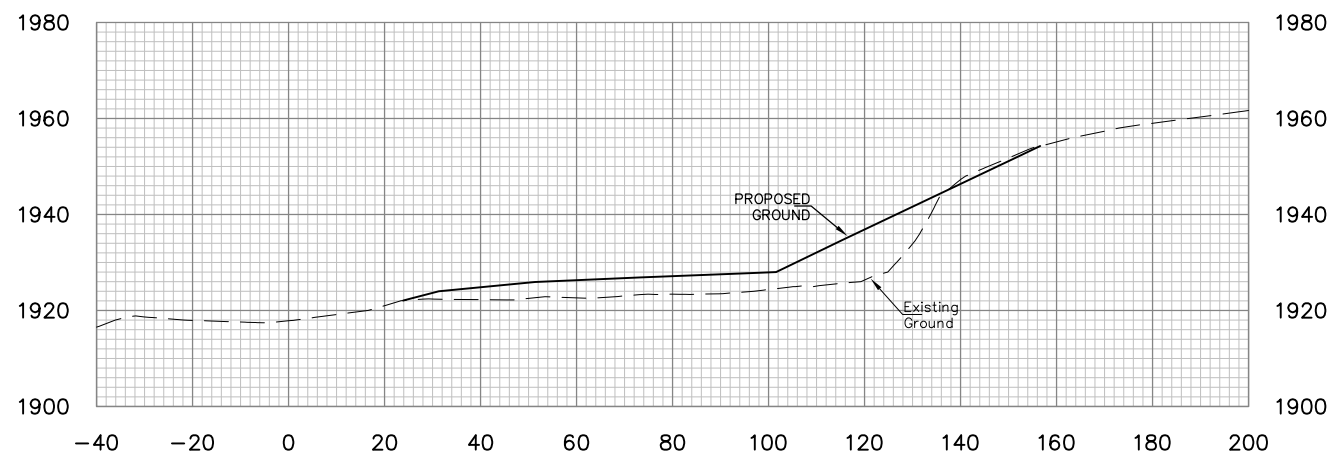
DATE
OCTOBER 2013

SCALE
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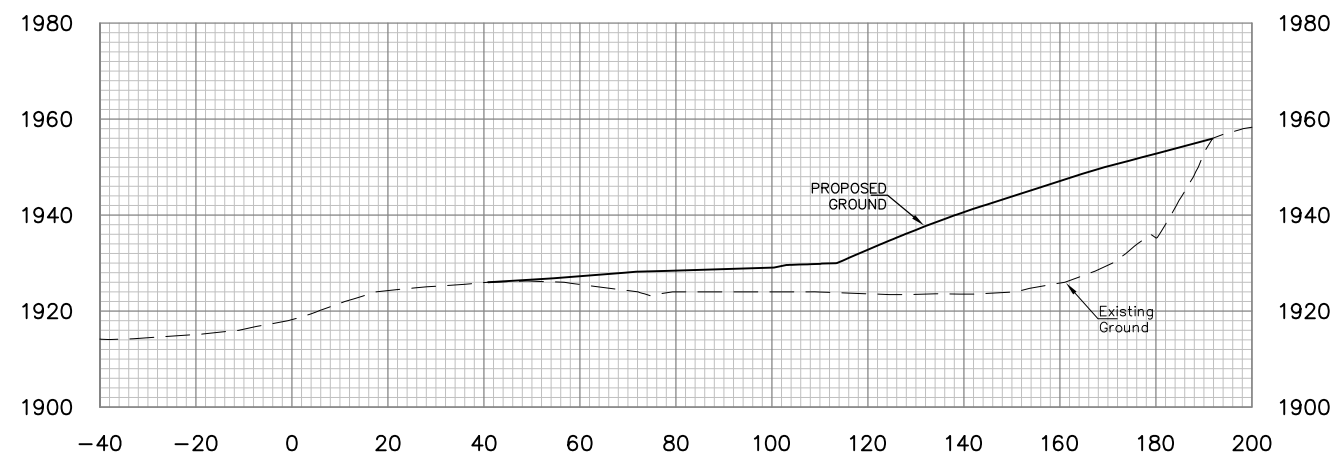
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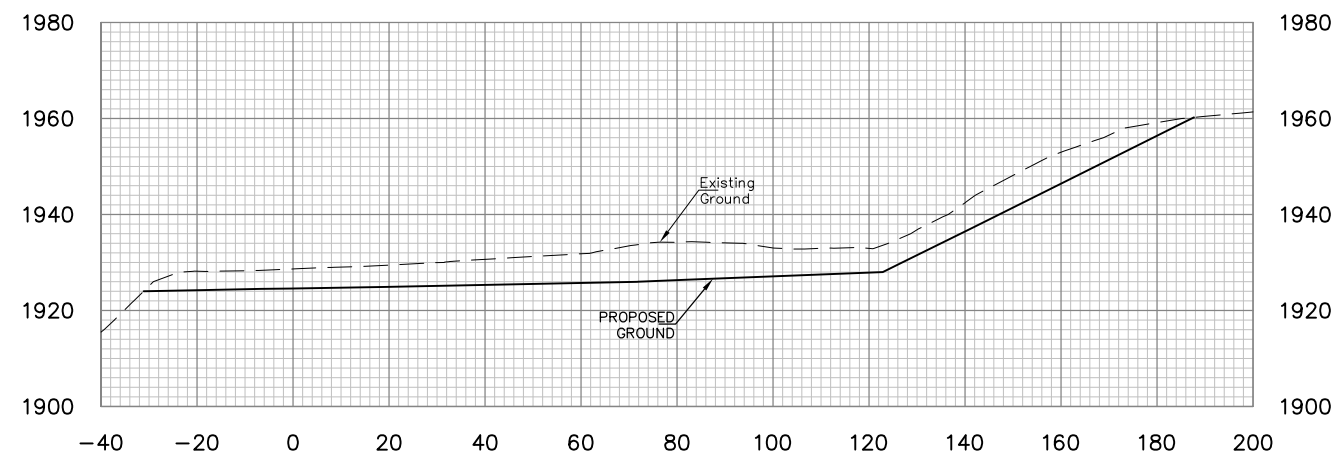
STA. 413+50



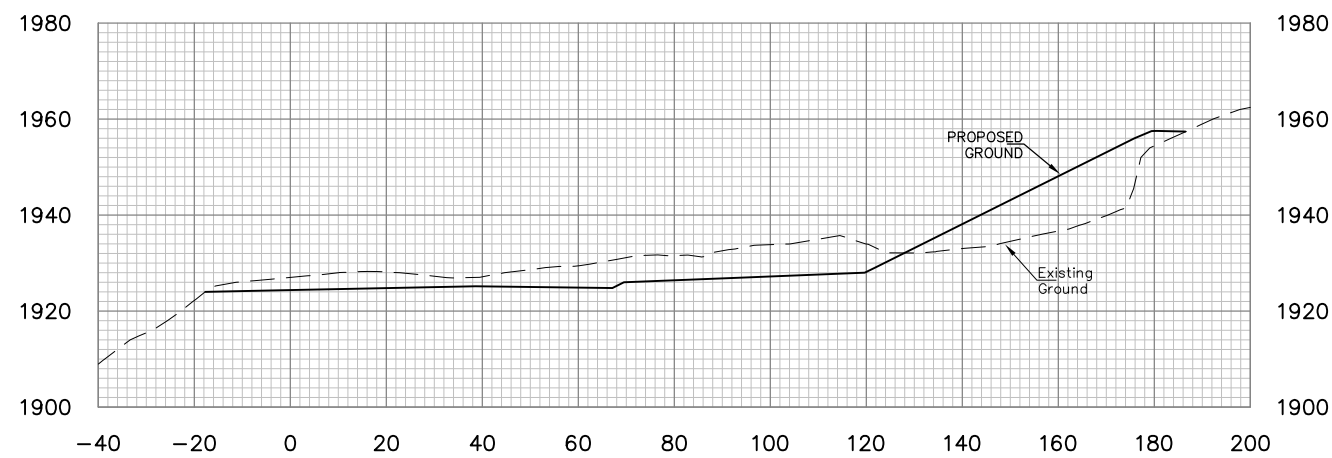
STA. 413+00



STA. 412+50

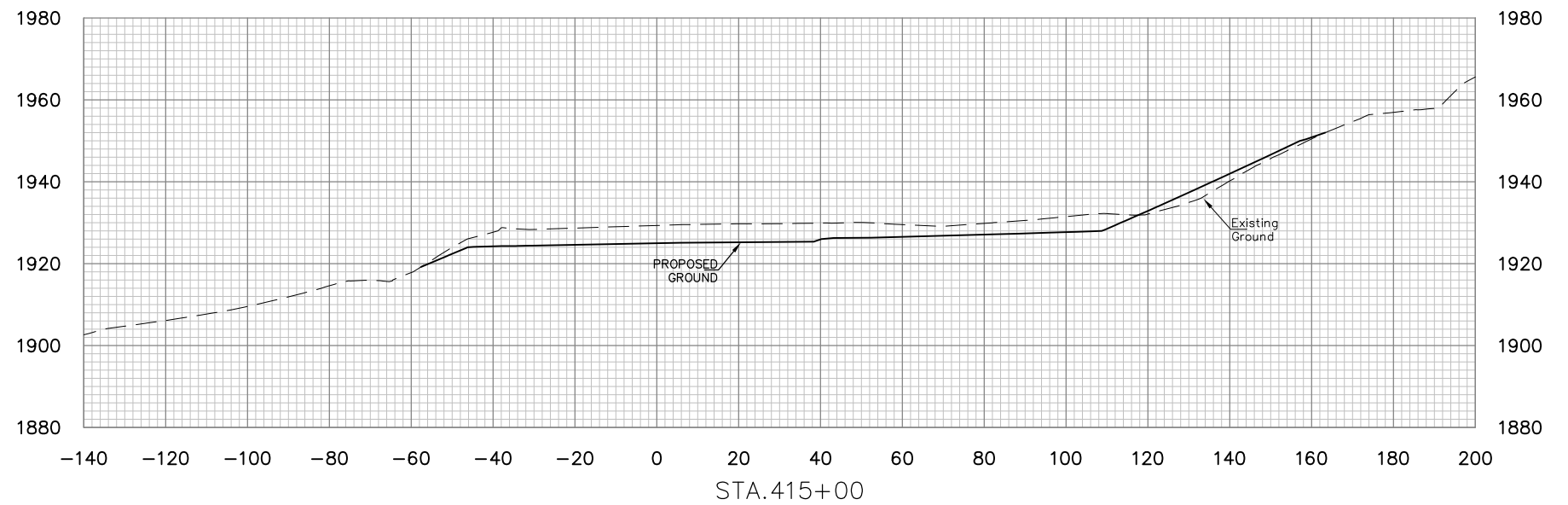
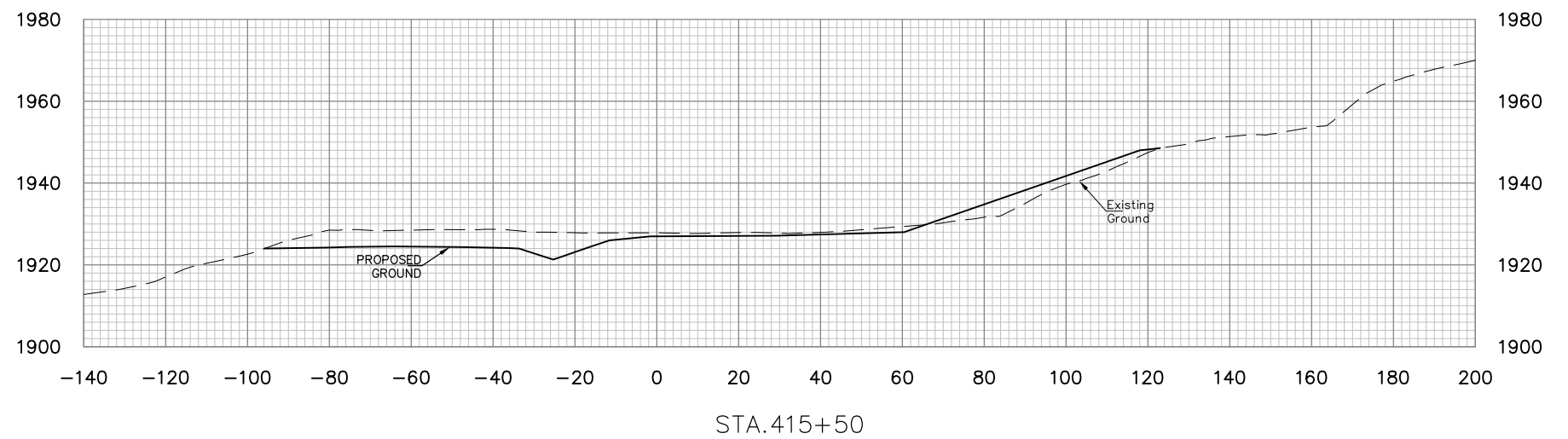
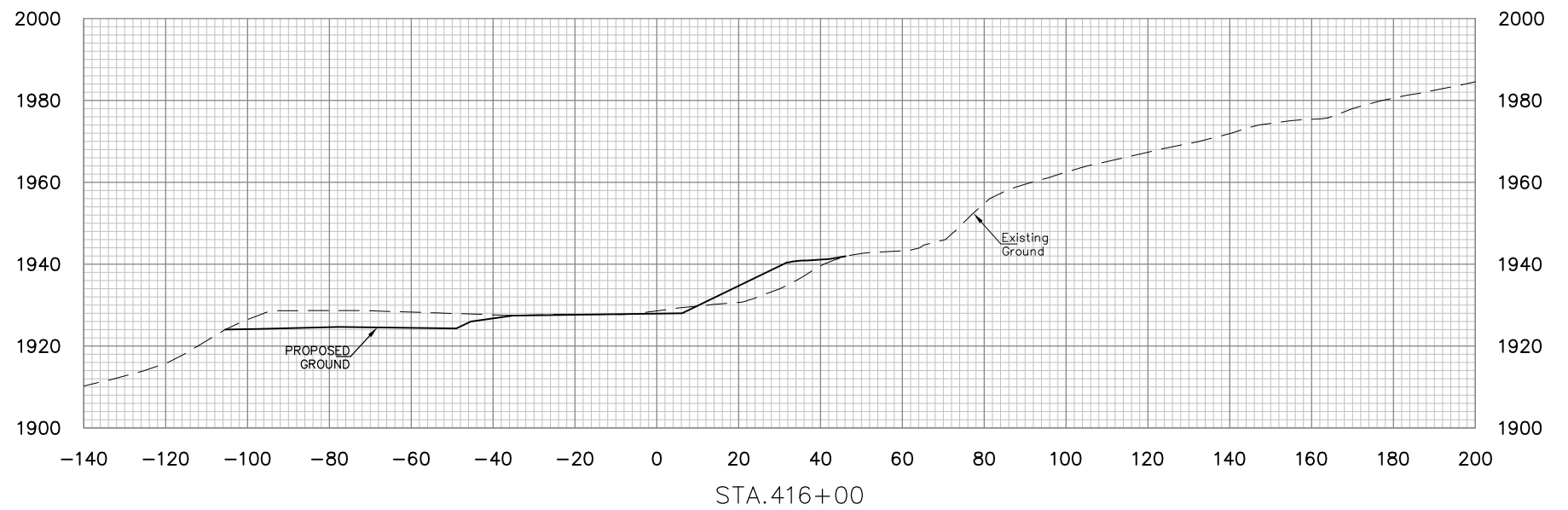


STA. 414+50

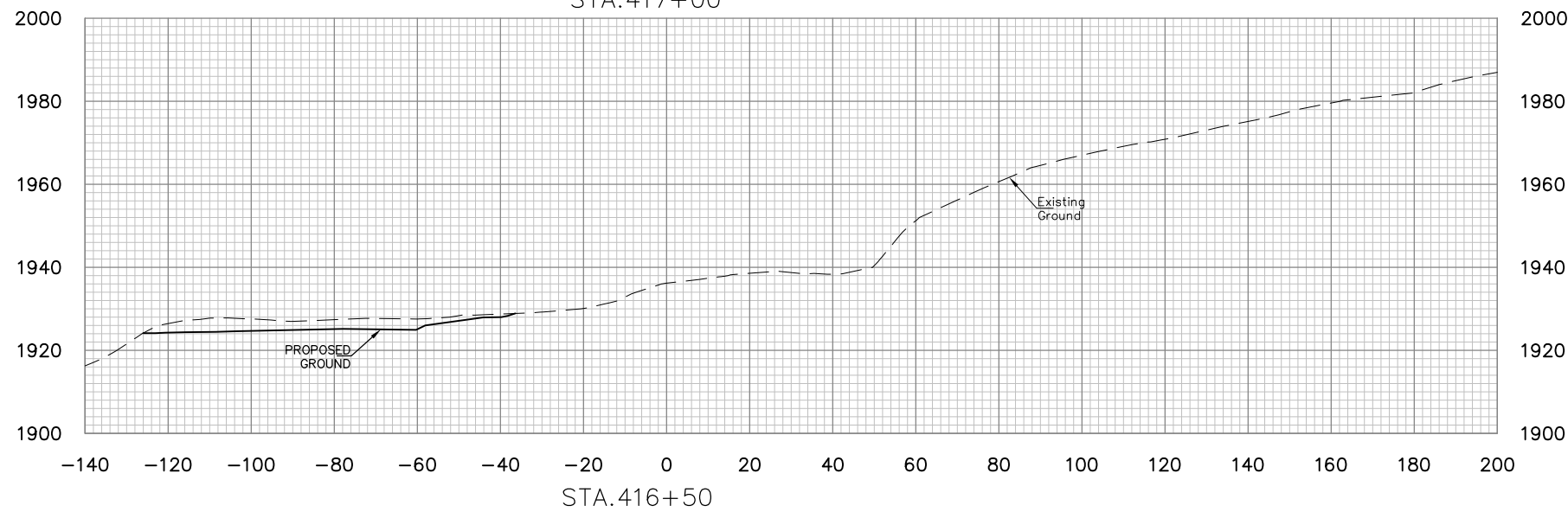
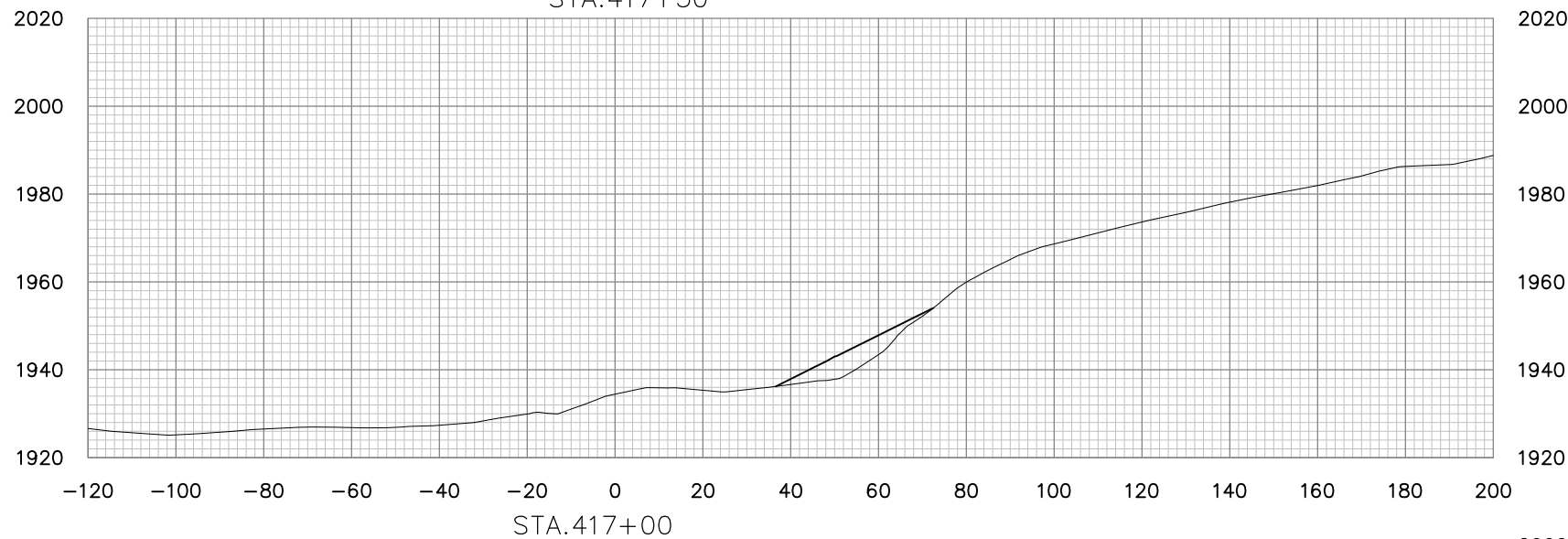
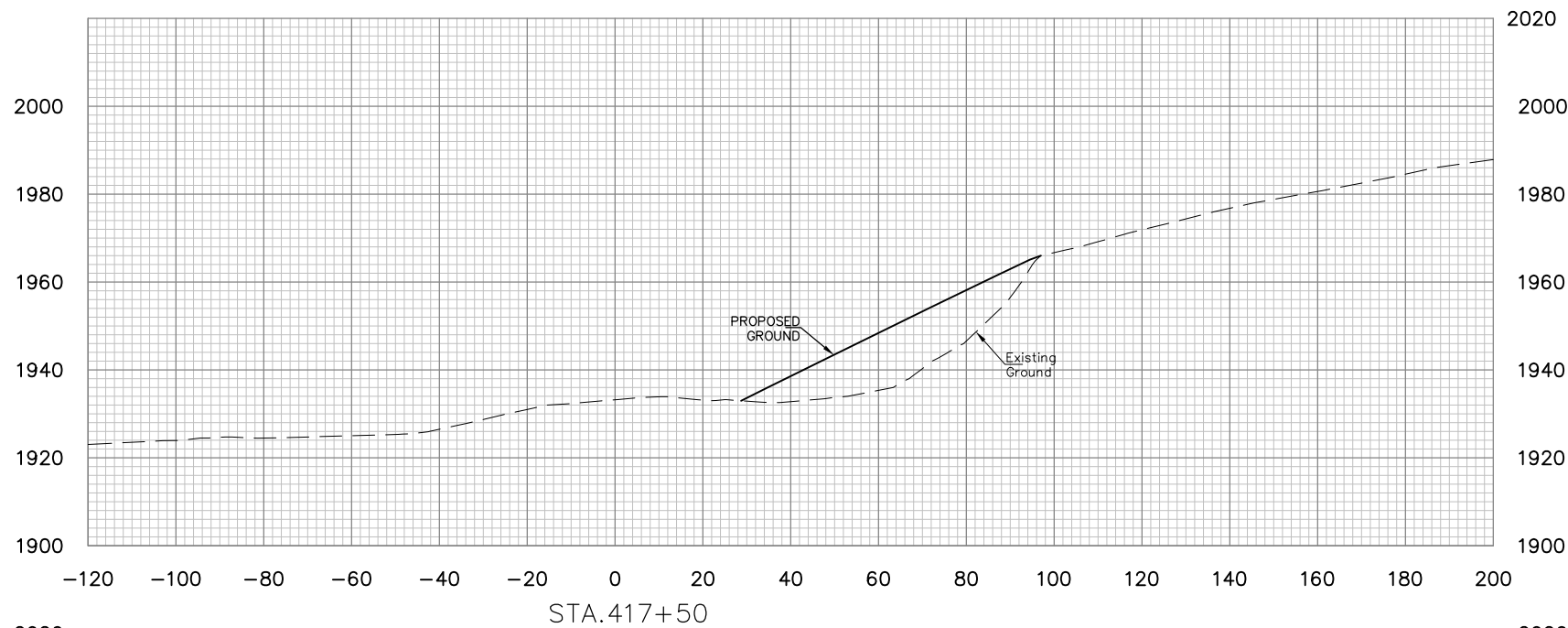


STA. 414+00

NO.	DATE	REVISION	BY



NO.	DATE	REVISION	BY



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west virginia
dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

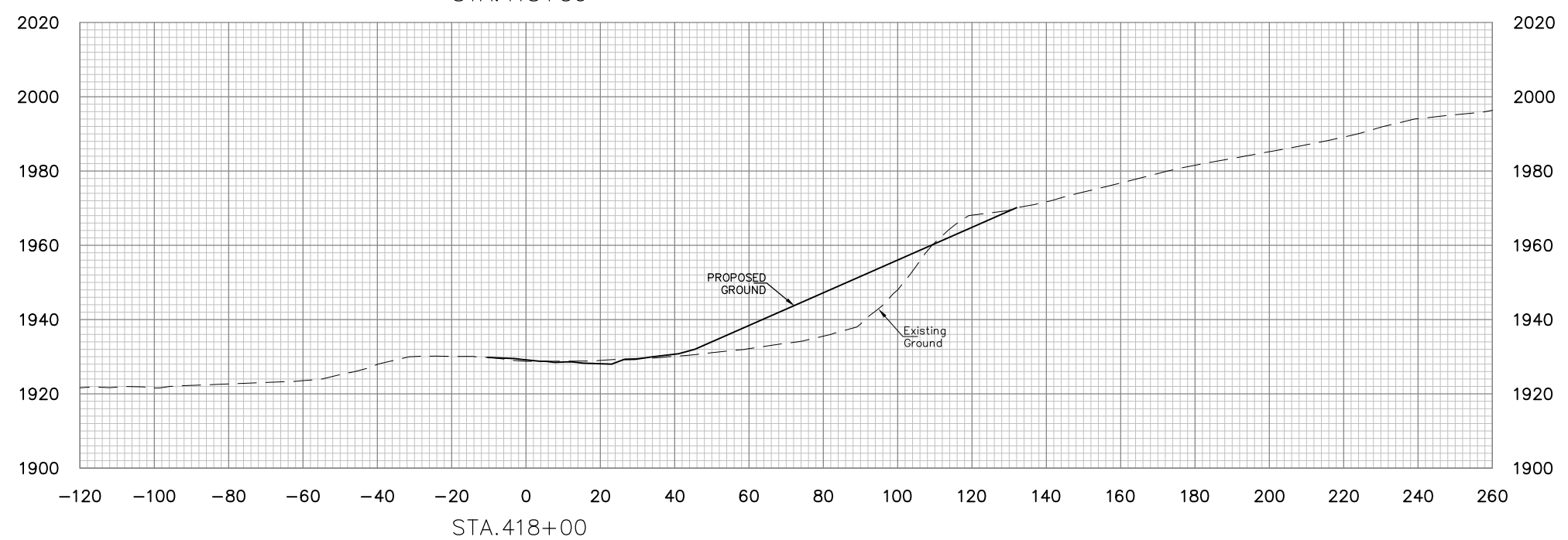
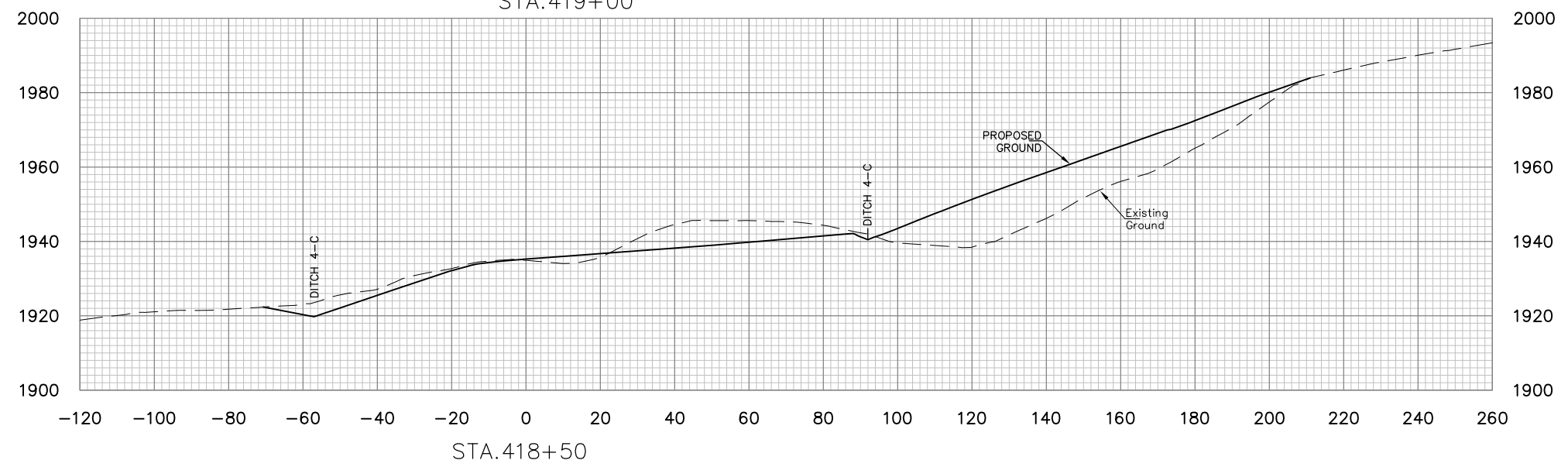
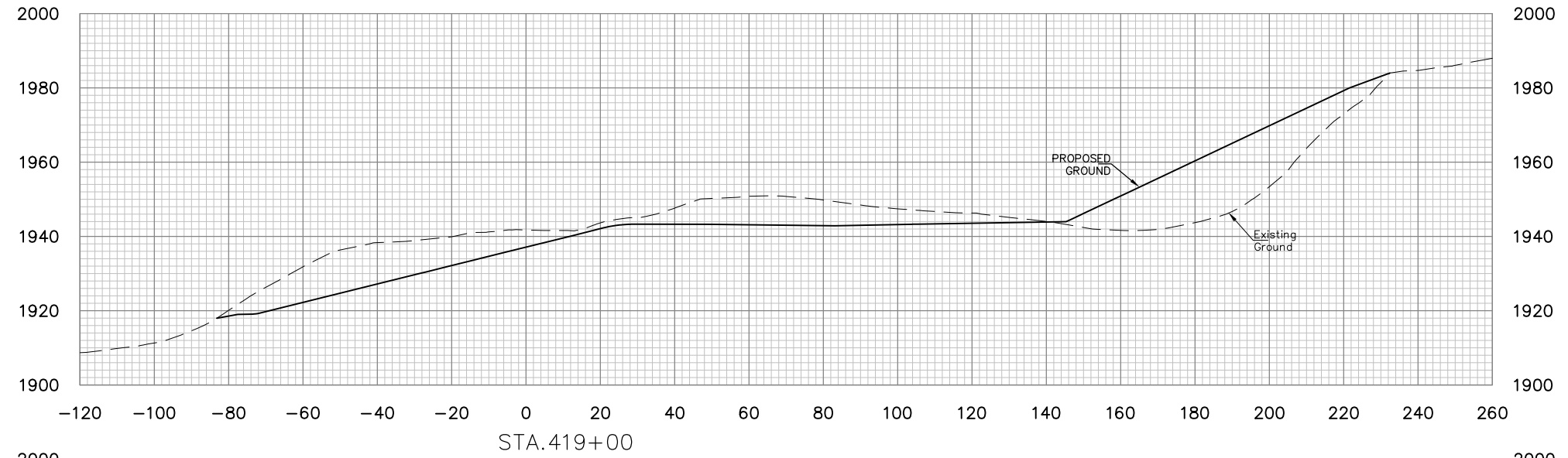
DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 416+50 TO STA. 417+50**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
46



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
Department of Environmental Protection
dep

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

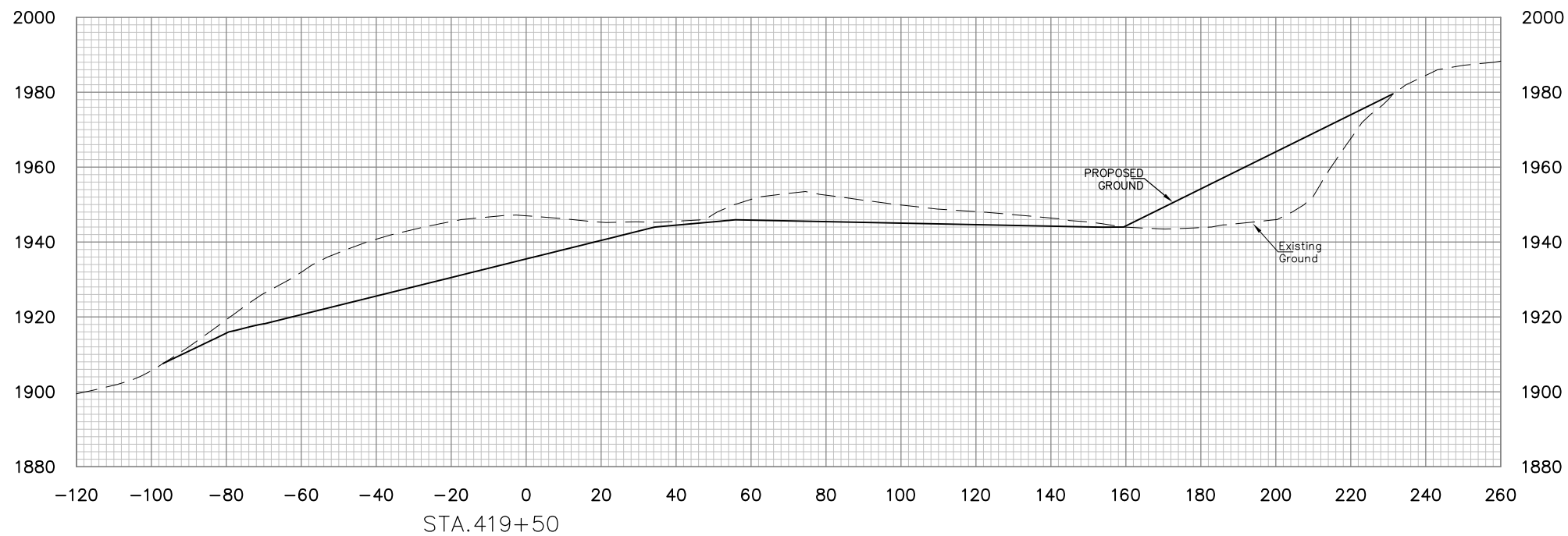
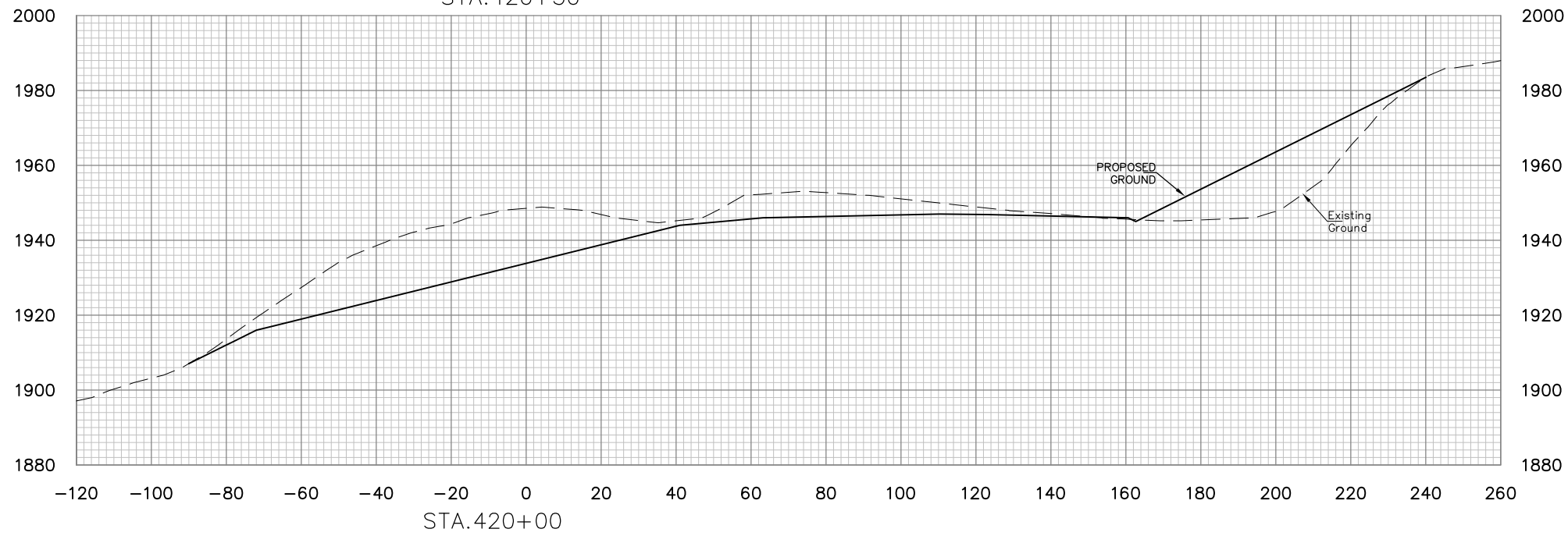
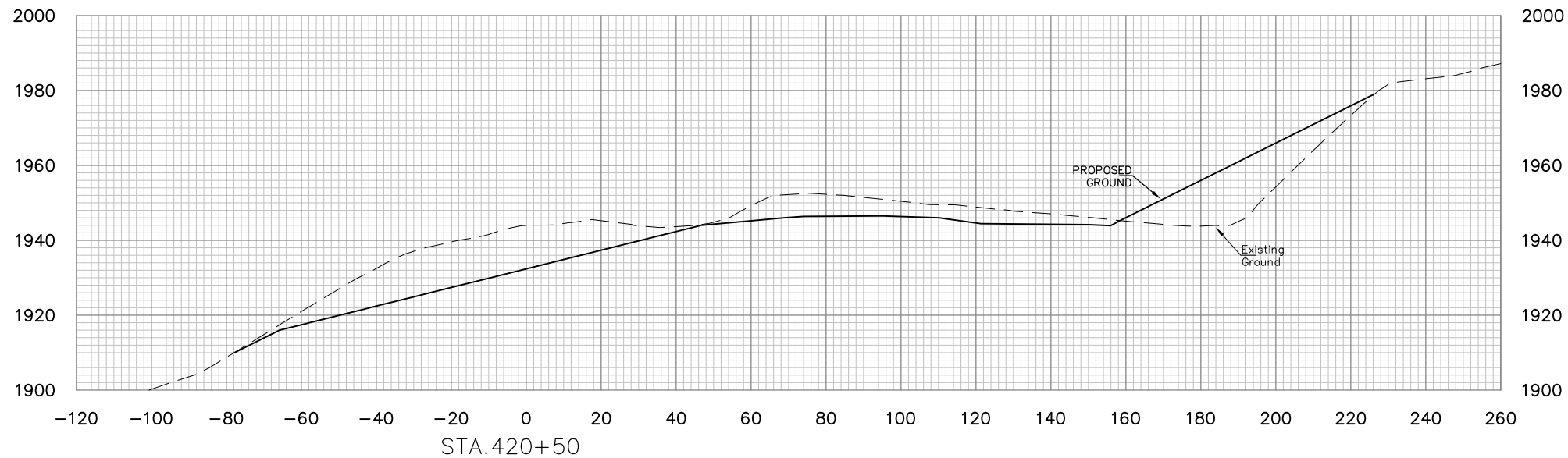
DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 418+00 TO STA.419+00**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
47



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NO.	DATE	REVISION	BY



DRAWING TITLE

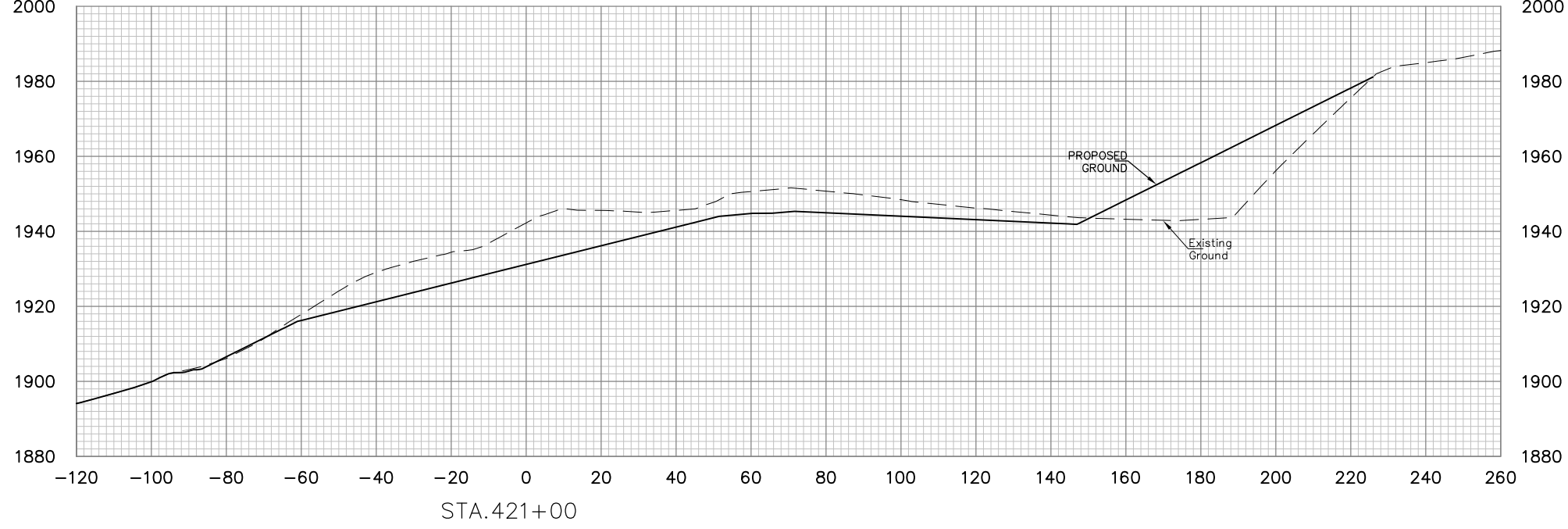
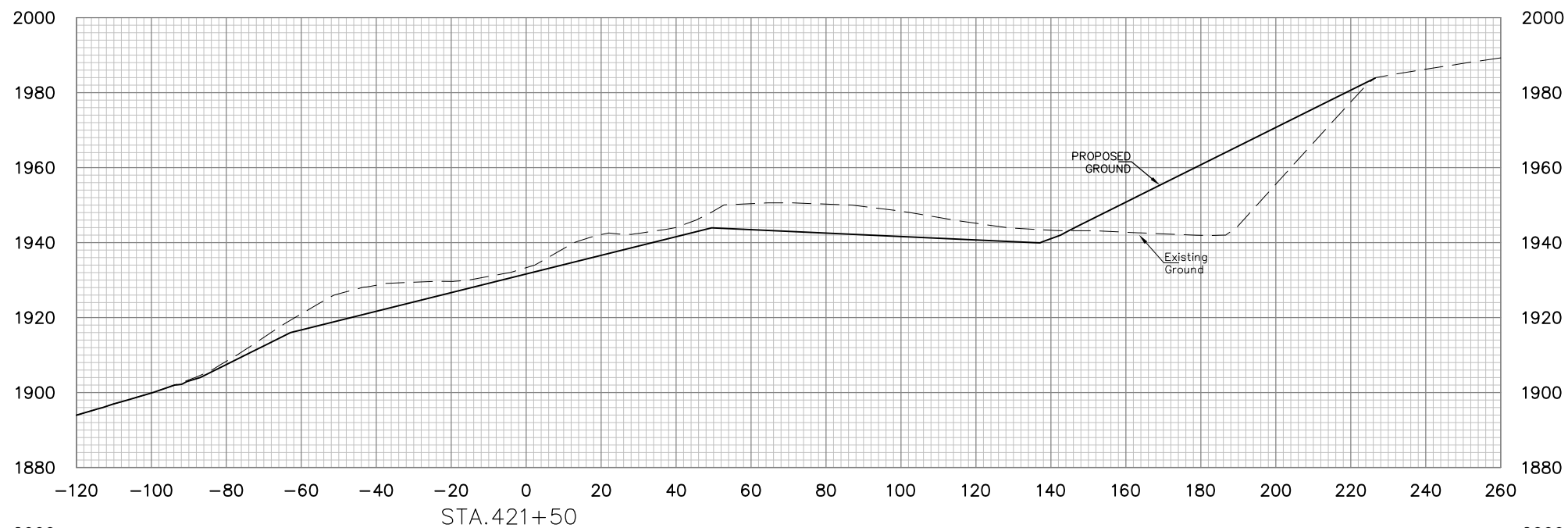
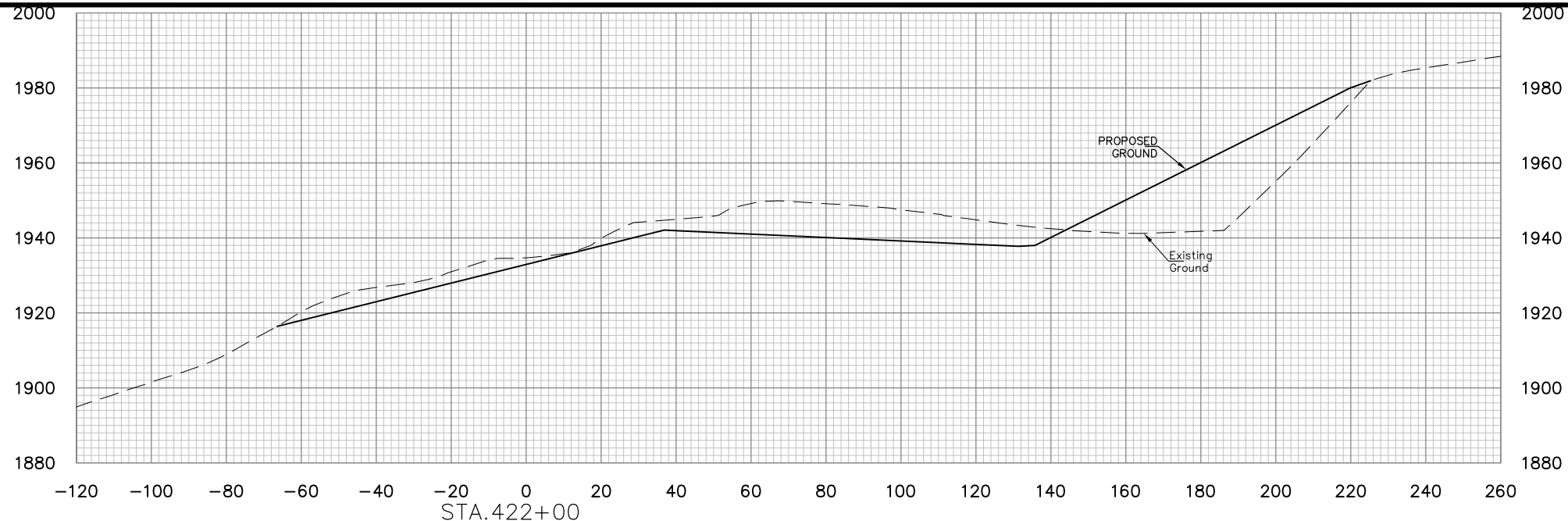
**BASELINE 4
CROSS SECTIONS
STA. 419+50 TO STA. 420+50**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER

48



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

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dep
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

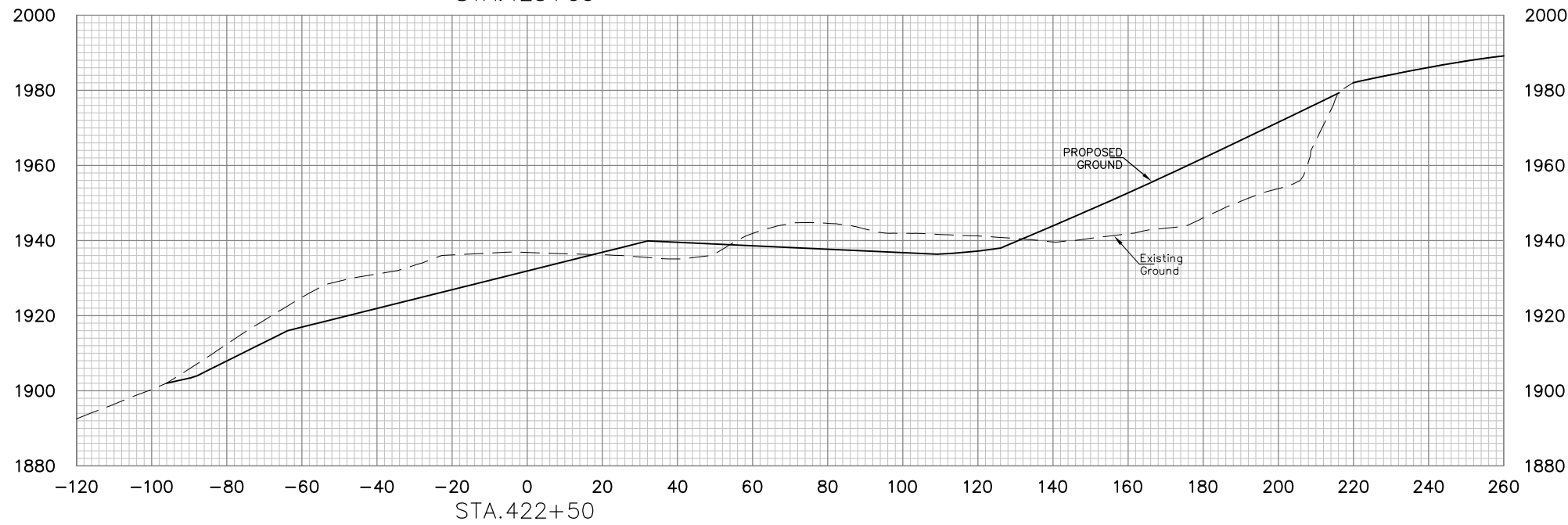
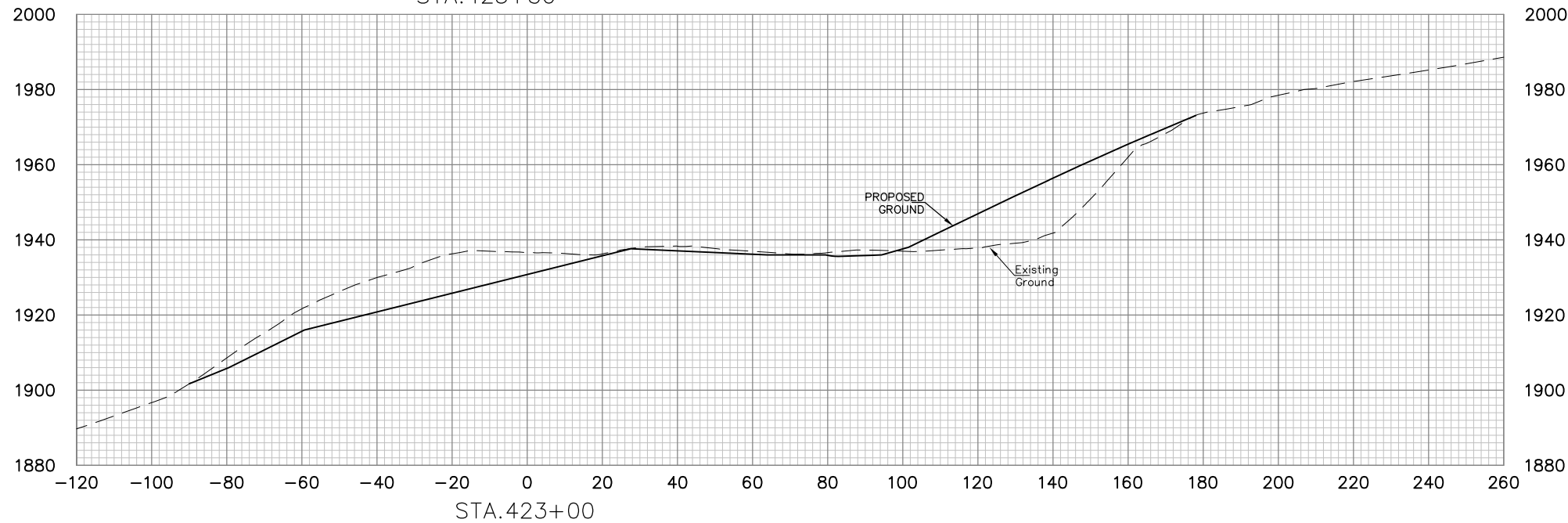
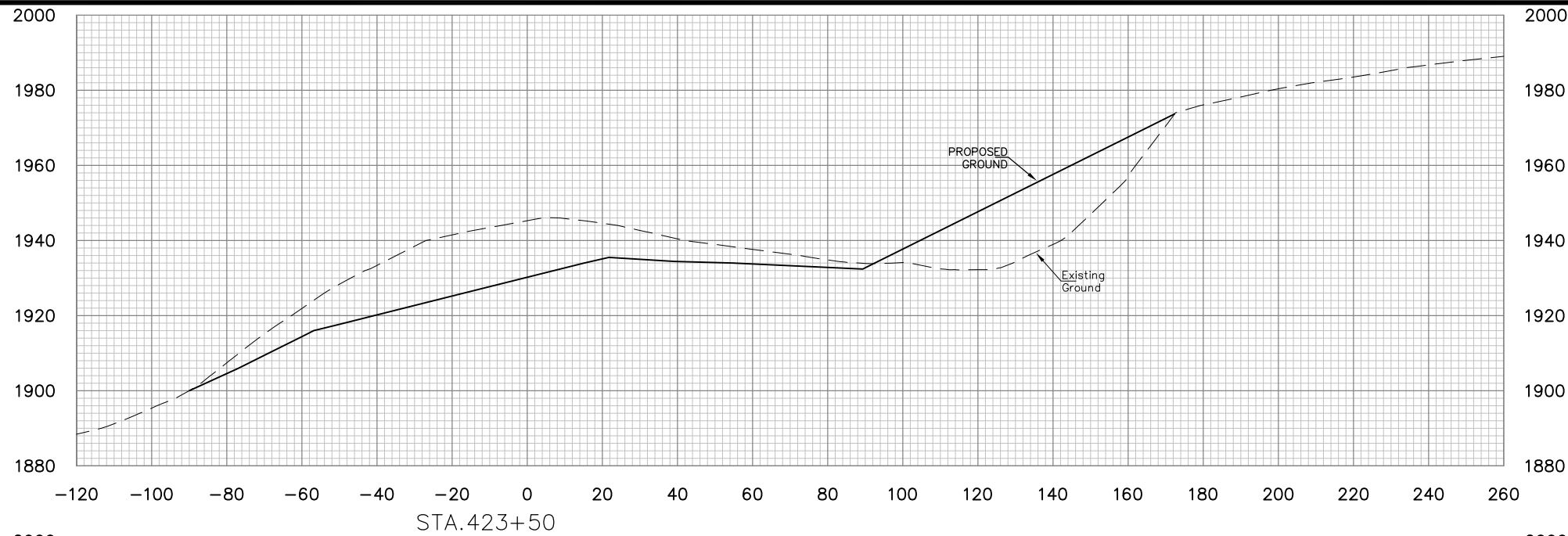
DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 421+00 TO STA. 422+00**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
49



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NO.	DATE	REVISION	BY

PROJECT INFORMATION

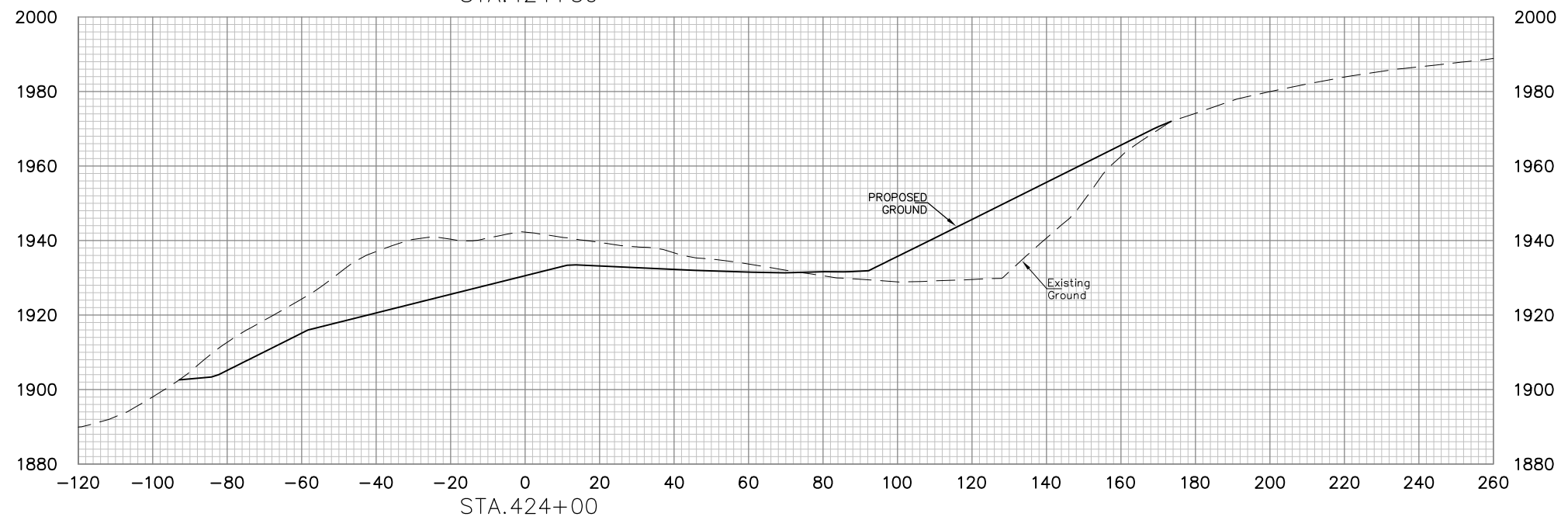
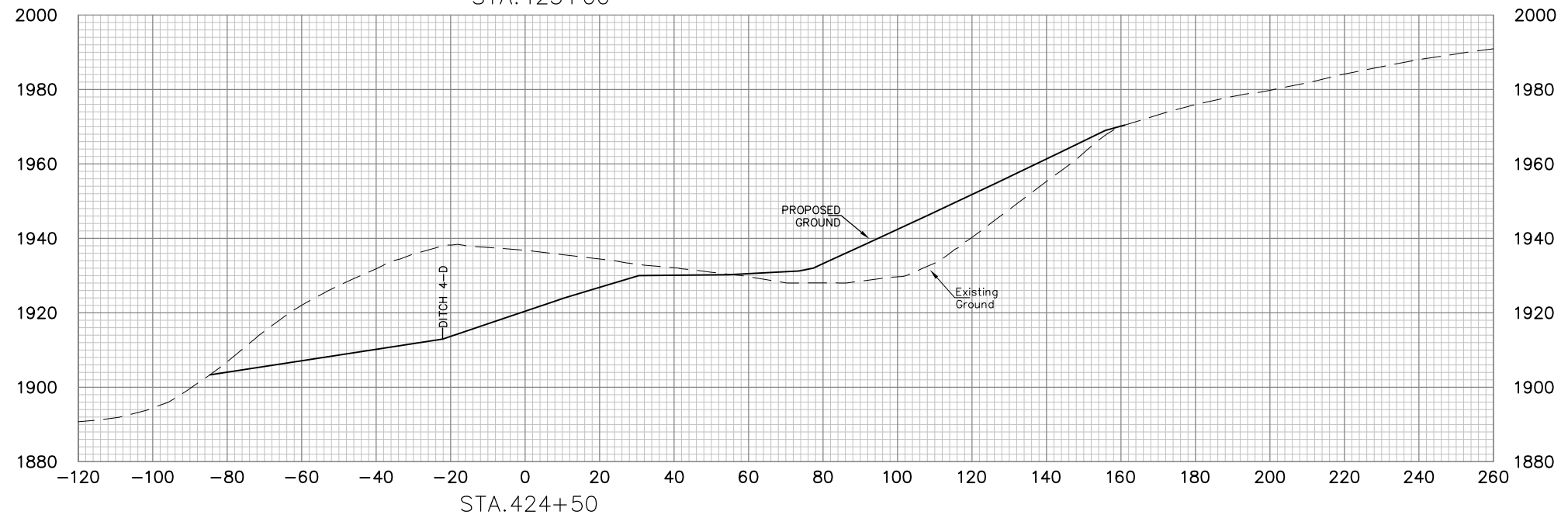
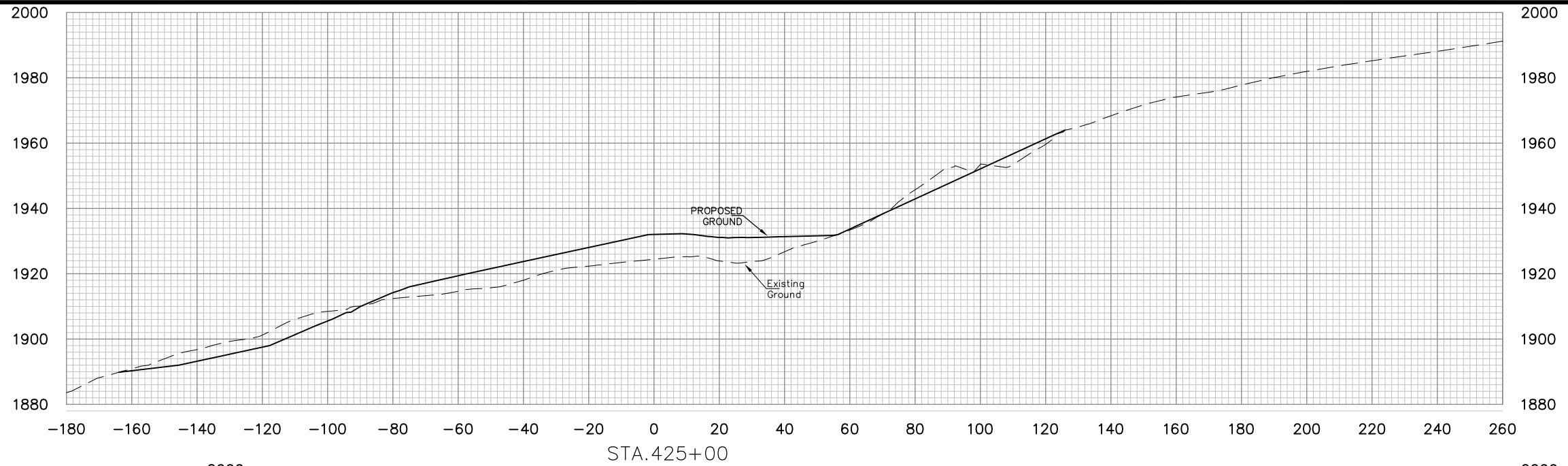
 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 422+50 TO STA. 423+50**

DATE
 OCTOBER 2013

SCALE
 1"=20'

DRAWING NUMBER
50



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NO.	DATE	REVISION	BY

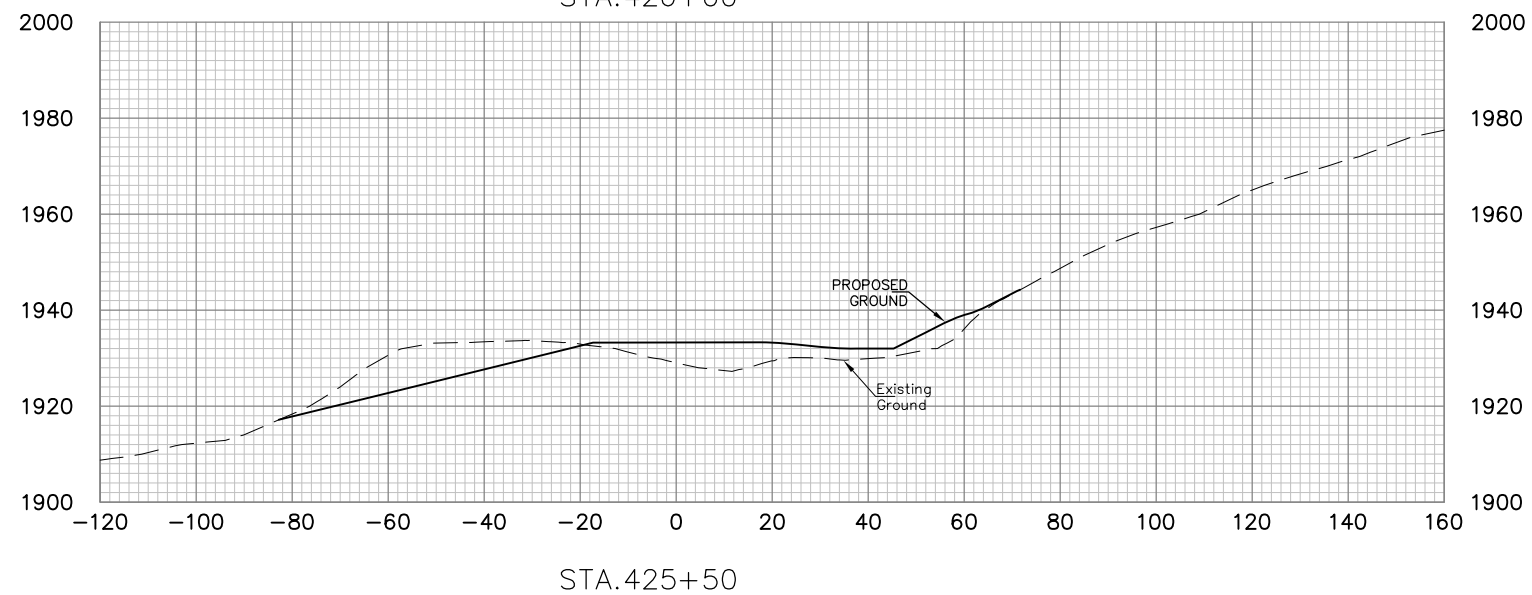
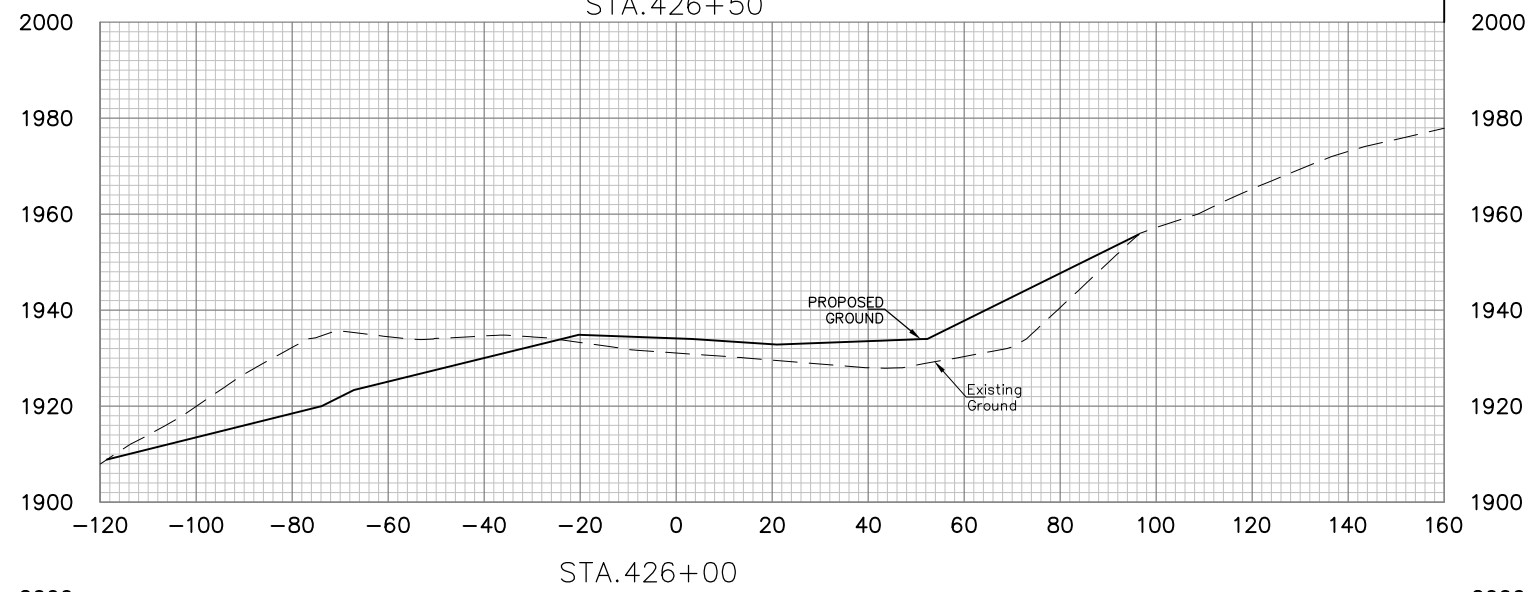
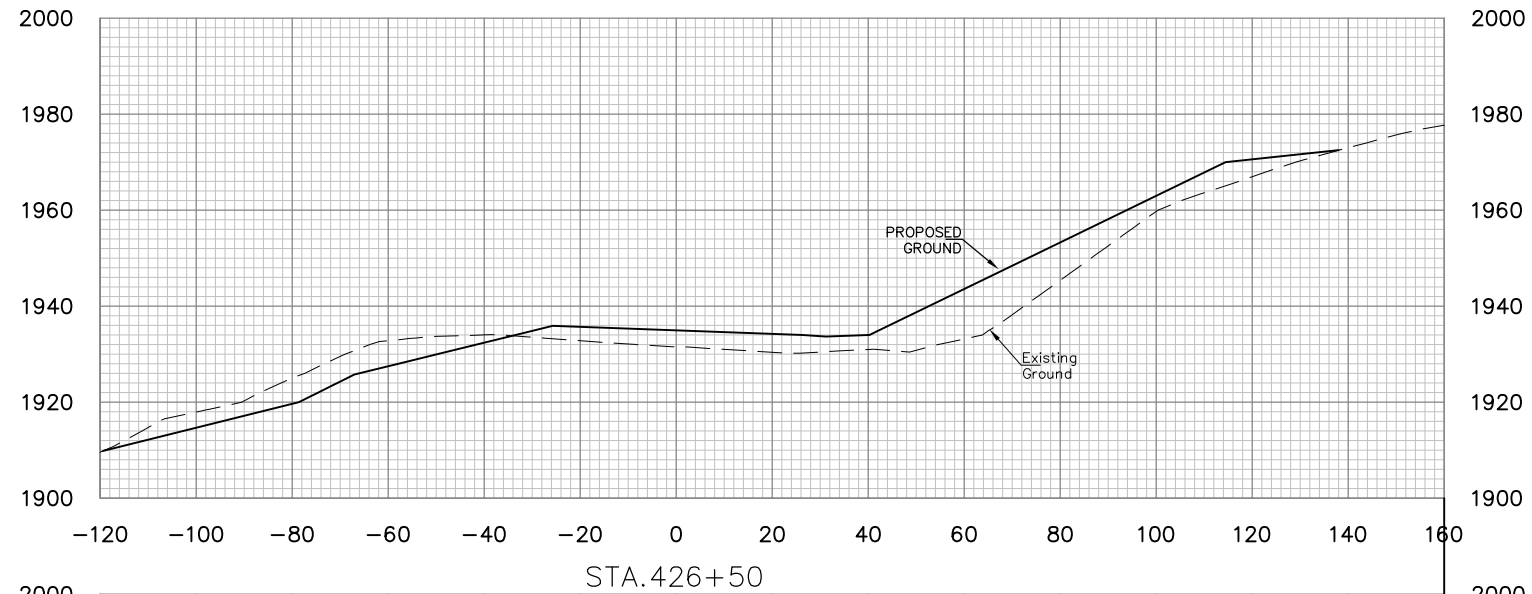
PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

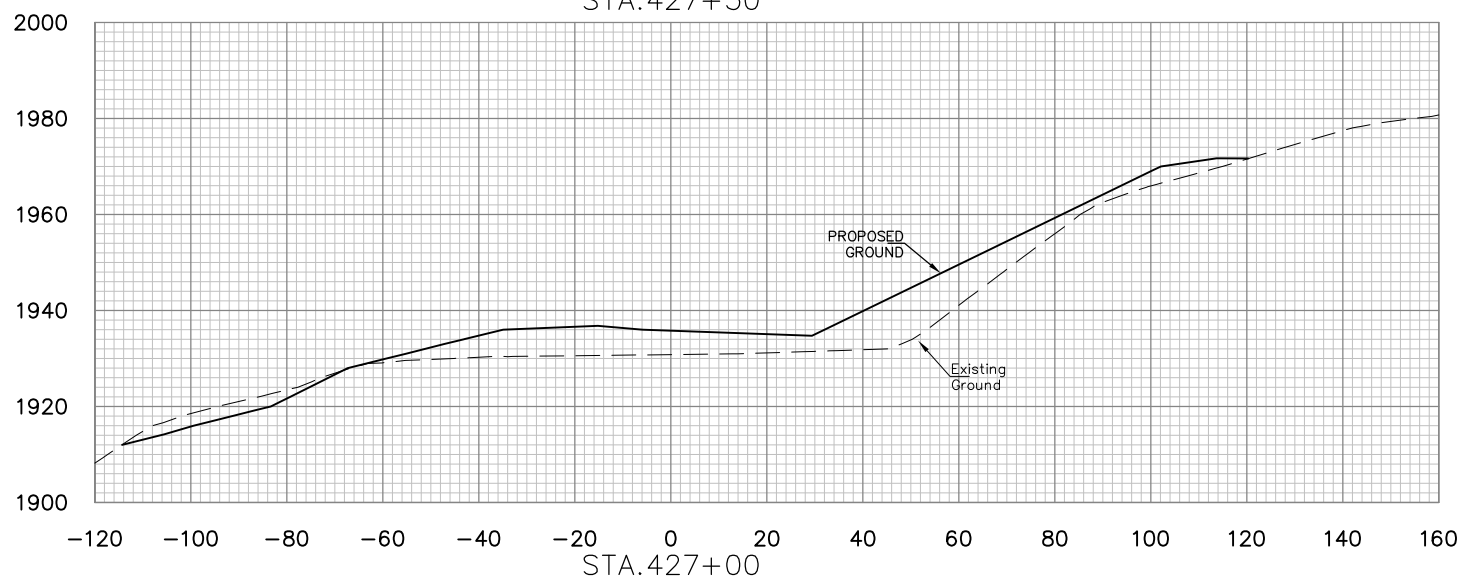
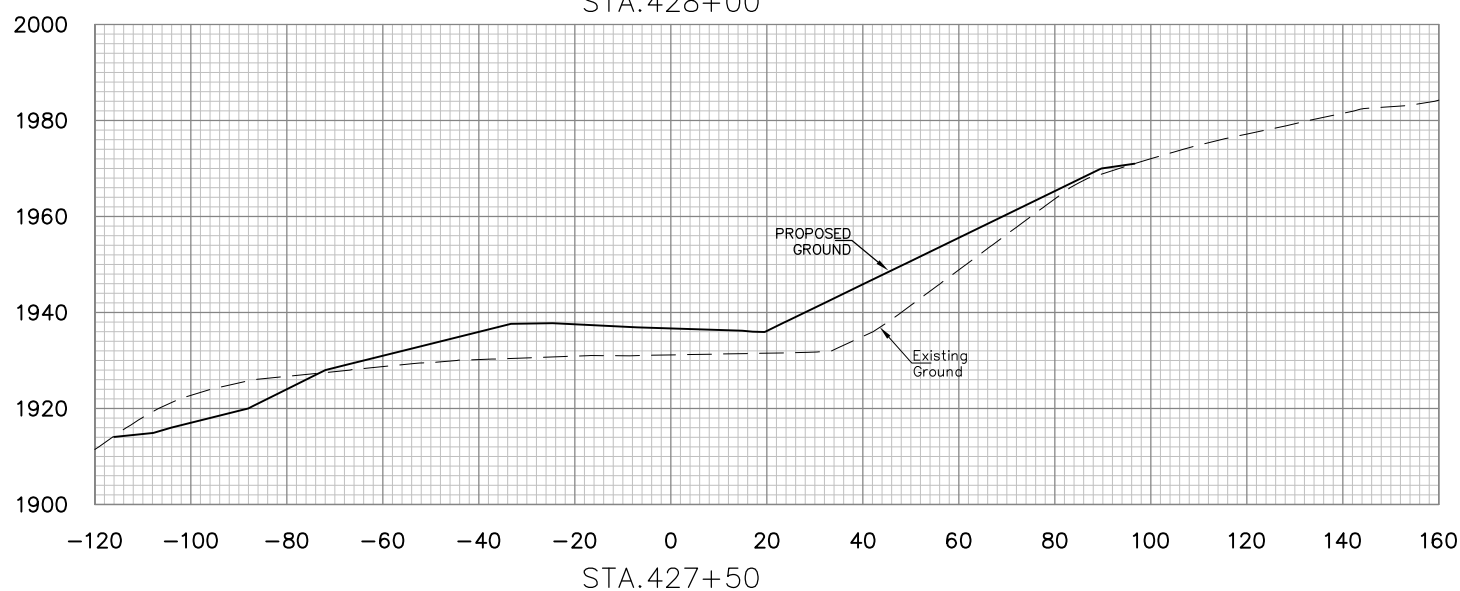
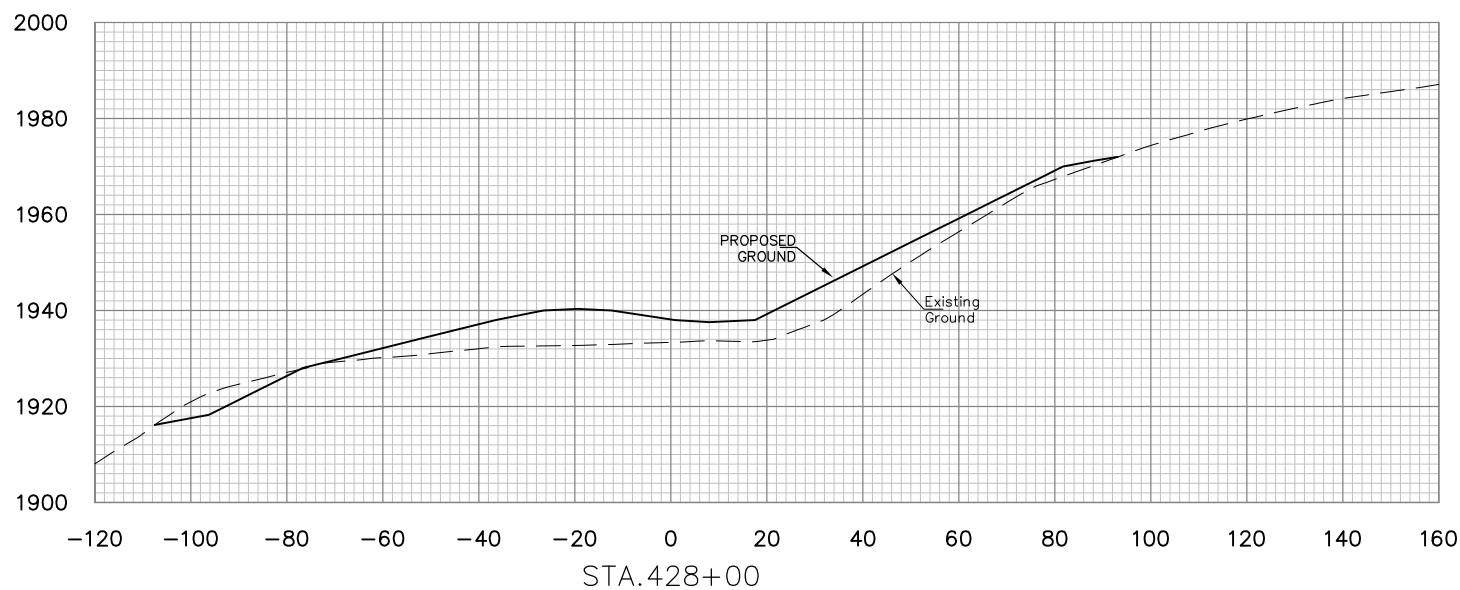
DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 424+00 TO STA. 425+00**

DATE
 OCTOBER 2013
 SCALE
 1"=20'

DRAWING NUMBER
51



NO.	DATE	REVISION	BY



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PROJECT INFORMATION

west virginia
dep
Department of Environmental Protection

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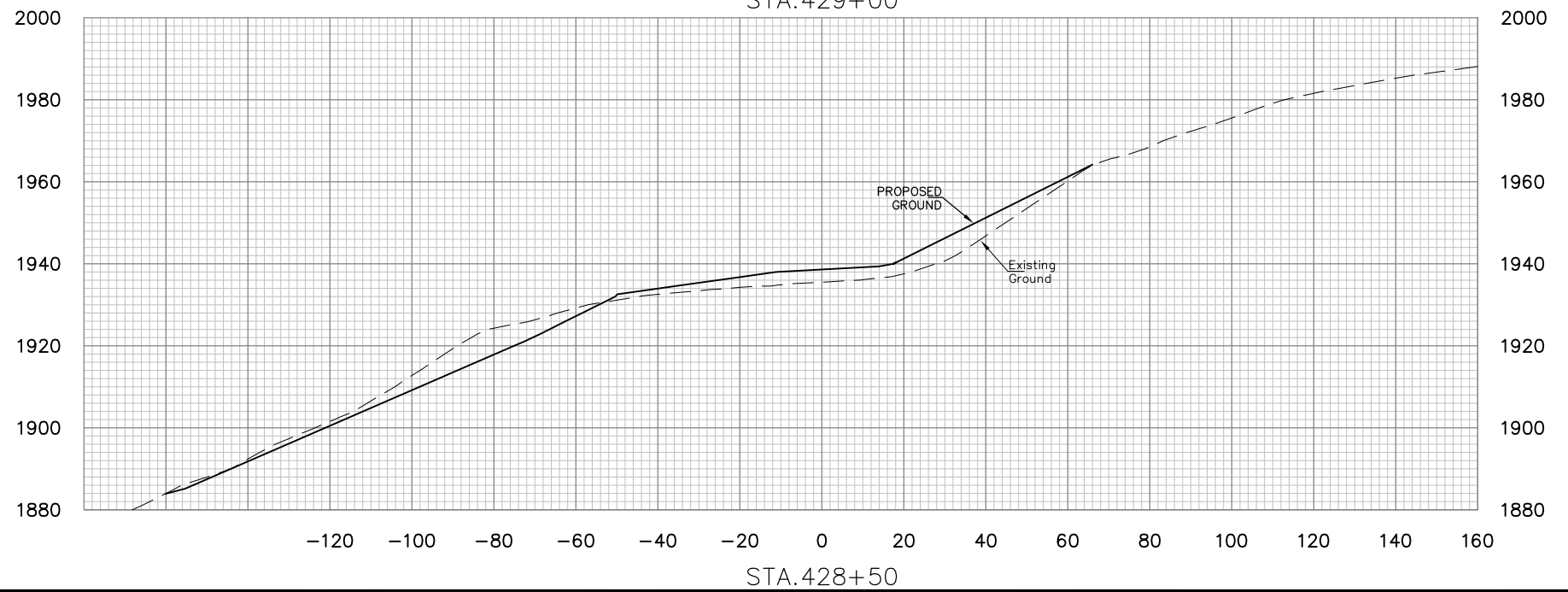
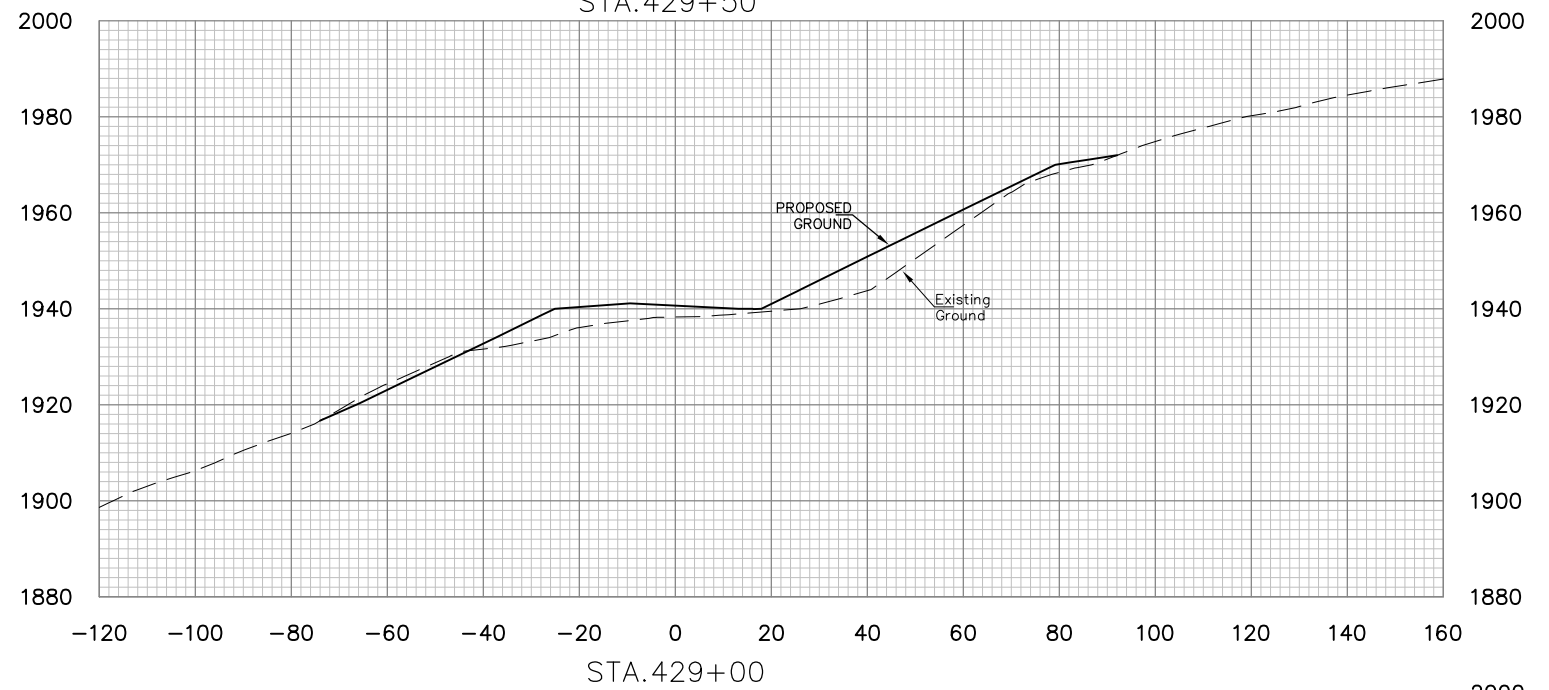
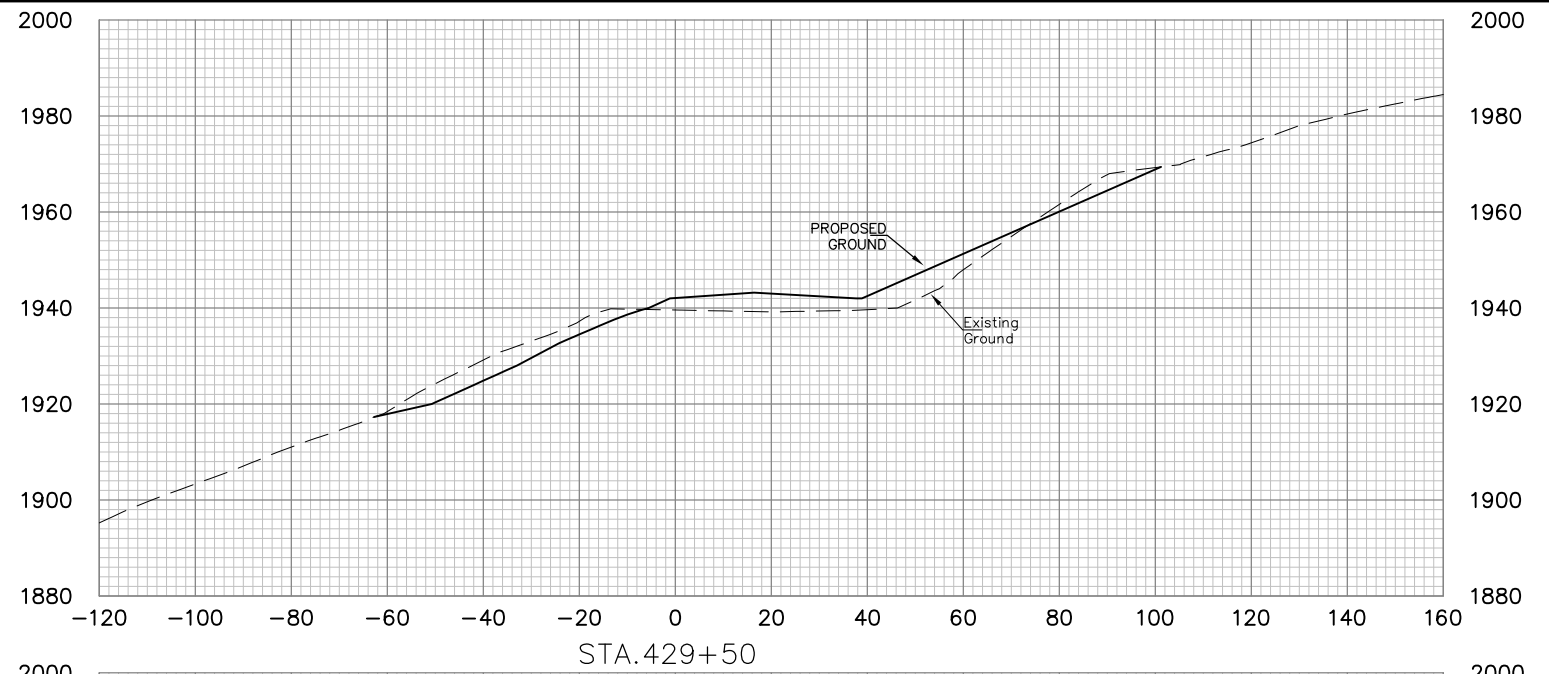
DRAWING TITLE

**BASELINE 4
CROSS SECTIONS
STA. 427+00 TO STA. 428+00**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
53



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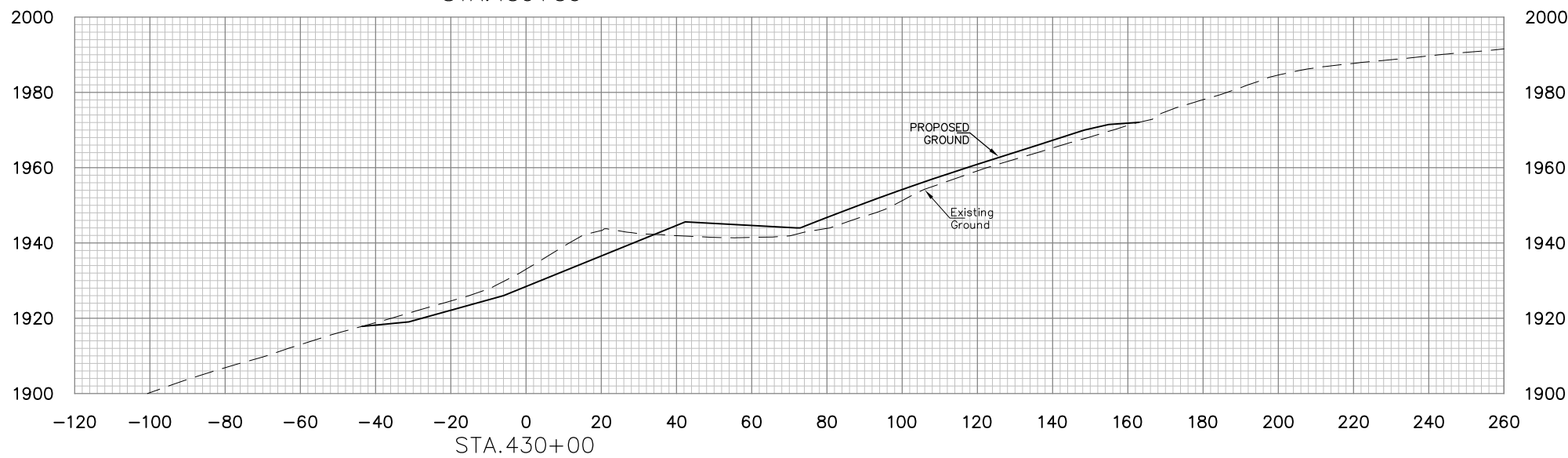
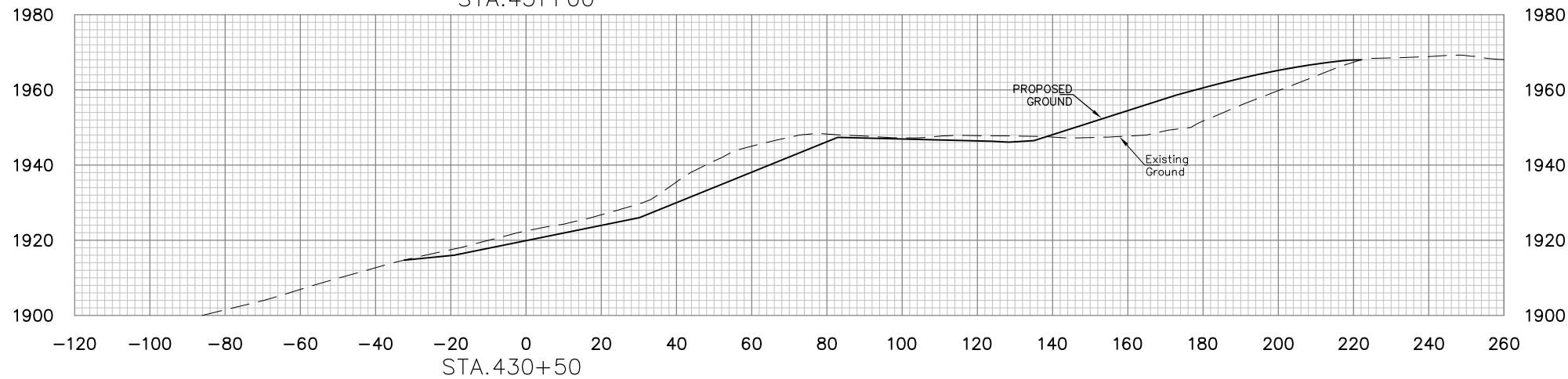
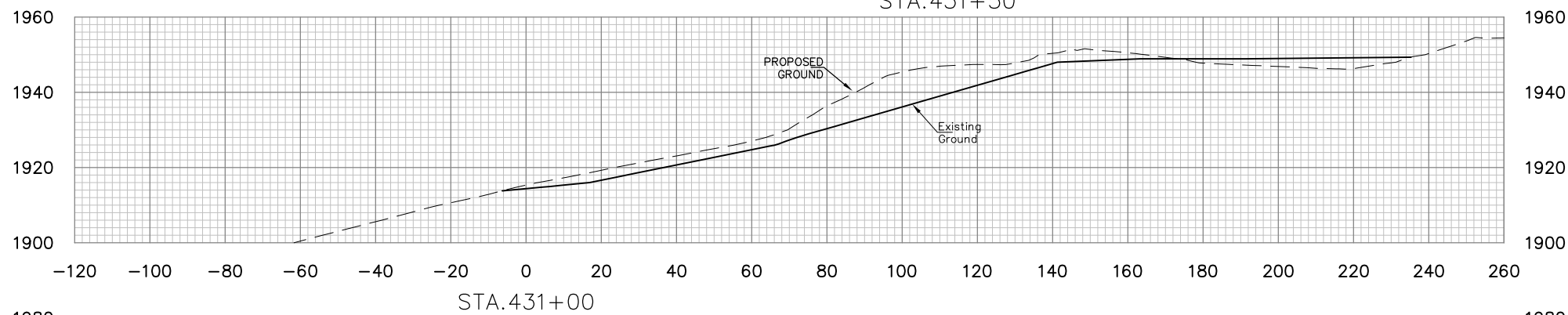
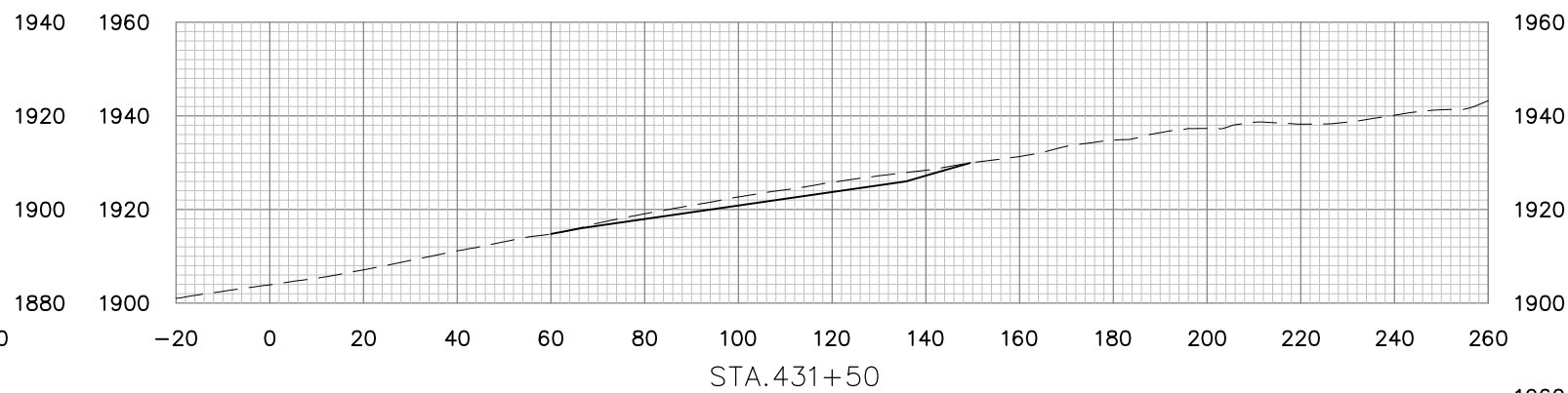
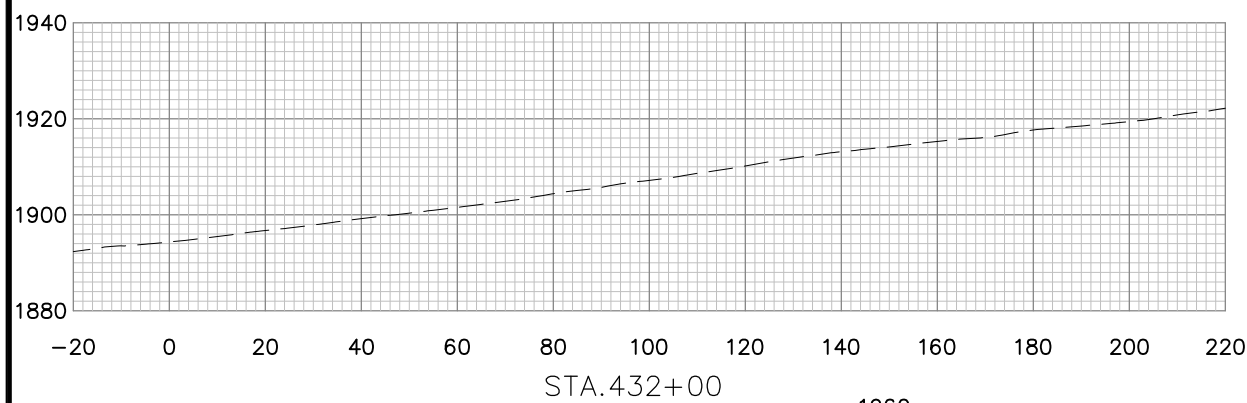
NO.	DATE	REVISION	BY

PROJECT INFORMATION

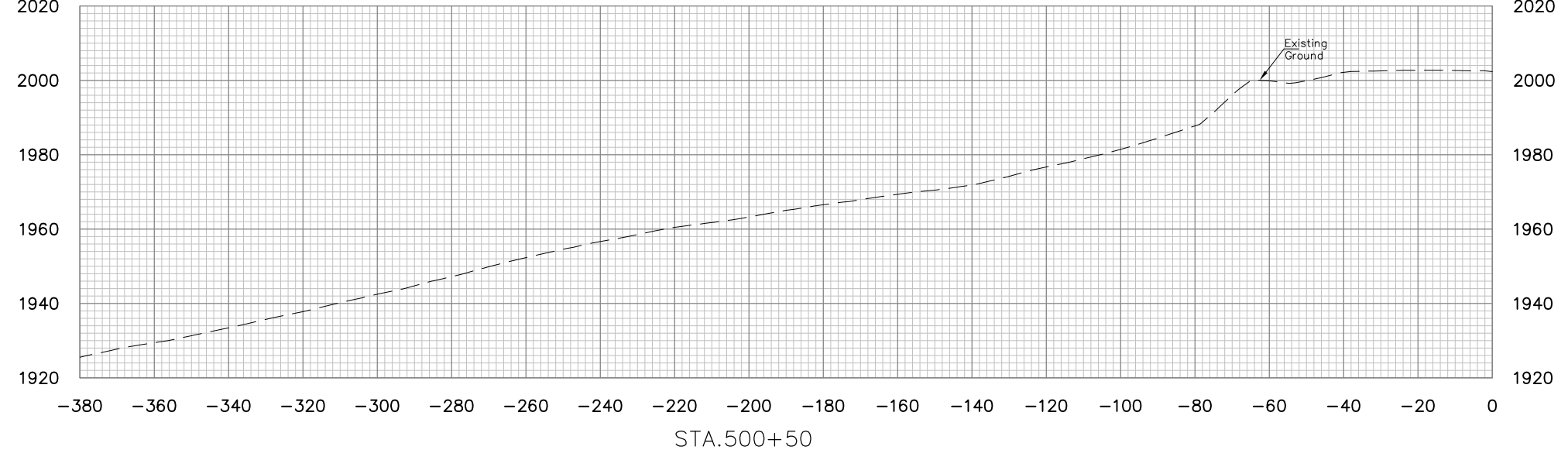
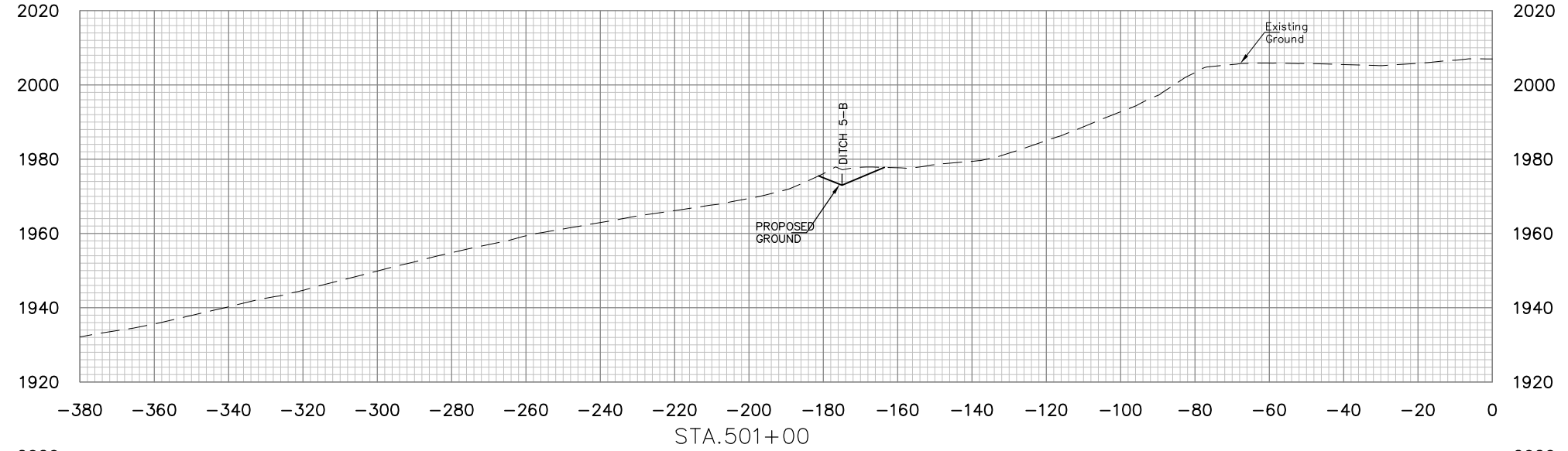
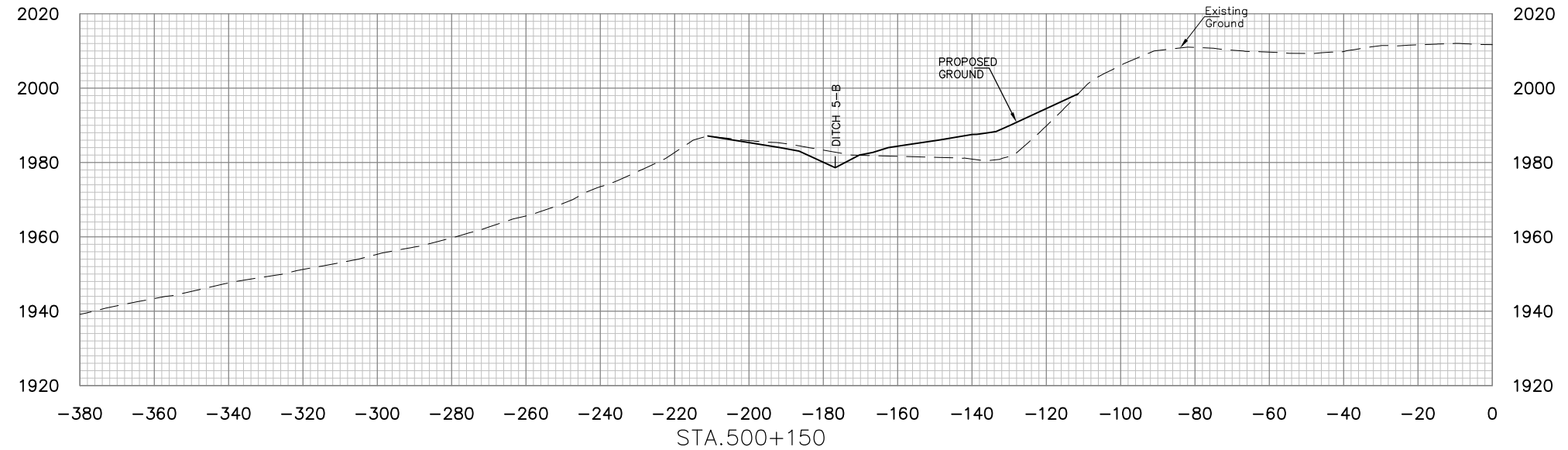
 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 4
 CROSS SECTIONS
 STA. 428+50 TO STA. 429+50**

DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
54



NO.	DATE	REVISION	BY



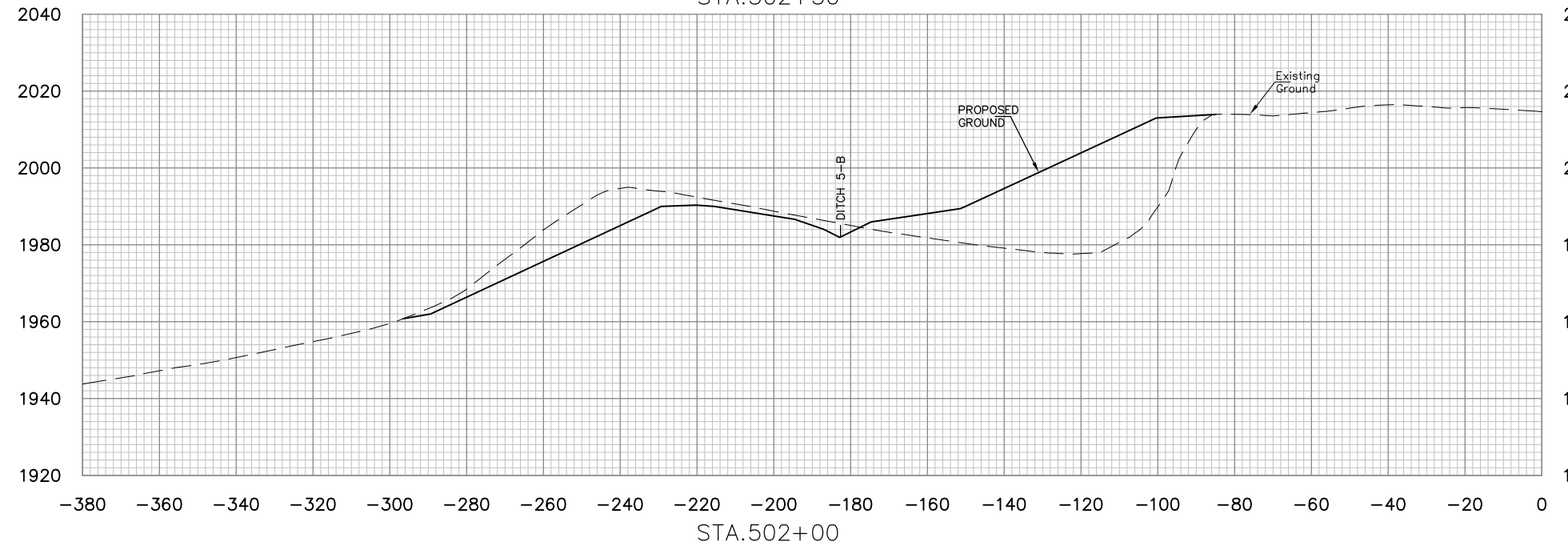
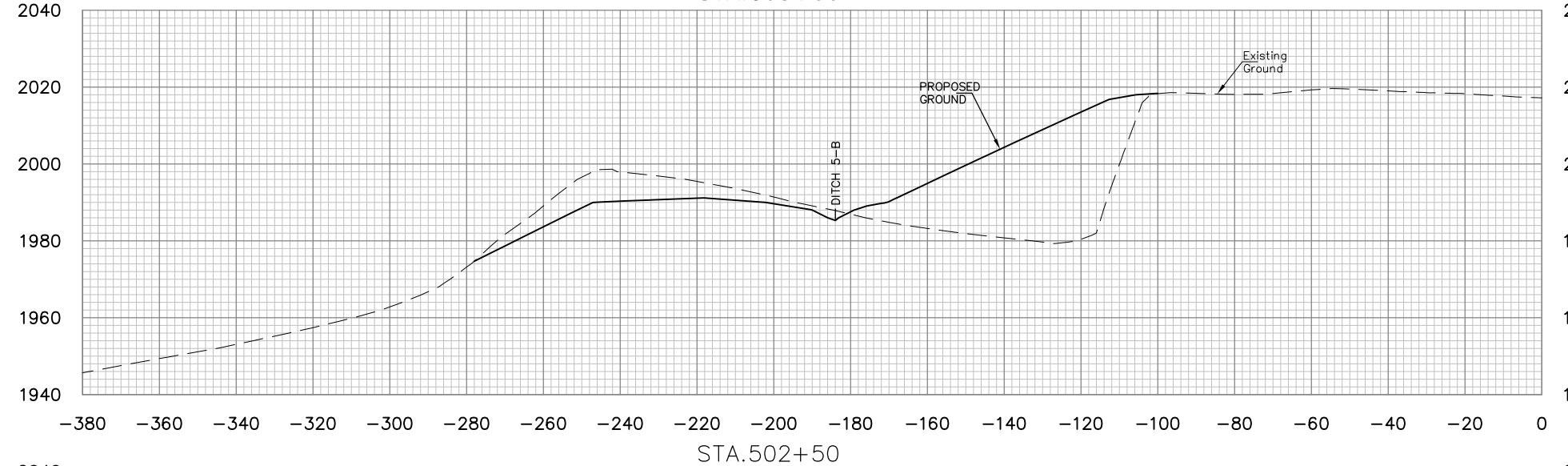
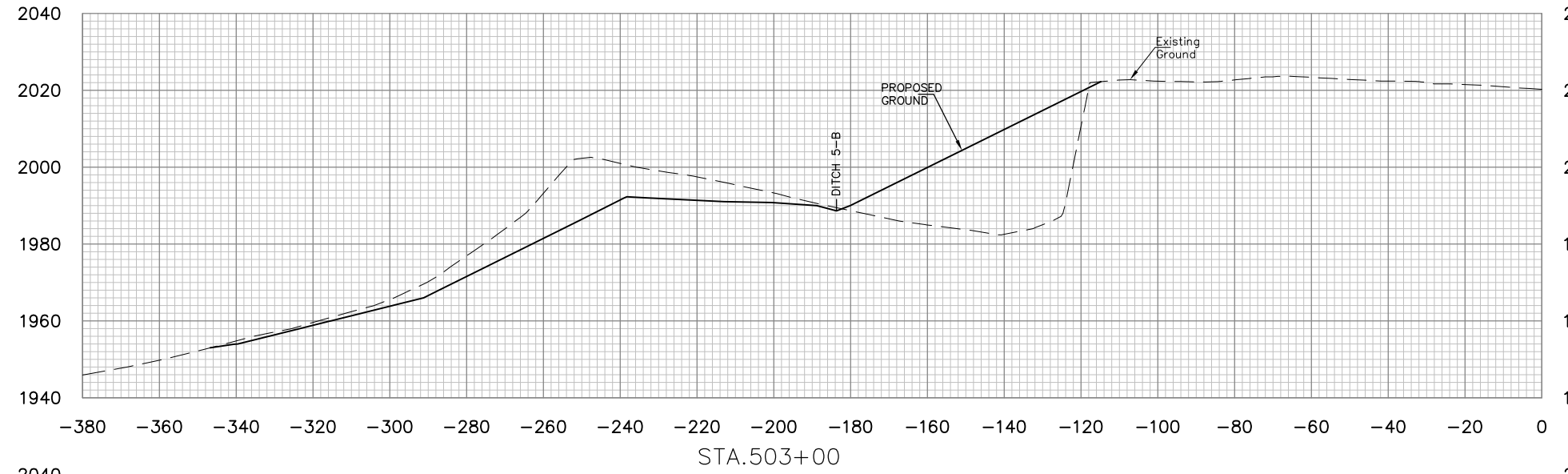
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NO.	DATE	REVISION	BY

PROJECT INFORMATION
west Virginia
dep
DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
CROSS SECTIONS
STA. 500+50 TO STA. 501+50**

DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
56

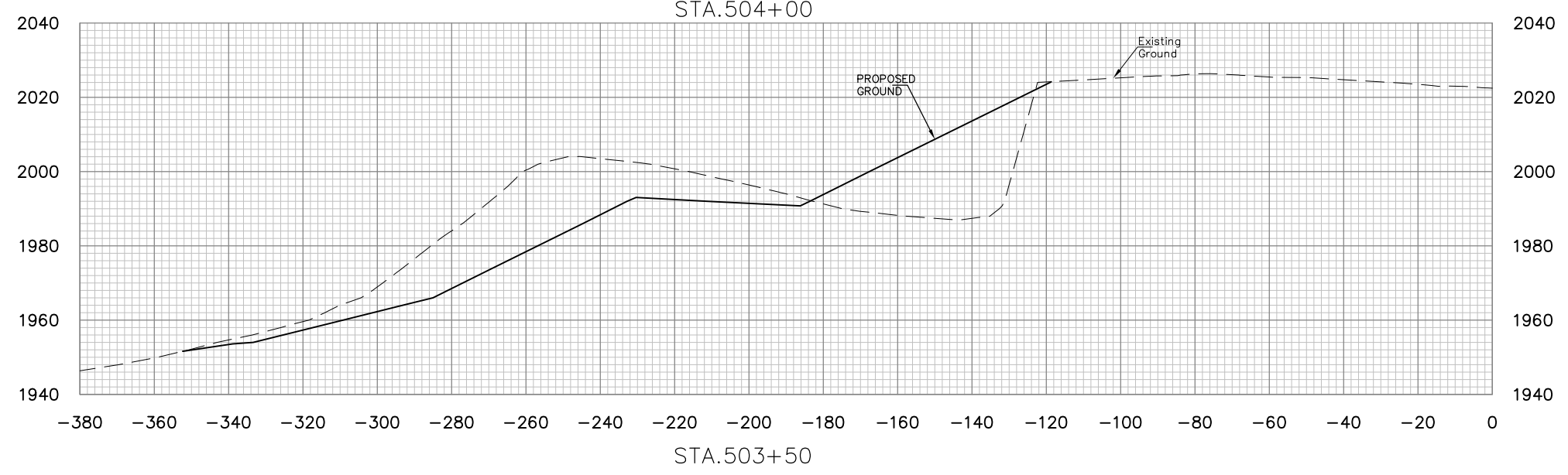
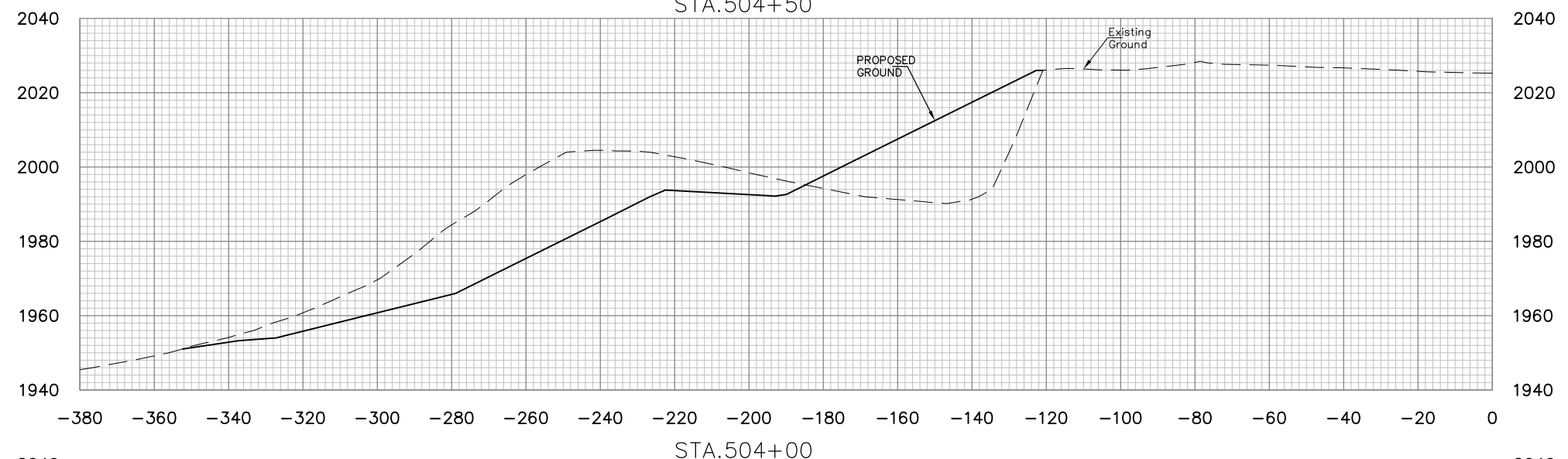
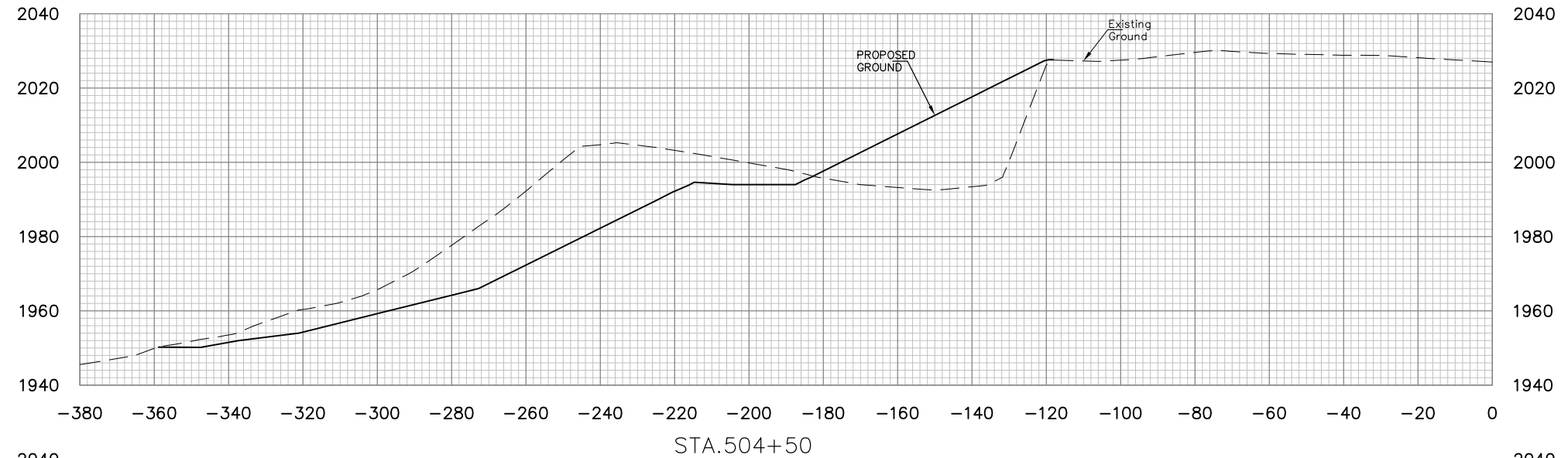


NO.	DATE	REVISION	BY



DRAWING TITLE
**BASELINE 5
CROSS SECTIONS
STA. 502+00 TO STA. 503+00**

DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
57

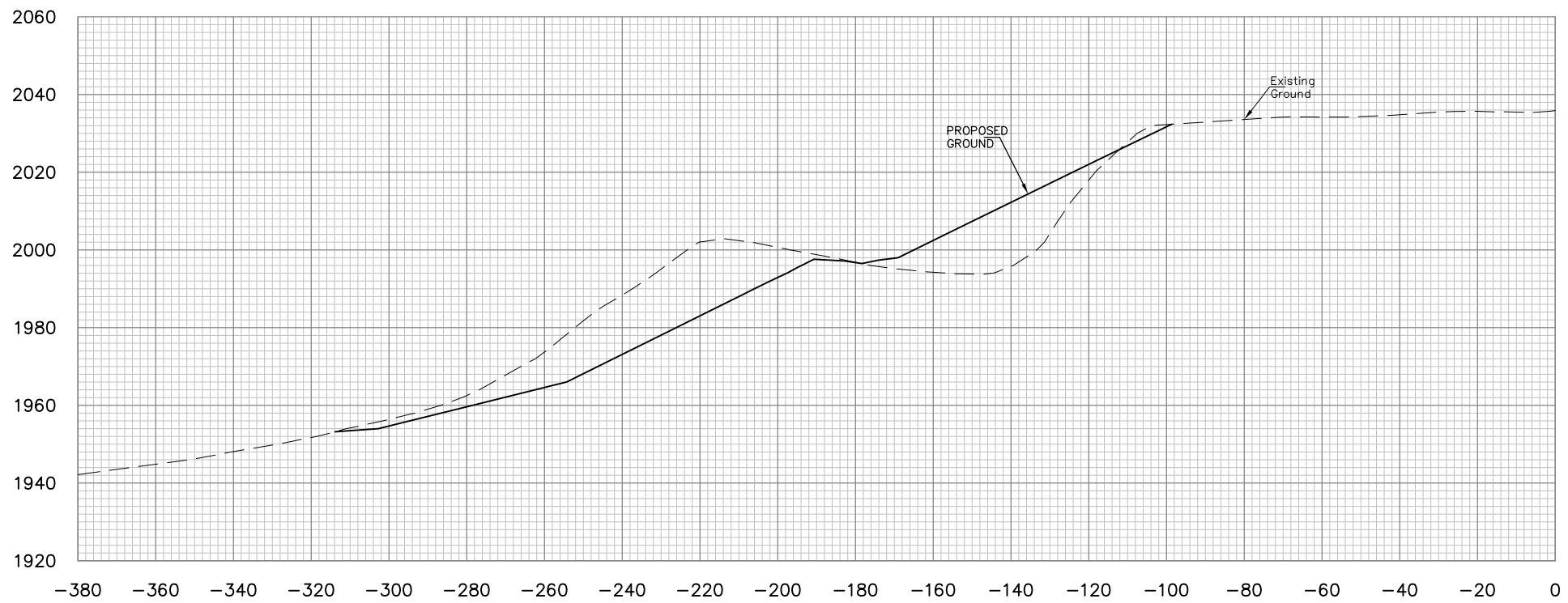


NO.	DATE	REVISION	BY

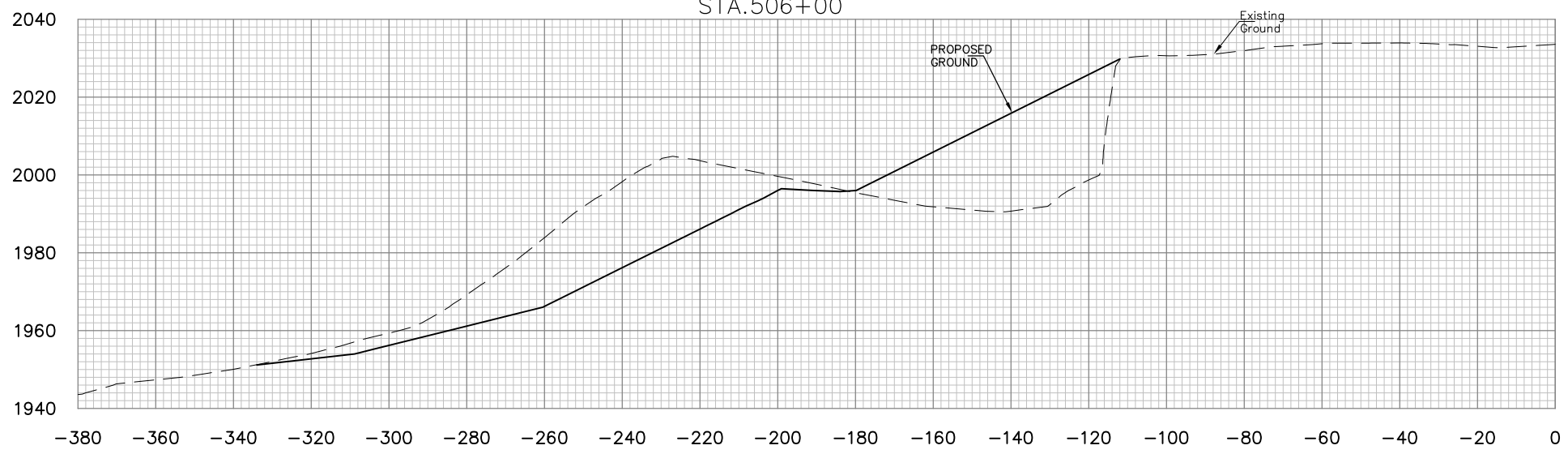


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CROSS SECTIONS
STA. 503+50 TO STA.504+50**

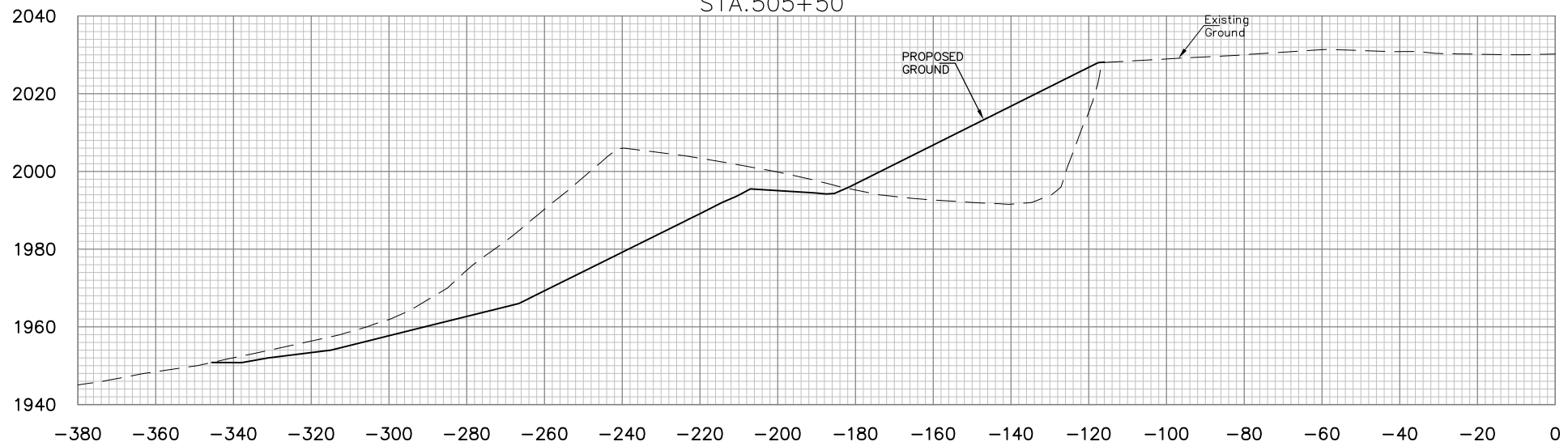
DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
58



STA.506+00



STA.505+50



STA.505+00

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NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
Department of Environmental Protection

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

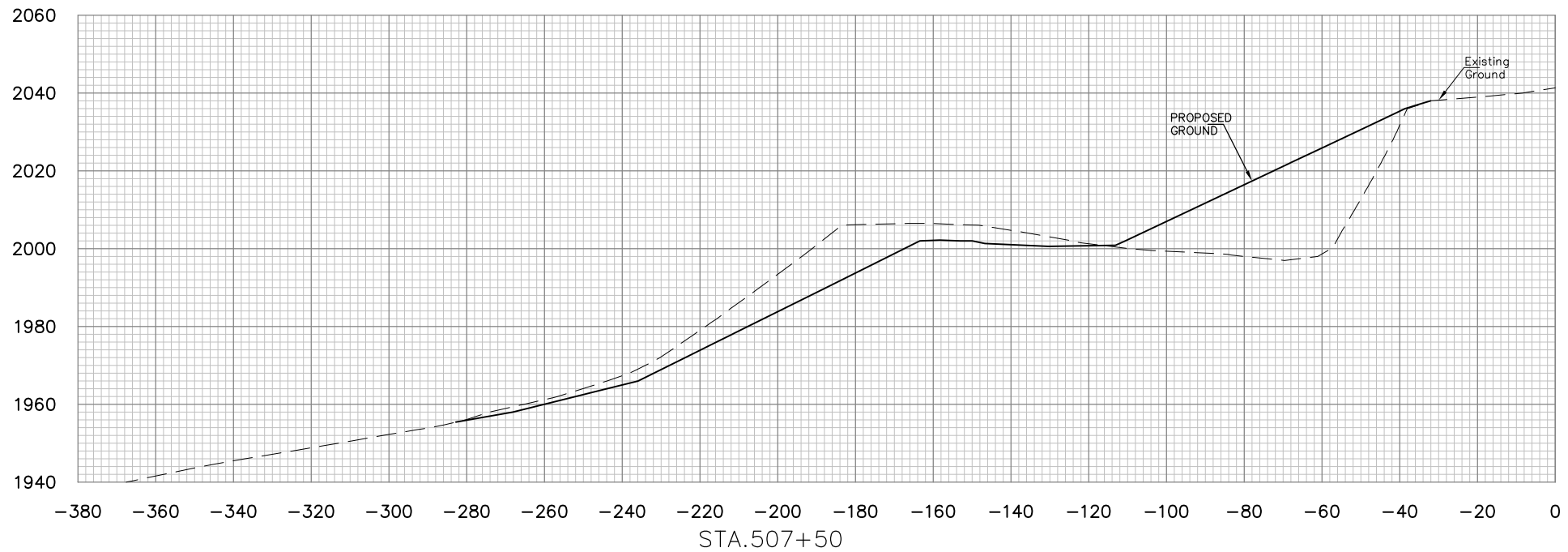
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CROSS SECTIONS
STA. 505+00 TO STA.506+00**

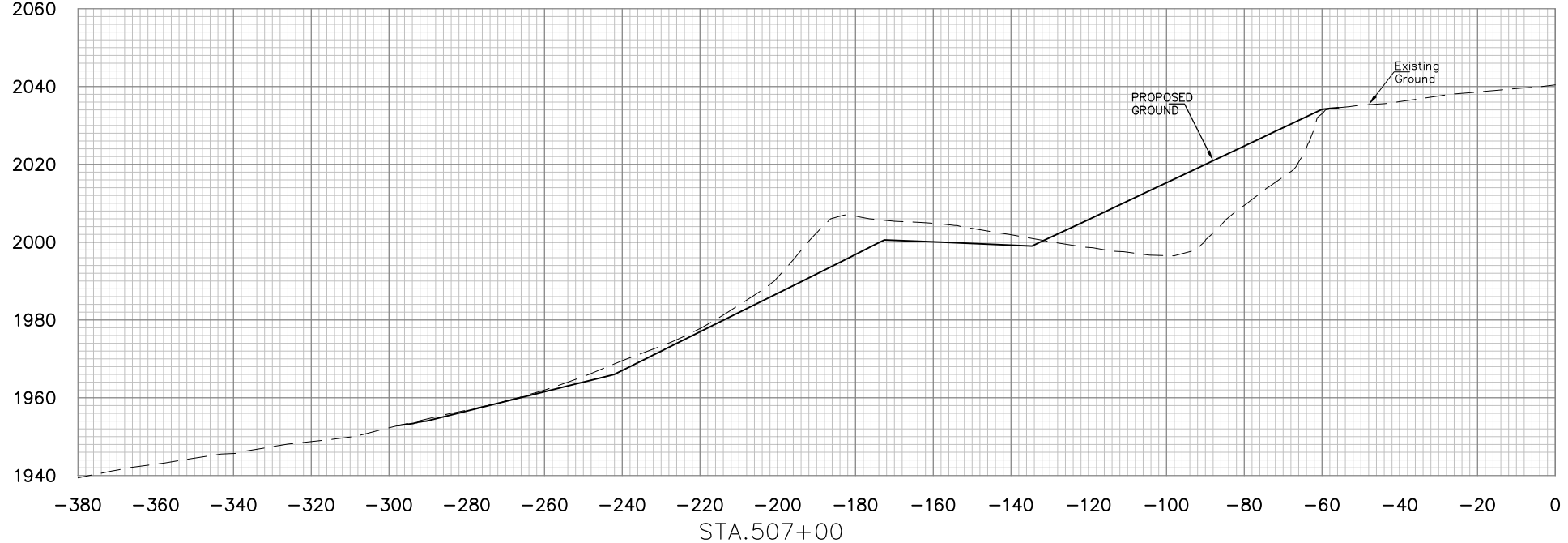
DATE
OCTOBER 2013

SCALE
1"=20'

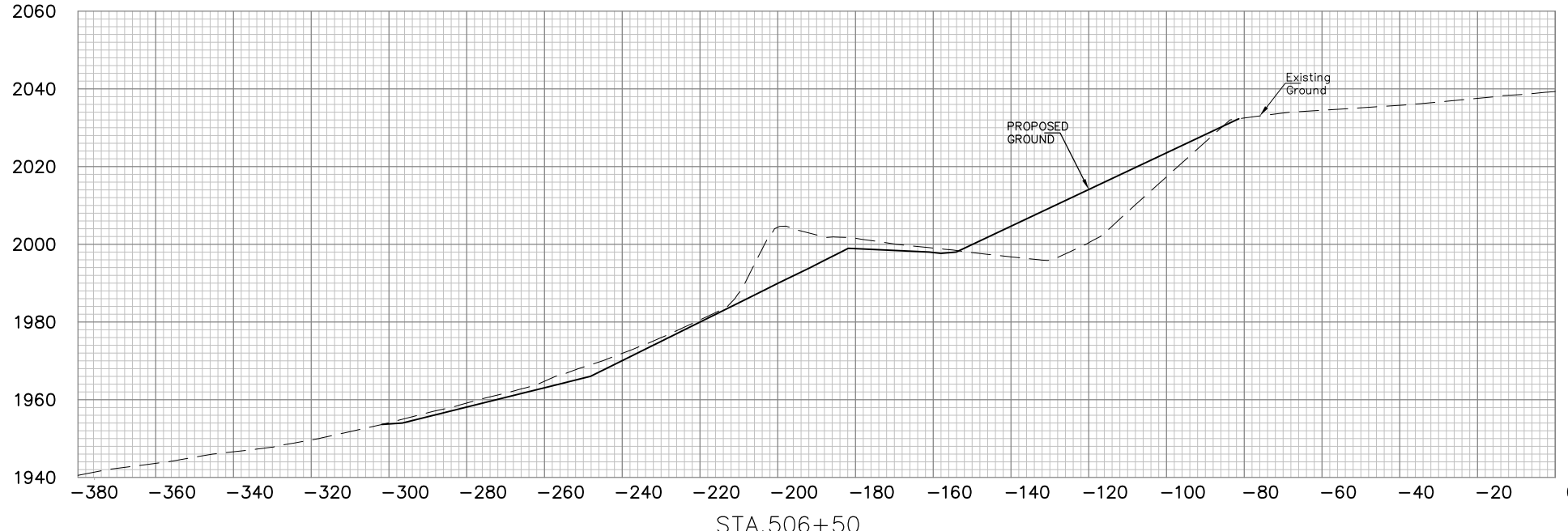
DRAWING NUMBER
59



STA.507+50




STA.507+00



STA.506+50

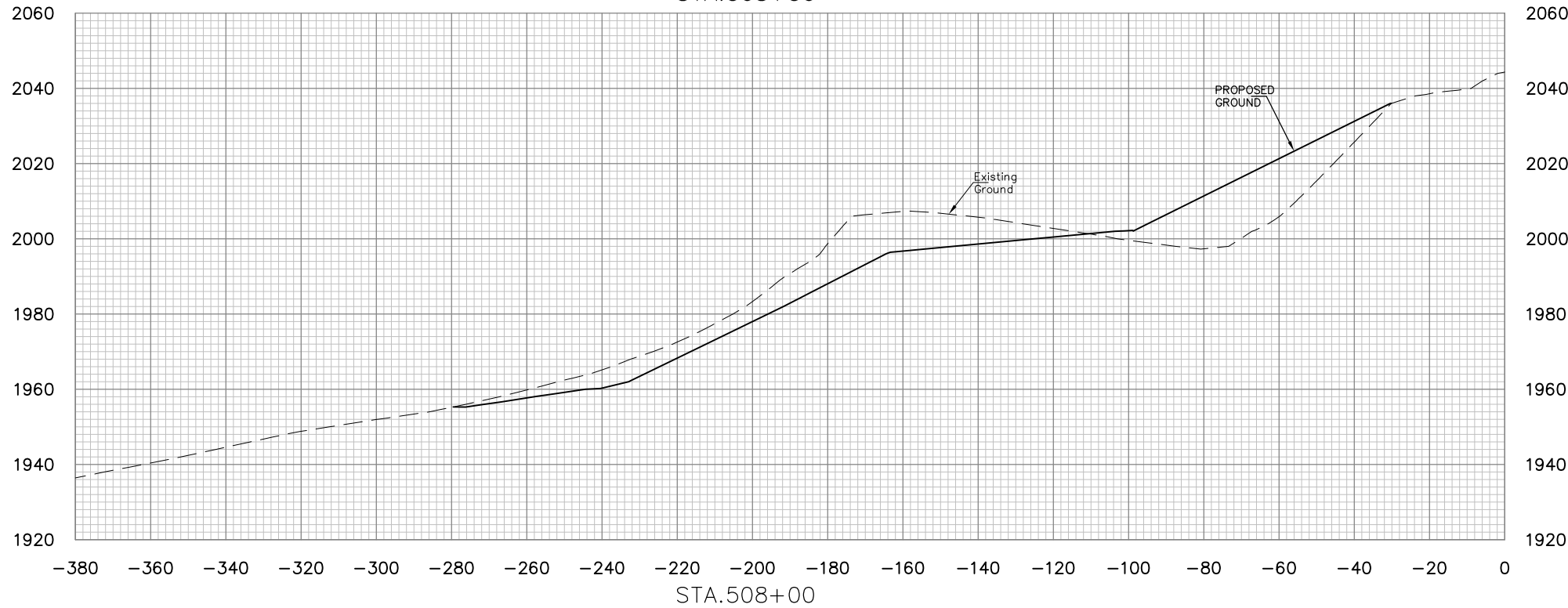
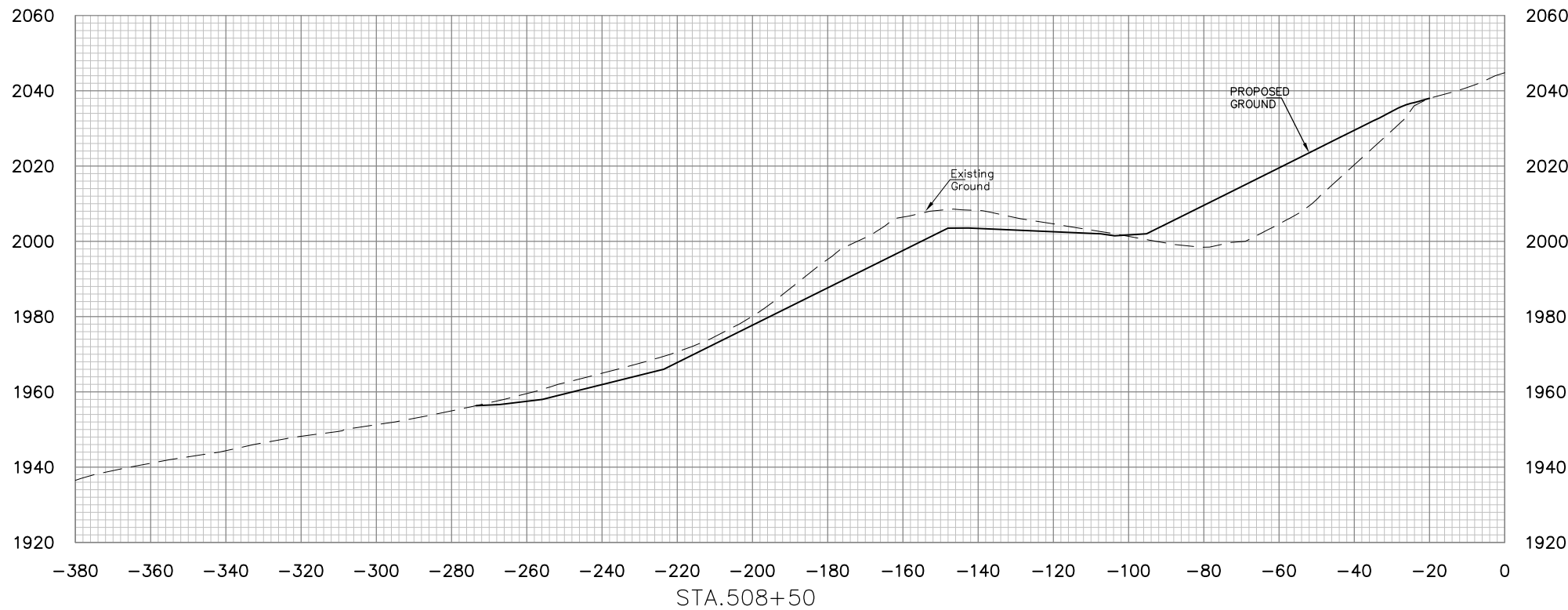
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NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
 CROSS SECTIONS
 STA. 506+50 TO STA. 507+50**

DATE
 OCTOBER 2013
 SCALE
 1"=20'
 DRAWING NUMBER
60



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NO.	DATE	REVISION	BY

PROJECT INFORMATION
west virginia
dep
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PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
CROSS SECTIONS
STA. 507+00 TO STA. 508+00**

DATE
OCTOBER 2013
SCALE
1"=20'
DRAWING NUMBER
61

NO.	DATE	REVISION	BY



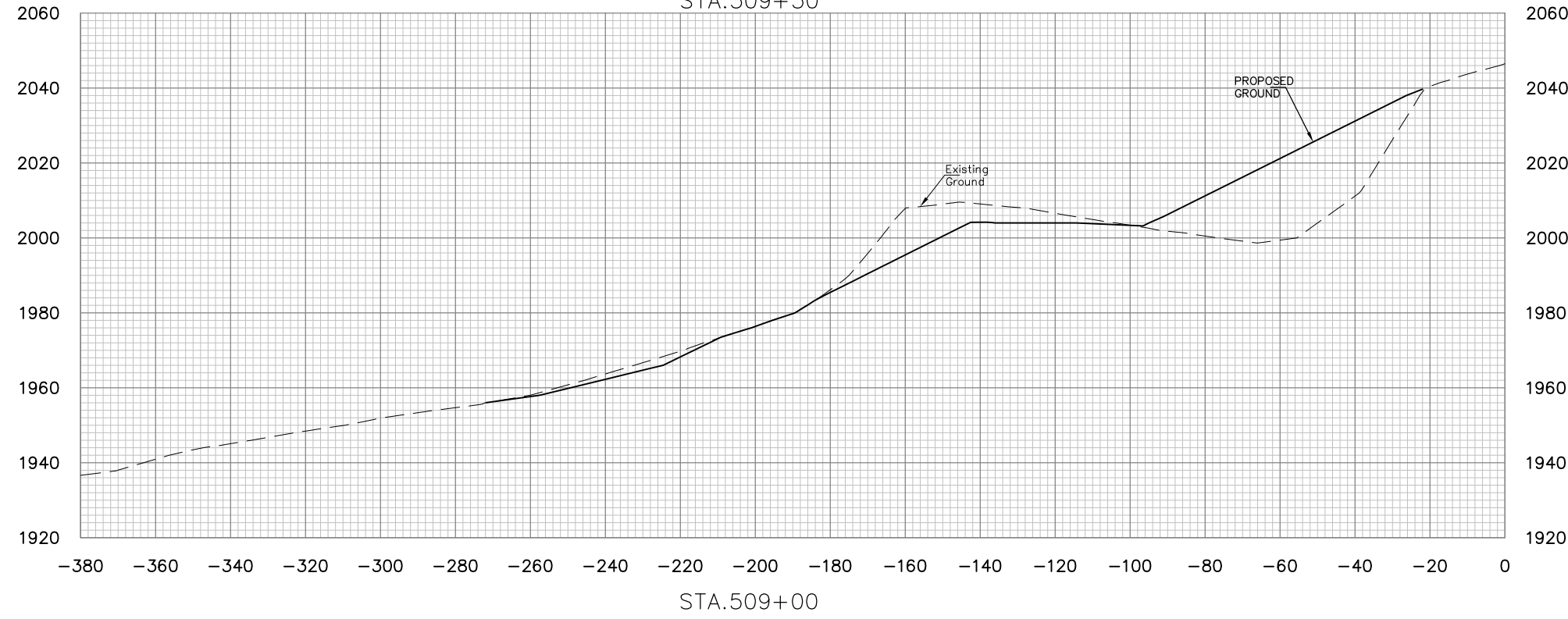
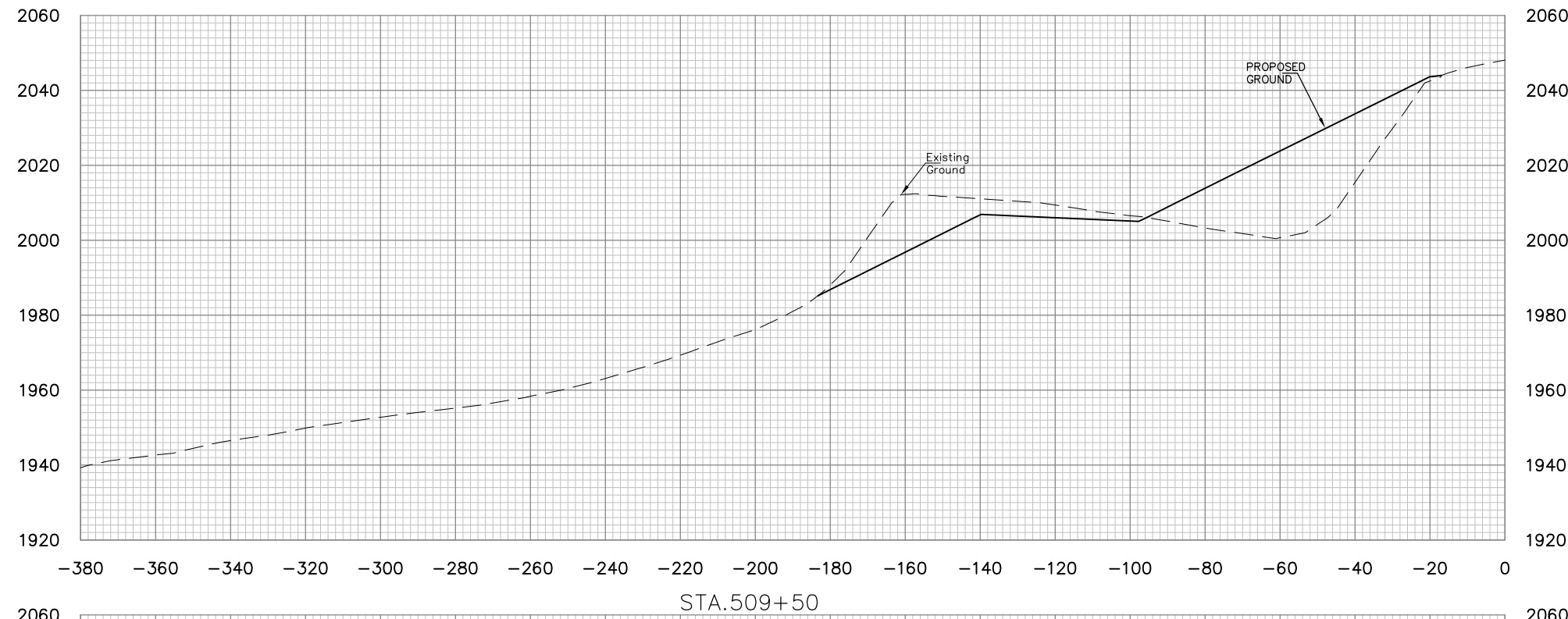
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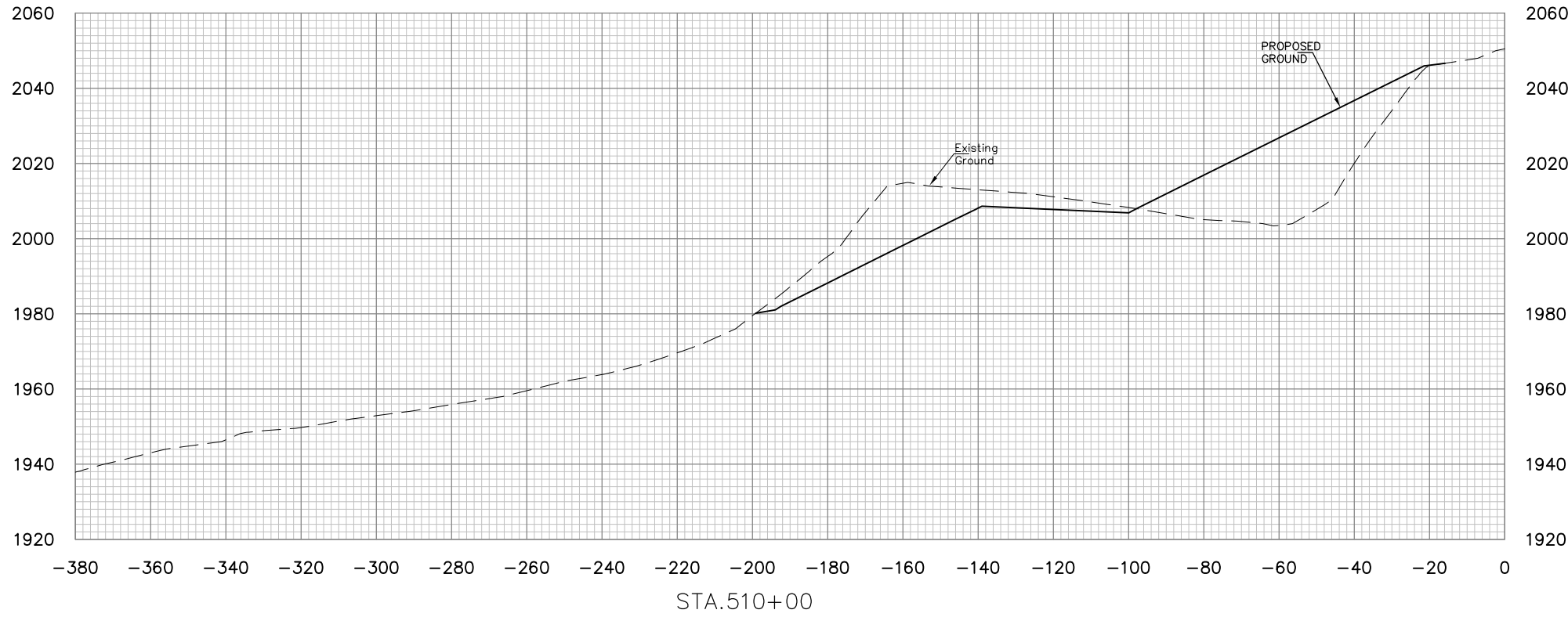
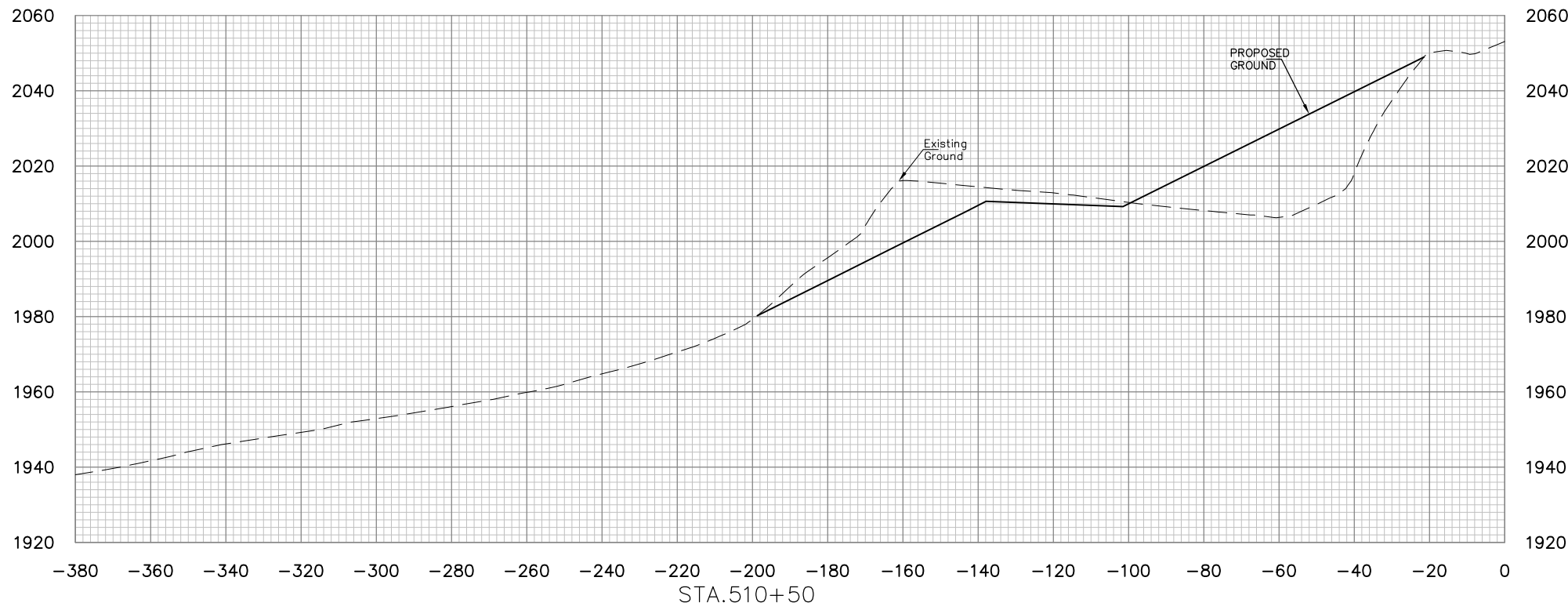
**BASELINE 5
CROSS SECTIONS
STA. 509+00 TO STA. 509+50**

DATE
OCTOBER 2013

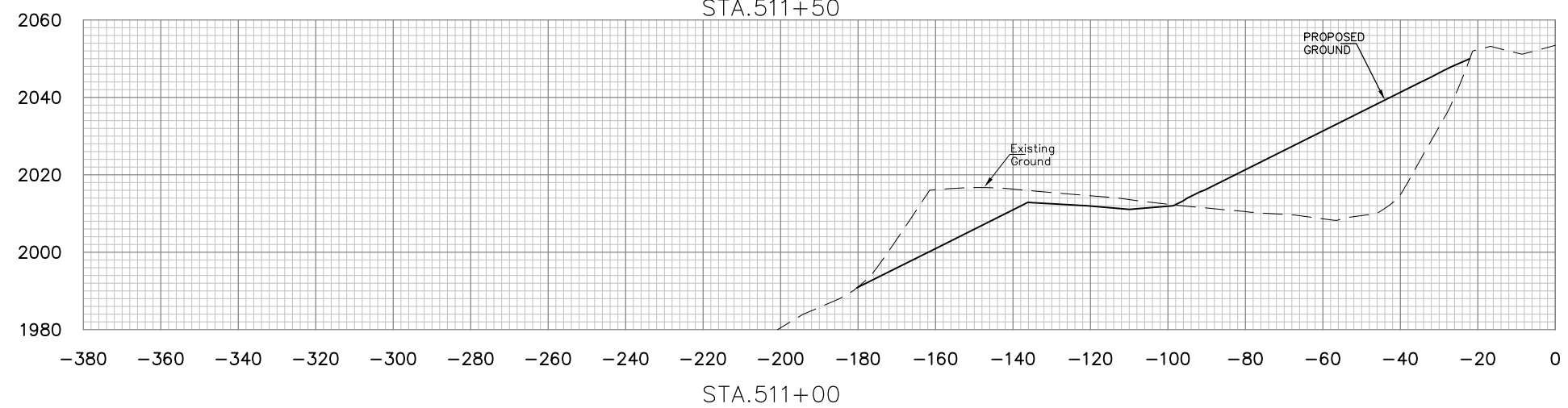
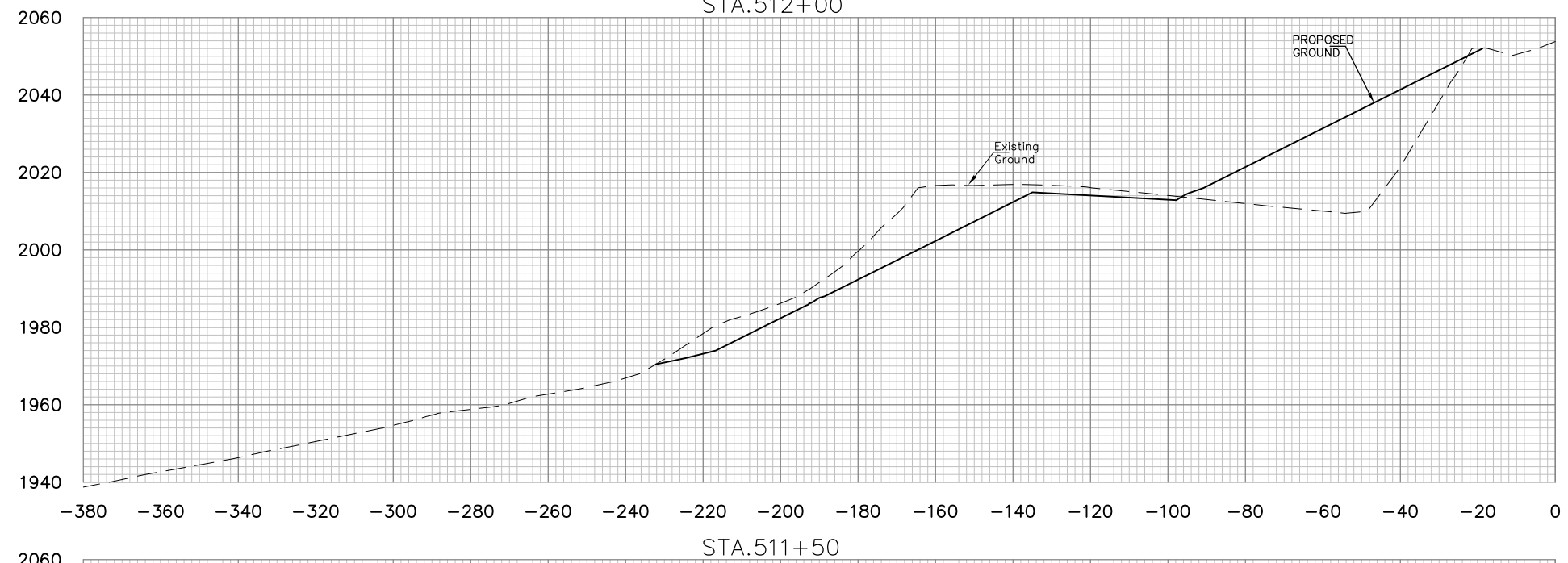
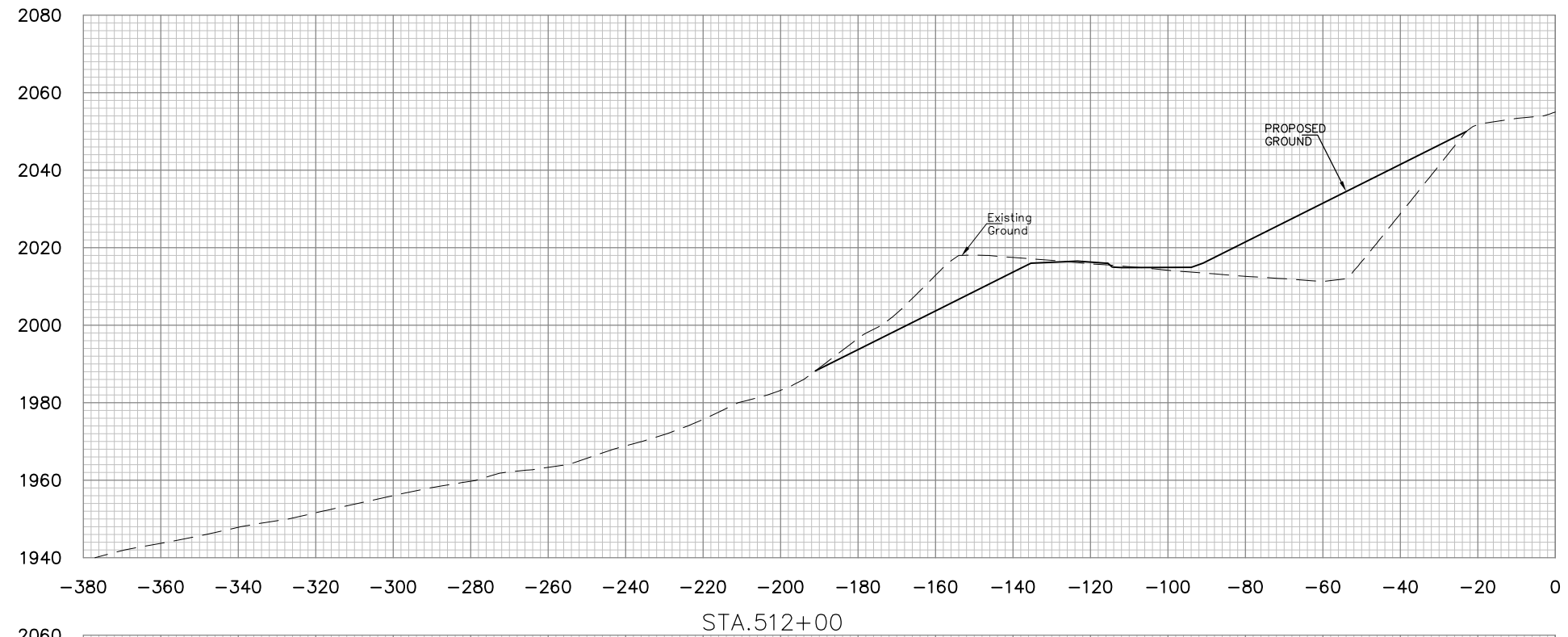
SCALE
1"=20'

DRAWING NUMBER
62





NO.	DATE	REVISION	BY



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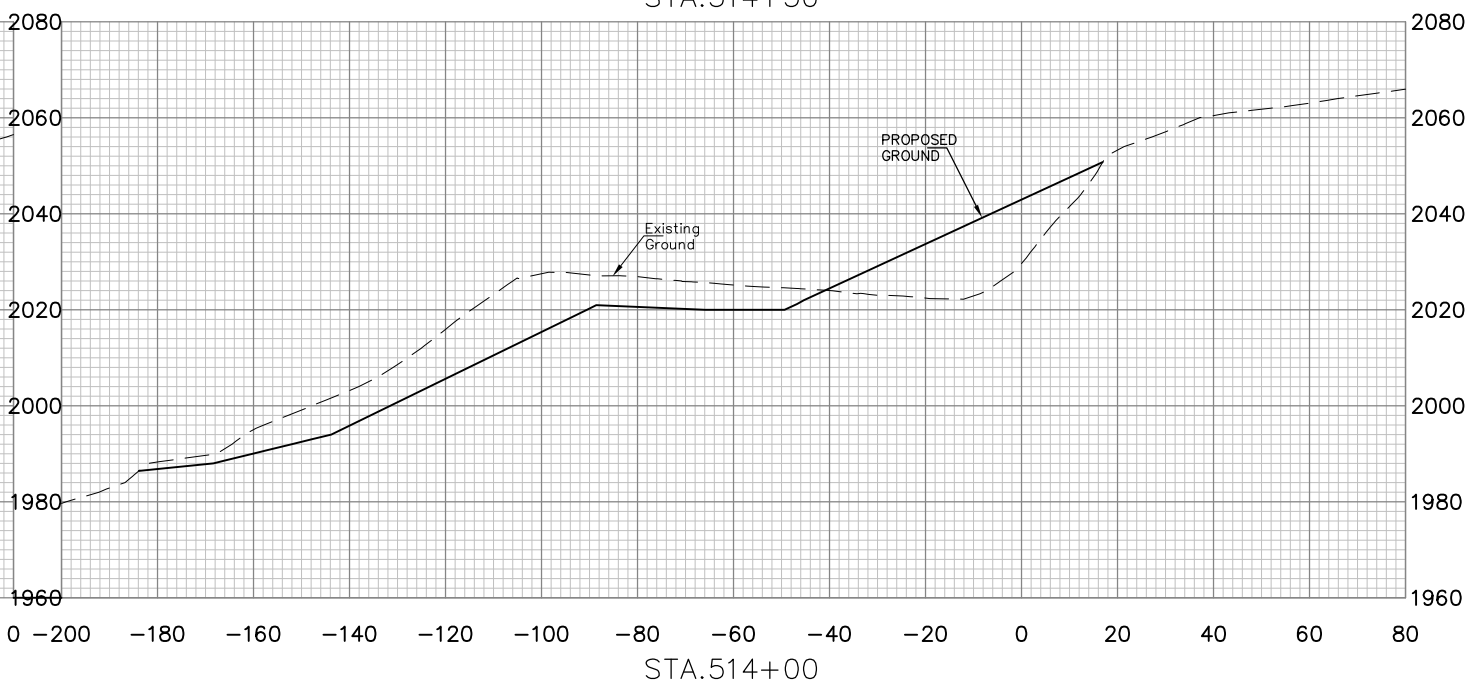
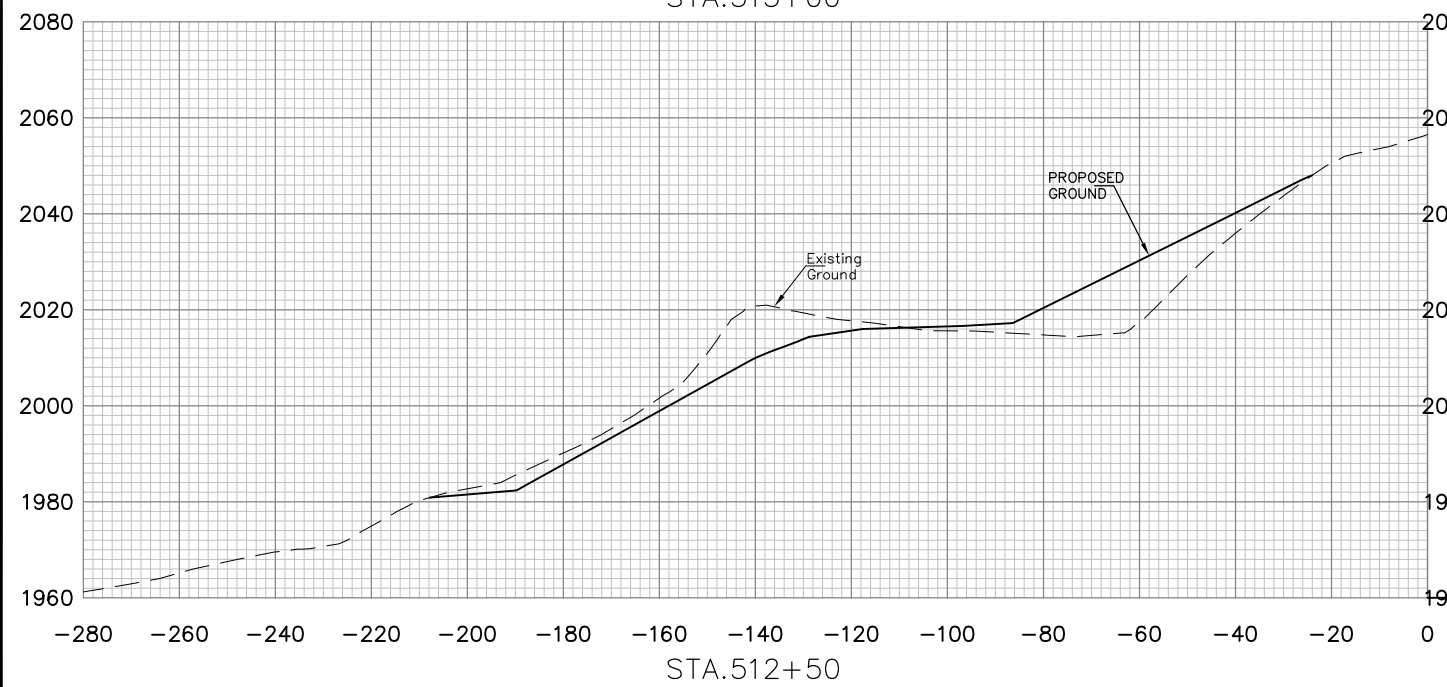
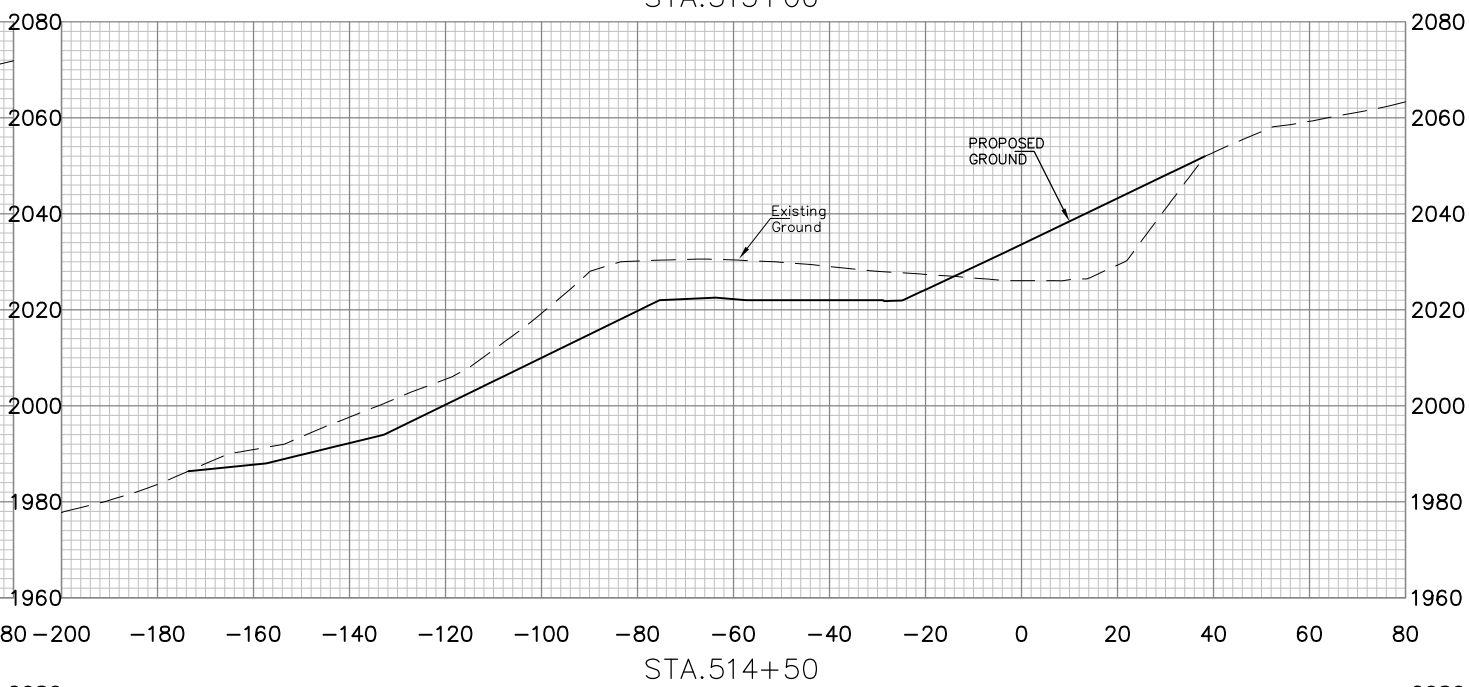
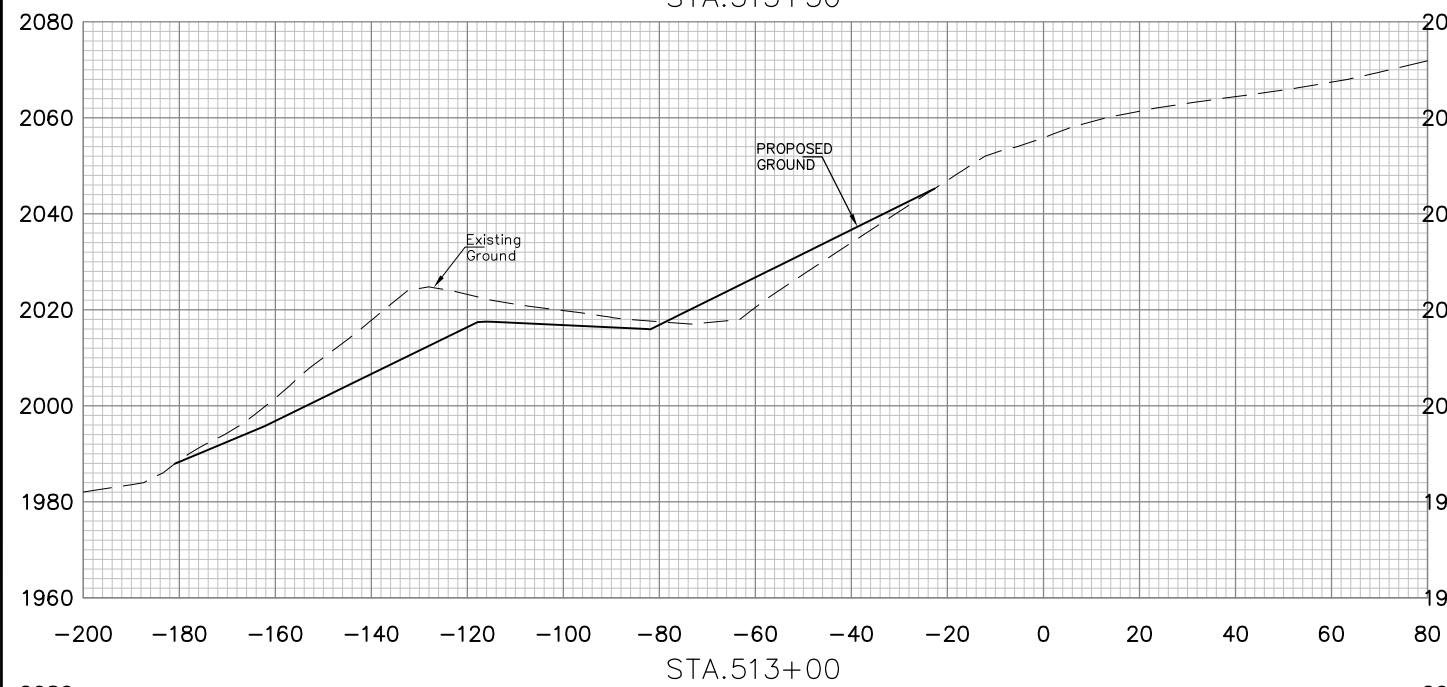
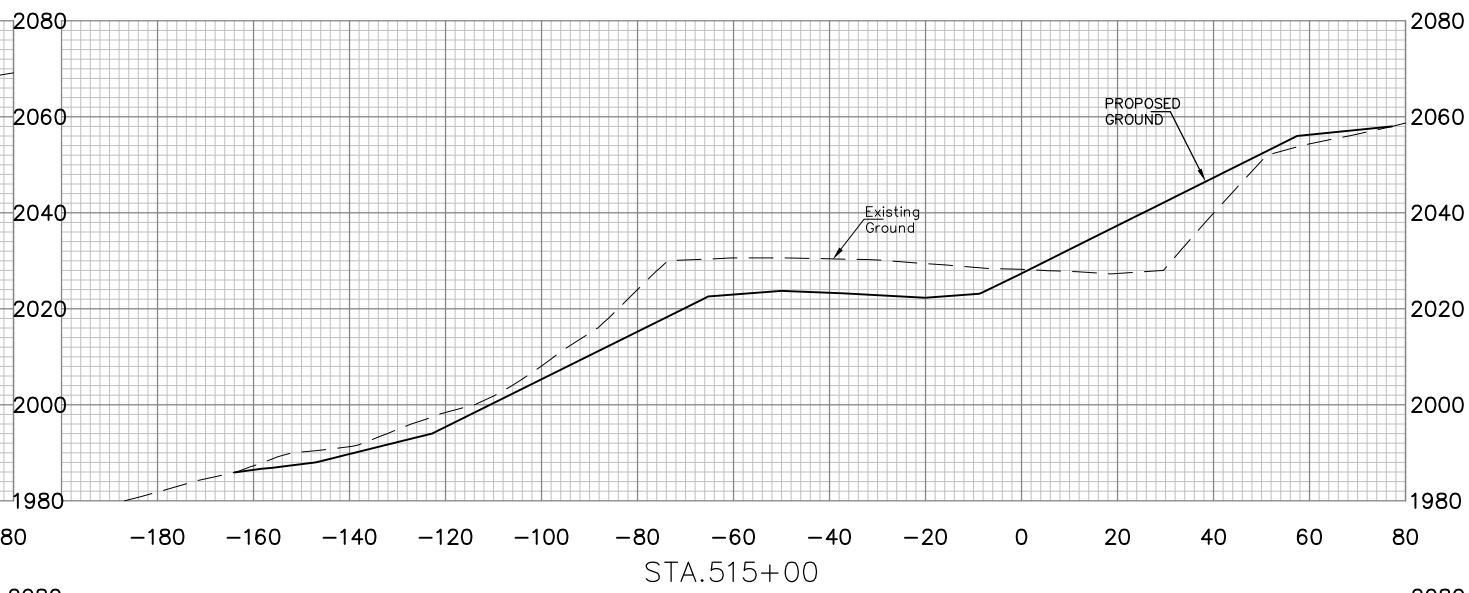
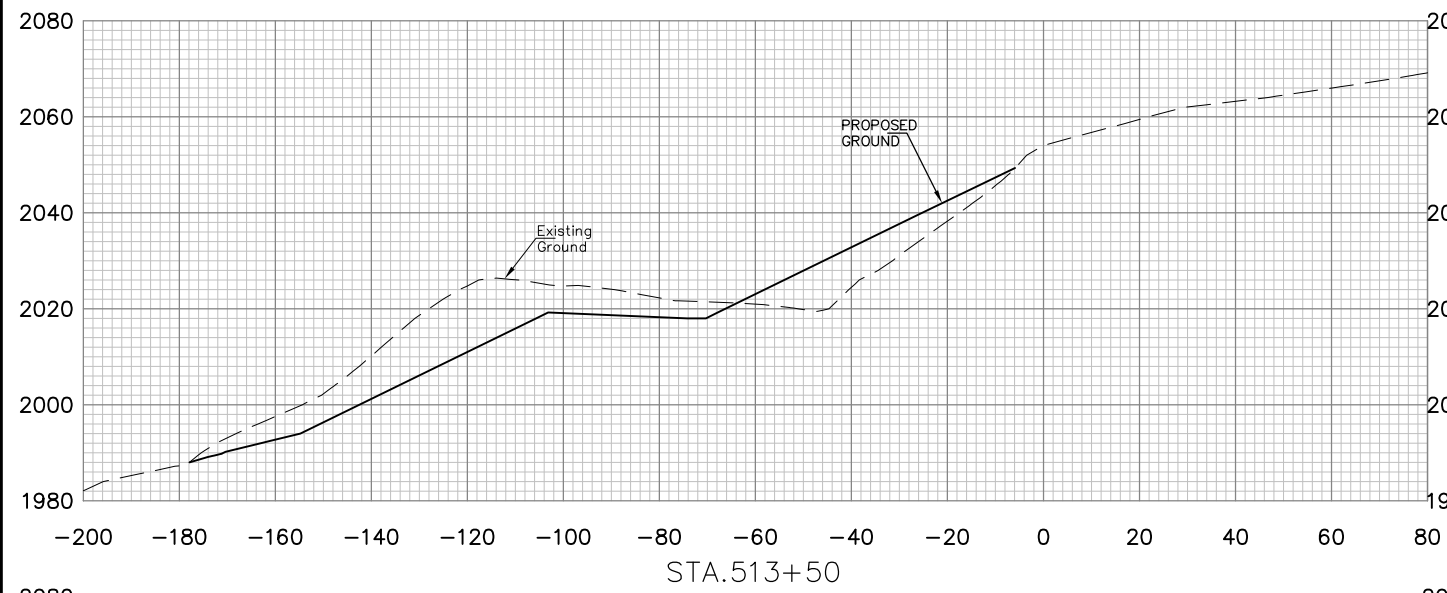
NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
 CROSS SECTIONS
 STA. 511+00 TO STA. 512+00**


DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
64



E.L. ROBINSON
ENGINEERING

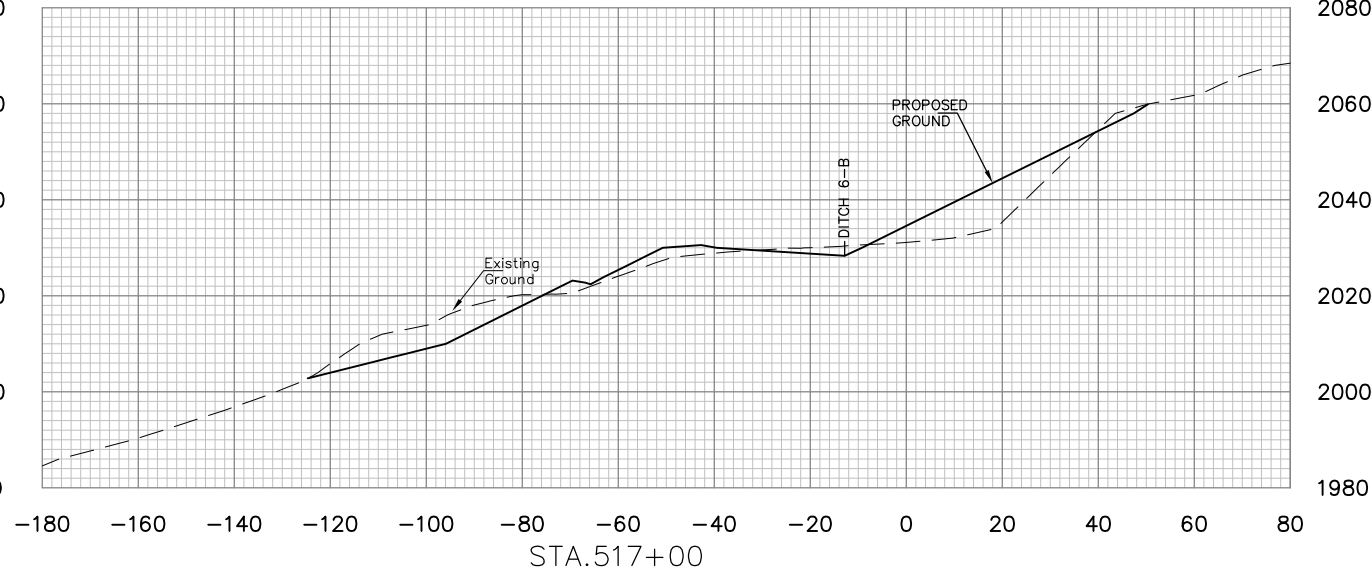
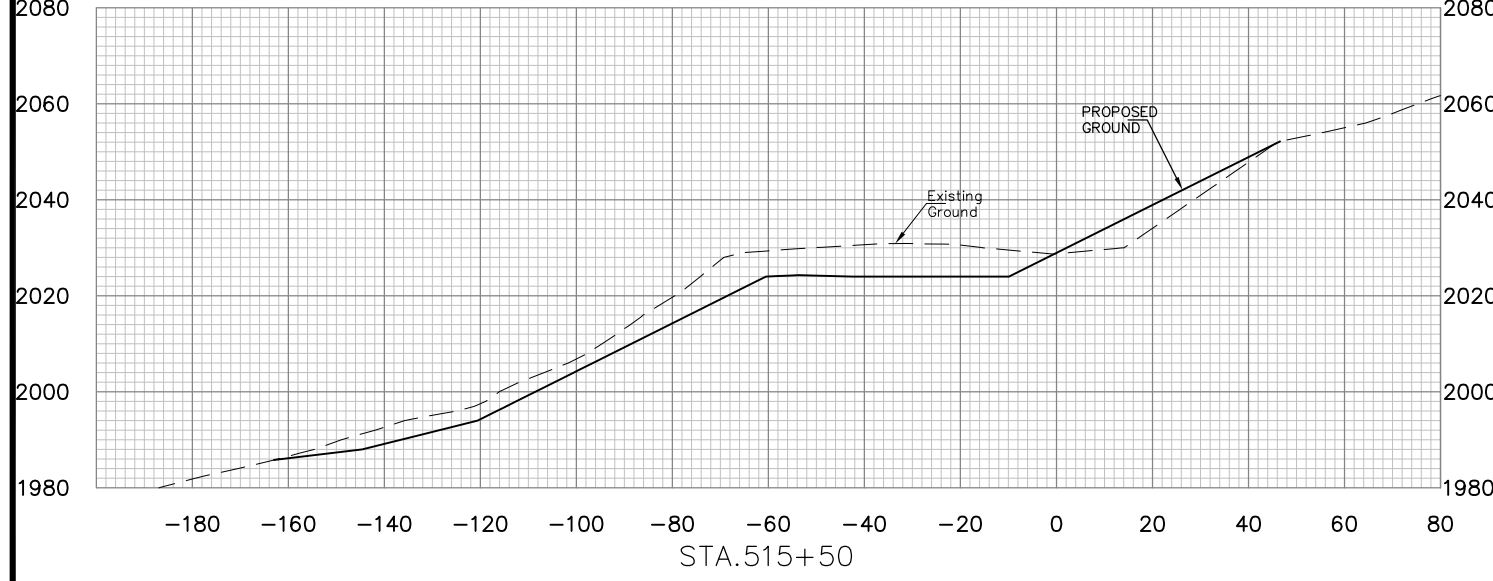
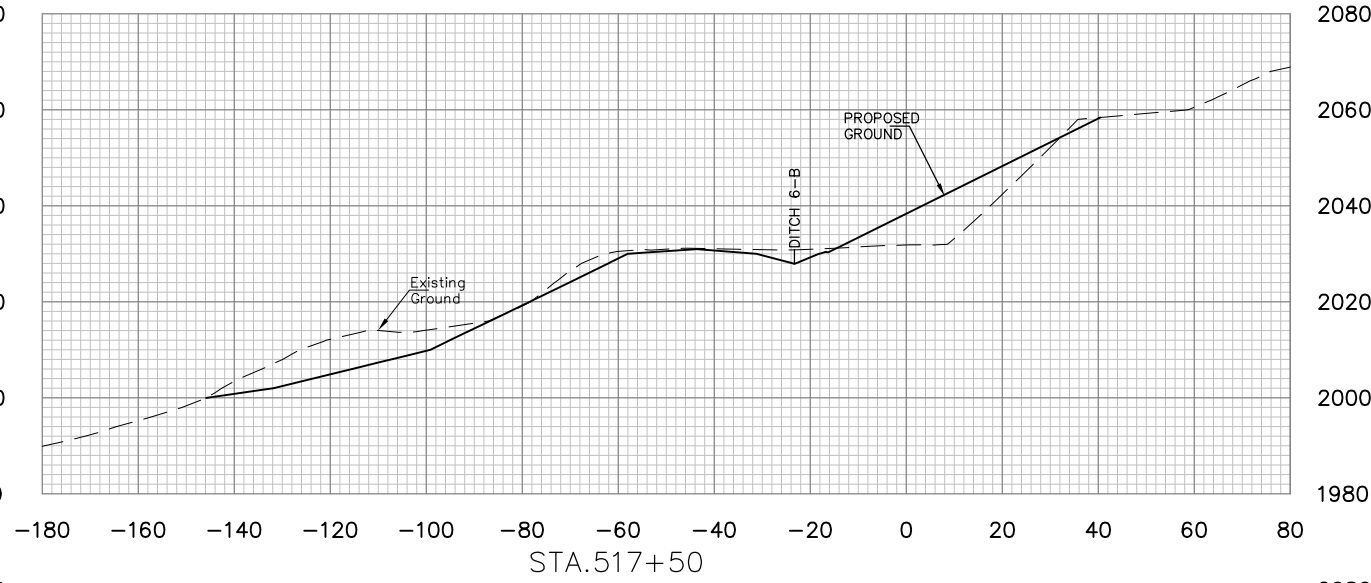
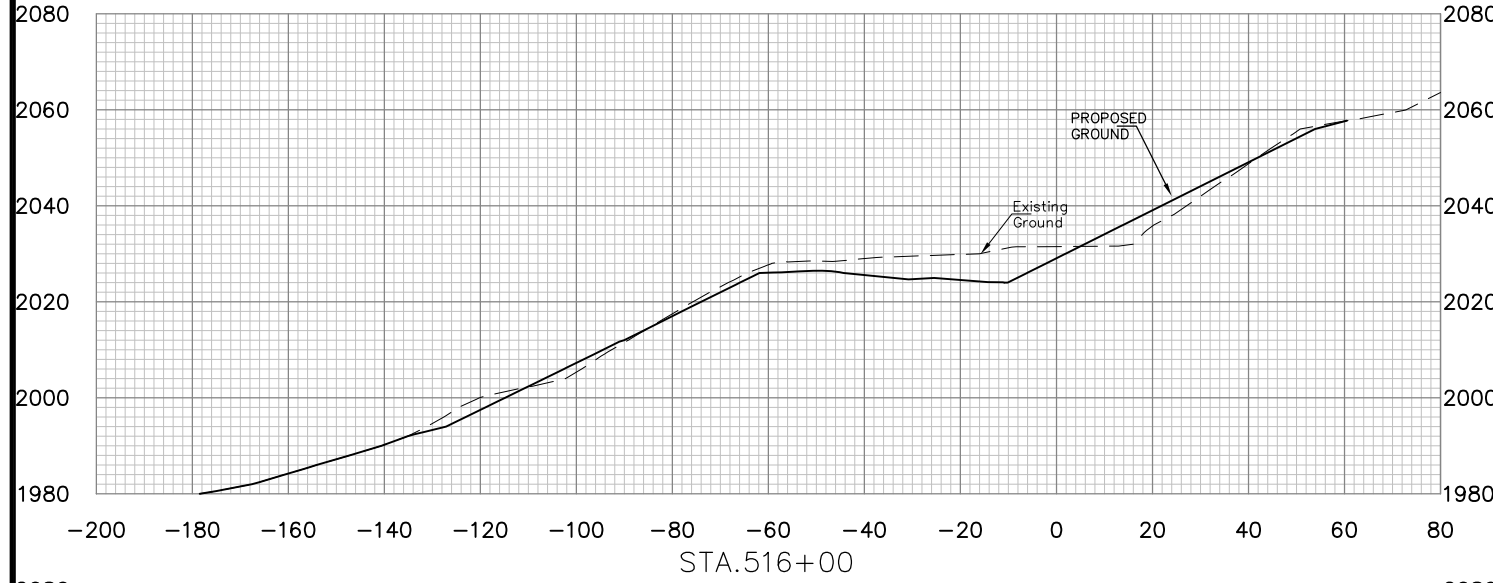
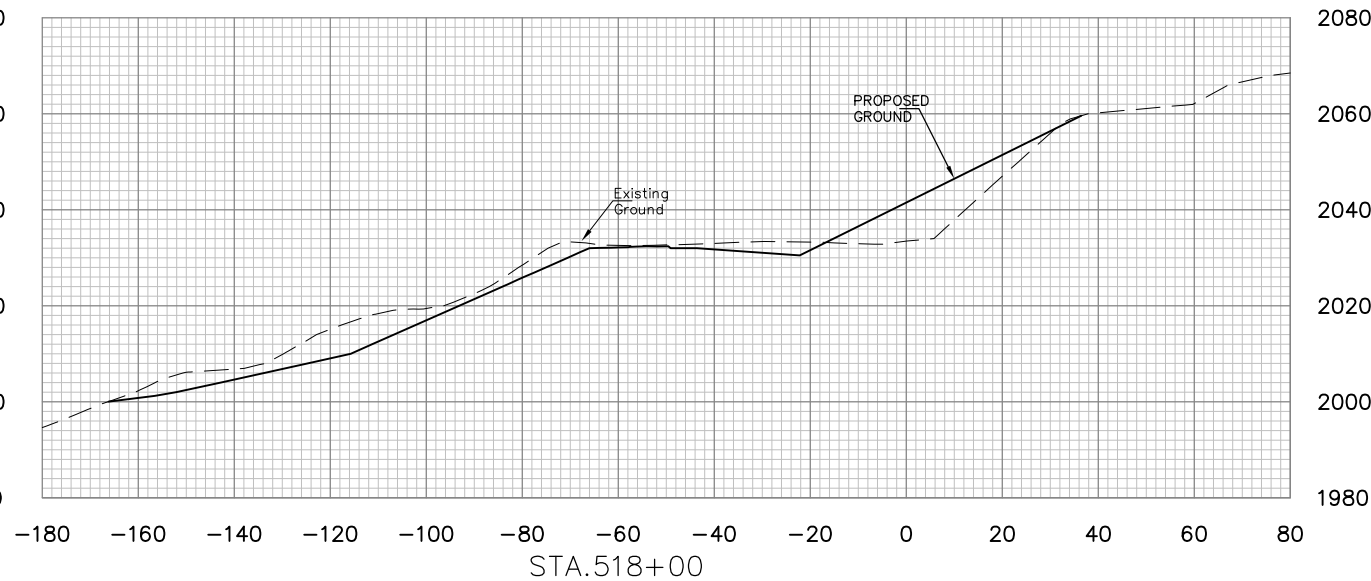
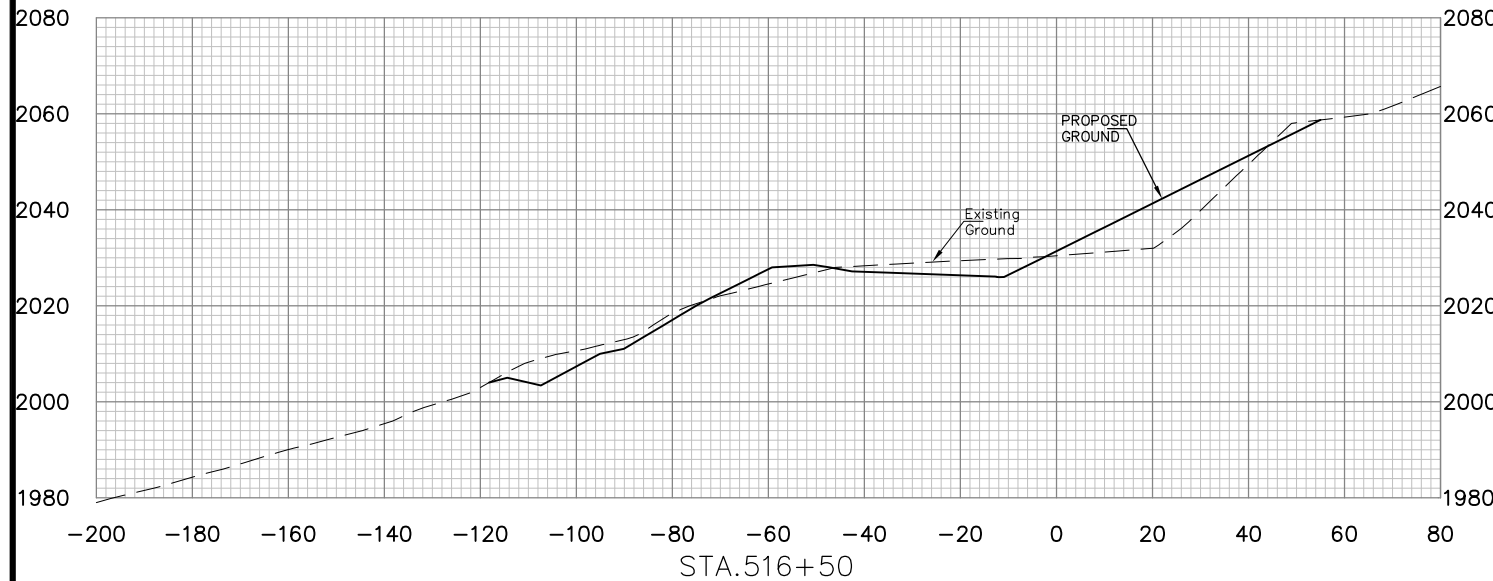
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304.776.7473
Fax: 304.776.6426

NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
 CROSS SECTIONS
 STA. 512+50 TO STA. 515+00**

DATE
OCTOBER 2013
 SCALE
1"=20'
 DRAWING NUMBER
65

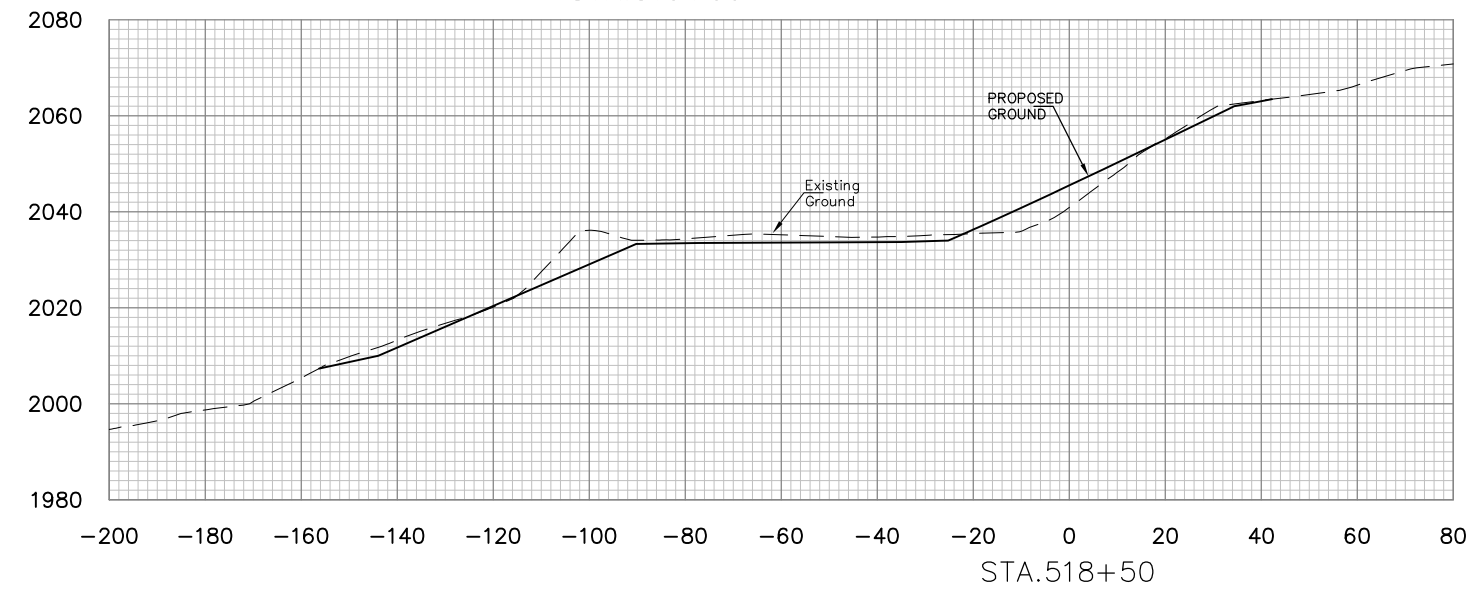
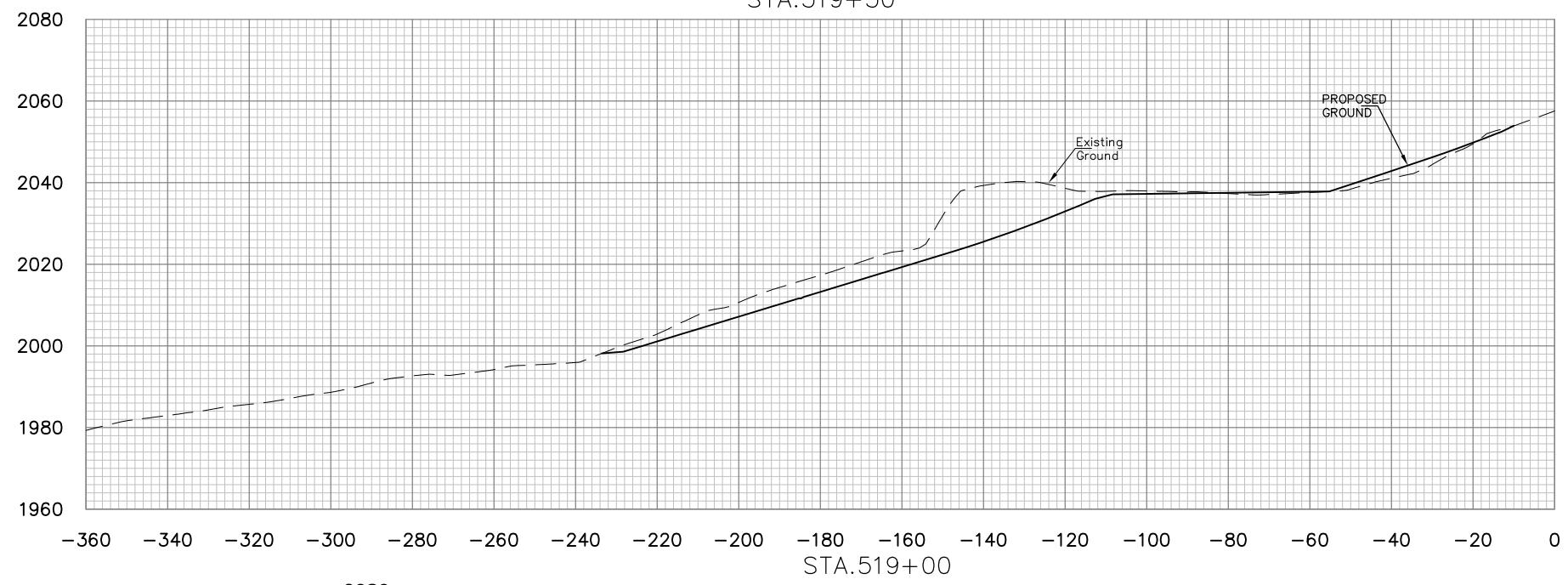
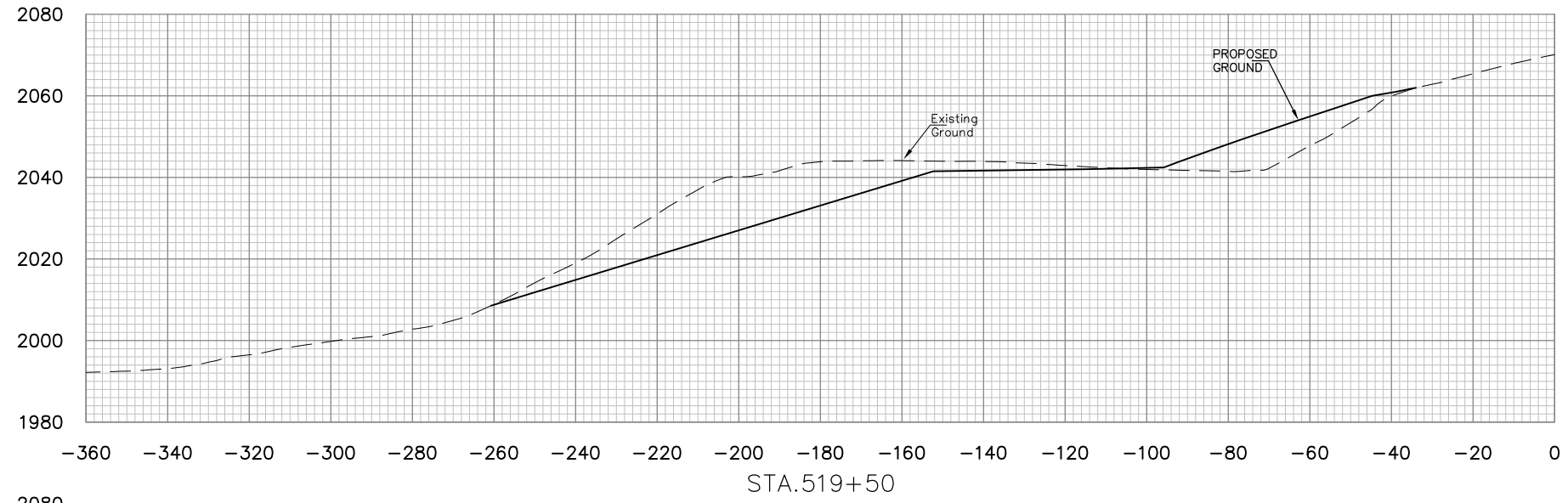


NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE
**BASELINE 5
 CROSS SECTIONS
 STA. 515+50 TO STA. 518+00**



E.L. ROBINSON
ENGINEERING

5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304.776.4773
Fax: 304.776.6426

NO.	DATE	REVISION	BY

PROJECT INFORMATION

west Virginia
Department of Environmental Protection
dep

DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

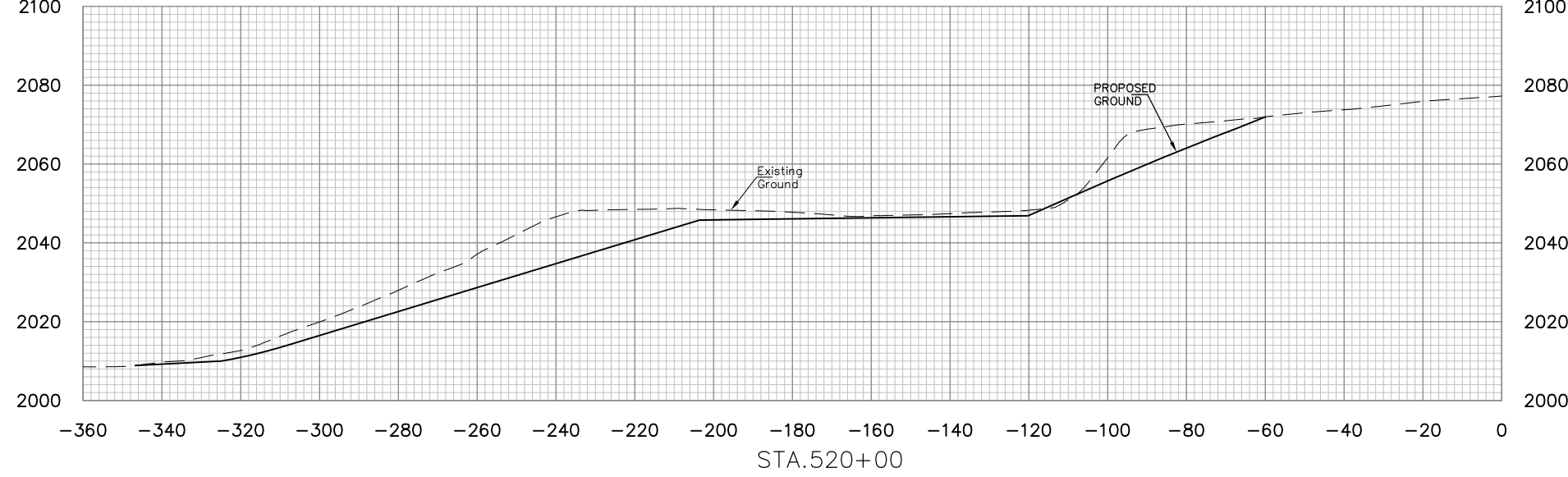
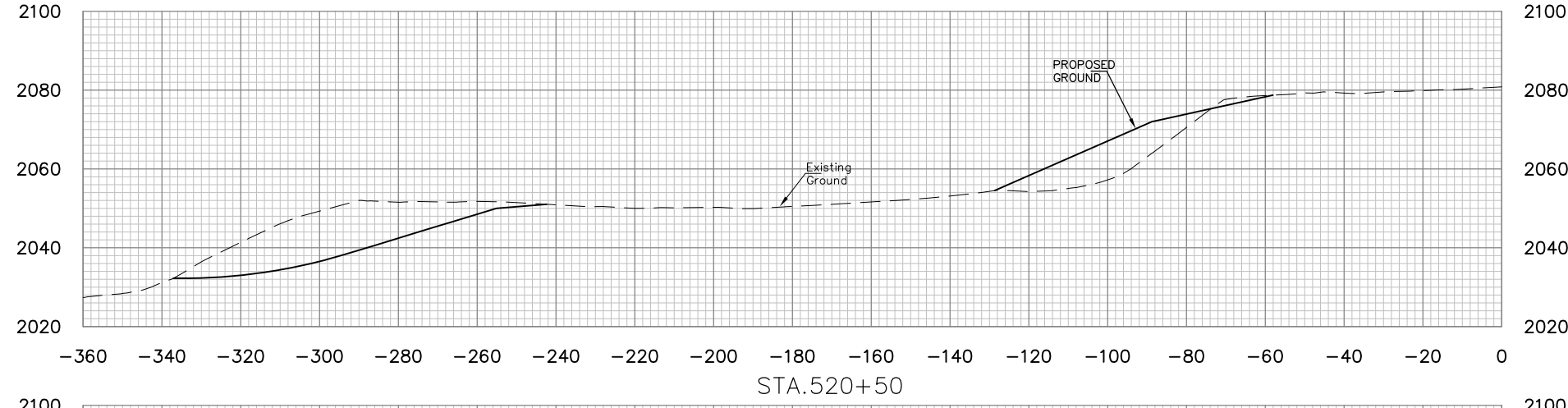
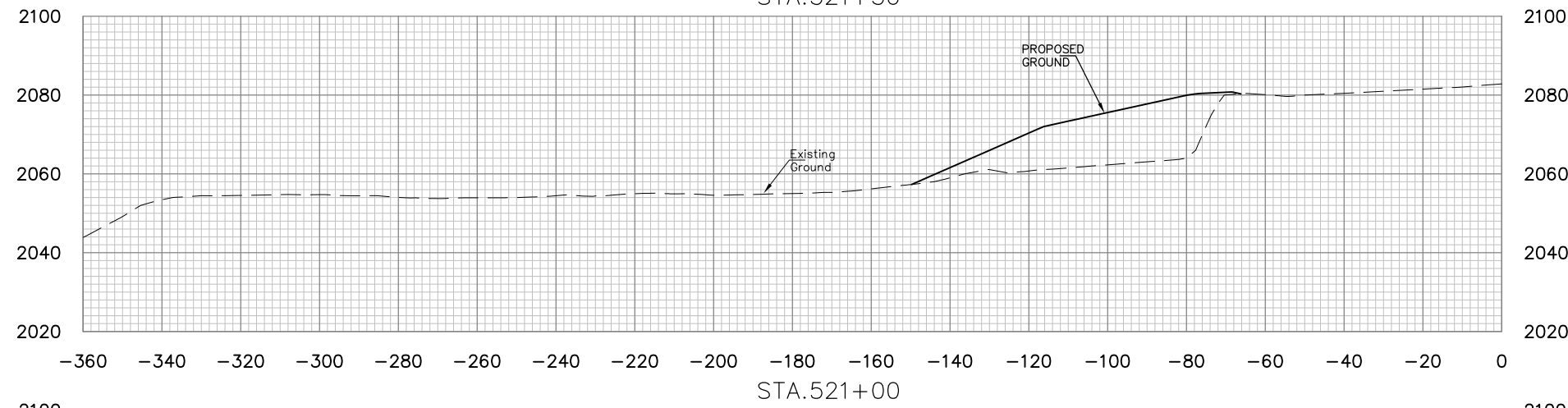
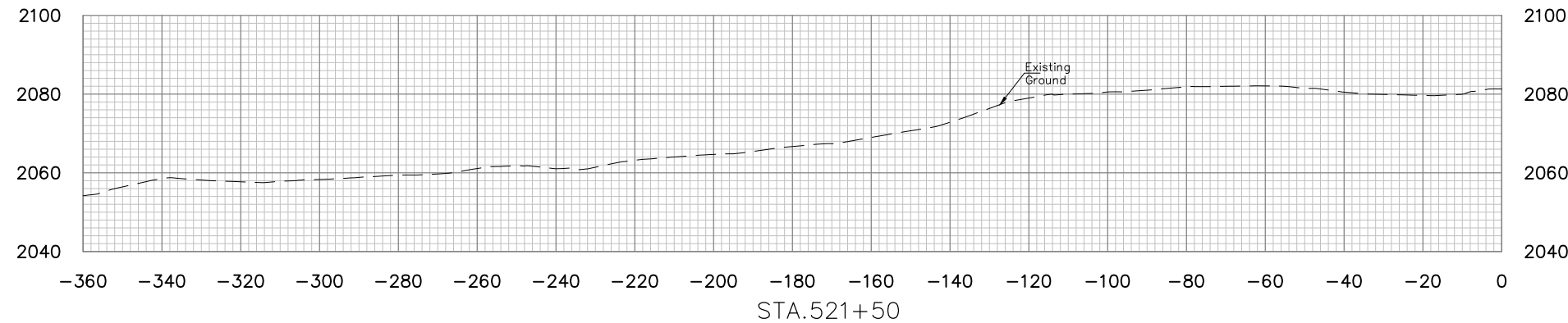
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**BASELINE 5
CROSS SECTIONS
STA. 518+50 TO STA. 519+50**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
67



NO.	DATE	REVISION	BY



DRAWING TITLE

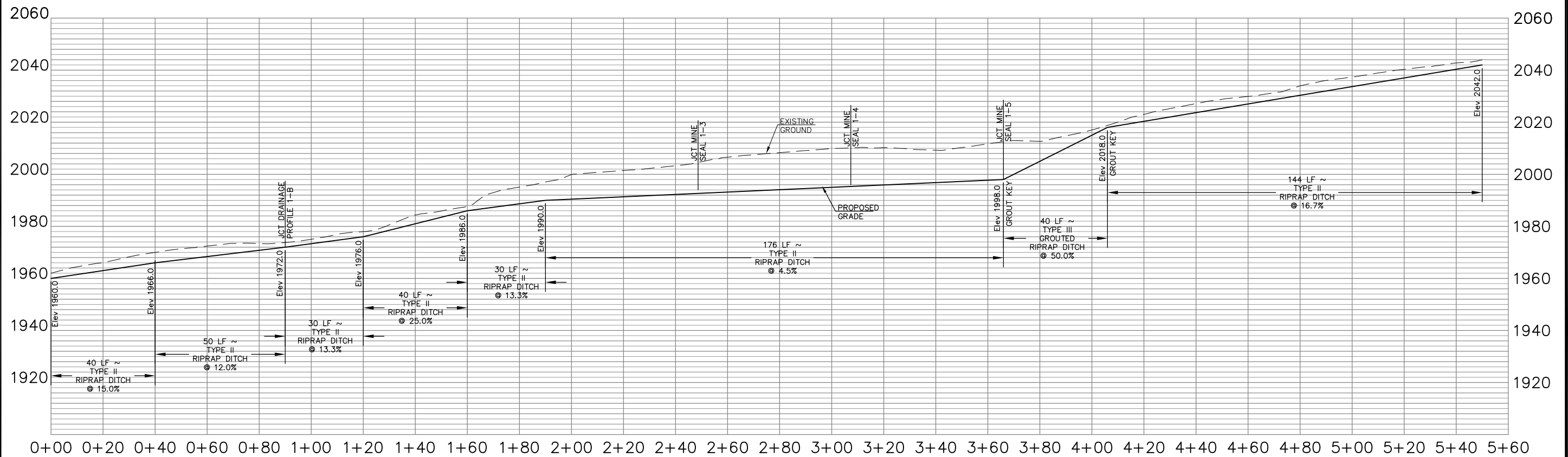
**BASELINE 5
CROSS SECTIONS
STA. 520+00 TO STA. 521+50**

DATE
OCTOBER 2013

SCALE
1"=20'

DRAWING NUMBER
68

DRAINAGE PROFILE 1-A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 1-A							
342952.25	1889772.63	0+00	II	RIPRAP	1960.0	15.0	BEGIN DRAINAGE PROFILE 1-A
342955.37	1889812.51	0+40	II	RIPRAP	1966.0	12.0	
342961.75	1889861.66	0+90	II	RIPRAP	1972.0	13.3	JCT DRAINAGE PROFILE 1-B
342975.33	1889888.40	1+20	II	RIPRAP	1976.0	25.0	
342993.45	1889924.07	1+60	II	RIPRAP	1986.0	13.3	
343007.03	1889950.82	1+90	II	RIPRAP	1990.0	4.5	
343032.76	1890003.72	2+49	II	RIPRAP	1994.0		JCT MINE SEAL 1-3
343040.20	1890061.25	3+07	II	RIPRAP	1996.0		JCT MINE SEAL 1-4
343047.95	1890119.75	3+66	III	GROUTED RIPRAP	1998.0	50.0	JCT MINE SEAL 1-5, GROUT KEY
343053.83	1890159.30	4+06	II	RIPRAP	2018.0	16.7	GROUT KEY
343075.37	1890301.68	5+50	II	RIPRAP	2042.0		



DRAINAGE PROFILE 1-A

NO.	DATE	REVISION	BY

PROJECT INFORMATION

 DONNIE THORN HIGHWALL
 PRESTON COUNTY, WEST VIRGINIA

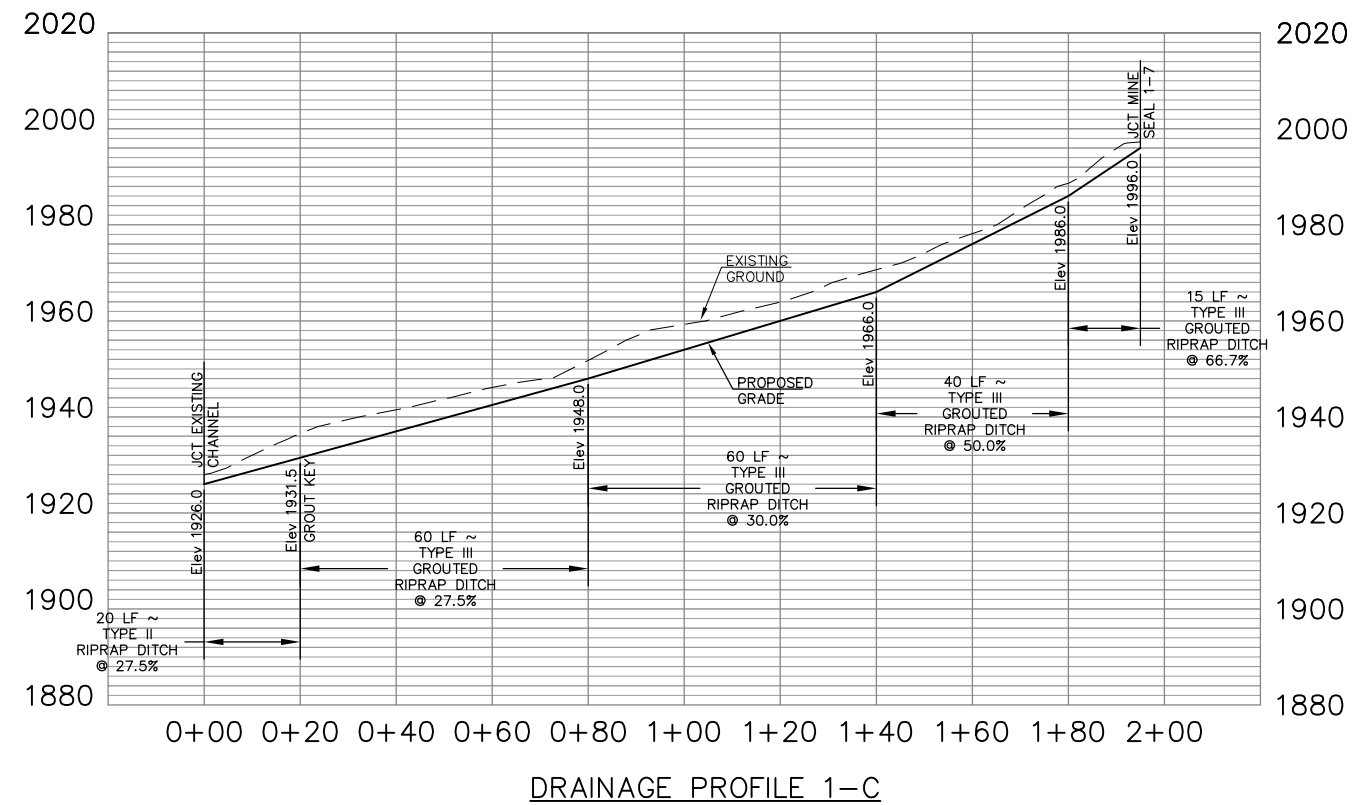
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SHEET 1
DRAINAGE PROFILES
1-A

DATE
 OCTOBER 2013

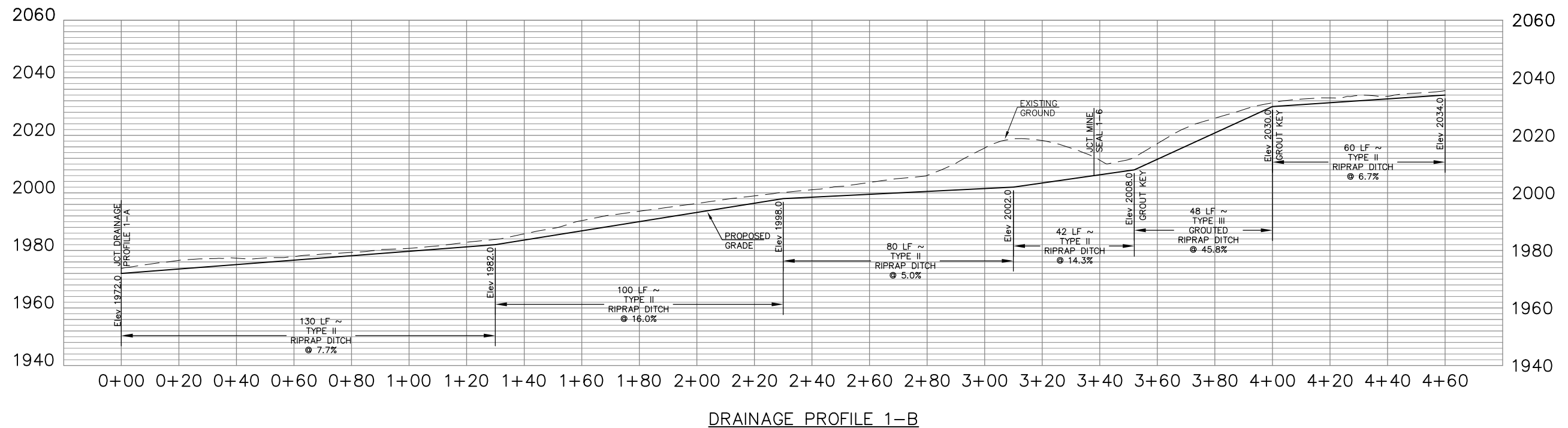
SCALE
 1" = 20'

DRAWING NUMBER
69

DRAINAGE PROFILE 1-C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 1-C							
342920.98	1889608.29	0+00	II	RIPRAP	1926.0	27.5	JCT. EXISTING CHANNEL
342903.07	1889617.19	0+20	III	GROUTED RIPRAP	1931.5	27.5	GROUT KEY
342849.34	1889643.91	0+80	III	GROUTED RIPRAP	1948.0	30.0	
342795.62	1889670.62	1+40	III	GROUTED RIPRAP	1966.0	50.0	
342759.80	1889688.43	1+80	III	GROUTED RIPRAP	1986.0	66.7	
342746.37	1889695.11	1+95	III	GROUTED RIPRAP	1996.0		JCT MINE SEAL 1-7

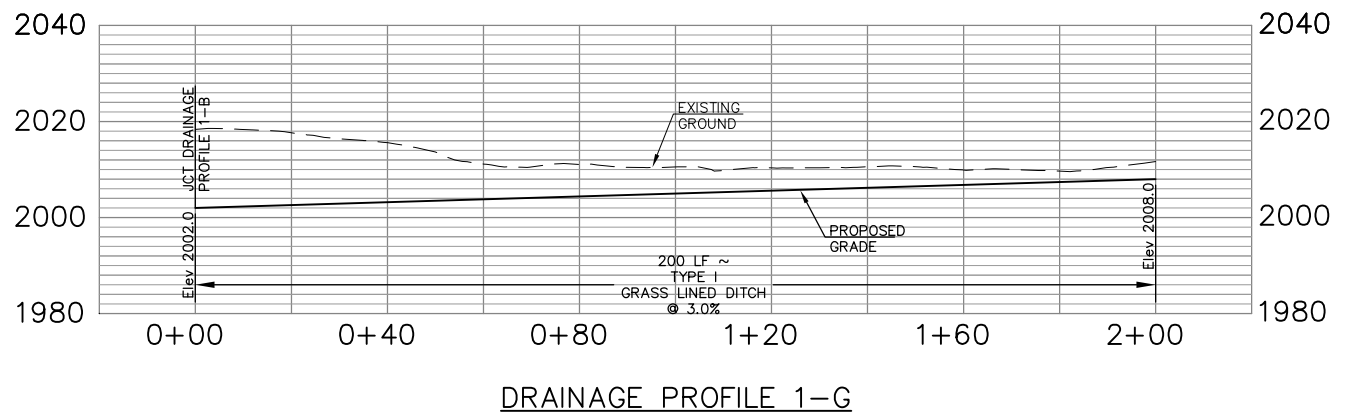


DRAINAGE PROFILE 1-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 1-B							
342961.75	1889861.66	0+00	II	RIPRAP	1972.0	7.7	JCT DRAINAGE PROFILE 1-A
342906.09	1889979.14	1+30	II	RIPRAP	1982.0	16.0	
342859.68	1890067.71	2+30	II	RIPRAP	1998.0	5.0	
342821.79	1890138.12	3+10	II	RIPRAP	2002.0	14.3	
342804.36	1890160.03	3+38	II	RIPRAP	2006.0		JCT MINE SEAL 1-6
342795.65	1890170.99	3+52	III	GROUTED RIPRAP	2008.0	45.8	GROUT KEY
342759.68	1890200.34	4+00	II	RIPRAP	2030.0	6.7	GROUT KEY
342703.89	1890222.43	4+60	II	RIPRAP	2034.0		



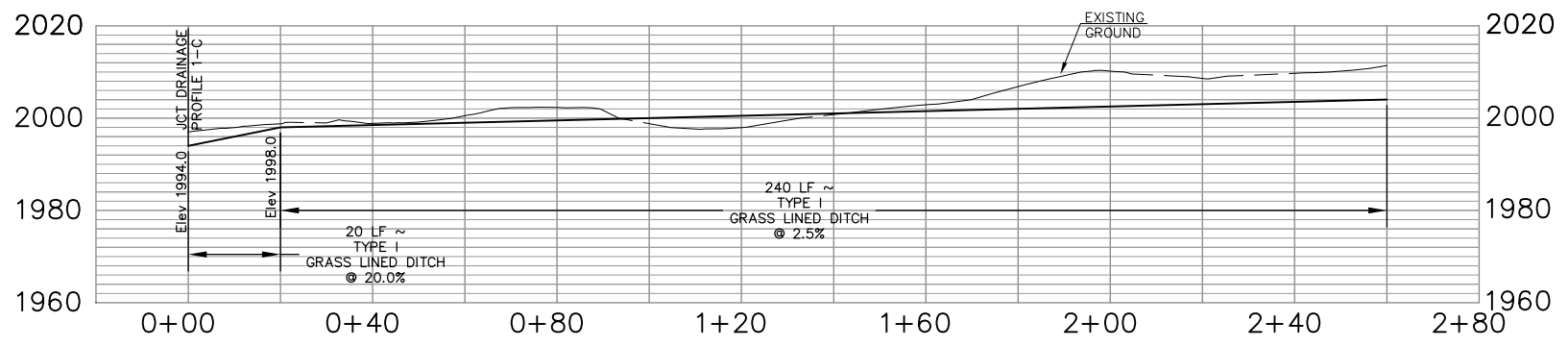
NO.	DATE	REVISION	BY

DRAINAGE PROFILE 1-G SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 1-G			
342823.38	1890136.12	0+00	I	GRASS LINED	2002.0	3.0	JCT DRAINAGE PROFILE 1-B
343020.19	1890125.24	2+00	I	GRASS LINED	2008.0		



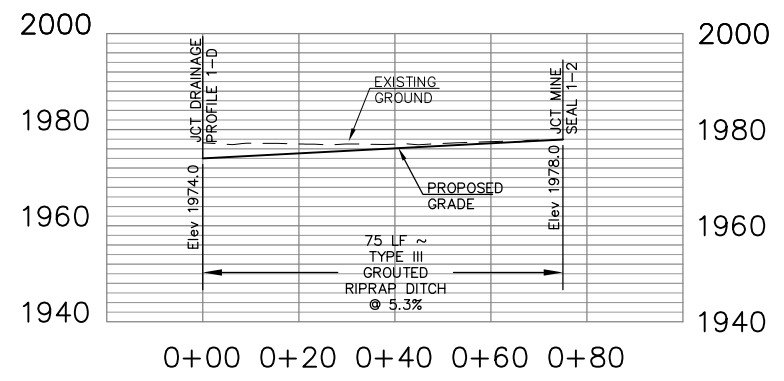
DRAINAGE PROFILE 1-G

DRAINAGE PROFILE 1-F SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 1-F			
342749.06	1889693.77	0+00	I	GRASS LINED	1994.0	20.0	JCT DRAINAGE PROFILE 1-C
342751.87	1889713.57	0+20	I	GRASS LINED	1998.0	2.5	
342819.63	1889943.26	2+60	I	GRASS LINED	2004.0		

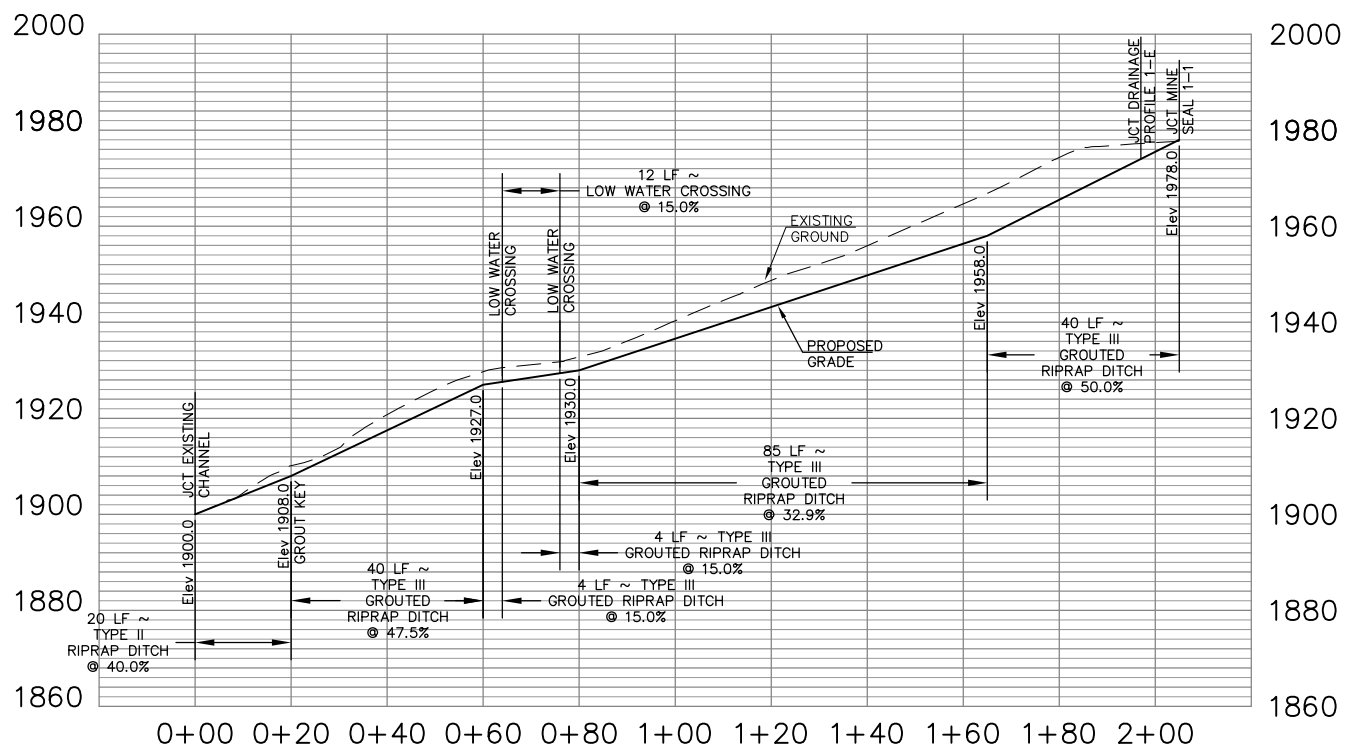


DRAINAGE PROFILE 1-F

DRAINAGE PROFILE 1-D AND 1-E SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 1-D			
342938.85	1889459.76	0+00	II	RIPRAP	1900.0	40.0	JCT EXISTING CHANNEL
342957.84	1889466.03	0+20	III	GROUTED RIPRAP	1908.0	47.5	
342992.63	1889485.17	0+60	III	GROUTED RIPRAP	1927.0	15.0	
342995.97	1889487.37	0+64		LOW WATER CROSSING	1927.6	15.0	
343005.98	1889493.99	0+76	III	GROUTED RIPRAP	1929.4	15.0	
343009.32	1889496.19	0+80	III	GROUTED RIPRAP	1930.0	32.9	
343080.25	1889543.02	1+65	III	GROUTED RIPRAP	1958.0	50.0	
343106.96	1889560.65	1+97	III	GROUTED RIPRAP	1974.0		JCT DRAINAGE PROFILE 1-E
343113.63	1889565.06	2+05	III	GROUTED RIPRAP	1978.0		JCT MINE SEAL 1-1
				DRAINAGE PROFILE 1-E			
343106.96	1889560.65	0+00	III	GROUTED RIPRAP	1974.0	5.3	JCT DRAINAGE PROFILE 1-D
343086.06	1889632.27	0+75	III	GROUTED RIPRAP	1978.0		JCT MINE SEAL 1-2



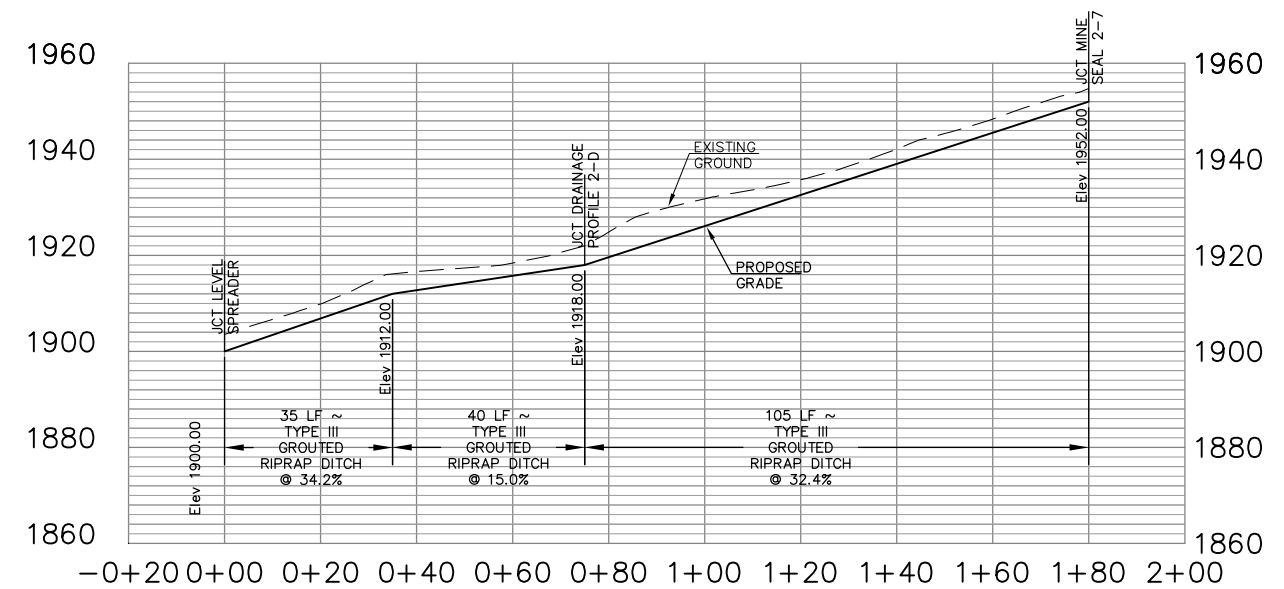
DRAINAGE PROFILE 1-E



DRAINAGE PROFILE 1-D

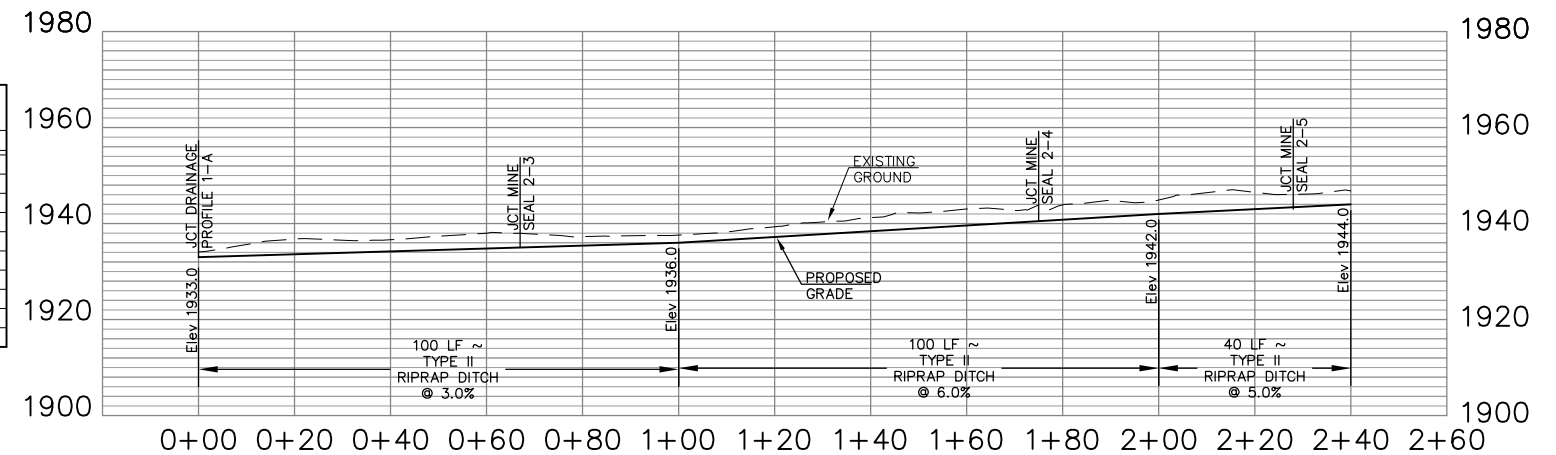
NO.	DATE	REVISION	BY

DRAINAGE PROFILE 2-C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 2-C							
342631.29	1889181.88	0+00	III	GROUTED RIPRAP	1900.0	34.2	JCT. LEVEL SPREADER
342610.12	1889201.94	0+35	III	GROUTED RIPRAP	1912.0	15.0	
342576.84	1889233.45	0+75	III	GROUTED RIPRAP	1918.0	32.4	JCT DRAINAGE PROFILE 2-D
342541.98	1889332.38	1+80	III	GROUTED RIPRAP	1952.0		JCT MINE SEAL 2-7



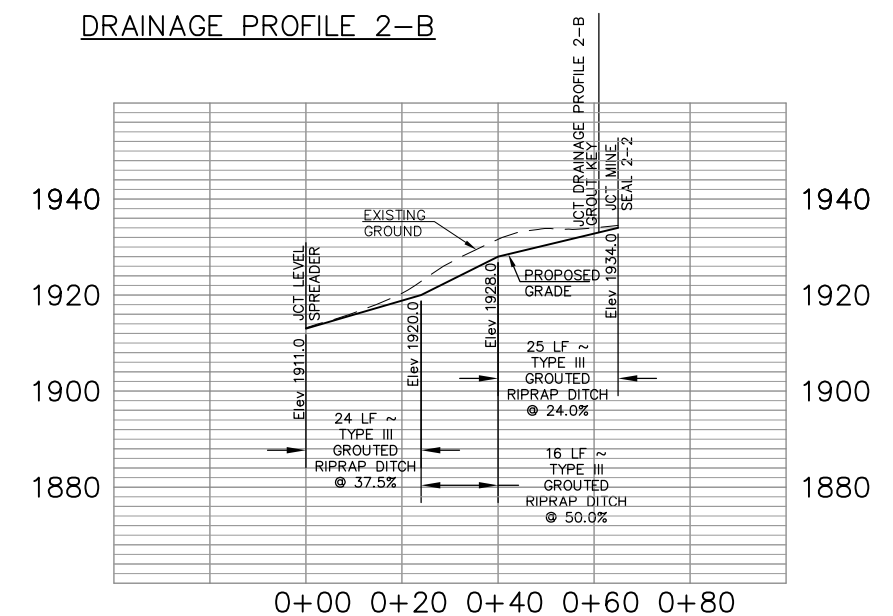
DRAINAGE PROFILE 2-C

DRAINAGE PROFILE 2-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 2-B							
342487.44	1888927.33	0+00	II	RIPRAP	1933.0	3.0	JCT DRAINAGE PROFILE 2-A
342496.41	1888993.66	0+67	II	RIPRAP	1935.0	3.0	JCT MINE SEAL 2-3
342501.24	1889026.37	1+00	II	RIPRAP	1936.0	6.0	
342507.94	1889101.01	1+75	II	RIPRAP	1940.5	6.0	JCT MINE SEAL 2-4
342509.80	1889125.92	2+00	II	RIPRAP	1942.0	5.0	
342513.73	1889153.65	2+28	II	RIPRAP	1943.0	5.0	JCT MINE SEAL 2-5
342524.54	1889165.53	2+40	II	RIPRAP	1944.0		



DRAINAGE PROFILE 2-B

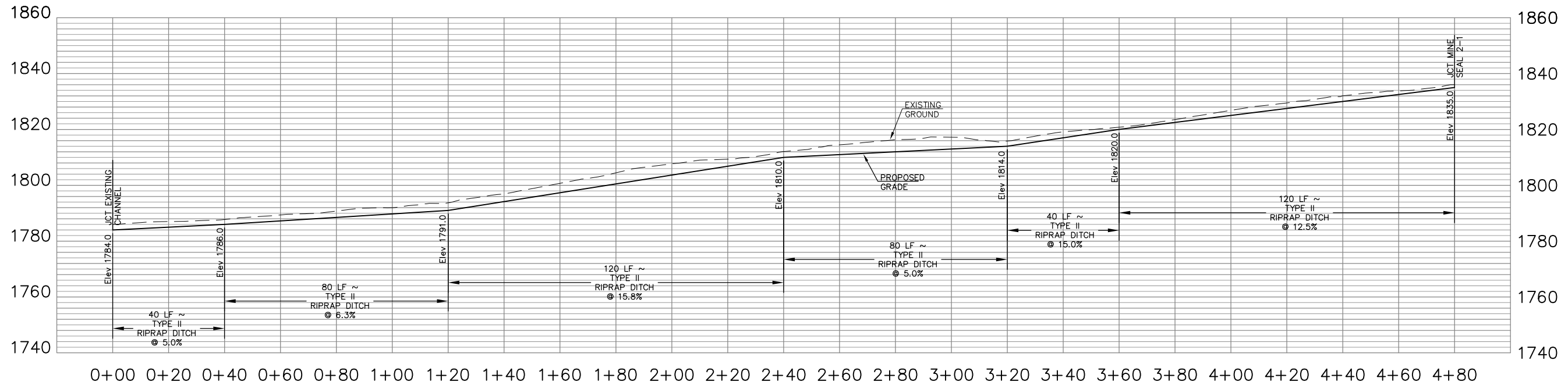
DRAINAGE PROFILE 2-A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 2-A							
342546.85	1888913.50	0+00	III	GROUTED RIPRAP	1911.0	37.5	JCT. LEVEL SPREADER
342523.48	1888918.94	0+24	III	GROUTED RIPRAP	1920.0	50.0	
342507.89	1888922.57	0+40	III	GROUTED RIPRAP	1928.0	24.0	
342487.44	1888927.33	0+61	III	GROUTED RIPRAP	1933.0		JCT DRAINAGE PROFILE 2-C
342483.54	1888928.24	0+65	III	GROUTED RIPRAP	1934.0		JCT MINE SEAL 2-2



DRAINAGE PROFILE 2-A

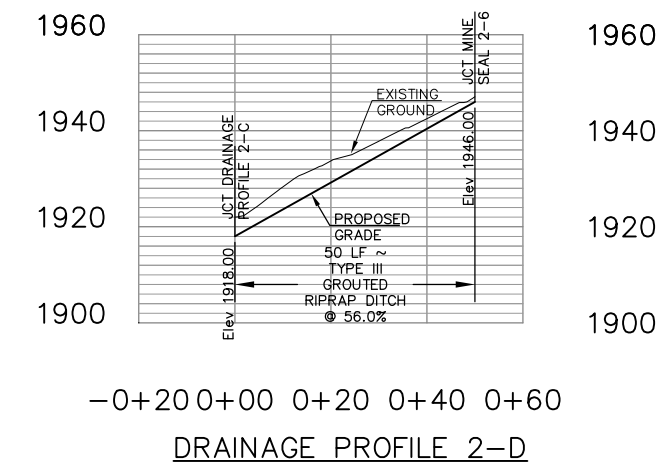
NO.	DATE	REVISION	BY

DRAINAGE PROFILE 2-D SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 2-D			
342879.07	1888363.52	0+00	II	RIPRAP	1784.0	5.0	JCT. EXISTING CHANNEL
342840.69	1888352.28	0+40	II	RIPRAP	1786.0	6.3	
342762.04	1888342.88	1+20	II	RIPRAP	1791.0	15.8	
342642.04	1888342.98	2+40	II	RIPRAP	1810.0	5.0	
342563.54	1888347.67	3+20	II	RIPRAP	1814.0	15.0	
342532.22	1888372.20	3+60	II	RIPRAP	1820.0	12.5	
342485.84	1888480.02	4+80	II	RIPRAP	1835.0		JCT MINE SEAL 2-1



DRAINAGE PROFILE 2-E

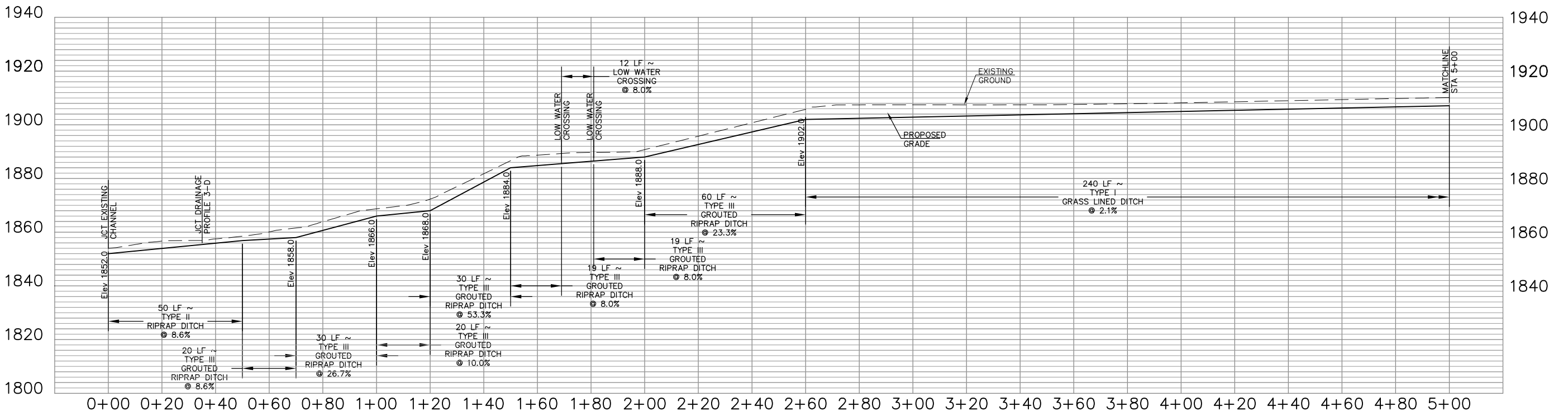
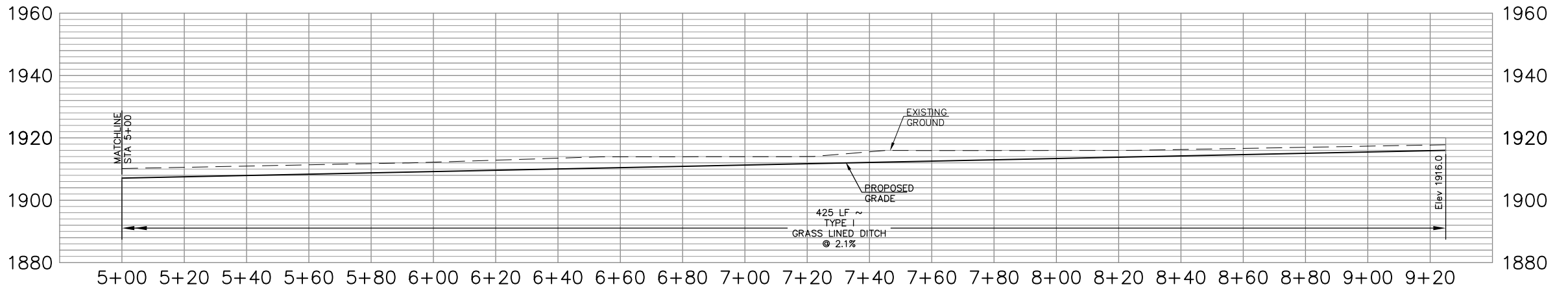
DRAINAGE PROFILE 2-D SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 2-D			
342576.84	1889233.45	0+00	III	GROUTED RIPRAP	1918.0	56.0	JCT DRAINAGE PROFILE 2-C
342527.19	1889239.40	0+50	III	GROUTED RIPRAP	1946.0		JCT MINE SEAL 2-6



DRAINAGE PROFILE 2-D

NO.	DATE	REVISION	BY

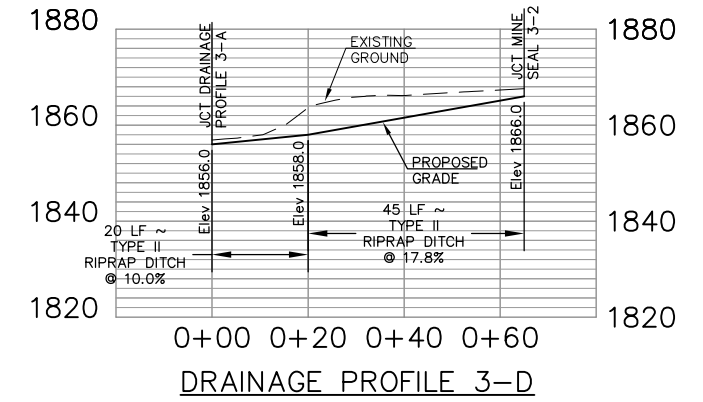
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NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 3-A							
343414.91	1887589.56	0+00	II	RIPRAP	1852.0	8.6	JCT. EXISTING CHANNEL
343424.30	1887623.28	0+35	II	RIPRAP	1856.0	8.6	JCT. DRAINAGE PROFILE 3-D
343431.89	1887657.42	0+50	III	GROUTED RIPRAP	1858.0	8.6	
343431.89	1887657.42	0+70	III	GROUTED RIPRAP	1858.0	26.7	
343437.75	1887686.85	1+00	III	GROUTED RIPRAP	1866.0	10.0	
343441.65	1887706.46	1+20	III	GROUTED RIPRAP	1868.0	53.3	
343447.50	1887735.89	1+50	III	GROUTED RIPRAP	1884.0	8.0	
343451.20	1887754.52	1+69		LOW WATER CROSSING	1885.5	8.0	
343453.54	1887766.29	1+81	III	GRASS	1886.5	8.0	
343456.37	1887784.97	2+00	III	GROUTED RIPRAP	1888.0	23.3	
343450.52	1887844.68	2+60	I	GRASS	1902.0	2.1	
343732.04	1888400.98	9+25	I	GRASS	1916.0		



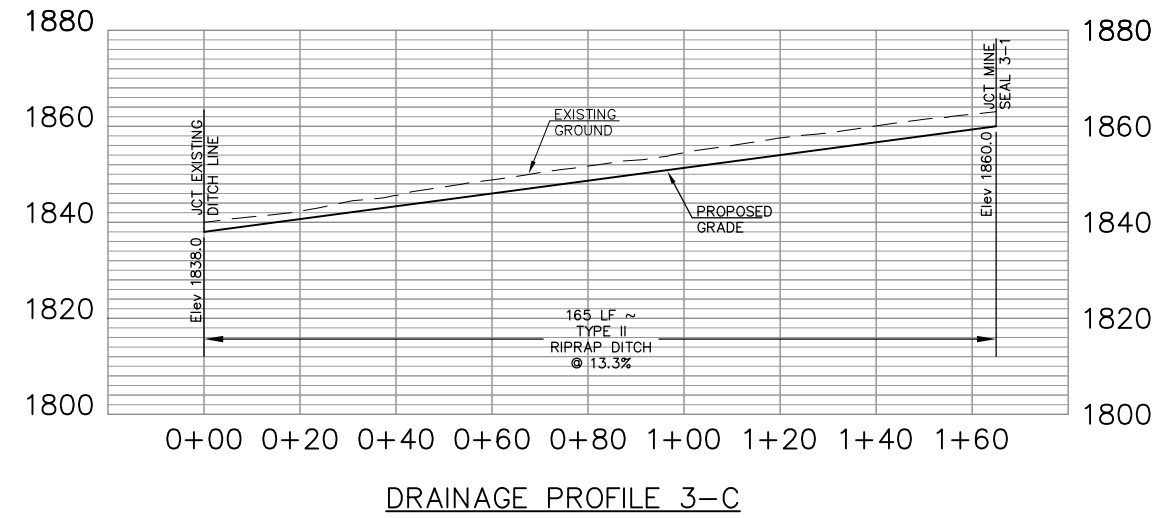
DRAINAGE PROFILE 3-A

NO.	DATE	REVISION	BY

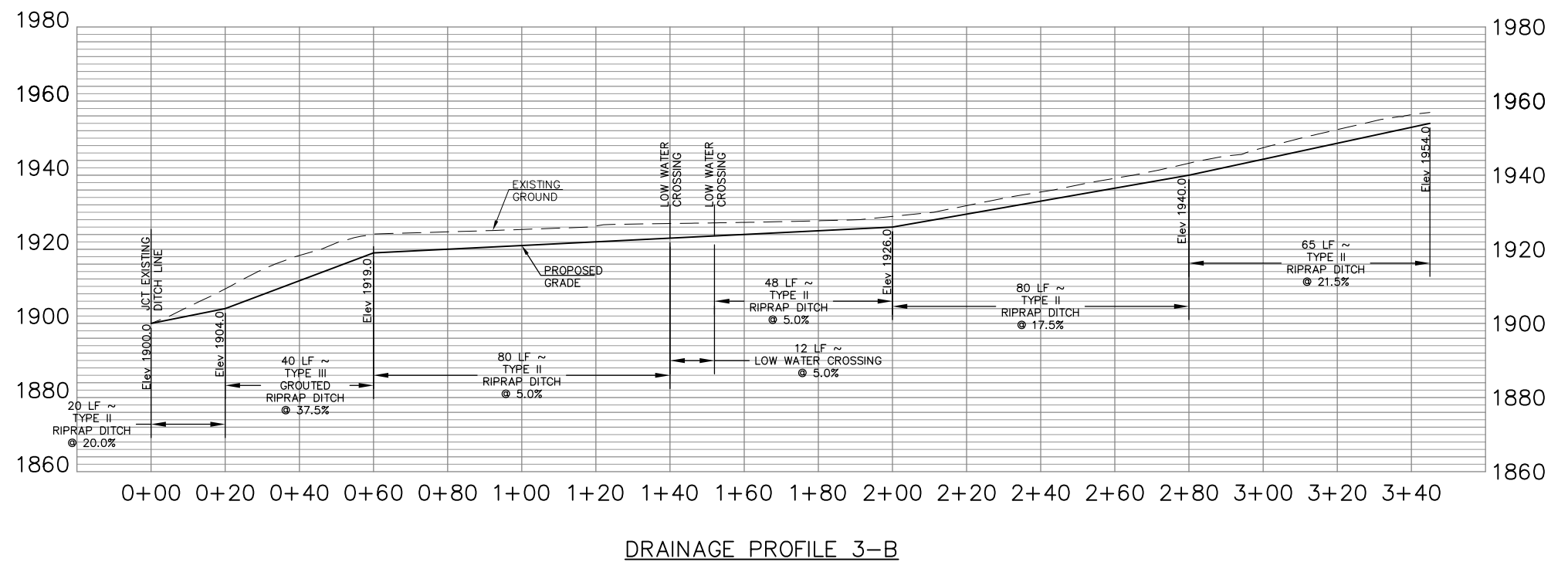
DRAINAGE PROFILE 3-D SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 3-D							
343424.30	1887623.28	0+00	II	RIPRAP	1856.0	10.0	JCT. DRAINAGE PROFILE 3-A
343410.44	1887637.69	0+20	II	RIPRAP	1858.0	17.8	
343379.25	1887670.13	0+65	II	RIPRAP	1866.0		JCT MINE SEAL 3-2



DRAINAGE PROFILE 3-C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 3-C							
343798.28	1887573.08	0+00	II	RIPRAP	1838.0	13.3	JCT. EXISTING DITCH LINE
343776.48	1887736.63	1+65	II	RIPRAP	1860.0		JCT MINE SEAL 3-1

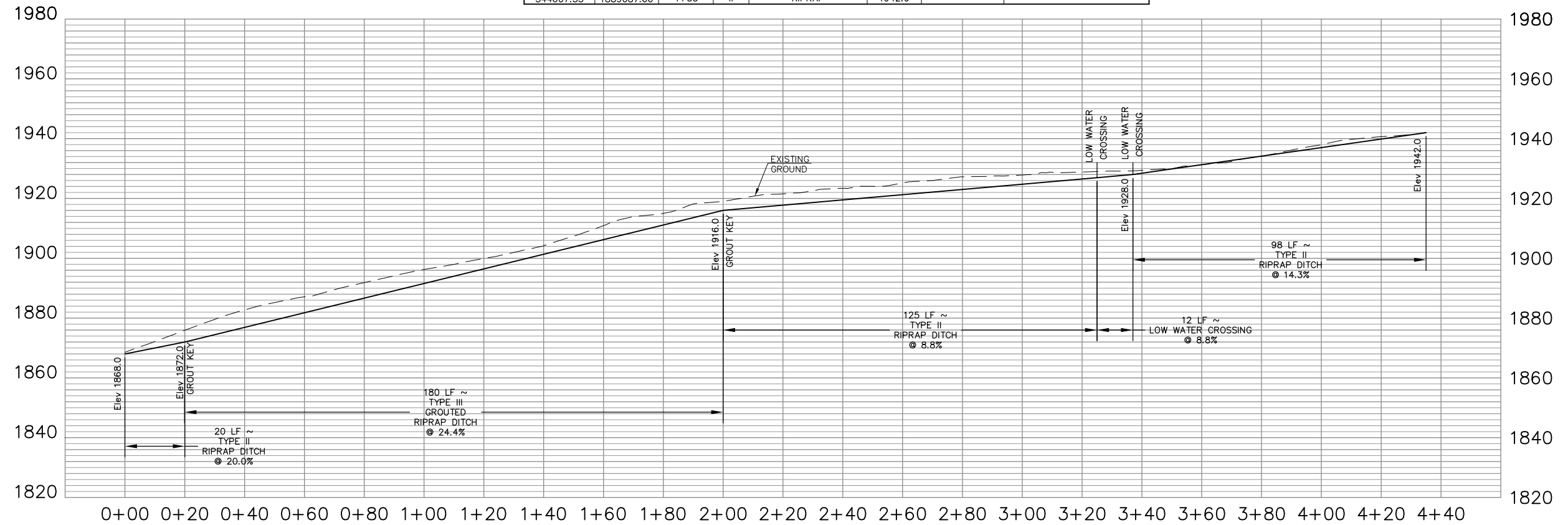


DRAINAGE PROFILE 3-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 3-B							
343700.10	1888687.15	0+00	II	RIPRAP	1900.0	20.0	JCT. EXISTING DITCH LINE
343716.29	1888698.90	0+20	III	GROUTED RIPRAP	1904.0	37.5	
343748.65	1888722.41	0+60	II	RIPRAP	1919.0	5.0	
343788.36	1888787.15	1+40		LOW WATER CROSSING	1923.0	5.0	LOW WATER CROSSING
343791.79	1888798.65	1+52	II	RIPRAP	1923.6	5.0	
343805.52	1888844.64	2+00	II	RIPRAP	1926.0	17.5	
343828.40	1888921.30	2+80	II	RIPRAP	1940.0	21.5	
434846.99	1888983.59	3+45	II	RIPRAP	1954.0		



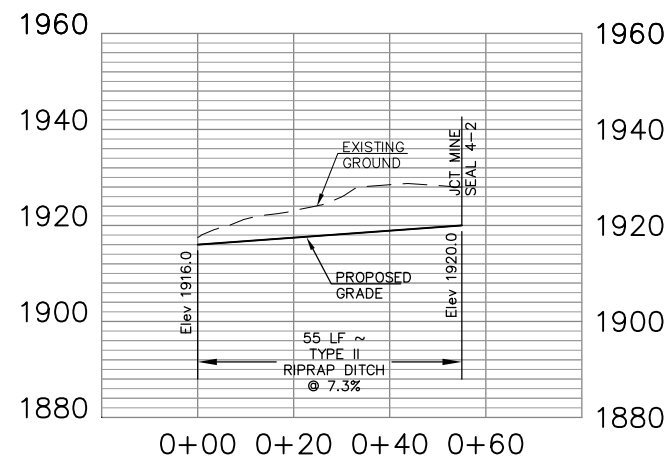
NO.	DATE	REVISION	BY

DRAINAGE PROFILE 4-C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 4-C							
344828.25	1888775.81	0+00	II	RIPRAP	1868.0	20.0	JCT EXISTING DITCH
344675.23	1888904.57	0+20	III	GROUTED RIPRAP	1916.0	24.4	GROUT KEY
344675.23	1888904.57	2+00	II	RIPRAP	1916.0	8.8	GROUT KEY
344585.05	1888991.18	3+25		LOW WATER CROSSING	1927.0	8.8	LOW WATER CROSSING
344574.17	1888997.08	3+37	II	RIPRAP	1928.0	14.3	
344607.33	1889087.66	4+35	II	RIPRAP	1942.0		



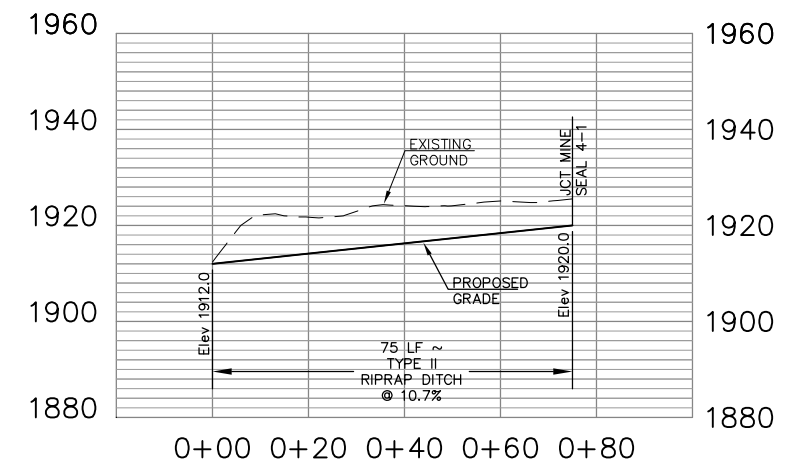
DRAINAGE PROFILE 4-C

DRAINAGE PROFILE 4-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 4-B							
344369.18	1888808.96	0+00	II	RIPRAP	1916.0	7.3	
344370.26	1888863.95	0+55	II	RIPRAP	1920.0		JCT. MINE SEAL 4-2



DRAINAGE PROFILE 4-B

DRAINAGE PROFILE 4-A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 4-A							
344236.06	1888724.50	0+00	II	RIPRAP	1912.0	10.7	
344188.11	1888782.16	0+75	II	RIPRAP	1920.0		JCT. MINE SEAL 4-1



DRAINAGE PROFILE 4-A

NO.	DATE	REVISION	BY

NO.	DATE	REVISION	BY

PROJECT INFORMATION



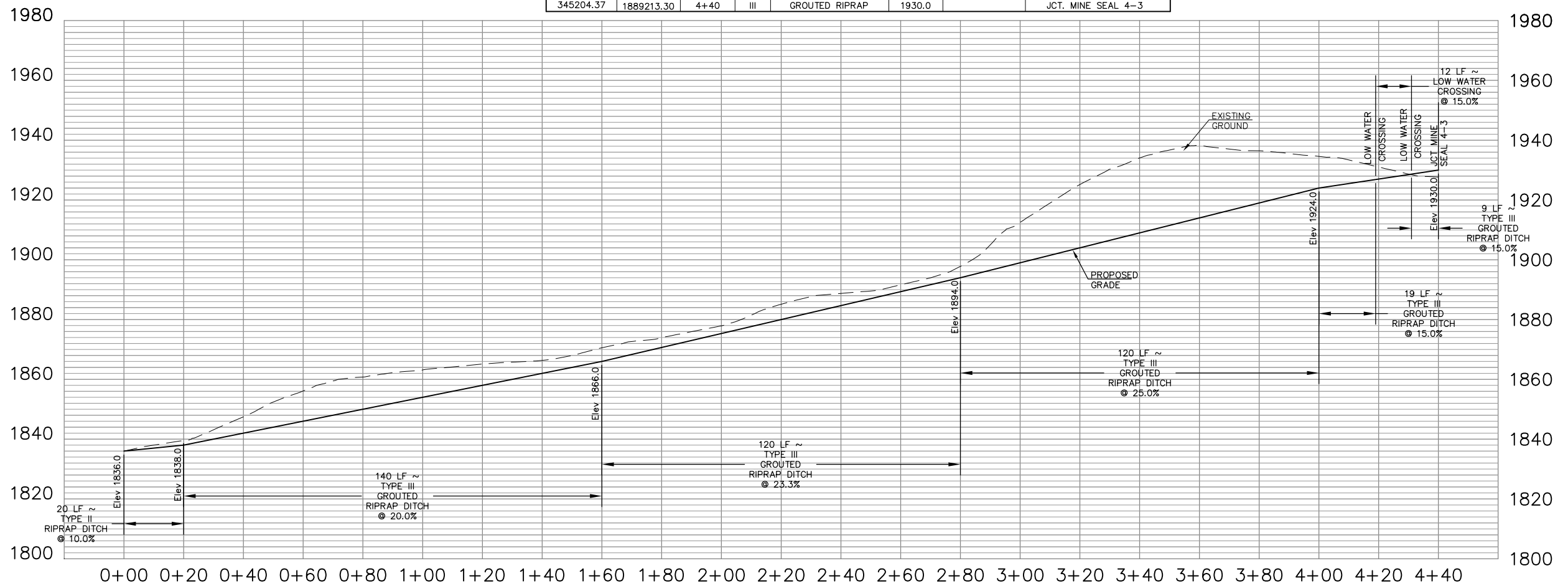
DEP
DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

DRAWING TITLE

SHEET 4
DRAINAGE PROFILES
4-D

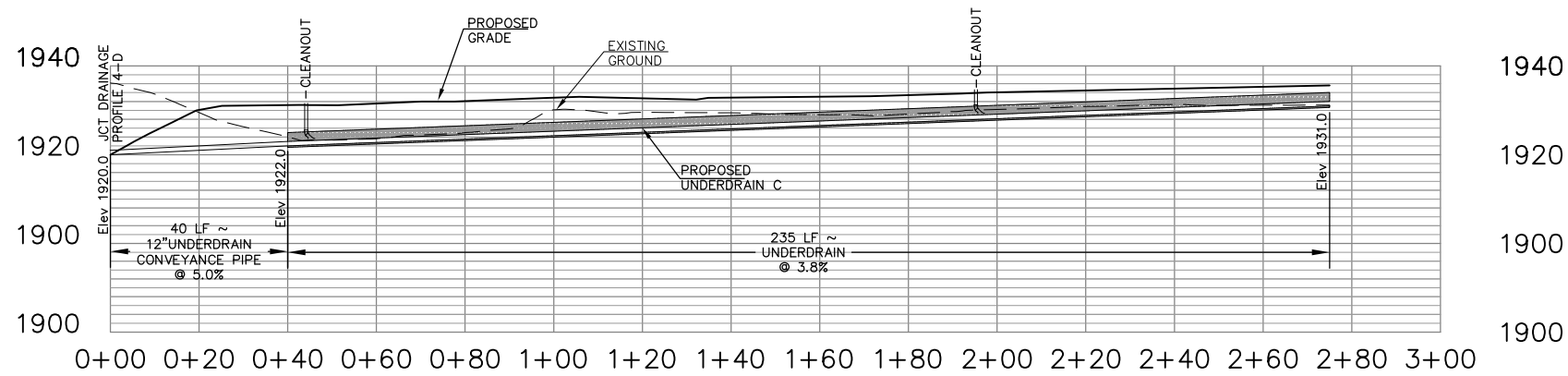
DATE
OCTOBER 2013
SCALE
1" = 20'
DRAWING NUMBER
77

DRAINAGE PROFILE 4-D SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 4-D							
345243.72	1888775.06	0+00	II	RIPRAP	1836.0	10.0	
345241.93	1888794.98	0+20	III	GROUTED RIPRAP	1838.0	20.0	GROUT KEY
345229.41	1888934.42	1+60	III	GROUTED RIPRAP	1866.0	23.3	
345218.68	1889053.94	2+80	III	GROUTED RIPRAP	1894.0	25.0	
345207.95	1889173.46	4+00	III	GROUTED RIPRAP	1924.0	15.0	
345209.24	1889192.65	4+19		LOW WATER CROSSING	1926.8	15.0	LOW WATER CROSSING
345208.17	1889204.61	4+31	III	GROUTED RIPRAP	1928.6	15.0	
345204.37	1889213.30	4+40	III	GROUTED RIPRAP	1930.0		JCT. MINE SEAL 4-3

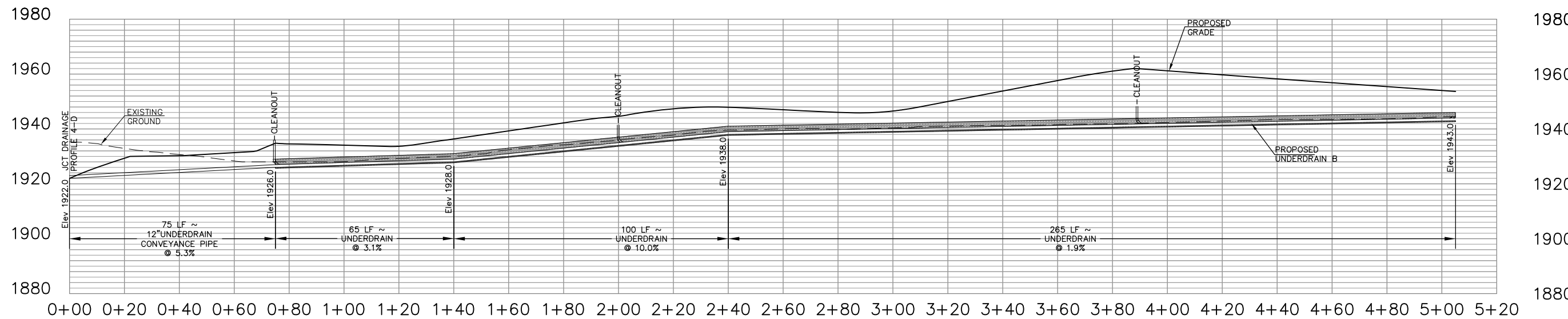


DRAINAGE PROFILE 4-D

UNDERDRAIN C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				UNDERDRAIN C			
X	X	0+00		CONVEYANCE PIPE	1920.0	5.0	JCT. DRAINAGE PROFILE 4-D
X	X	0+40		UNDERDRAIN	1922.0	3.8	
X	X	2+75		UNDERDRAIN	1931.0		

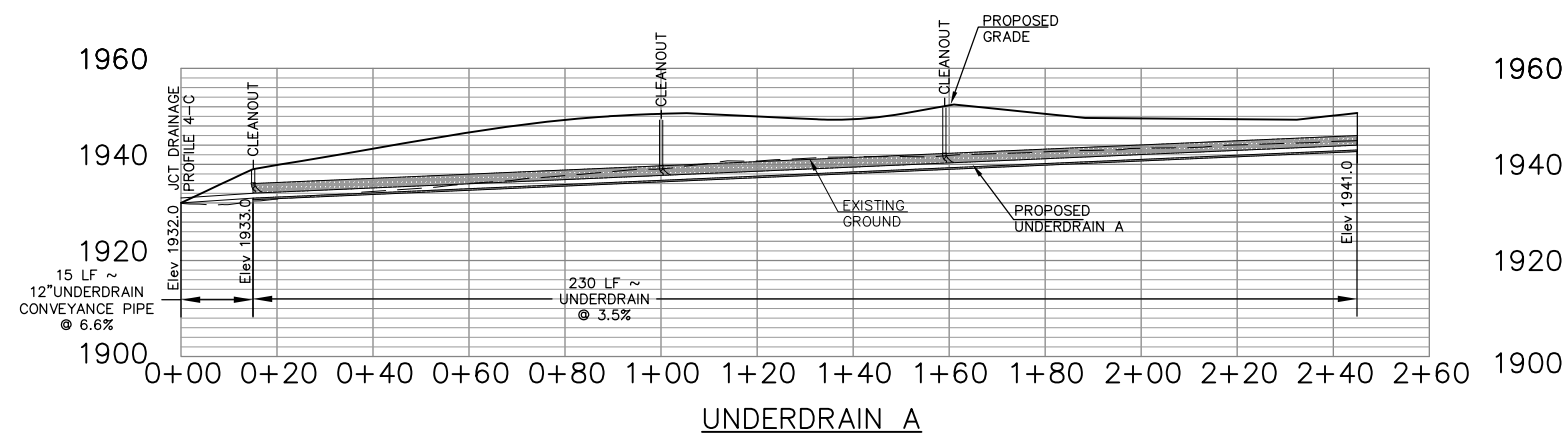


UNDERDRAIN B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				UNDERDRAIN B			
X	X	0+00		CONVEYANCE PIPE	1922.0	5.3	JCT. DRAINAGE PROFILE 4-D
X	X	0+75		UNDERDRAIN	1926.0	3.1	
X	X	1+60		UNDERDRAIN	1928.0	10.0	
X	X	2+80		UNDERDRAIN	1938.0	1.9	
X	X	4+00		UNDERDRAIN	1943.0		



UNDERDRAIN B

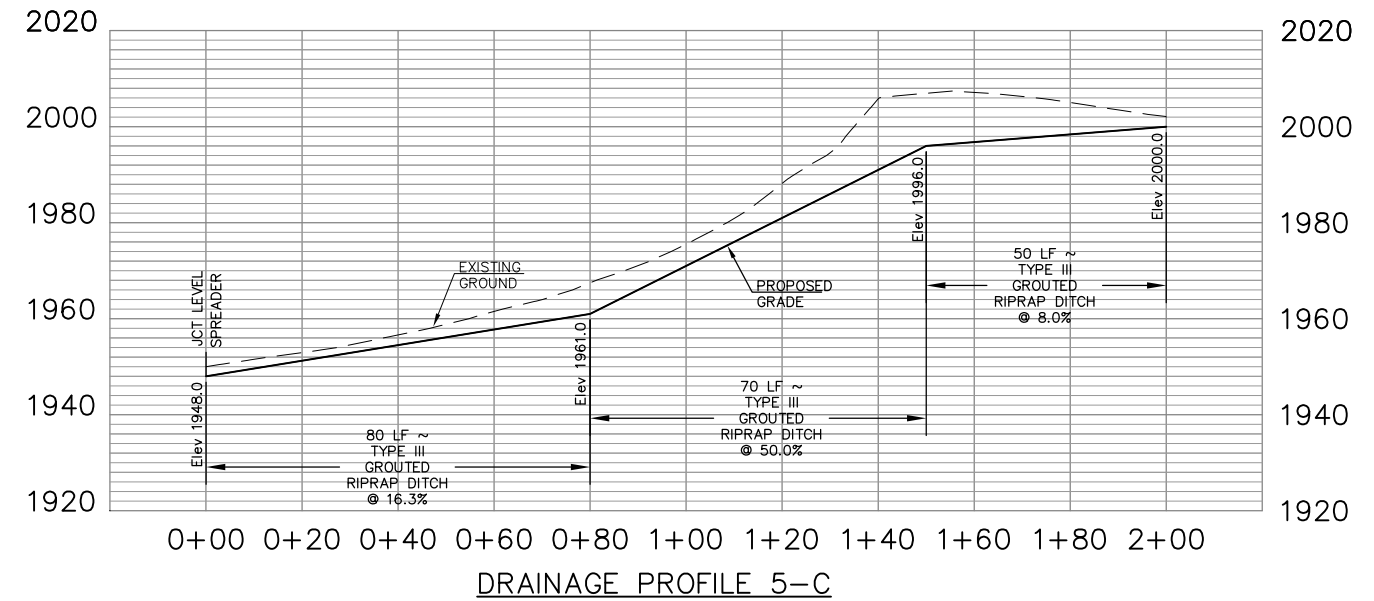
UNDERDRAIN A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				UNDERDRAIN A			
X	X	0+00		CONVEYANCE PIPE	1932.0	6.6	JCT. DRAINAGE PROFILE 4-D
X	X	0+15		UNDERDRAIN	1933.0	20.0	
X	X	2+55		UNDERDRAIN	1941.0		



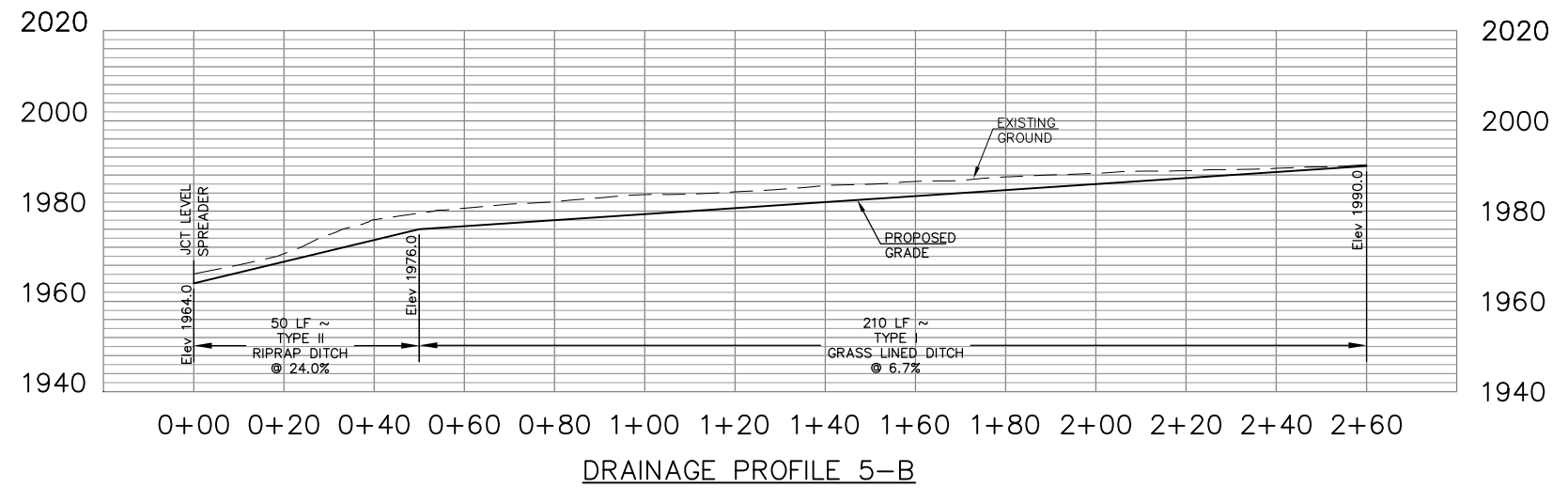
UNDERDRAIN A

NO.	DATE	REVISION	BY

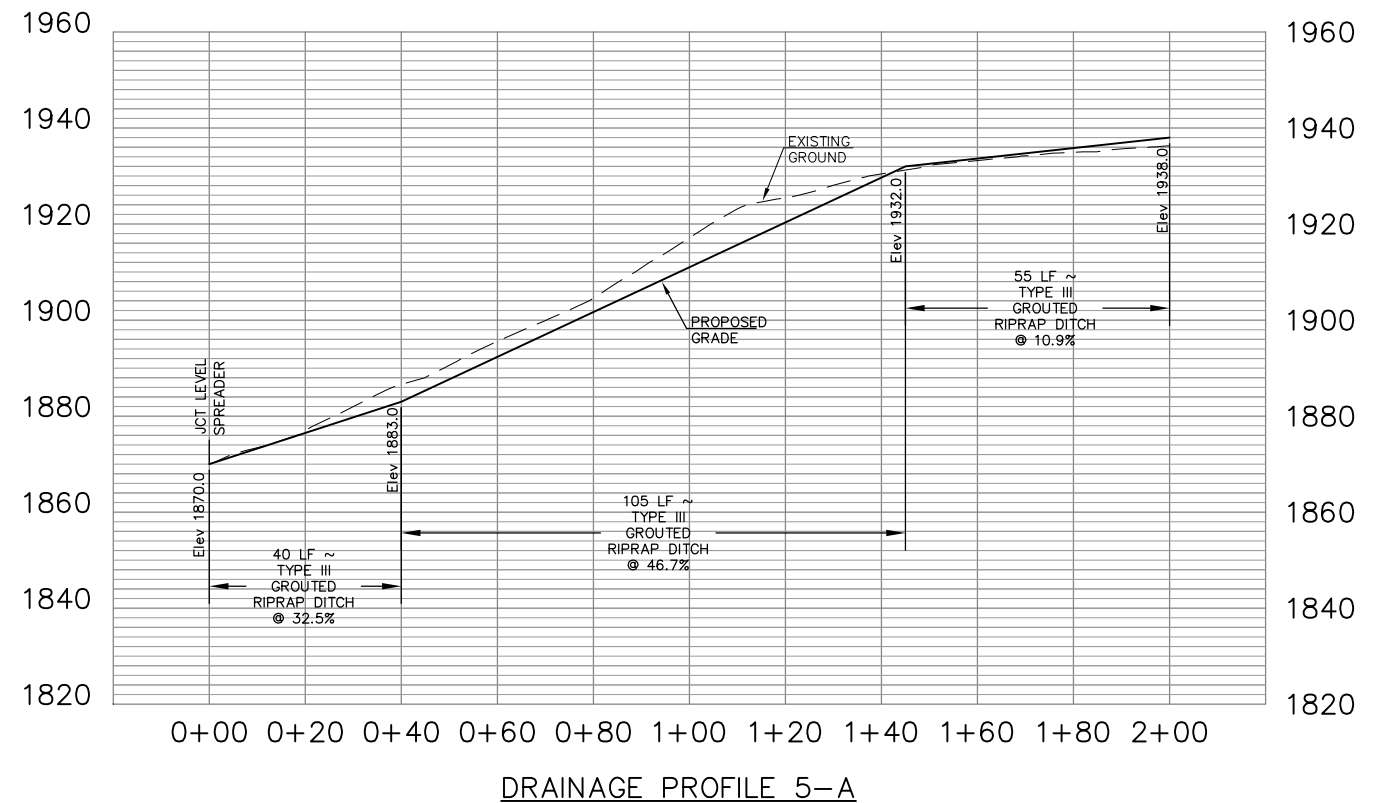
DRAINAGE PROFILE 5-C SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 5-C							
345255.09	1890310.98	0+00	III	GROUTED RIPRAP	1948.0	16.3	JCT. LEVEL SPREADER
345198.27	1890254.66	0+80	III	GROUTED RIPRAP	1961.0	50.0	
345148.55	1890205.39	1+50	III	GROUTED RIPRAP	1996.0	8.0	
345113.04	1890170.19	2+00	III	GROUTED RIPRAP	2000.0		



DRAINAGE PROFILE 5-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 5-B							
345699.39	1889727.60	0+00	II	RIPRAP	1964.0	24.0	JCT. LEVEL SPREADER
345652.01	1889735.22	0+50	I	GRASS	1976.0	6.7	
345509.24	1889887.99	2+60	I	GRASS	1990.0		

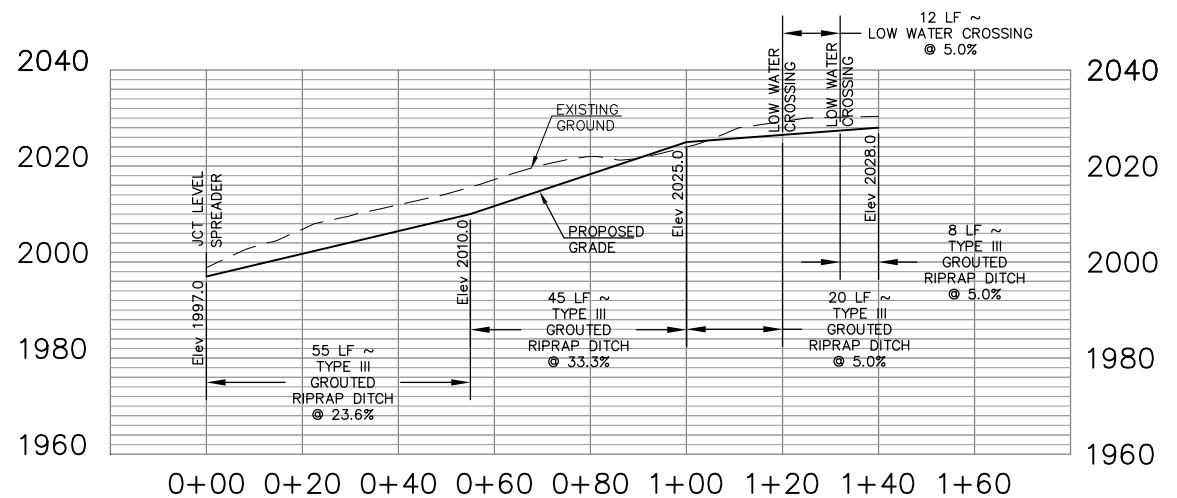


DRAINAGE PROFILE 5-A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE 5-A							
345635.97	1889070.38	0+00	III	GROUTED RIPRAP	1870.0	32.5	JCT. LEVEL SPREADER
345627.59	1889109.49	0+40	III	GROUTED RIPRAP	1883.0	46.7	
345605.58	1889212.16	1+45	III	GROUTED RIPRAP	1932.0	10.9	
345594.05	1889265.94	2+00	III	GROUTED RIPRAP	1938.0		



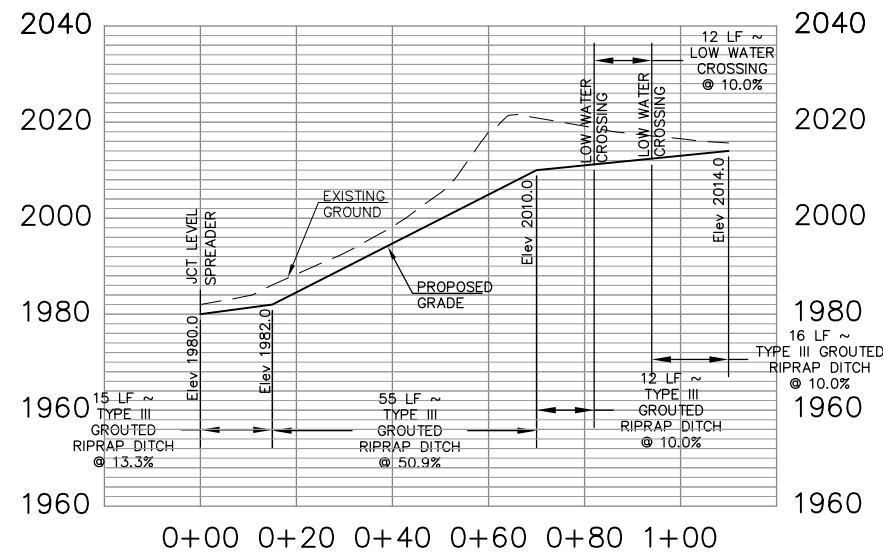
NO.	DATE	REVISION	BY

DRAINAGE PROFILE 6-B SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 6-B			
344522.45	1890749.34	0+00	III	GROUTED RIPRAP	1997.0	23.6	JCT. LEVEL SPREADER
344467.56	1890752.81	0+55	III	GROUTED RIPRAP	2010.0	33.3	
344422.65	1890755.64	1+00	III	GROUTED RIPRAP	2025.0	5.0	
344404.11	1890751.11	1+20		LOW WATER CROSSING	2026.5	5.0	
344393.83	1890744.91	1+32	III	GROUTED RIPRAP	2027.3	5.0	
344386.98	1890740.78	1+40	III	GROUTED RIPRAP	2028.0		



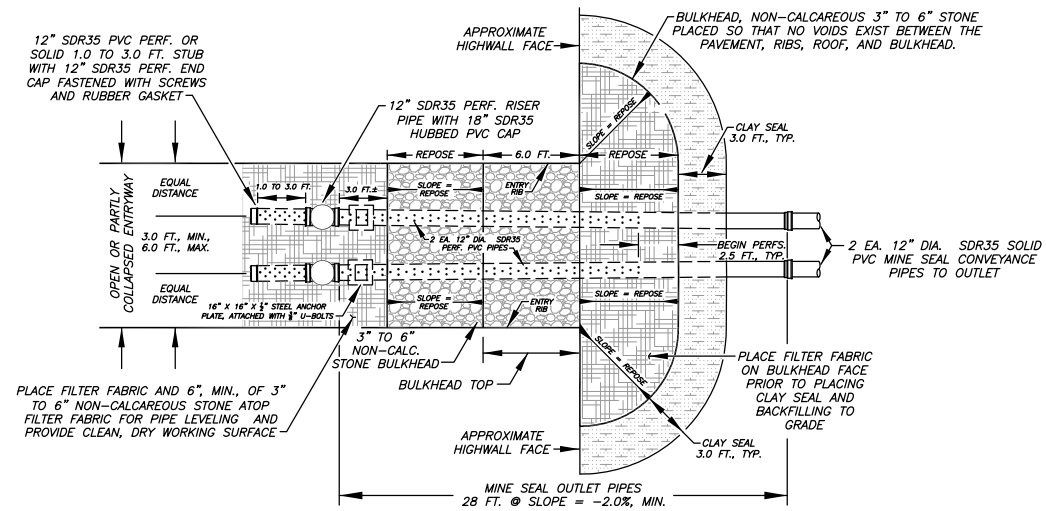
DRAINAGE PROFILE 6-B

DRAINAGE PROFILE 6-A SUMMARY SHEET							
NORTHING	EASTING	DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
				DRAINAGE PROFILE 6-A			
344850.88	1890544.88	0+00	III	GROUTED RIPRAP	1980.0	13.3	JCT. LEVEL SPREADER
344839.51	1890535.09	0+15	III	GROUTED RIPRAP	1982.0	50.9	
344797.82	1890499.22	0+70	III	GROUTED RIPRAP	2010.0	10.0	
344788.27	1890491.01	0+82		LOW WATER CROSSING	2014.0	10.0	
344779.17	1890483.18	0+94	III	GROUTED RIPRAP	2014.0	10.0	
344767.50	1890473.13	1+10	III	GROUTED RIPRAP	2014.0		



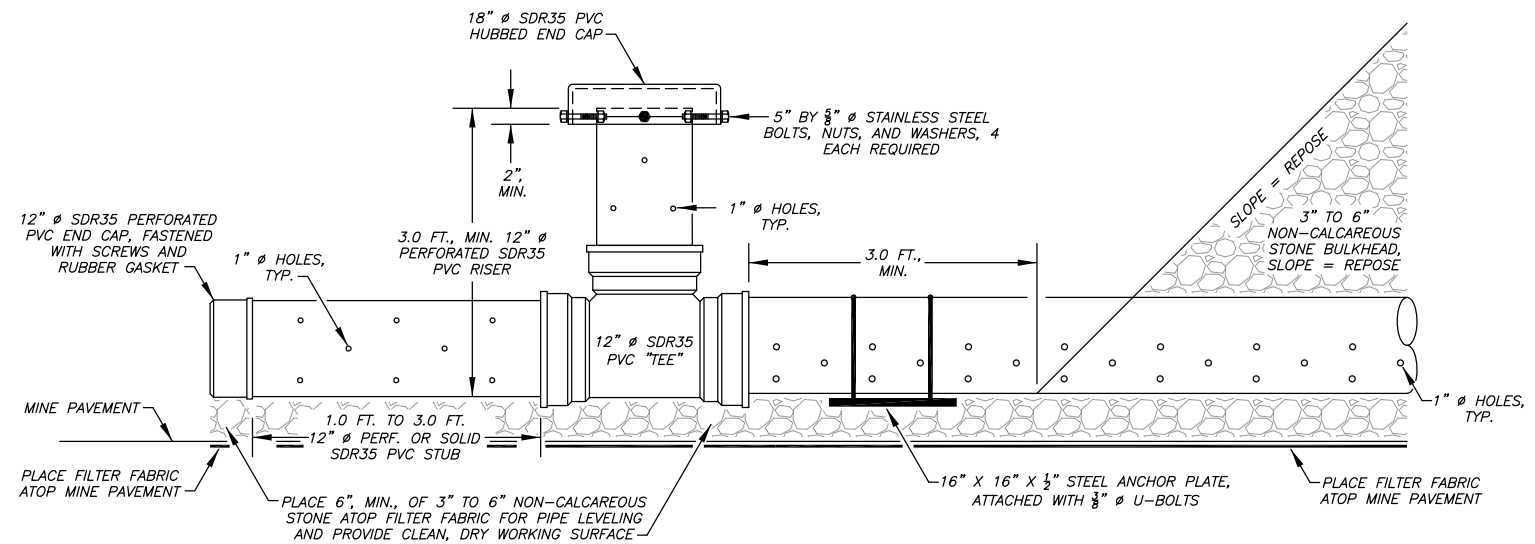
DRAINAGE PROFILE 6-A

NO.	DATE	REVISION	BY

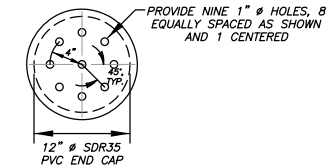


PLAN VIEW TOP OF BULKHEAD ELEVATION

SCALE: 1" = 6 FT.

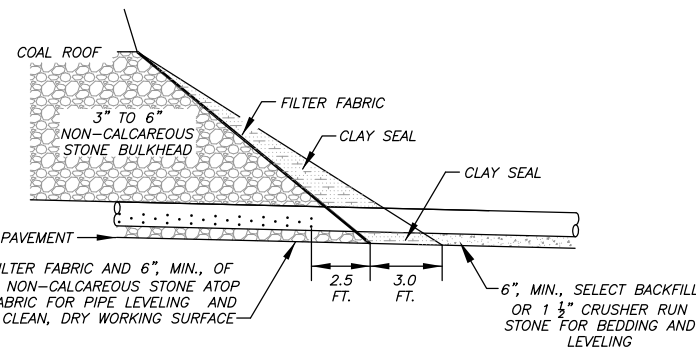


"TEE" RISER DETAIL



PERFORATED END CAP

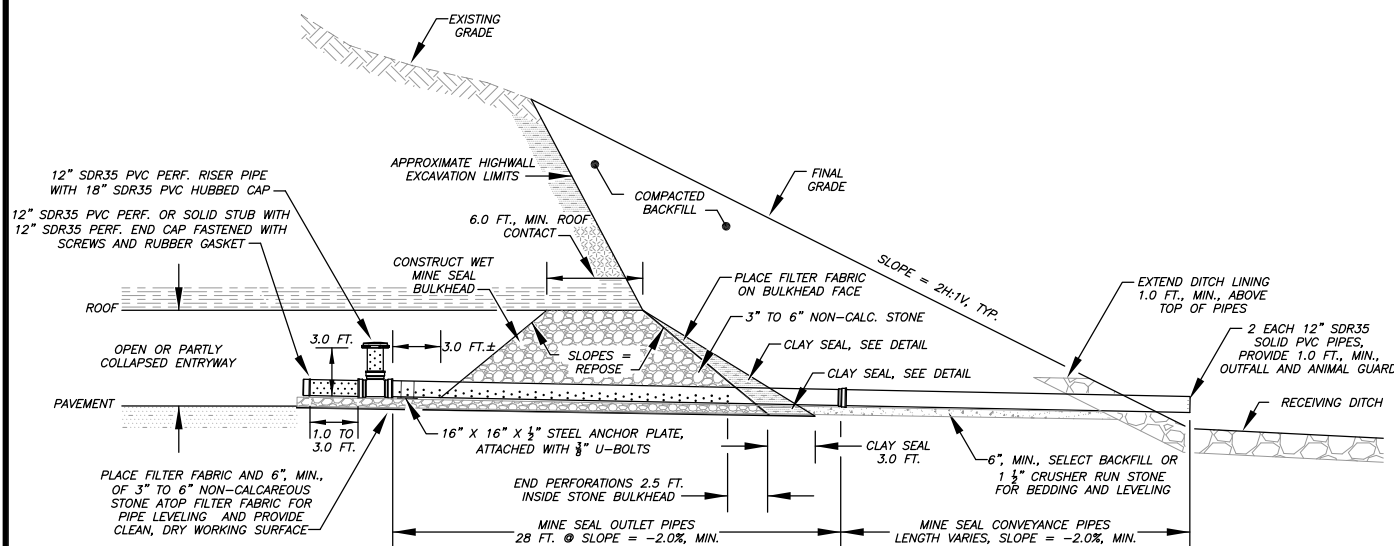
SCALE: 1" = 1 FT.



CLAY SEAL DETAILS, TYP.

SCALE: 1" = 4 FT.

- 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 WDOH SPECIFICATIONS FOR ROADS AND BRIDGES.

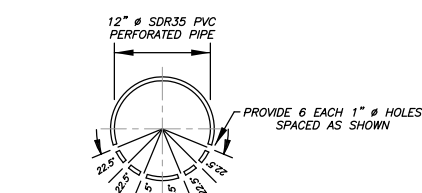


PROFILE VIEW, TYP.

STANDARD WET MINE SEAL

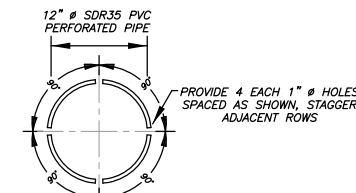
SCALE: NTS

1



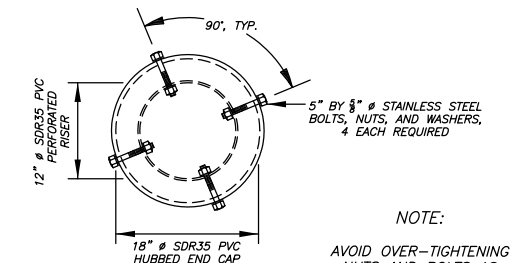
WET MINE SEAL OUTLET PIPES CROSS SECTION, TYP.

SCALE: 1" = 1 FT.



WET MINE SEAL RISER PIPES AND STUBS CROSS SECTION, TYP.

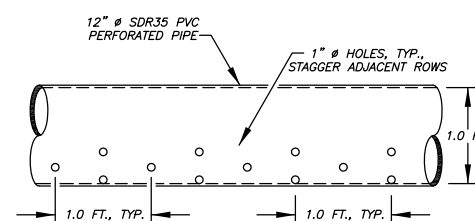
SCALE: 1" = 1 FT.



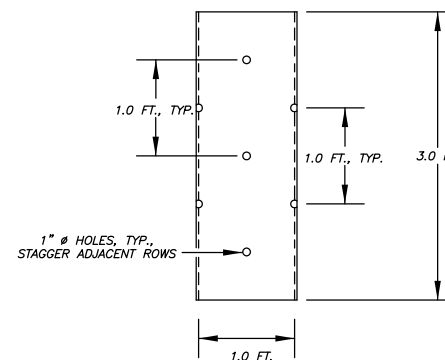
RISER CAP DETAIL

SCALE: 1" = 1 FT.

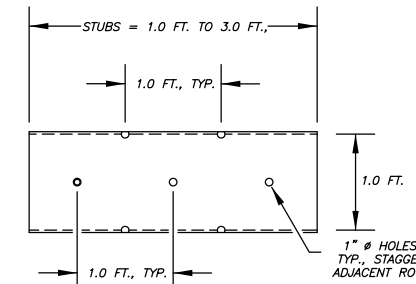
NOTE:
AVOID OVER-TIGHTENING NUTS AND BOLTS AS DAMAGE TO THE 18" Ø SDR35 PVC HUBBED CAP MAY OCCUR



WET MINE SEAL OUTLET PIPES LONGITUDINAL VIEW, TYP.



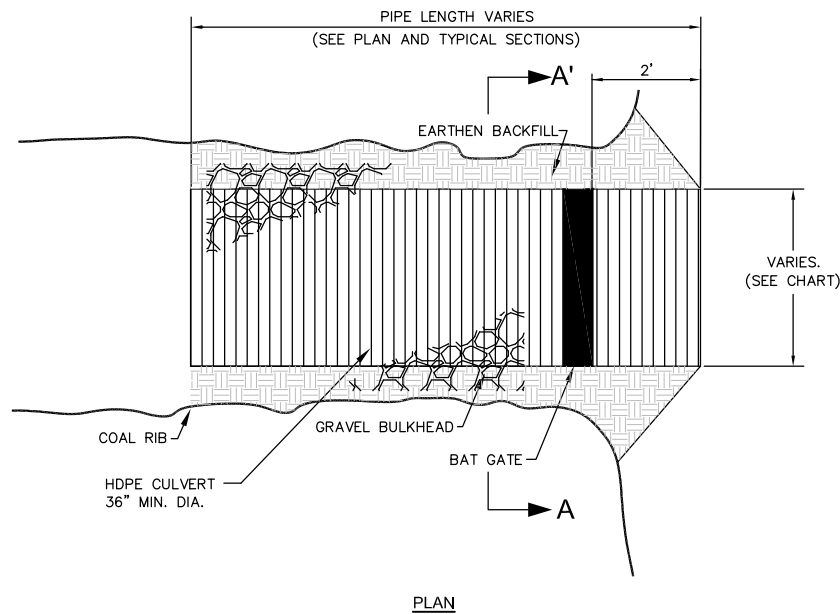
WET MINE SEAL RISER PIPES ELEVATION VIEW, TYP.



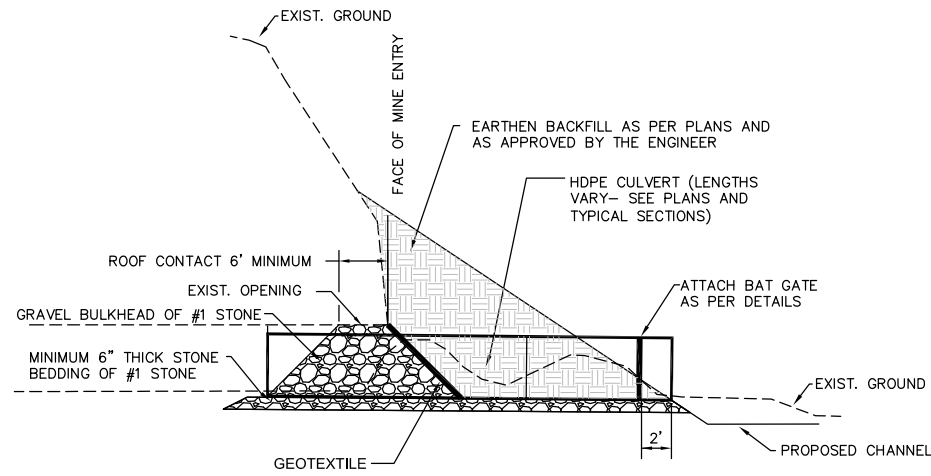
WET MINE SEAL STUBS LONGITUDINAL VIEW, TYP.

WET MINE SEAL PIPE DETAILS, TYP.

NO.	DATE	REVISION

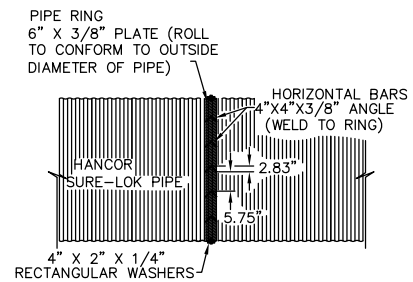
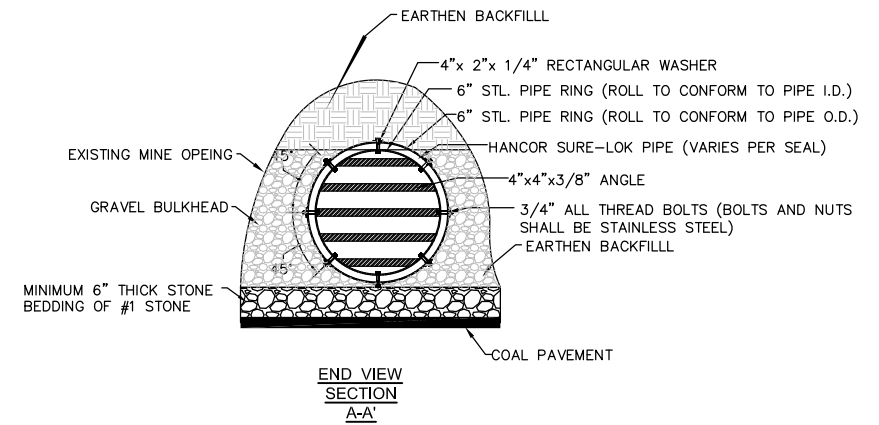


PLAN

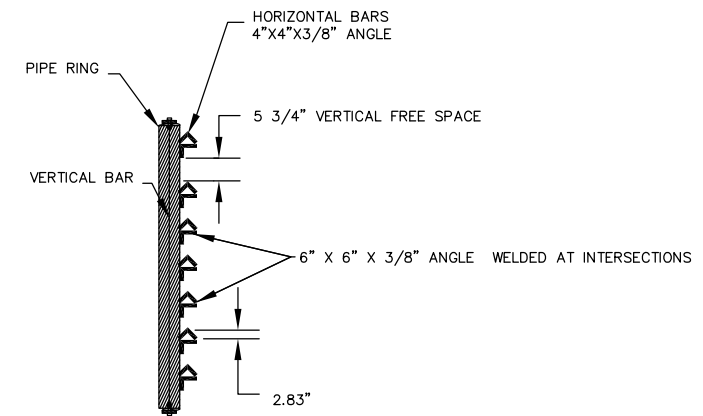


THE HDPE CULVERT, SHALL BE INSTALLED AT A 2% MINIMUM GRADE, TYPICAL OF ALL.

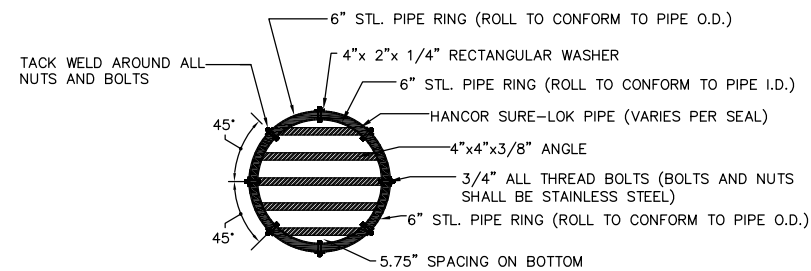
TYPICAL CONSTRUCTION DETAILS
(APPLICABLE TO ALL BAT GATES)



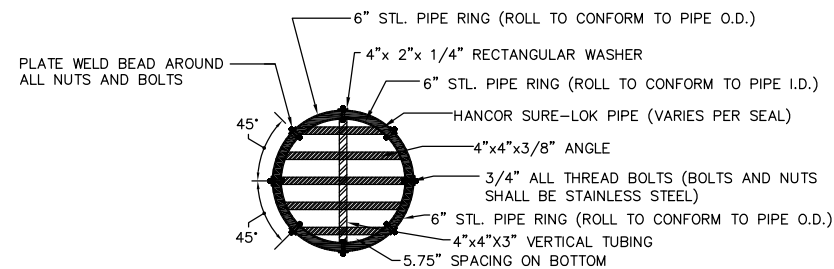
PIPE RING SECTION



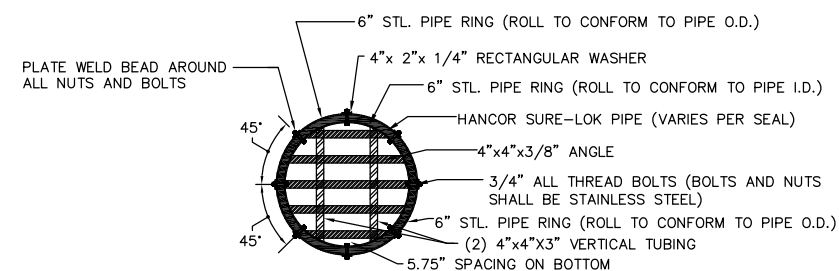
VERTICAL BAR SIDE VIEW



GATE DETAIL
(CULVERT 36"-42" DIA)



GATE DETAIL
(CULVERT 48"-60")



GATE DETAIL
(CULVERT GREATER THAN 60" DIA)

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.

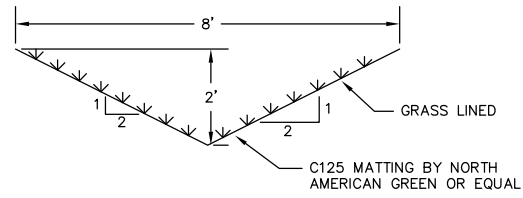
BAT GATE MINE SEAL

SCALE: NTS

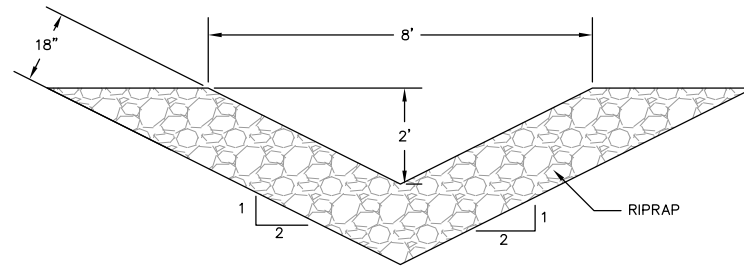
1

NO.	DATE	REVISION	BY

NOTE: IF COAL REFUSE IS ENCOUNTERED AT ANY OF THE DITCH EXCAVATIONS, A 12" SOIL LAYER SHALL BE PLACED BETWEEN COAL REFUSE AND THE RIPRAP OR CHANNEL LINER.

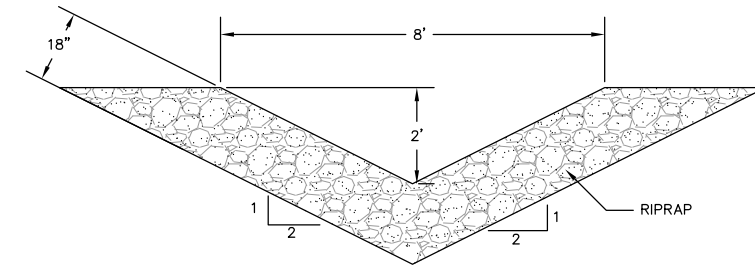


TYPE I GRASS LINED DITCH ①
SCALE 1" = 2'



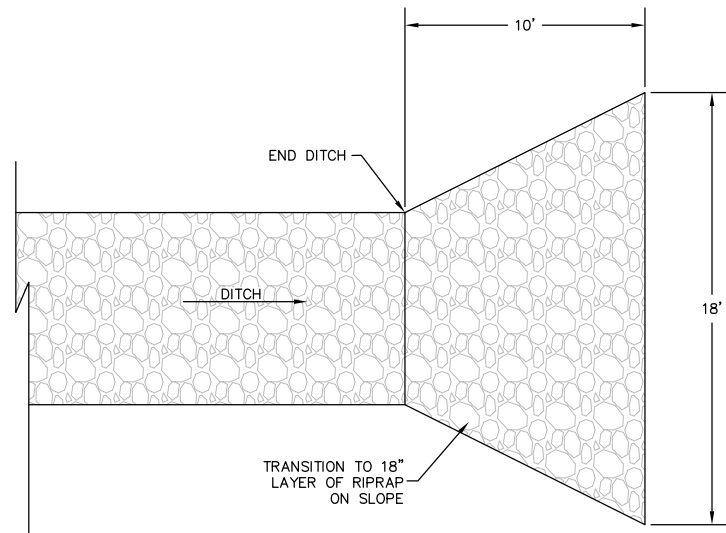
TYPE II RIPRAP DITCH ②
SCALE 1" = 2'

RIPRAP GRADATION	
12-18	50%
6-12	25%
3-6	25%

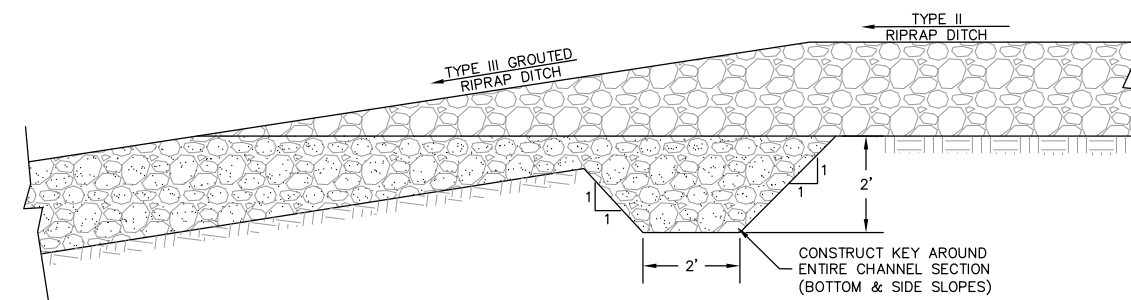
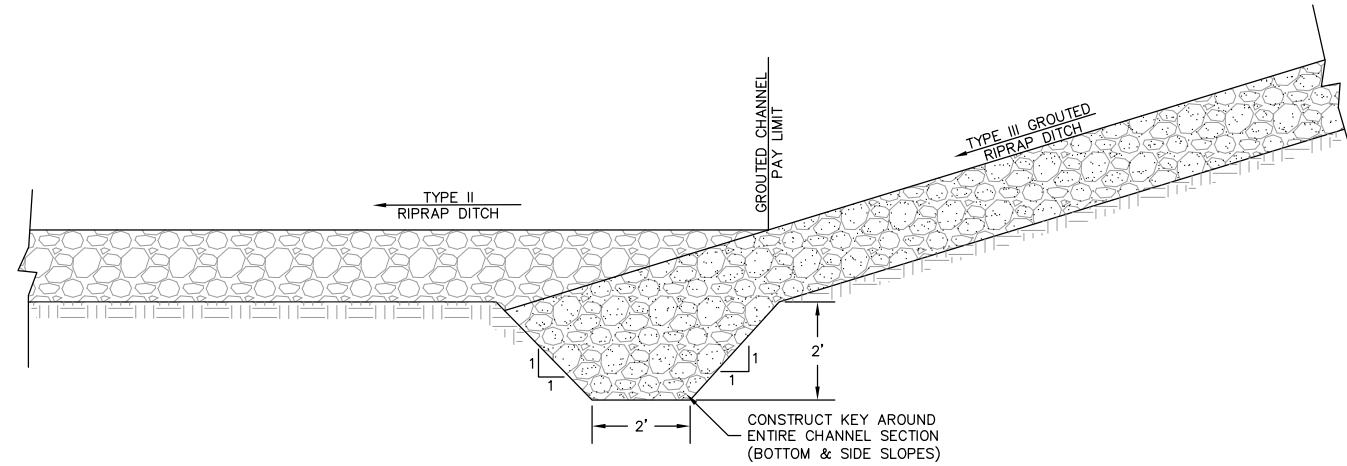


TYPE III GROUTED RIPRAP DITCH ③
SCALE 1" = 2'

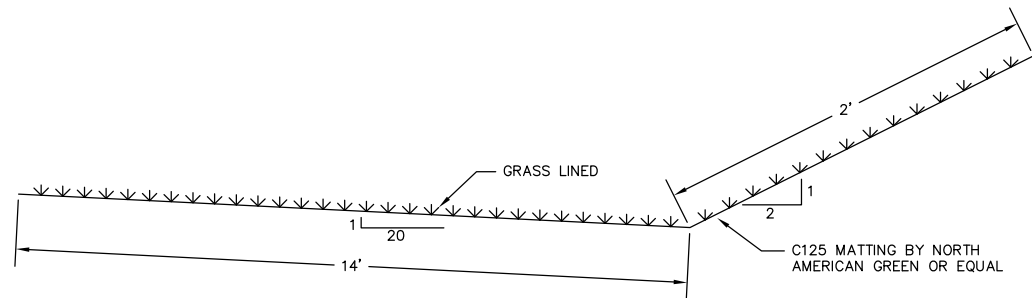
RIPRAP GRADATION	
12-18	50%
6-12	25%
3-6	25%



LEVEL SPREADER ④
SCALE 1" = 2'

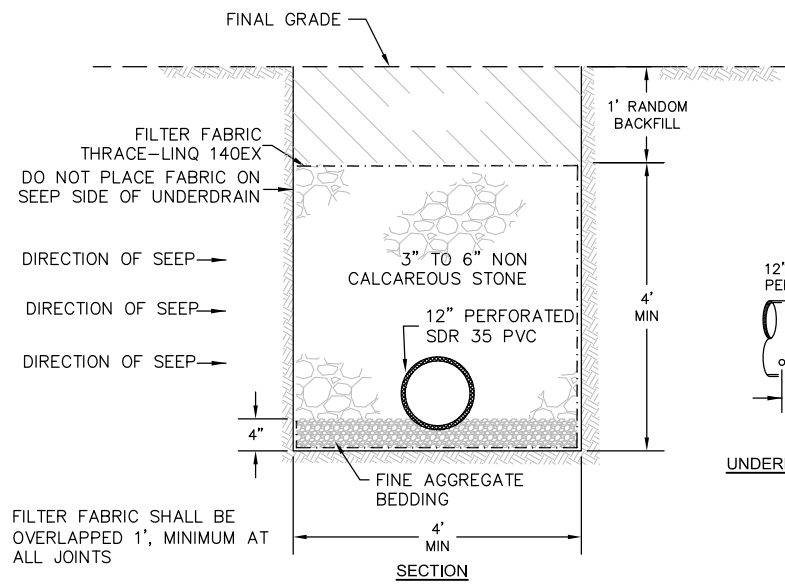


TYPICAL GROUTED RIPRAP KEY DETAIL ⑤
SCALE: NTS



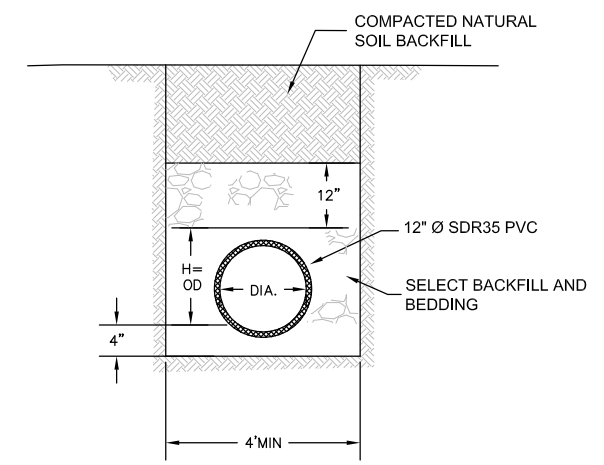
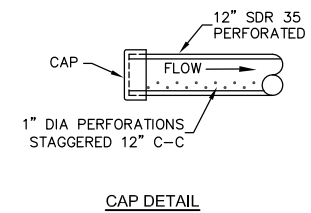
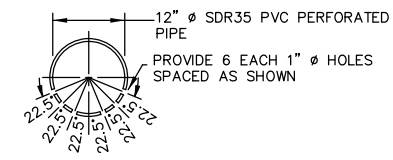
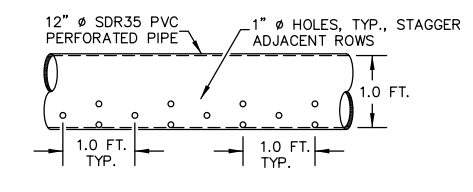
TYPICAL BENCH DRAIN ⑥
SCALE 1" = 2'

NO.	DATE	REVISION	BY



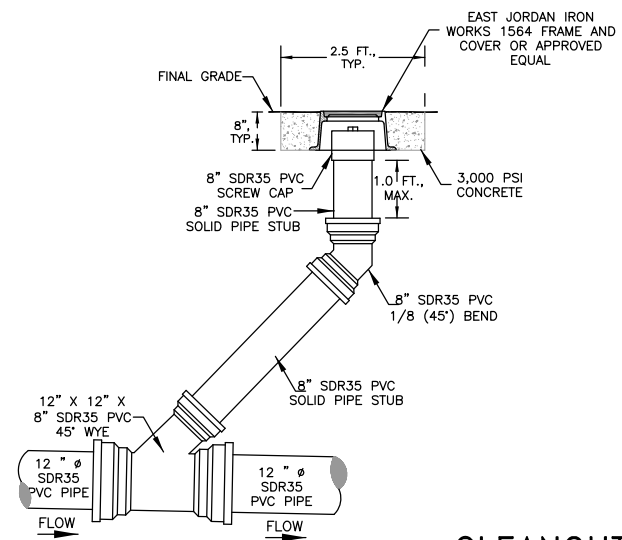
TYPICAL UNDERDRAIN DETAIL ①

SCALE: NTS



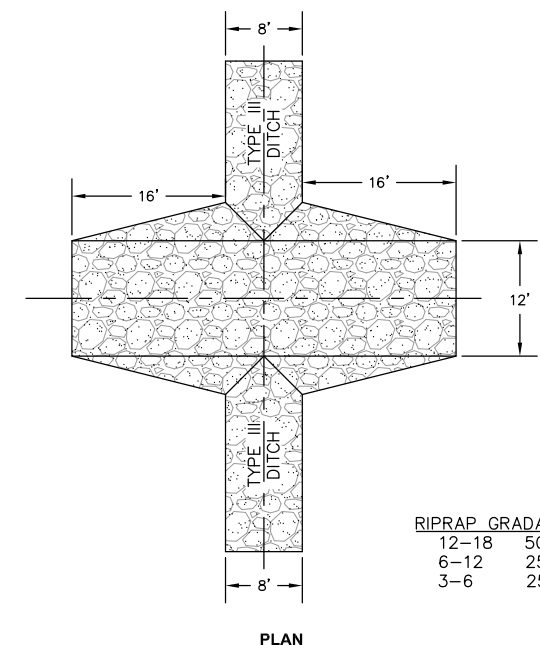
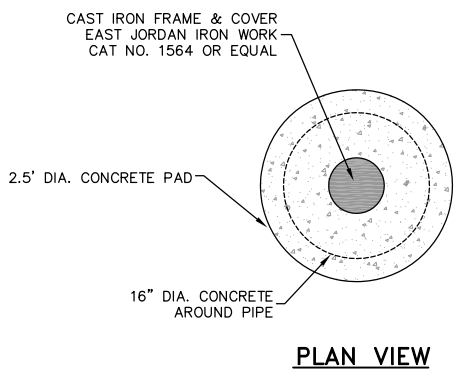
TYPICAL UNDERDRAIN CONVEYANCE PIPE ②

SCALE: NTS



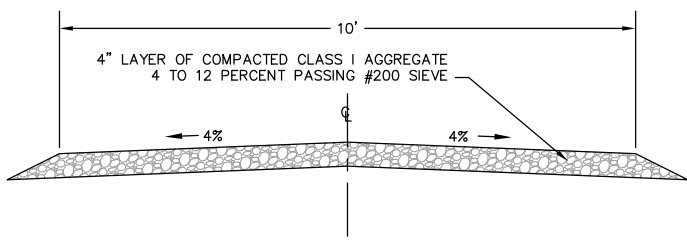
CLEANOUT DETAIL ③

NTS



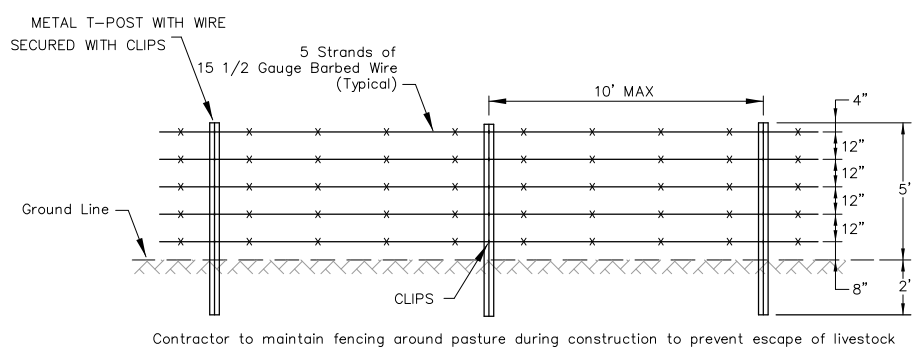
GRouted RIPRAP LOW WATER CROSSING ④

SCALE: NTS



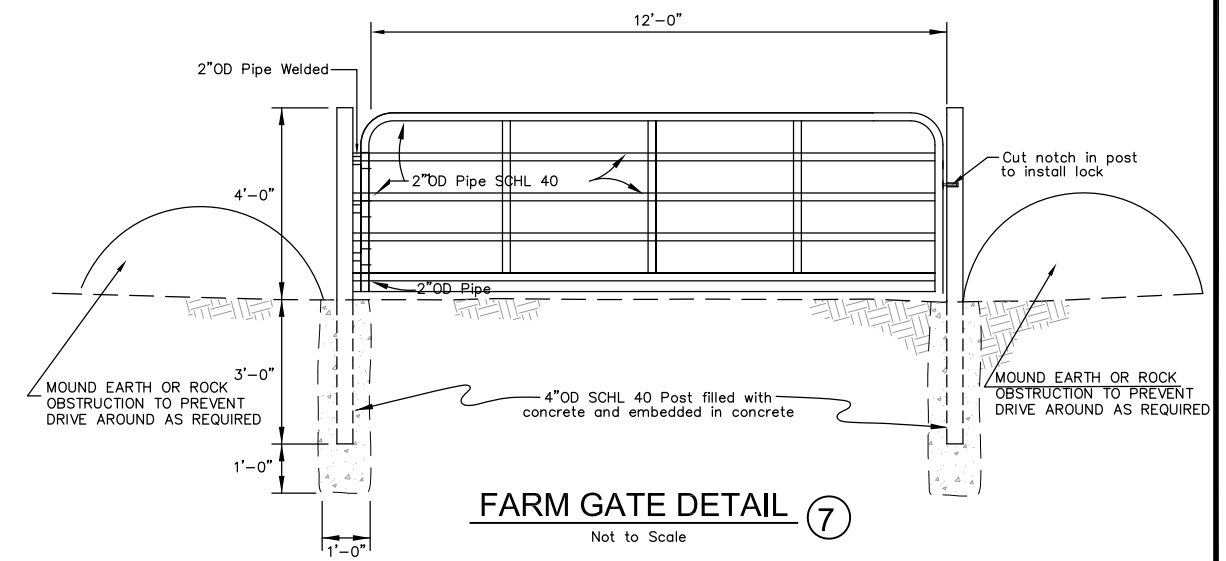
TYPICAL SECTION ACCESS ROADWAY RESTORATION ⑤

SCALE: NTS



FENCE LINE ⑥

Not to Scale

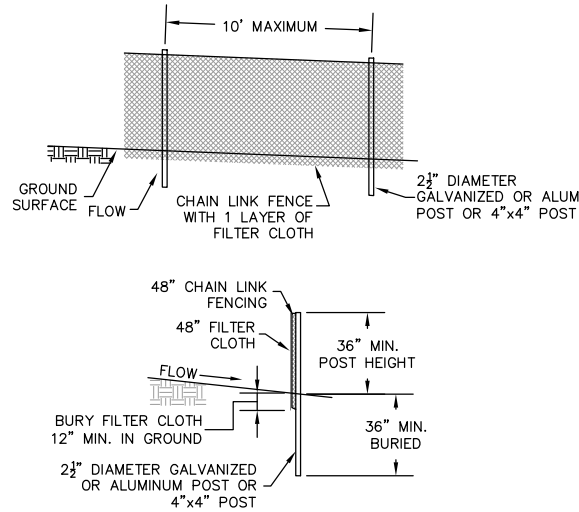


FARM GATE DETAIL ⑦

Not to Scale

NO.	DATE	REVISION	BY

NOTE:
FENCE POST SPACING
SHALL NOT EXCEED
10' TO CENTER.



SUPER SILT FENCE DETAIL

SCALE: NTS

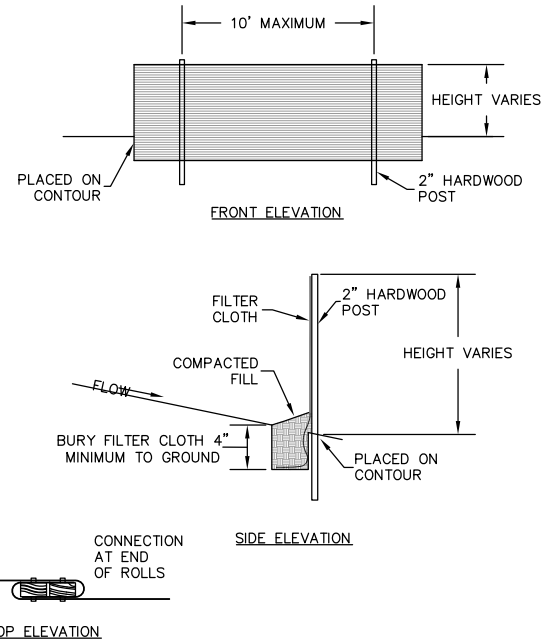
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SUPER SILT FENCE

A SUPER SILT FENCE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC OVER CHAIN LINK FENCE. IT IS USED TO INTERCEPT SEDIMENT-LADEN RUNOFF FROM AREAS THAT ARE TOO LARGE FOR REGULAR SILT FENCE. SUPER SILT FENCE CAN BE A REPLACEMENT FOR SEDIMENT TRAPS IN CERTAIN INSTANCES.

SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL, DAILY DURING PROLONGED RAINFALL AND ONCE EVERY SEVEN DAYS DURING DRY PERIODS. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. IF THE FENCE IS NOT INSTALLED PERPENDICULAR TO THE FLOW OF THE WATER, THESE CONDITIONS WILL OCCUR. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE, THE FABRIC SHALL BE PROMPTLY REPLACED. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

NOTE:
THE MAXIMUM LENGTH
OF SLOPE ABOVE A ROW
OF SILT FENCE IS 110'.



SILT FENCE DETAIL

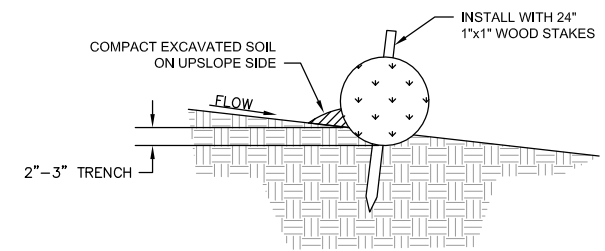
SCALE: NTS

2

SILT FENCE

A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED. USED TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL OF 0.5 INCH OR GREATER AND AT LEAST DAILY DURING PROLONGED RAINFALL OR ONCE A WEEK. ANY REQUIRED REPAIRS OR MAINTENANCE SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. IF THE FENCE IS NOT INSTALLED ON THE CONTOUR (PERPENDICULAR TO THE FLOW OF THE WATER) BOTH OF THESE CONDITIONS CAN OCCUR. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. IF ANY SECTION OF SILT FENCE IS KNOCKED DOWN DURING A RAIN EVENT (BECAUSE IT WAS INSTALLED IN AN AREA OF CONCENTRATED FLOW) THEN OTHER MEASURES SUCH AS A SEDIMENT TRAP AND DIVERSION OR SUPER SILT FENCE MUST BE INSTALLED.

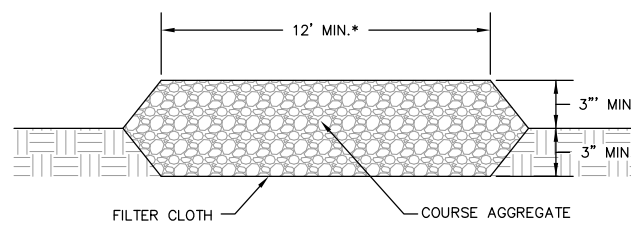
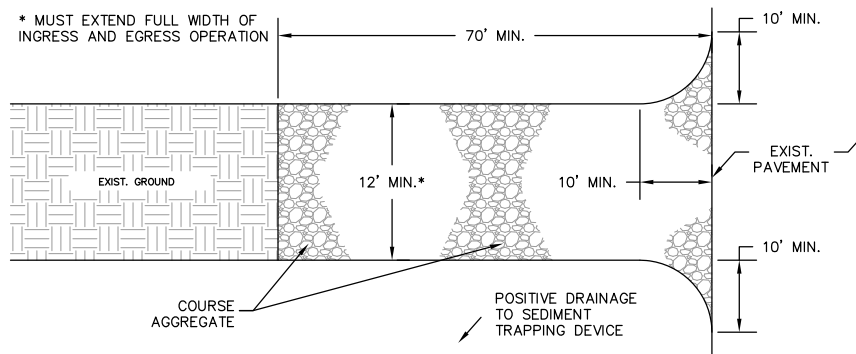
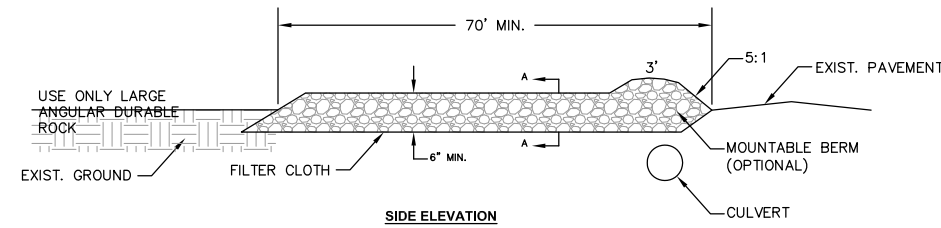


- NOTES:
1. DRIVE STAKE UNTIL 2"-3" REMAINS EXPOSED
 2. INSTALL STAKES 3'-4' APART & PERPENDICULAR TO SLOPE FACE
 3. ADJACENT STRAW WATTLES ARE TO ABUT TIGHTLY
 4. STRAW WATTLES TO BE NORTH AMERICAN GREEN WS1210 OR EQUAL

STRAW WATTLE ANCHORING/ENTRENCHMENT DETAIL

SCALE: NTS

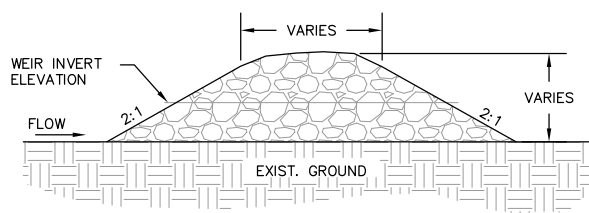
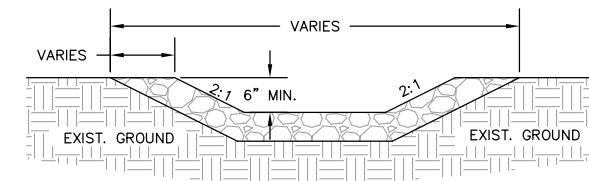
3



STABILIZED CONSTRUCTION ENTRANCE

4

1. USE (4-6 INCH) FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
2. LENGTH IS AS REQUIRED, BUT NOT LESS THAN 70 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS SHOULD BE NOT LESS THAN 6 INCHES.
4. THE WIDTH SHALL BE A MINIMUM OF 12 FEET, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE USED. CULVERT USED SHALL BE INCIDENTAL TO THE STABILIZED CONSTRUCTION ENTRANCE.
7. IF NECESSARY, DIVERT ANY WATER RUNNING DOWN ACCESS ROAD TO A SEDIMENT TRAP LOCATED ON EITHER SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE.



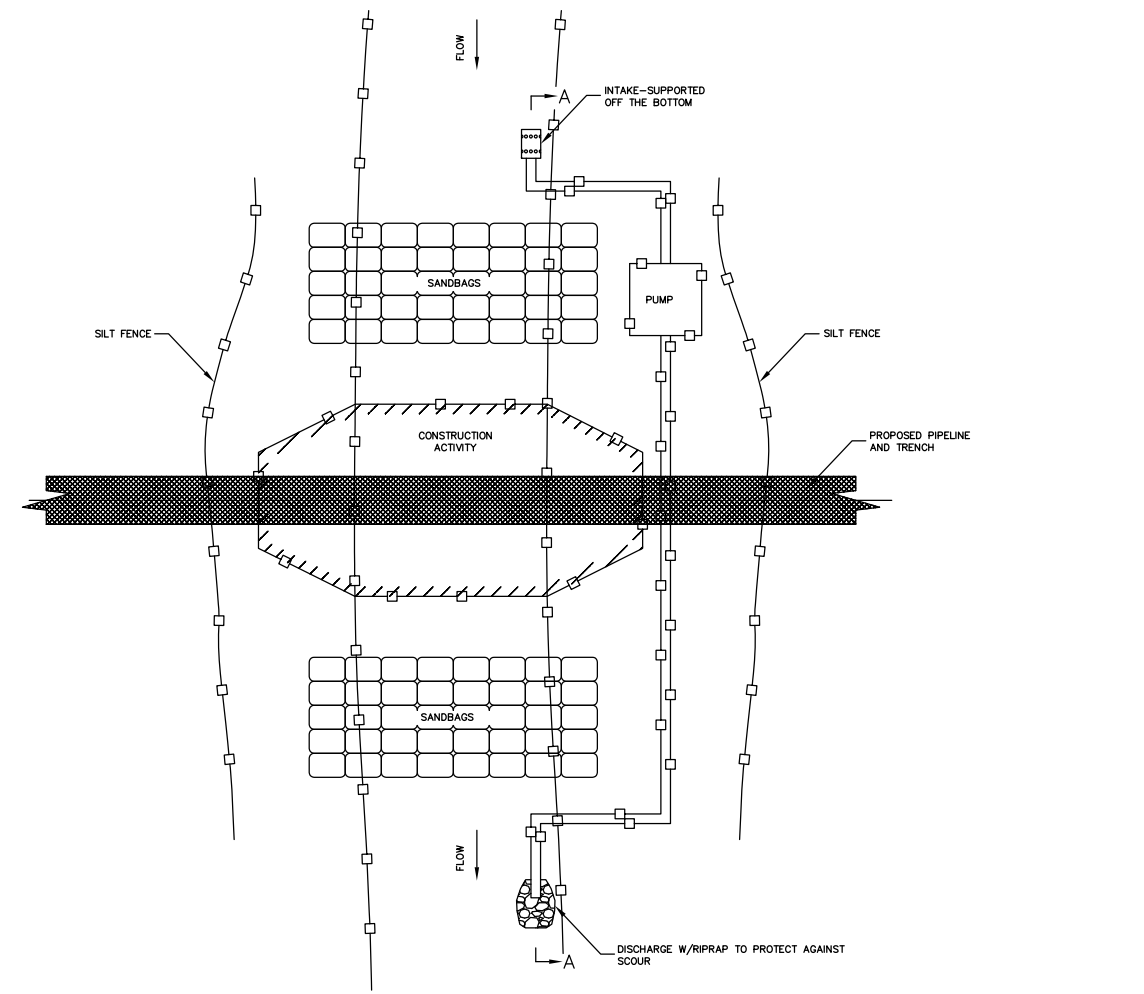
ROCK CHECK DAM WITH SUMP

STONE CHECK DAMS

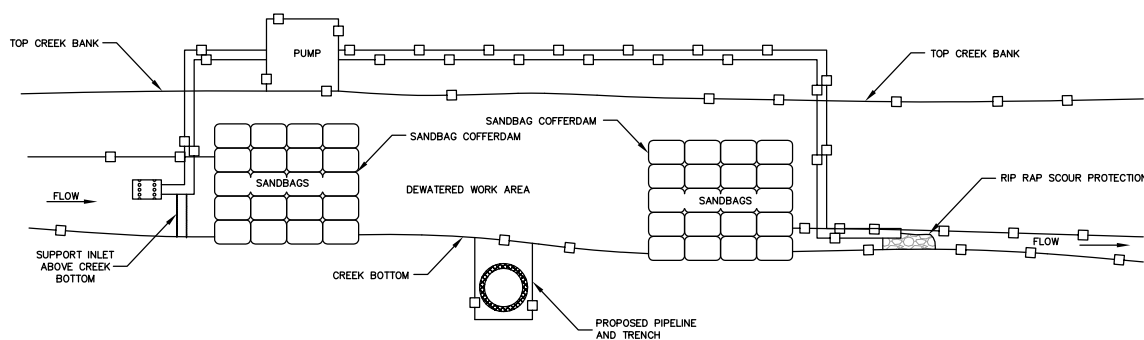
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PUMP AROUND PLAN VIEW



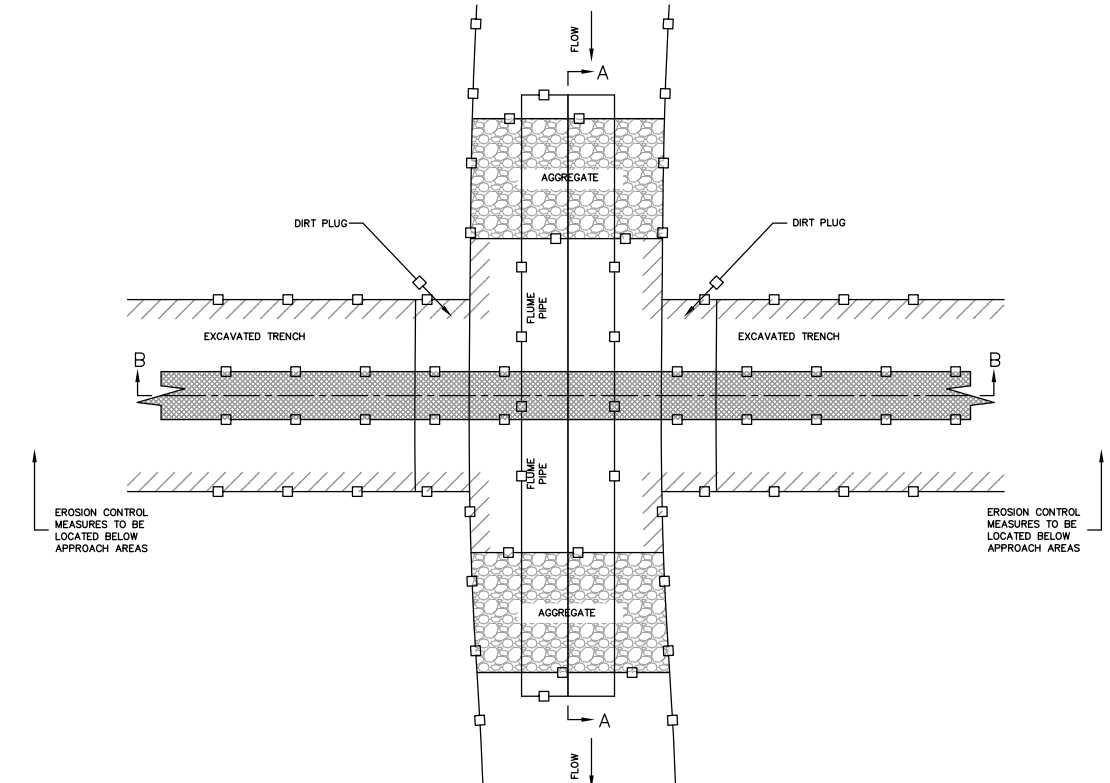
PUMP AROUND SECTION A-A

THE PUMP AROUND METHOD IS THE PREFERRED TECHNIQUE TO DEWATER A WORK SITE. IT IS THE SIMPLEST METHOD IF THE NECESSARY EQUIPMENT IS AVAILABLE. THIS METHOD REQUIRES DAMMING THE STREAM WITH A NON-ERODIBLE MATERIAL COVERED WITH AN IMPERVIOUS MEMBRANE TO CREATE A POOL UPSTREAM OF THE WORK AREA WHERE A PUMP INTAKE CAN BE PLACED. DEPENDING ON THE GRADIENT OF THE STREAM ANOTHER DAM BELOW THE WORK AREA MAY BE NEEDED. IN BETWEEN THE DAMS A DRY WORK AREA IS CREATED. A PUMP MOVES THE WATER AROUND THE CONSTRUCTION AREA WHERE THE INSTALLATION OF THE PIPE CAN BE DONE IN THE DRY.

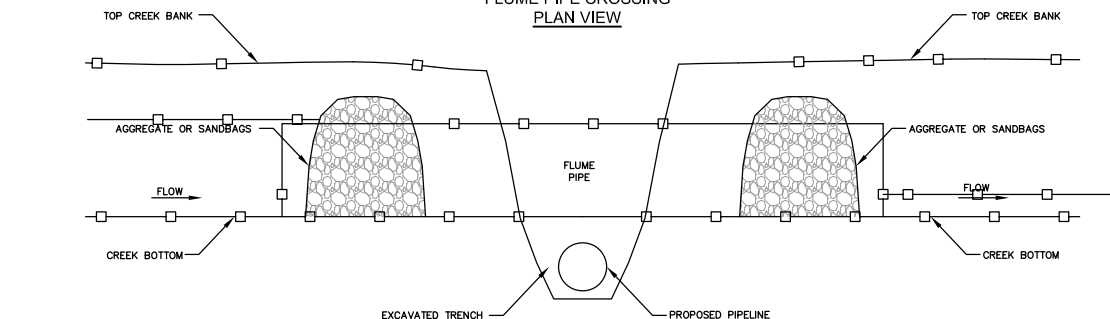
KEY ISSUES:

1. PROVIDE ADEQUATE SEDIMENT AND EROSION CONTROL ON THE APPROACHES.
2. CONSTRUCTION SHOULD BE PERFORMED IN LOW FLOW PERIODS.
3. USE A PUMP OR PUMPS SUFFICIENTLY LARGE TO PUMP THE ENTIRE STREAM FLOW AROUND THE SITE
4. CONSTRUCT A DAM IMPERVIOUS TO WATER.
5. THE INLET OF THE PUMP IS TO BE SUSPENDED ABOVE THE STREAMBED IN ORDER TO PREVENT SUCKING MUD AND SEDIMENT.
6. THE DISCHARGE POINT MUST BE STABILIZED WITH ROCK TO DISPERSE THE ENERGY AND PREVENT EROSION.

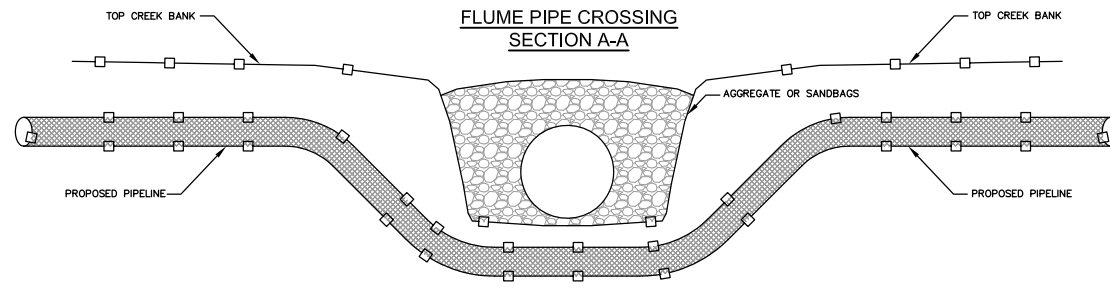
**BMP3.21-INSTREAM CONSTRUCTION
(PUMP AROUND)**



FLUME PIPE CROSSING PLAN VIEW



FLUME PIPE CROSSING SECTION A-A



FLUME PIPE CROSSING SECTION B-B

A FLUME PIPE CROSSING CONSISTS OF TWO IMPERVIOUS DAMS ACROSS A STREAM WITH ONE OR MORE CULVERTS INSTALLED TO PASS THE STREAM FLOW ACROSS THE WORK AREA. A FLUME PIPE CROSSING CAN BE USED WHEN IN-STREAM CONSTRUCTION WILL LAST LESS THAN 72 HOURS AND STREAM IS NARROW (LESS THAN 15 FEET WIDE) OR WIDER IN LOW WATER CONDITIONS. IDEAL FOR GAS PIPELINE, SEWERLINE AND WATERLINE CONSTRUCTION ESPECIALLY WHEN USED IN CONJUNCTION WITH AND AS AN EXTENSION OF A VEHICULAR STREAM CROSSING.

- A) THE FLUME PIPE CROSSING MUST BE MADE OPERATIONAL PRIOR TO THE START OF THE INSTREAM CONSTRUCTION.
- B) A LARGE FLUME PIPE(S) OR CULVERT(S) OF AN ADEQUATE SIZE TO SUPPORT NORMAL WATER CHANNEL FLOW SHALL BE INSTALLED IN THE STREAMBED ACROSS THE PROPOSED PIPELINE TRENCH CENTERLINE. RIPRAP, JERSEY BARRIER OR SANDBAGS SHALL BE PLACED CLOSE TO EACH END OF THE FLUME PIPE SO AS TO DAM OFF THE CREEK FORCING THE WATER TO FLOW THROUGH THE FLUME PIPE (SEE DRAWING). SANDBAGS ARE THE PREFERRED METHOD FOR DIVERTING WATER INTO THE FLUMES. THE COMMERCIAL COFFERDAMS CAN BE USED IF A TIGHT SEAL CAN BE CREATED.
- C) THE ENTRAPPED WATER IN THE WORK AREA CAN THEN BE PUMPED INTO AN APPROVED DEWATERING DEVICE. THE TRENCH CAN THEN BE DUG UNDER THE FLUME PIPE. THE PIPE SECTIONS WILL THEN BE INSTALLED TO THE PROPER DEPTH UNDER THE FLUME PIPE. AFTER THE PIPE IS INSTALLED, THE DITCH WILL BE BACKFILLED AND RESTABILIZATION SHALL BE CARRIED OUT.
- D) RECLAMATION OF THE STREAM BANKS WILL OCCUR THE SAME DAY AS THE INSTALLATION OF THE PIPE IS COMPLETED. RESTABILIZATION SHALL CONSIST OF THE INSTALLATION OF UNGROUTED RIPRAP ON ALL DISTURBED STREAMBANK AREAS (OR ON THE AREA 6 FEET ON BOTH SIDES OF THE CENTERLINE OF THE UTILITY TRENCH, WHICHEVER IS GREATER) WITH SLOPES OF 3:1 OR GREATER. REFER TO THE SPECIFICATION FOR RIPRAP, FOR INSTALLATION REQUIREMENTS. FOR SLOPES OF 3:1 OR LESS, VEGETATIVE STABILIZATION WITH OR WITHOUT ROLLED EROSION CONTROL PRODUCT MAY BE USED, PENDING APPROVAL BY THE DIVISION OF WATER AND WASTE MANAGEMENT. STABILIZATION OF ITS STREAMBED AND BANKS AND THE APPROACH AREAS SHOULD OCCUR IMMEDIATELY FOLLOWING THE ATTAINMENT OF FINAL GRADE.
- E) AFTER COMPLETION OF BACKFILLING OPERATION AND RESTORATION OF STREAM BANKS AND LEVELING OF STREAMBED, THE FLUME PIPE CAN THEN BE REMOVED. THE STONE CAN BE REMOVED OR SPREAD AS STABILIZATION OF THE STREAMBED DEPENDING ON PERMIT REQUIREMENTS. SEDIMENT CONTROL IN APPROACH AREAS SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETED IN THE STREAM CROSSING AREA AND THE CONTRIBUTING DRAINAGE AREA TO THE DEVICE IS STABILIZED. ALL GROUND CONTOURS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.

**BMP3.21-INSTREAM CONSTRUCTION
(FLUME PIPE CROSSING)**

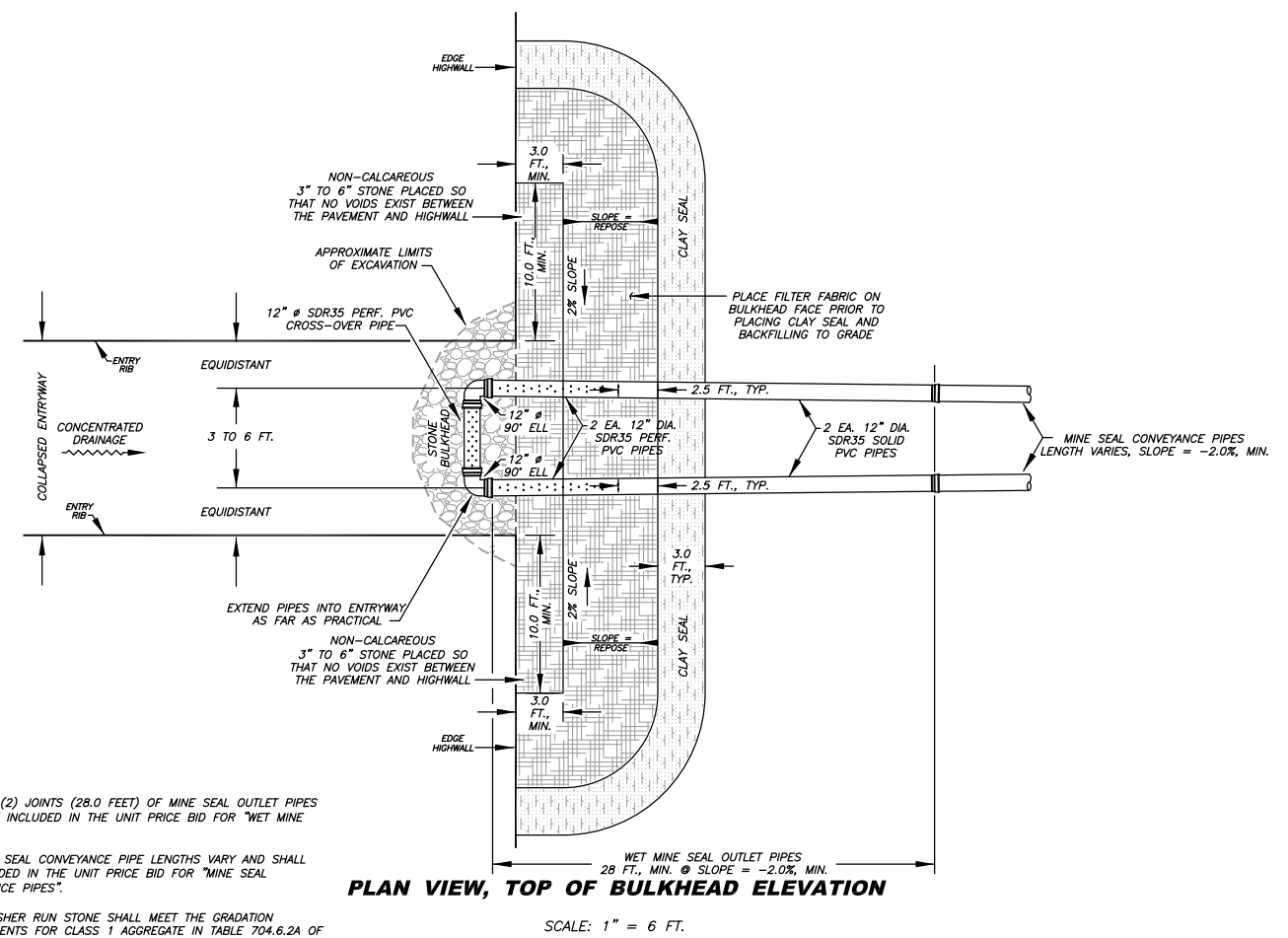
NO.	DATE	REVISION	BY

NO.	DATE	REVISION

PROJECT INFORMATION
DONNIE THORN HIGHWALL
PRESTON COUNTY, WEST VIRGINIA

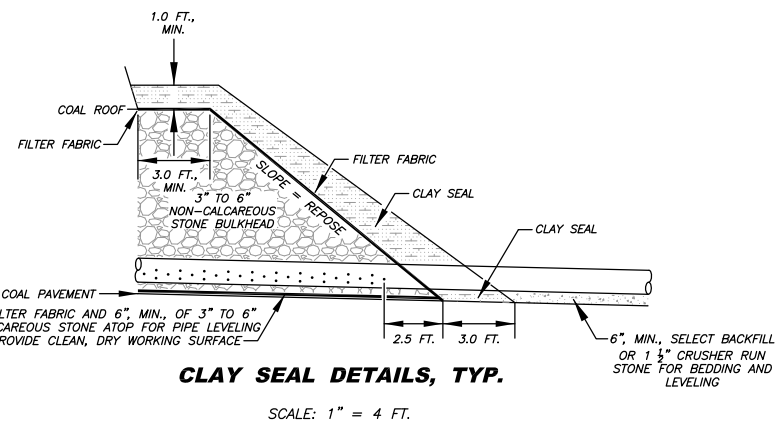
DRAWING TITLE
CONSTRUCTION DETAILS

DATE
OCTOBER 2013
SCALE
AS SHOWN
DRAWING NUMBER
D-7

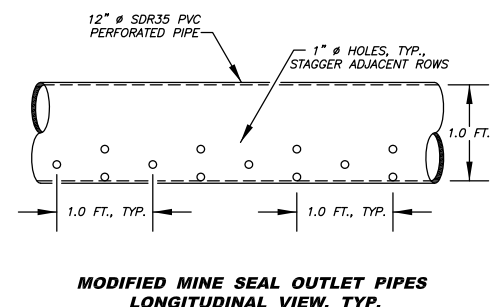


- NOTES:
- THE TWO (2) JOINTS (28.0 FEET) OF MINE SEAL OUTLET PIPES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "WET MINE SEALS".
 - THE MINE SEAL CONVEYANCE PIPE LENGTHS VARY AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "MINE SEAL CONVEYANCE PIPES".
 - 1 1/2" CRUSHER RUN STONE SHALL MEET THE GRADATION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

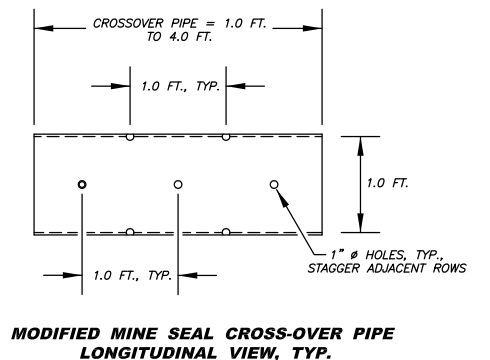
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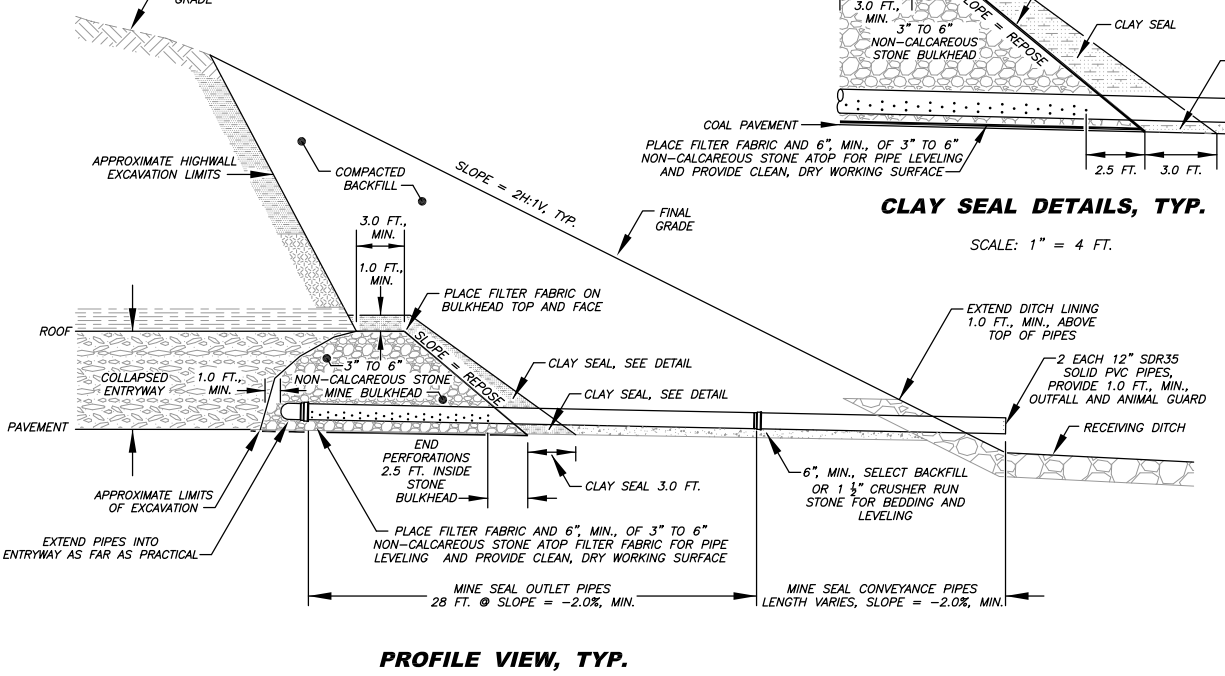
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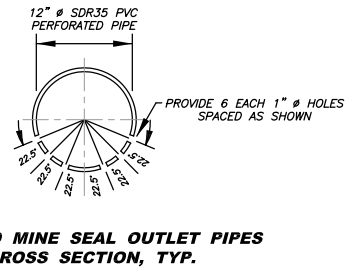
MODIFIED MINE SEAL OUTLET PIPES LONGITUDINAL VIEW, TYP.



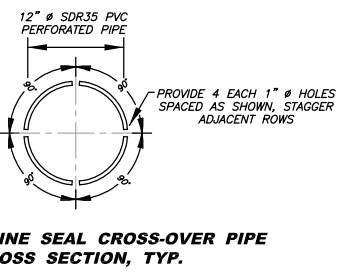
MODIFIED MINE SEAL CROSS-OVER PIPE LONGITUDINAL VIEW, TYP.



PROFILE VIEW, TYP.



MODIFIED MINE SEAL OUTLET PIPES CROSS SECTION, TYP.



MODIFIED MINE SEAL CROSS-OVER PIPE CROSS SECTION, TYP.

MODIFIED WET MINE SEAL ①

MODIFIED MINE SEAL PIPE DETAILS, TYP.