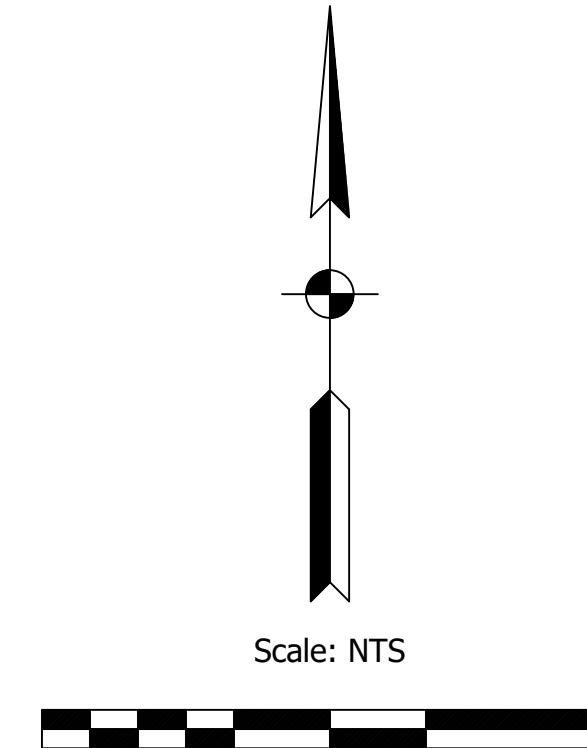
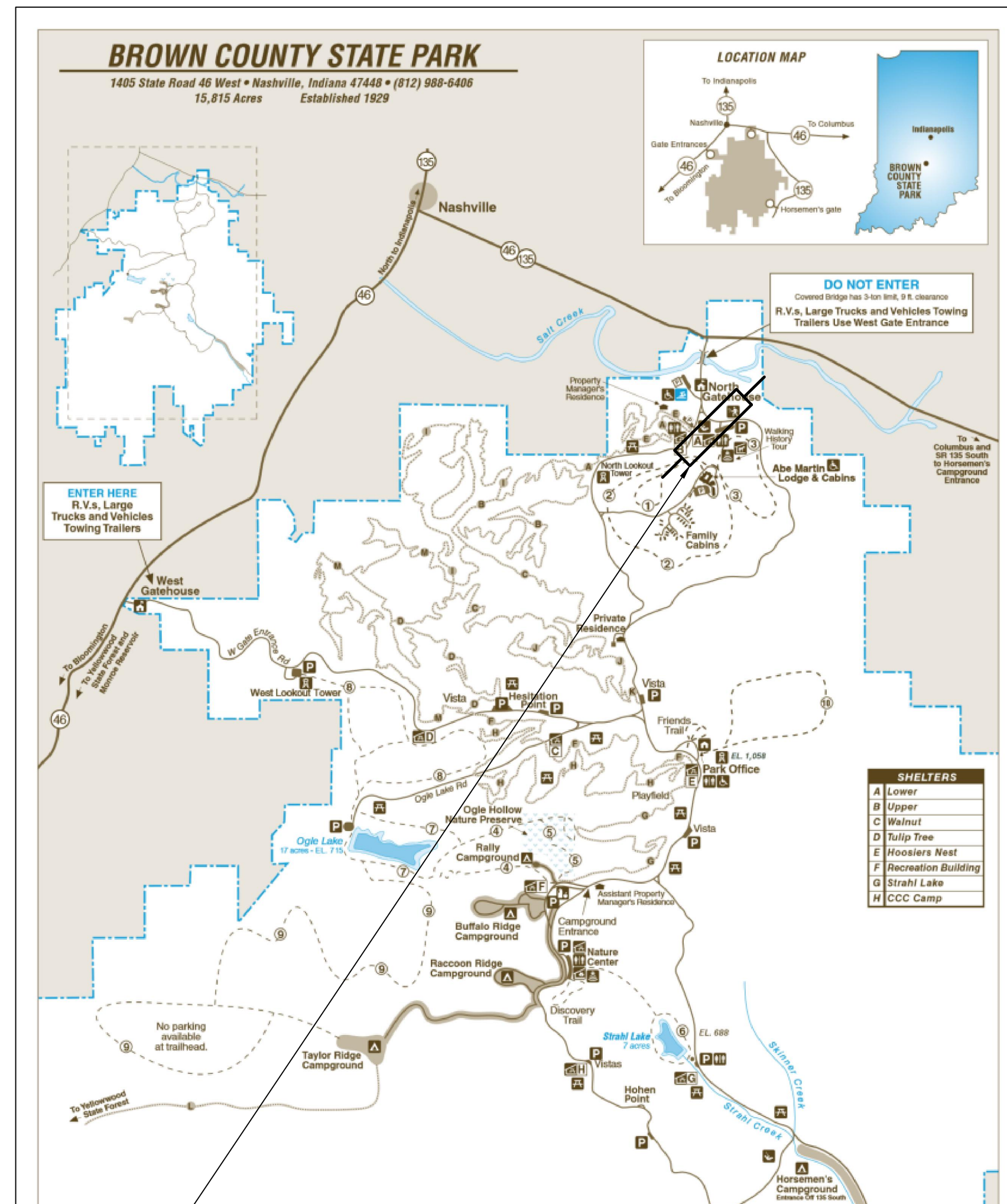
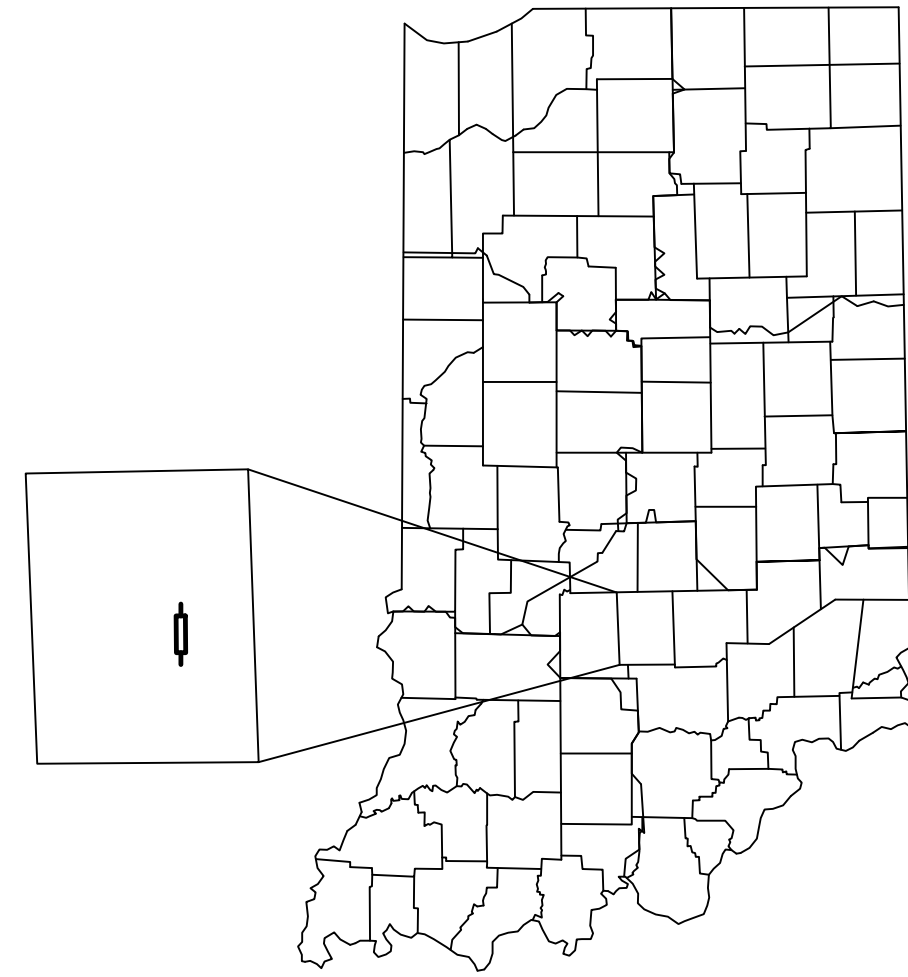


INDIANA DEPARTMENT OF ADMINISTRATION PUBLIC WORKS DIVISION

PUBLIC WORKS PROJECT NO. ENG2003722634 DNR - BROWN COUNTY STATE PARK RETAINING WALL / TRAIL STAIRS REPAIR AND REPLACEMENT



Sheet List Table	
Sheet Number	Sheet Title
1	TITLE SHEET
2	LOCATION MAP
3	WALL GENERAL PLAN - MOT
4	WALL PLAN AND PROFILE LINE 'A'
5	WALL PLAN LINE 'B'
6	WALL PROFILE LINE 'B'
7	UPPER WALL DETAILS (1 OF 3)
8	UPPER WALL DETAILS (2 OF 3)
9	UPPER WALL DETAILS (3 OF 3)
10	WALL CROSS SECTIONS (1 OF 10)
11	WALL CROSS SECTIONS (2 OF 10)
12	WALL CROSS SECTIONS (3 OF 10)
13	WALL CROSS SECTIONS (4 OF 10)
14	WALL CROSS SECTIONS (5 OF 10)
15	WALL CROSS SECTIONS (6 OF 10)
16	WALL CROSS SECTIONS (7 OF 10)
17	WALL CROSS SECTIONS (8 OF 10)
18	WALL CROSS SECTIONS (9 OF 10)
19	WALL CROSS SECTIONS (10 OF 10)
20	TRAIL STAIRS GENERAL PLAN
21	STAIRS PLAN AND PROFILE LINE 'A'
22	STAIRS PLAN AND PROFILE LINE 'B'
23	DETAILS (1 OF 3)
24	DETAILS (2 OF 3)
25	DETAILS (3 OF 3)
26	STAIRS CROSS SECTIONS (1 OF 2)
27	STAIRS CROSS SECTIONS (2 OF 2)
28	OLD DETAILS

UTILITY NOTES

NOTE 1: All utilities depicted are at "Quality Level B" and "Quality Level C".

NOTE 2: "Quality Level B" utility locates are based on markings provided by others. There is no guarantee as to the accuracy or completeness of these markings. Existing utility depths shown on profiles and cross sections are shown for reference purposes only and are based on what may be considered standard bury depths. The exact depth of existing utilities is uncertain and should be field verified by the contractor as needed.

NOTE 3: "Quality Level C" utility locates are based on visible surface features which have been surveyed such as hydrants, valve boxes, meter boxes or other items related to a utility.

NOTE 4: Utility quality level designations are based on ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data).

PROJECT LOCATION

These 2 projects are located near the Lower shelter. Approximately 0.5 mi from the North Gate entrance to Brown County State Park, Indiana. Construction equipment, and materials shall only access the site by way of the West access gate.

PLANS PREPARED BY:



Offices in North Vernon, Seymour, & New Castle

72 Henry Street, PO Box 47
North Vernon, IN 47265

P: (812) 346-2045 Toll Free: 1-866-ENG-FPBH

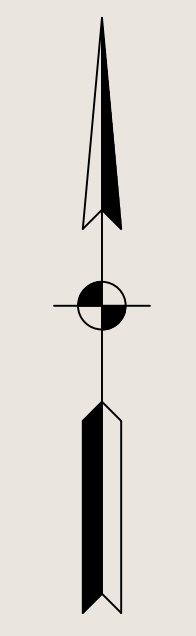
www.fpbhonline.com



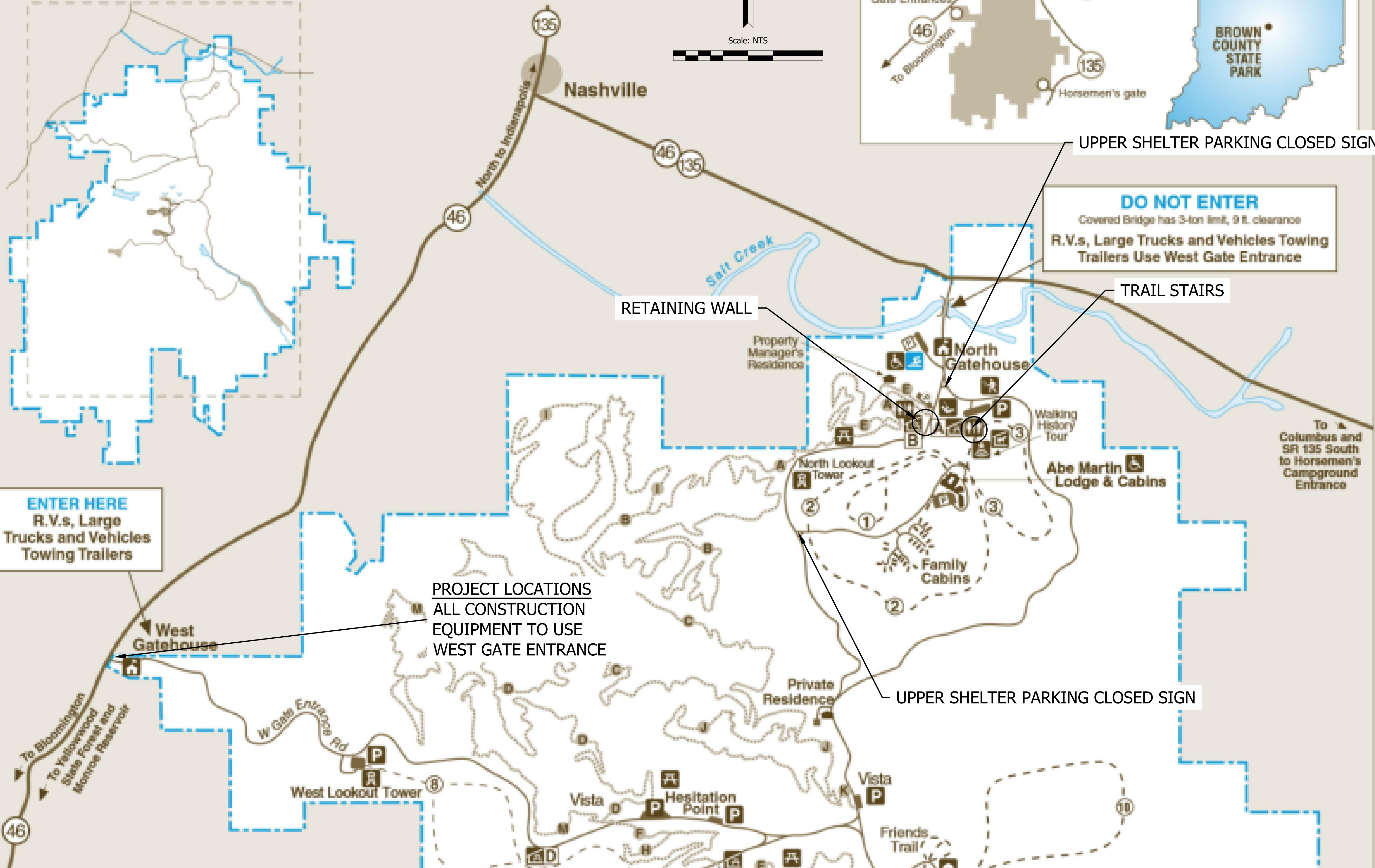
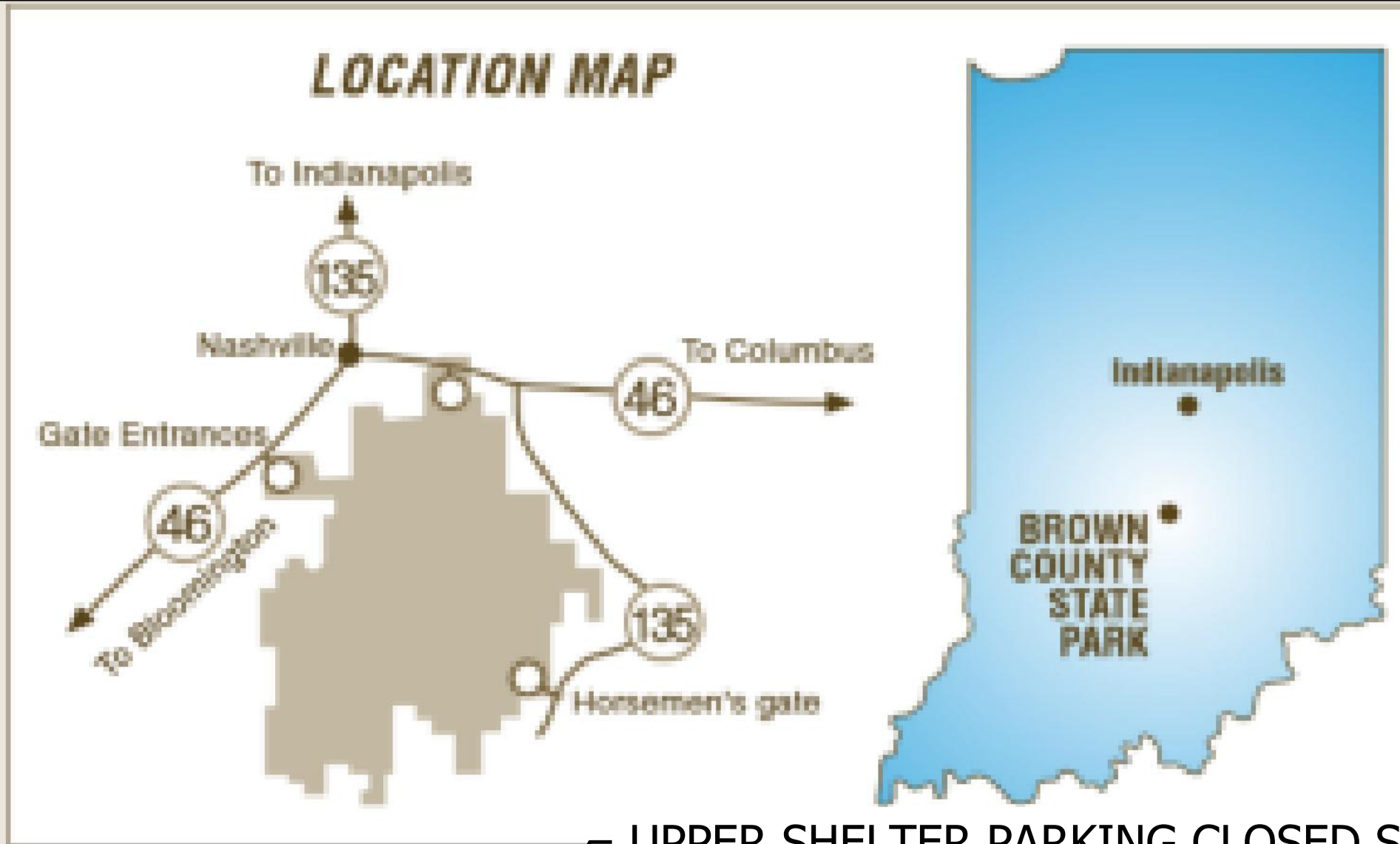
PREPARED FOR: DNR
PROJECT DESCRIPTION: BROWN COUNTY STATE PARK - RETAINING WALL AND TRAIL STAIR REPAIR AND REPLACEMENT
FILE NUMBER: 19-11229
DATE: AUGUST 28, 2020
DESIGN PHASE: BIDDING PLANS
PAPER SIZE: PLOT SHEETS TO SCALE ON ANSI D 22" X 34"

BROWN COUNTY STATE PARK

1405 State Road 46 West • Nashville, Indiana 47448 • (812) 988-6406
15,815 Acres Established 1929



Scale: NTS



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SCALE: AS SHOWN
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME: DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
LOCATION MAP

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
2

Upper Shelter Wall – Tree Removal Table
(Note: All trees as noted located left of wall)

Station - Left Tree Removal

- 10+05 6" Oak
- 10+05 12" Oak
- 10+20 16" double Oak
- 10+35 20" double Oak
- 10+75 8" Hickory
- 11+05 16" Hickory
- 11+50 to 13+50 Remove all brush to 20 feet away from wall
- 12+25 12" Shagbark Hickory
- 12+50 12" Hickory
- 13+00 24" Oak
- 13+50 36" Oak
- 14+25 30" Oak

LEGEND

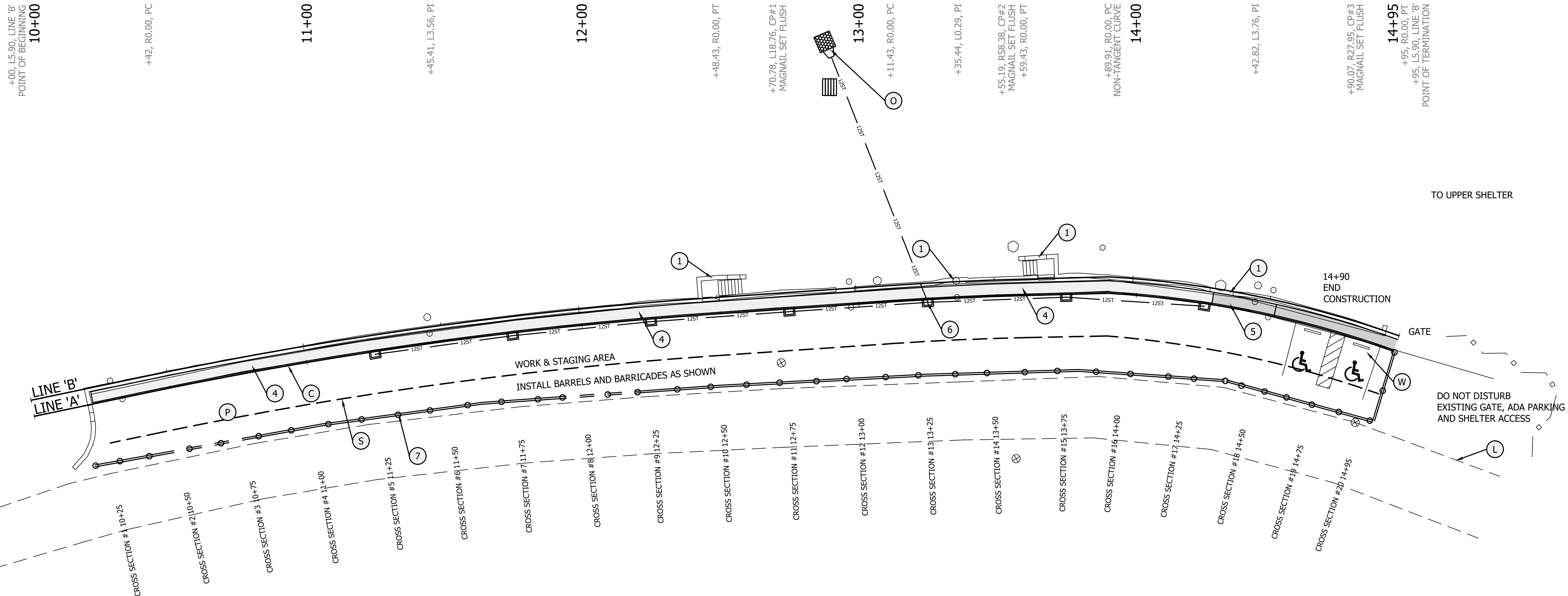
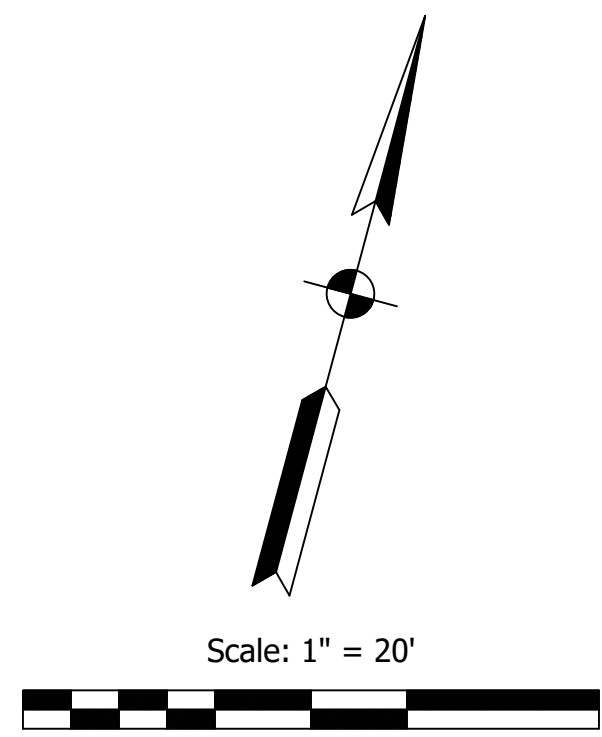
1. Remove all existing stone, construct new aggregate base and drainage items, reinstall existing whole stone, along with a mix of new stone, and portions of existing stone that can be salvaged.
2. Stone, Sidewalk - Remove and reset existing 4' stone walk with existing stone, Reconstructed stone walk to have 6" curb. (See Detail Sheet 20)
3. ADA Sidewalk - 5.0' ADA compliant sidewalk to be constructed at grade (See Detail Sheet 20)
4. Storm Sewer - Construct storm sewer as shown on plans, (See Detail Sheet 21)
5. Maintenance of Traffic - (2) Barricade Type 3B , Barrels to be set 8ft apart along roadway. Road construction ahead signs to be placed 500ft from site in either direction. Upper Shelter Parking Closed signs to be placed as shown on sheet 2.

LEGEND

- S = Sawcut existing pavement at 15' out from face of existing walk. (See Detail Sheet 7)
- P = Parking Section (See Detail Sheet 7)
- W = Wheel Stop (Only at ADA Parking, See Detail Sheet 7)
- L = Painted Yellow Line
- O = Typical Outfall (See Detail Sheet 8)
- C = 6" Curb (See Detail Sheet 7)

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SCALE: 1" = 20'
 DRAWN BY: ARC
 CHECKED BY: BAH
 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
 CLIENT NAME: DNR
 PROJECT DESCRIPTION: DNR WALL AND TRAIL
 SHEET TITLE: WALL GENERAL PLAN - MOT
 DESIGN PHASE: BIDDING PLANS
 SHEET NUMBER: **3**

+00, L5.90, LINE 'B'
POINT OF BEGINNING
10+00
+42, R0.00, PC

LINE 'A' LINE TABLE

LINE	BEARING	DISTANCE
L1	S 63°11'11" W	42.00'
L2	S 71°04'28" W	63.00'
L3	N 73°27'58" E	30.48'

LINE 'A' CURVE TABLE

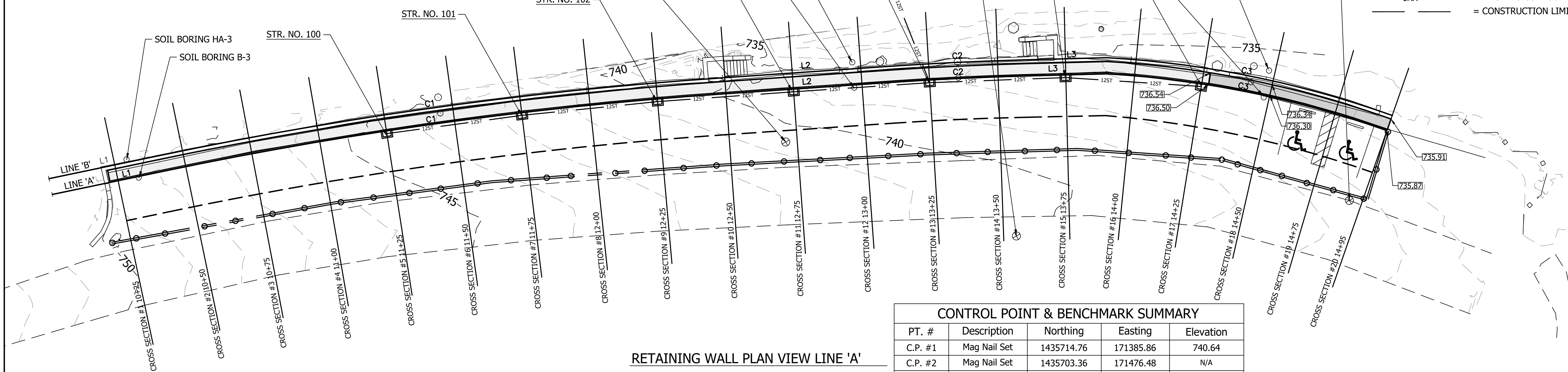
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	206.43'	1499.42'	7°53'17"	S 67°07'50" W	206.27'
C2	48.00'	1150.00'	2°23'29"	N 72°16'13" E	48.00'
C3	105.12'	370.27'	16°15'59"	N 86°28'49" E	104.77'

LINE 'B' LINE TABLE

LINE	BEARING	DISTANCE
L1	S 63°11'11" W	42.00'
L2	S 71°04'28" W	63.00'
L3	S 73°27'58" W	30.73'

LINE 'B' CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	207.24'	1505.32'	7°53'17"	S 67°07'50" W	207.08'
C2	48.25'	1155.90'	2°23'29"	N 72°16'13" E	48.24'
C3	107.05'	376.17'	16°18'18"	N 86°27'39" E	106.69'

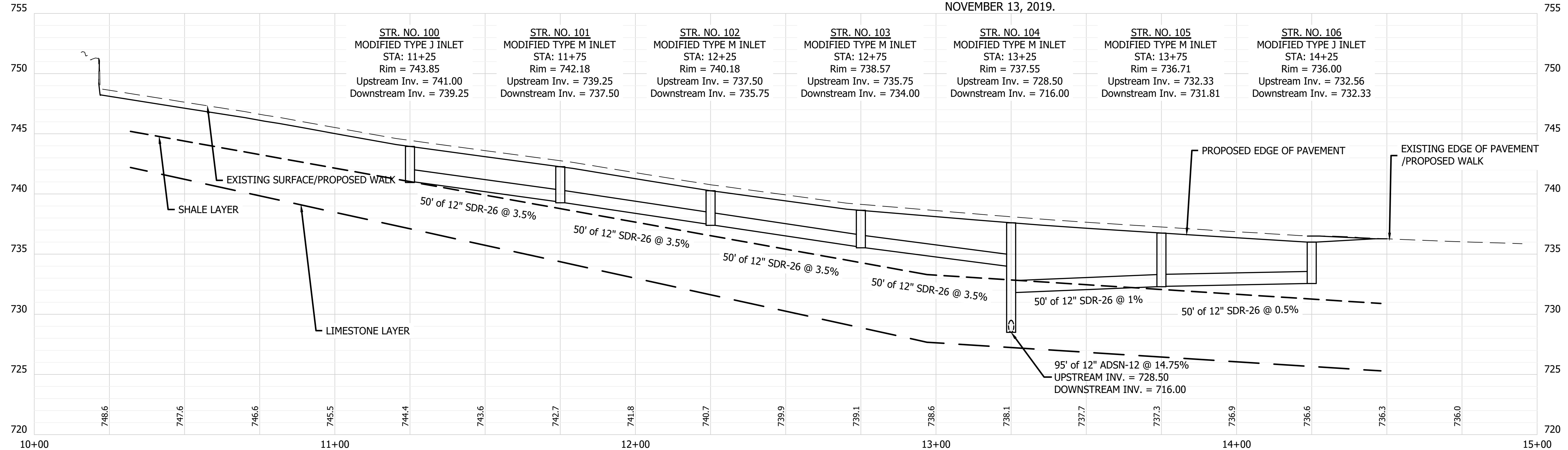


RETAINING WALL PLAN VIEW LINE 'A'

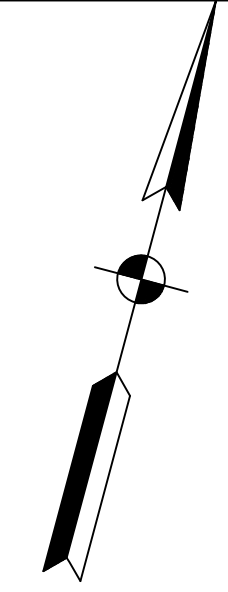
CONTROL POINT & BENCHMARK SUMMARY

PT. #	Description	Northing	Easting	Elevation
C.P. #1	Mag Nail Set	1435714.76	171385.86	740.64
C.P. #2	Mag Nail Set	1435703.36	171476.48	N/A
C.P. #3	Mag Nail Set	1435747.54	171591.04	737.46

VERTICAL DATUM = NAVD 88 - POINTS TIED TO NGS BENCHMARK L53
TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON
NOVEMBER 13, 2019.



RETAINING WALL PROFILE VIEW LINE 'A'
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'



Scale: 1" = 20'

FEATURES LEGEND

- - - - - = EXISTING CONTOUR
- — — — — = CONSTRUCTION LIMITS

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SCALE: 1" = 20'
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL PLAN AND PROFILE LINE 'A'

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
4

10+00

11+00

12+00

13+00

14+00

14+98

LINE 'A' LINE TABLE

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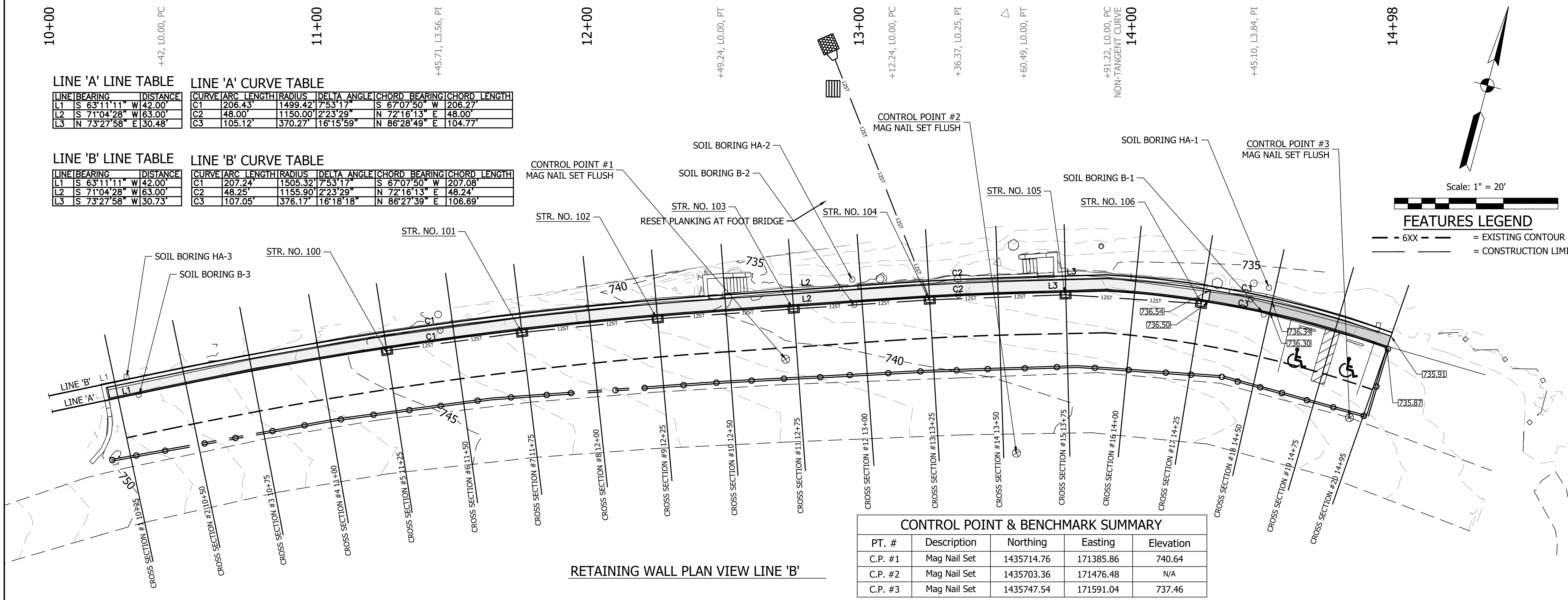
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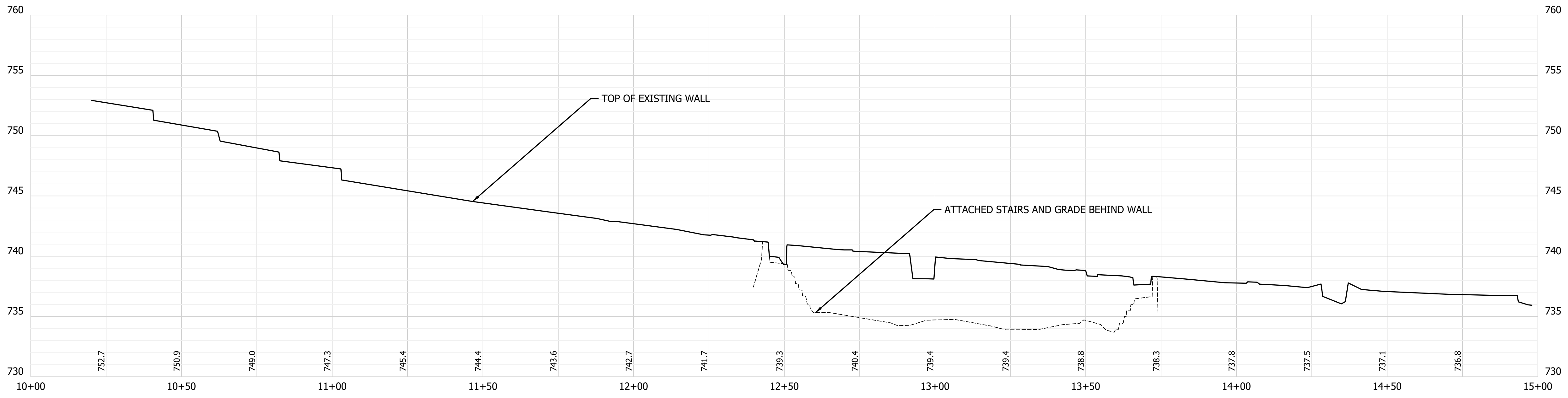
FEATURES LEGEND

- - - 6XX - - - = EXISTING CONTOUR
- - - - - = CONSTRUCTION LIMITS

CONTROL POINT & BENCHMARK SUMMARY

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C.P. #2	Mag Nail Set	1435703.36	171476.48	N/A
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Revision	Drawn By	Date

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 CLIENT NAME: DNR

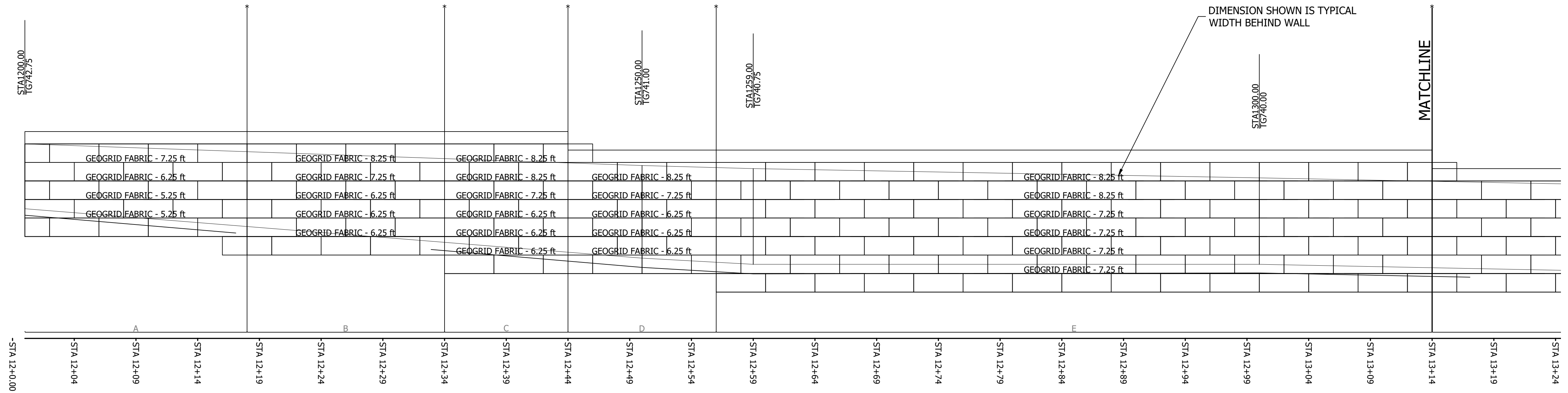
PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 WALL PLAN LINE 'B'

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
5

744
743
742
741
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731
730



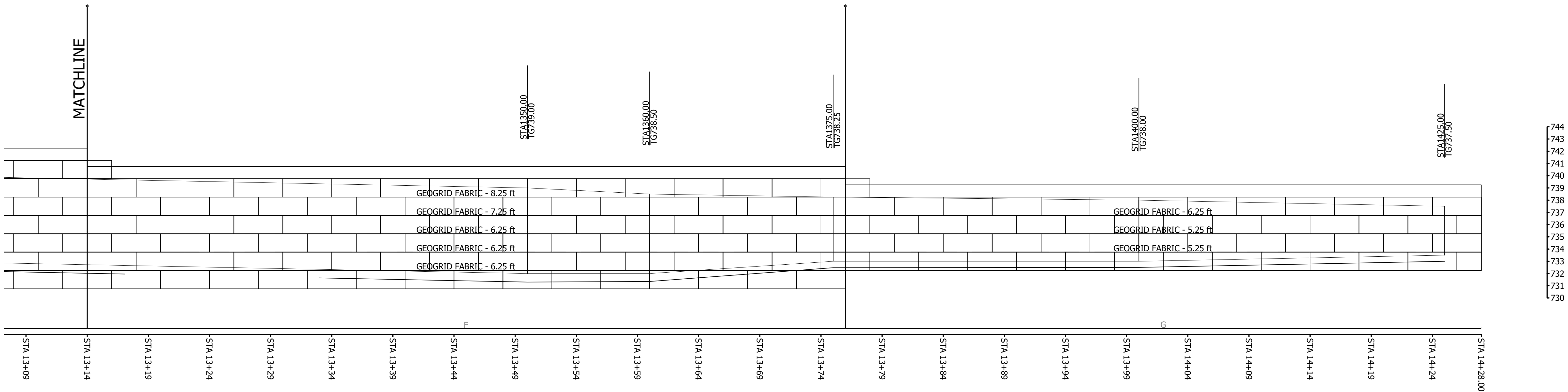
TYPICAL PROFILE LINE 'B'

NOT TO SCALE, FOR REINFORCEMENT MAT ONLY

NOTE:

1. STONE SIZE IS TO BE DOCUMENTED THROUGHOUT THE REMOVAL OF THE WALL
2. EXISTING STONES MAY VARY IN SIZE, OTHER SIZE STONES MAY BE REQUIRED TO MEET CONSISTENT ROW HEIGHT
3. ACTUAL STACKING ARRANGEMENT MAY VARY FROM DETAIL ABOVE
4. GEOGRID FABRIC TO BE MIRAGRID 5XT OR EQUAL

MATCHLINE



TYPICAL PROFILE LINE 'B'

NOT TO SCALE, FOR REINFORCEMENT MAT ONLY

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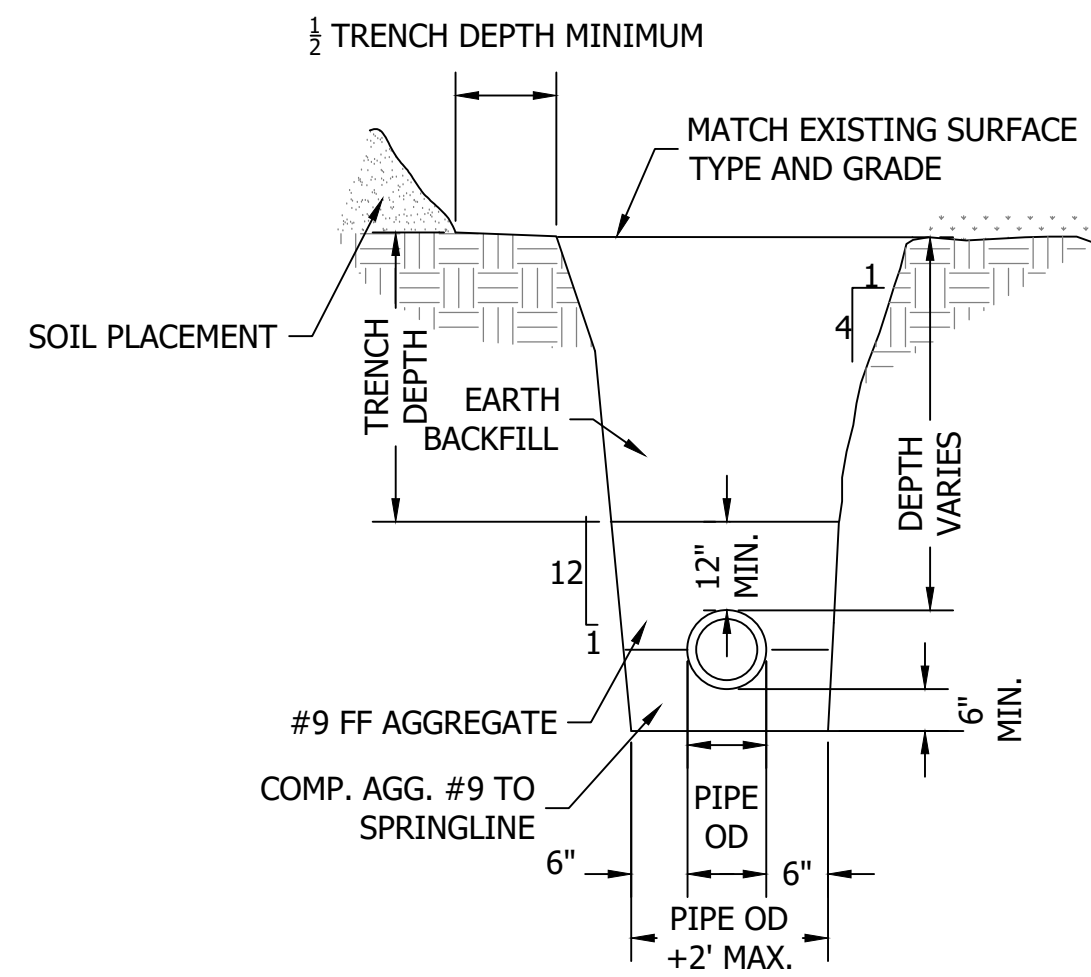
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DNR WALL AND TRAIL

SHEET TITLE:
WALL PROFILE LINE 'B'

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:

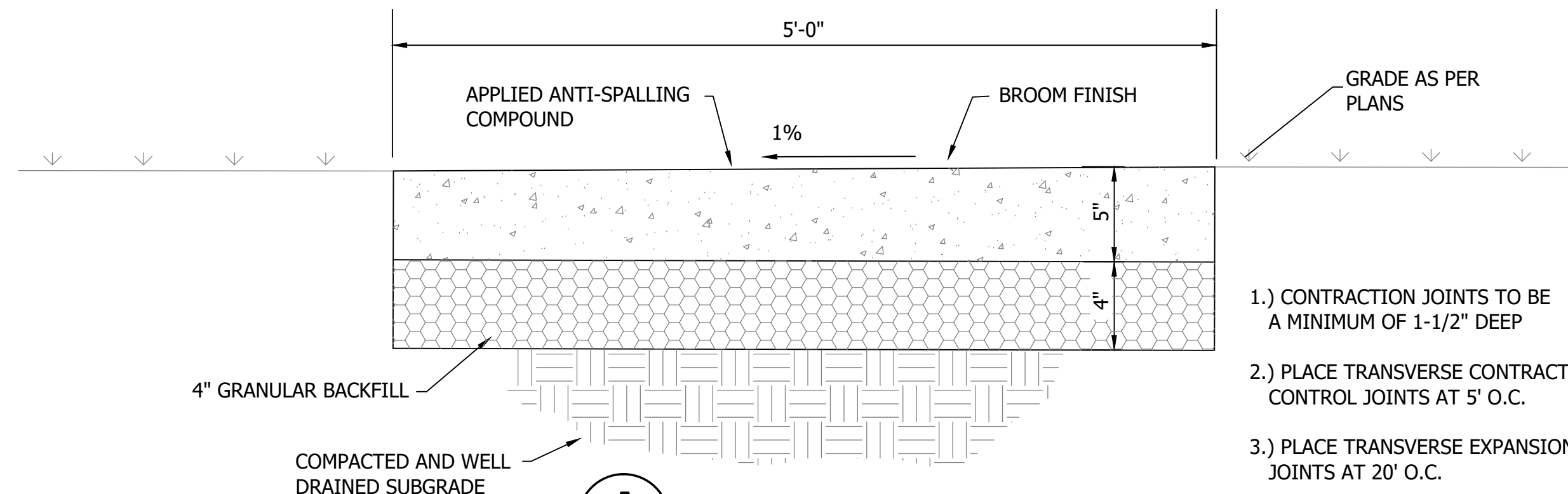
6



STANDARD STORM TRENCH DETAIL
NOT TO SCALE

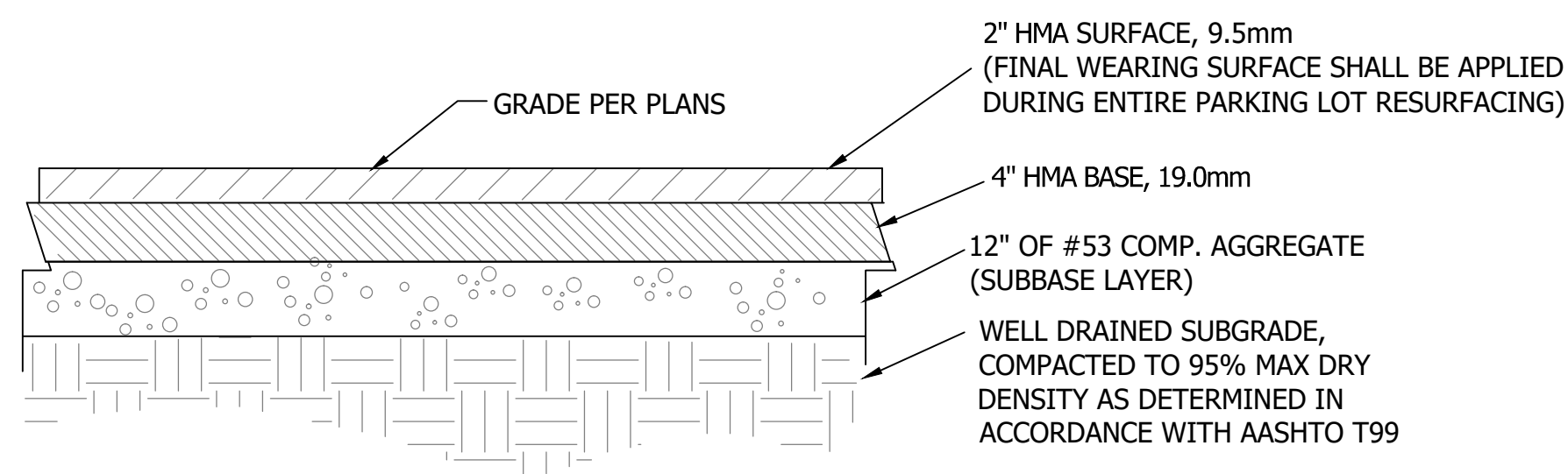
NOTES

- 1) WITHIN 4' OF PAVEMENT AND UNDER PAVEMENT BACKFILL WITH GRANULAR BACKFILL PER INDOT SPECIFICATIONS MECHANICAL COMPACTION TO 95% PROCTOR DENSITY. EARTH BACKFILL IN 6" COMPACTED LIFTS THROUGHOUT YARD AREAS.
- 2) GRANULAR BACKFILL PLACED AND COMPACTED PER INDOT 2020 SPECIFICATIONS AND SUPPLEMENTS.
- 3) MEET OR EXCEED ALL OSHA STANDARDS REGARDING TRENCH PROTECTION.

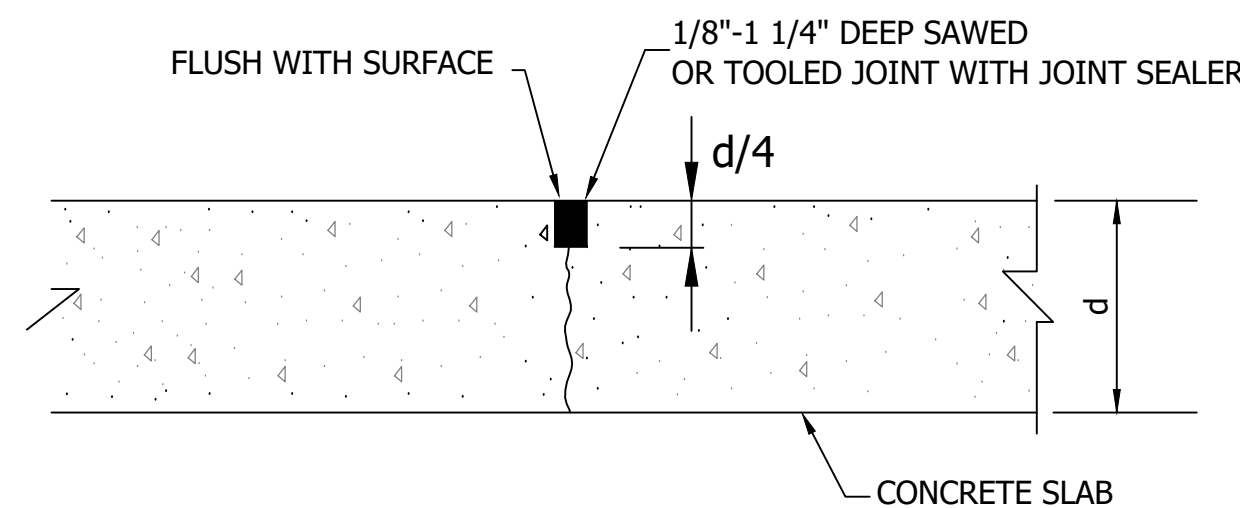


A CONCRETE SIDEWALK
NOT TO SCALE

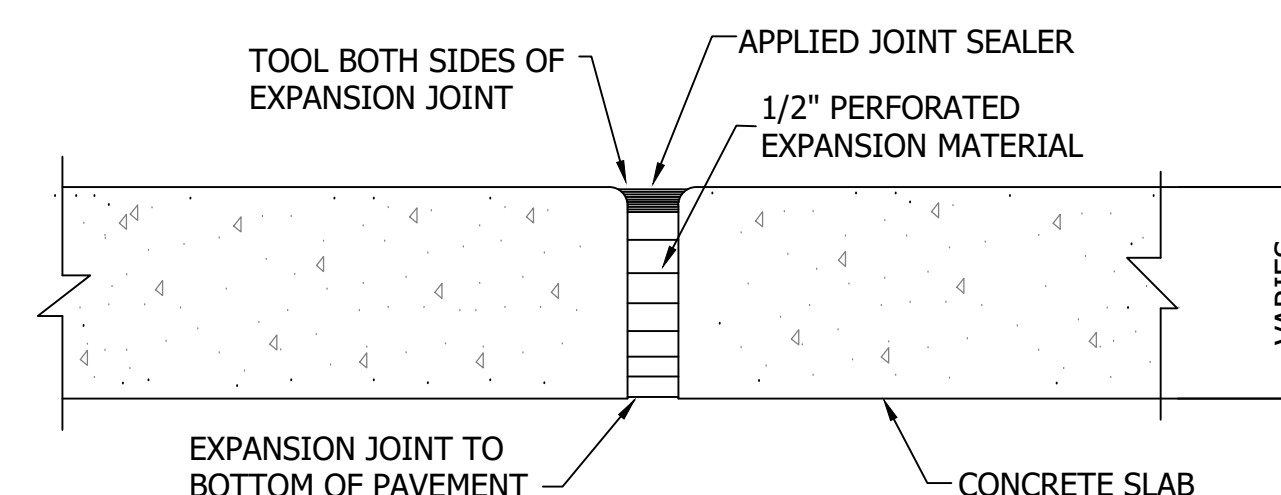
- 1.) CONTRACTION JOINTS TO BE A MINIMUM OF 1-1/2" DEEP
- 2.) PLACE TRANSVERSE CONTRACTION CONTROL JOINTS AT 5' O.C.
- 3.) PLACE TRANSVERSE EXPANSION JOINTS AT 20' O.C.



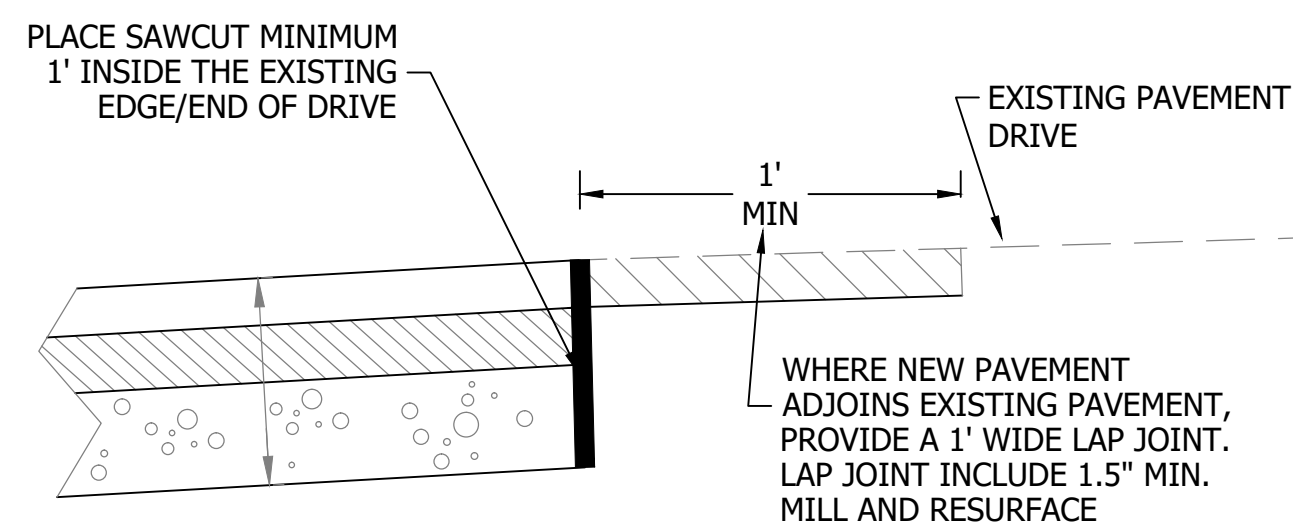
P PARKING LOT / DRIVEWAY SECTION
NOT TO SCALE



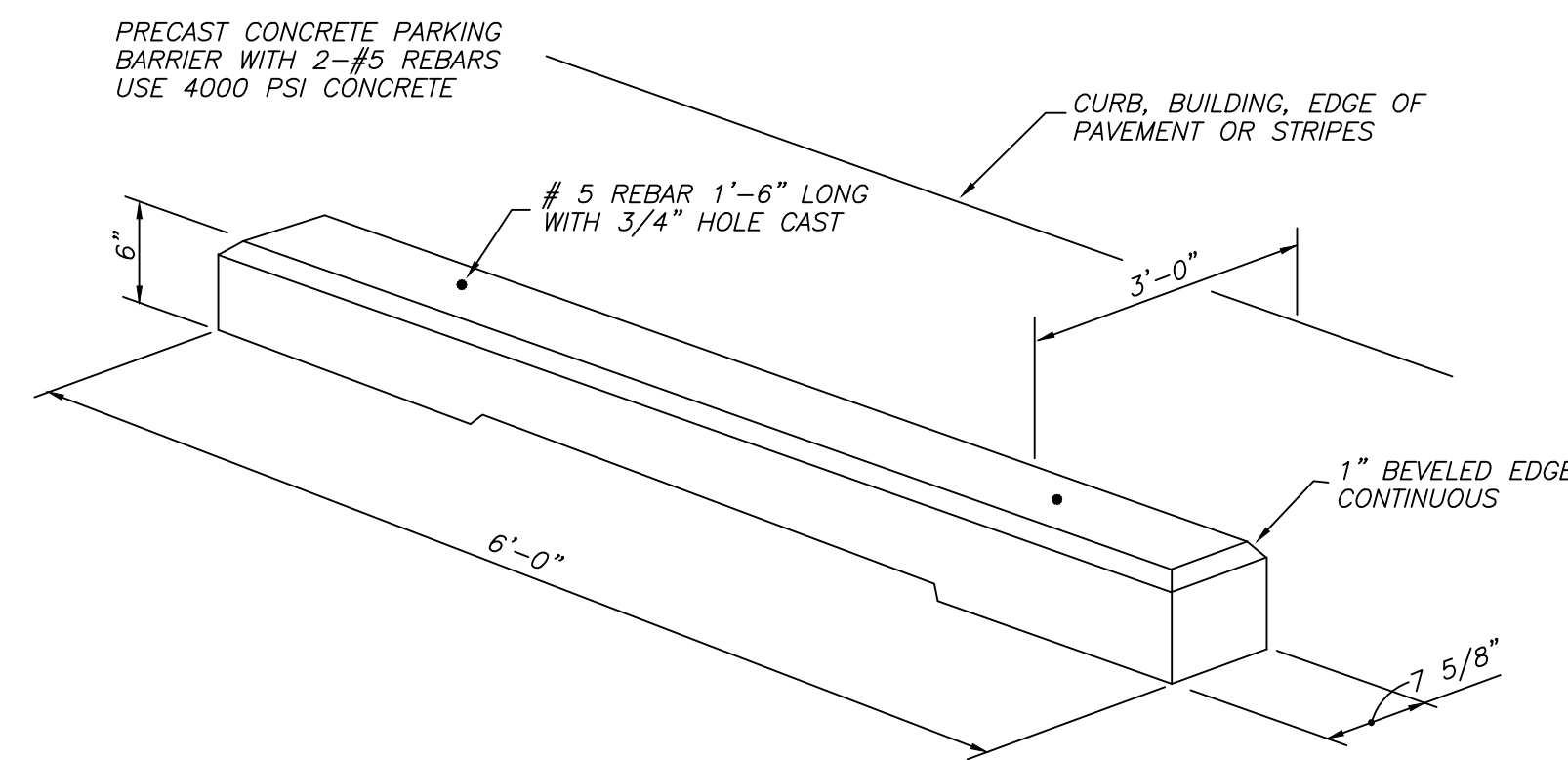
STANDARD CONTROL JOINT



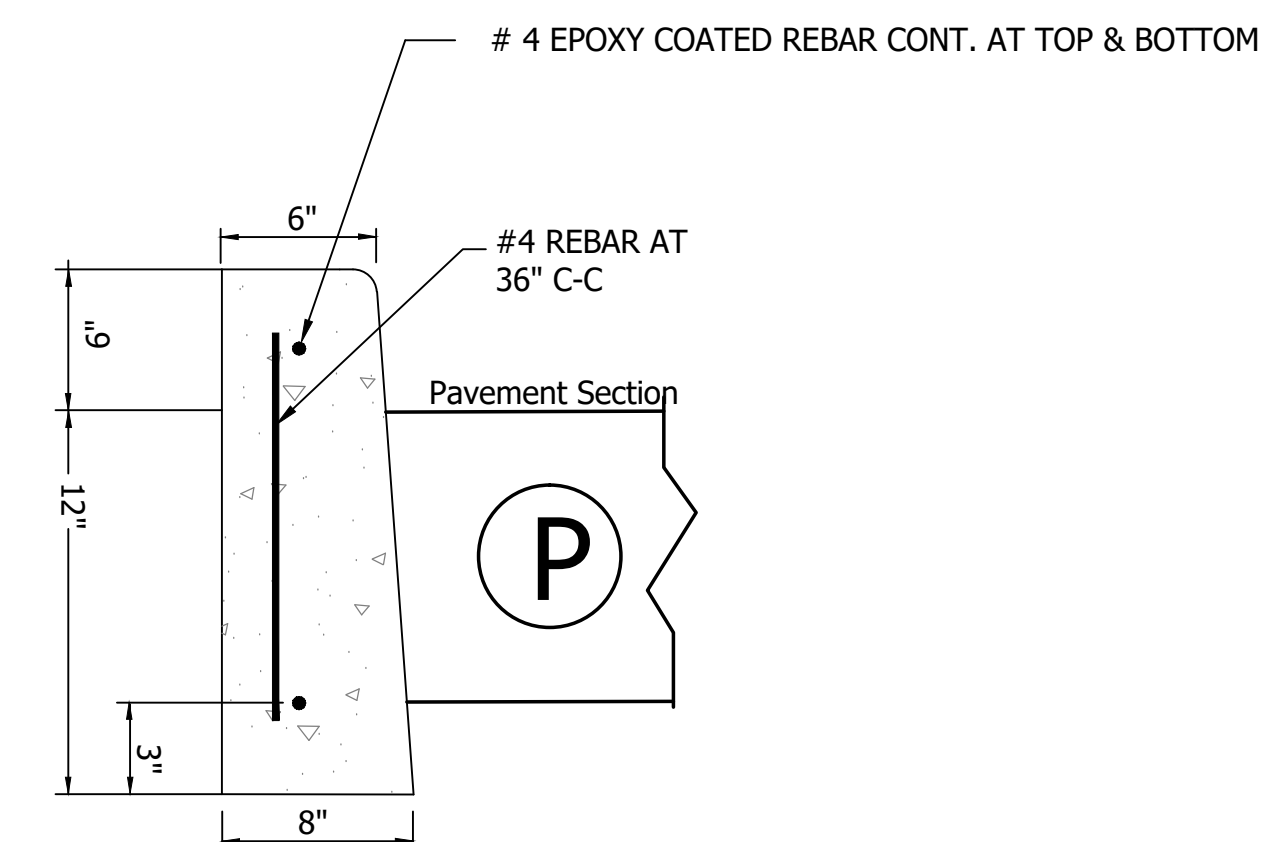
STANDARD EXPANSION JOINT



S SAW CUT AND LAP JOINT
NOT TO SCALE



W PRECAST CONCRETE WHEEL STOP
NOT TO SCALE



C 6" CURB
NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER
No. 60900038
STATE OF INDIANA
8-28-2020
Renald C. Haughey

SCALE: AS SHOWN
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

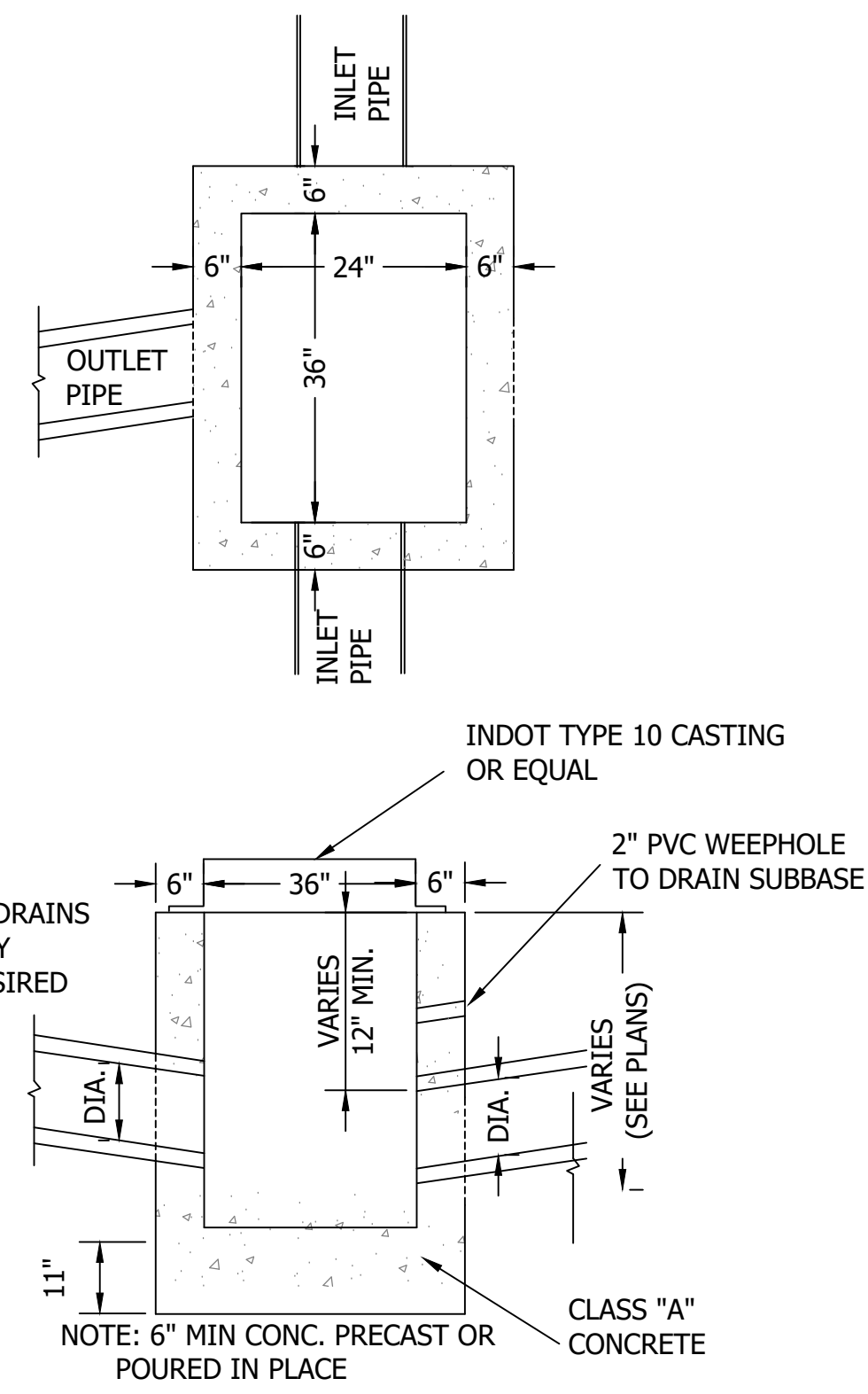
FILE NO: 19-11229
CLIENT NAME: DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
UPPER WALL DETAILS (1 OF 3)

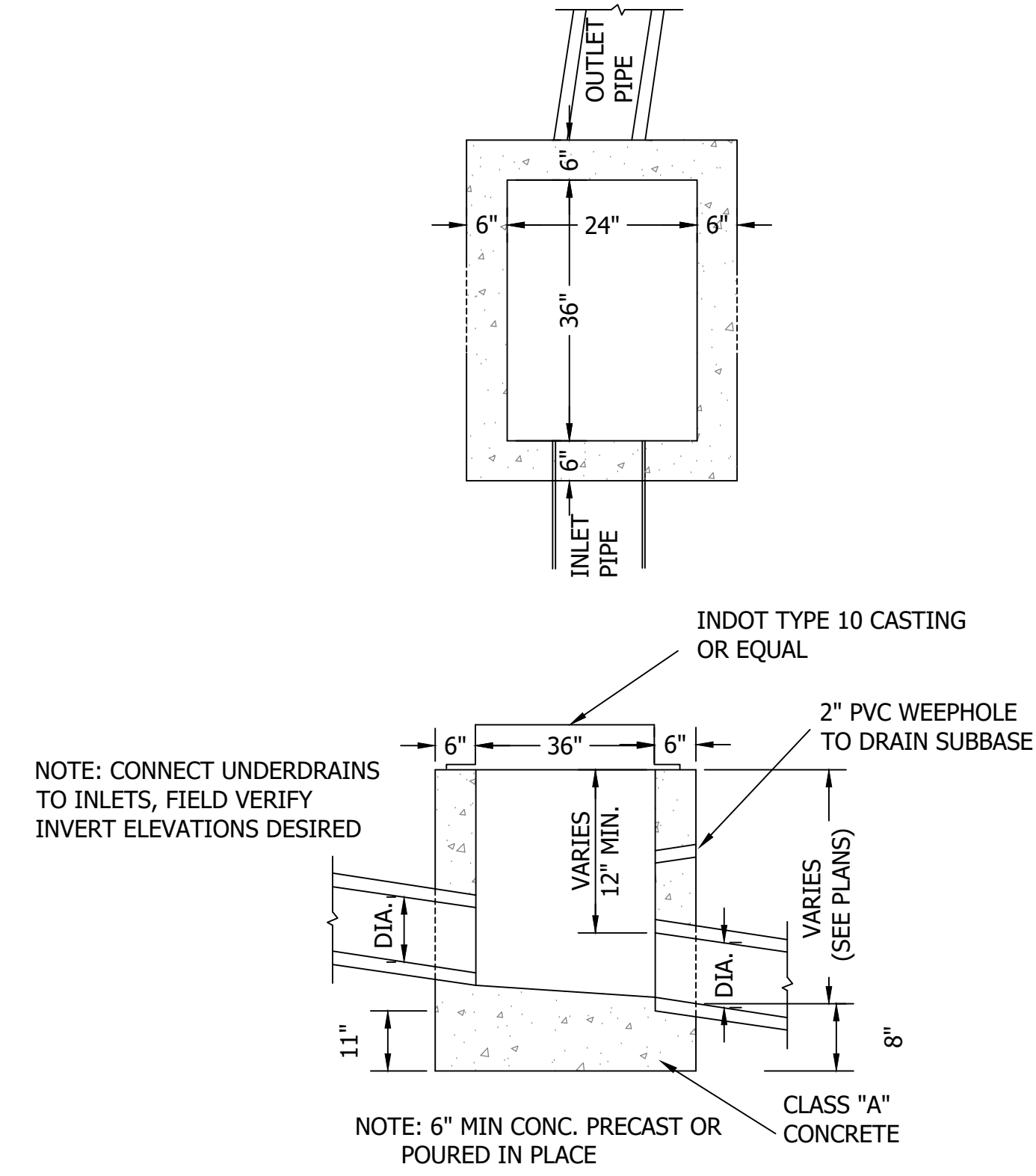
DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
7



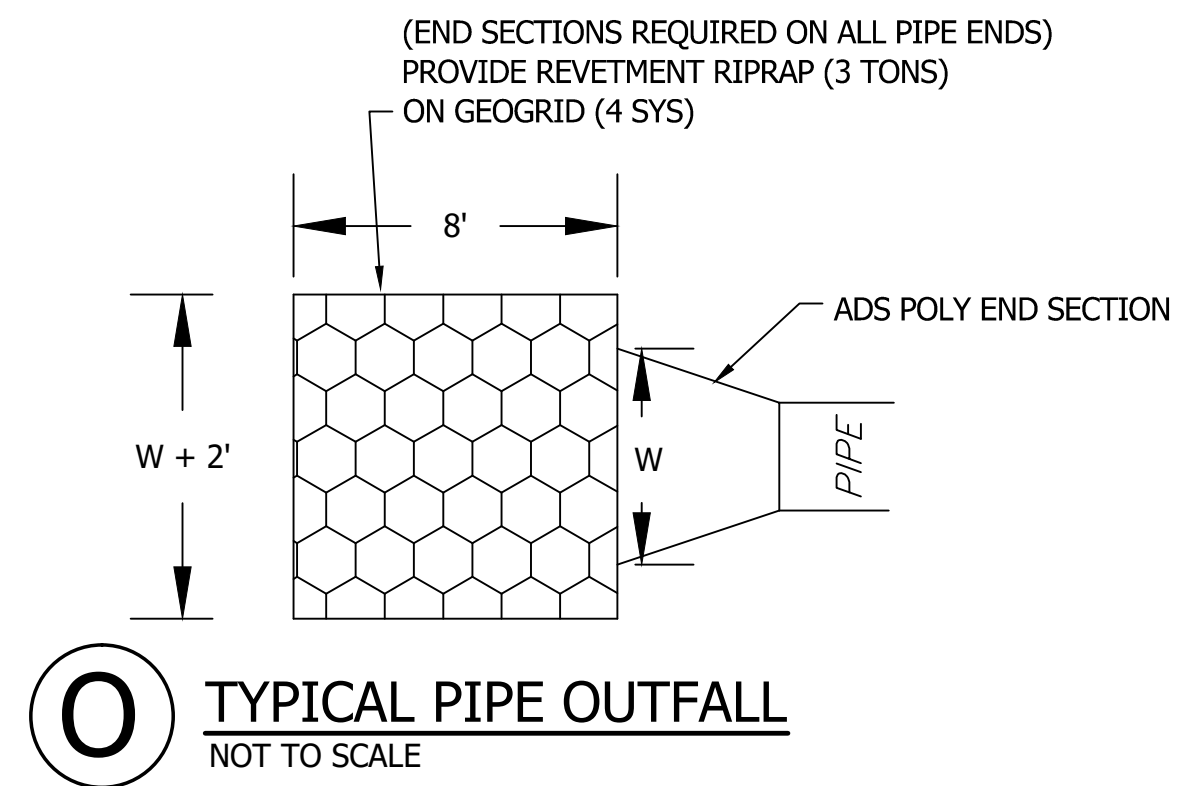
NOTE: CONNECT UNDERDRAINS TO INLETS, FIELD VERIFY INVERT ELEVATIONS DESIRED

CURB INLET (MODIFIED M-10 STR. NO. 104)
NOT TO SCALE



NOTE: CONNECT UNDERDRAINS TO INLETS, FIELD VERIFY INVERT ELEVATIONS DESIRED

CURB INLET (MODIFIED J-10 OR M-10)
NOT TO SCALE



TYPICAL PIPE OUTFALL
NOT TO SCALE

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SCALE: AS SHOWN
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

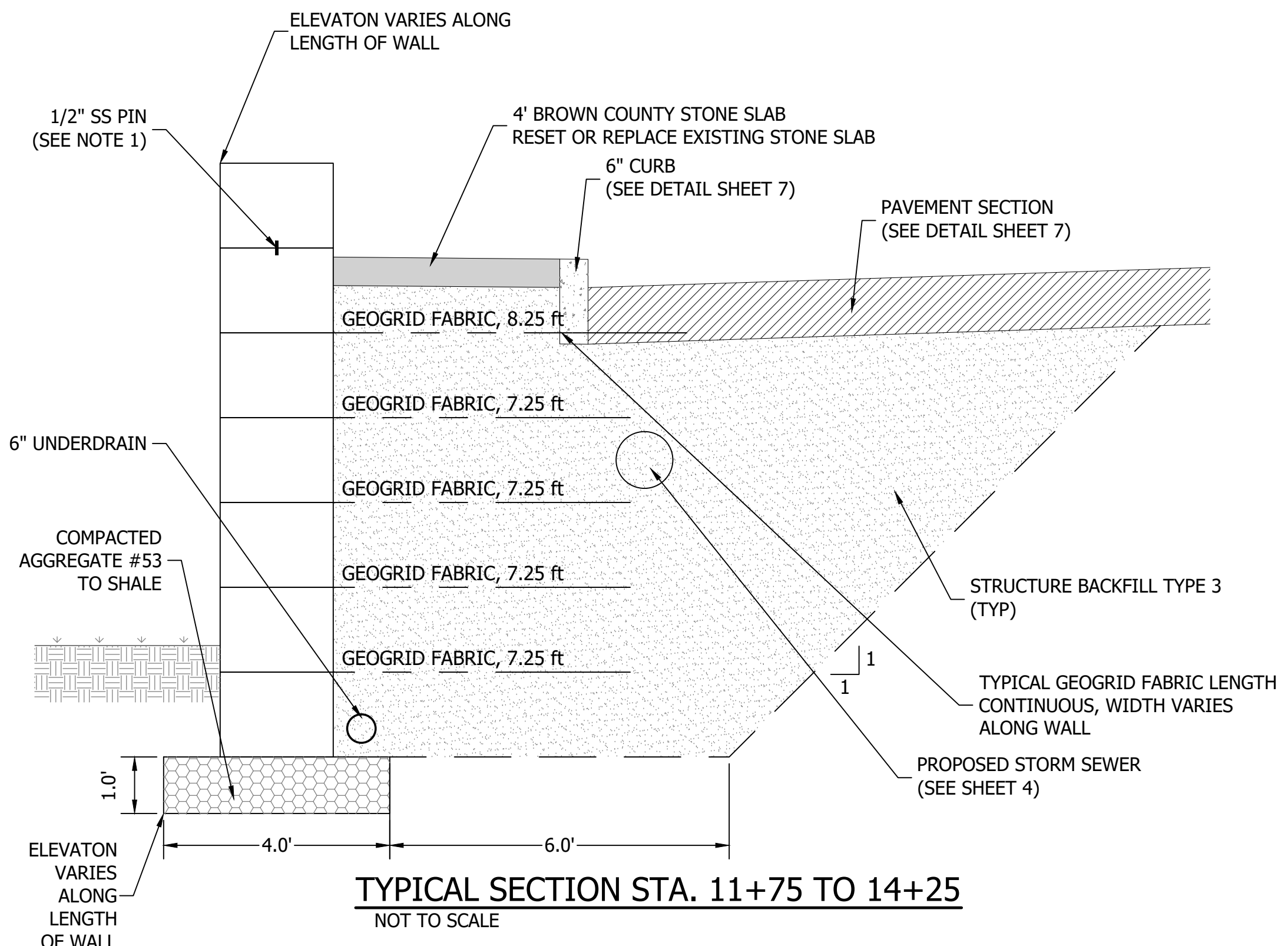
FILE NO: 19-11229
CLIENT NAME: DNR

PROJECT DESCRIPTION: DNR WALL AND TRAIL

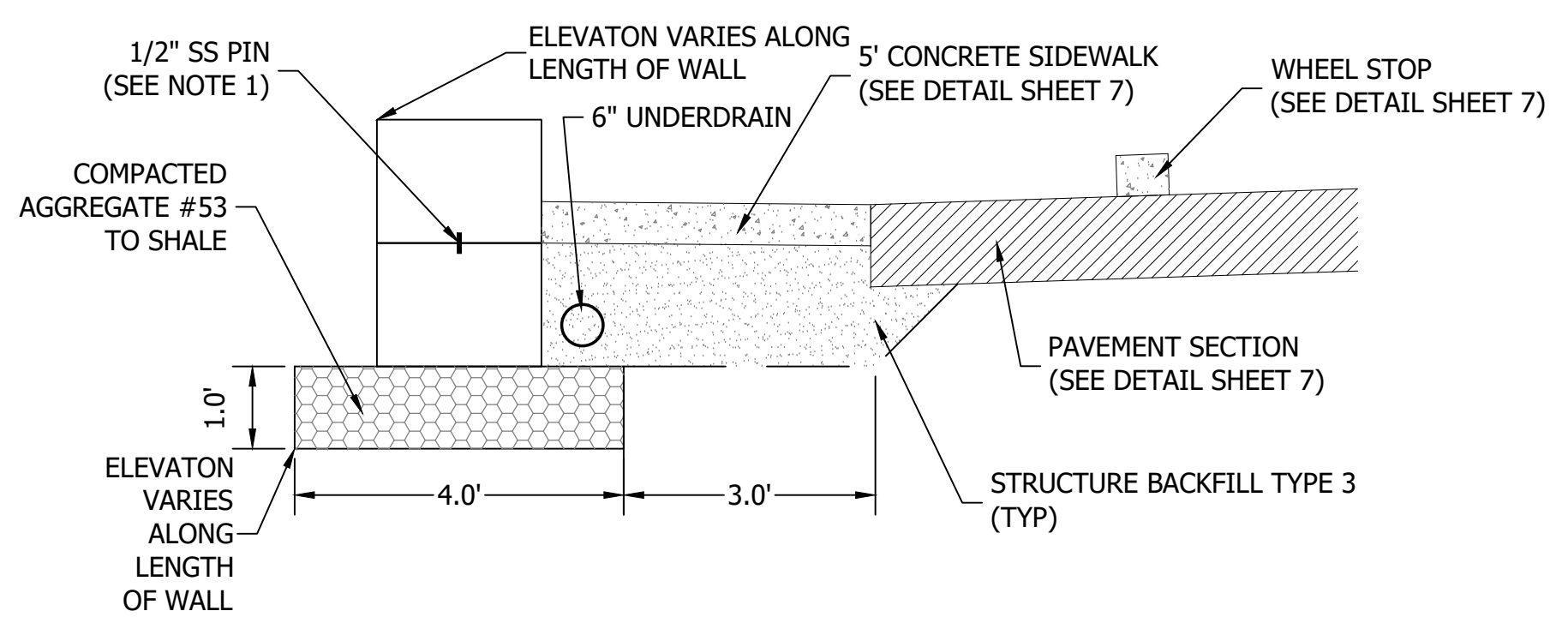
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DESIGN PHASE: BIDDING PLANS

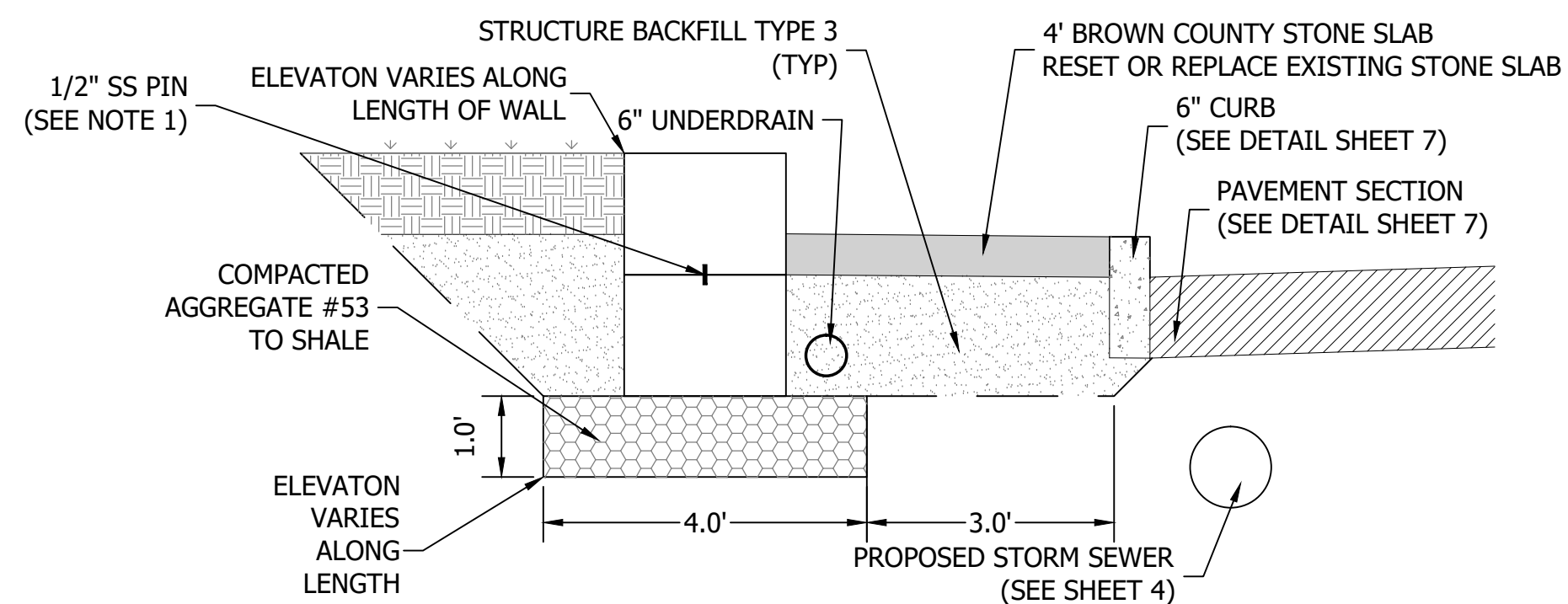
SHEET NUMBER:
8



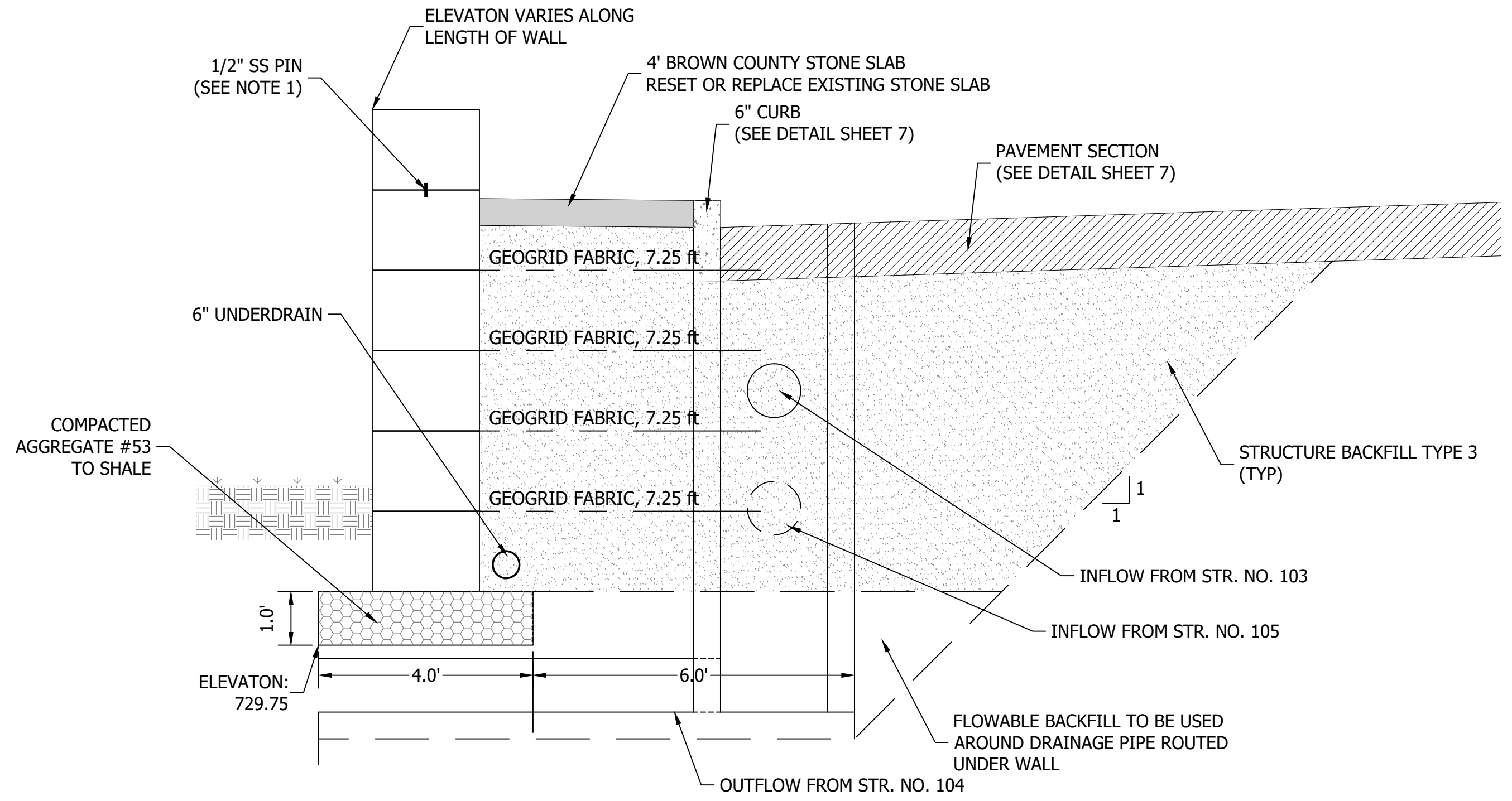
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NOT TO SCALE



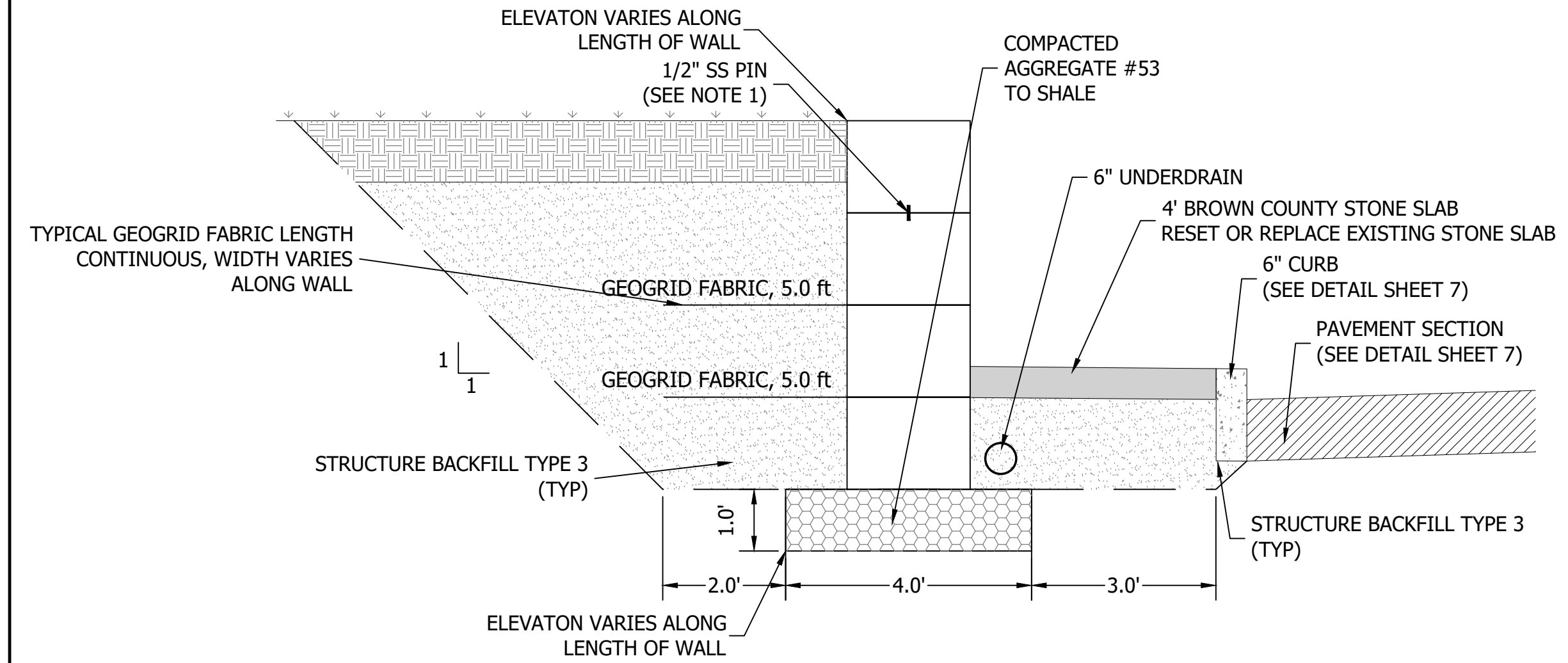
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NOT TO SCALE



TYPICAL SECTION STA. 11+00 TO 11+75
NOT TO SCALE



TYPICAL SECTION STRUCTURE NO. 104 STA. 13+25
NOT TO SCALE



TYPICAL SECTION STA. 10+00 TO 11+00
NOT TO SCALE

GENERAL NOTES:
1. ALL TOP (CAP) STONES TO BE ANCHORED TO LOWER STONE WITH (2) 1/2\"/>

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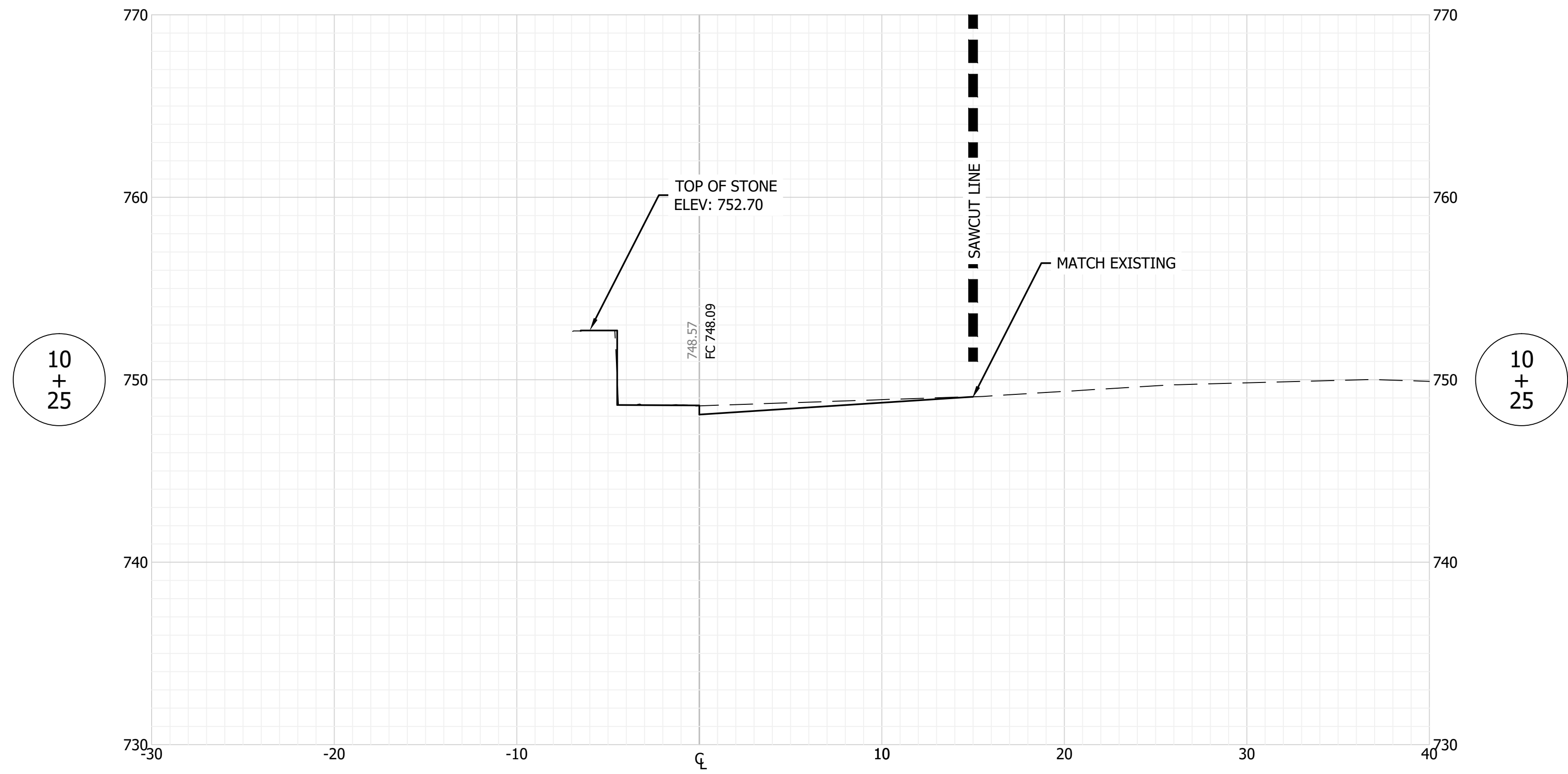
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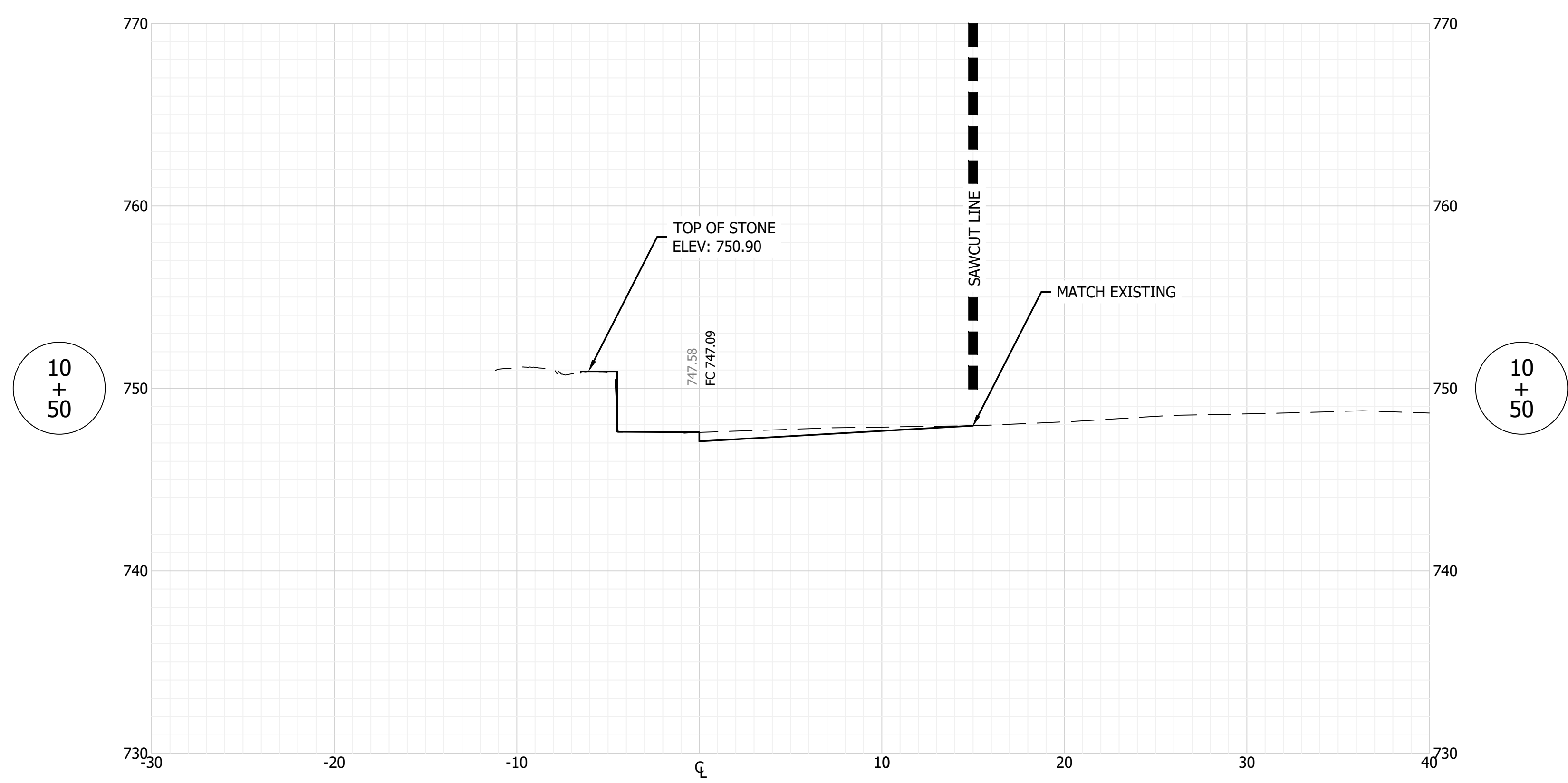
SCALE: AS SHOWN
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME: DNR
PROJECT DESCRIPTION: DNR WALL AND TRAIL
SHEET TITLE: UPPER WALL DETAILS (3 OF 3)
DESIGN PHASE: BIDDING PLANS
SHEET NUMBER:



HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1" = 5'

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SCALE: 1" = 10'
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

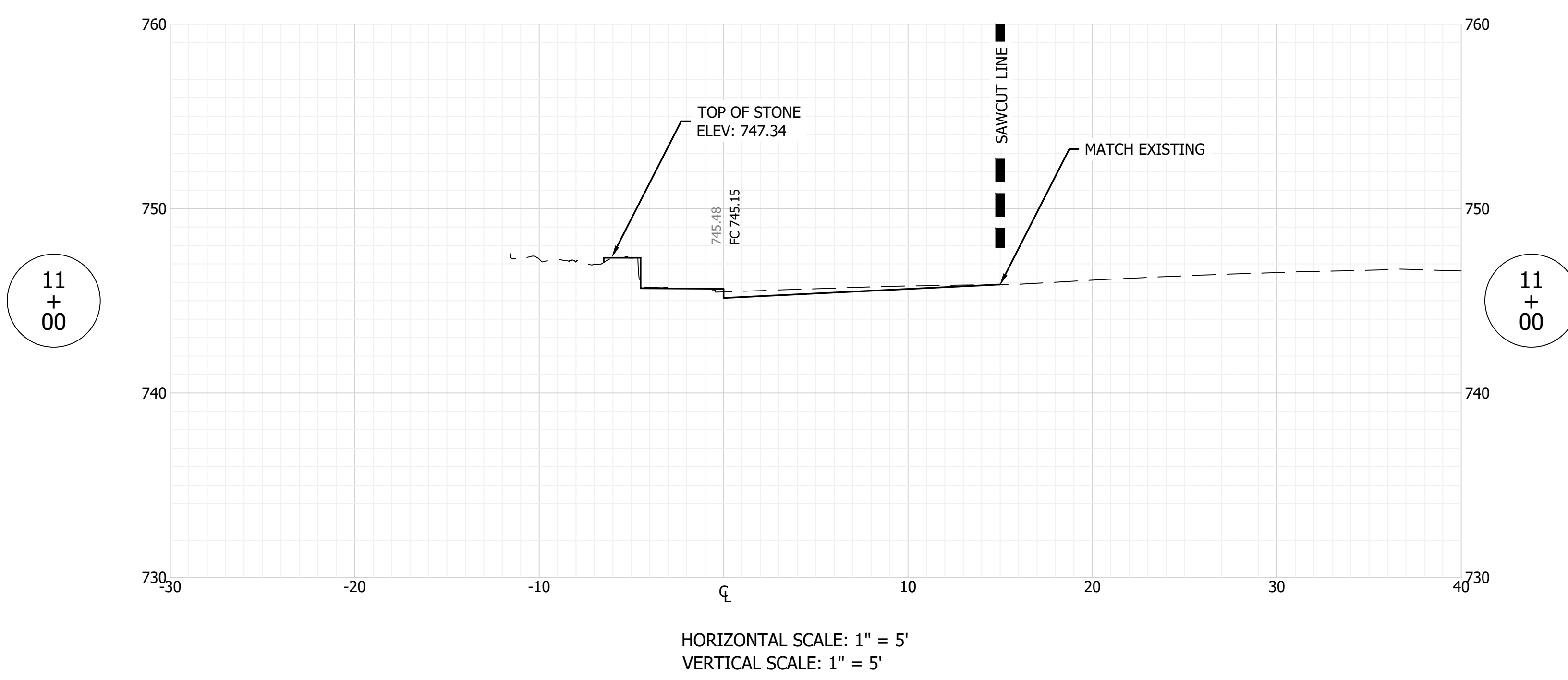
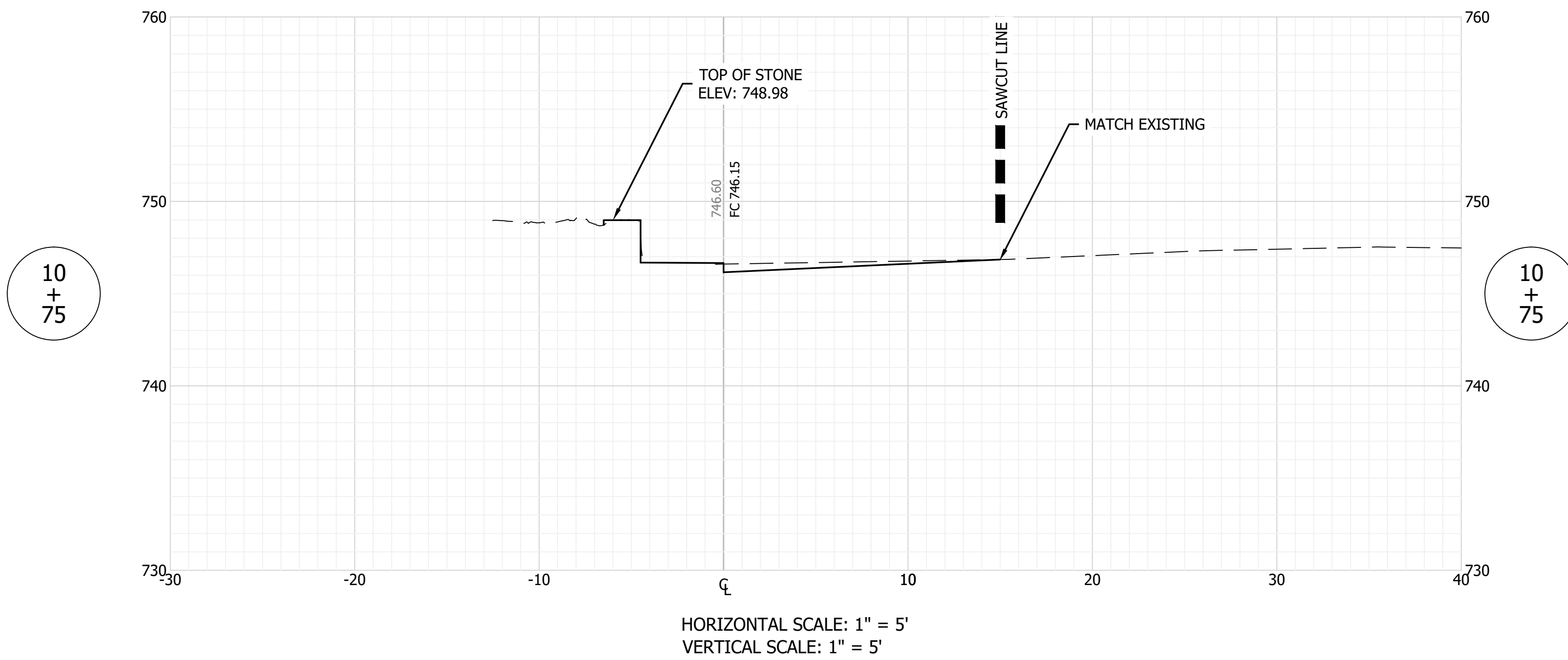
SHEET TITLE:
WALL CROSS SECTIONS (1 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
10

GENERAL NOTE:
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DRAWN BY: ARC

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DATE: AUGUST 28, 2020

Revision	Drawn By	Date

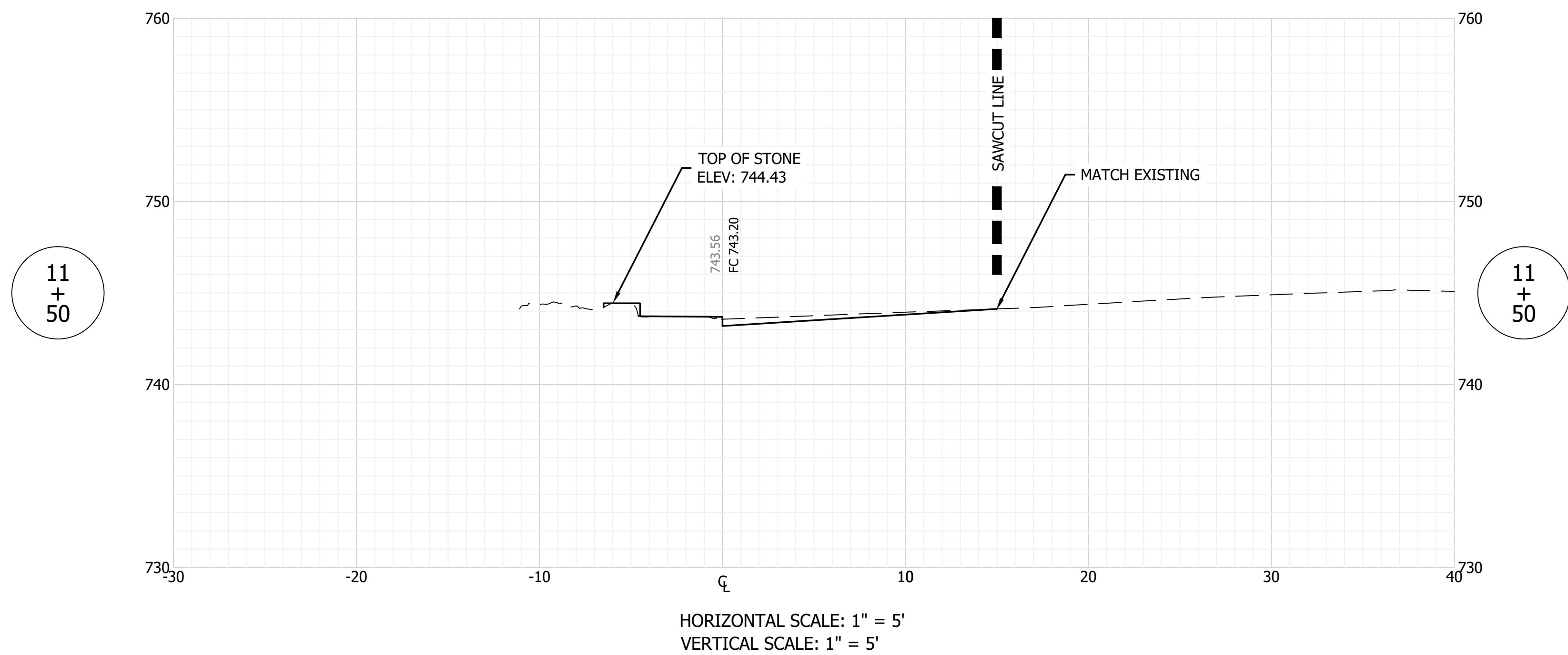
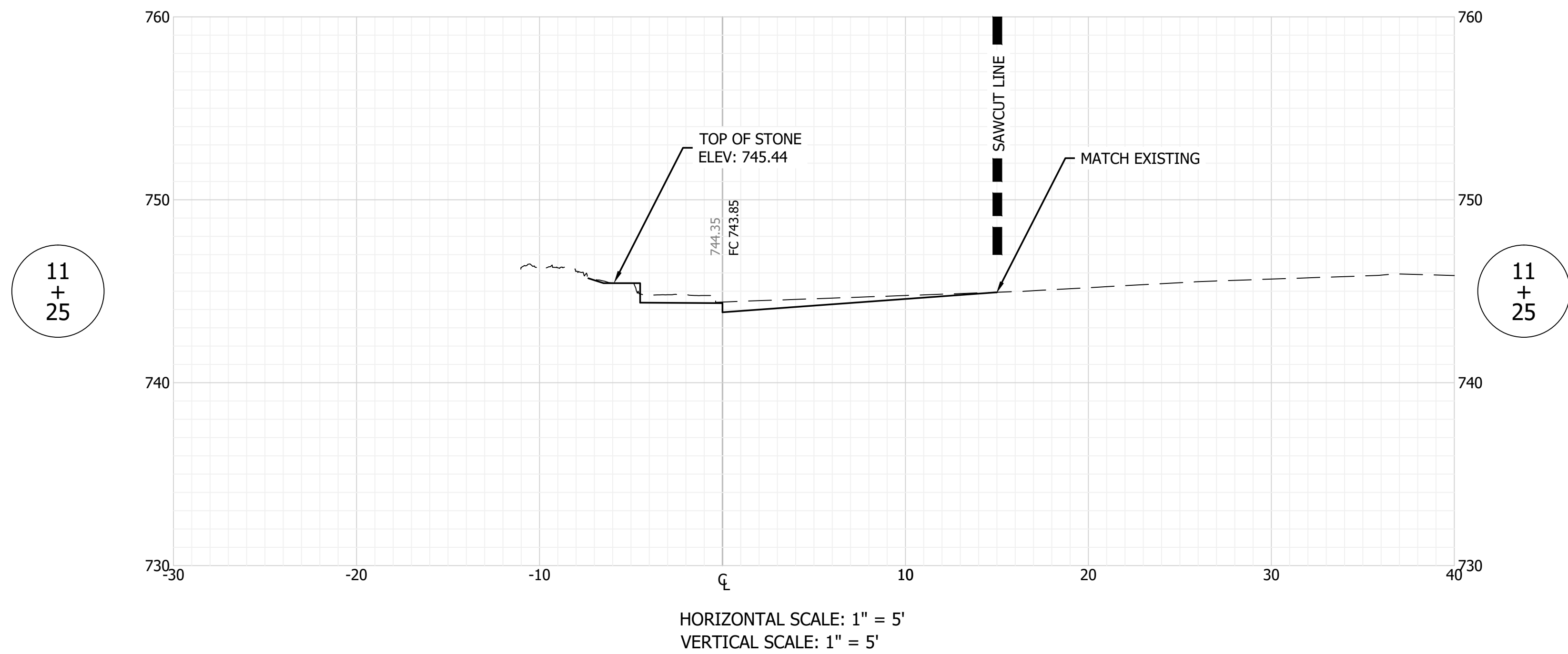
FILE NO: 19-11229
 CLIENT NAME:
 DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 WALL CROSS SECTIONS (2 OF 10)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
11



GENERAL NOTE:
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SCALE: 1" = 10'
DRAWN BY: ARC
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DATE: AUGUST 28, 2020

Revision	Drawn By	Date

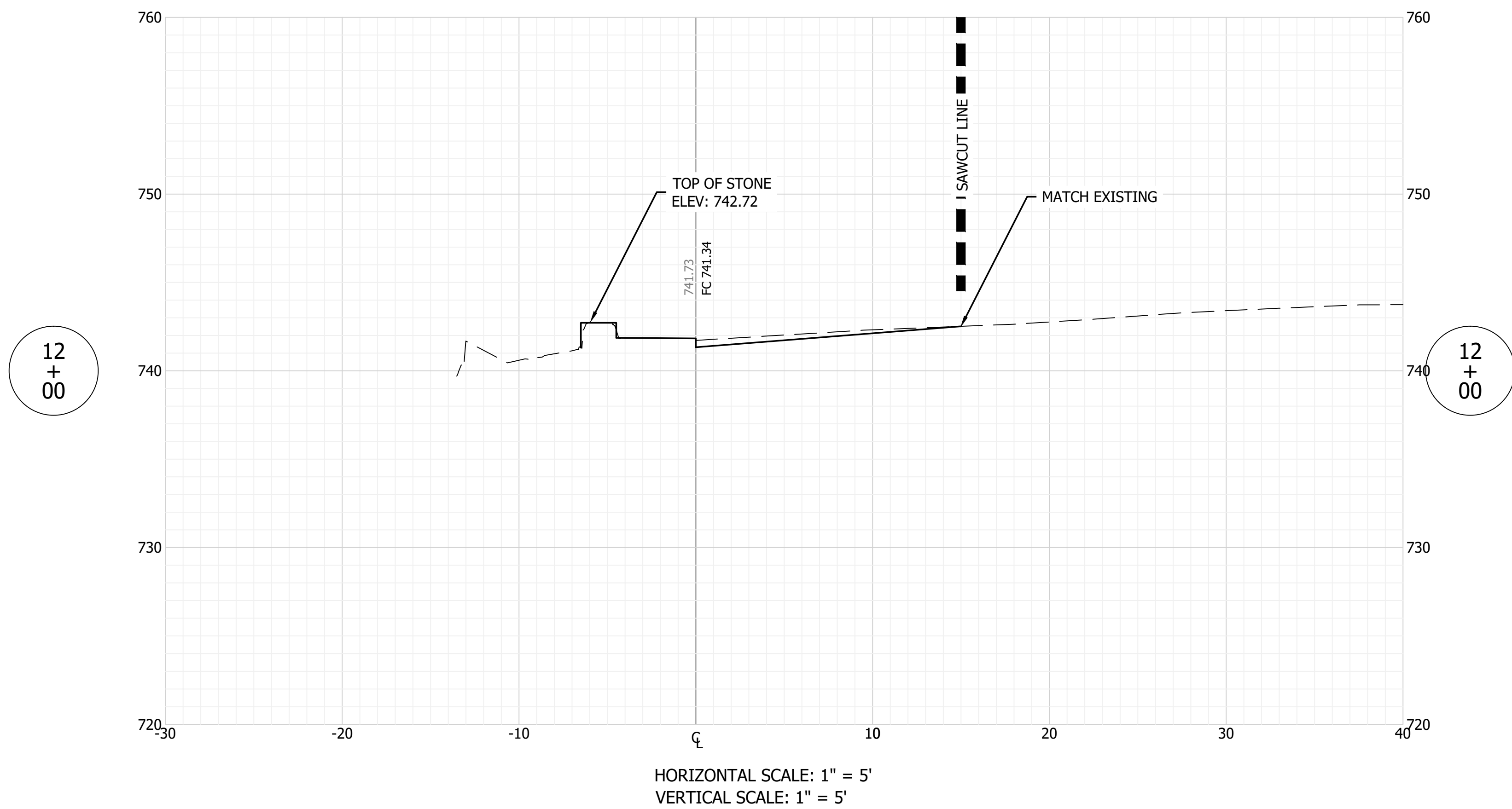
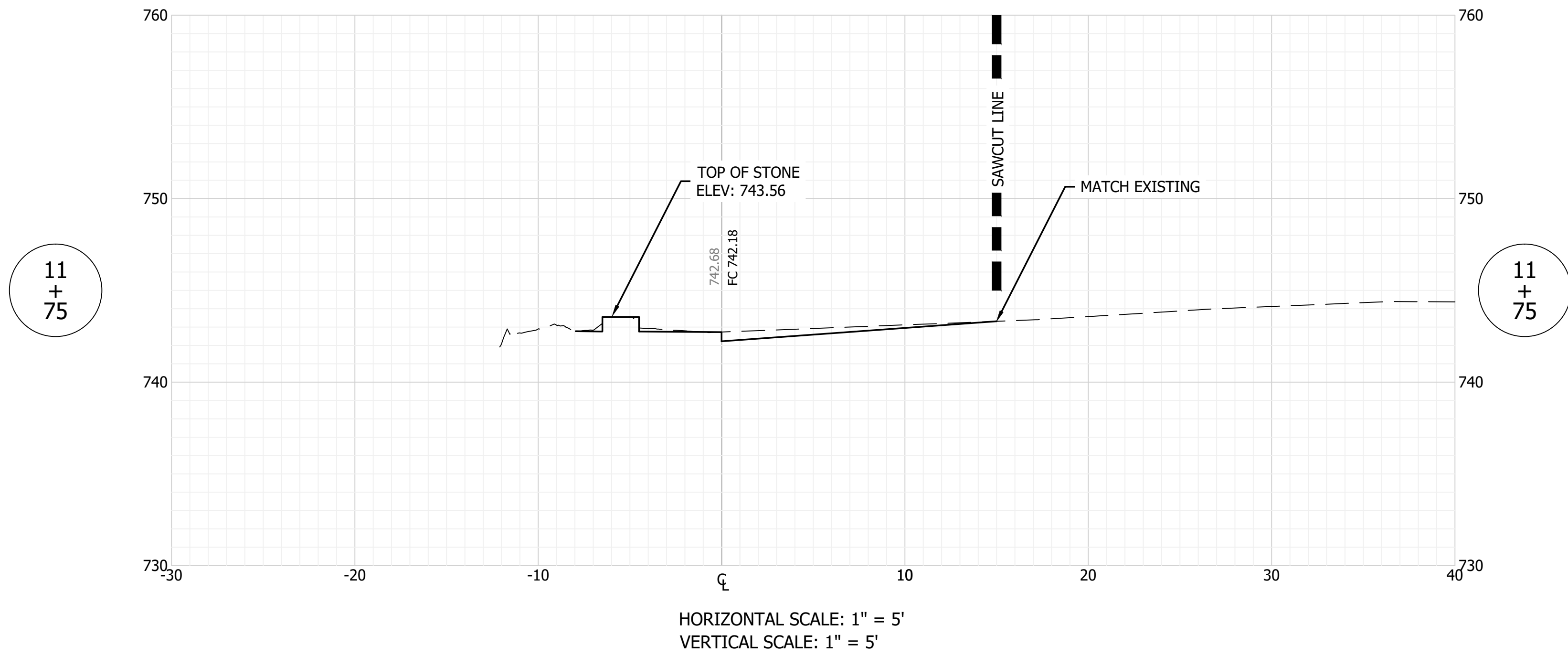
FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL CROSS SECTIONS (3 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
12



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SCALE: 1" = 10'

DRAWN BY: ARC

CHECKED BY: BAH

DATE: AUGUST 28, 2020

Revision	Drawn By	Date

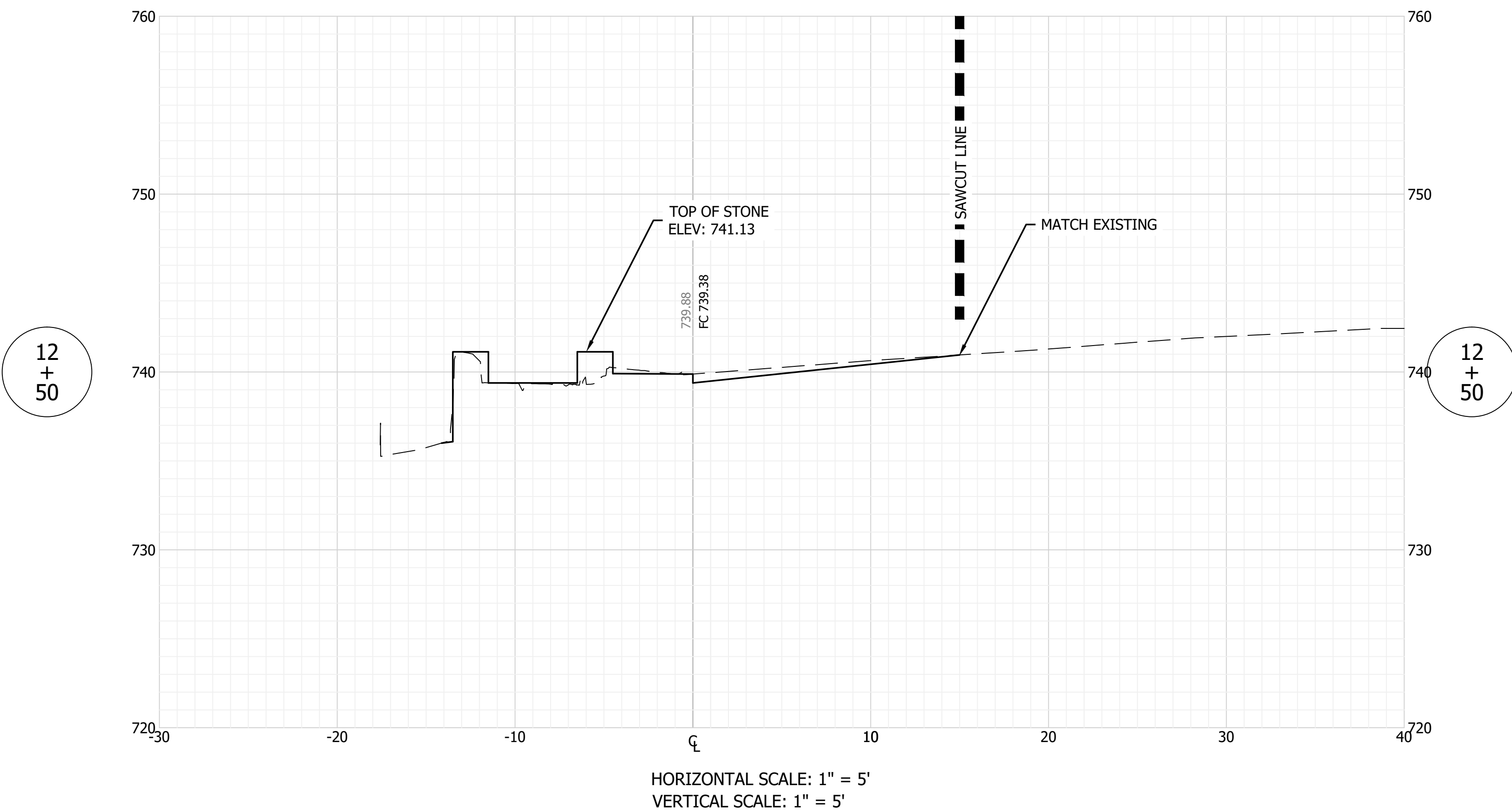
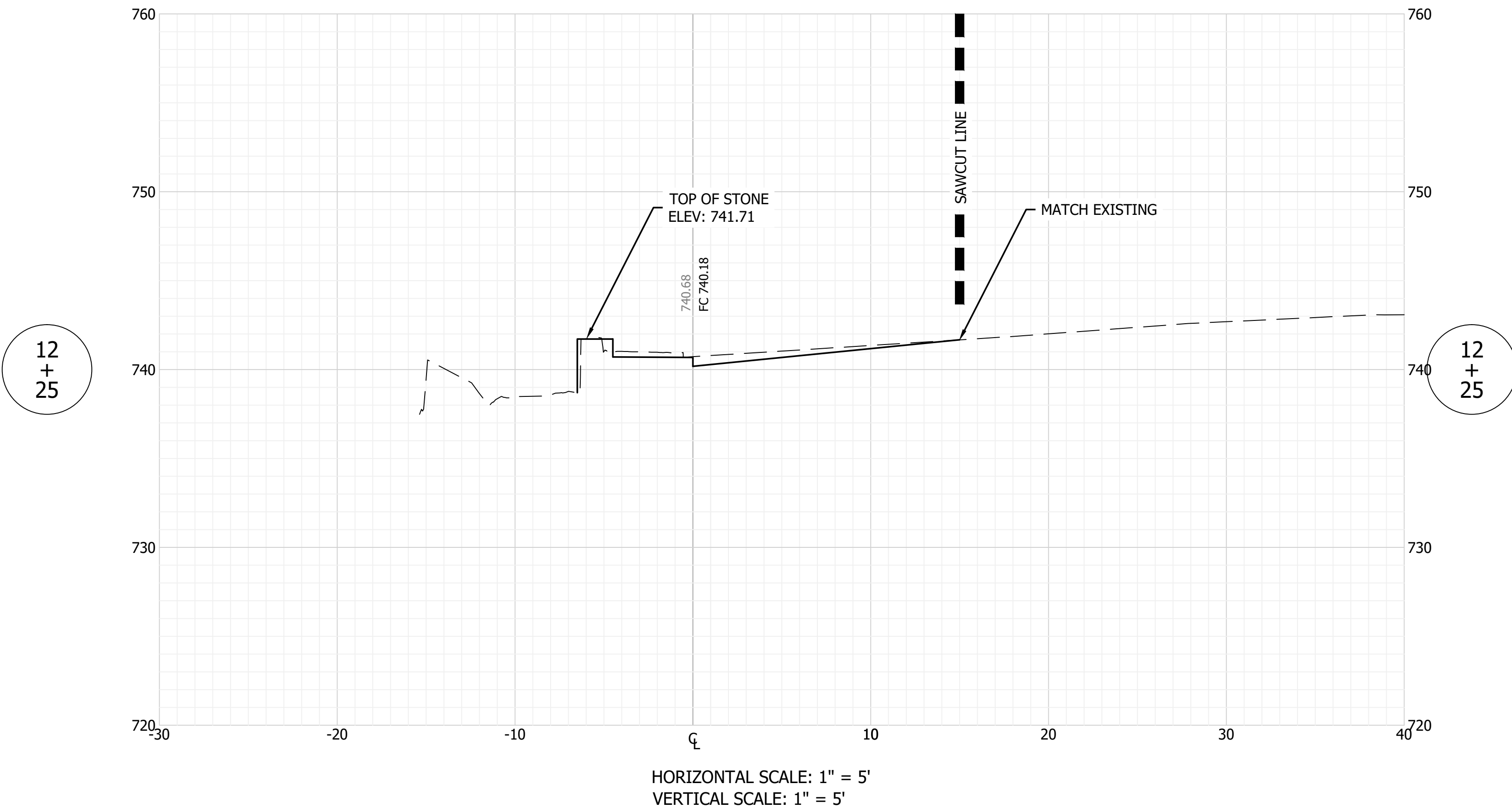
FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL CROSS SECTIONS (4 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
13



GENERAL NOTE:
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Revision	Drawn By	Date

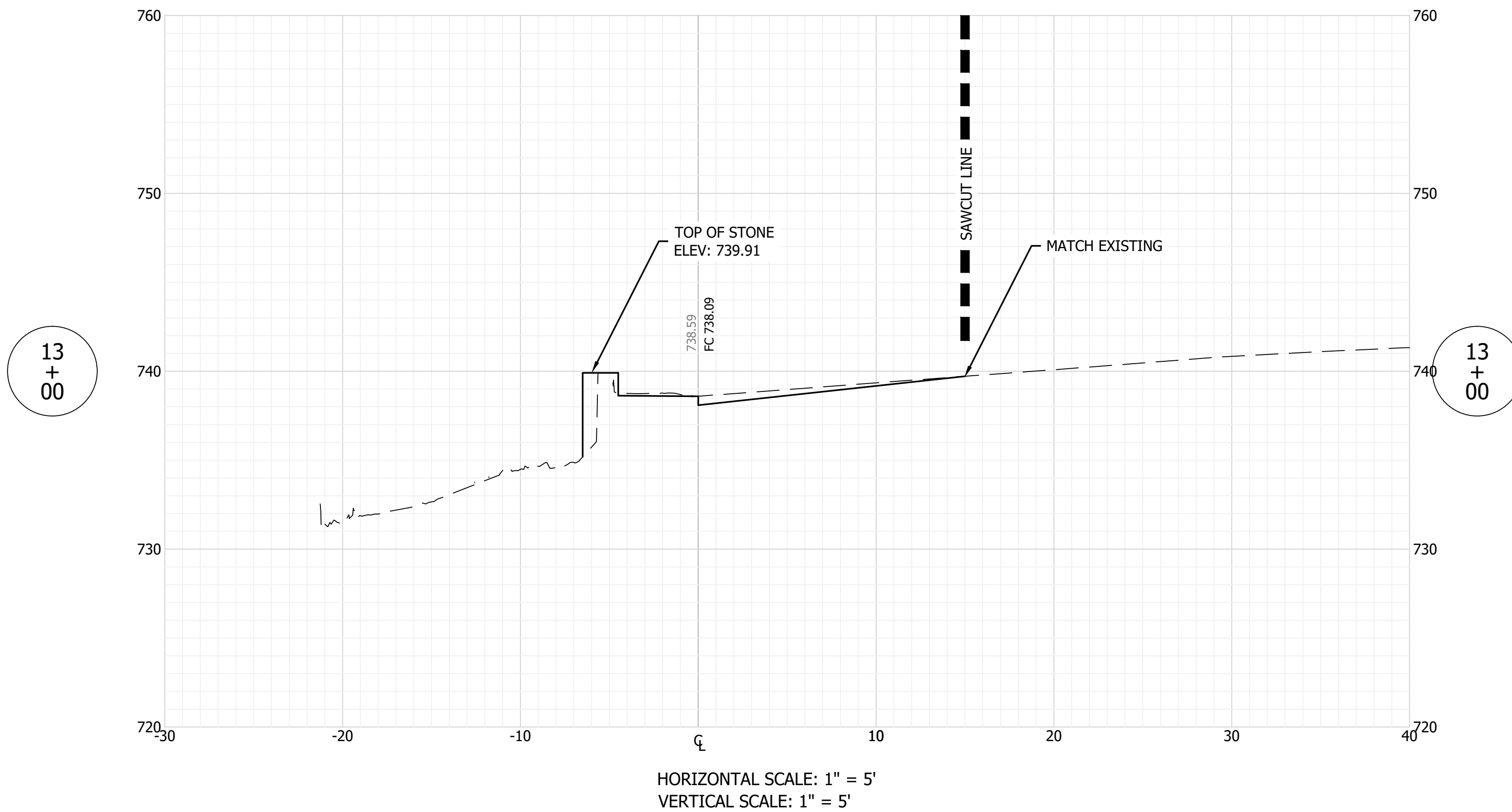
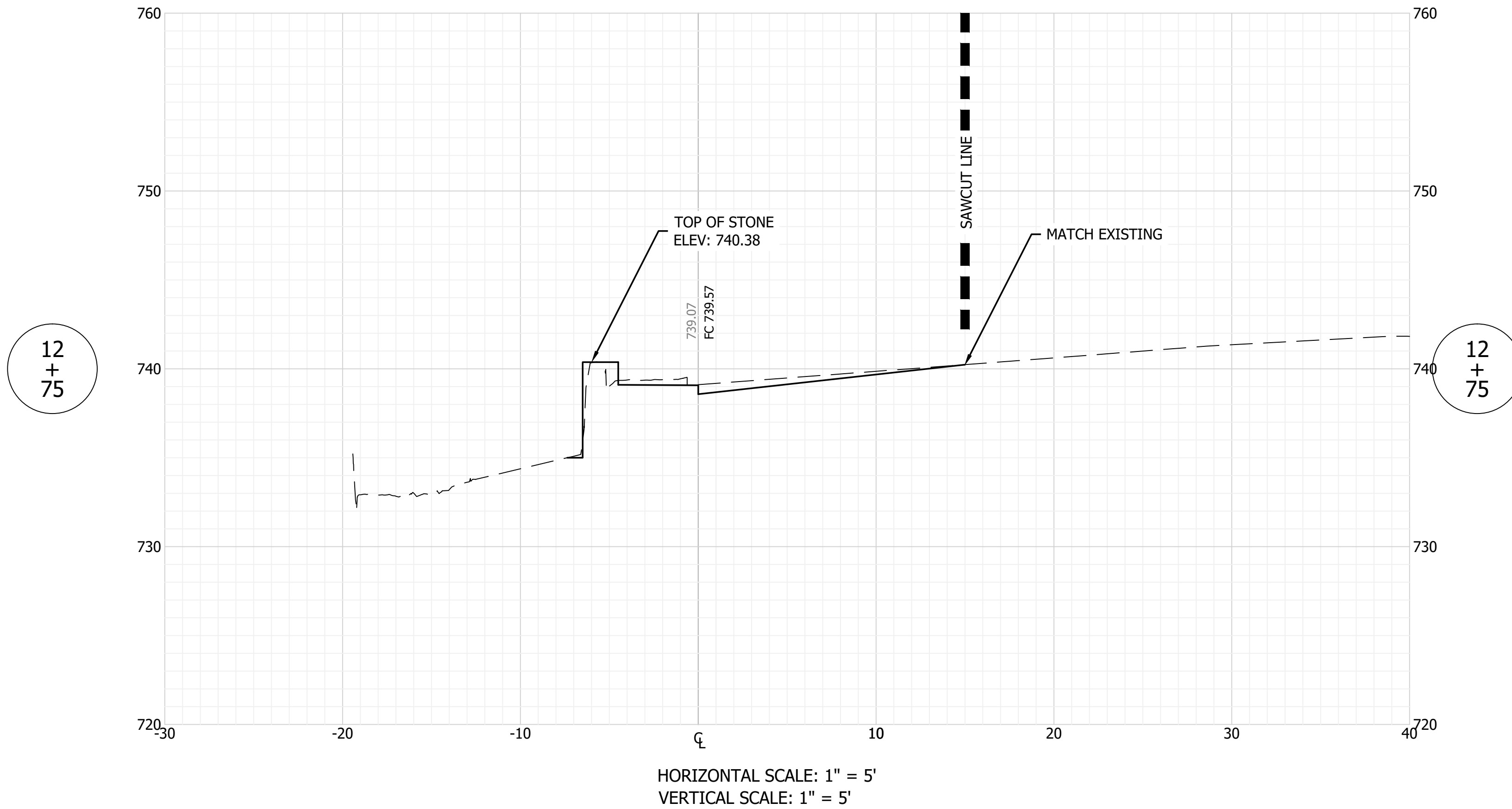
FILE NO: 19-11229
 CLIENT NAME:
 DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 WALL CROSS SECTIONS (5 OF 10)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
14



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SCALE: 1" = 10'
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Revision	Drawn By	Date

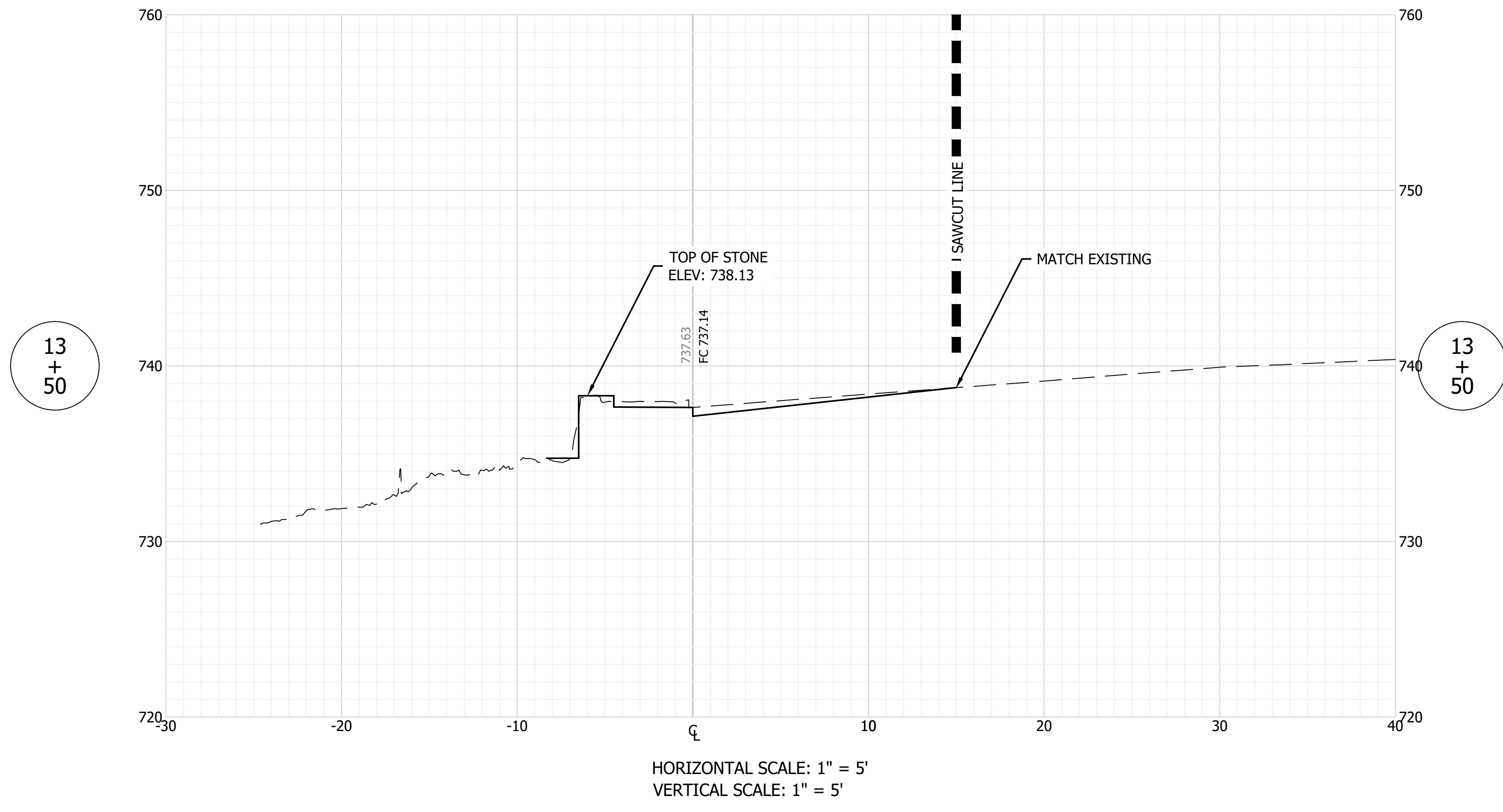
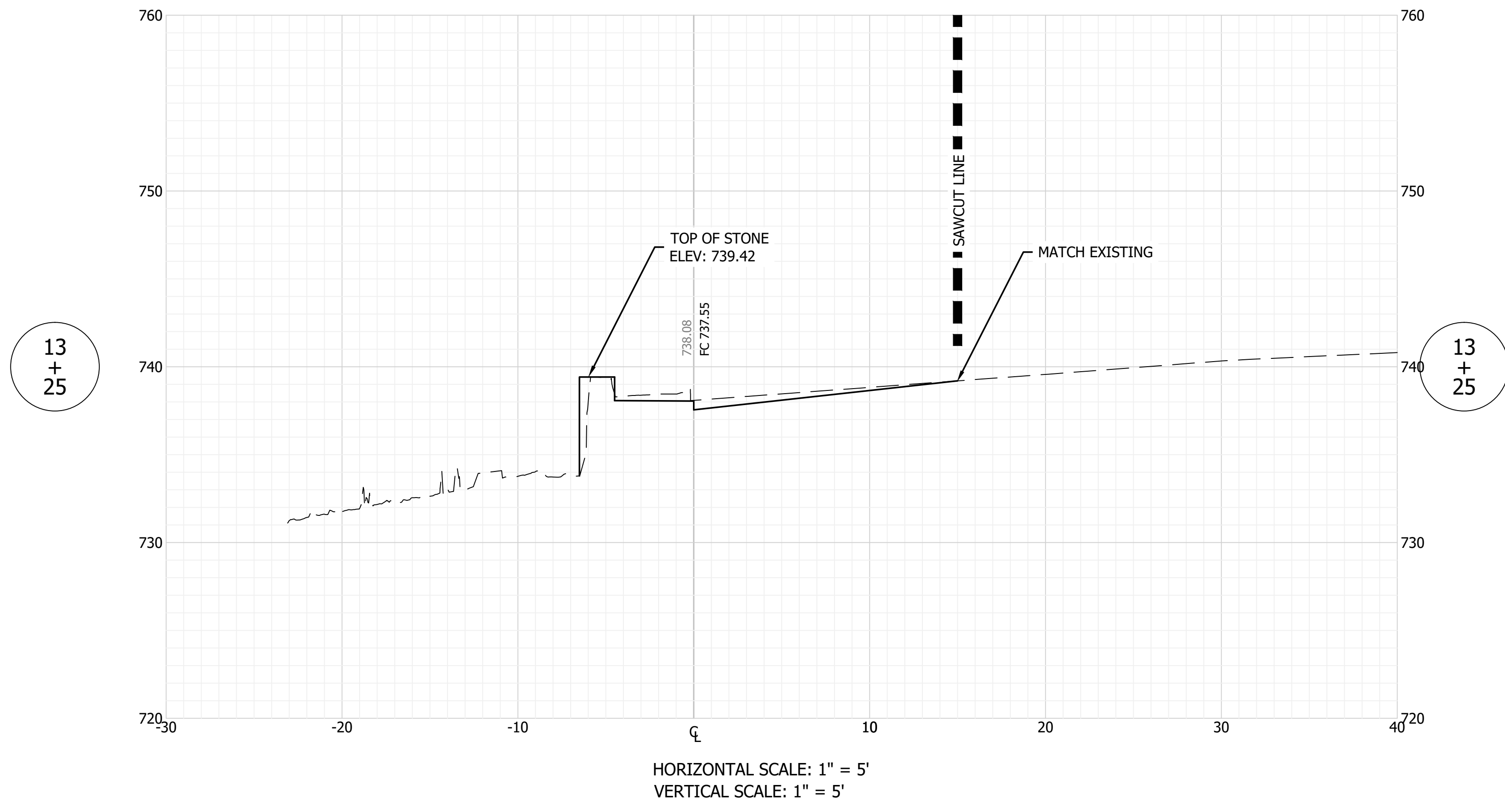
FILE NO: 19-11229
 CLIENT NAME:
 DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 WALL CROSS SECTIONS (6 OF 10)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
15



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SCALE: 1" = 10'

DRAWN BY: ARC

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DATE: AUGUST 28, 2020

Revision	Drawn By	Date

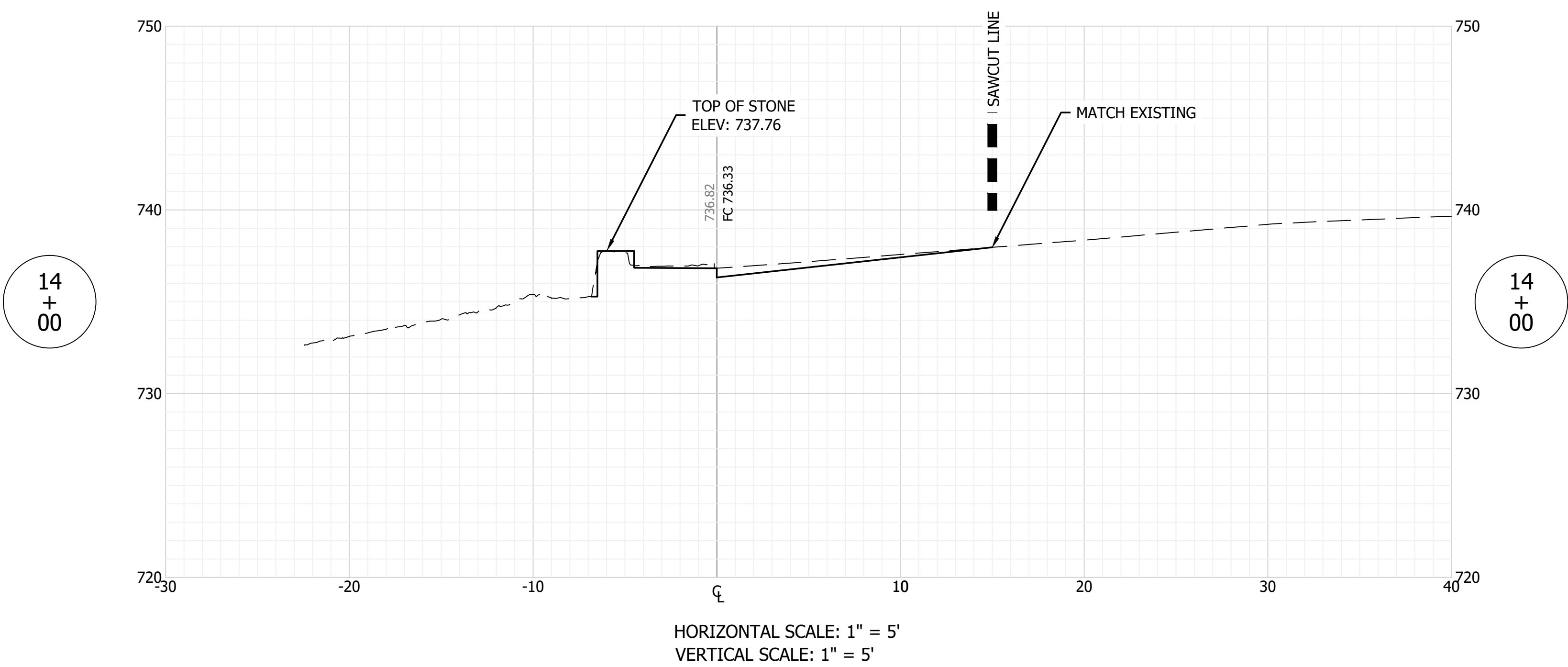
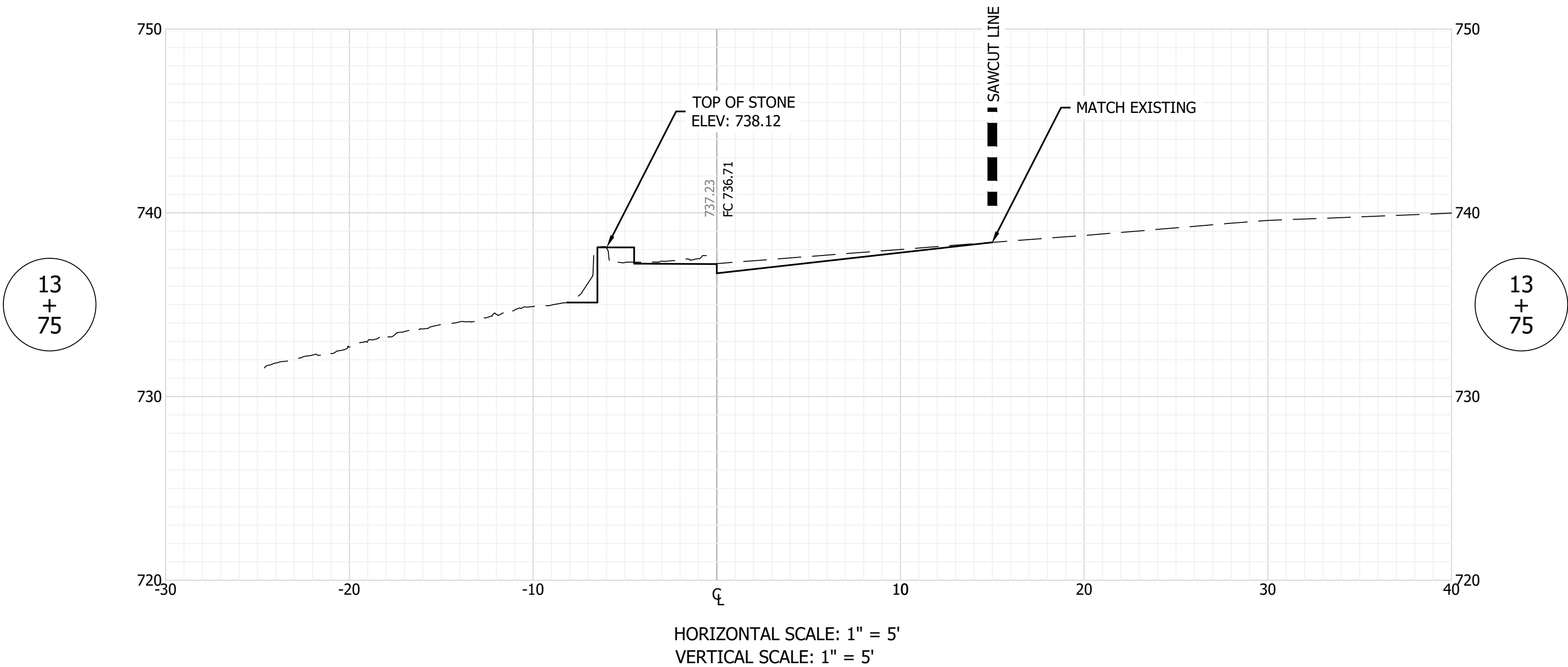
FILE NO: 19-11229
 CLIENT NAME:
 DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 WALL CROSS SECTIONS (7 OF 10)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
16



GENERAL NOTE:
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SCALE: 1" = 10'

DRAWN BY: ARC

CHECKED BY: BAH

DATE: AUGUST 28, 2020

Revision	Drawn By	Date

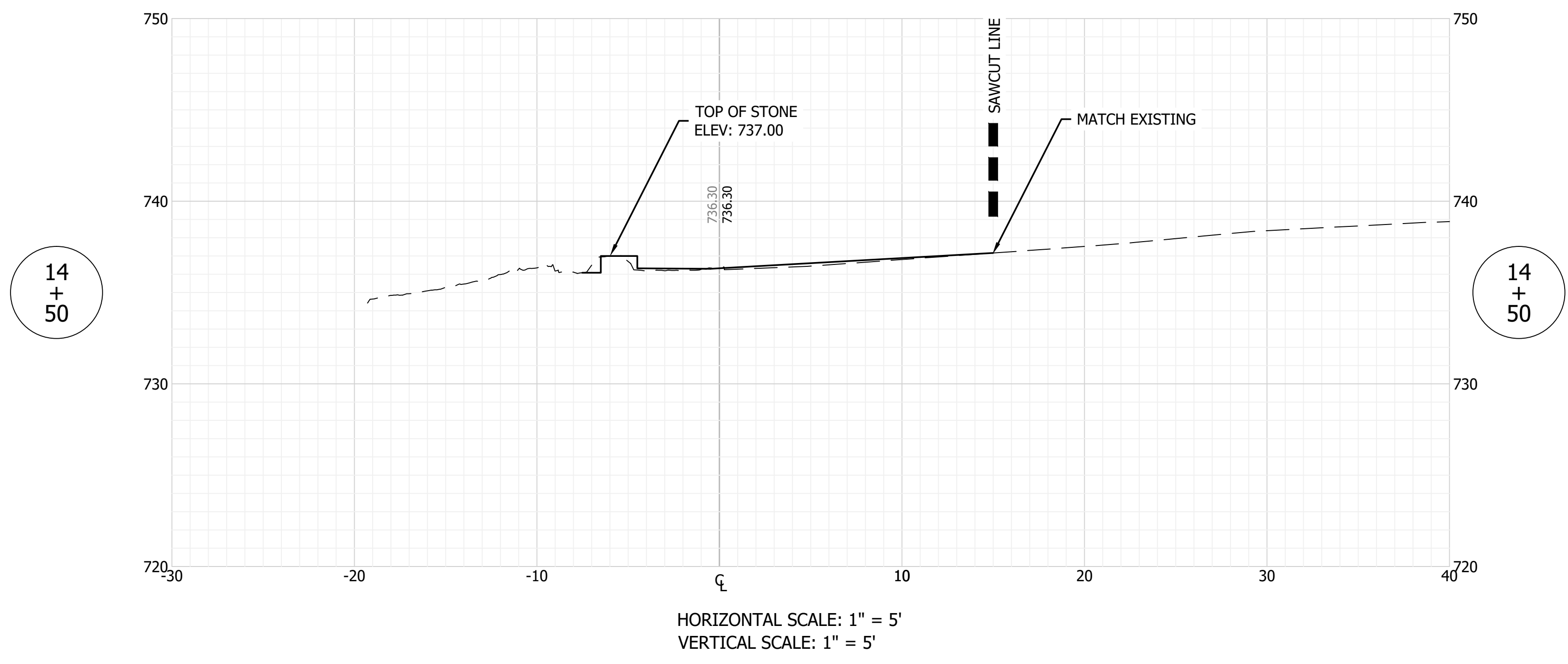
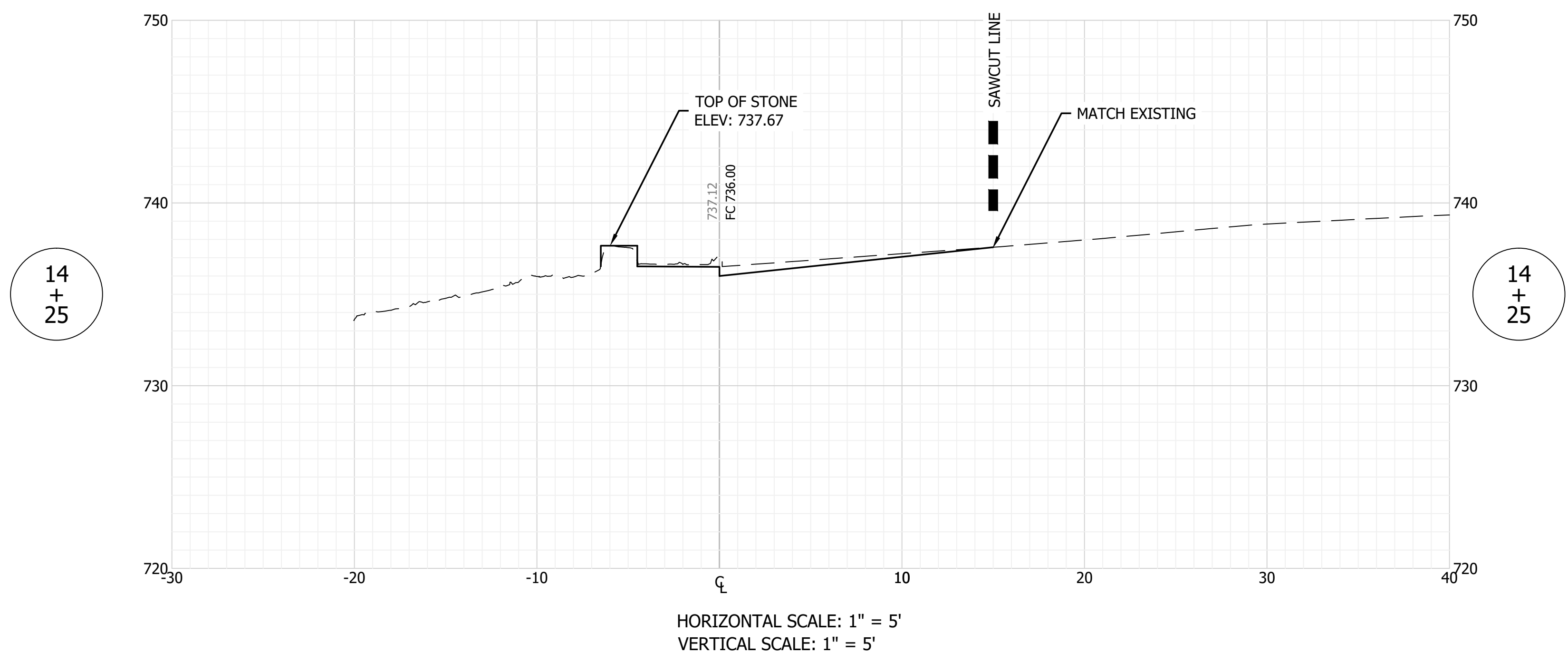
FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL CROSS SECTIONS (8 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
17



GENERAL NOTE:
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SCALE: 1" = 10'

DRAWN BY: ARC

CHECKED BY: BAH

DATE: AUGUST 28, 2020

Revision	Drawn By	Date

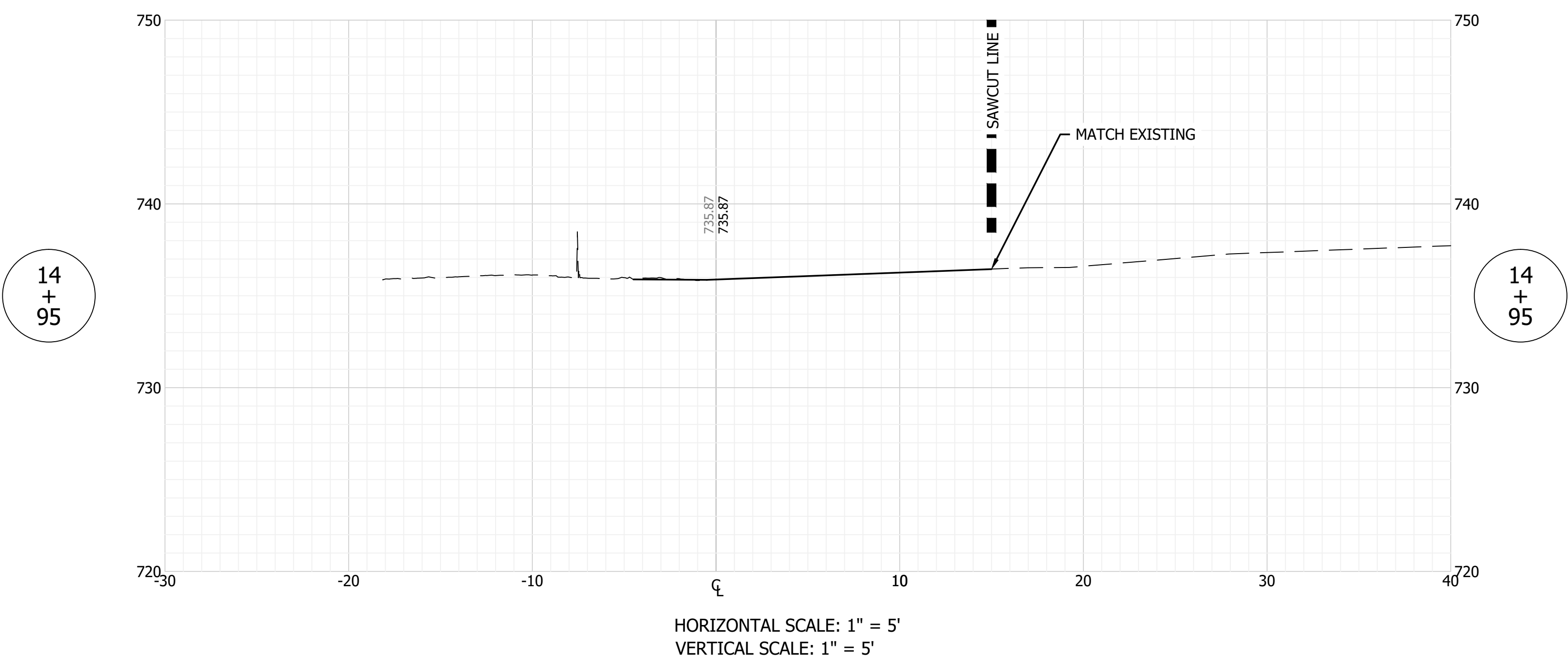
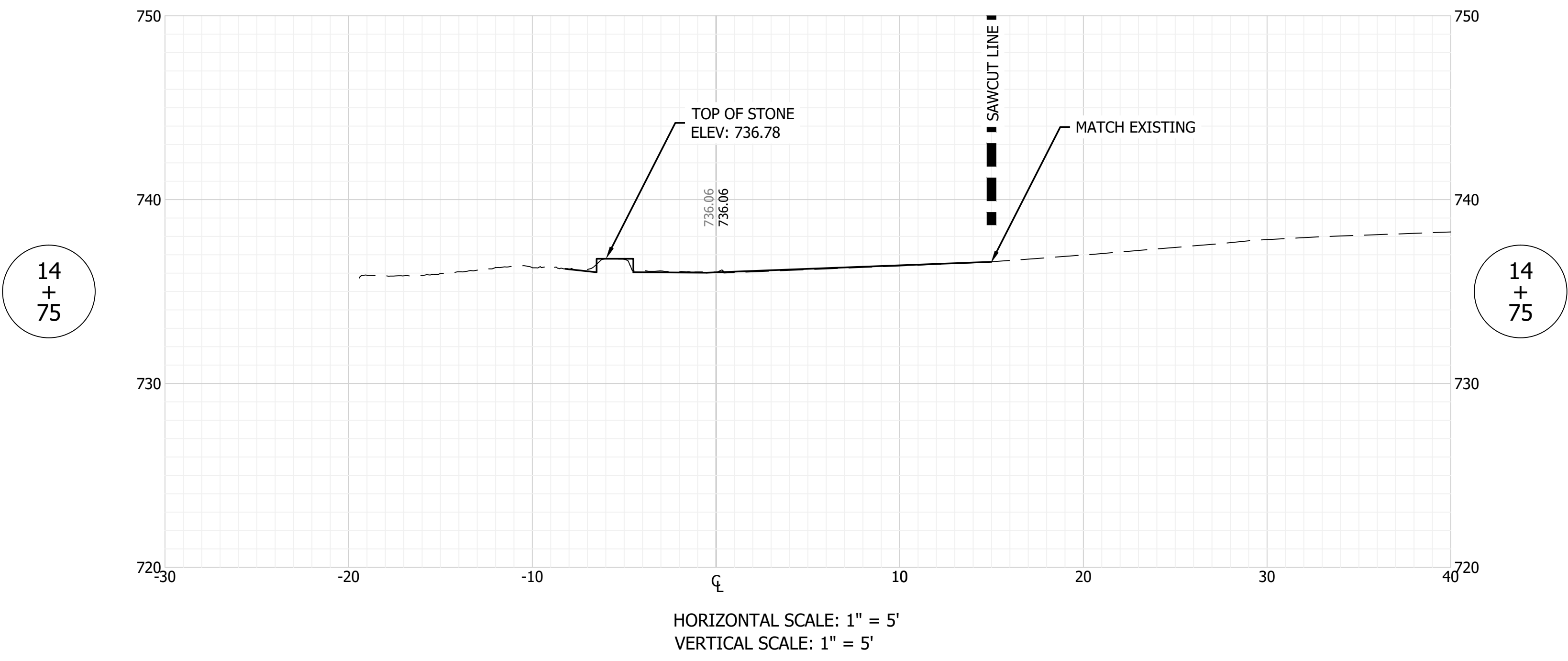
FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL CROSS SECTIONS (9 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
18



GENERAL NOTE:
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SCALE: 1" = 10'

DRAWN BY: ARC

CHECKED BY: BAH

DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
WALL CROSS SECTIONS (10 OF 10)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
19

Lower Shelter Trail 2 Stairs – Tree Removal Table

Station – Left of Wall Tree Removal

- 10+28 3" Tree
- 10+45 24" Beech
- 10+50 8" Beech
- 10+50 8" Beech (28' Left)
- 10+60 16" Red Oak
- 10+90 12" Red Oak
- 10+90 15" Hickory (18' Left)
- 11+00 8" Maple (18' Left)
- 11+15 20" Oak (18' Left)

Station – Right of Wall Tree Removal

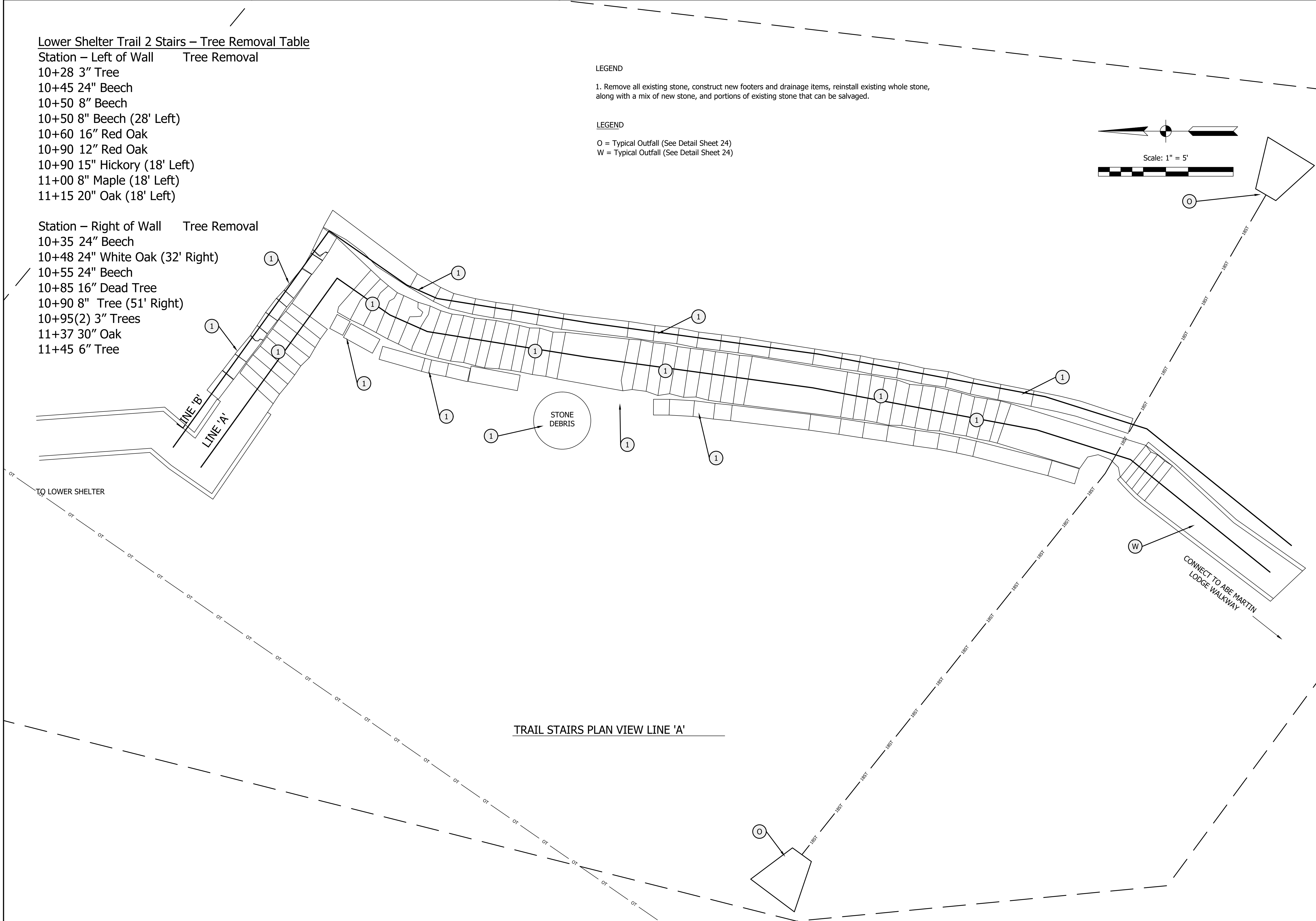
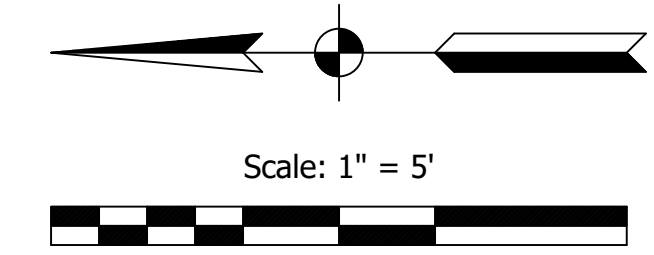
- 10+35 24" Beech
- 10+48 24" White Oak (32' Right)
- 10+55 24" Beech
- 10+85 16" Dead Tree
- 10+90 8" Tree (51' Right)
- 10+95(2) 3" Trees
- 11+37 30" Oak
- 11+45 6" Tree

LEGEND

1. Remove all existing stone, construct new footers and drainage items, reinstall existing whole stone, along with a mix of new stone, and portions of existing stone that can be salvaged.

LEGEND

O = Typical Outfall (See Detail Sheet 24)
 W = Typical Outfall (See Detail Sheet 24)



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SCALE: 1" = 5'
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 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
 CLIENT NAME:
 DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 TRAIL STAIRS GENERAL PLAN

DESIGN PHASE:
 BIDDING PLANS

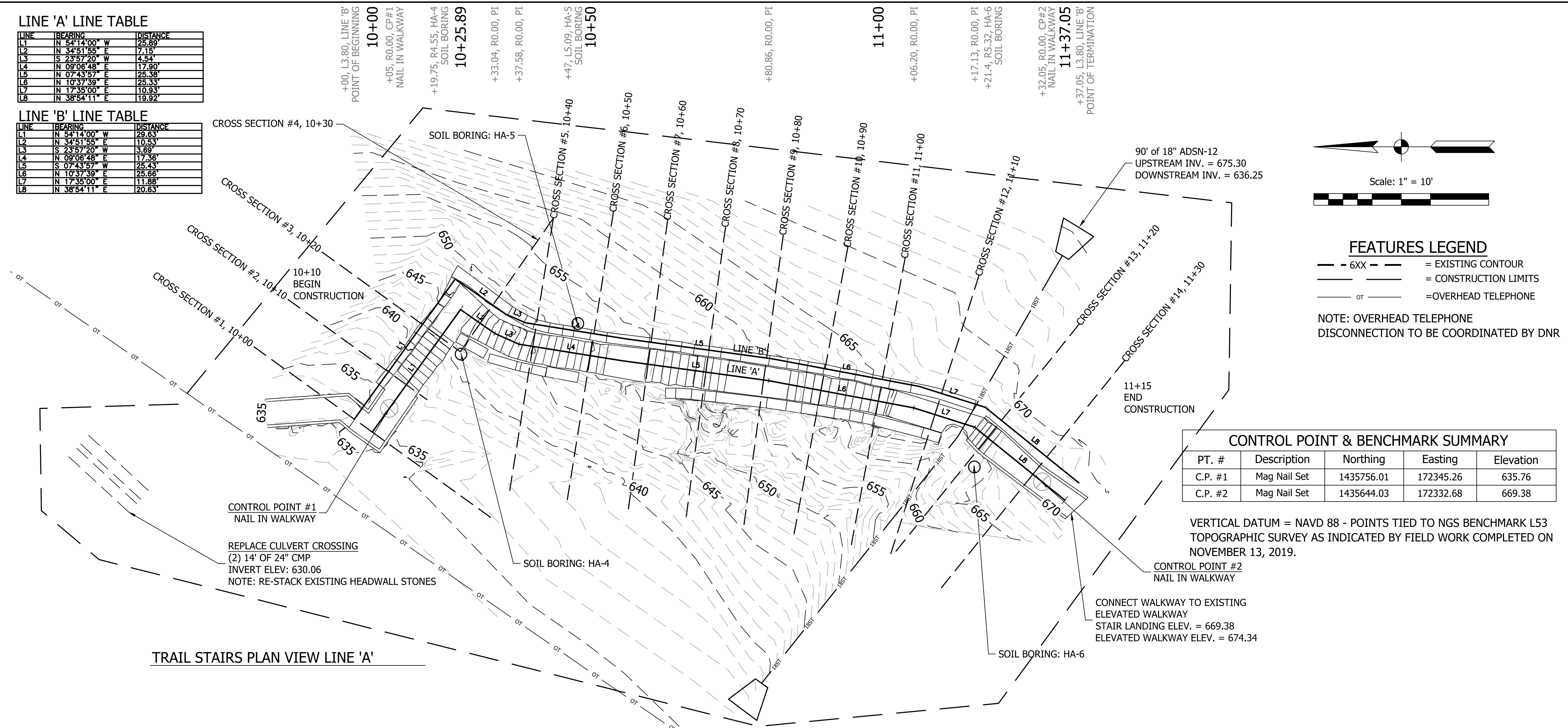
SHEET NUMBER:
20

LINE 'A' LINE TABLE

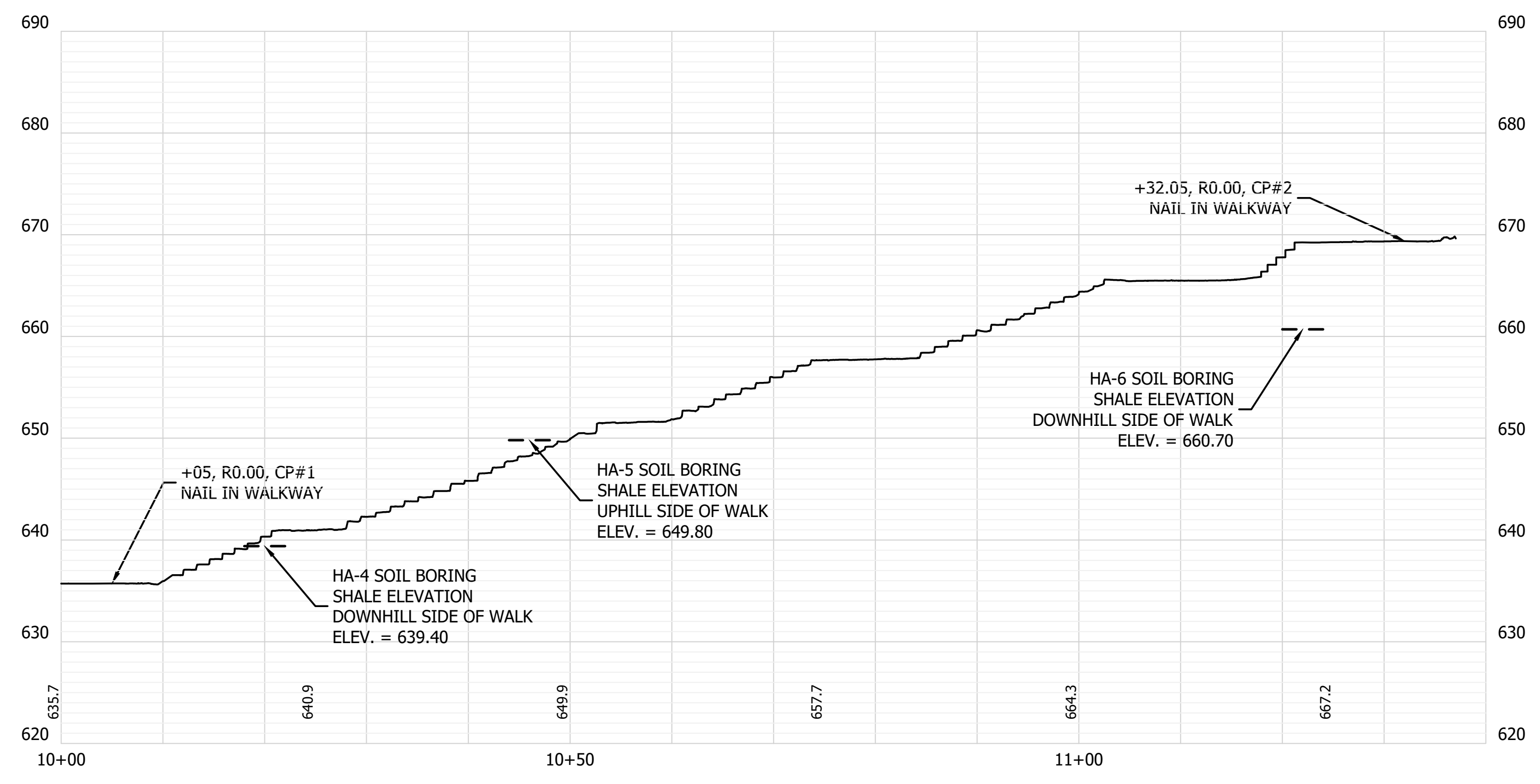
LINE	BEARING	DISTANCE
L1	N 54°14'00" W	25.89'
L2	N 34°51'55" E	7.15'
L3	S 23°57'20" W	4.54'
L4	N 09°08'48" E	17.90'
L5	N 07°43'57" E	25.38'
L6	N 10°37'39" E	25.33'
L7	N 17°35'00" E	11.88'
L8	N 38°54'11" E	19.92'

LINE 'B' LINE TABLE

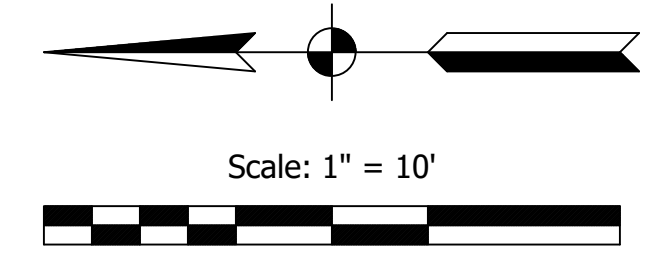
LINE	BEARING	DISTANCE
L1	N 54°14'00" W	29.63'
L2	N 34°51'55" E	10.53'
L3	S 23°57'20" W	3.89'
L4	N 09°08'48" E	17.36'
L5	S 07°43'57" W	25.43'
L6	N 10°37'39" E	25.66'
L7	N 17°35'00" E	11.88'
L8	N 38°54'11" E	20.63'



TRAIL STAIRS PLAN VIEW LINE 'A'



TRAIL STAIRS PROFILE VIEW LINE 'A'
 HORIZONTAL SCALE: 1" = 10'
 VERTICAL SCALE: 1" = 10'



FEATURES LEGEND

- 6XX - = EXISTING CONTOUR
- - - - - = CONSTRUCTION LIMITS
- or - - - - - = OVERHEAD TELEPHONE

NOTE: OVERHEAD TELEPHONE DISCONNECTION TO BE COORDINATED BY DNR

CONTROL POINT & BENCHMARK SUMMARY

PT. #	Description	Northing	Easting	Elevation
C.P. #1	Mag Nail Set	1435756.01	172345.26	635.76
C.P. #2	Mag Nail Set	1435644.03	172332.68	669.38

VERTICAL DATUM = NAVD 88 - POINTS TIED TO NGS BENCHMARK L53 TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON NOVEMBER 13, 2019.

GENERAL NOTE:
 All construction to meet or exceed all state, local, and federal codes & requirements, including but not limited to current INDOT, ISBH, IDEM, OSHA, local requirements & codes. The drawings & specs. that make up the work of this project are interrelated & dependent on every other drawing and spec. section. The contractor shall review all other specs., drawing & addendum (if applicable) to coordinate all work that relates to this project. If an item is drawn or specified on any spec. section or drawing, it shall be as if it were part of this work and shall be provided for in the contract.

NOTES:
 1. This sheet is to be: ANSD D 22" X 34"

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SCALE: 1" = 10'
 DRAWN BY: ARC
 CHECKED BY: BAH
 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

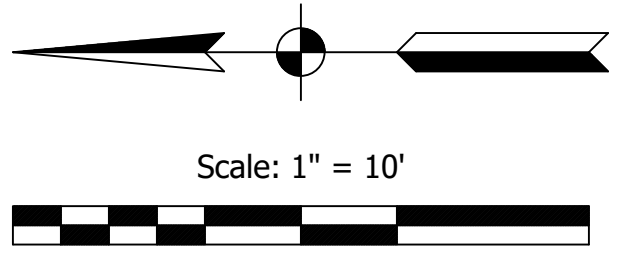
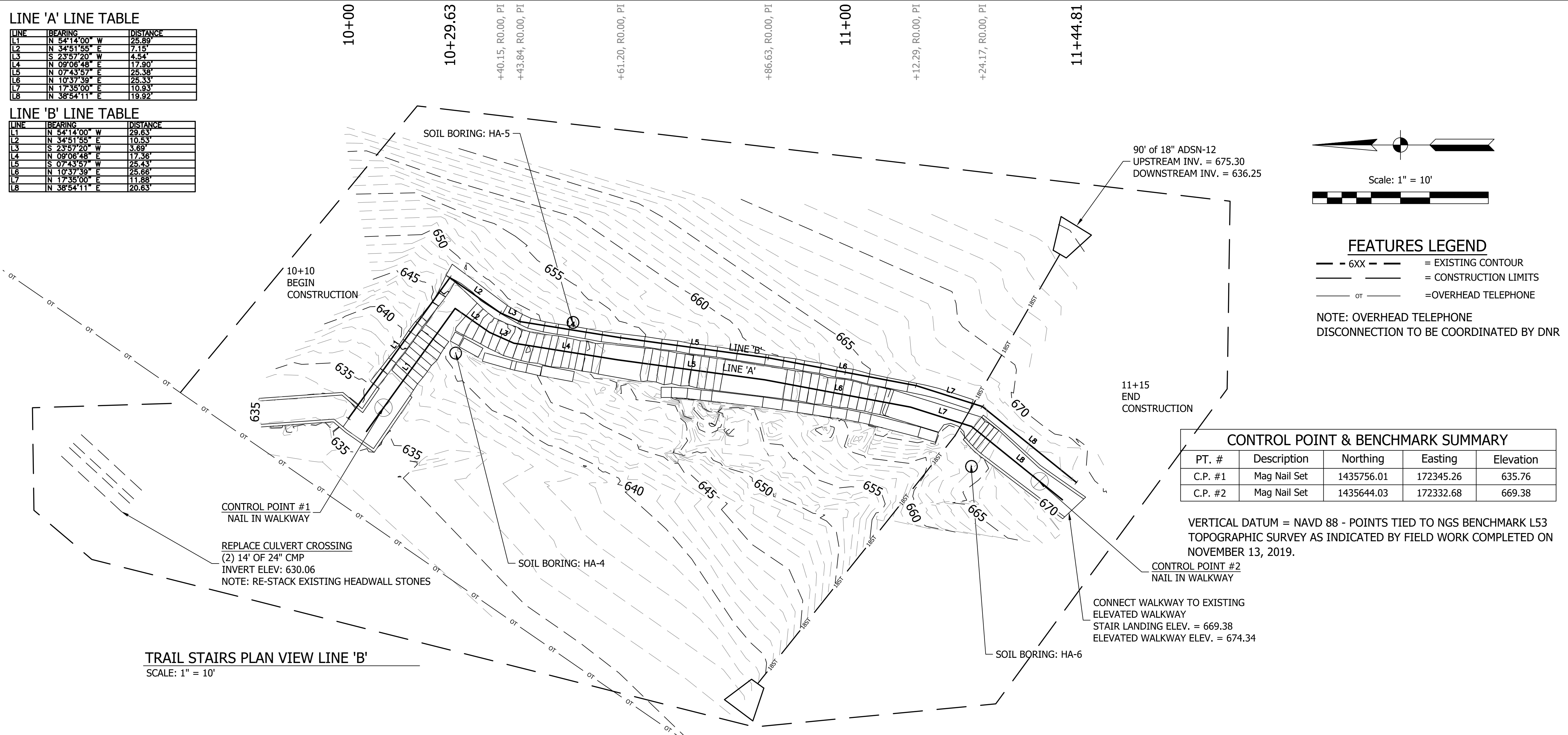
FILE NO: 19-11229
 CLIENT NAME: DNR
 PROJECT DESCRIPTION: DNR WALL AND TRAIL
 SHEET TITLE: STAIRS PLAN AND PROFILE LINE 'A'
 DESIGN PHASE: BIDDING PLANS
 SHEET NUMBER: **21**

LINE 'A' LINE TABLE

LINE	BEARING	DISTANCE
L1	N 54°14'00" W	25.89'
L2	N 34°51'55" E	7.15'
L3	S 23°57'20" W	4.54'
L4	N 09°08'48" E	17.90'
L5	N 07°43'57" E	25.38'
L6	N 10°37'39" E	25.33'
L7	N 17°35'00" E	110.33'
L8	N 38°54'11" E	119.92'

LINE 'B' LINE TABLE

LINE	BEARING	DISTANCE
L1	N 54°14'00" W	29.63'
L2	N 34°51'55" E	110.53'
L3	S 23°57'20" W	3.69'
L4	N 09°08'48" E	17.36'
L5	S 07°43'57" W	25.43'
L6	N 10°37'39" E	25.68'
L7	N 17°35'00" E	111.88'
L8	N 38°54'11" E	120.63'



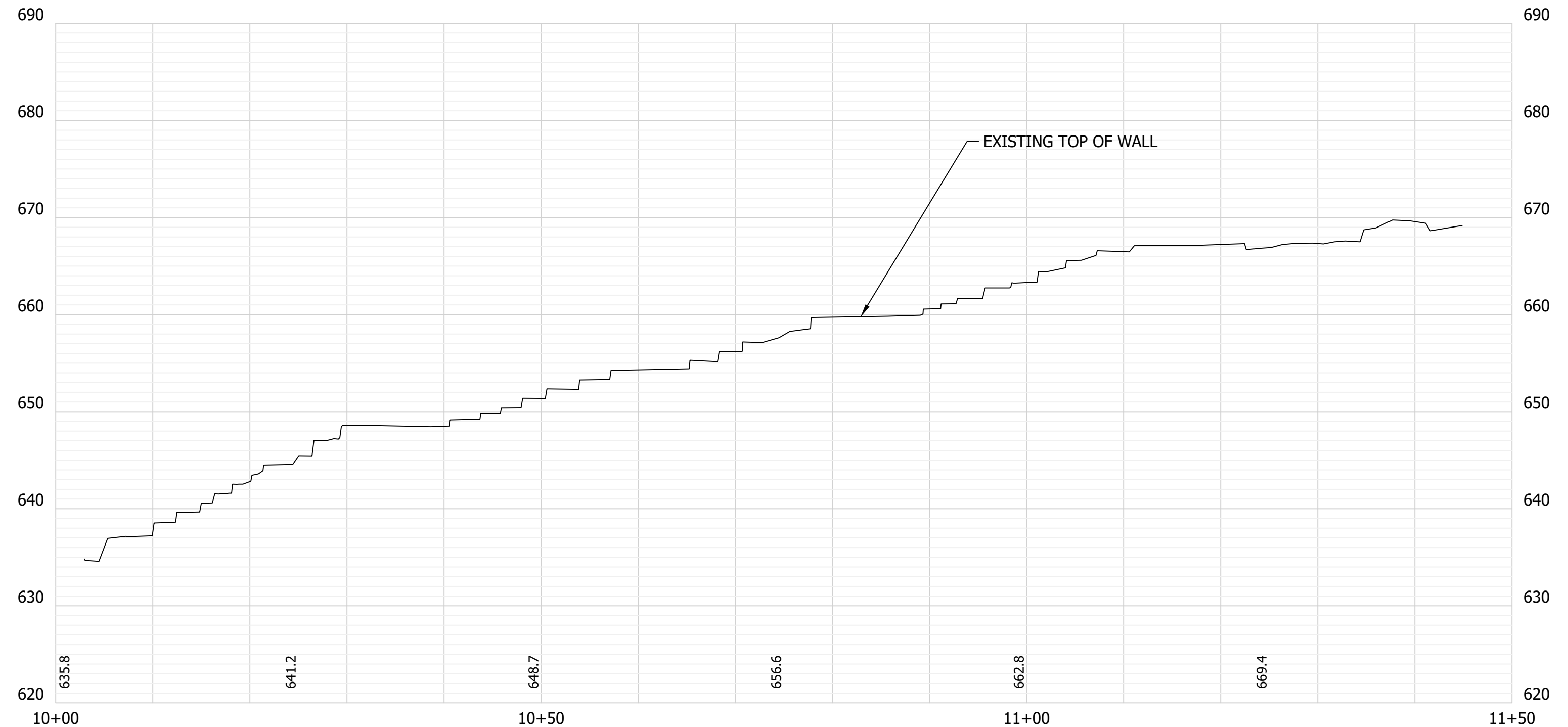
- FEATURES LEGEND**
- - 6XX - - = EXISTING CONTOUR
 - - - - - = CONSTRUCTION LIMITS
 - or — = OVERHEAD TELEPHONE
- NOTE: OVERHEAD TELEPHONE DISCONNECTION TO BE COORDINATED BY DNR

CONTROL POINT & BENCHMARK SUMMARY

PT. #	Description	Northing	Easting	Elevation
C.P. #1	Mag Nail Set	1435756.01	172345.26	635.76
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VERTICAL DATUM = NAVD 88 - POINTS TIED TO NGS BENCHMARK L53 TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON NOVEMBER 13, 2019.

TRAIL STAIRS PLAN VIEW LINE 'B'
SCALE: 1" = 10'



TRAIL TOP OF WALL PROFILE VIEW LINE 'B'
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 10'

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Revision	Drawn By	Date

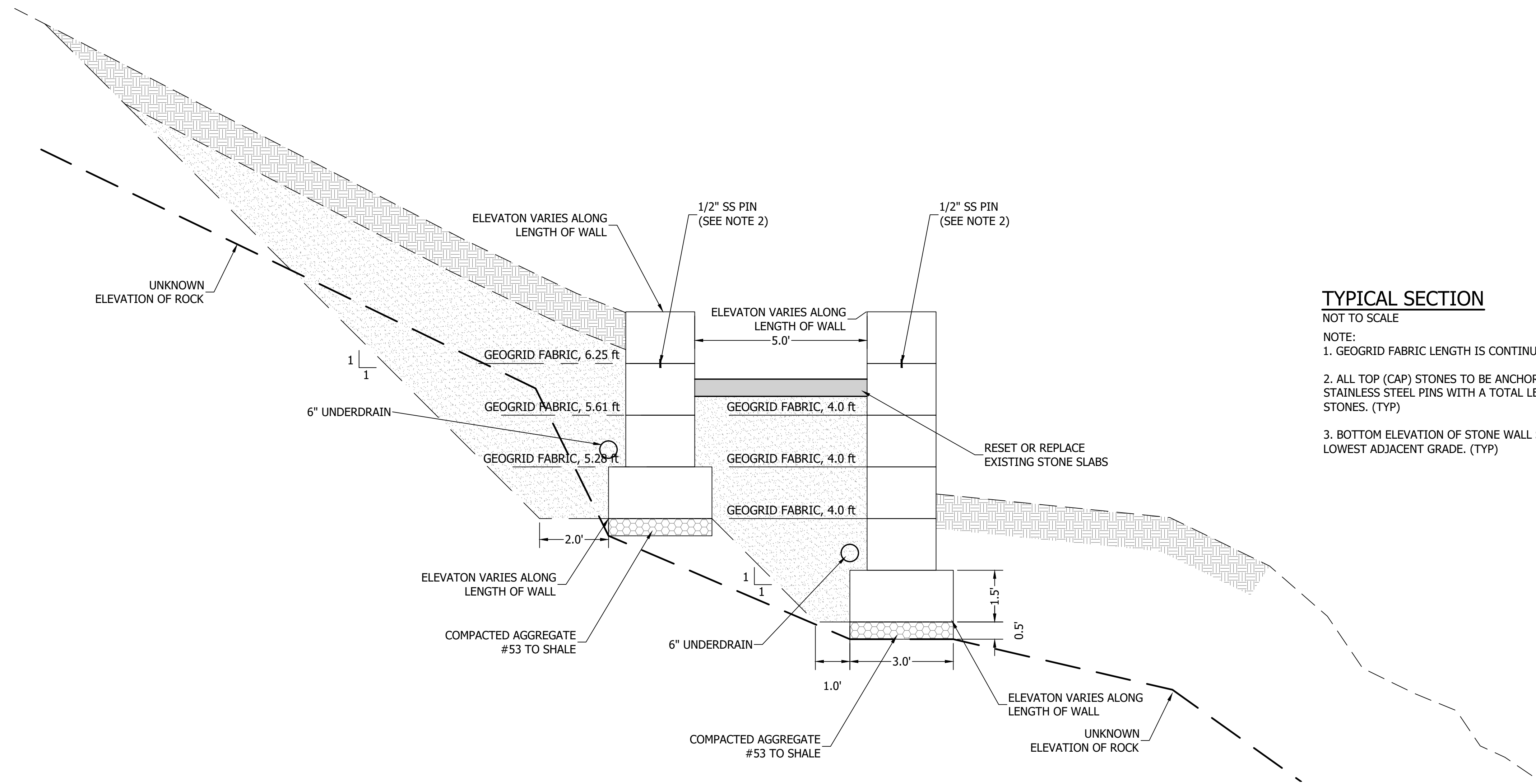
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CLIENT NAME: DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
STAIRS PLAN AND PROFILE LINE 'B'

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
22

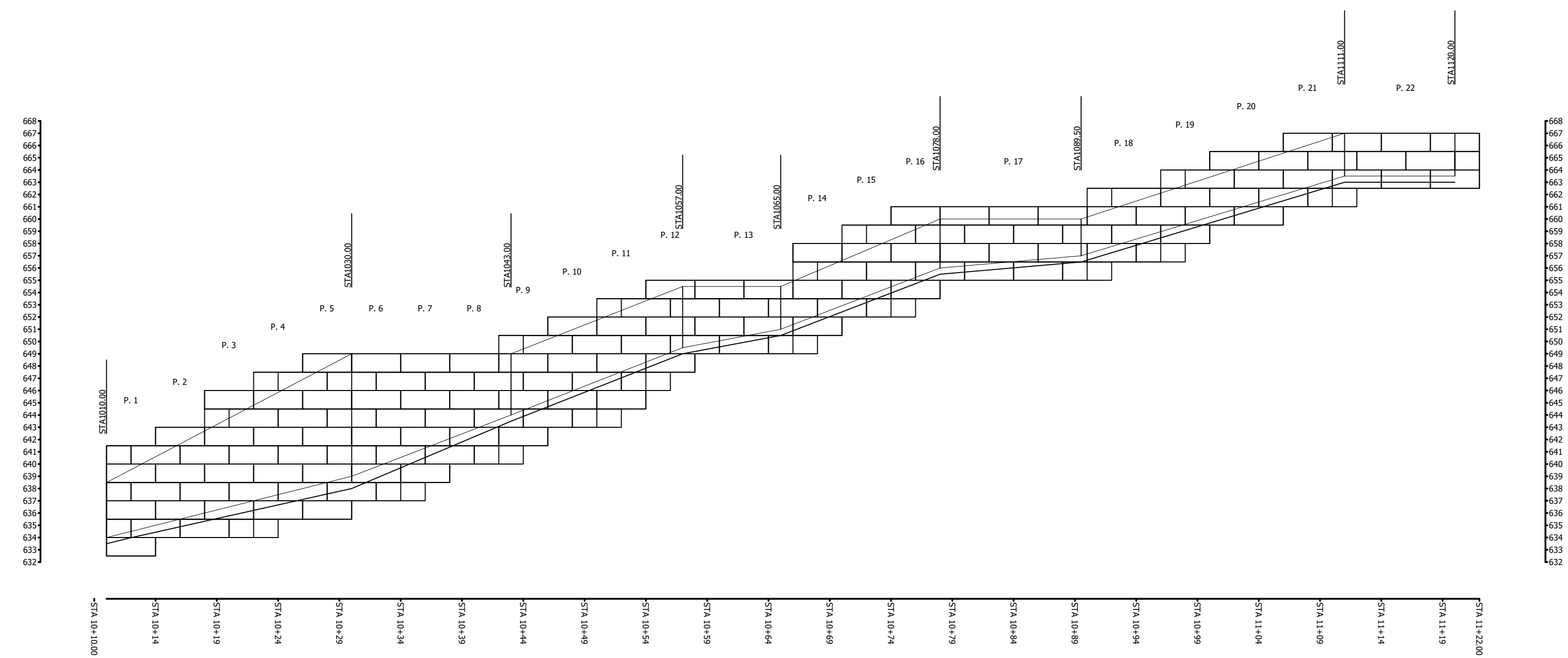


TYPICAL SECTION

NOT TO SCALE

NOTE:

1. GEOGRID FABRIC LENGTH IS CONTINUOUS, WIDTH VARIES ALONG WALL
2. ALL TOP (CAP) STONES TO BE ANCHORED TO LOWER STONE WITH (2) 1/2" STAINLESS STEEL PINS WITH A TOTAL LENGTH OF 3". DRILLED 1.5" IN BOTH STONES. (TYP)
3. BOTTOM ELEVATION OF STONE WALL SHALL BE AT MINIMUM 2 FT BELOW LOWEST ADJACENT GRADE. (TYP)



TRAIL STAIRS PROFILE VIEW LINE 'B'
NOT TO SCALE, FOR REINFORCEMENT MAT ONLY

GEOGRID MAT SUMMARY

PANEL #	LINE 'B' STATION	WIDTH
P. #1	10+10 TO 10+14	8.50
P. #2	10+14 TO 10+18	9.00
P. #3	10+18 TO 10+22	11.50
P. #4	10+22 TO 10+26	12.25
P. #5	10+26 TO 10+30	14.50
P. #6	10+30 TO 10+34	13.00
P. #7	10+34 TO 10+38	11.25
P. #8	10+38 TO 10+42	9.25
P. #9 - 11	10+42 TO 10+54	9.00
P. #12	10+54 TO 10+58	7.00
P. #13	10+58 TO 10+66	6.50
P. #14 - 16	10+66 TO 10+78	7.25
P. #17 - 22	10+78 TO 11+22	6.25

NOTE:
GEOGRID FABRIC LENGTH IS CONTINUOUS, WIDTH SHOWN IS TYPICAL DIMENSION BEHIND WALL.
GEOGRID FABRIC TO BE MIRAGRID 5XT OR EQUAL.

- NOTE:
1. STONE SIZE IS TO BE DOCUMENTED THROUGHOUT THE REMOVAL OF THE WALL
 2. EXISTING STONES MAY VARY IN SIZE, OTHER SIZE STONES MAY BE REQUIRED TO MEET CONSISTENT ROW HEIGHT
 3. ACTUAL STACKING ARRANGEMENT MAY VARY FROM DETAIL

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SCALE: AS SHOWN

DRAWN BY: ARC

CHECKED BY: BAH

DATE: AUGUST 28, 2020

Revision	Drawn By	Date

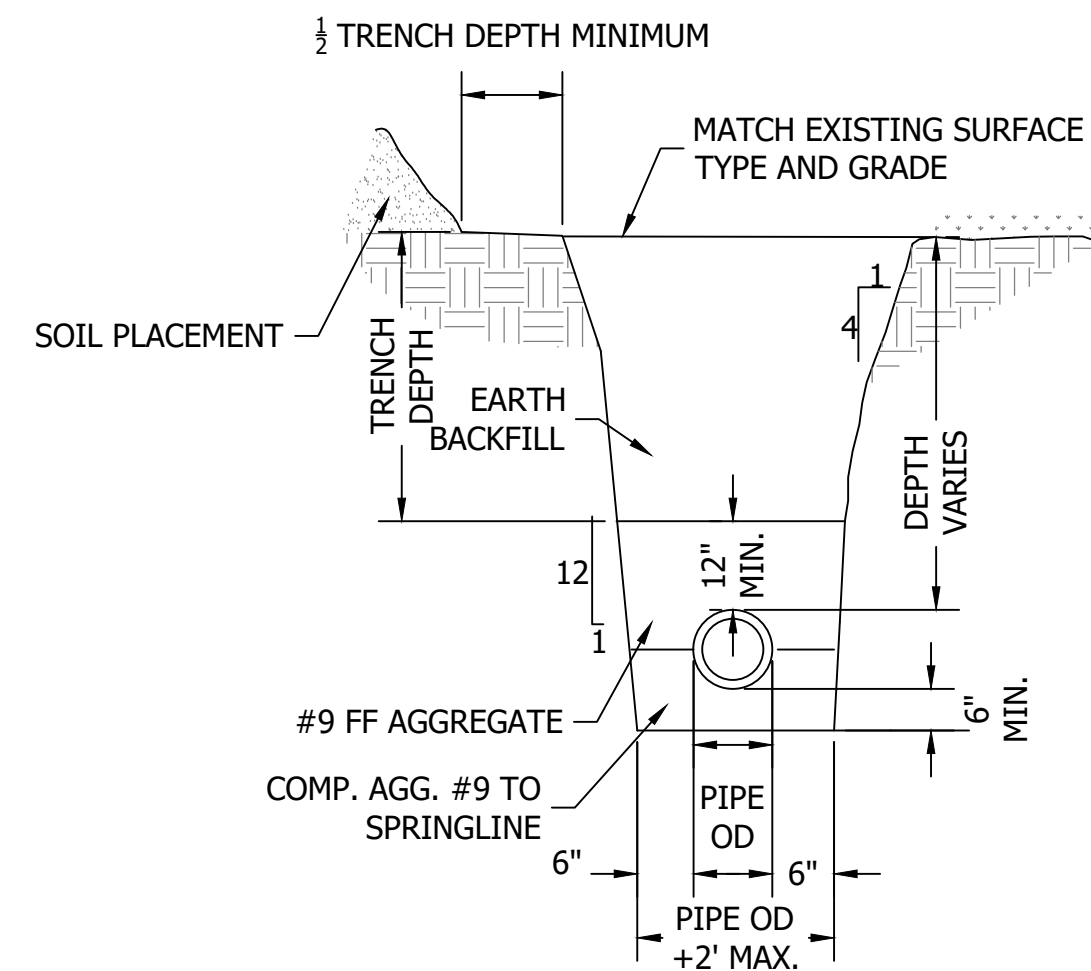
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CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

SHEET TITLE:
DETAILS (1 OF 3)

DESIGN PHASE:
BIDDING PLANS

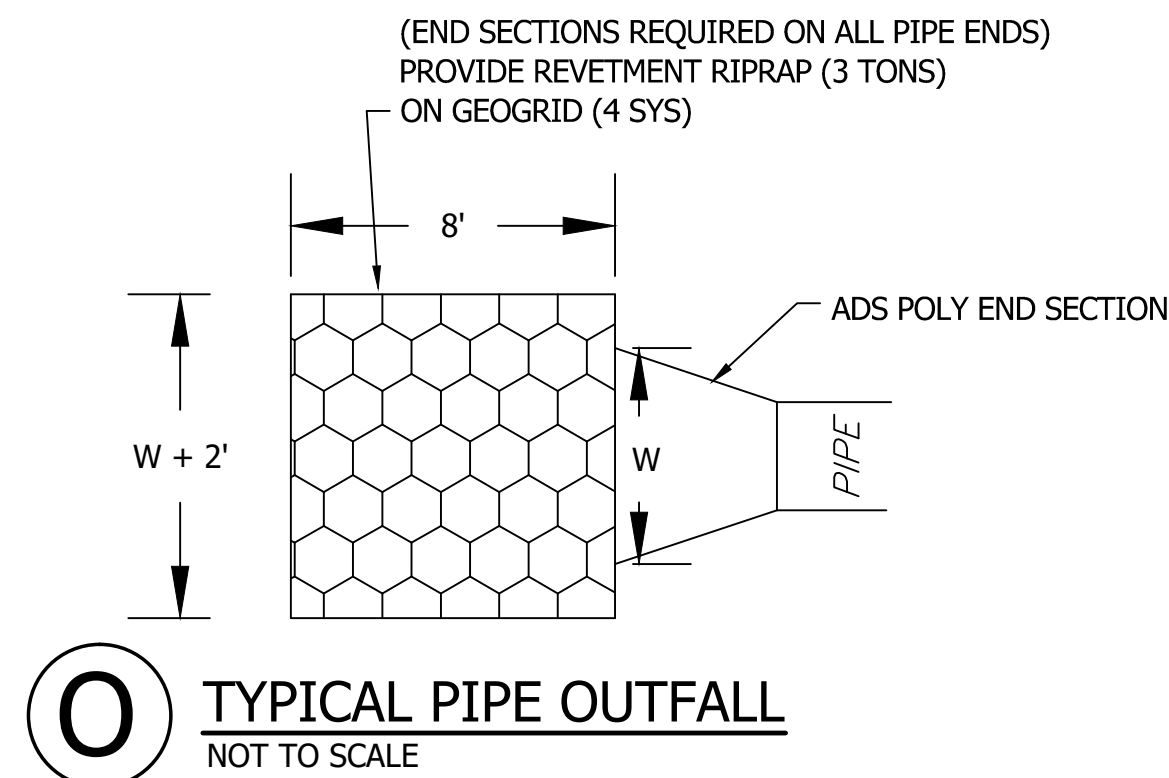
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23



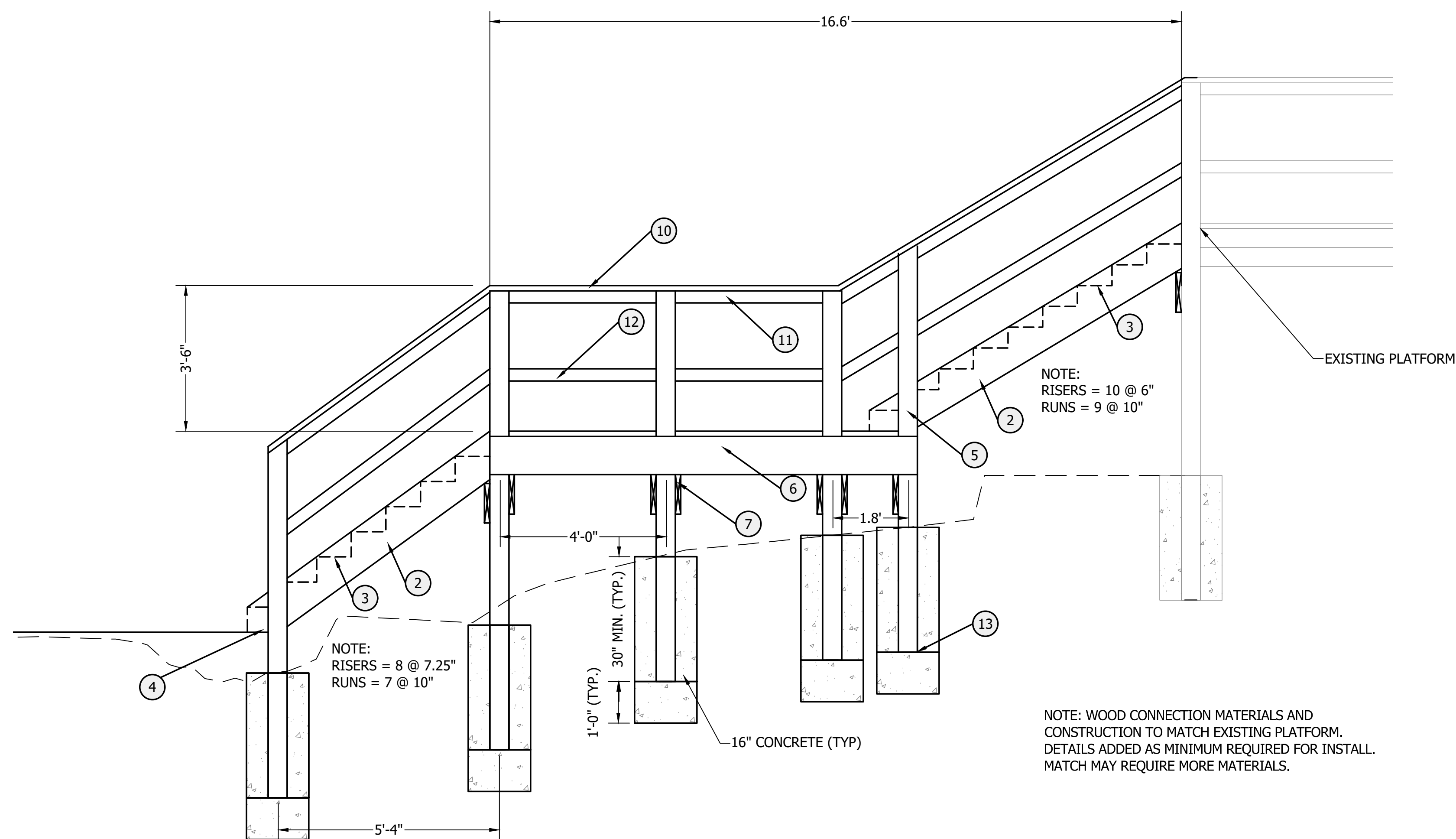
STANDARD STORM TRENCH DETAIL
NOT TO SCALE

NOTES

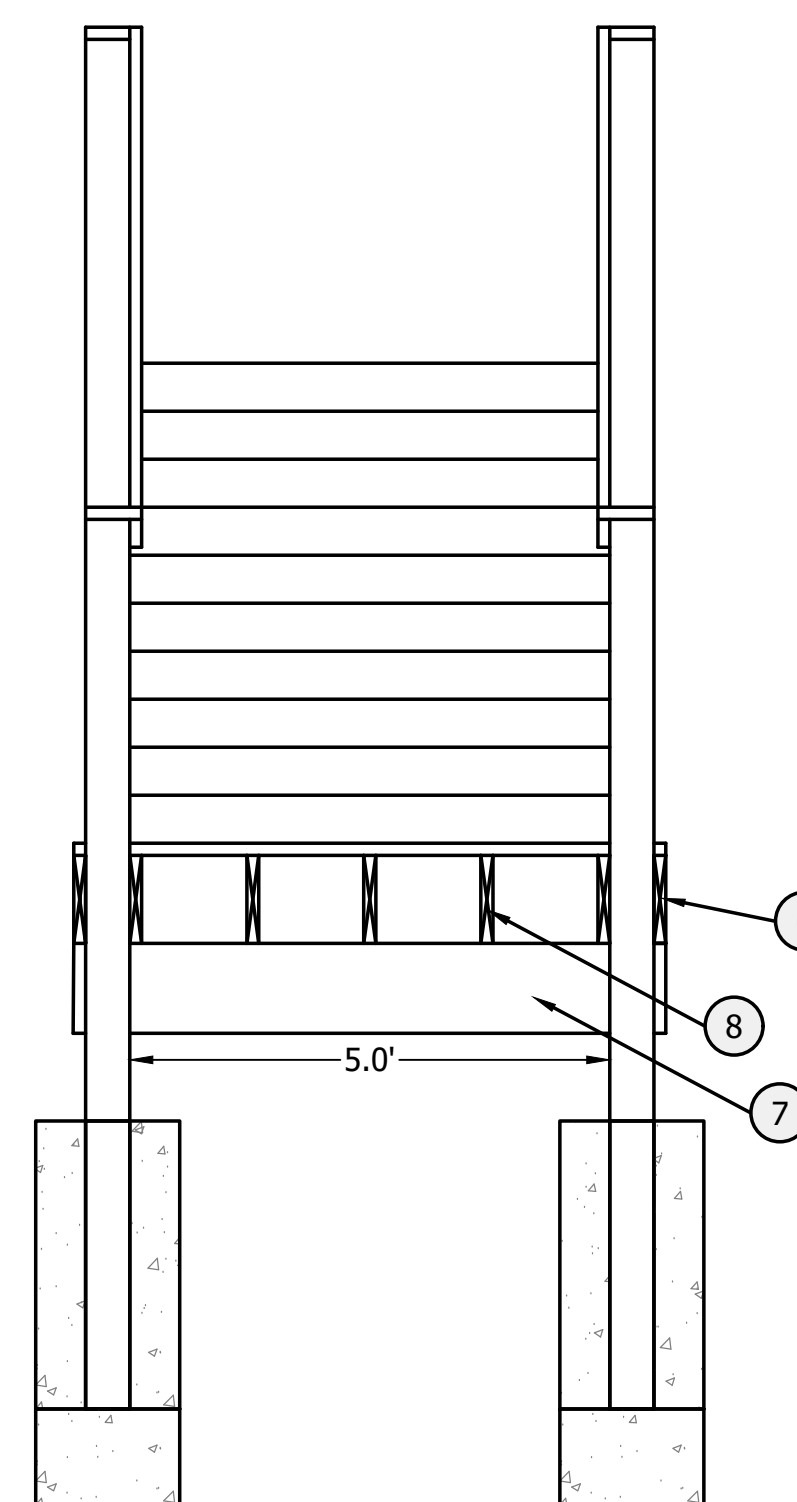
- 1) WITHIN 4' OF PAVEMENT AND UNDER PAVEMENT BACKFILL WITH GRANULAR BACKFILL PER INDOT SPECIFICATIONS MECHANICAL COMPACTION TO 95% PROCTOR DENSITY. EARTH BACKFILL IN 6" COMPACTED LIFTS THROUGHOUT YARD AREAS.
- 2) GRANULAR BACKFILL PLACED AND COMPACTED PER INDOT 2020 SPECIFICATIONS AND SUPPLEMENTS.
- 3) MEET OR EXCEED ALL OSHA STANDARDS REGARDING TRENCH PROTECTION.



TYPICAL PIPE OUTFALL
NOT TO SCALE



TYPICAL SECTION STAIRWAY PLATFORM CONNECTION
NOT TO SCALE



TYPICAL SECTION STAIRWAY PLATFORM CONNECTION
NOT TO SCALE

1. 2x12 SUPPORTS.
2. STRINGERS ATTACHED TO DECK WITH SIMPSON LSCZ STRONG-TIE. MAX RISE = 7.25", MIN. RUN = 10".
3. 2X12 TREADS
4. STAIR RUNNERS TO SET ON SOLID FOUNDATION (MIN. 18" DEPTH).
5. 4X6 POST @ 4' O.C. TO TERMINATE AT RAILING CAP (POST HEIGHT VARIES).
6. 2X10 LEDGER BOARD.
7. 2X12 BEAM BOLTED TO POSTS (SEE DETAIL #1 ON SHEET 25).
8. 2X10 JOISTS @ 14 5/8" O.C. (ATTACH W/ SIMPSON HURRICANE TIES & JOIST HANGERS).
9. DECKING.
10. 2X6 CAP RAIL.
11. 2X4 TOP RAIL.
12. 2X4 BOTTOM RAIL (MATCH EXISTING GAP BETWEEN RAIL AND DECK SURFACE).
13. HOLD DOWN CLEATS ON OPPOSING SIDES OF THE POSTS (TYP).

NOTE: SEE DETAIL SHEET (25) FOR CONNECTION DETAILS.

NOTE: WOOD CONNECTION MATERIALS AND CONSTRUCTION TO MATCH EXISTING PLATFORM. DETAILS ADDED AS MINIMUM REQUIRED FOR INSTALL. MATCH MAY REQUIRE MORE MATERIALS.

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REGISTERED PROFESSIONAL ENGINEER
No. 60900038
STATE OF INDIANA
8-28-2020
Renard C. Hauninger

SCALE: AS SHOWN
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

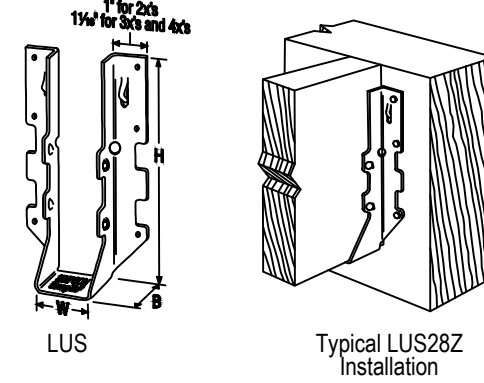
SHEET TITLE:
DETAILS (2 OF 3)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
24

General Notes:

- Outdoor environments are generally more corrosive to steel. If you choose to use ZMAX® or HDG finish or stainless steel material on an outdoor project, you should periodically inspect your connectors and fasteners or have a professional inspection performed. Regular maintenance, including water-proofing of the wood used in your outdoor project is also a good practice.
- Coatings Available:
 - ZMAX: Galvanized (G185) 1.85 oz. of zinc per square foot of surface area. (hot-dip galvanized per ASTM A653 total both sides). These products require hot-dip galvanized fasteners (fasteners which meet the specifications of ASTM A153).
 - HDG - Hot Dip Galvanized: Products are hot-dip galvanized after fabrication (14 ga. and thicker). The coating weight increases with material thickness. The minimum specified coating weight is 2.0 oz. per square foot. (per ASTM A123 total both sides). These products require hot-dip galvanized fasteners (fasteners which meet the specifications of ASTM A153).
 - SS - Stainless Steel: Connectors are manufactured from Type 316L stainless steel, and provide greater durability against corrosion. Stainless-steel nails are required with stainless-steel products, and are available from Simpson Strong-Tie.
- When using stainless steel connectors, use stainless steel fasteners. When applications allow the use of ZMAX/HDG galvanized connectors, use HDG fasteners that meet the specifications of ASTM A153 or equivalent coating offered on Simpson Strong-Tie fasteners.
- Due to many variables involved with outdoor construction, Simpson Strong-Tie cannot provide estimates on service life of connectors, anchors or fasteners.
- To obtain optimal performance from Simpson Strong-Tie products, the products must be installed properly and used in accordance with the installation instructions and design limits provided by Simpson Strong-Tie.
- All installation notes and guidelines within the current *Wood Construction Connectors* catalog shall apply for the connectors, anchors, and fasteners shown.
- Simpson Strong-Tie reserves the right to change the specifications, design and models shown without notice or liability for such changes.
- Simpson Strong-Tie does not guarantee the performance or safety of products that are modified, improperly installed or not used in accordance with the design.
- All references to bolts or machine bolts (MB) are structural quality through bolts (not lag screws or carriage bolts) equal to or better than ASTM A307, grade A. Bolt holes shall be at least a minimum 1/32" and no more than a maximum of 1/16" larger than the bolt diameter per 2005 NDS Section 11.1.2.
- Unless noted otherwise, all references to standard cut washers refer to Type A plain washers (W) conforming to the dimensions shown in ASME B18.22.1 for the appropriate rod sizes.
- Unless stated otherwise, Simpson Strong-Tie cannot and does not make any representation regarding the suitability of use or load-carrying capacities of connectors installed with improper fasteners.

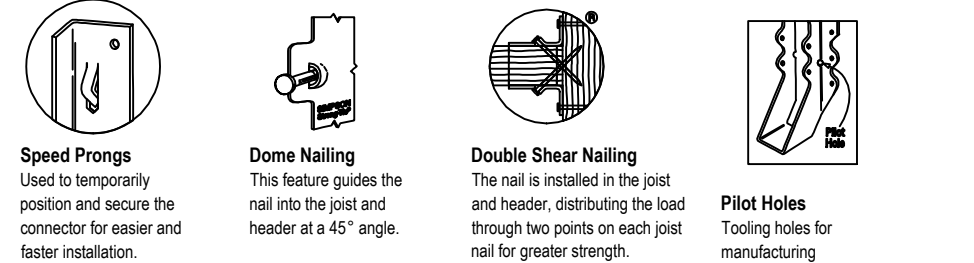
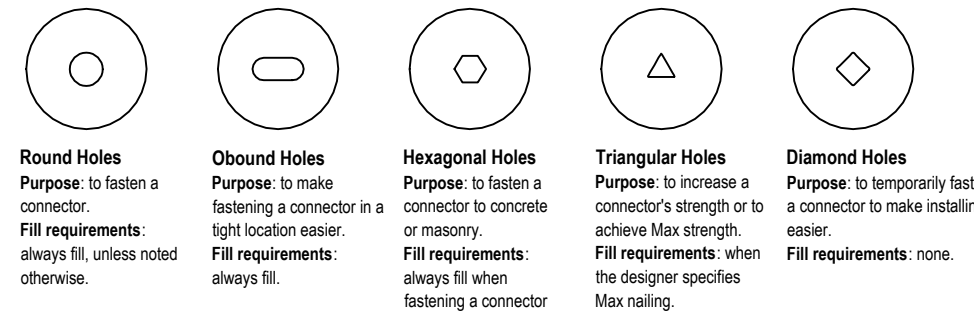
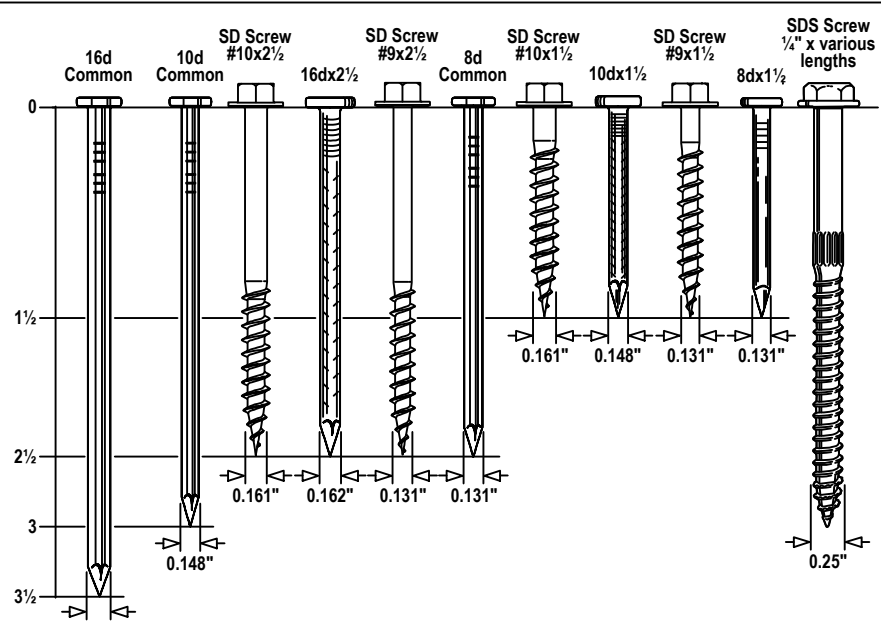


- Installation:**
- LUS hangers install with double shear nailing.
 - For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with www.strongtie.com:
 - 10d x 1 1/2" nails for installations with Nails
 - SD #9 x 1 1/2" for LUS28Z and LUS210Z installations with SD Screws
 - SD #10 x 1 1/2" for LUS26-ZZ and LUS210-ZZ installers with SD Screws

Model No.	Dimensions (in.)			Fasteners			
	W	H	B	Nails	SD Screws		
LUS26Z	1 9/16	4 3/4	1 3/4	4-10d	4-10d	-	-
LUS28Z	1 9/16	6 5/8	1 3/4	6-10d	4-10d	6-SD #9x2 1/2"	4-SD #9x2 1/2"
LUS210Z	1 9/16	7 13/16	1 3/4	8-10d	4-10d	8-SD #9x2 1/2"	4-SD #9x2 1/2"
LUS26-ZZ	3 1/8	4 7/8	2	4-16d	4-16d	4-SD #10x2 1/2"	4-SD #10x2 1/2"
LUS210-ZZ	3 1/8	9	2	8-16d	6-16d	8-SD #10x2 1/2"	6-SD #10x2 1/2"

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
- Refer to current *Wood Construction Connectors* catalog for additional information.

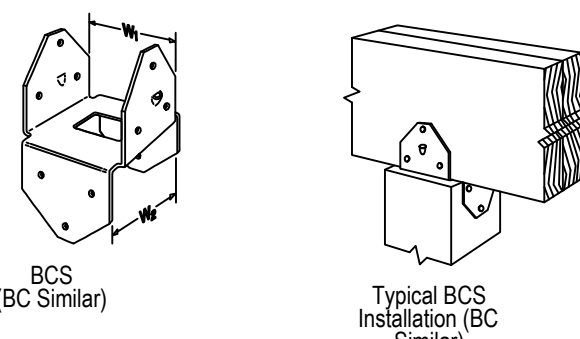
D01 General Notes



- Fastener Notes:**
- The specified quantity, type and size of fastener must be installed in the correct holes on the connector to achieve published loads. Incorrect fastener selection or installation can compromise connector performance and could lead to failure.
 - Nail diameter assumes no coating. See technical bulletin F-NAIL GUIDE for more information.
 - The Simpson Strong-Drive® SD structural-connector screw is the only screw approved for use with our connectors.
 - NAIL reference in tables:** 16d = 16d common, 10d = 10d common

Fastening Identification

D02 Fasteners

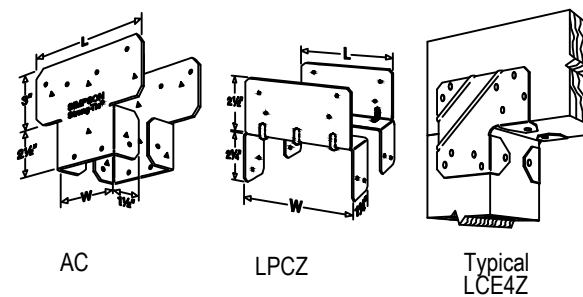


- Installation:**
- BCS: Install dome nails on beam; drive nails at an angle through the beam into the post below.
 - BC: Do not install bolts into pilot holes.

Model No.	Dimensions (in.)						Fasteners			
	W1	W2	L1	L2	H1	H2	Nails		SD Screws	
BCAZ	3 9/16	3 9/16	2 7/8	2 7/8	3	3	6-16d	6-16d	6-SD #10x1 1/2"	6-SD #10x1 1/2"
BCBZ	5 1/2	5 1/2	4 3/8	4 3/8	3 3/8	3 3/8	12-16d	12-16d	-	-
BCS2-24Z	3 1/8	3 9/16	2 7/8	2 7/8	2 15/16	2 15/16	8-10d	6-10d	8-SD #9x2 1/2"	6-SD #9x2 1/2"
BCS2-36Z	4 5/8	5 9/16	4 3/8	4 3/8	3 1/6	3 1/6	12-16d	6-16d	-	-

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
- Refer to current *Wood Construction Connectors* catalog for additional information.

D11 BC, BCS Post Caps



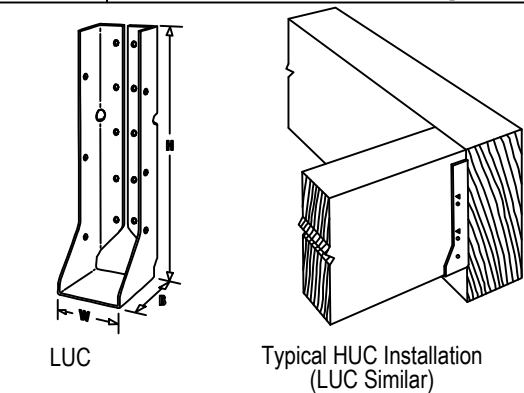
- Installation:**
- Install in pairs.
 - For LCE4Z installations on mitered corner conditions, refer to www.strongtie.com for more information.

Model No.	Dimensions (in.)		Fasteners			
	W	L	Nails		SD Screws	
AC4Z	3 9/16	6 1/2	14-16d	14-16d	14-SD #10x1 1/2"	14-SD #10x1 1/2"
AC6Z	5 1/2	8 1/2	14-16d	14-16d	14-SD #10x1 1/2"	14-SD #10x1 1/2"
LPC4Z	3 9/16	3 1/2	8-10d	8-10d	8-SD #9x1 1/2"	8-SD #9x1 1/2"
LPC6Z	5 9/16	5 1/2	8-10d	8-10d	-	-
LCE4Z	-	5 3/8	14-16d	10-16d	14-SD #10x1 1/2"	10-SD #10x1 1/2"

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
- Refer to current *Wood Construction Connectors* catalog for additional information.

D12 AC, LPC, LCE Post Caps

D03 LUS Joist Hangers

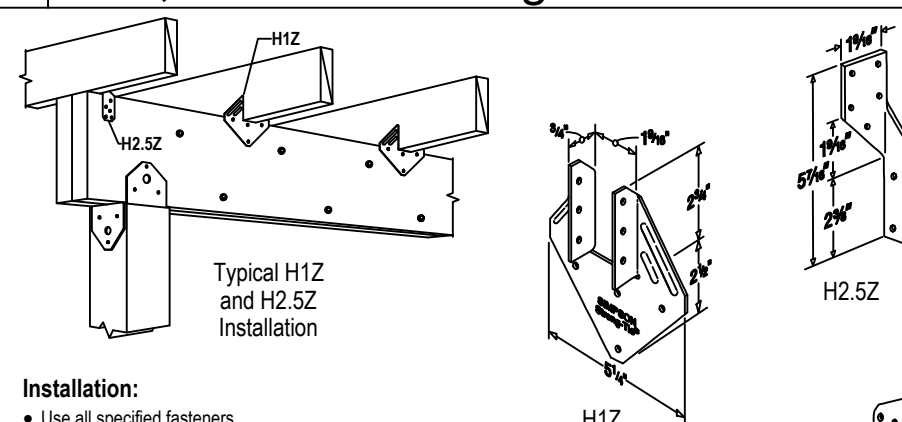


- Installation:**
- For HUC installations, models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes (fastener quantities listed fill both holes).
 - For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with www.strongtie.com:
 - 10d x 1 1/2" nails for installations with Nails
 - SD #9 x 1 1/2" for LUC26Z and LUC210Z installations with SD Screws

Model No.	Dimensions (in.)			Fasteners			
	W	H	B	Nails		SD Screws	
LUC26Z	1 9/16	4 3/4	1 3/4	6-10d	4-10d x 1 1/2"	6-SD #9x2 1/2"	4-SD #9x1 1/2"
LUC210Z	1 9/16	7 3/4	1 3/4	10-10d	6-10d x 1 1/2"	10-SD #9x2 1/2"	6-SD #9x1 1/2"
HUC26-ZZ	3 1/8	5 3/8	2 1/2	12-16d	6-10d	-	-
HUC28-ZZ	3 1/8	7	2 1/2	14-16d	6-10d	-	-
HUC210-ZZ	3 1/8	8 13/16	2 1/2	18-16d	10-10d	-	-

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
- Refer to current *Wood Construction Connectors* catalog for additional information.

D04 LUC, HUC Joist Hangers



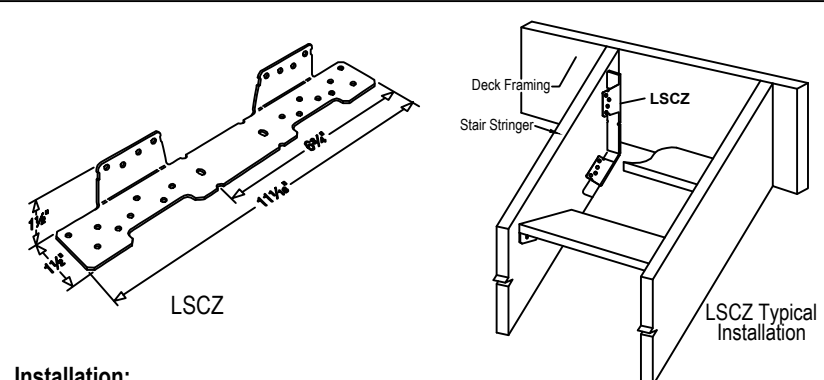
- Installation:**
- Use all specified fasteners.

Model No.	Fasteners			
	Nails		SD Screws	
H1Z	To Joist	To Beam	To Joist	To Beam
H2.5Z	6-8dx1 1/2"	4-8dx1 1/2"	6-SD #9x1 1/2"	4-SD #9x1 1/2"
H2	5-8dx1 1/2"	5-8dx1 1/2"	5-SD #9x1 1/2"	5-SD #9x1 1/2"
H8Z	5-10dx1 1/2"	5-10dx1 1/2"	5-SD #9x1 1/2"	5-SD #9x1 1/2"

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
- Refer to current *Wood Construction Connectors* catalog for additional information.

D16 H Hurricane Ties

Installation Details for Simpson Strong-Tie® Connectors and Fasteners Used in the Construction of Wood Decks

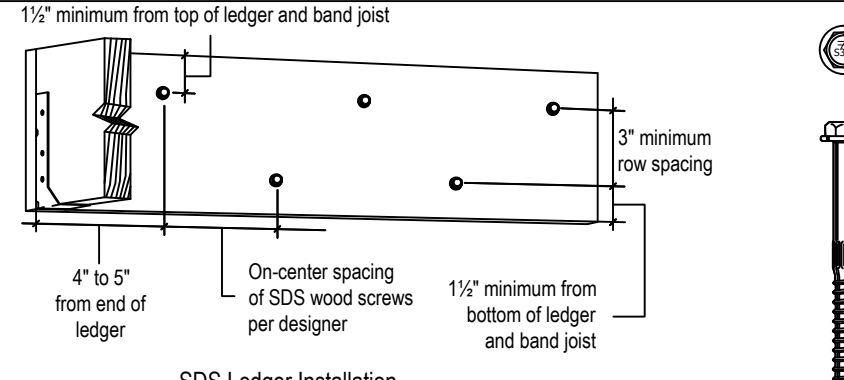


- Installation:**
- Before fastening, position the stair stringer with the LSCZ on the carrying member to verify where the bend should be located.
 - Tabs on the LSCZ must be positioned to the inside of the stairs.
 - The fastener that is installed into the bottom edge of the stringer must go into the second-to-last hole.
 - A minimum distance of 3/4" measured from the lowest rim-joist fastener to the edge of rim joist is required.

Model No.	Fasteners					
	Nails		SD Screws			
LSCZ	Rim Joist	Stringer Wide Face	Stringer Narrow Face	Rim Joist	Stringer Wide Face	Stringer Narrow Face
	8-10dx1 1/2"	8-10dx1 1/2"	1-10dx1 1/2"	8-SD #9x1 1/2"	8-SD #9x1 1/2"	1-SD #9x1 1/2"

- indicates connector is available in stainless steel. Replace Z in model number with SS when ordering. Stainless steel models must be fastened with nails.
- Refer to current *Wood Construction Connectors* catalog for additional information.

D17 LSC Stair Stringer Connector



SDS Ledger Installation

Size (in.)	Model No.	Thread Length (in.)
1/4" x 3 1/2"	SDS25312	2 1/4"
1/4" x 5"	SDS25500	2 3/4"

- indicates connector is available in stainless steel. Add SS to model number when ordering.
- Refer to current F-SDS LDR for spacing and additional information.
- The screws shall be staggered from the top to the bottom along the horizontal run of the deck ledger per IRC 2009 Section R502.2.2.1.1.

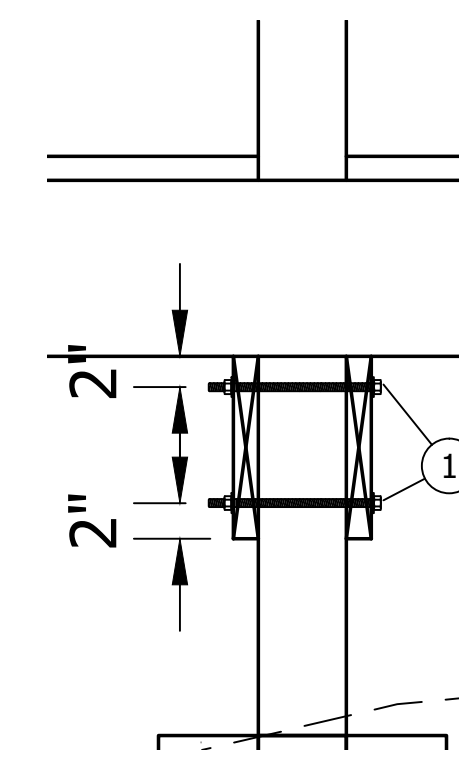
D19 SDS Screws

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NOTES:

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1. TYPICAL BEAM CONNECTION
NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER
 No. 60900038
 STATE OF INDIANA
 8-28-2020
Revised C. Hooper

SCALE: AS SHOWN
 DRAWN BY: ARC
 CHECKED BY: BAH
 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

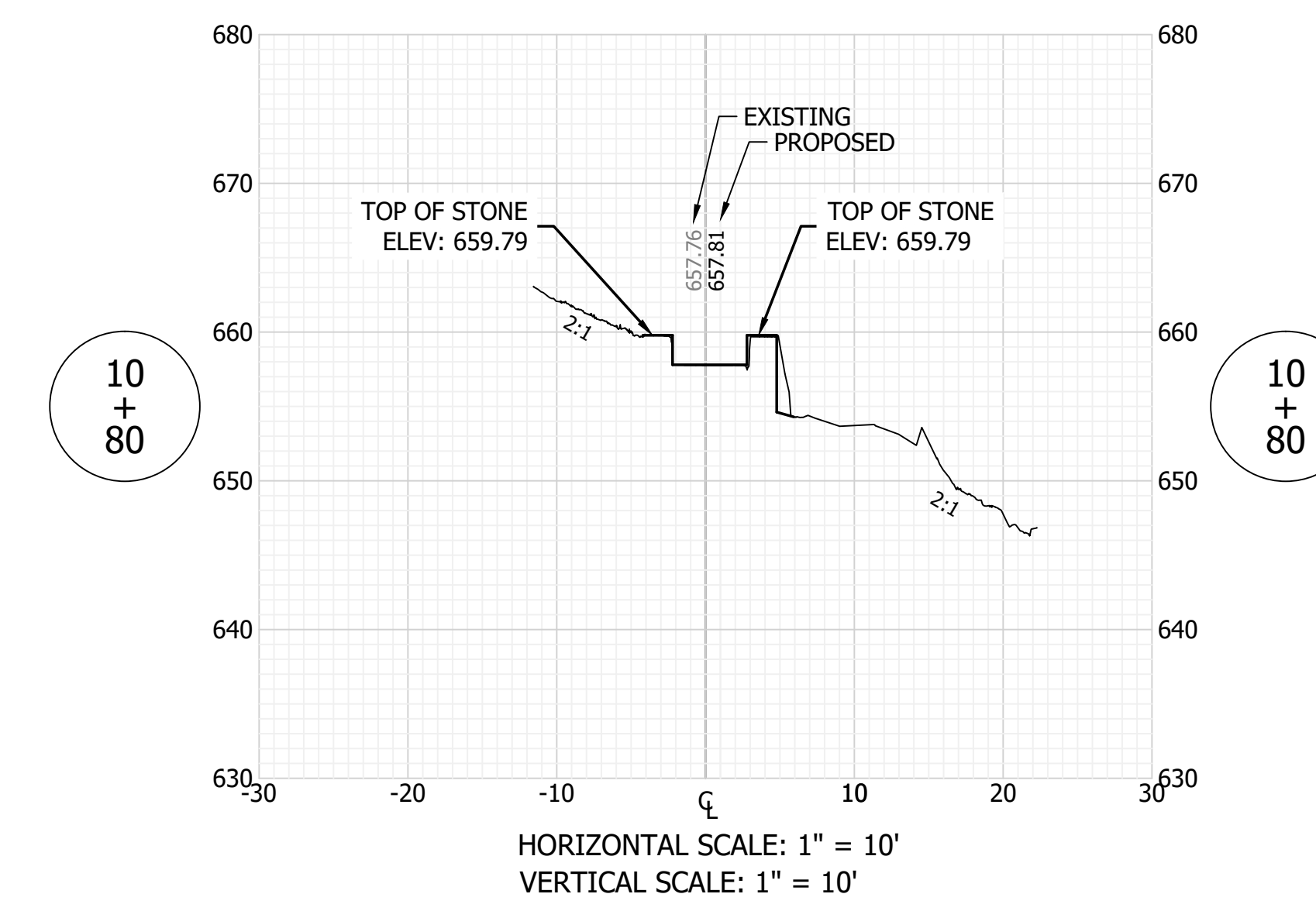
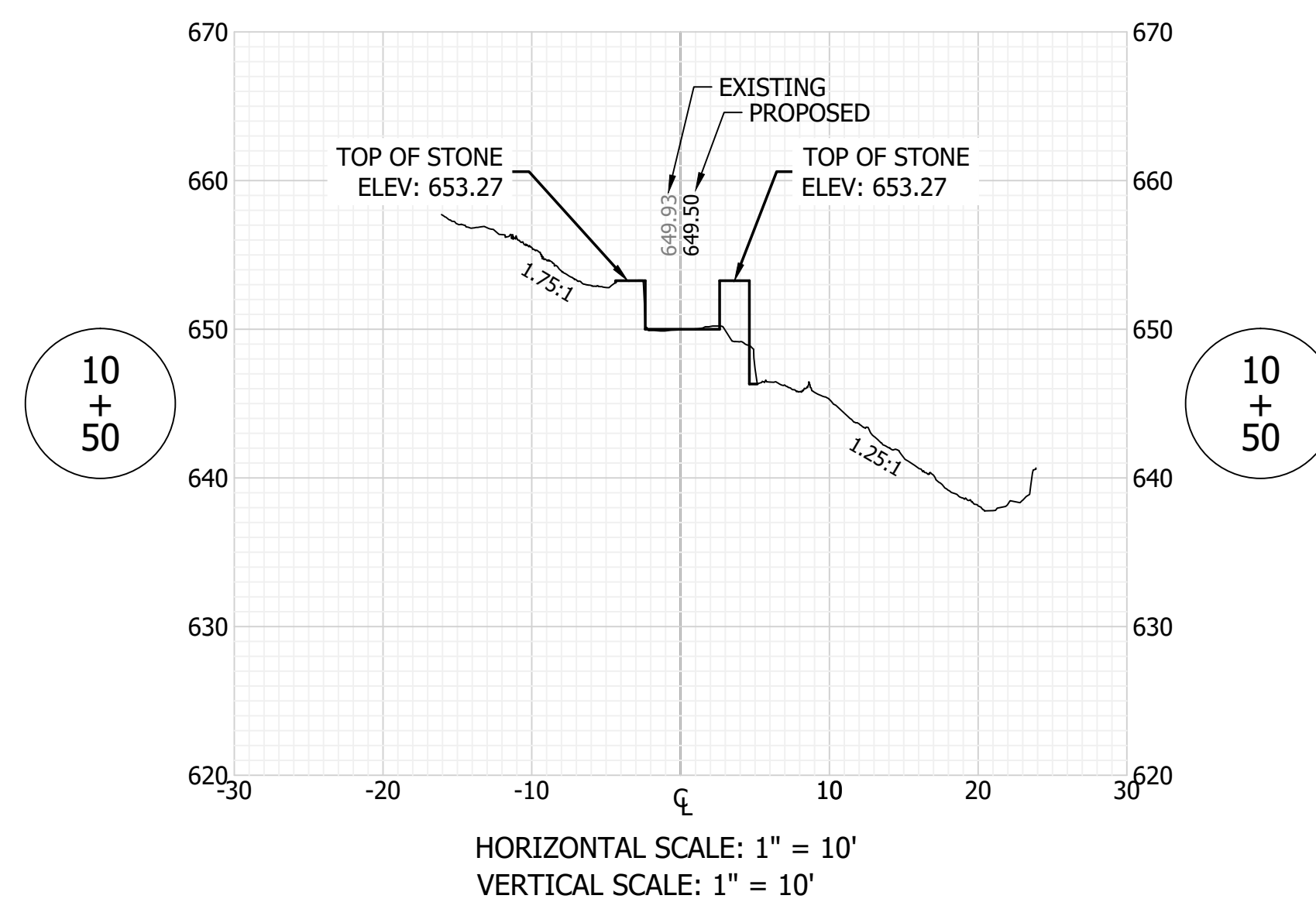
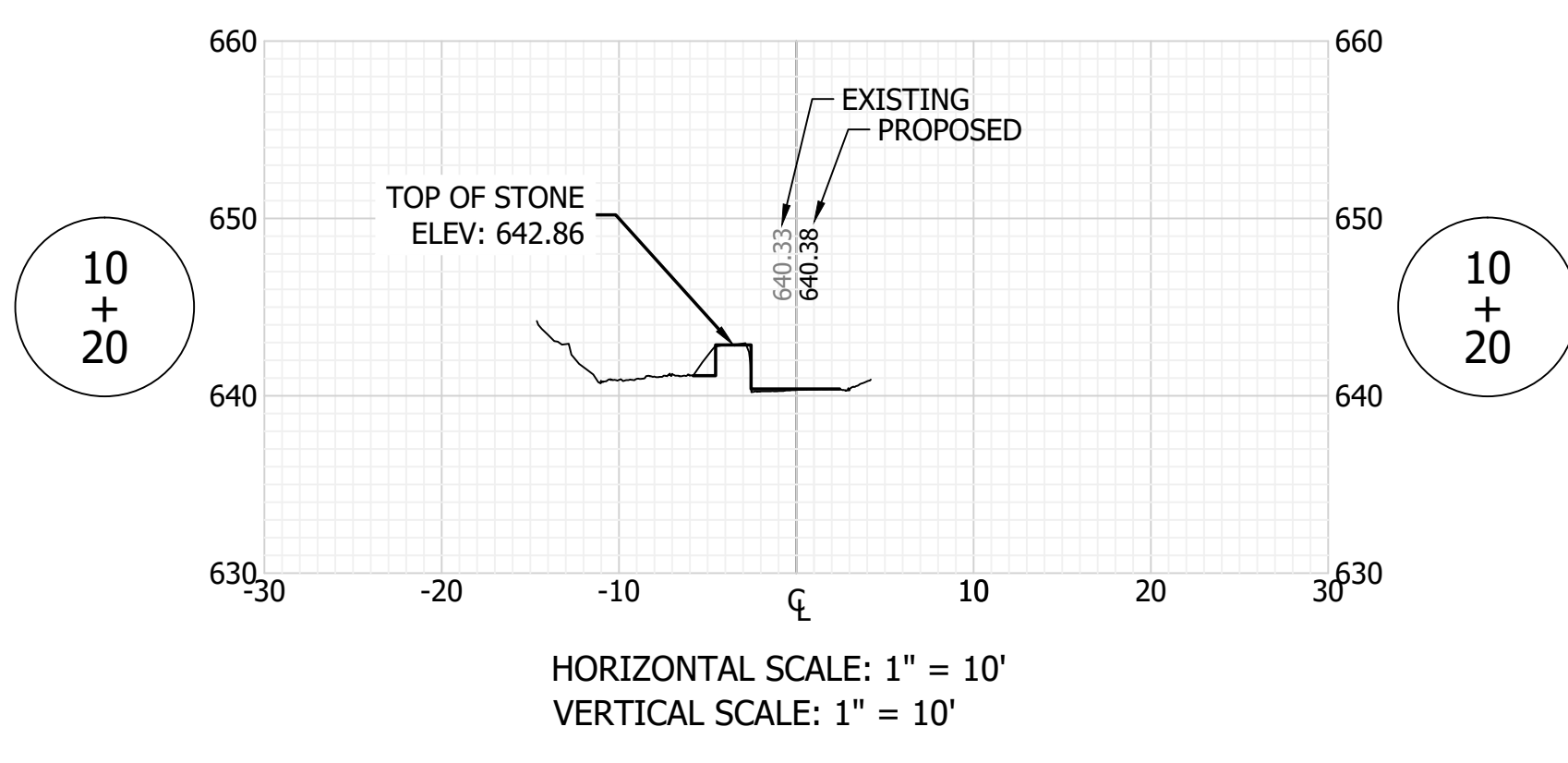
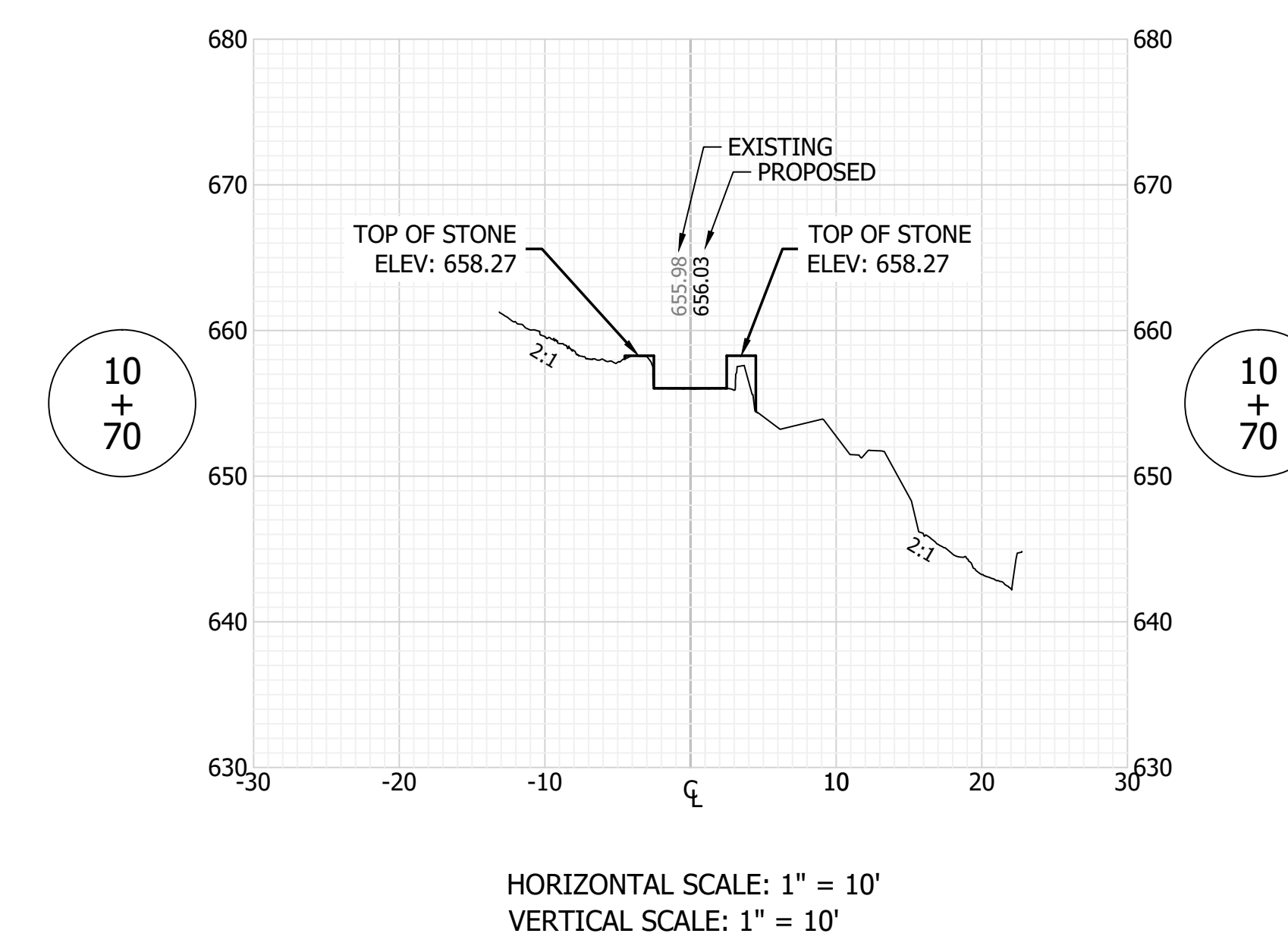
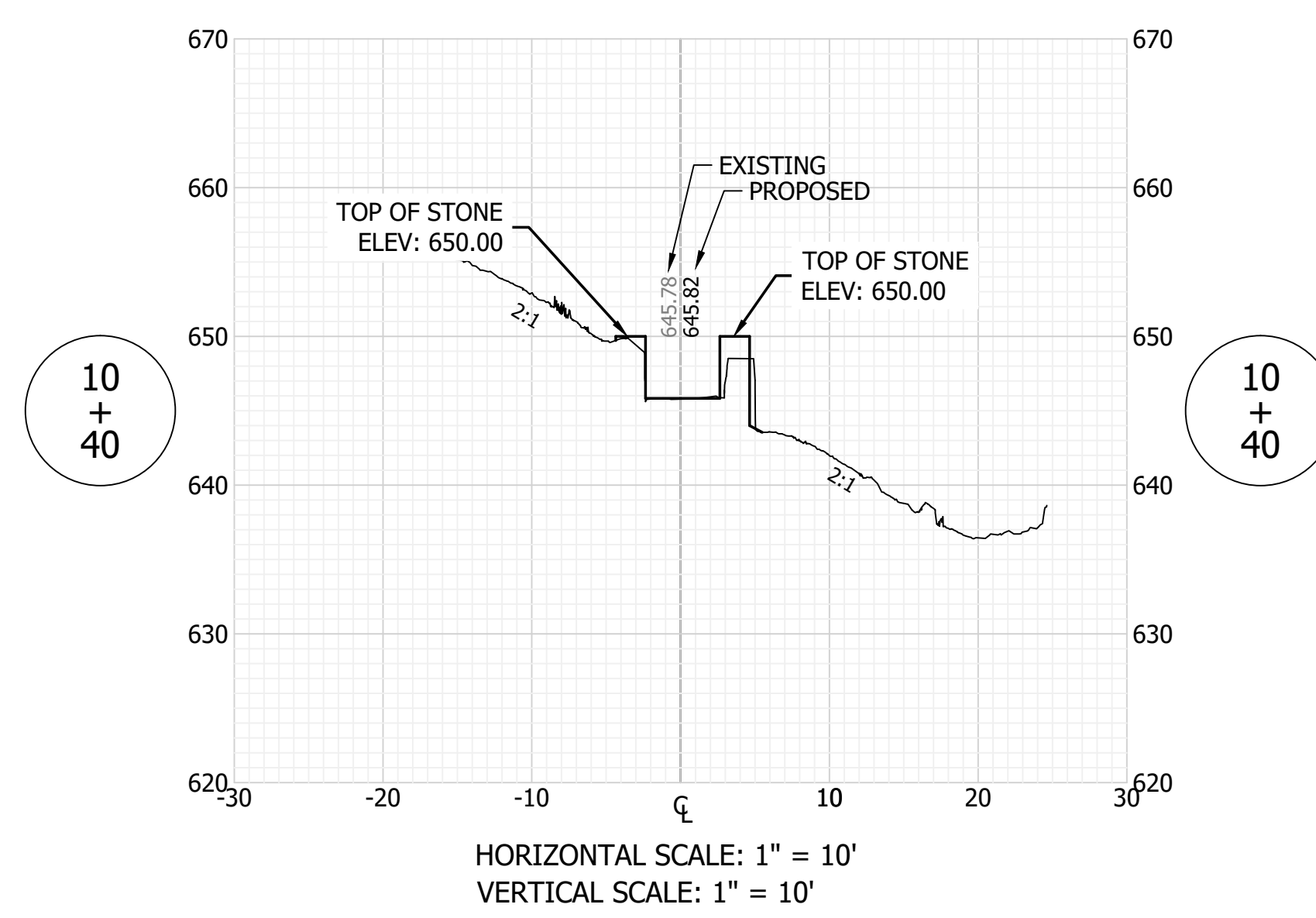
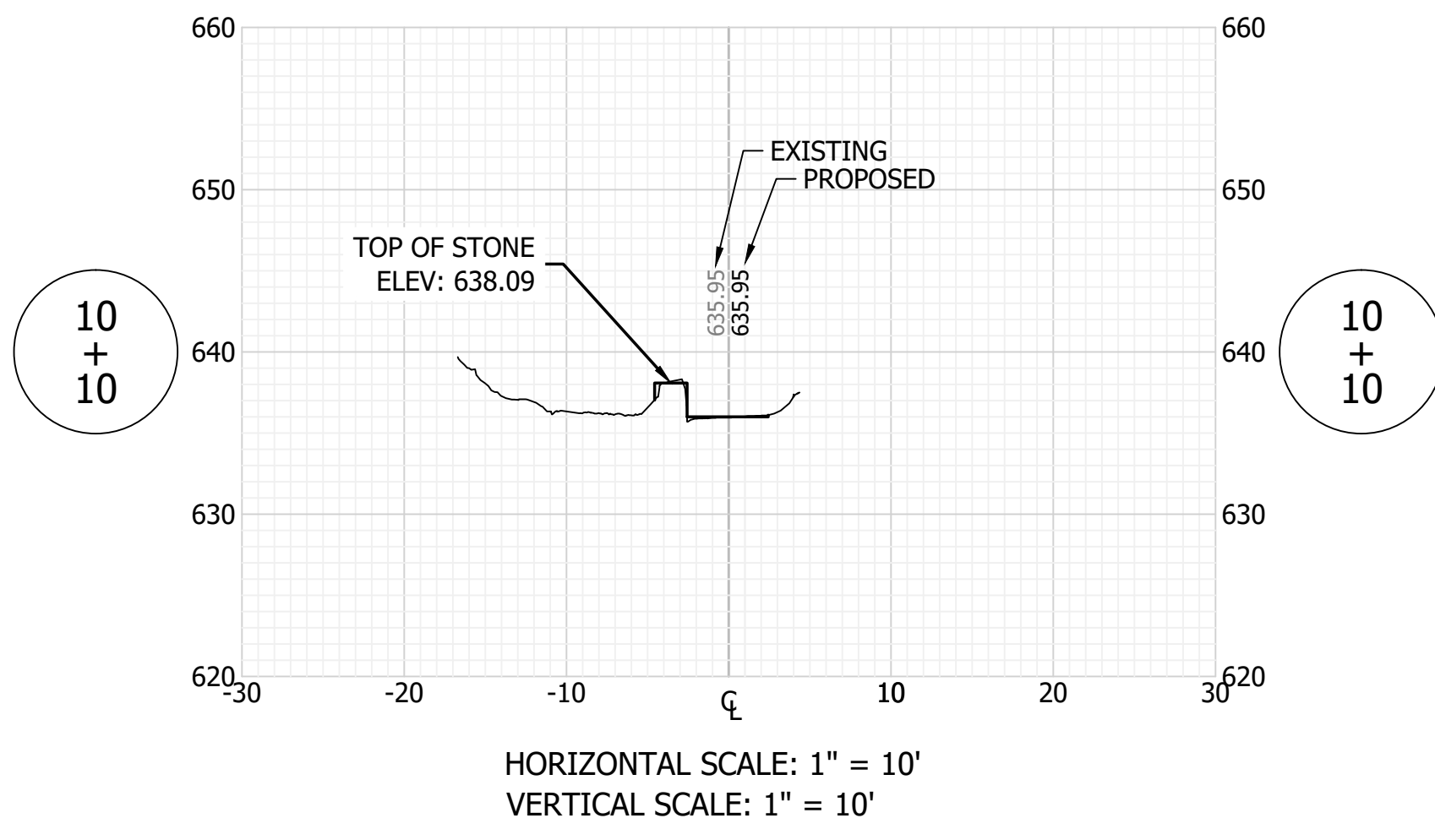
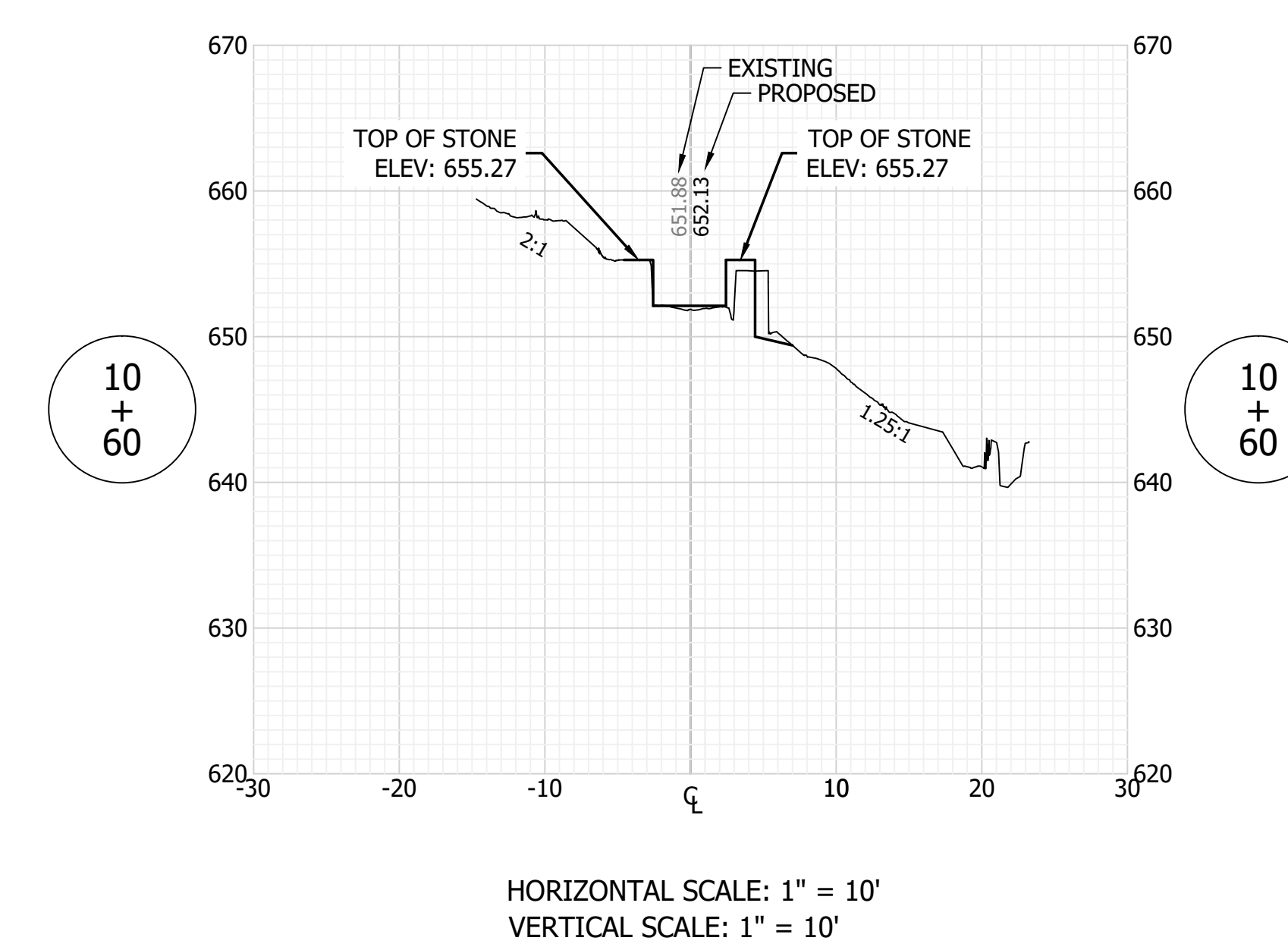
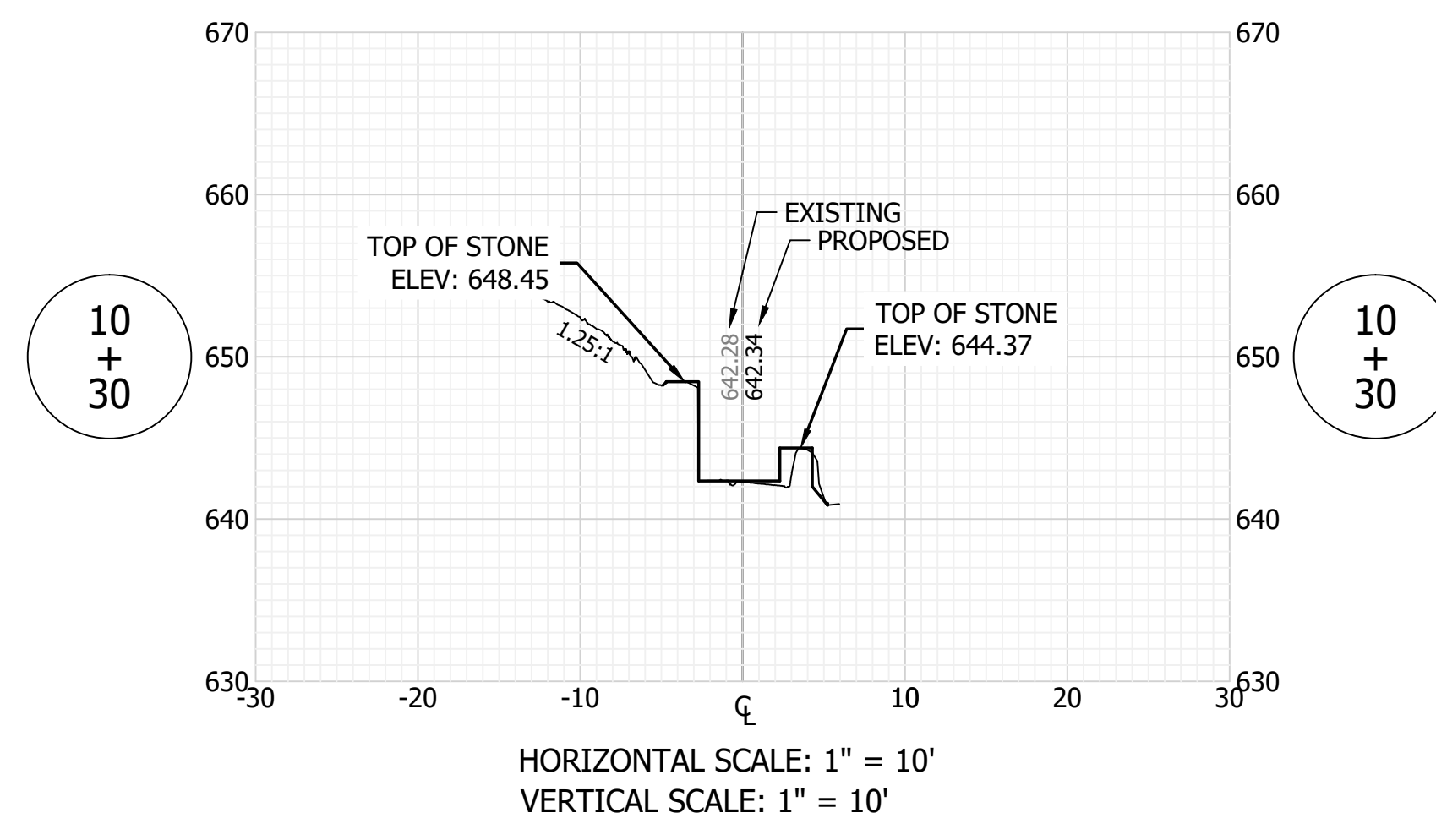
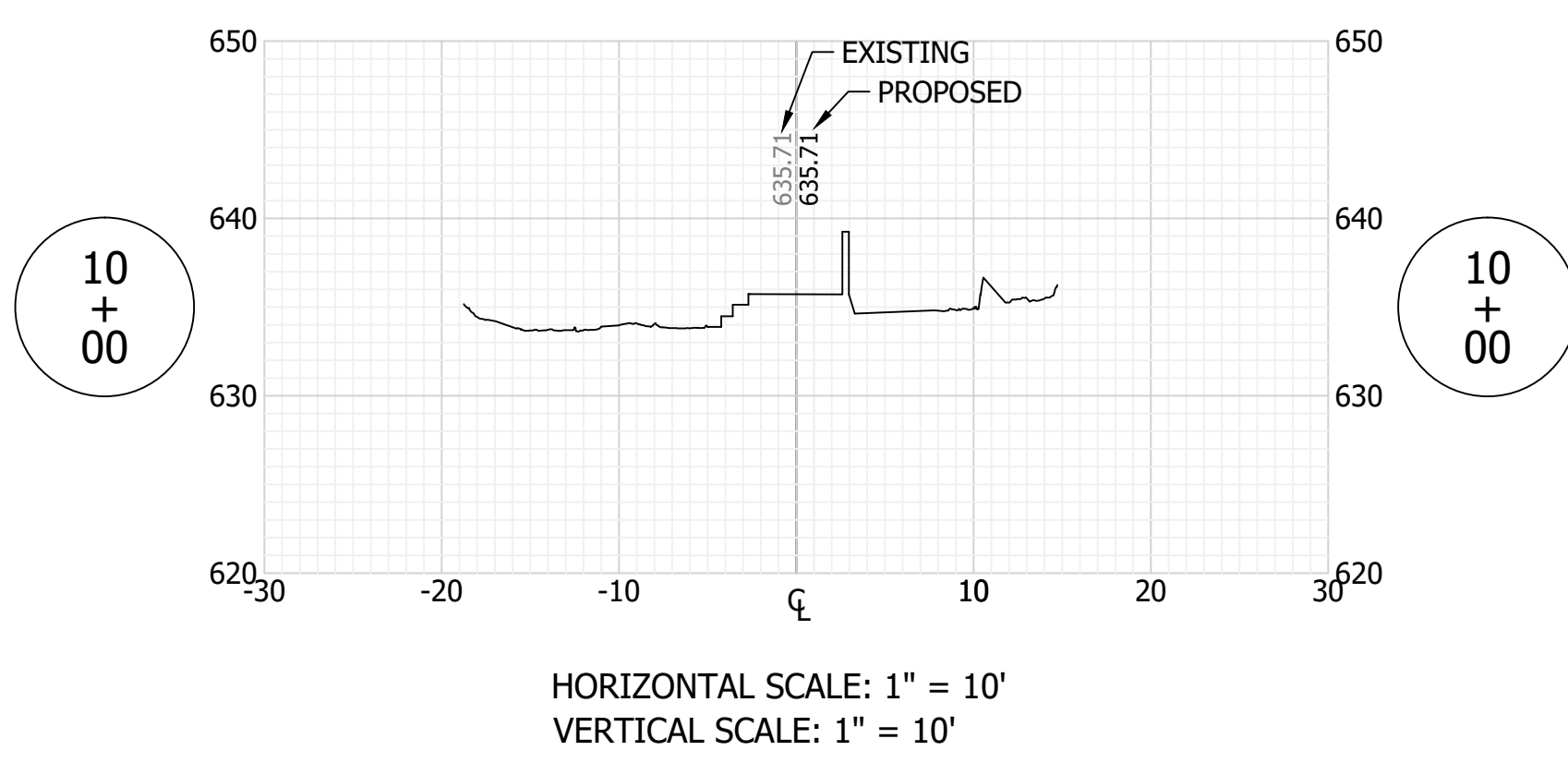
FILE NO: 19-11229
 CLIENT NAME: DNR

PROJECT DESCRIPTION: DNR WALL AND TRAIL

SHEET TITLE: DETAILS (3 OF 3)

DESIGN PHASE: BIDDING PLANS

SHEET NUMBER:
25



GENERAL NOTE:
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SCALE: 1" = 10'
DRAWN BY: ARC
CHECKED BY: BAH
DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
CLIENT NAME:
DNR

PROJECT DESCRIPTION:
DNR WALL AND TRAIL

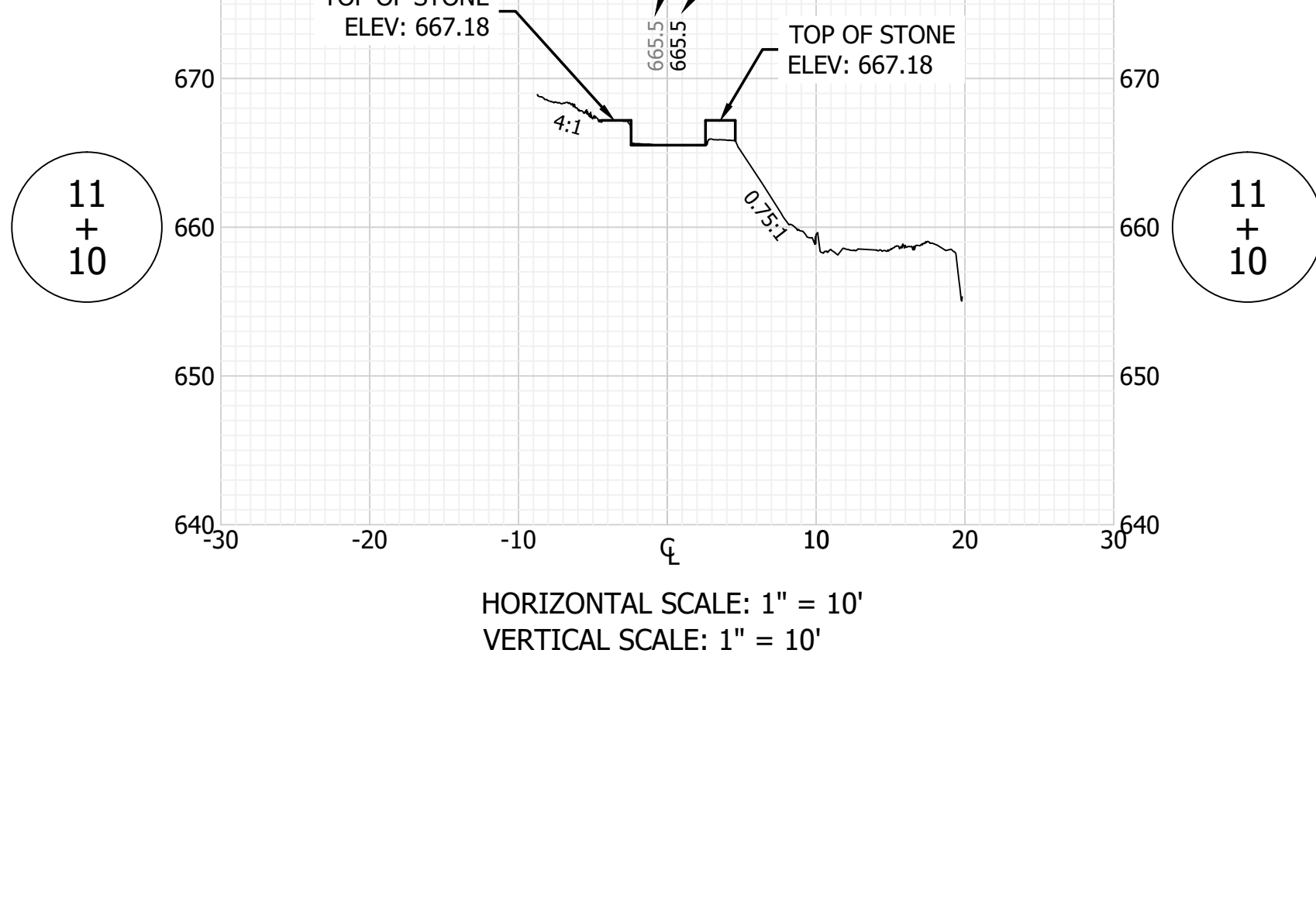
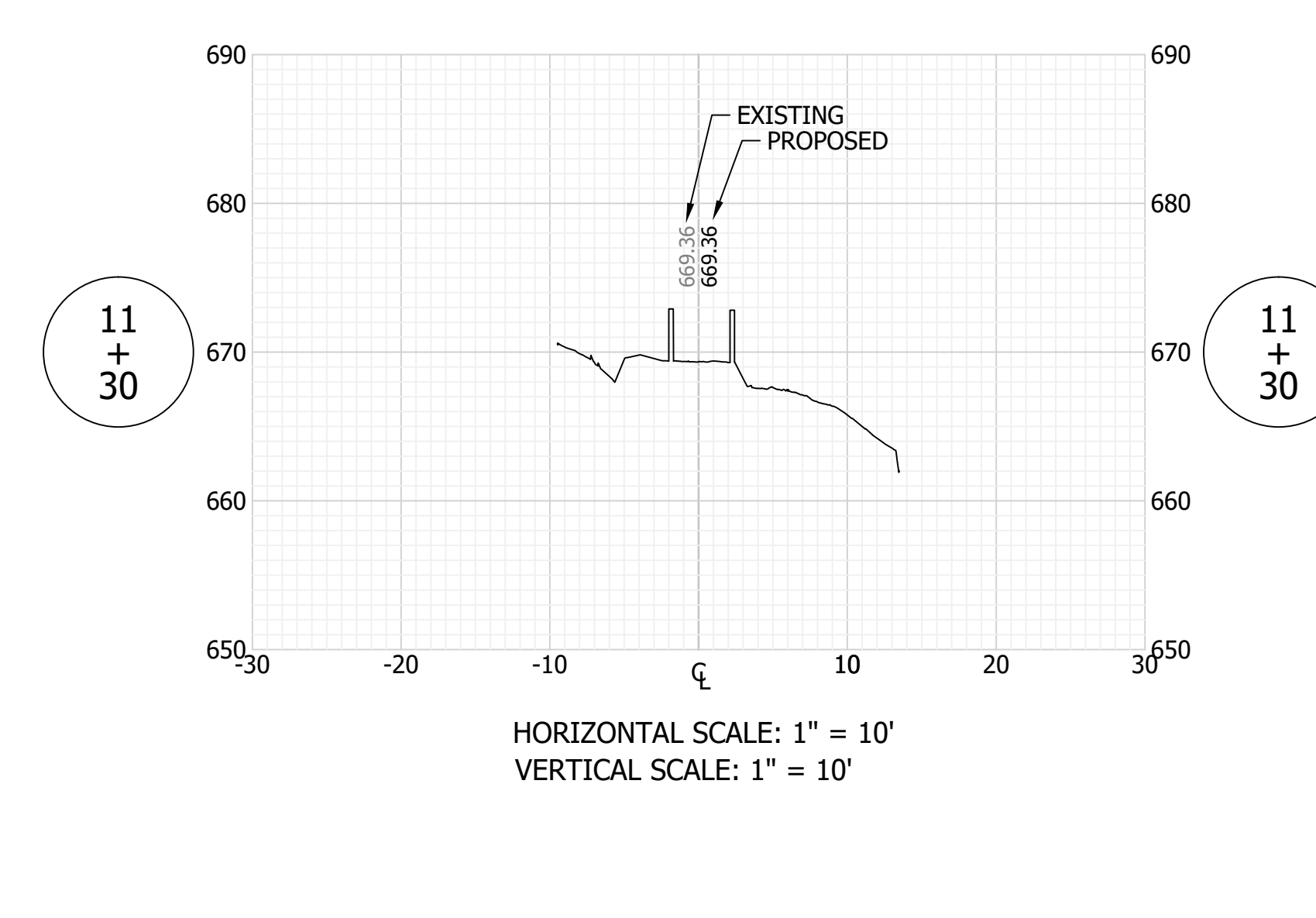
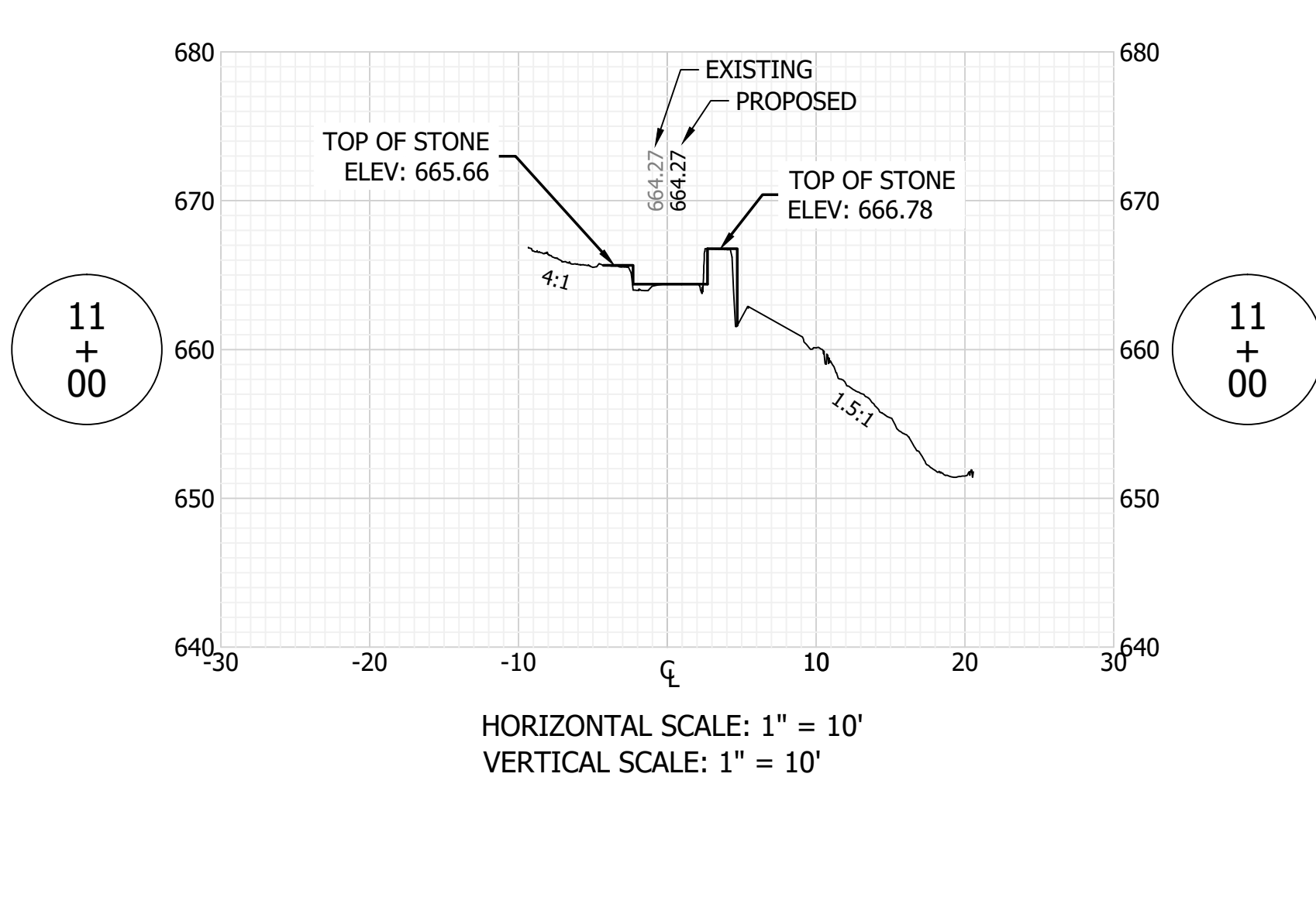
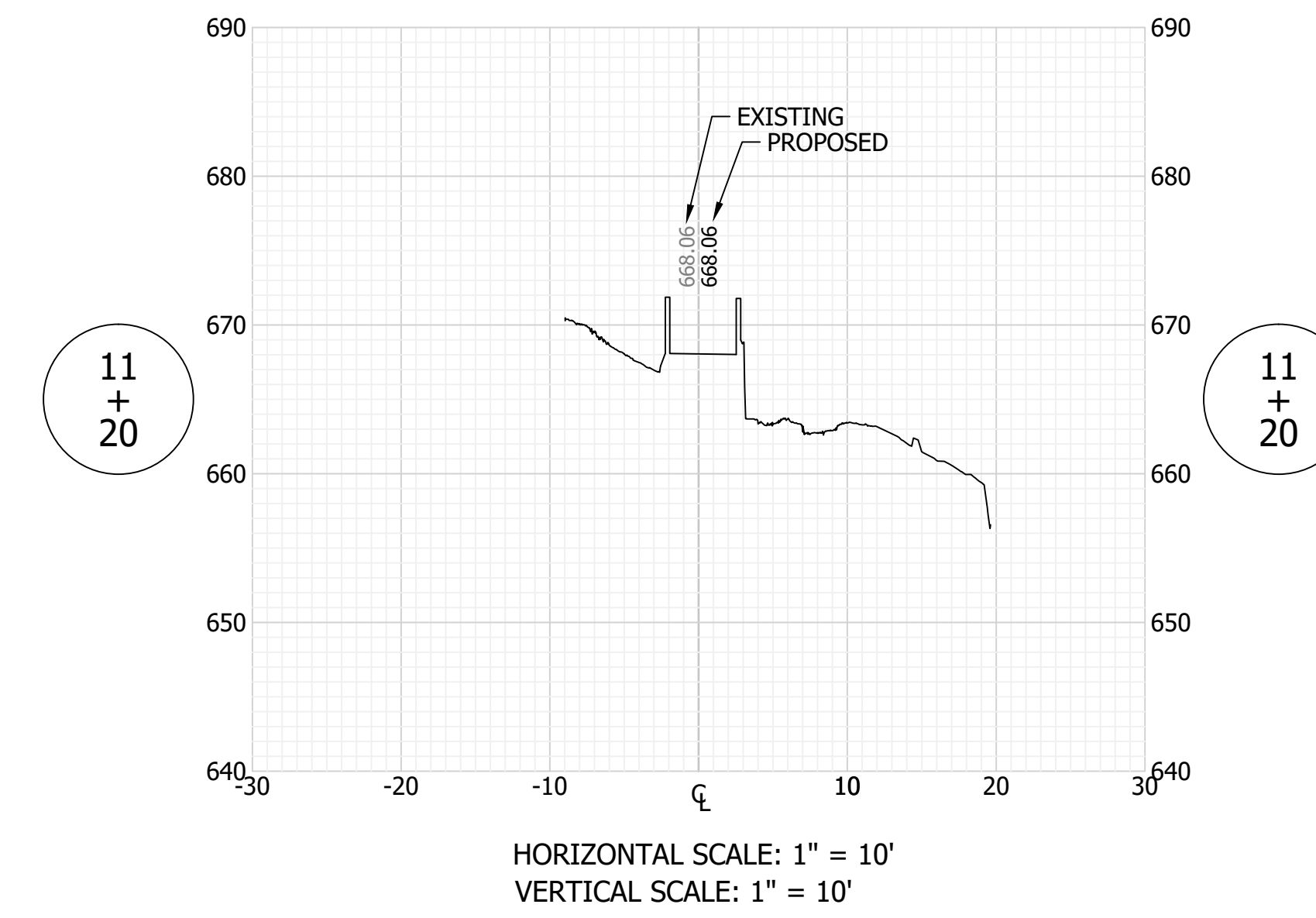
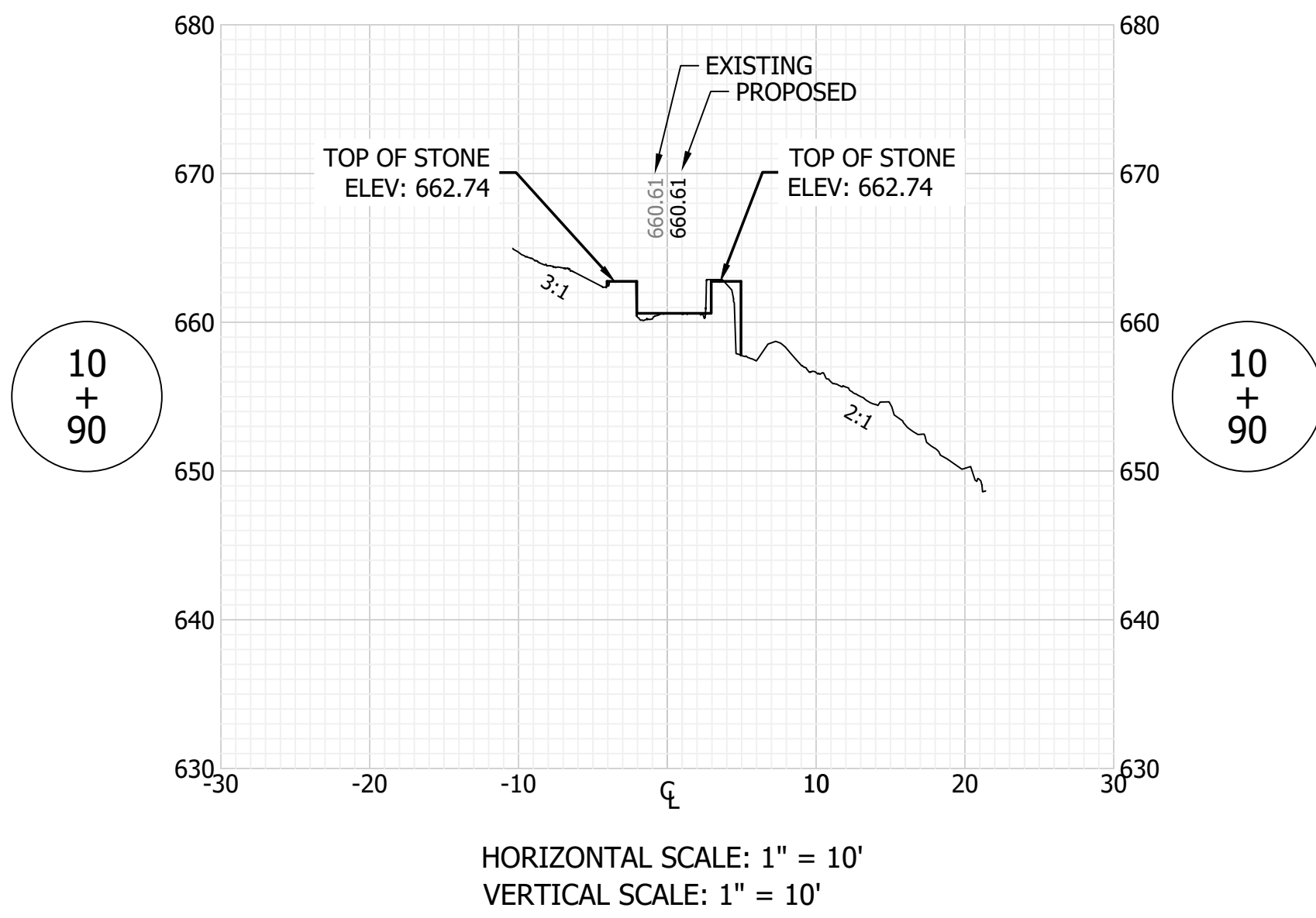
SHEET TITLE:
STAIRS CROSS SECTIONS (1 OF 2)

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
26

GENERAL NOTE:
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SCALE: 1" = 10'
 DRAWN BY: ARC
 CHECKED BY: BAH
 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

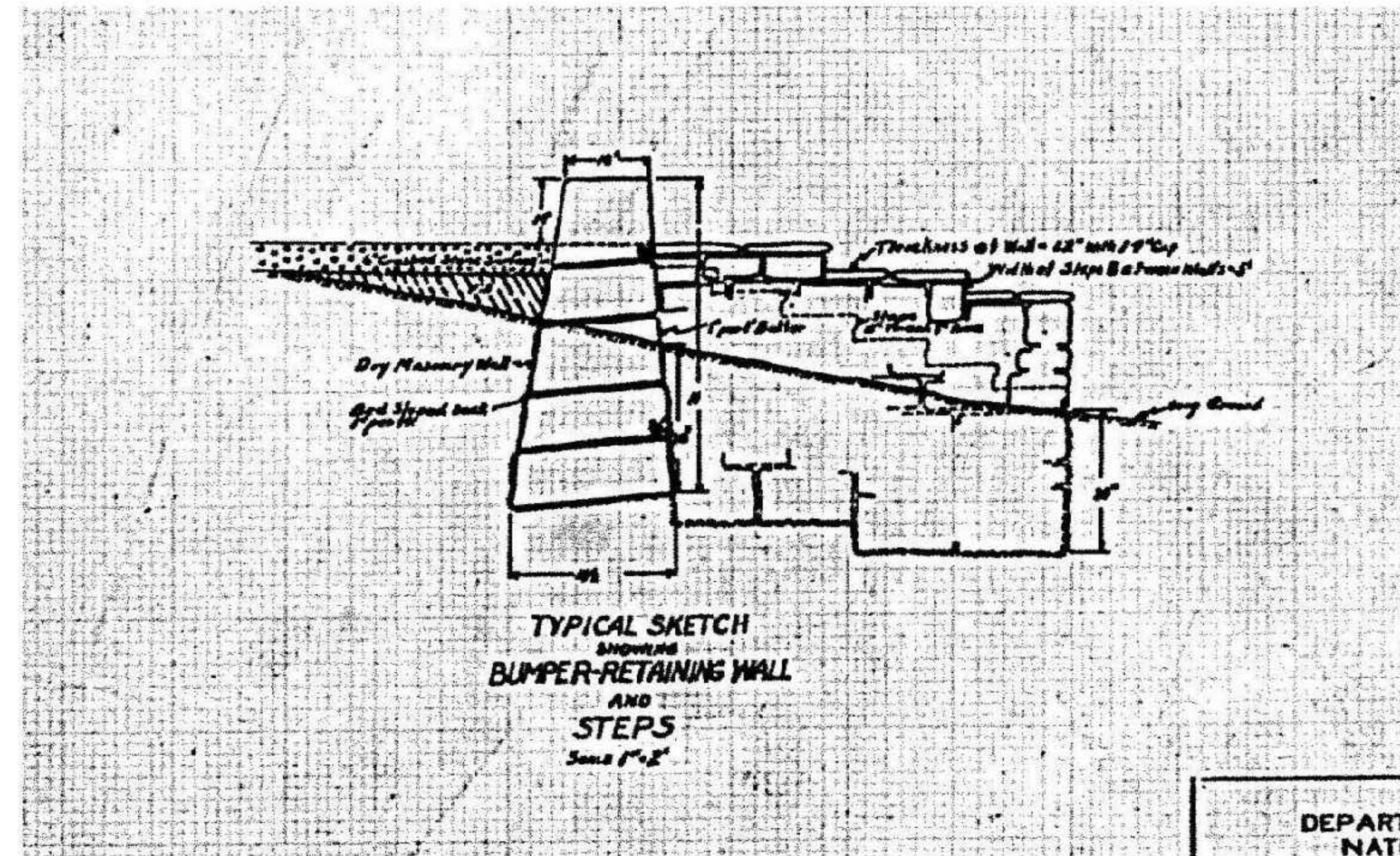
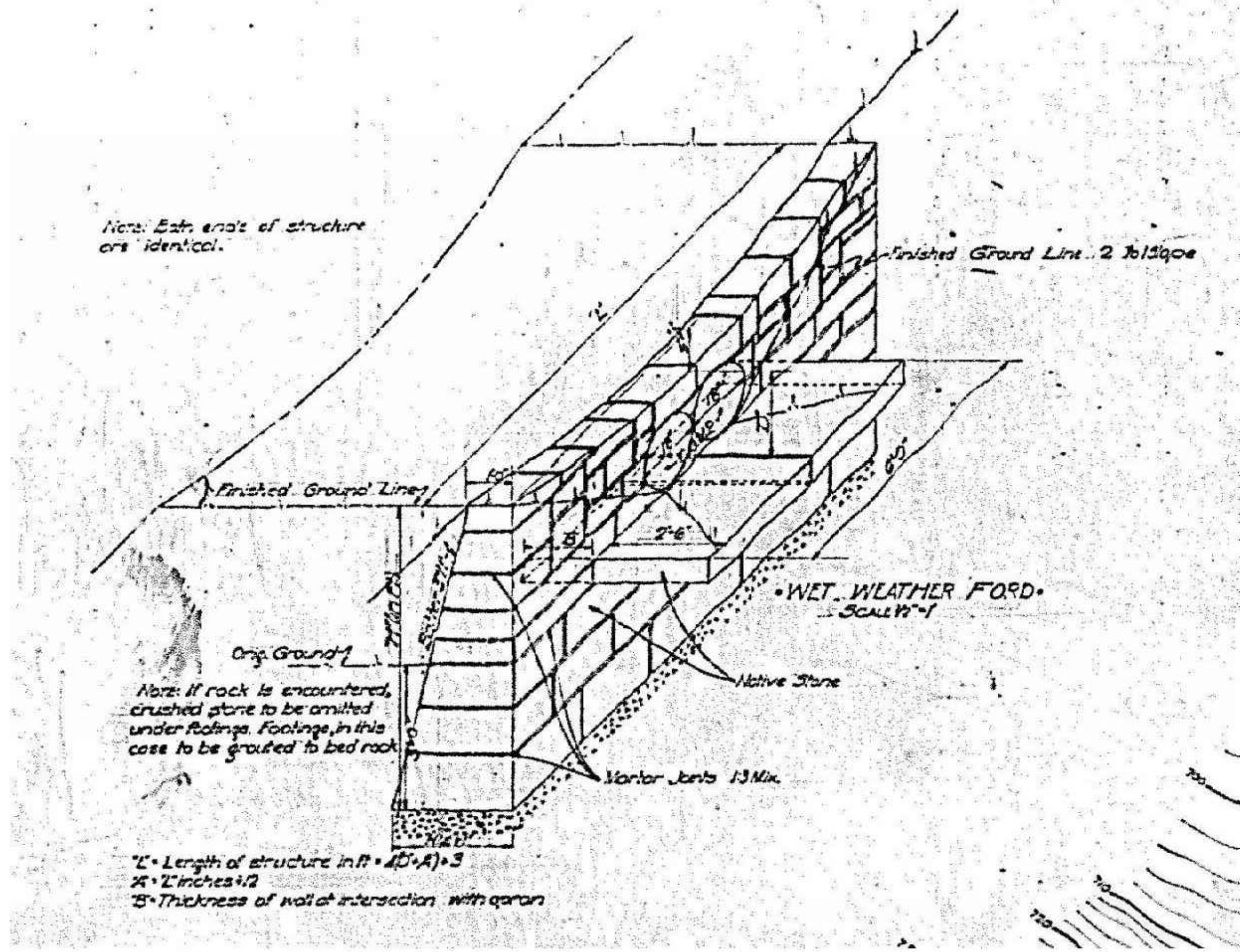
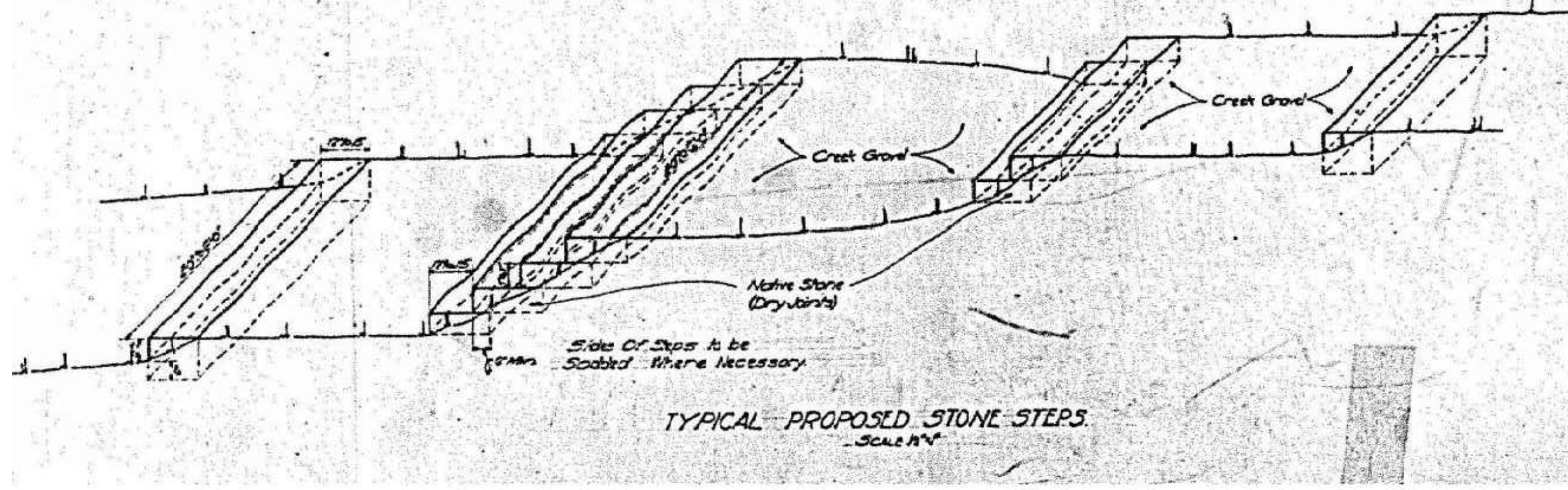
FILE NO: 19-11229
 CLIENT NAME: DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 STAIRS CROSS SECTIONS (2 OF 2)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
27



NOTE: Details from 1940 plans
- Shown for Reference Only

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SCALE: AS SHOWN
 DRAWN BY: ARC
 CHECKED BY: BAH
 DATE: AUGUST 28, 2020

Revision	Drawn By	Date

FILE NO: 19-11229
 CLIENT NAME: DNR

PROJECT DESCRIPTION:
 DNR WALL AND TRAIL

SHEET TITLE:
 OLD DETAILS

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
28

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