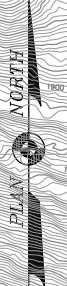


**PLAN SHEET 2
SHEET 4,6,8,10**

**PLAN SHEET 1
SHEET 3,5,7,9**

PERMITTED AREA



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

**SUGARCAMP RUN BURNING
REFUSE PHASE II
COMPOSITE SITE PLAN**

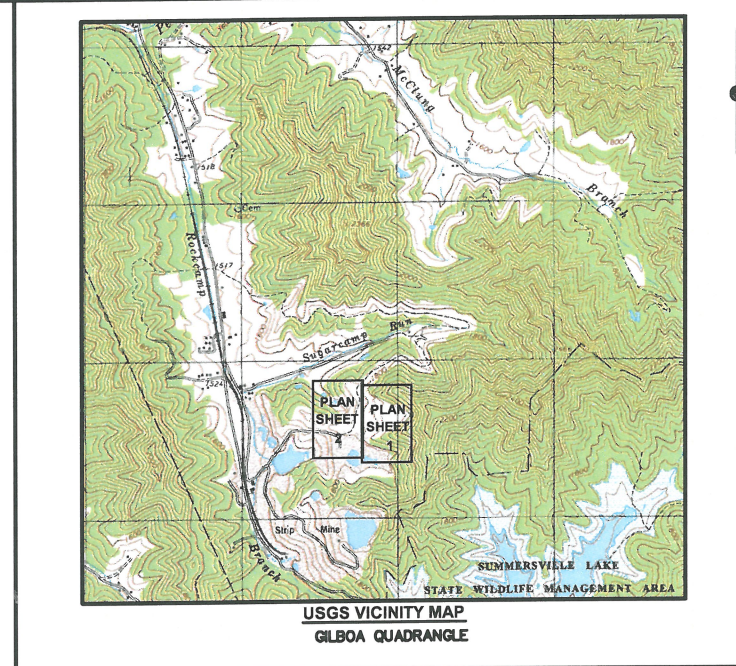
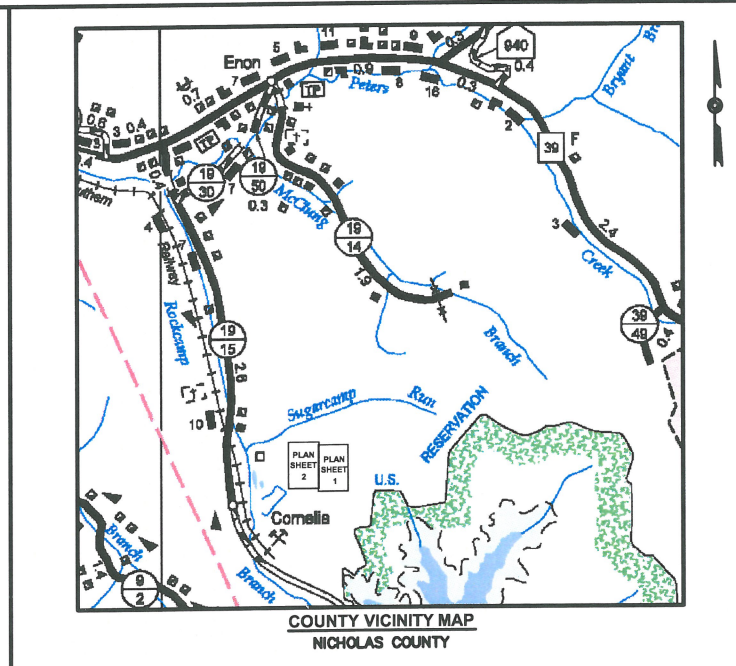
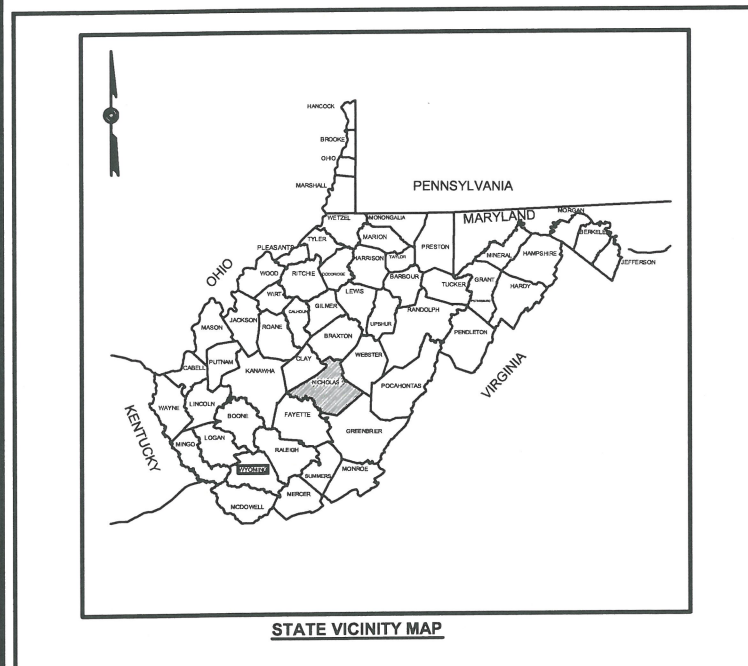
NICHOLAS COUNTY WEST VIRGINIA SCALE: 1" = 100' DATE: JUNE 2015



PLANS PREPARED BY
**E.L. ROBINSON
ENGINEERING**
5088 Washington Street, West
Charleston, West Virginia 25313
Phone: 304-776-7473
Fax: 304-776-6426
www.etrobinsonengineering.com



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
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA



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	1,200	TON	ROAD RESTORATION STONE (PER TON)		
4.3	LS	LS	WATER AND POWER LINE RELOCATION (PER LUMP SUM)		
5.1	500	LF	SILT FENCE (PER LINEAR FOOT)		
5.2	1,000	LF	SUPER SILT FENCE (PER LINEAR FOOT)		
5.3	10,000	LF	STRAW WATTLE (PER LINEAR FOOT)		
5.4	18	EA	STONE CHECK DAM (PER EACH)		
5.5	2	EA	STABILIZED CONSTRUCTION ENTRANCE (PER EACH)		
5.6	LS	LS	STORMWATER DETENTION POND (PER LUMP SUM)		
5.7	3,200	SY	EROSION CONTROL MATTING (PER SQUARE YARD)		
6.0	30	ACRE	REVEGETATION (PER PLAN VIEW ACRE)		
7.1	50	LF	TYPE I RIPRAP DITCH (PER LINEAR FOOT)		
7.2	4,135	LF	TYPE II GROUDED RIPRAP DITCH (PER LINEAR FOOT)		
7.3	300	LF	TYPE III GROUDED RIPRAP DITCH (PER LINEAR FOOT)		
7.4	1000	LF	UNDERDRAIN (PER LINEAR FOOT)		
7.5	200	LF	UNDERDRAIN CONVEYANCE PIPE (PER LINEAR FOOT)		
7.6	640	LF	24" HDPE CULVERT (PER LINEAR FOOT)		
7.7	1	EA	MODIFIED TYPE 'G' INLET (PER EACH)		
7.8	1	EA	24" PIPE CULVERT WINGWALL (PER EACH)		
7.9	6	EA	BENCH TO CHANNEL TRANSITION (PER EACH)		
8.1	100,000	CY	UNCLASSIFIED EXCAVATION (PER CUBIC YARD)		
8.2	20	AC	SOIL COVER (PER PLAN VIEW ACRE)		
8.3	15,000	TON	CONTAMINATED MATERIAL DISPOSAL (PER TON)		











INDEX TO SHEETS

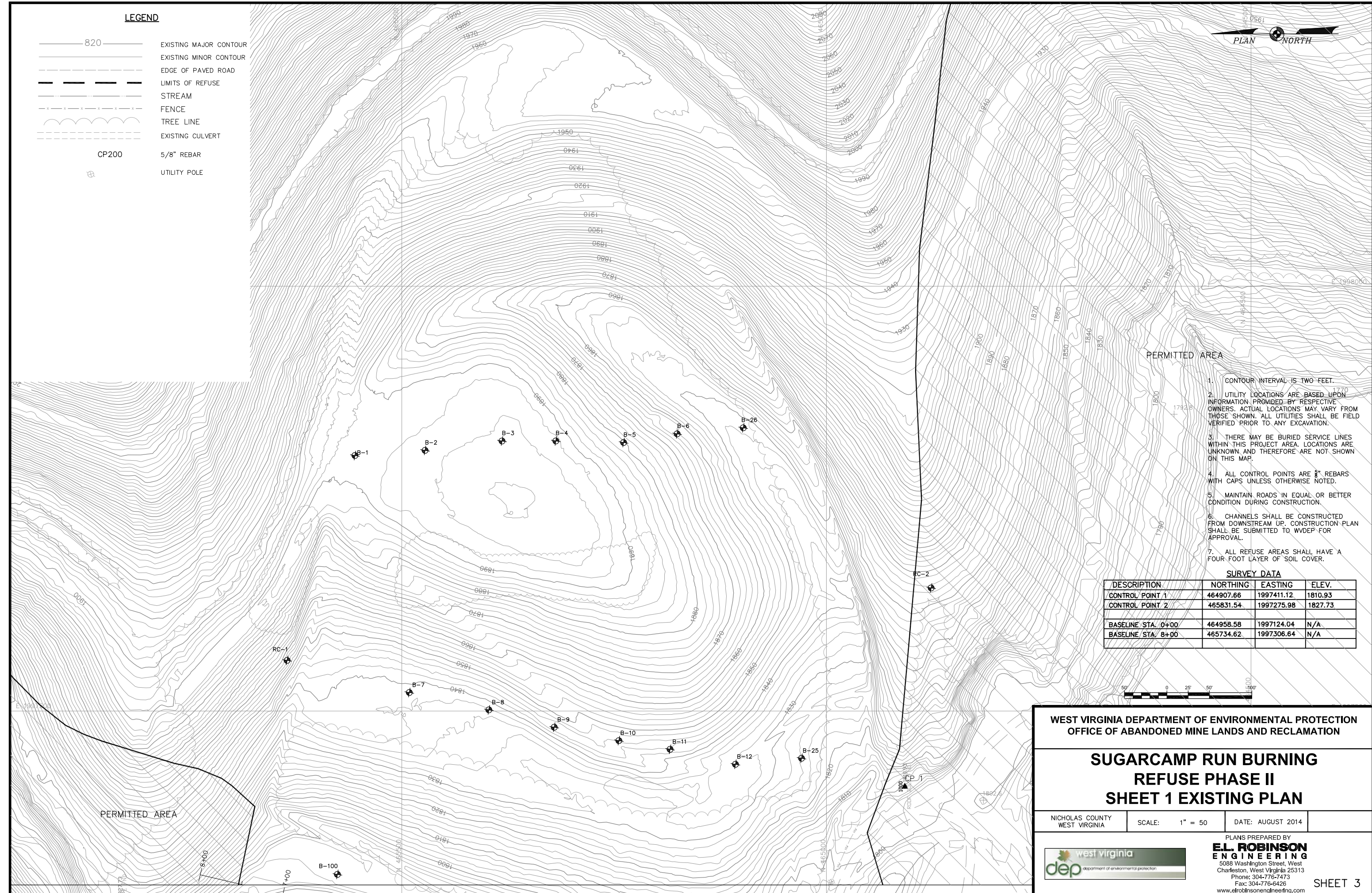
NO.	DESCRIPTION
1	COVER
2	COMPOSITE SITE PLAN
3	PLAN SHEET 1 EXISTING CONDITIONS
4	PLAN SHEET 2 EXISTING CONDITIONS
5	PLAN SHEET 1 RECLAMATION
6	PLAN SHEET 2 RECLAMATION
7	PLAN SHEET 1 SEDIMENT AND EROSION CONTROL
8	PLAN SHEET 2 SEDIMENT AND EROSION CONTROL
9	PLAN SHEET 1 TAX MAP OVERLAY
10	PLAN SHEET 2 TAX MAP OVERLAY
11-15	DRAINAGE PROFILES
16-26	CROSS SECTIONS
D-1-D-6	DETAIL SHEETS

PLANS PREPARED BY
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 Fax: 804-776-8448
 www.elrobinsonengineering.com

Professional Engineer
 ERIC COBERLY R.P.E. NO. 10816 DATE 9/13/15

LEGEND

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



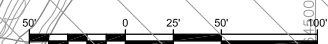
PERMITTED AREA

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6. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. CONSTRUCTION PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.
7. ALL REFUSE AREAS SHALL HAVE A FOUR FOOT LAYER OF SOIL COVER.

SURVEY DATA

DESCRIPTION	NORTHING	EASTING	ELEV.
CONTROL POINT 1	464907.66	1997411.12	1810.93
CONTROL POINT 2	465831.54	1997275.98	1827.73
BASELINE STA. 0+00	464958.58	1997124.04	N/A
BASELINE STA. 8+00	465734.62	1997306.64	N/A



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

**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 1 EXISTING PLAN**

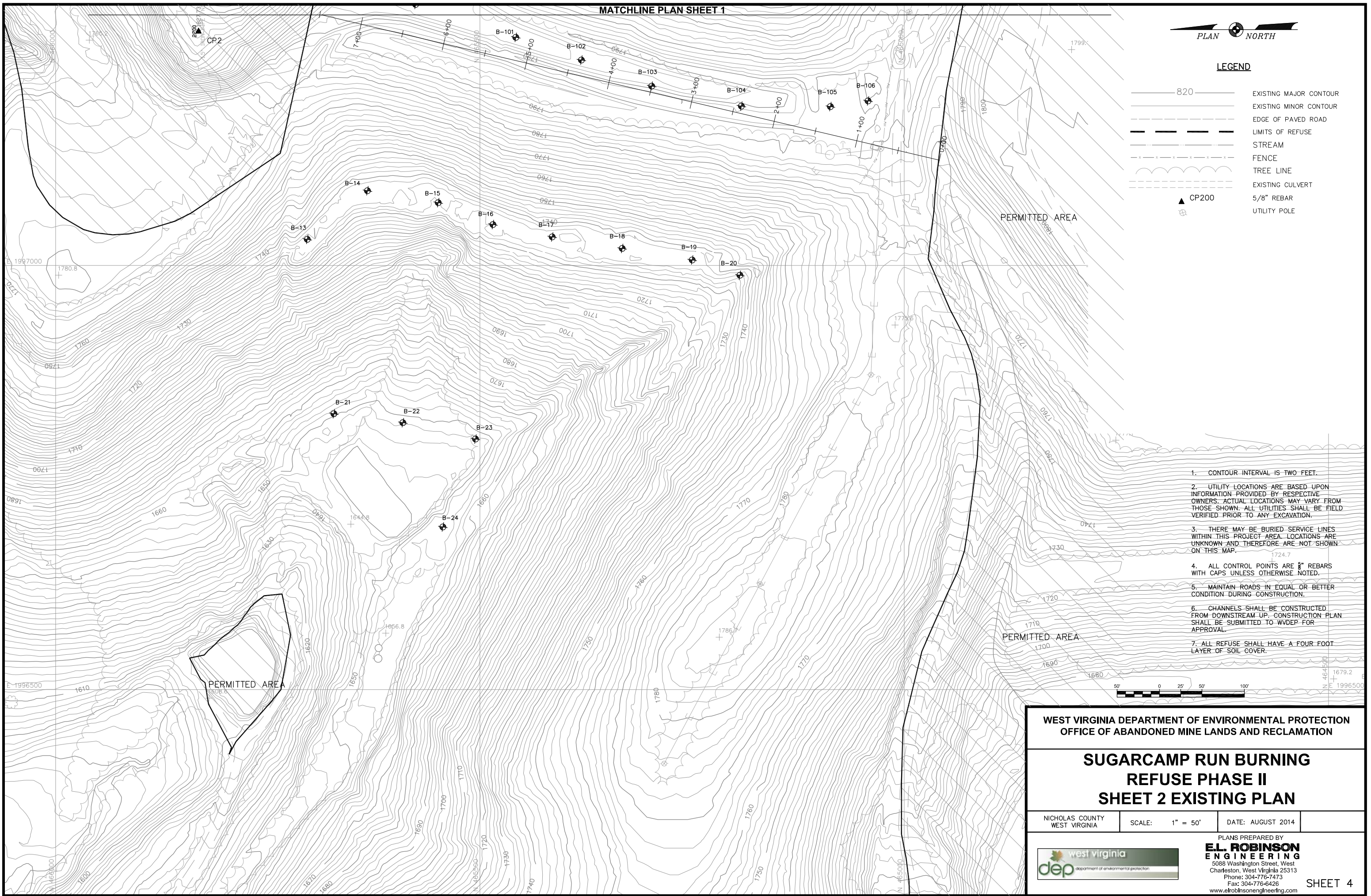
NICHOLAS COUNTY WEST VIRGINIA	SCALE: 1" = 50'	DATE: AUGUST 2014
----------------------------------	-----------------	-------------------

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	SHEET 3



LEGEND

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



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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
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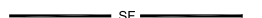







**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 2 EXISTING PLAN**

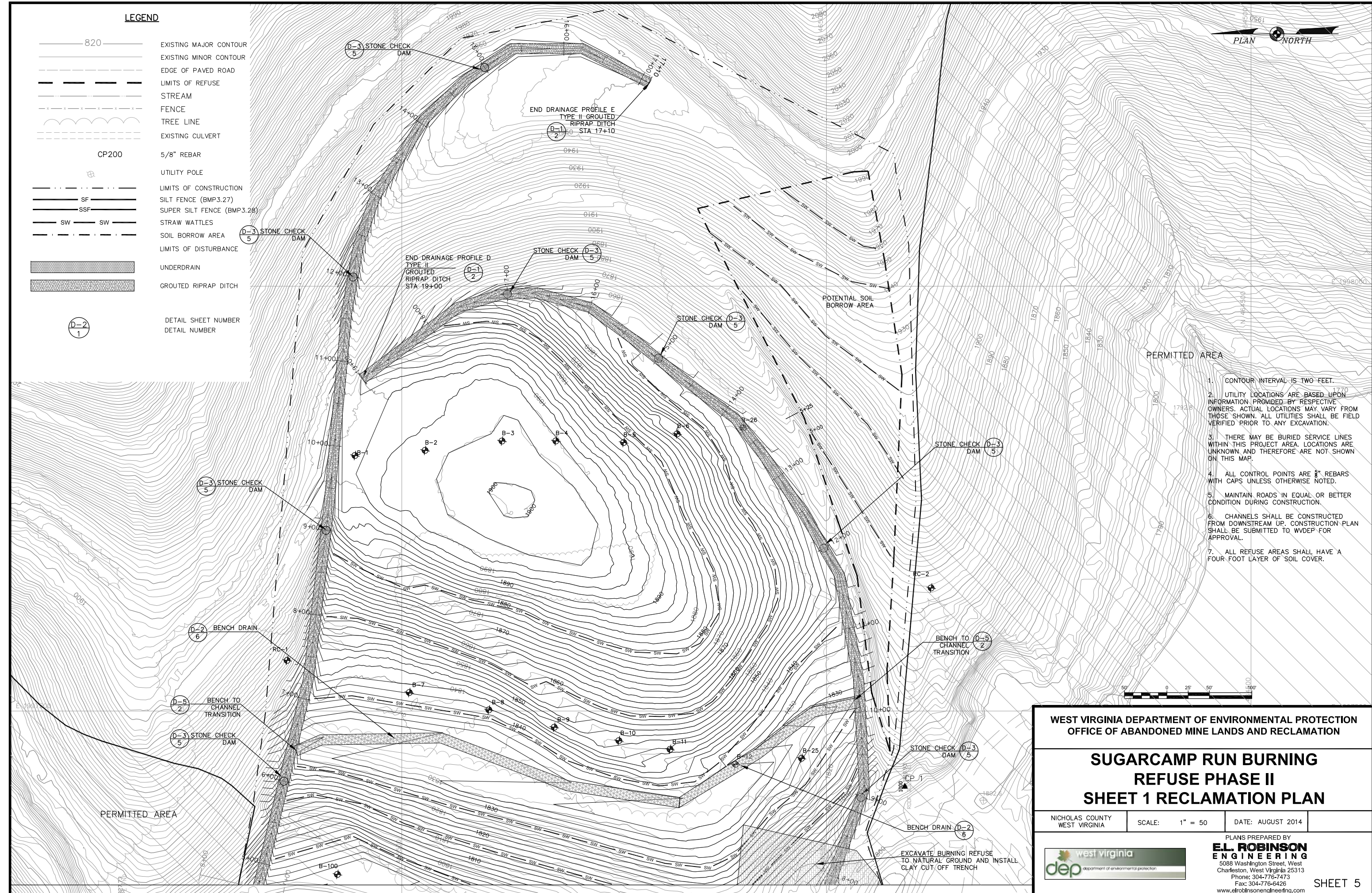
NICHOLAS COUNTY WEST VIRGINIA SCALE: 1" = 50' DATE: AUGUST 2014



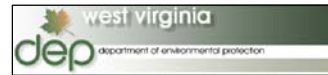
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-  EXISTING MINOR CONTOUR
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-  STREAM
-  FENCE
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-  CP200
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-  SUPER SILT FENCE (BMP3.28)
-  STRAW WATTLES
-  SOIL BORROW AREA
-  LIMITS OF DISTURBANCE
-  UNDERDRAIN
-  GROUTED RIPRAP DITCH
-  DETAIL SHEET NUMBER
-  DETAIL NUMBER



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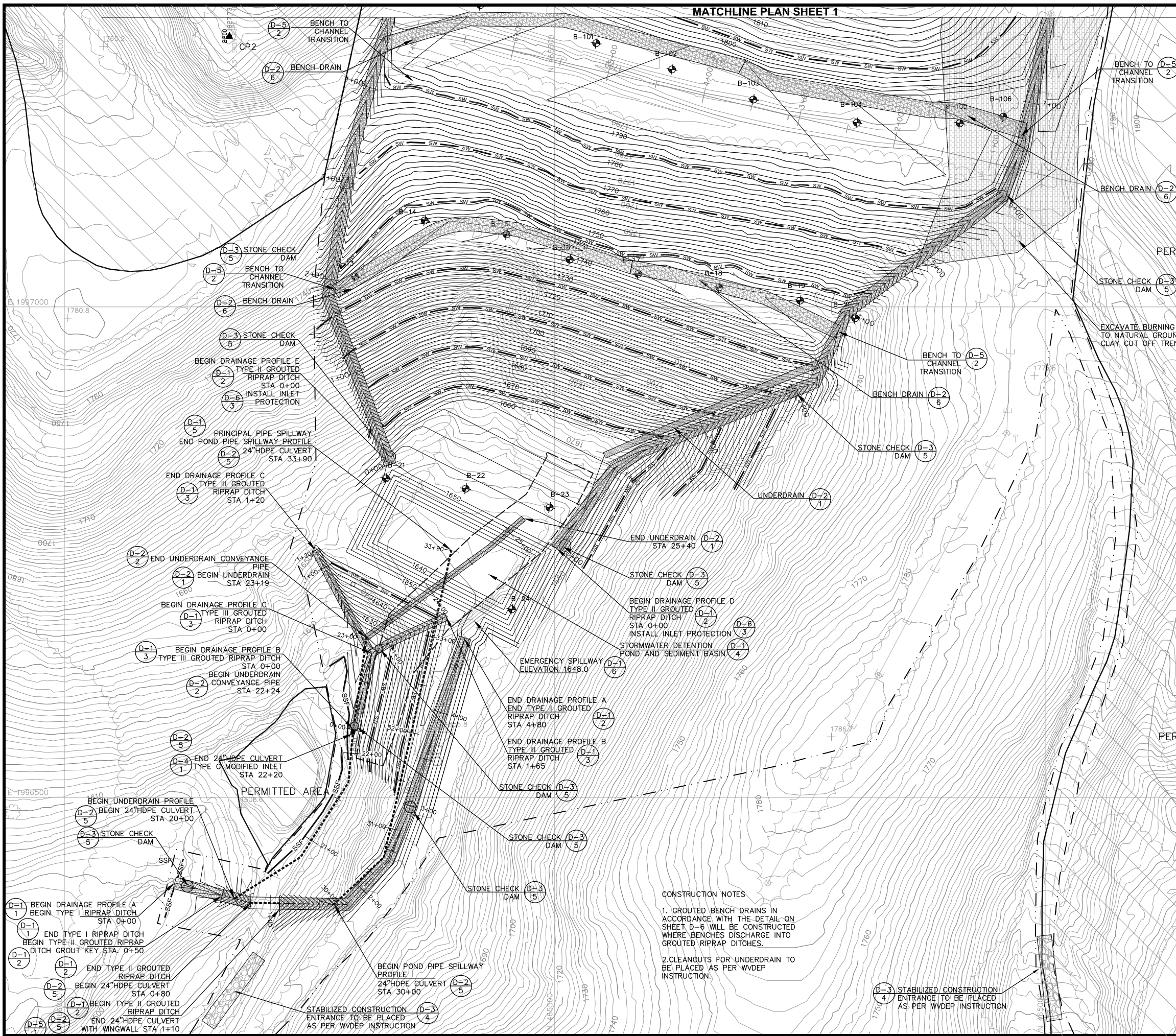
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF ABANDONED MINE LANDS AND RECLAMATION		
<h2 style="margin: 0;">SUGARCAMP RUN BURNING REFUSE PHASE II SHEET 1 RECLAMATION PLAN</h2>		
NICHOLAS COUNTY WEST VIRGINIA	SCALE: 1" = 50'	DATE: AUGUST 2014
PLANS PREPARED BY E.L. ROBINSON ENGINEERING 5088 Washington Street, West Charleston, West Virginia 25313 Phone: 304-776-7473 Fax: 304-776-6426 www.etrobinsonengineering.com		
		SHEET 5



LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF PAVED ROAD
- LIMITS OF REFUSE
- STREAM
- FENCE
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- CP200
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- UNDERDRAIN
- GROUDED RIPRAP DITCH
- BENCH DRAIN
- D-2 1
- D-2 2
- D-2 3
- D-2 4
- D-2 5
- D-2 6
- D-3 1
- D-3 2
- D-3 3
- D-3 4
- D-3 5
- D-3 6
- D-5 1
- D-5 2
- D-5 3
- D-5 4
- D-5 5
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CONSTRUCTION NOTES

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2. CLEANOUTS FOR UNDERDRAIN TO BE PLACED AS PER WVDEP INSTRUCTION.

D-3 4 STABILIZED CONSTRUCTION ENTRANCE TO BE PLACED AS PER WVDEP INSTRUCTION

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













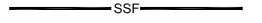







**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 2 RECLAMATION PLAN**

NICHOLAS COUNTY WEST VIRGINIA SCALE: 1" = 50' DATE: AUGUST 2014



PLANS PREPARED BY
EL. ROBINSON ENGINEERING
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Charleston, West Virginia 25313
Phone: 304-776-7473
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LEGEND

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-  UNDERDRAIN
-  GROUDED RIPRAP DITCH
-  DETAIL SHEET NUMBER
-  DETAIL NUMBER

Sequence of Construction For Plan Sheets 1 and 2

Stabilized construction entrance, silt fence and super silt fence will be installed adjacent to the access Roadway. Super silt fence and silt fence will be installed for the entire site.

The Area of the sediment pond will be excavated first. Once excavation of the burning refuse and the contaminated soil have been completed a sediment pond will be constructed.

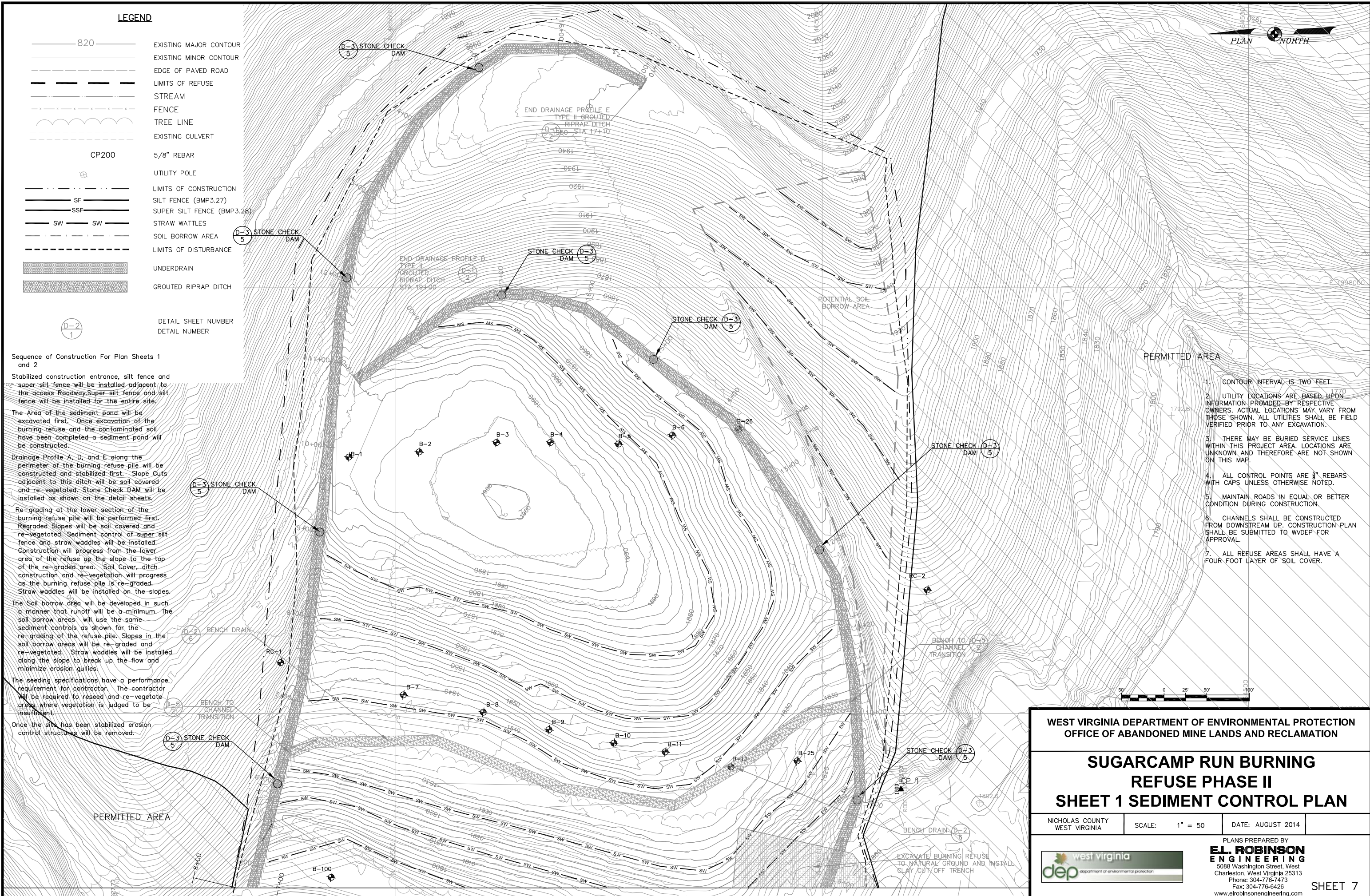
Drainage Profile A, D, and E along the perimeter of the burning refuse pile will be constructed and stabilized first. Slope Cuts adjacent to this ditch will be soil covered and re-vegetated. Stone Check DAM will be installed as shown on the detail sheets.

Re-grading at the lower section of the burning refuse pile will be performed first. Regraded Slopes will be soil covered and re-vegetated. Sediment control of super silt fence and straw wattles will be installed. Construction will progress from the lower area of the refuse up the slope to the top of the re-graded area. Soil Cover, ditch construction and re-vegetation will progress as the burning refuse pile is re-graded. Straw wattles will be installed on the slopes.

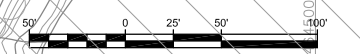
The Soil borrow area will be developed in such a manner that runoff will be a minimum. The soil borrow areas will use the same sediment controls as shown for the re-grading of the refuse pile. Slopes in the soil borrow areas will be re-graded and re-vegetated. Straw wattles will be installed along the slope to break up the flow and minimize erosion gullies.

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.

Once the site has been stabilized erosion control structures will be removed.



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

**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 1 SEDIMENT CONTROL PLAN**

NICHOLAS COUNTY WEST VIRGINIA SCALE: 1" = 50' DATE: AUGUST 2014

PLANS PREPARED BY

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LEGEND

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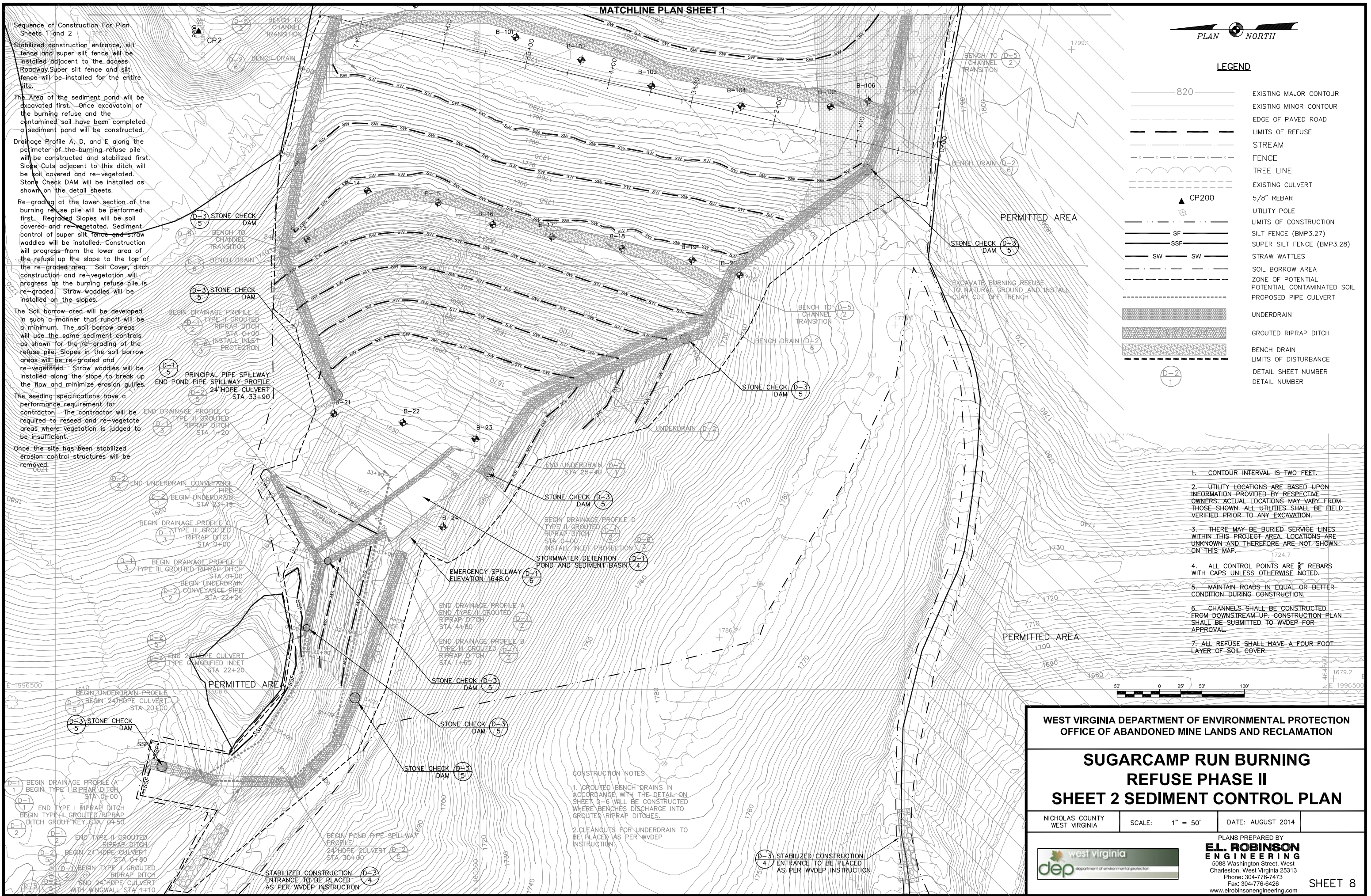
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(D-3) STABILIZED CONSTRUCTION ENTRANCE TO BE PLACED AS PER WVDEP INSTRUCTION

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
























**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 2 SEDIMENT CONTROL PLAN**

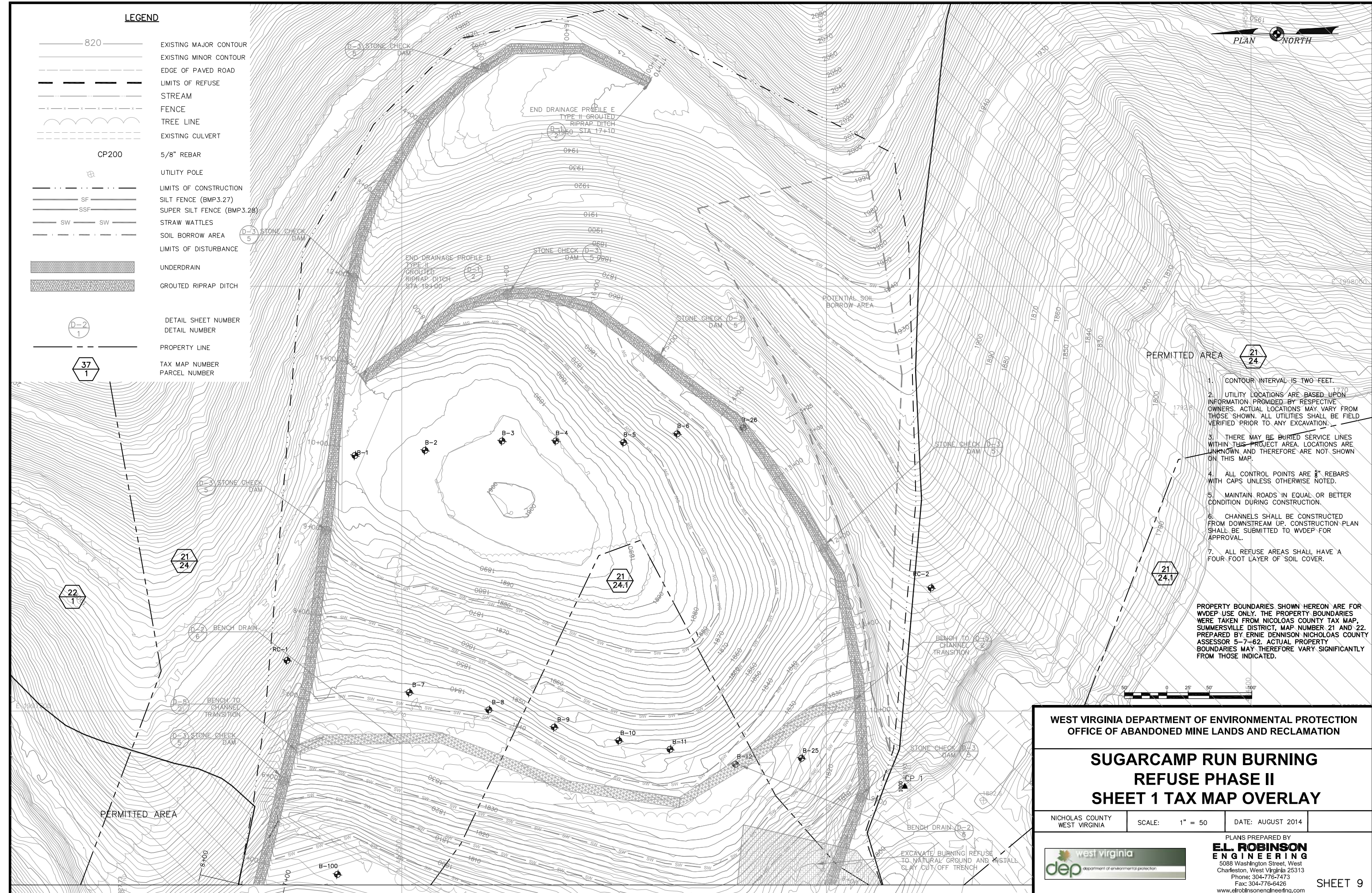
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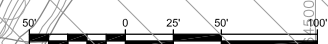
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PROPERTY BOUNDARIES SHOWN HEREON ARE FOR WVDEP USE ONLY. THE PROPERTY BOUNDARIES WERE TAKEN FROM NICOLAAS COUNTY TAX MAP, SUMMERSVILLE DISTRICT, MAP NUMBER 21 AND 22. PREPARED BY ERNIE DENNISON, NICOLAAS COUNTY ASSESSOR 5-7-62. ACTUAL PROPERTY BOUNDARIES MAY THEREFORE VARY SIGNIFICANTLY FROM THOSE INDICATED.



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

**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 1 TAX MAP OVERLAY**

NICHOLAAS COUNTY WEST VIRGINIA SCALE: 1" = 50' DATE: AUGUST 2014

PLANS PREPARED BY
E.L. ROBINSON ENGINEERING
5088 Washington Street, West Charleston, West Virginia 25313
Phone: 304-776-7473
Fax: 304-776-6426
www.etrolinsonengineering.com

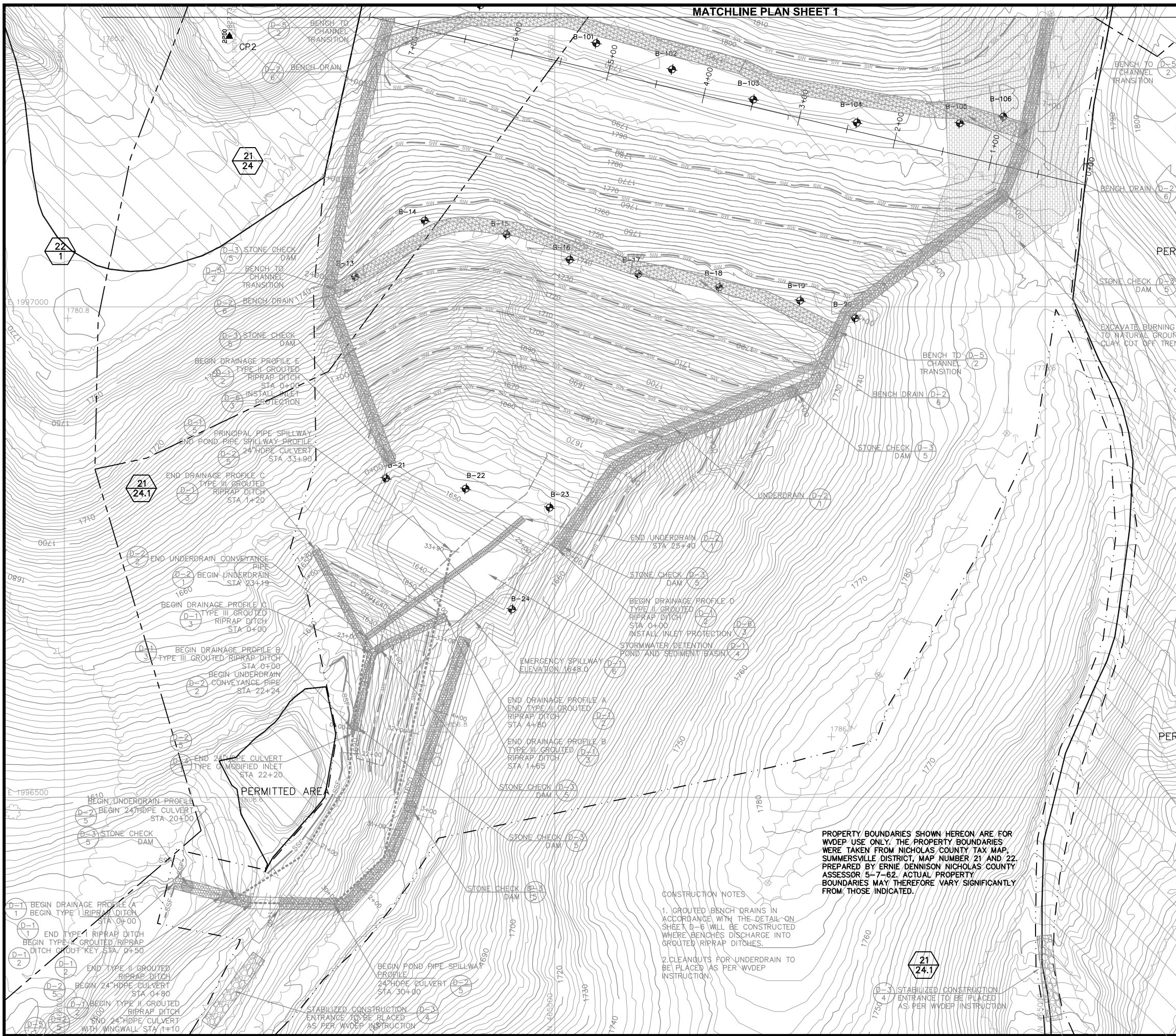


MATCHLINE PLAN SHEET 1



LEGEND

- 820 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EDGE OF PAVED ROAD
- LIMITS OF REFUSE
- STREAM
- FENCE
- TREE LINE
- EXISTING CULVERT
- CP200
- 5/8" REBAR
- UTILITY POLE
- LIMITS OF CONSTRUCTION
- SILT FENCE (BMP3.27)
- SUPER SILT FENCE (BMP3.28)
- STRAW WATTLES
- SOIL BORROW AREA
- ZONE OF POTENTIAL POTENTIAL CONTAMINATED SOIL
- PROPOSED PIPE CULVERT
- UNDERDRAIN
- GROUDED RIPRAP DITCH
- BENCH DRAIN
- DETAIL SHEET NUMBER
- DETAIL NUMBER
- PROPERTY LINE
- TAX MAP NUMBER
- PARCEL NUMBER



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. 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. CHANNELS SHALL BE CONSTRUCTED FROM DOWNSTREAM UP. CONSTRUCTION PLAN SHALL BE SUBMITTED TO WVDEP FOR APPROVAL.
7. ALL REFUSE SHALL HAVE A FOUR FOOT LAYER OF SOIL COVER.



PROPERTY BOUNDARIES SHOWN HEREON ARE FOR WVDEP USE ONLY. THE PROPERTY BOUNDARIES WERE TAKEN FROM NICHOLAS COUNTY TAX MAP, SUMMERSVILLE DISTRICT, MAP NUMBER 21 AND 22. PREPARED BY ERNIE DENNISON NICHOLAS COUNTY ASSESSOR 5-7-62. ACTUAL PROPERTY BOUNDARIES MAY THEREFORE VARY SIGNIFICANTLY FROM THOSE INDICATED.

- CONSTRUCTION NOTES
1. GROUDED BENCH DRAINS IN ACCORDANCE WITH THE DETAIL ON SHEET D-6 WILL BE CONSTRUCTED WHERE BENCHES DISCHARGE INTO GROUDED RIPRAP DITCHES.
 2. CLEANOUTS FOR UNDERDRAIN TO BE PLACED AS PER WVDEP INSTRUCTION.

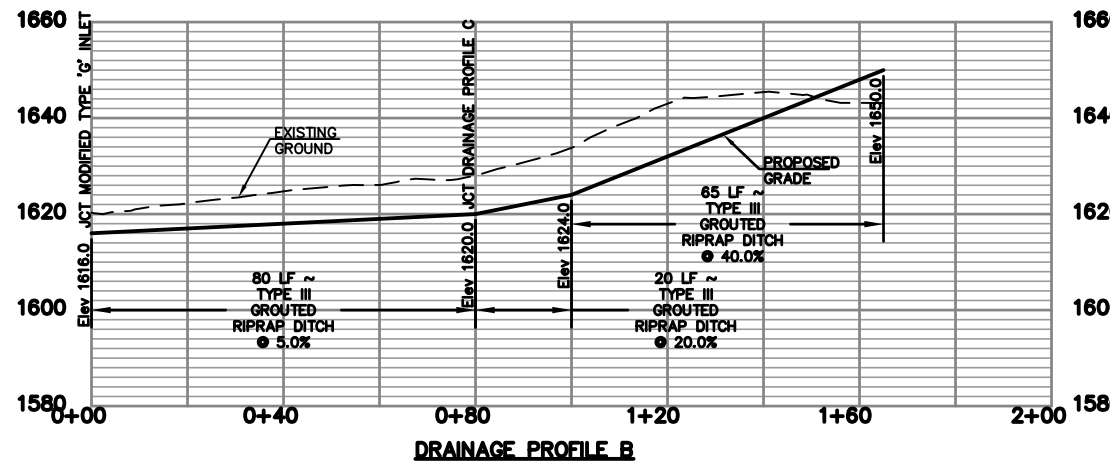
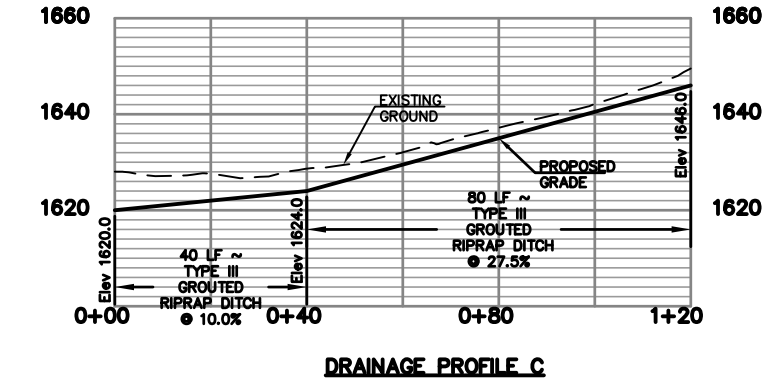
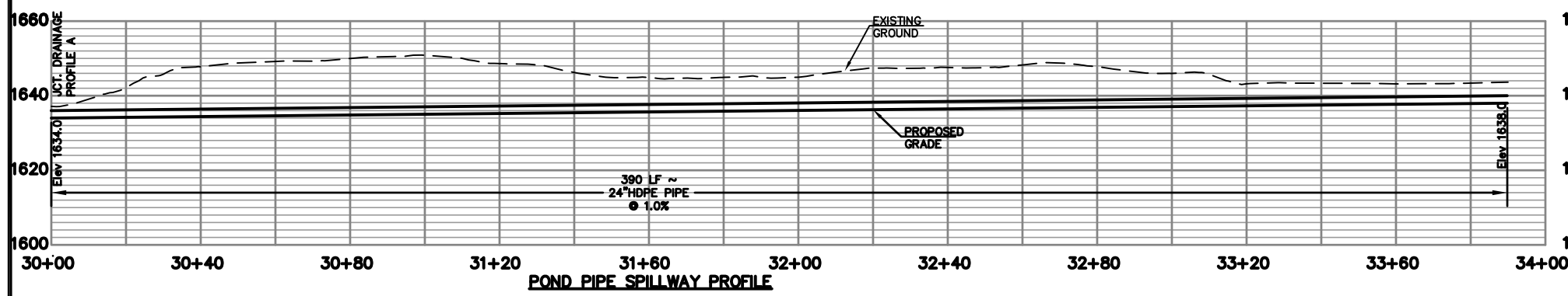
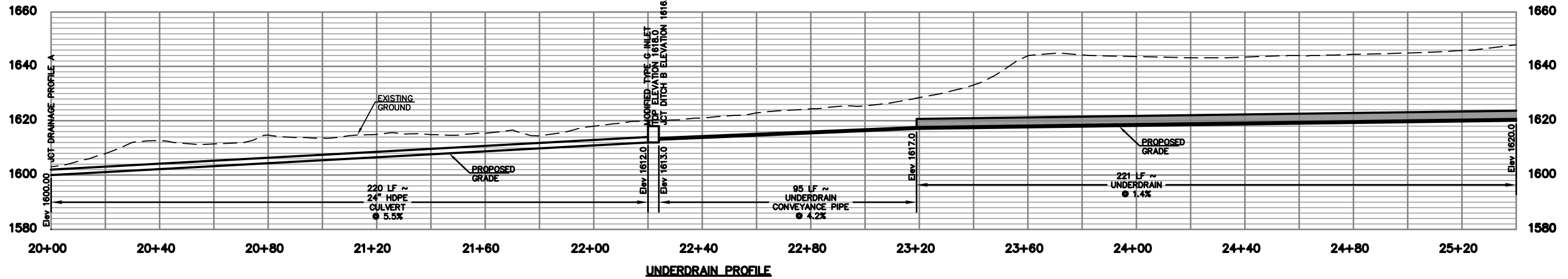
**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS AND RECLAMATION**

**SUGARCAMP RUN BURNING
REFUSE PHASE II
SHEET 2 TAX MAP OVERLAY**

NICHOLAS COUNTY WEST VIRGINIA	SCALE: 1" = 50'	DATE: AUGUST 2014
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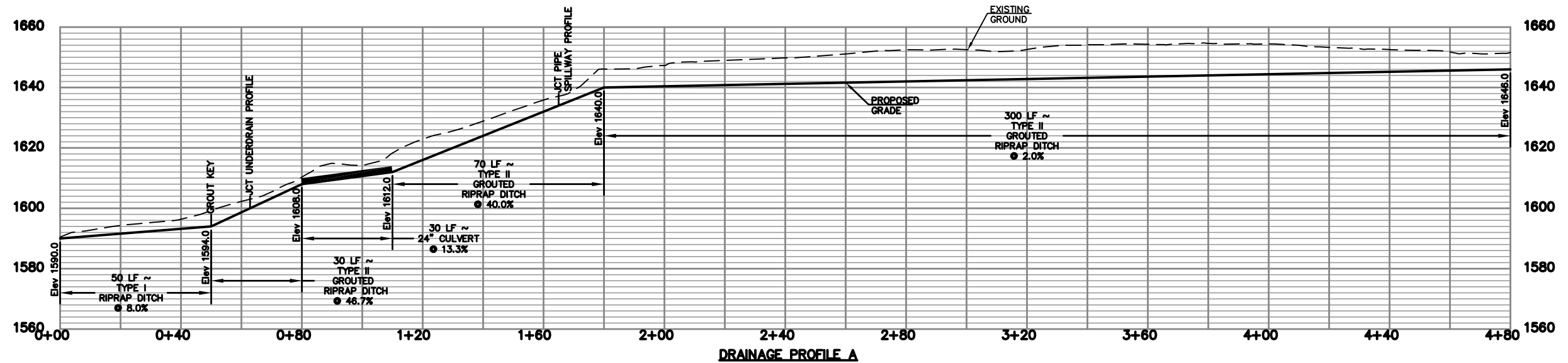
PLANS PREPARED BY
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www.elrobinsonengineering.com

SHEET 10



DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
UNDERDRAIN PROFILE					
20+00		24" HDPE PIPE	1600.00	5.5	JCT DRAINAGE PROFILE A
22+20		MODIFIED TYPE G INLET	1612.0		
22+24		CONVEYANCE PIPE	1613.0	4.2	
23+19		UNDERDRAIN	1617.0	1.4	
25+40		UNDERDRAIN	1620.0		
POND PIPE SPILLWAY PROFILE					
30+00		24" HDPE CULVERT	1634.0	1.0	JCT DRAINAGE PROFILE A
33+90		GROUTED RIPRAP	1638.0		

DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
DRAINAGE PROFILE A					
0+00	I	RIPRAP	1590.0	8.0	BEGIN TYPE I RIPRAP DITCH
0+50	II	GROUTED RIPRAP	1594.0	46.7	
0+63	II	GROUTED RIPRAP	1600.00	46.7	JCT UNDERDRAIN PROFILE
0+80		24" HDPE	1608.0	13.3	
1+10	II	GROUTED RIPRAP	1612.0	40.0	
1+65	II	GROUTED RIPRAP	1634.0	40.0	JCT PIPE SPILLWAY PROFILE
1+80	II	GROUTED RIPRAP	1640.0	2.0	
4+80	II	GROUTED RIPRAP	1646.0		
DRAINAGE PROFILE B					
0+00	III	GROUTED RIPRAP	1616.0	5.0	JCT MODIFIED TYPE G INLET
0+80	III	GROUTED RIPRAP	1620.0	20.0	JCT DRAINAGE PROFILE C
1+00	III	GROUTED RIPRAP	1624.0	40.0	
1+65	III	GROUTED RIPRAP	1650.0		
DRAINAGE PROFILE C					
0+00	III	GROUTED RIPRAP	1620.0	10.0	JCT DRAINAGE PROFILE B
0+40	III	GROUTED RIPRAP	1624.0	27.5	
1+20	III	GROUTED RIPRAP	1646.0		



NO.	DATE	REVISION	BY

PROJECT INFORMATION

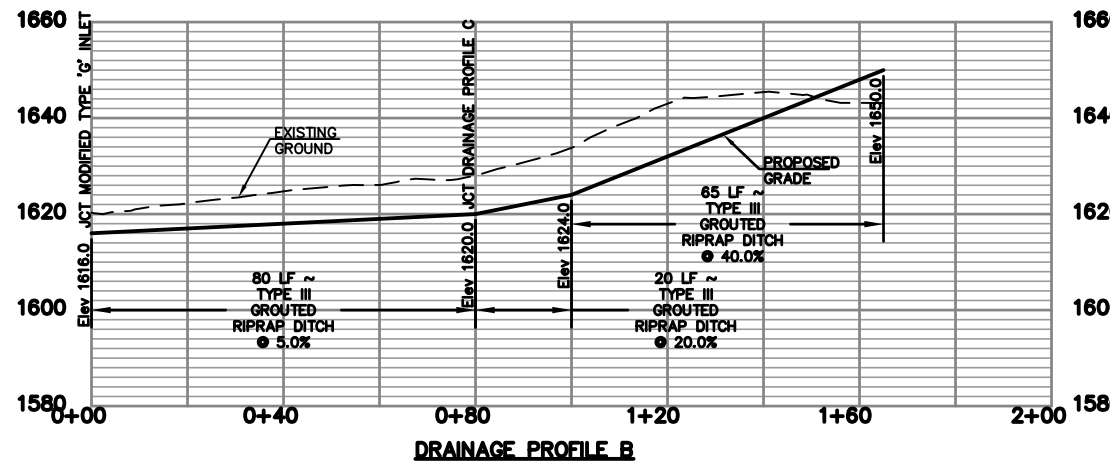
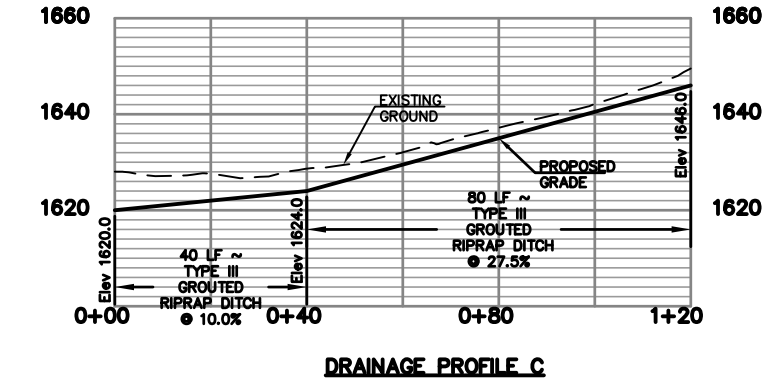
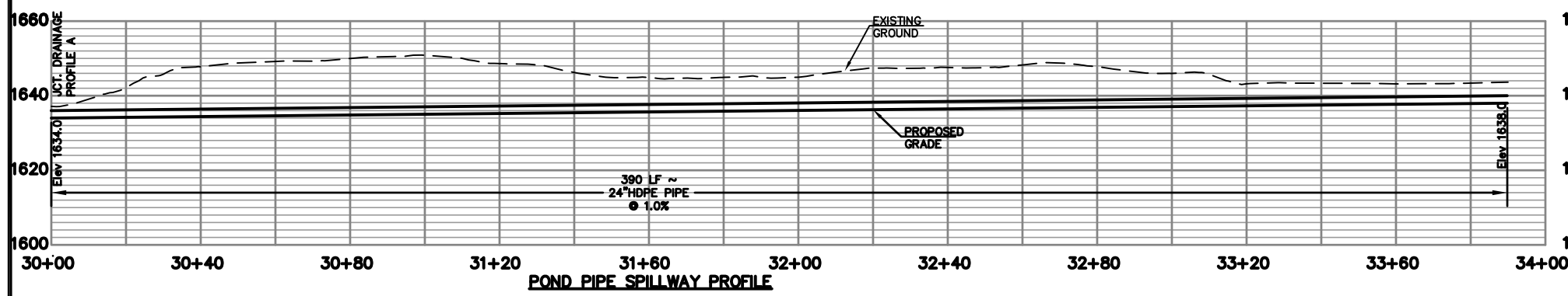
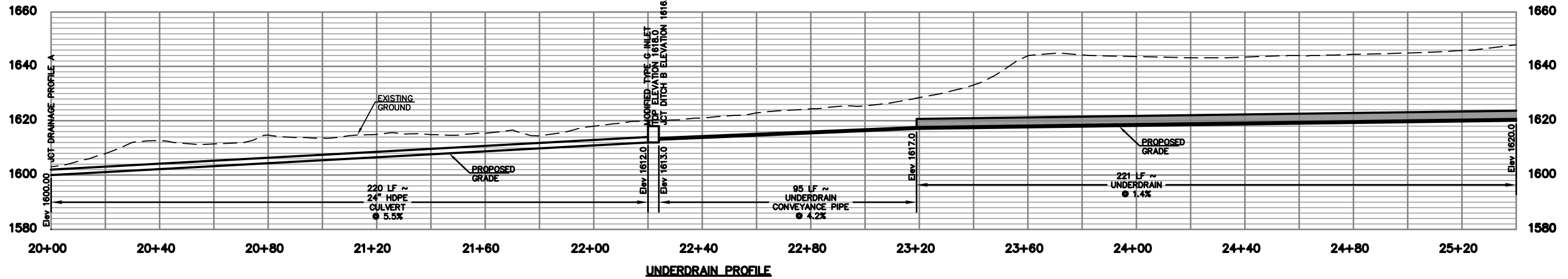
West Virginia
DEP
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
DRAINAGE PROFILE
A, B, C, UNDERDRAIN, AND
POND PIPE SPILLWAY

DATE
AUGUST 2014

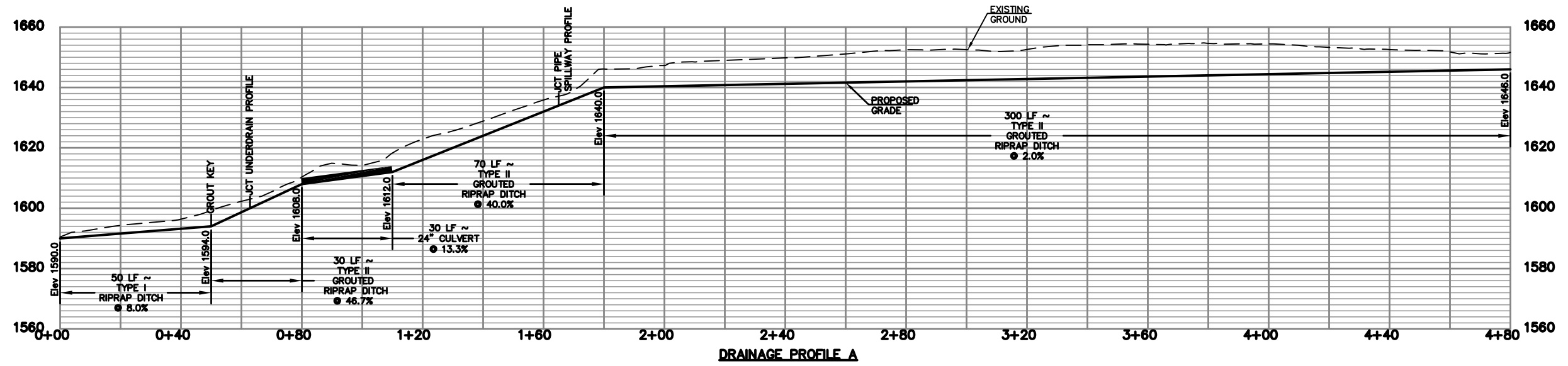
SCALE
1" = 20'

DRAWING NUMBER
11



DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
UNDERDRAIN PROFILE					
20+00		24" HDPE PIPE	1600.00	5.5	JCT DRAINAGE PROFILE A
22+20		MODIFIED TYPE G INLET	1612.0		
22+24		CONVEYANCE PIPE	1613.0	4.2	
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POND PIPE SPILLWAY PROFILE					
30+00		24" HDPE CULVERT	1634.0	1.0	JCT DRAINAGE PROFILE A
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DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
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DRAINAGE PROFILE B					
0+00	III	GROUTED RIPRAP	1616.0	5.0	JCT MODIFIED TYPE G INLET
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DRAINAGE PROFILE C					
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1+20	III	GROUTED RIPRAP	1646.0		



NO.	DATE	REVISION	BY

PROJECT INFORMATION

West Virginia
DEPARTMENT OF ENVIRONMENTAL PROTECTION

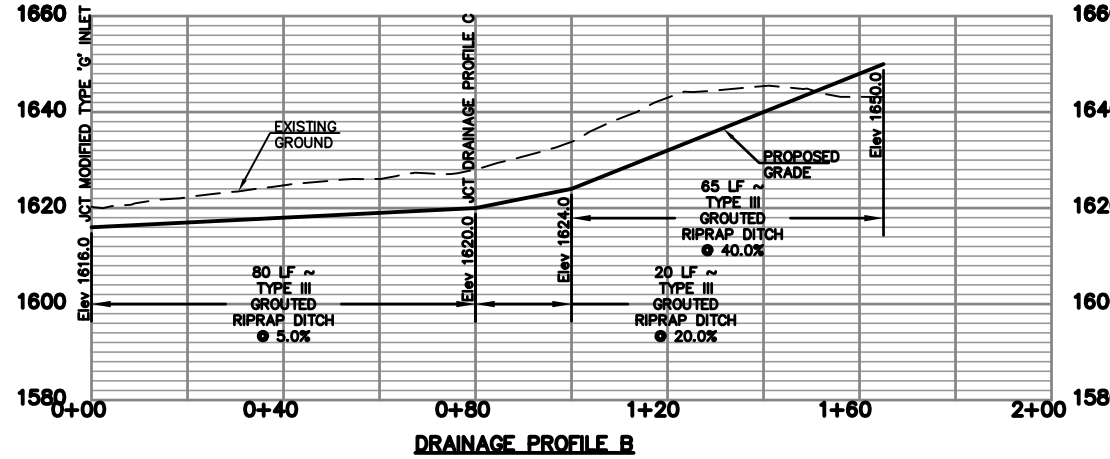
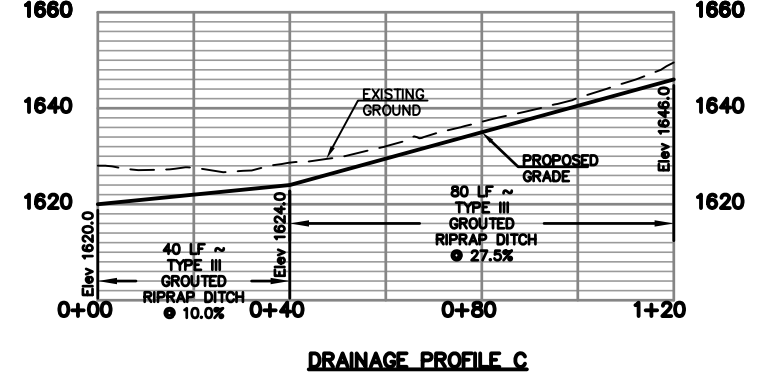
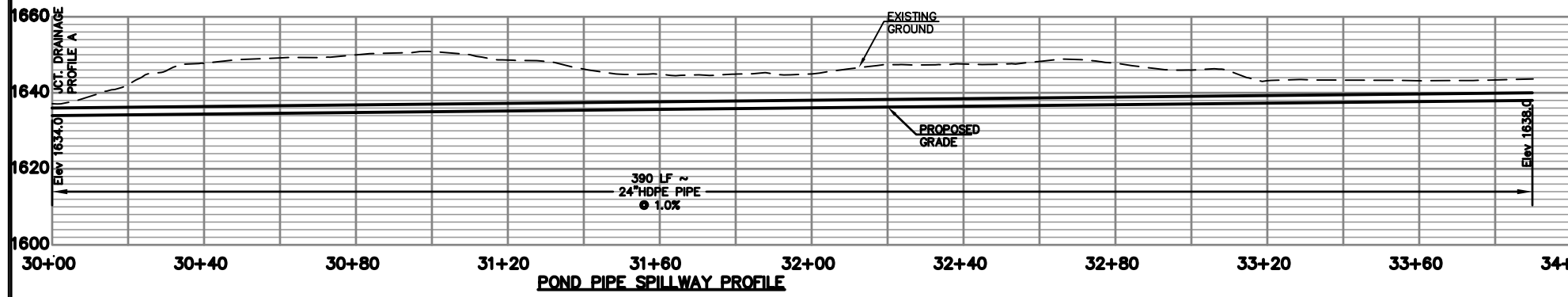
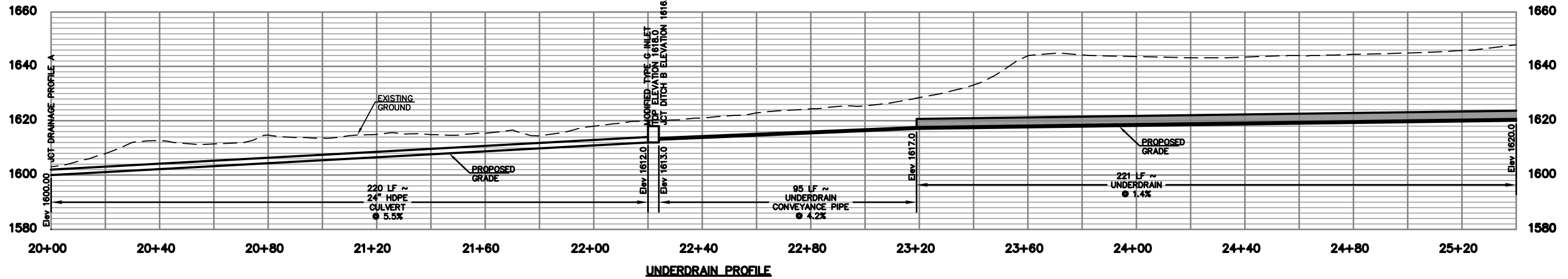
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
DRAINAGE PROFILE
A, B, C, UNDERDRAIN, AND
POND PIPE SPILLWAY

DATE
AUGUST 2014

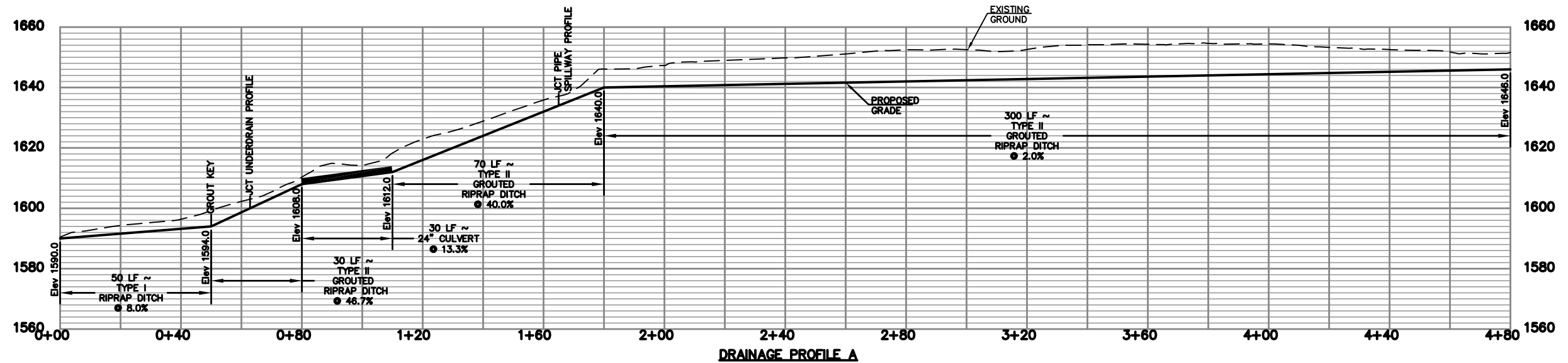
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11



DITCH STA.	TYPE	LINING	ELEVATION	SLOPE (%)	COMMENTS
UNDERDRAIN PROFILE					
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22+20		MODIFIED TYPE G INLET	1612.0		
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West Virginia
DEP
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

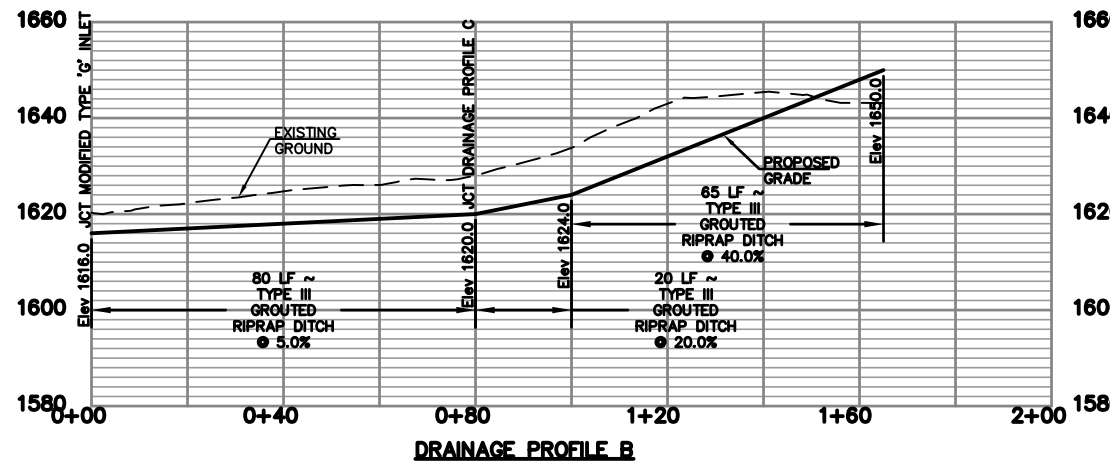
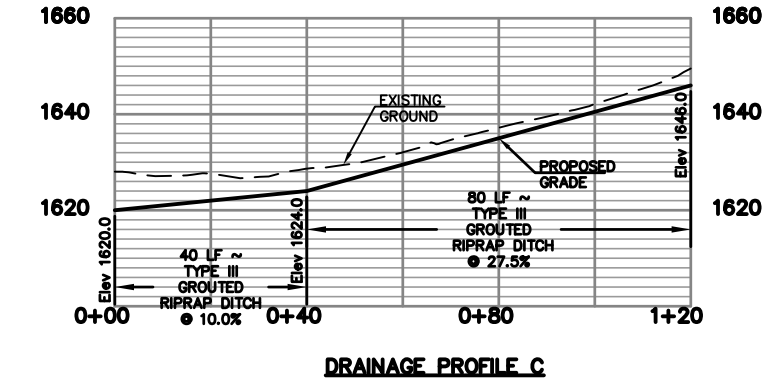
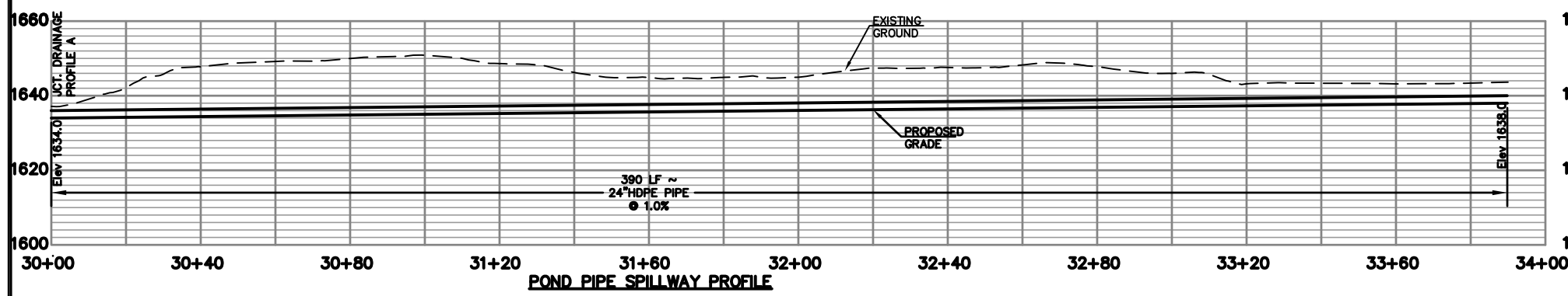
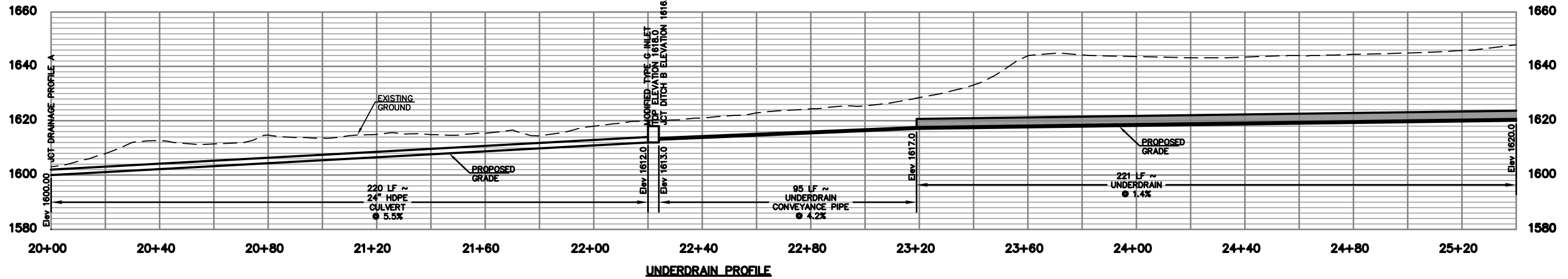
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DRAINAGE PROFILE
A, B, C, UNDERDRAIN, AND
POND PIPE SPILLWAY

DATE
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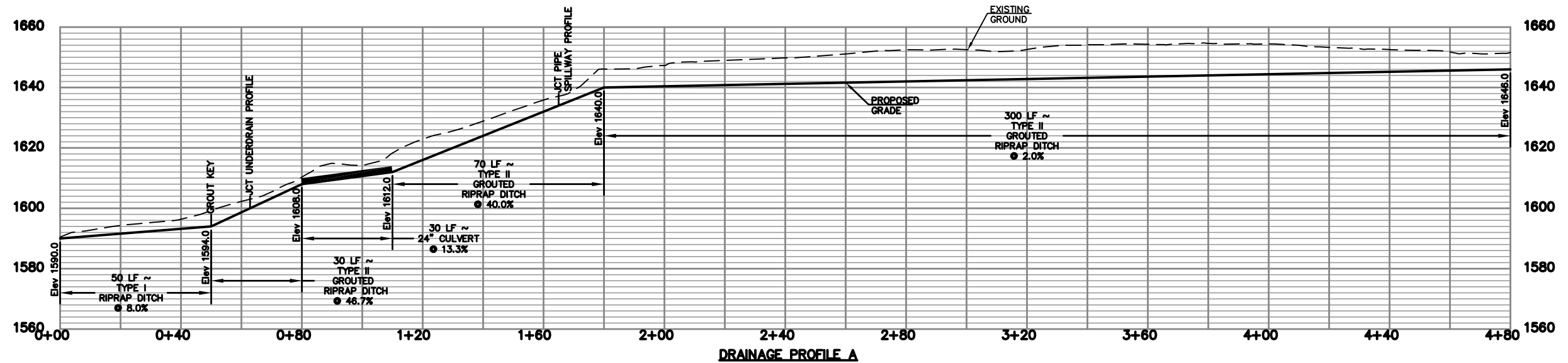
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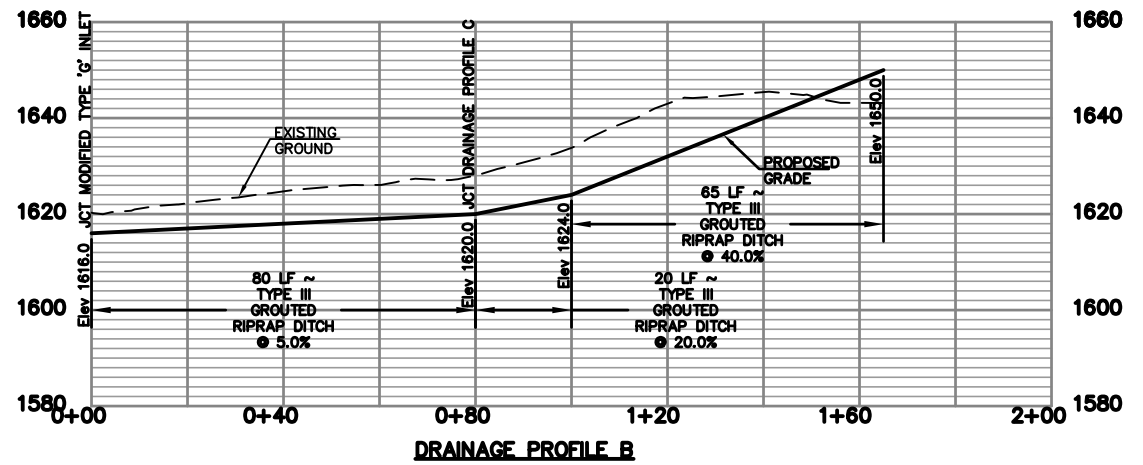
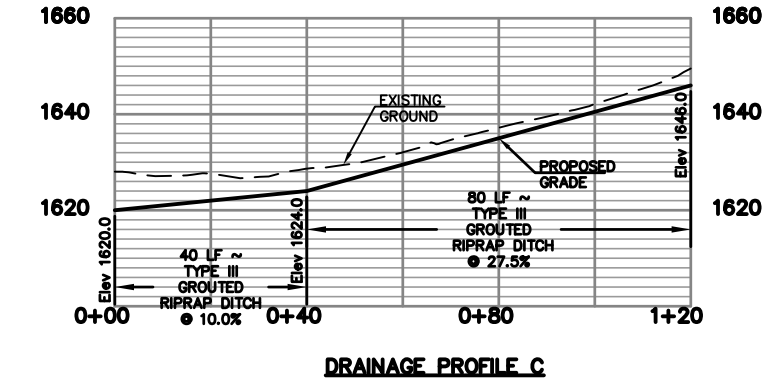
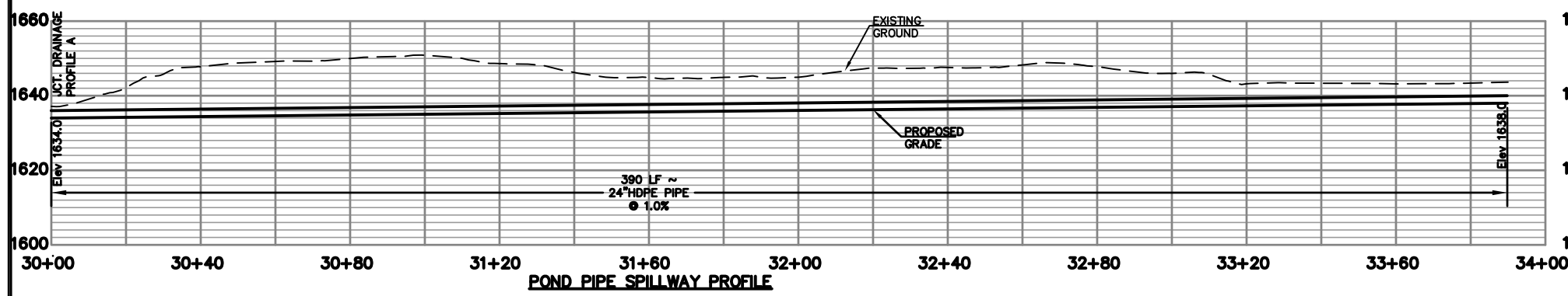
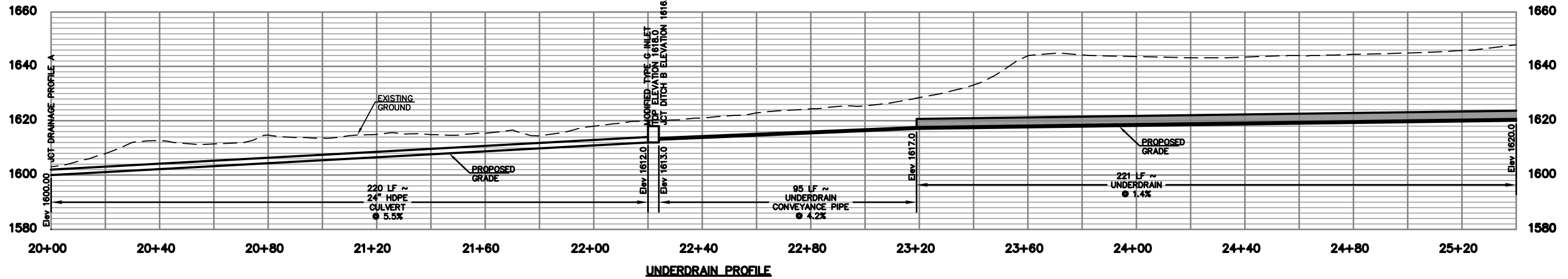
West Virginia
DEP
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
DRAINAGE PROFILE
A, B, C, UNDERDRAIN, AND
POND PIPE SPILLWAY

DATE
AUGUST 2014

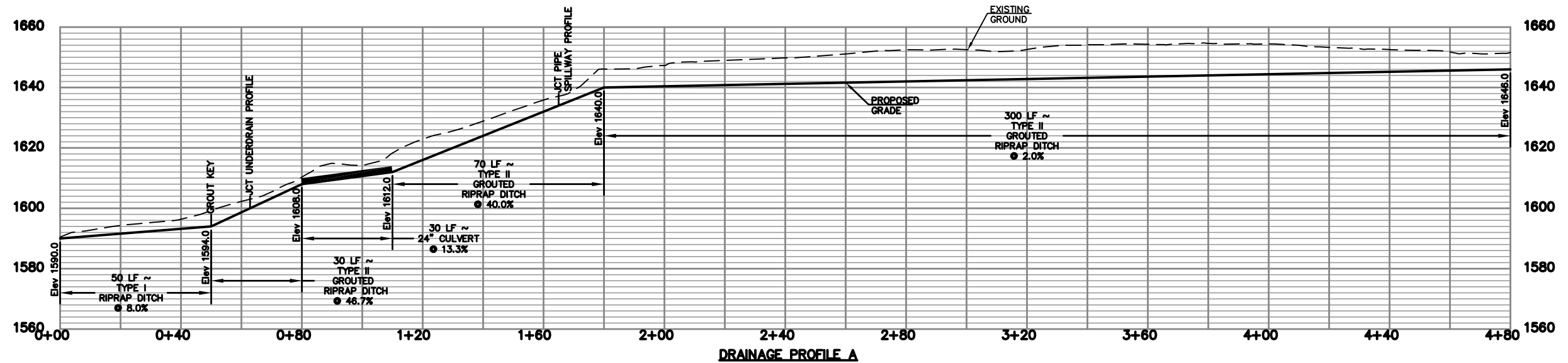
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DRAWING NUMBER
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DEP
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE

DRAINAGE PROFILE
A, B, C, UNDERDRAIN, AND
POND PIPE SPILLWAY

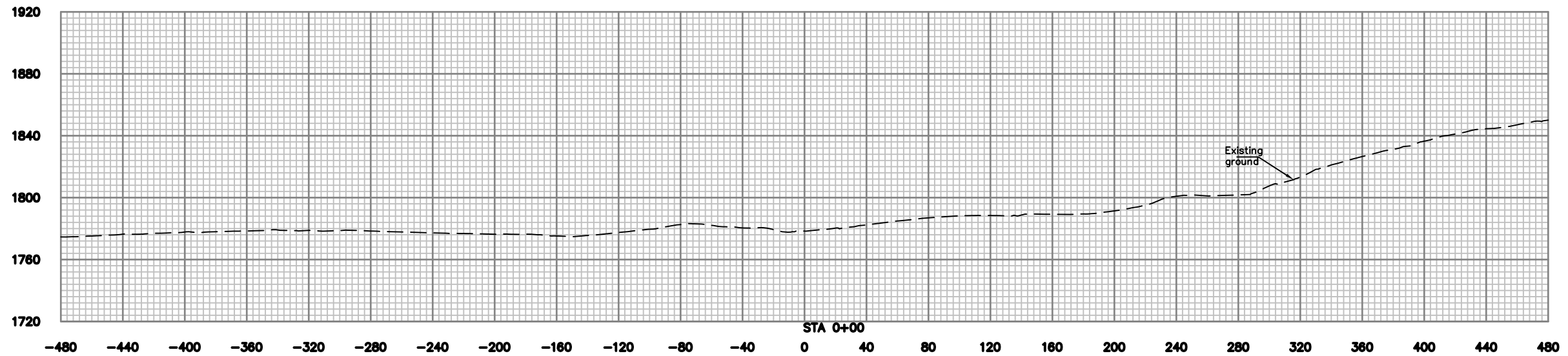
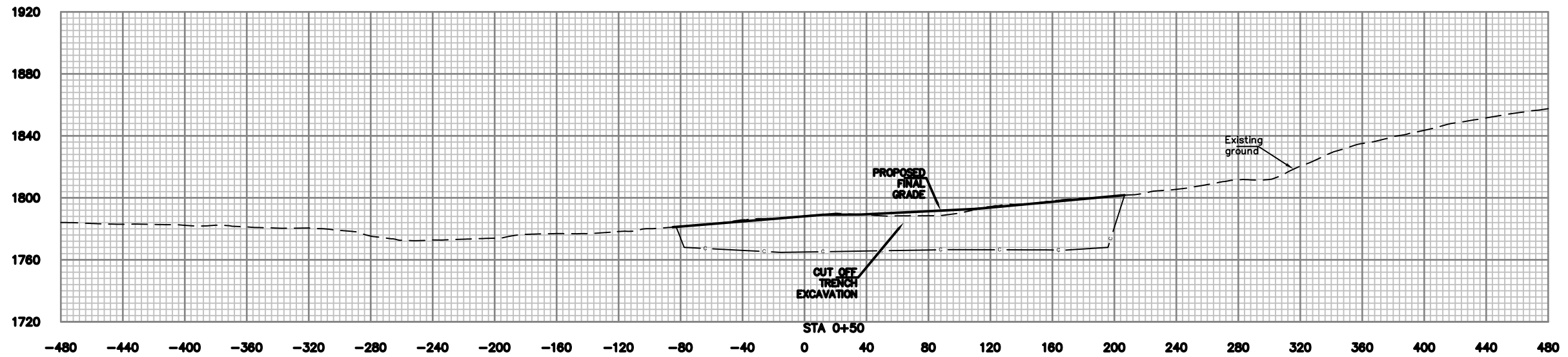
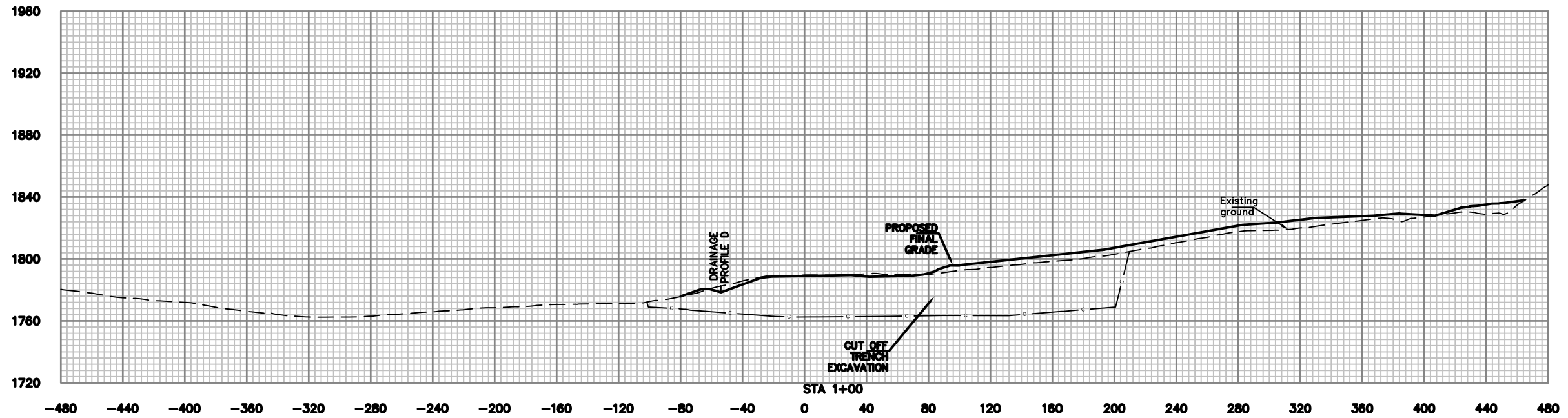
DATE
AUGUST 2014

SCALE
1" = 20'

DRAWING NUMBER
11

LEGEND

- EXISTING GROUND
- PROPOSED FINAL GRADE
- EXCAVATION LIMIT



**E.L. ROBINSON
ENGINEERING**

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

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PROJECT INFORMATION

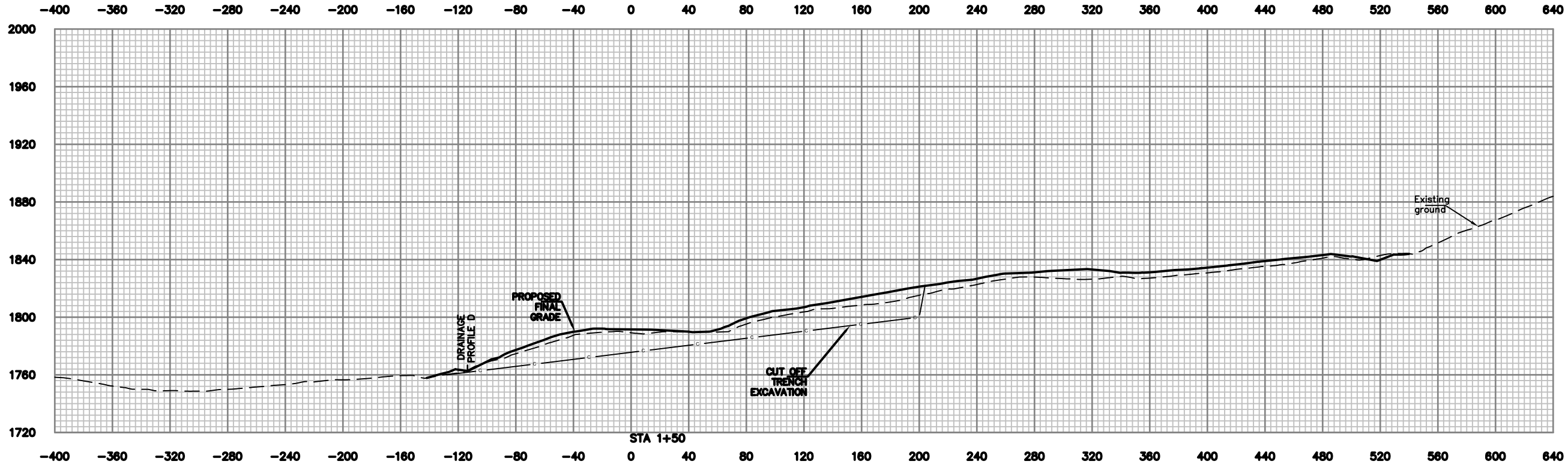
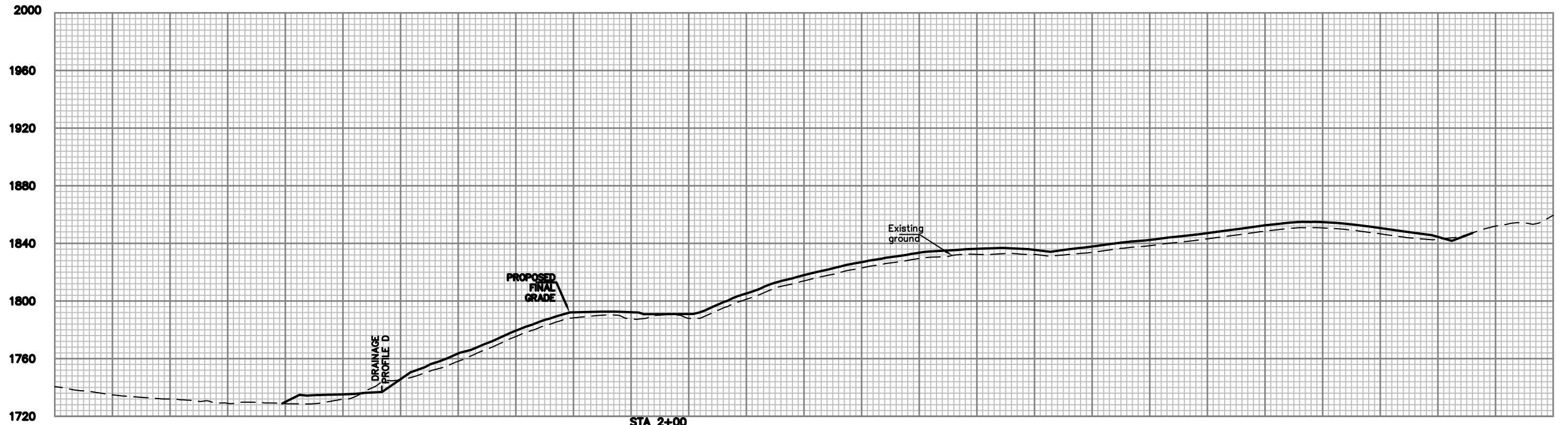
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
CROSS SECTIONS
STA. 0+00 TO STA. 1+00

DATE
AUGUST 2015

SCALE
1"=40'

DRAWING NUMBER
16

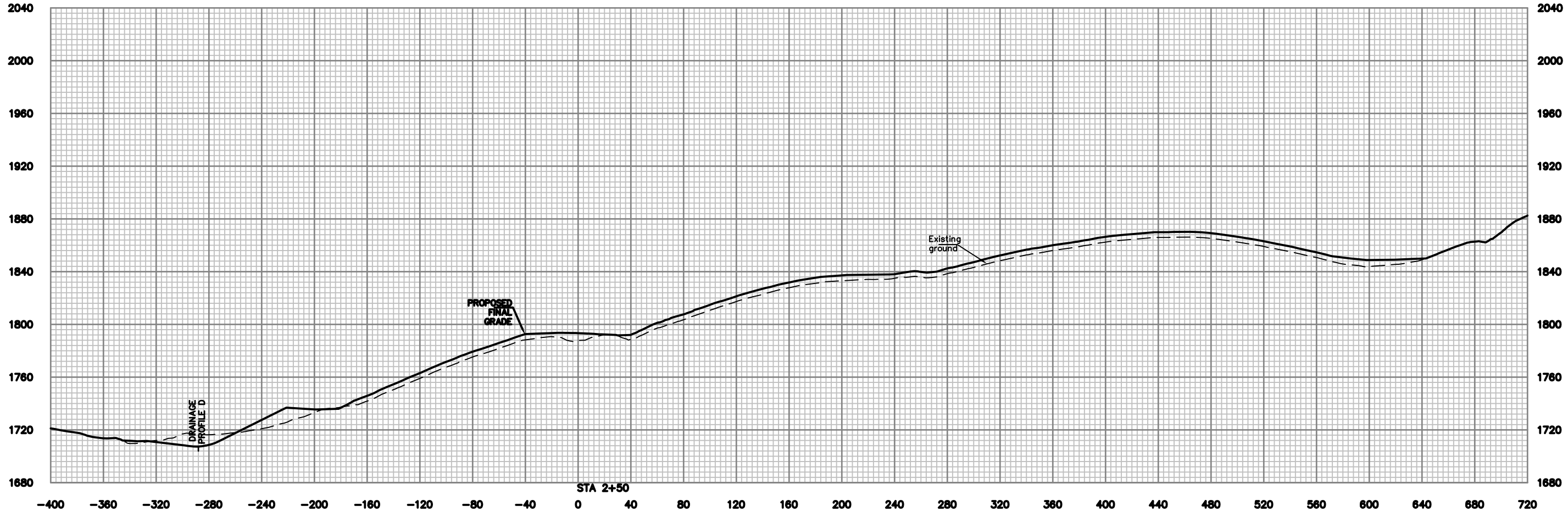
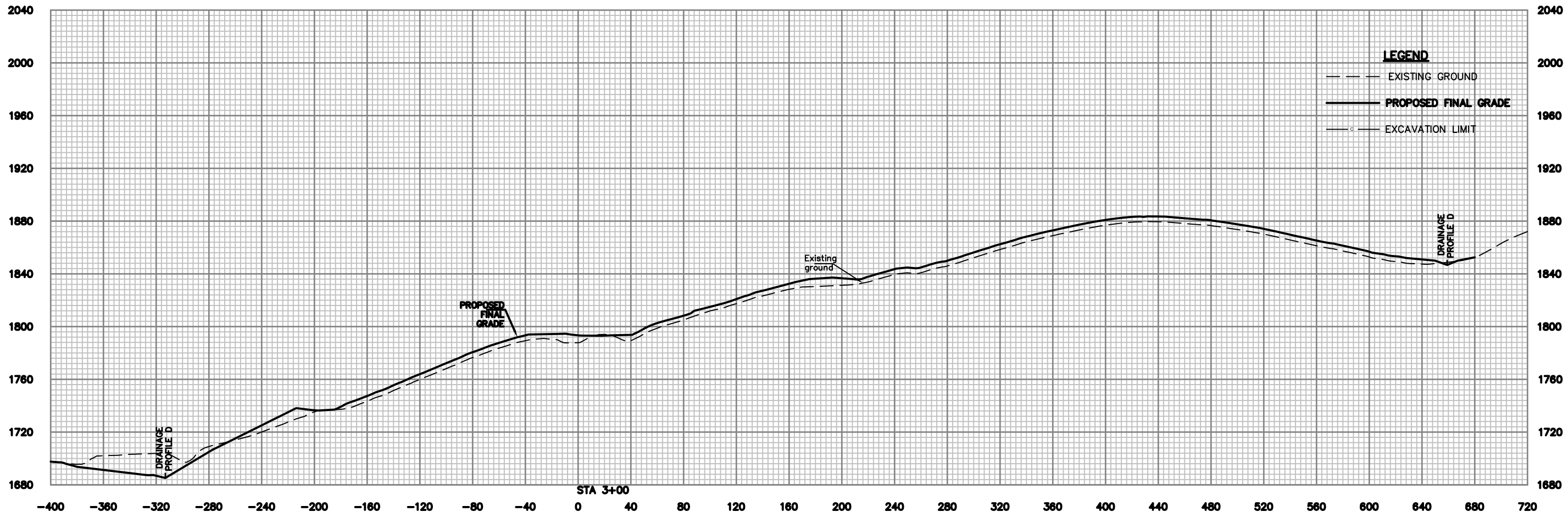


NO.	DATE	REVISION	BY

PROJECT INFORMATION

 SUGARCAMP RUN BURNING REFUSE PHASE II
 NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
 CROSS SECTIONS
 STA. 1+50 TO 2+00



**E.L. ROBINSON
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NO.	DATE	REVISION	BY

PROJECT INFORMATION
west virginia
dep
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
CROSS SECTIONS
STA. 2+50 TO STA. 3+00

DATE
AUGUST 2015
SCALE
1"=40'
DRAWING NUMBER
18

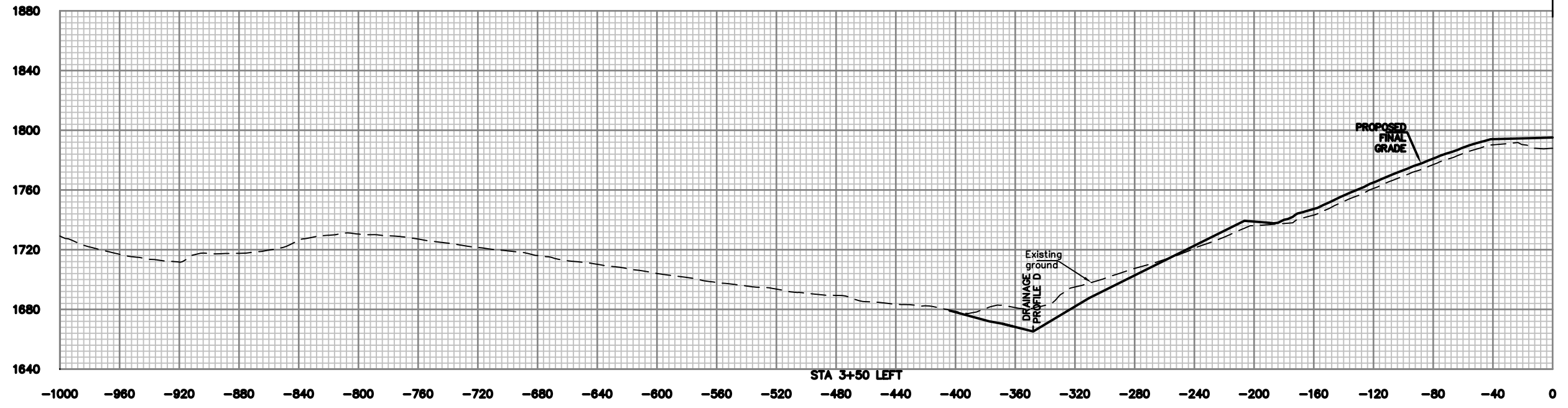
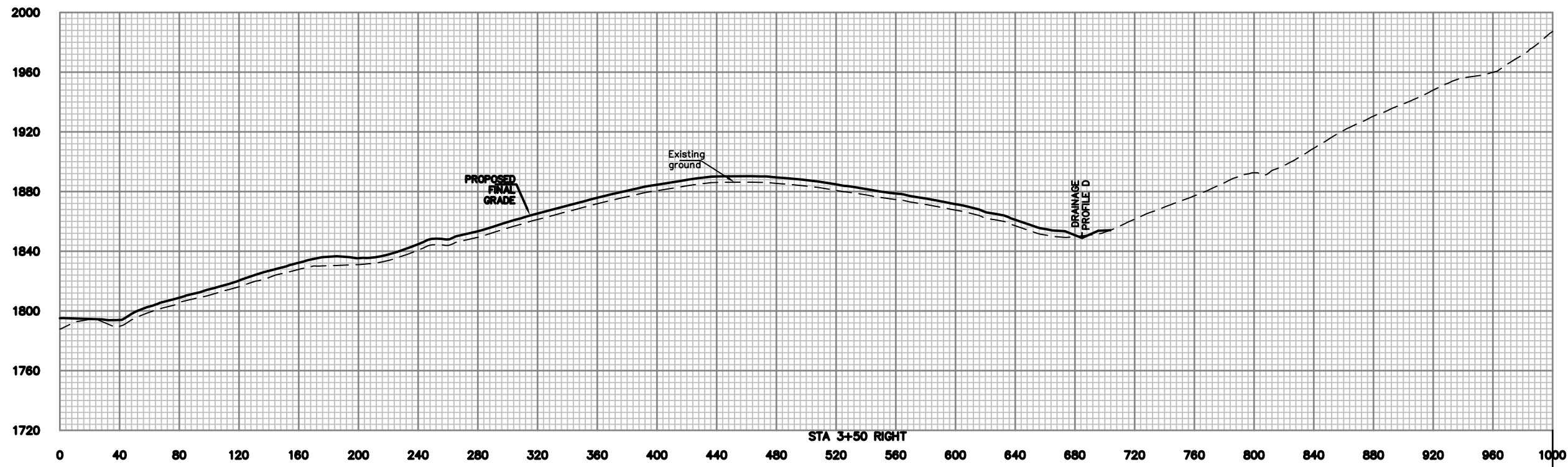
NO.	DATE	REVISION	BY

PROJECT INFORMATION

 SUGARCAMP RUN BURNING REFUSE PHASE II
 NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
 CROSS SECTIONS
 STA. 3+50
 DATE
 AUGUST 2015
 SCALE
 1"=40'
 DRAWING NUMBER
 19

- LEGEND**
- EXISTING GROUND
 - PROPOSED FINAL GRADE
 - o- EXCAVATION LIMIT

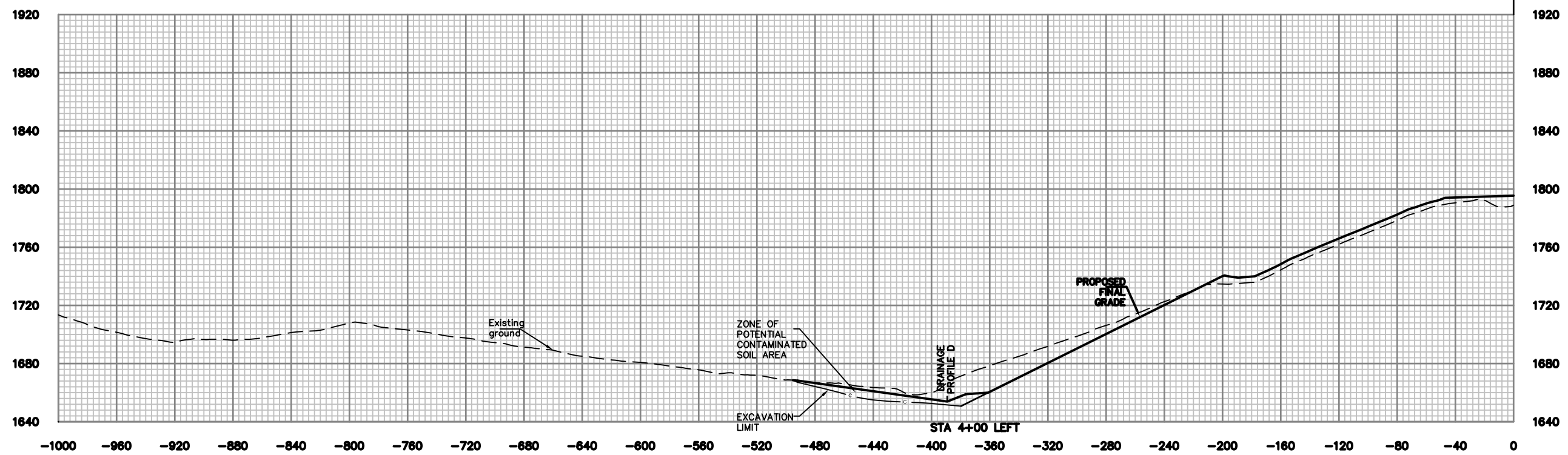
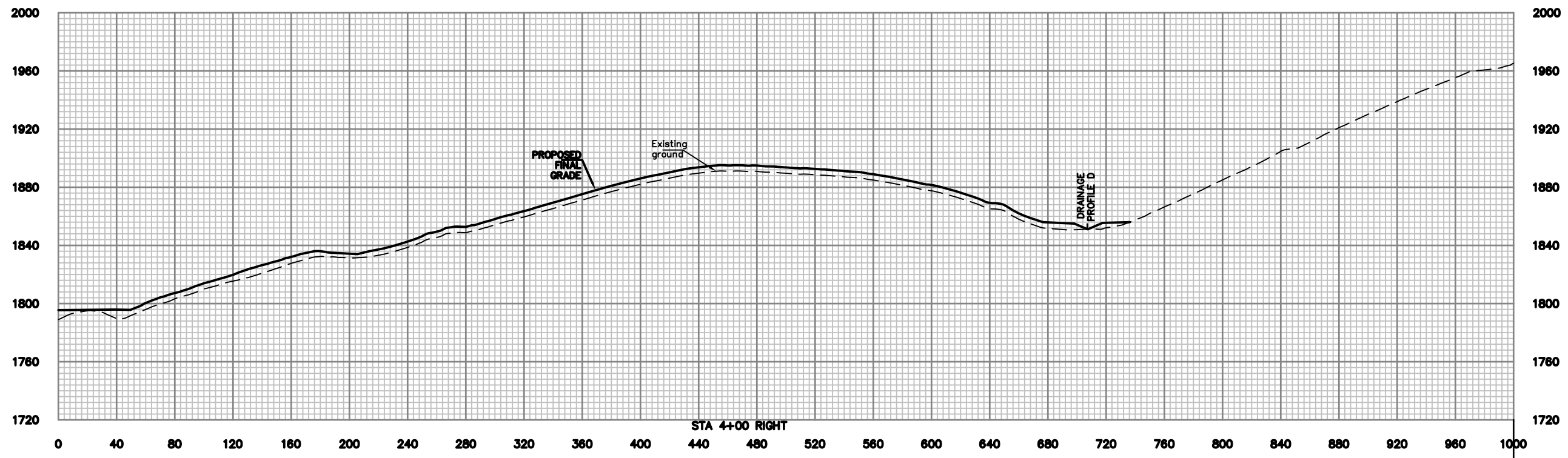


NO.	DATE	REVISION	BY

PROJECT INFORMATION
west Virginia
dep
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
CROSS SECTIONS
STA. 4+00
DATE
AUGUST 2015
SCALE
1"=40'
DRAWING NUMBER
20

LEGEND
- - - EXISTING GROUND
———— PROPOSED FINAL GRADE
—○— EXCAVATION LIMIT



NO.	DATE	REVISION	BY



DRAWING TITLE
CROSS SECTIONS
STA. 4+50

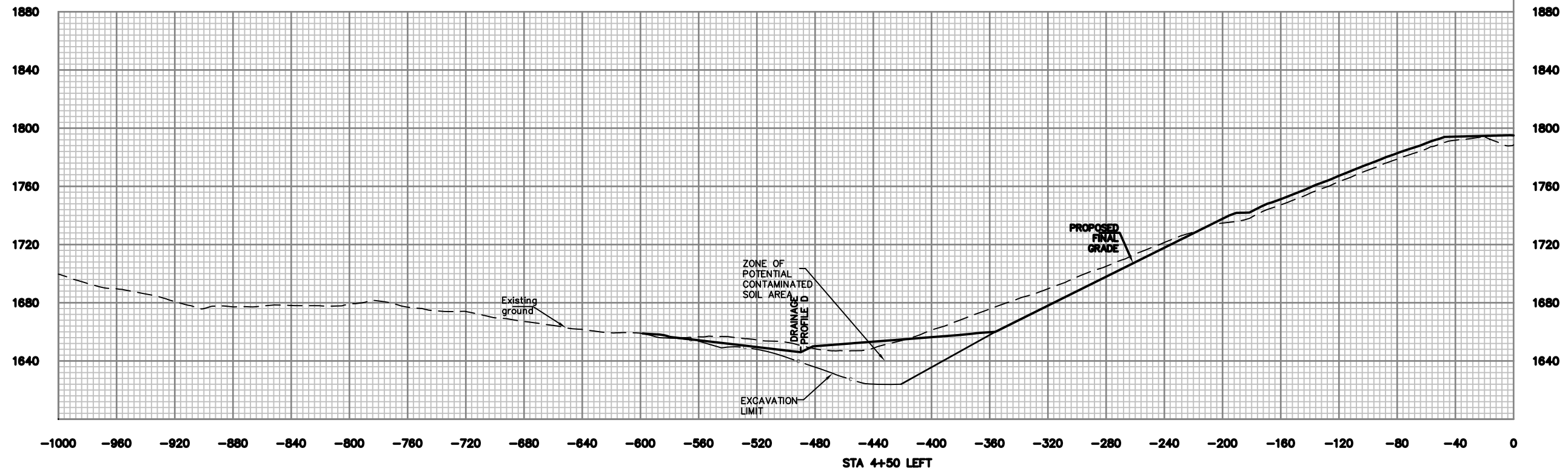
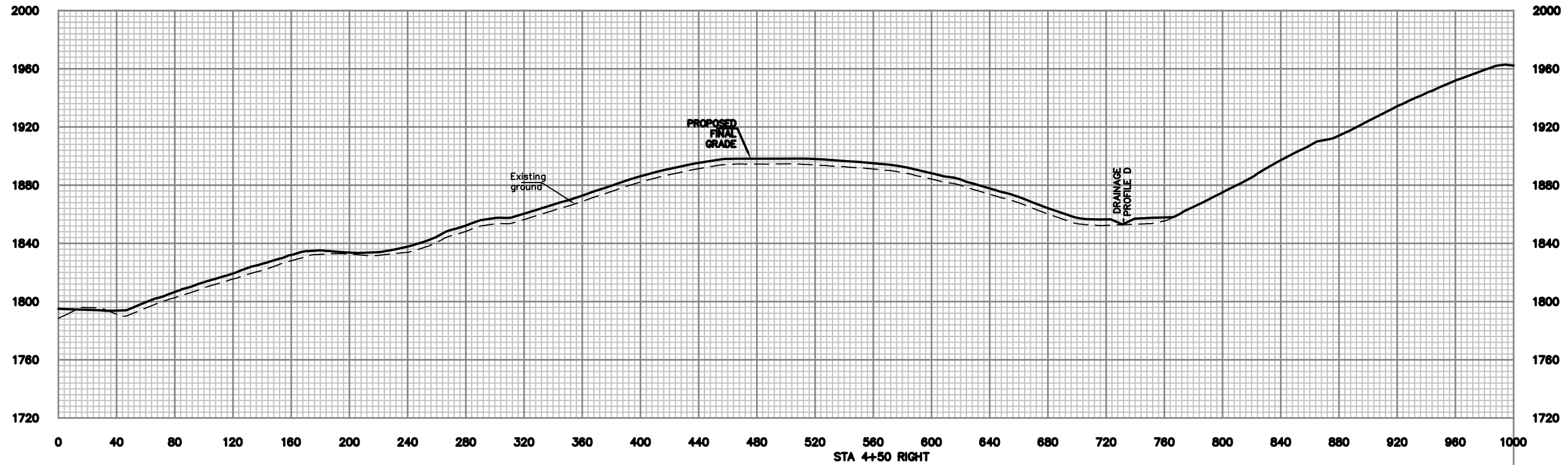
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SCALE
1"=40'

DRAWING NUMBER
21

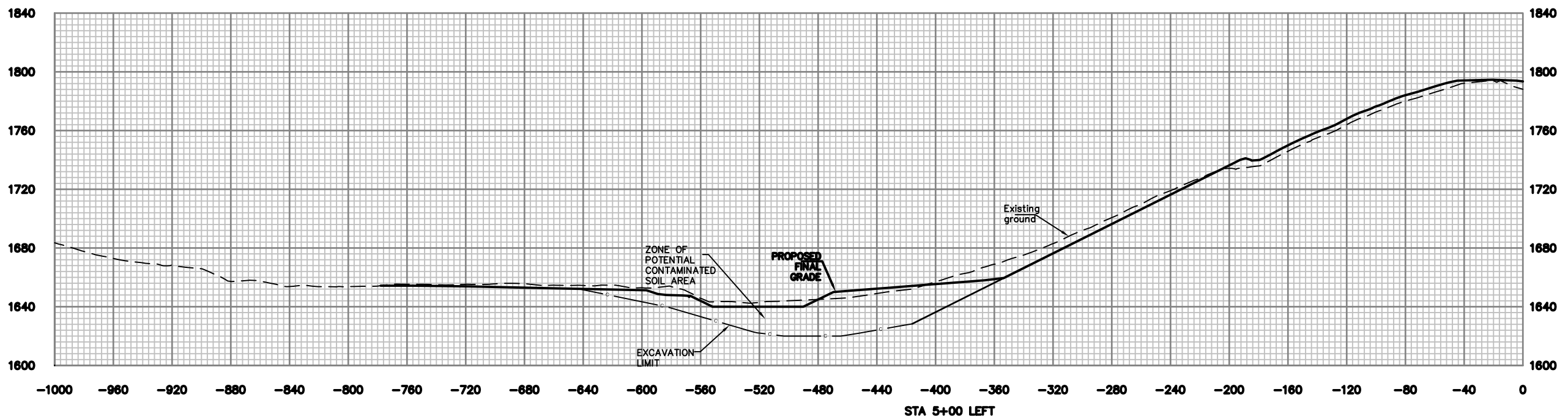
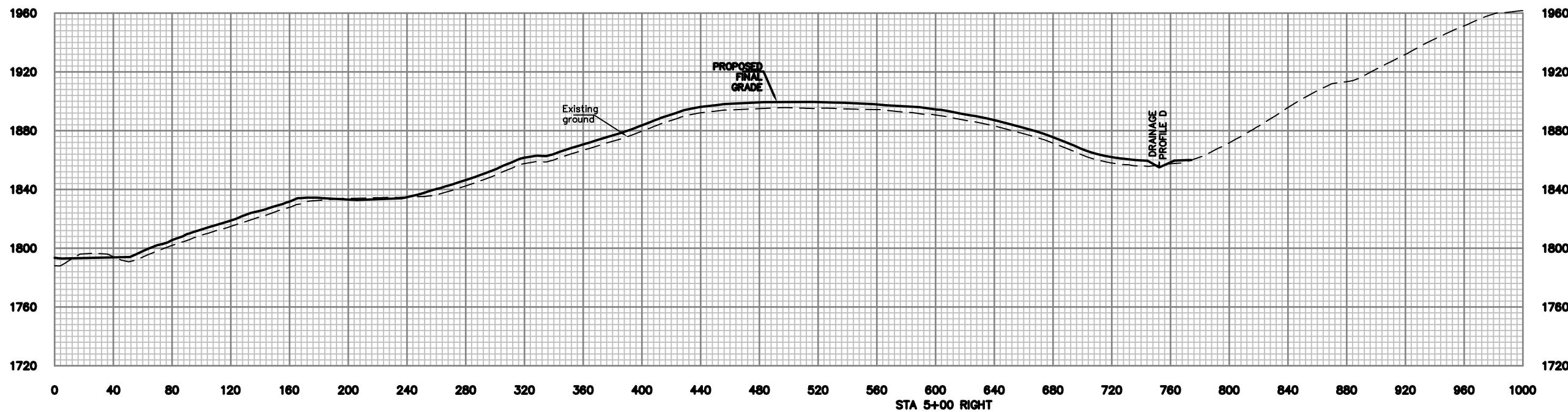
LEGEND

- EXISTING GROUND
- PROPOSED FINAL GRADE
- o- EXCAVATION LIMIT



LEGEND

- EXISTING GROUND
- PROPOSED FINAL GRADE
- o- EXCAVATION LIMIT



NO.	DATE	REVISION	BY

PROJECT INFORMATION

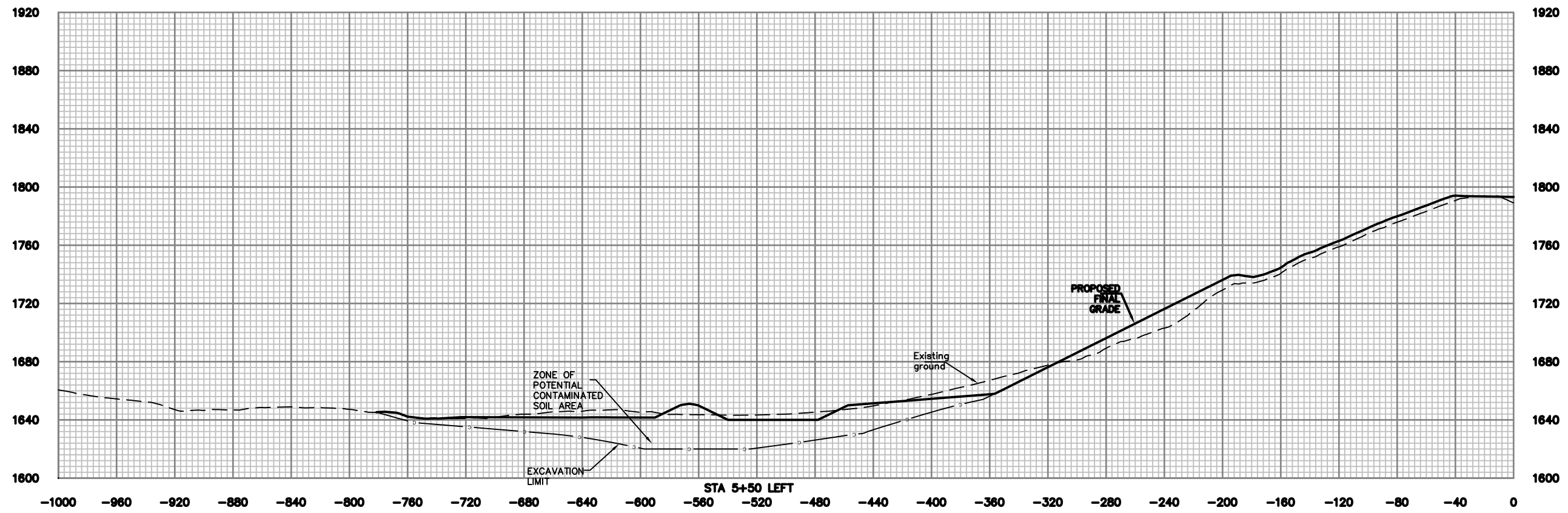
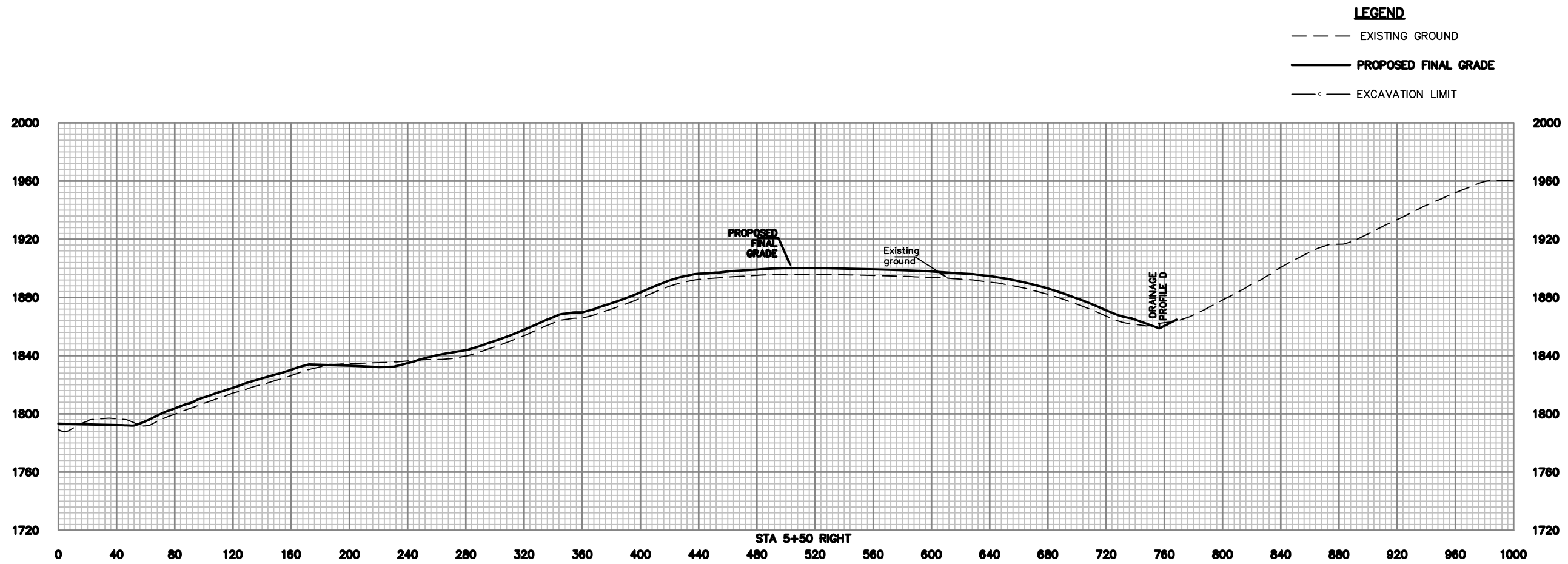
 SUGARCAMP RUN BURNING REFUSE PHASE II
 NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
 CROSS SECTIONS
 STA. 5+00

DATE
 AUGUST 2015

SCALE
 1"=40'

DRAWING NUMBER
 22



NO.	DATE	REVISION	BY



DRAWING TITLE
CROSS SECTIONS
STA. 5+50

DATE
AUGUST 2015
SCALE
1"=40'
DRAWING NUMBER
23

NO.	DATE	REVISION	BY

PROJECT INFORMATION
 west Virginia
 dep
 SUGARCAMP RUN BURNING REFUSE PHASE II
 NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
 CROSS SECTIONS
 STA. 6+00

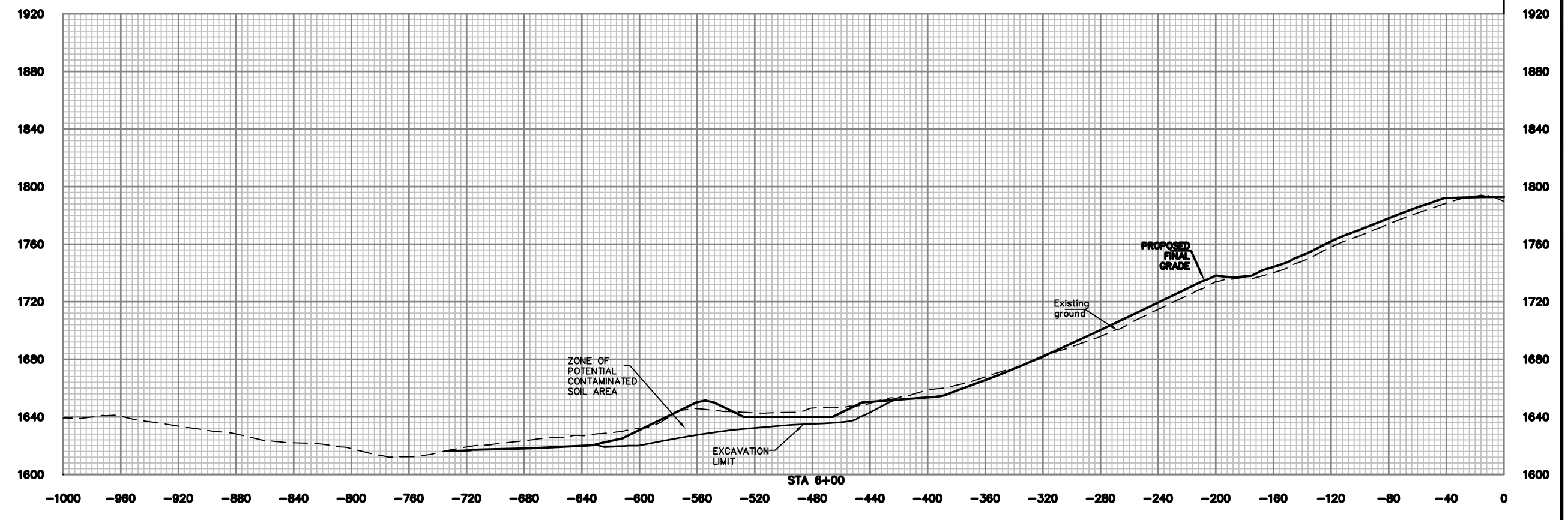
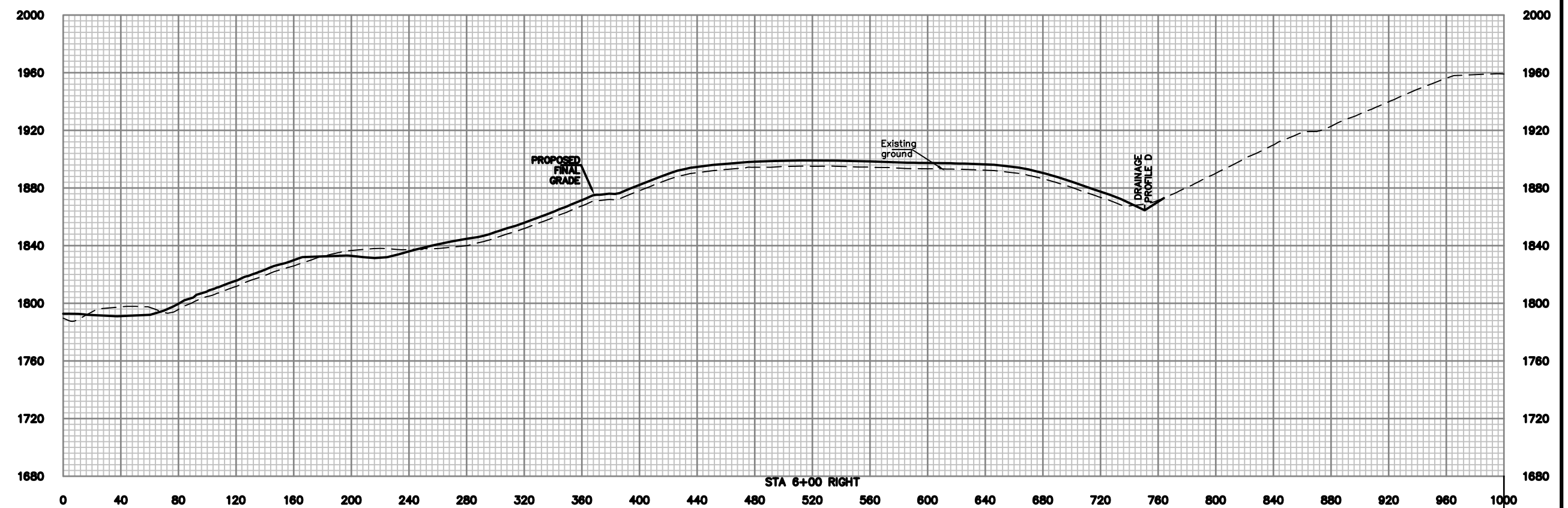
DATE
 AUGUST 2015

SCALE
 1"=40'

DRAWING NUMBER
 24

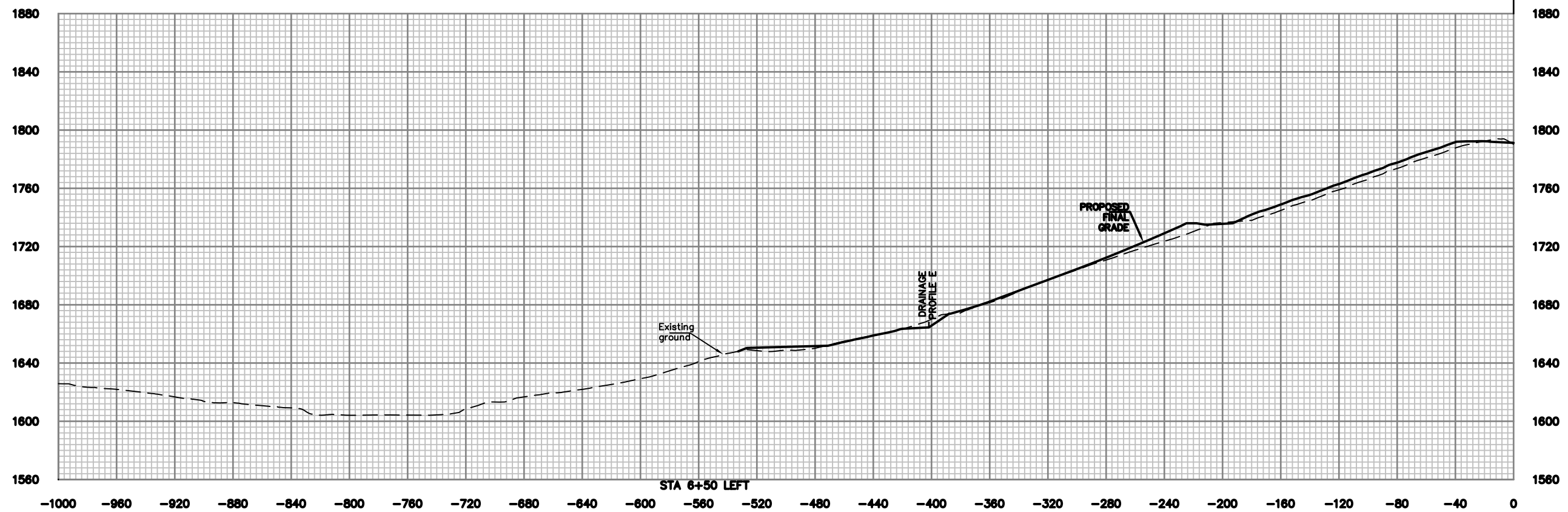
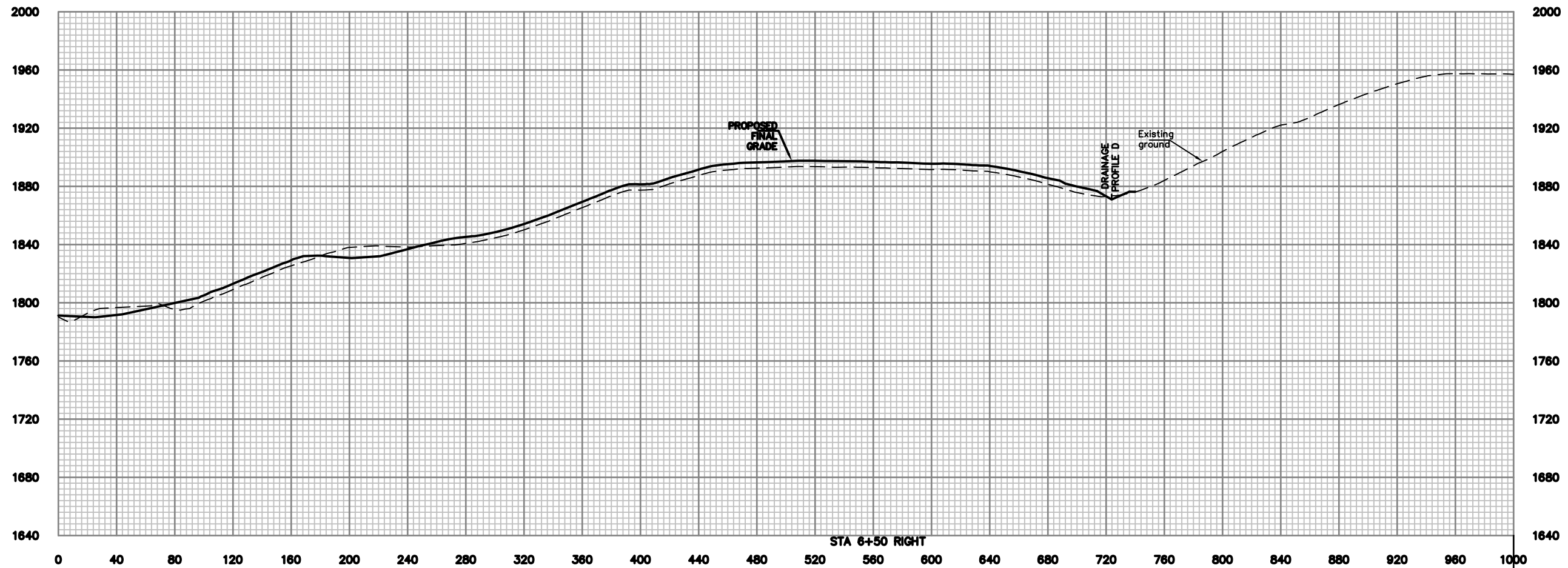
LEGEND

- EXISTING GROUND
- PROPOSED FINAL GRADE
- - - EXCAVATION LIMIT



LEGEND

- EXISTING GROUND
- PROPOSED FINAL GRADE
- - - EXCAVATION LIMIT

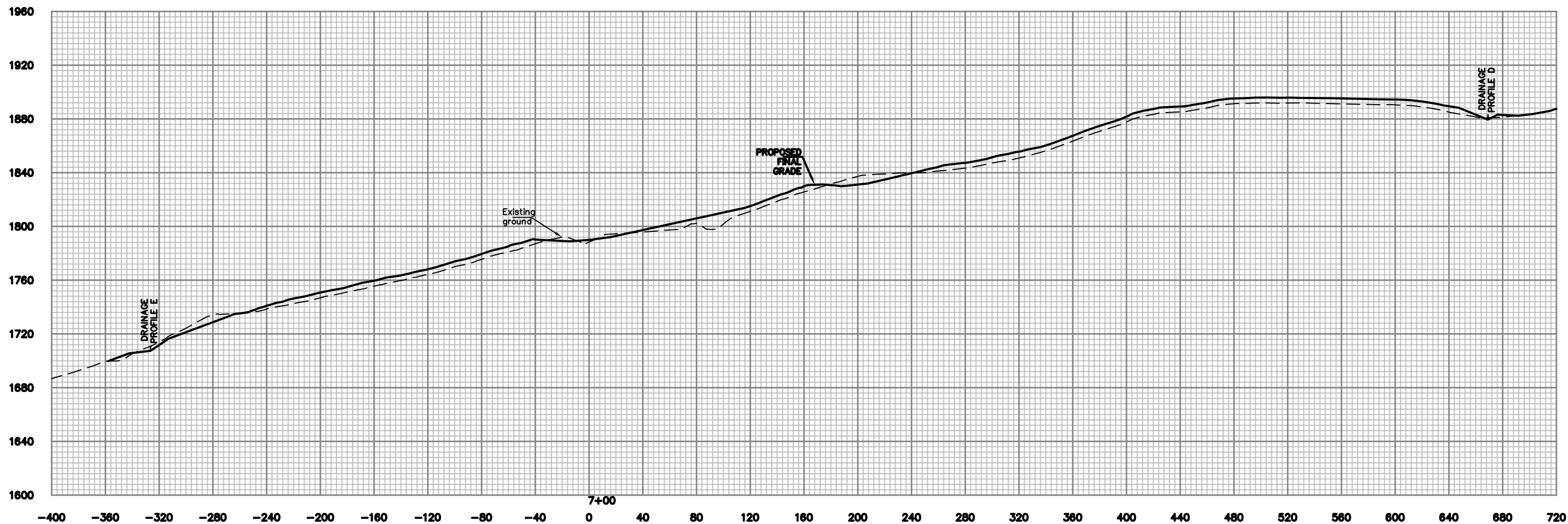
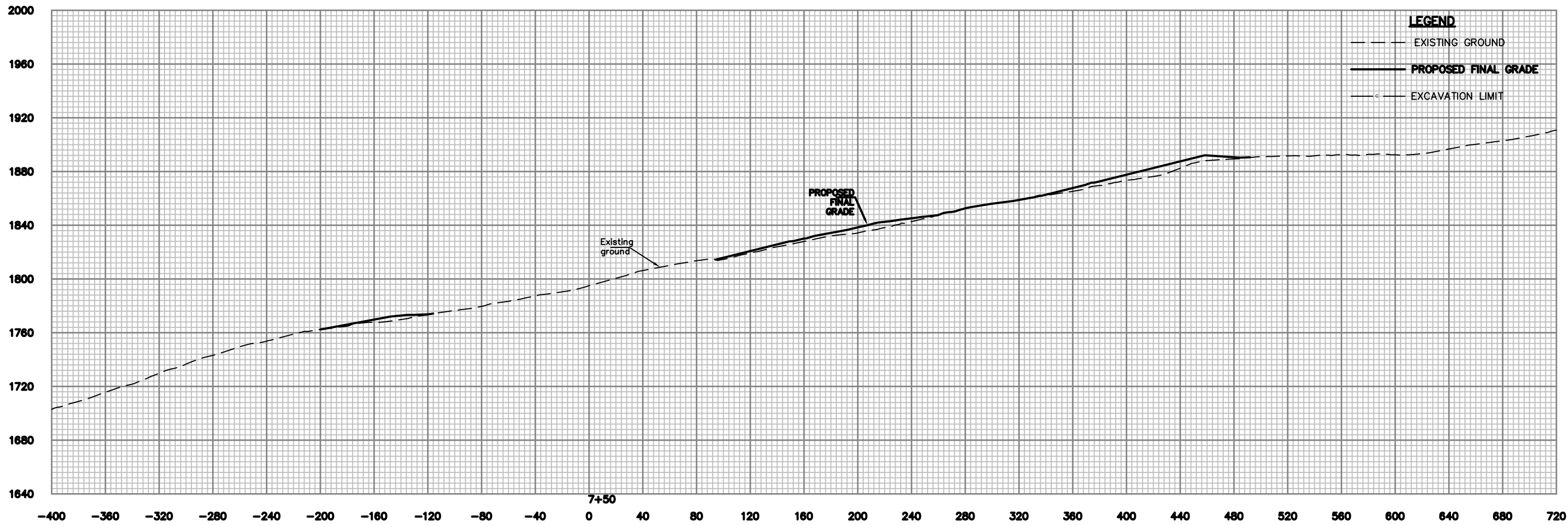


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PROJECT INFORMATION
west virginia
dep
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

DRAWING TITLE
CROSS SECTIONS
STA. 6+50
DATE
AUGUST 2015
SCALE
1"=40'
DRAWING NUMBER
25



LEGEND

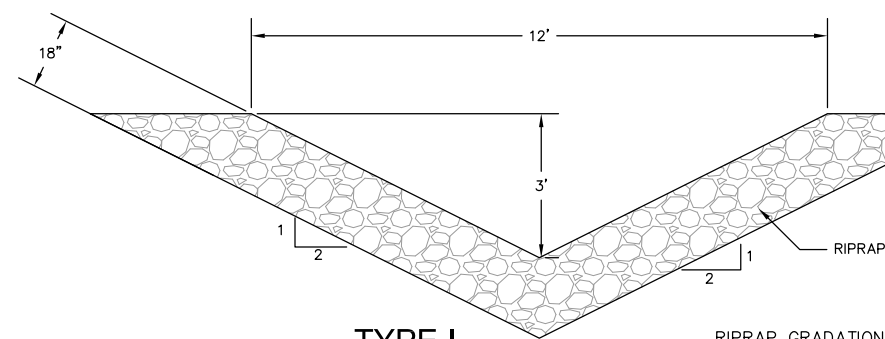
- - - EXISTING GROUND
- PROPOSED FINAL GRADE
- ⋯ EXCAVATION LIMIT

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NO.	DATE	REVISION	BY

PROJECT INFORMATION
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dep
SUGARCAMP RUN BURNING REFUSE PHASE II
NICHOLAS COUNTY, WEST VIRGINIA

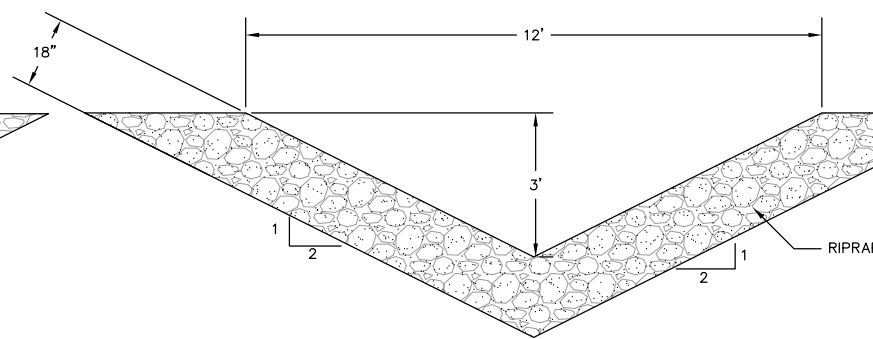
DRAWING TITLE
CROSS SECTIONS
STA. 7+00 TO 7+50
DATE
AUGUST 2015
SCALE
1"=40'
DRAWING NUMBER
26



**TYPE I
RIPRAP DITCH** ①

SCALE 1" = 2'

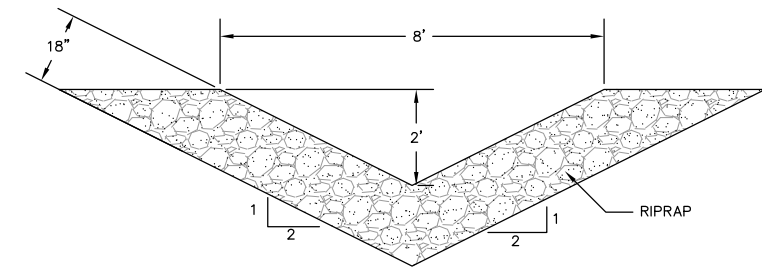
RIPRAP GRADATION	
12-18	50%
6-12	25%
3-6	25%



**TYPE II GROUTED
RIPRAP DITCH** ②

SCALE 1" = 2'

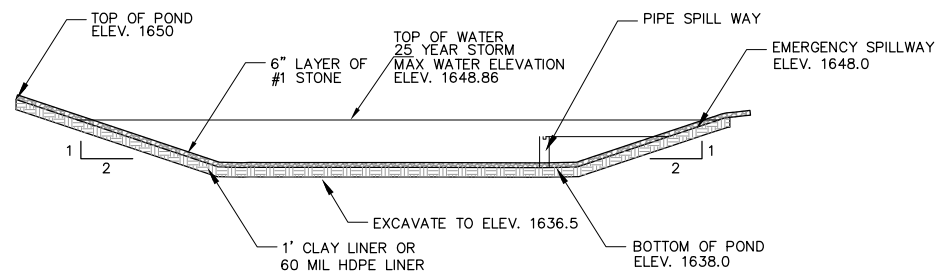
RIPRAP GRADATION	
12-18	50%
6-12	25%
3-6	25%



**TYPE III
GROUTED RIPRAP DITCH** ③

SCALE 1" = 2'

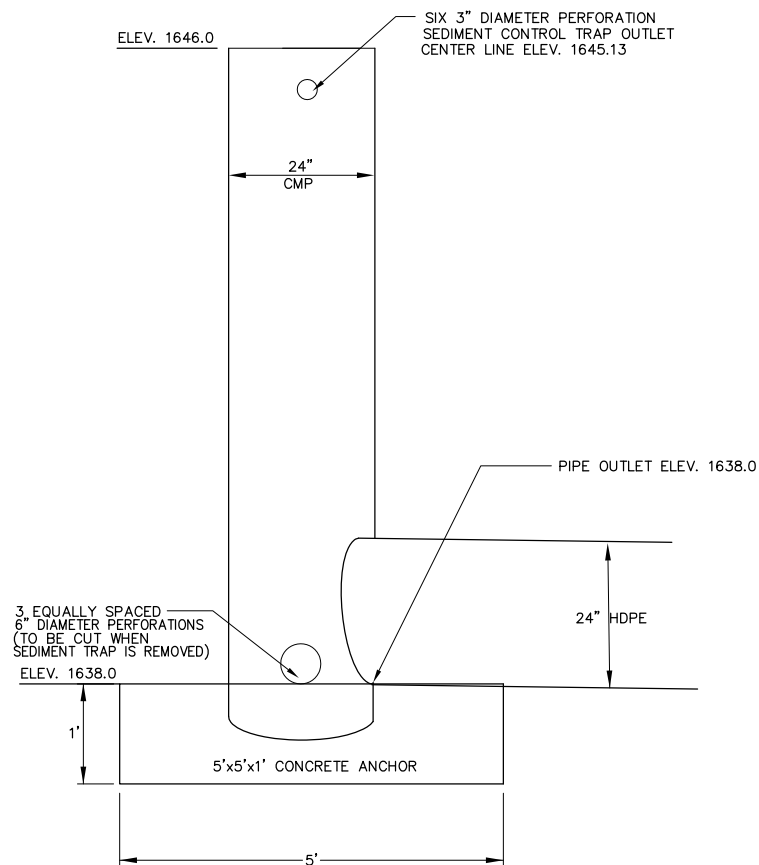
RIPRAP GRADATION	
12-18	50%
6-12	25%
3-6	25%



STORMWATER DETENTION POND 1 ④

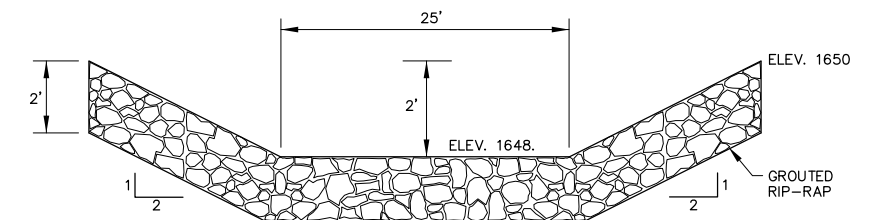
NTS

CLAY LINER SHALL BE UNIFIED SOIL CLASSIFICATION CL, OR ML-CL. LINER SHALL BE COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 STANDARD PROCTOR TEST



PRINCIPAL PIPE SPILLWAY 1 ⑤

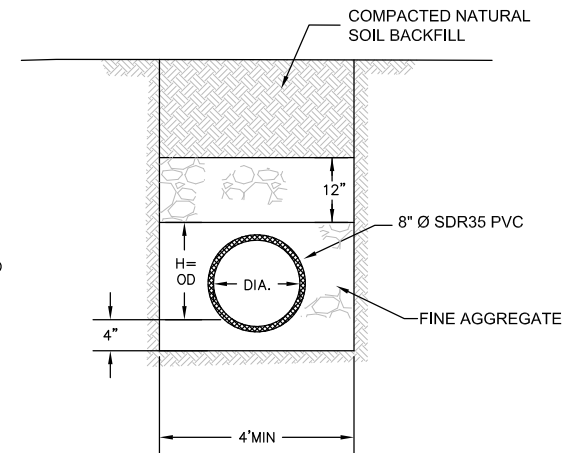
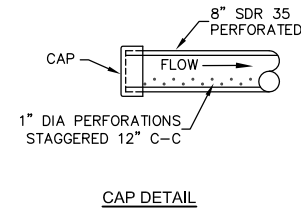
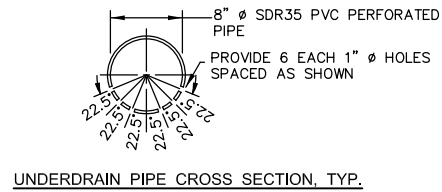
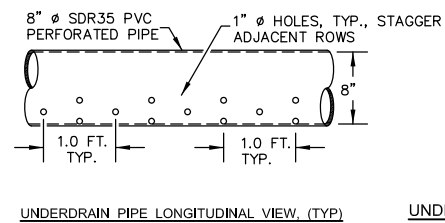
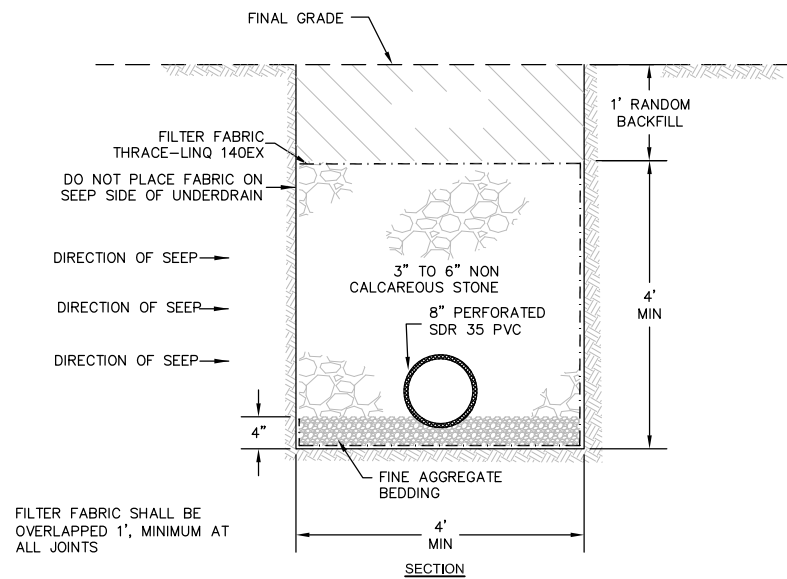
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EMERGENCY SPILLWAY AND DITCH DETAIL POND 1 ⑥

NTS

NO.	DATE	REVISION	BY



TYPICAL UNDERDRAIN DETAIL

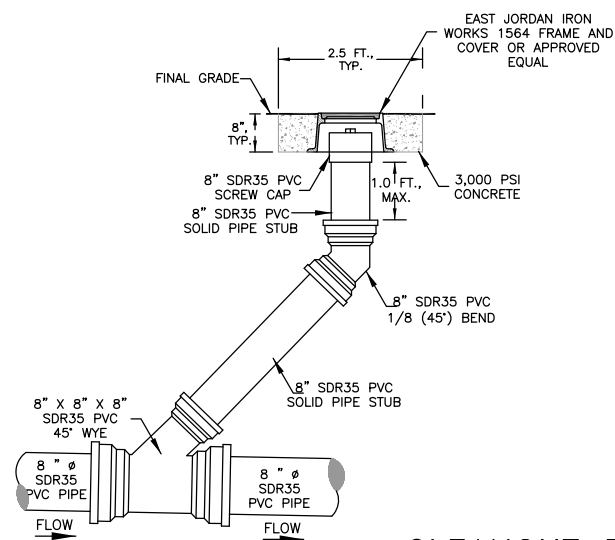
SCALE: NTS

1

TYPICAL UNDERDRAIN CONVEYANCE PIPE

SCALE: NTS

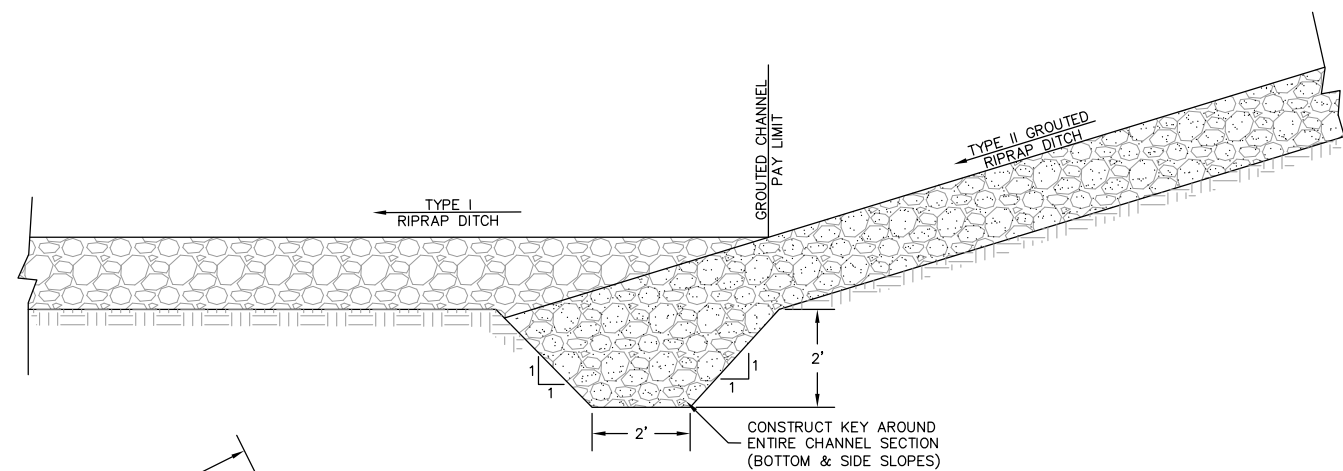
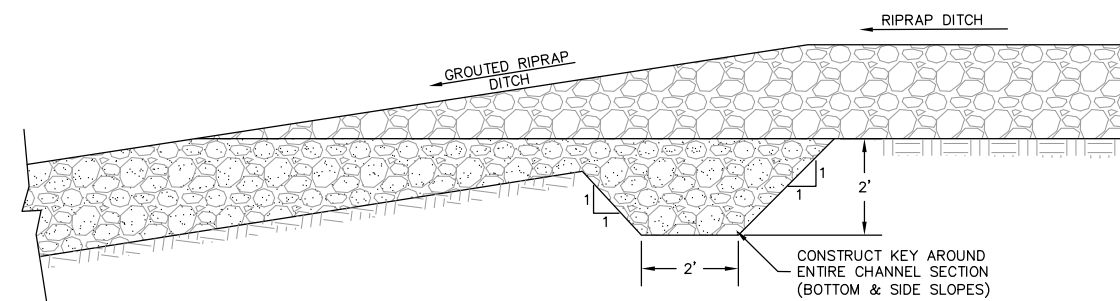
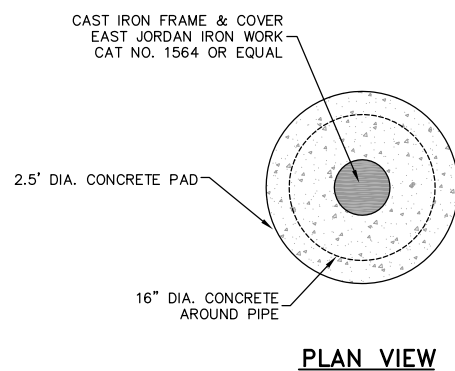
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NTS

CLEANOUT DETAIL

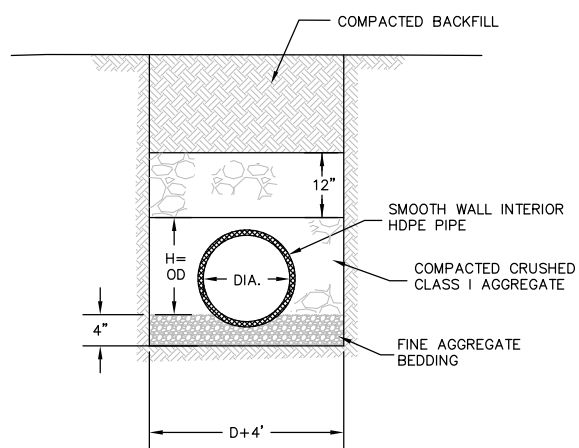
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TYPICAL GRouted RIPRAP KEY DETAIL

SCALE: NTS

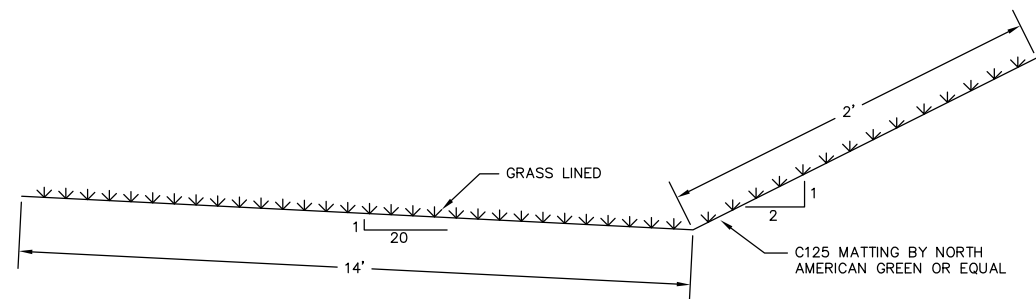
4



SCALE: NTS

TYPICAL CORRUGATED HIGH DENSITY POLYETHYLENE PIPE INSTALLATION

5



TYPICAL BENCH DRAIN

SCALE 1" = 2'

6

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PROJECT INFORMATION
 West Virginia
 dep
 SUGARCAMP RUN BURNING REFUSE PHASE II
 NICHOLAS COUNTY, WEST VIRGINIA

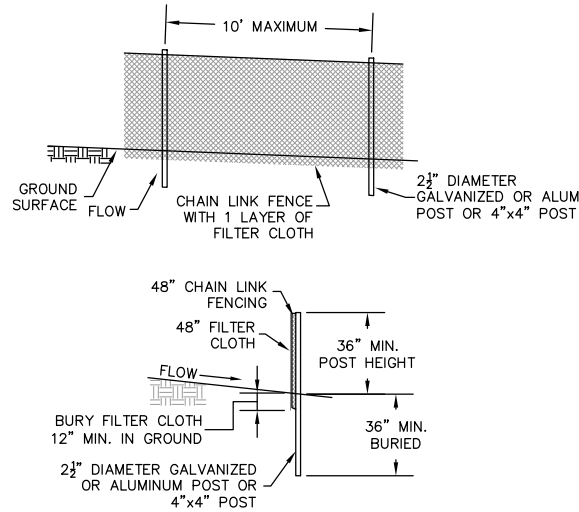
DRAWING TITLE
CONSTRUCTION DETAILS

DATE
 JUNE 2015

SCALE
 AS SHOWN

DRAWING NUMBER
D-2

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



SUPER SILT FENCE DETAIL
SCALE: NTS

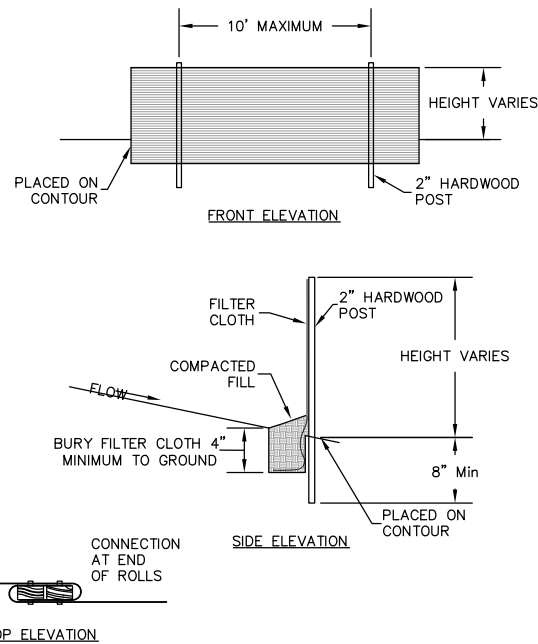
1

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'.



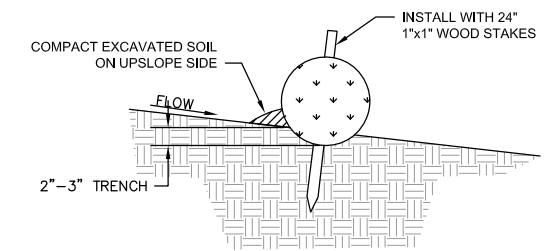
SILT FENCE DETAIL
SCALE: NTS

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.

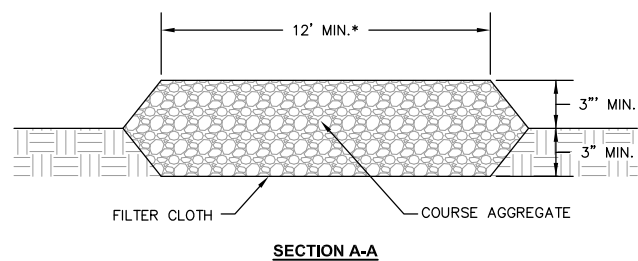
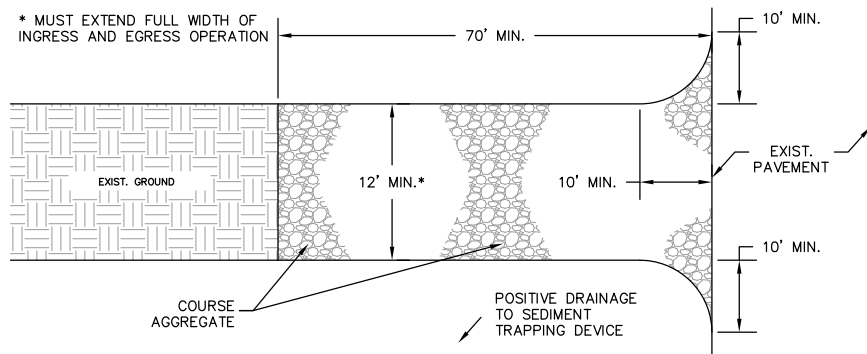
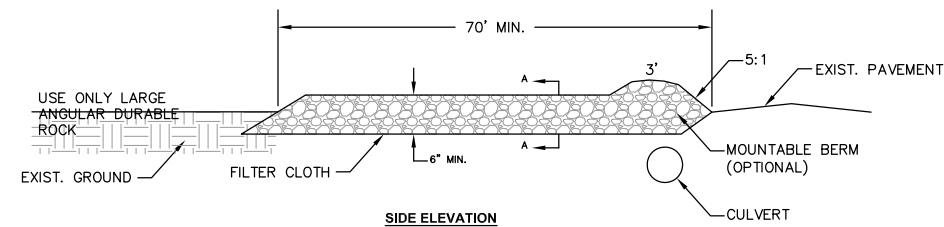


- NOTES:
1. DRIVE STAKE UNTIL 2"-3" REMAINS EXPOSED
 2. INSTALL STAKES 3'-4' APART & PERPENDICULAR TO SLOPE FACE
 3. ADJACENT STRAW WATTLES ARE TO ABUT TIGHTLY
 4. STRAW WATTLES TO BE NORTH AMERICAN GREEN WS1210 OR EQUAL

STRAW WATTLE ANCHORING/ENTRENCHMENT
DETAIL

SCALE: NTS

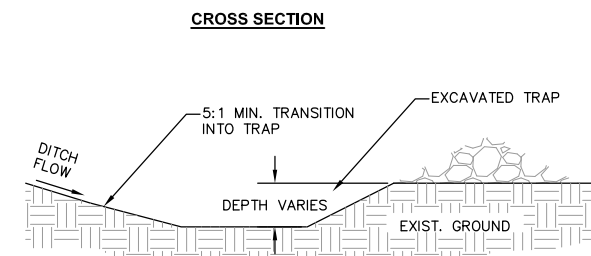
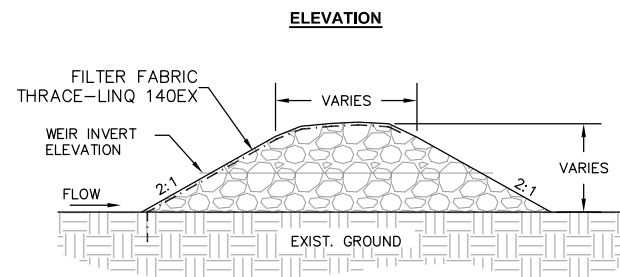
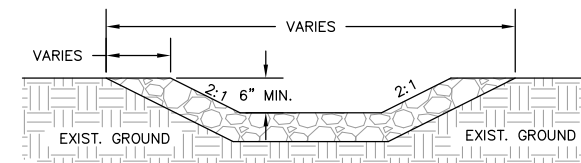
3



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.



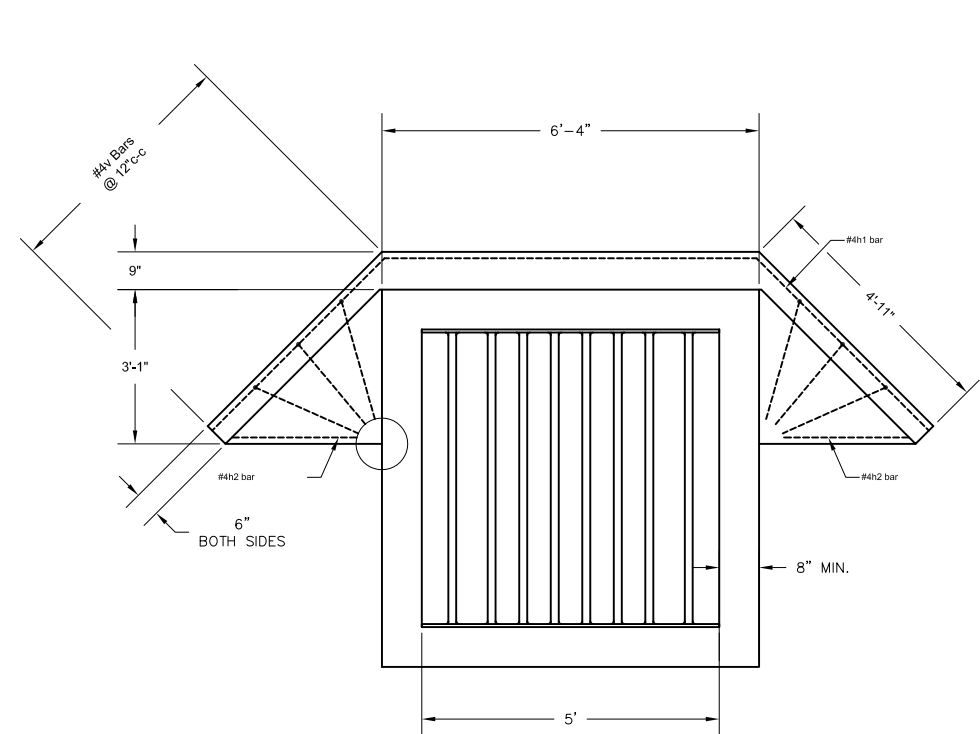
STONE CHECK DAMS

SCALE NTS

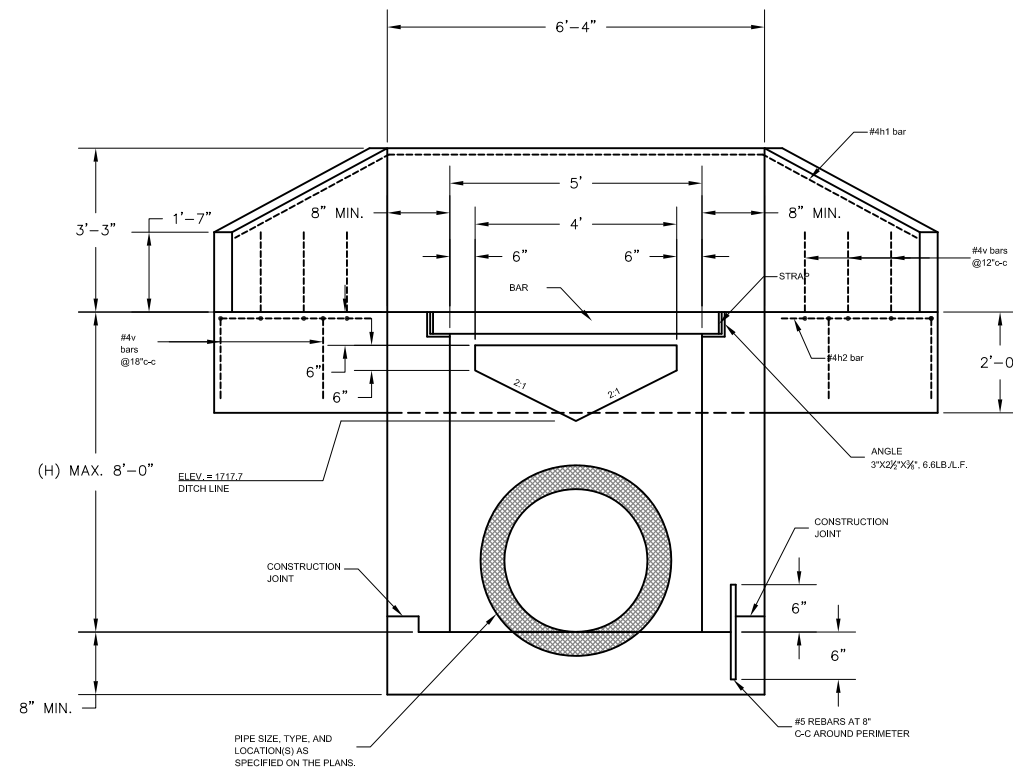
5

1. THE DRAINAGE AREA OF THE DITCH OR SWALE BEING PROTECTED SHALL NOT EXCEED 2 ACRES WHEN 2 TO 4 INCH AGGREGATE IS USED ALONE; AND SHALL NOT EXCEED 5 ACRES WHEN A COMBINATION OF 4 TO 8 INCH AGGREGATE (ADDED FOR STABILITY) AND THE SMALLER AGGREGATE IS USED. AN EFFORT SHOULD BE MADE TO EXTEND THE STONE TO THE TOP OF CHANNEL BANKS.
2. THE MAXIMUM HEIGHT OF THE DAM SHOULD BE 3 FEET.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES. THIS IS THE SINGLE MOST IMPORTANT ASPECT IN THE PROPER INSTALLATION OF THE ROCK CHECK DAM. HIGH FLOWS MUST GO OVER THE CENTER OF THE DAM, NOT AROUND THE EDGES WHERE SEVERE EROSION CAN OCCUR. THE
4. MAXIMUM SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM. THE MAXIMUM DISTANCE BETWEEN ROCK CHECK DAMS IS 300 FEET.
5. WHEN USING A SMALL TRAP IN FRONT OF THE CHECK DAM, ENSURE THE MINIMUM TRANSITION FROM THE DITCH INTO THE TRAP IS AT LEAST 5:1.
6. INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS SHOULD BE CONDUCTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAIN EVENT OF 0.5 INCHES OR GREATER OF RAIN FALL IN 24 HOURS.

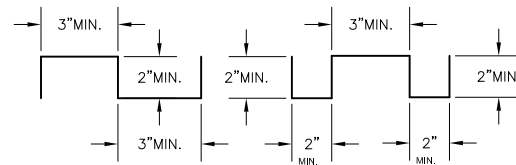
NO.	DATE	REVISION



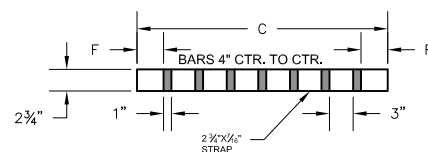
MODIFIED TYPE "G" INLET
PLAN VIEW



MODIFIED TYPE "G" INLET
SECTION VIEW



CONSTRUCTION JOINT DETAILS



SECTION THROUGH TYPE 2 GRATE

PIPE SIZE	DIMENSIONS				TYPE 2 GRATE			FRAME	
	A	B	C	D	F	BARS	WT.	WT.	
24"	5'-0"	5'-6"	4'-11 3/4"	5'-5 3/4"	3 3/8"	14	748	112	

TABLE NOTE: GRATE AND FRAME WEIGHTS ARE FOR INFORMATION ONLY AND WILL INCREASE IF LARGER STRAPS AND BARS ARE USED.

THE FOLLOWING SUBSTITUTIONS IN DIMENSIONS ARE ACCEPTABLE FOR FABRICATING THE GRATE AND FRAME:
STRAP THICKNESS: 1/2" STRAP DEPTH: 3" BAR DEPTH: 3"

REINFORCEMENT						
MARK	SIZE	NO. OF BARS	LENGTH			TYPE
			a	b	TOTAL	
h1	#4	2	3'-3"	4'-10 1/2"	13'-0"	BENT
h2	#4	1			9'-10"	ST.
v	#4	17			3'-0"	BENT

NOTES:

THE FINAL INSTALLED TOP SURFACE OF INLET AND GRATE SHALL BE FLUSH WITH ADJACENT FINISHED SURFACES SUCH AS PAVEMENT, GUTTERS, CURBS, AND SIDEWALKS.

TOP OF GRATE ELEVATION, IF SHOWN ON THE PLANS, IS FOR INFORMATION ONLY.

CONSTRUCTION MAY BE CAST-IN PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN PLACE AND PRECAST.

TYPE 2 GRATE SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE SPECIFIED ON THE PLANS. TYPE 1 URBAN GRATES SHALL BE USED ONLY AT SPECIALLY DESIGNATED LOCATIONS AS SHOWN ON THE PLANS.

THE CONTRACTOR, AT HIS OPTION, MAY OMIT USE OF THE FRAME BY FORMING A LEDGE IN THE CONCRETE.

SPECIAL CARE SHALL BE EXERCISED IN FORMING THE 2" WIDE CONCRETE LEDGE TO PROVIDE A SMOOTH, EVEN SURFACE FOR SUPPORTING THE GRATES IF THE SHALLOW FRAME IS NOT USED. NO PROJECTIONS SHALL EXIST ON THE BEARING SURFACES OF THE LEDGE OR THE GRATES, AND THE GRATES SHALL SEAT ON THE LEDGE WITHOUT ROCKING.

OPTIONAL CONSTRUCTION JOINTS MAY BE ROUGHENED CONCRETE, KEYED OR DOWELED AS PER THE TYPICAL DETAILS SHOWN HEREIN OR AS APPROVED BY THE ENGINEER. NON SHRINK GROUT MEETING THE REQUIREMENTS OF SUBSECTION 715.5 OF THE WVDOT STANDARD SPECIFICATIONS MAY BE USED TO A DEPTH OF 1/2" FOR LEVELING BETWEEN PRECAST SECTIONS. THICKER DEPTHS WILL BE ALLOWED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

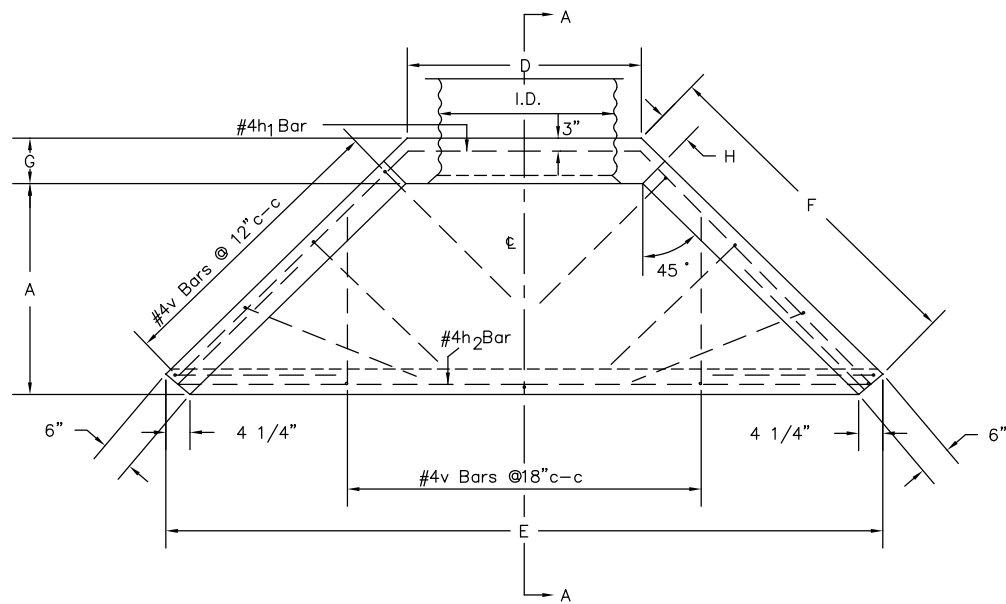
THE MINIMUM DISTANCE FROM THE TOP OF ANY PIPE OPENING TO ANY CONSTRUCTION JOINT ABOVE THE OPENING SHALL BE FOUR (4) INCHES.

THE NUMBER AND LOCATION OF PIPE OPENINGS SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR AT NO ADDITIONAL COST, SHALL BE RESPONSIBLE FOR ANY TEMPORARY BRACING REQUIRED TO TRANSPORT PRECAST INLET SECTIONS DUE TO MULTIPLE OPENINGS.

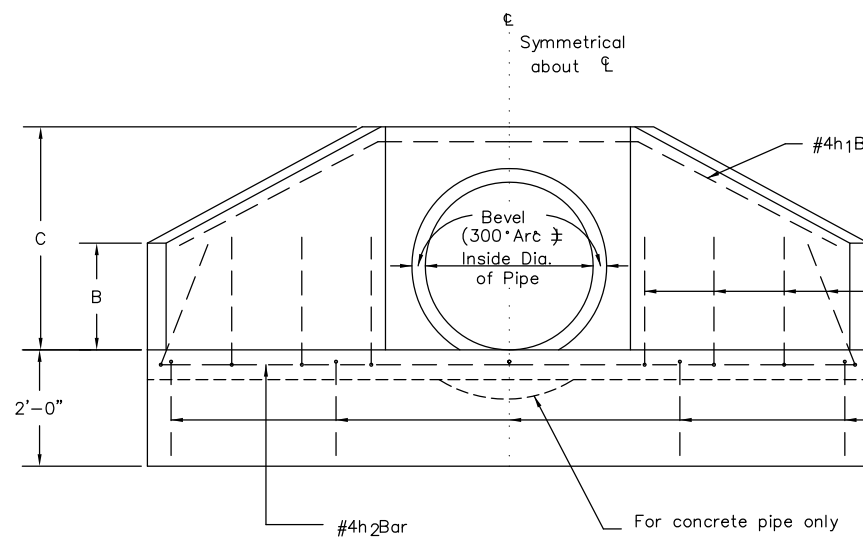
MODIFIED TYPE "G" INLET

1

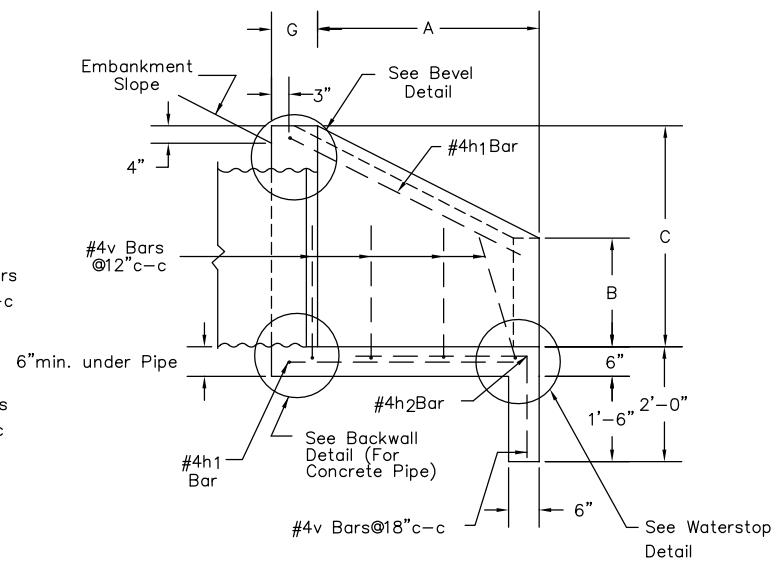
NO.	DATE	REVISION	BY



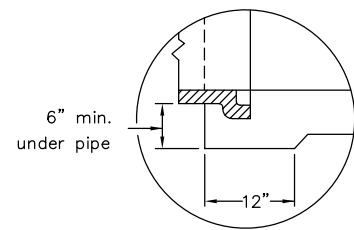
PLAN VIEW



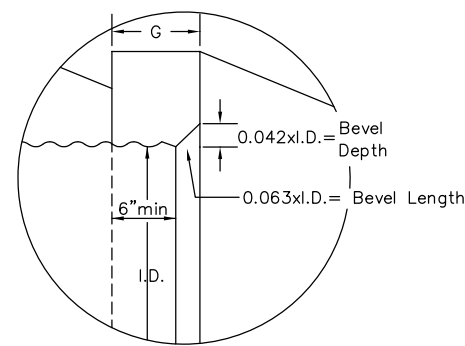
ELEVATION



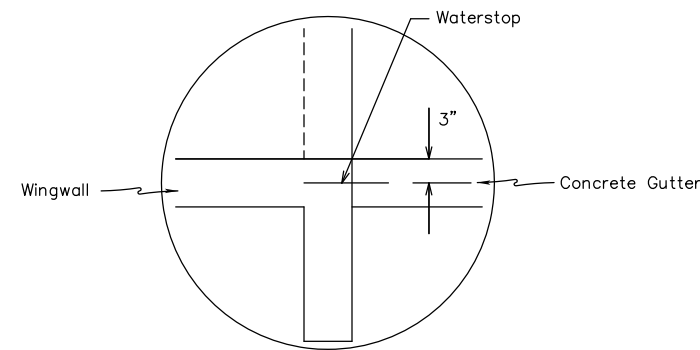
SECTION A-A



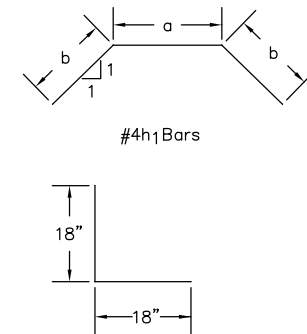
BACKWALL DETAIL
(For Concrete Pipe)



BEVEL DETAIL



WATERSTOP DETAIL



DETAIL OF BENT BARS

INSIDE DIA. OF PIPE	SLOPE OF FILL	DIMENSIONS								REINFORCEMENT					QUANTITIES				
		A	B	C	D	E	F	G	H	MARK	SIZE	NO. OF BARS	LENGTH			TYPE	CONC. (RCP) C.Y.	CONC. (CMP OR SPP) C.Y.	STEEL LBS.
													a	b	TOTAL				
18"	2:1	2'-8"	1'-4"	2'-9"	2'-11"	8'-10 1/2"	4'-2 1/2"	0'-8"	0'-5 3/8"	h1	#4	2	2'-9"	4'-1 1/2"	11'-0"	BENT	1.01	1.02	52.4
		t 2'-10"						t 0'-6"	t 0'-2 1/2"	h2	#4	1			8'-4"	ST			
										v	#4	16			3'-0"	BENT			
		BEVEL: DEPTH = 3/4" LENGTH = 1 1/4"																	

NOTES

All concrete shall be Class B Concrete.

Reinforcing steel shall be new billet steel and shall conform to the requirements of 709.1 of the Specifications.

The covering for Reinforcing Steel shall be 2" measured from the surface of the concrete to the face of the bar, unless otherwise noted on the Plans. Reinforcement in members where concrete is deposited on the ground shall have 3" of concrete from the face of the bar to the ground contact surface.

All exposed edges shall have a 3/4" x 45 chamfer. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground line.

When wingwalls are placed on the inlet end of corrugated metal or structural plate pipe, a bevel shall be used at the inlet opening. The end of the pipe shall be set in from the face of the wall as shown on the "Bevel Detail", and the bevel constructed from the end of the pipe to the face of the wall.

When wingwalls are placed on the inlet end of concrete pipe, the "bell" or "groove" of the pipe shall be placed in the wall, and the inside of the "bell" or "groove" shall be filled with concrete up to the flow line.

Bevels are not required on outlet wingwalls or on inlet wingwalls for concrete pipe.

Keyed or doweled type construction joints, acceptable to the Engineer, may be used during construction.

If embankment slope above wingwalls is flatter than 2:1, provide wings for 2:1 slope and warp embankment to 2:1 slope at wingwall.

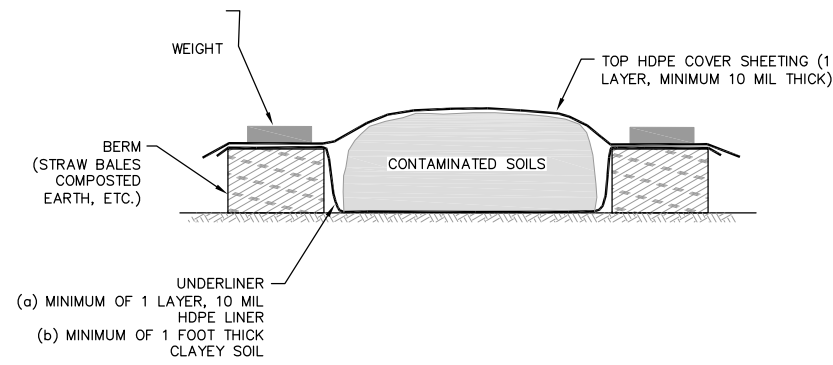
Waterstop meeting the requirements of 708.10 shall be placed as shown when concrete gutter is to abut the wingwall.

PIPE CULVERT WINGWALL

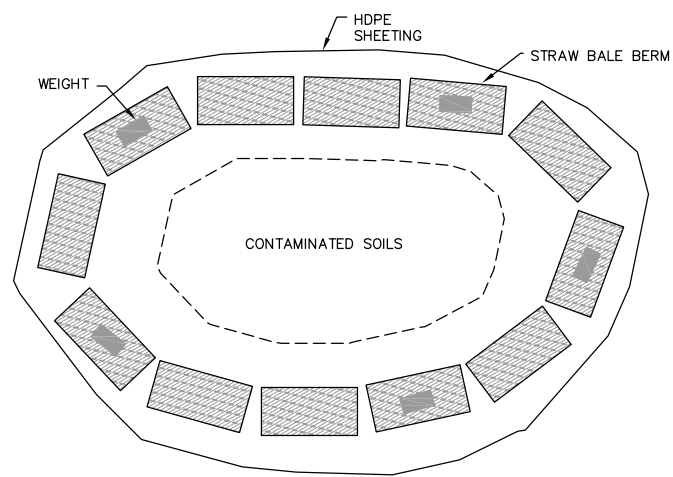
SCALE NTS

1

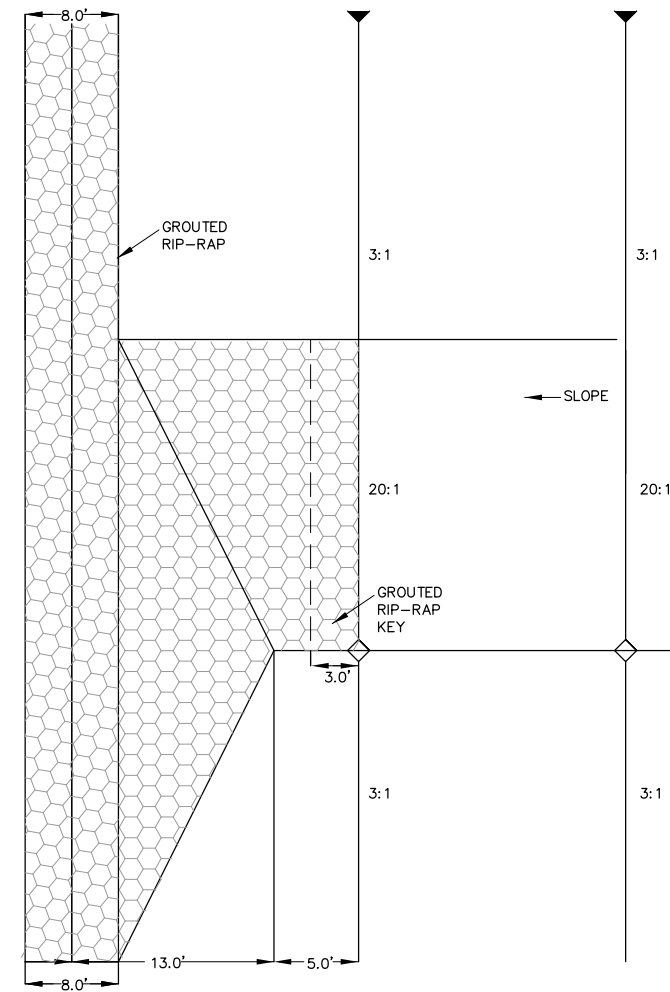
NO.	DATE	REVISION	BY



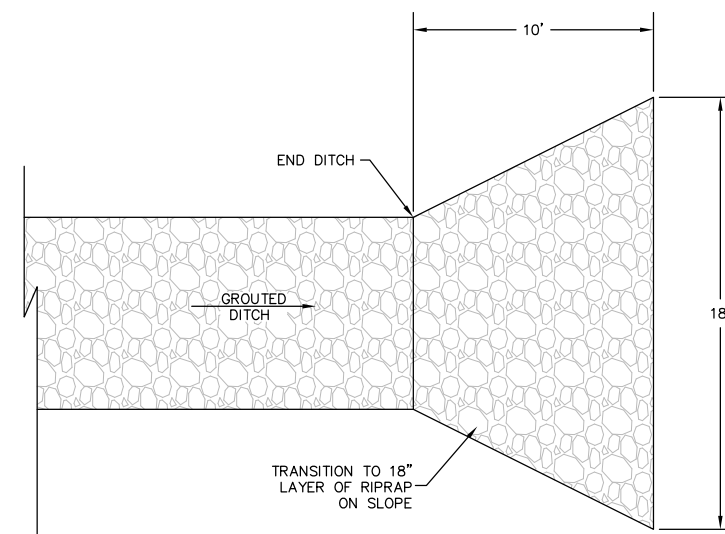
CROSS SECTION VIEW



MAP VIEW ①



BENCH TO CHANNEL TRANSITION PLAN ②
NTS



INLET PROTECTION ③
SCALE 1" = 2'

NO.	DATE	REVISION	BY